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RioTinto

Rio Tinto Exploration Canada Inc.

2018 Geological Survey and Sampling Work
Bill Lake Property

McOuat Lake Area
NTS 52B/12
Thunder Bay Mining Division
Ontario, Canada

Lindsay McClenaghan, P.Geo
December 7th, 2018

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Summary

Between May 28th and June 9th, 2018, Rio Tinto Exploration Canada prospected, mapped and sampled on the Bill Lake property. Eleven days were spent in the field, two days were spent driving to and from the property area from Thunder Bay. This work was carried out primarily by Lindsay McClenaghan (employee), Katarina Bjorkman (contractor) and Justin Laberge (employee) for Rio Tinto Exploration Canada Inc (RTECI), support was also provided other RTECI personnel. The objective of the mapping was to constrain the geometry of the ultramafic intrusion and identify PGE-Cu-Ni mineralization associated with a discrete magnetic anomaly in the central part of the property. There was sufficient outcrop that multiple traverses across the magnetic feature were required to map the intrusion in detail. The sampling and subsequent geochemistry analysis was done to better understand the rock types and the concentrations of Ni-Cu-PGE at surface. The work was successful at mapping out the mafic-ultramafic intrusion in detail, collecting surface geochemistry data and generating potential drill targets for future testing.

All project scale maps and coordinates are in UTM NAD83, Zone 15N.

Introduction

This report presents the results of geological mapping, prospecting and sampling carried out during the early summer of 2018 on the Bill Lake property, which is held 100 percent by Rio Tinto Exploration Canada Inc. (RTECI). The work was completed by several full-time employees of the RTECI and a contracted local geologist (Table1). A detailed daily log completed by Katarina Bjorkman is appended herein (Appendix A), she is also credited for her contributions to this report. The Exploration costs associated with this work are presented in Appendix B.

Table 1: List of personnel

Company	Name	Position
RTECI	Chris Pettman	Exploration Manager
	Justin Laberge	Project Geologist
	Lindsay McClenaghan	Geologist
	Katarina Bjorkman	Contract Geologist
	Rob Varrin	Project Coordinator

Location and Access

The Bill Lake property is located approximately 20km southwest of Atikokan, Ontario (Figure 1), in the McOuat Lake Area. The property can be reached by road, along highway 11 and then south on Elizabeth Road for 6km and then east along Cirrus Road for 1.8km which allows access to the central part of the property. Logging activities were underway on the property during the summer of 2018.

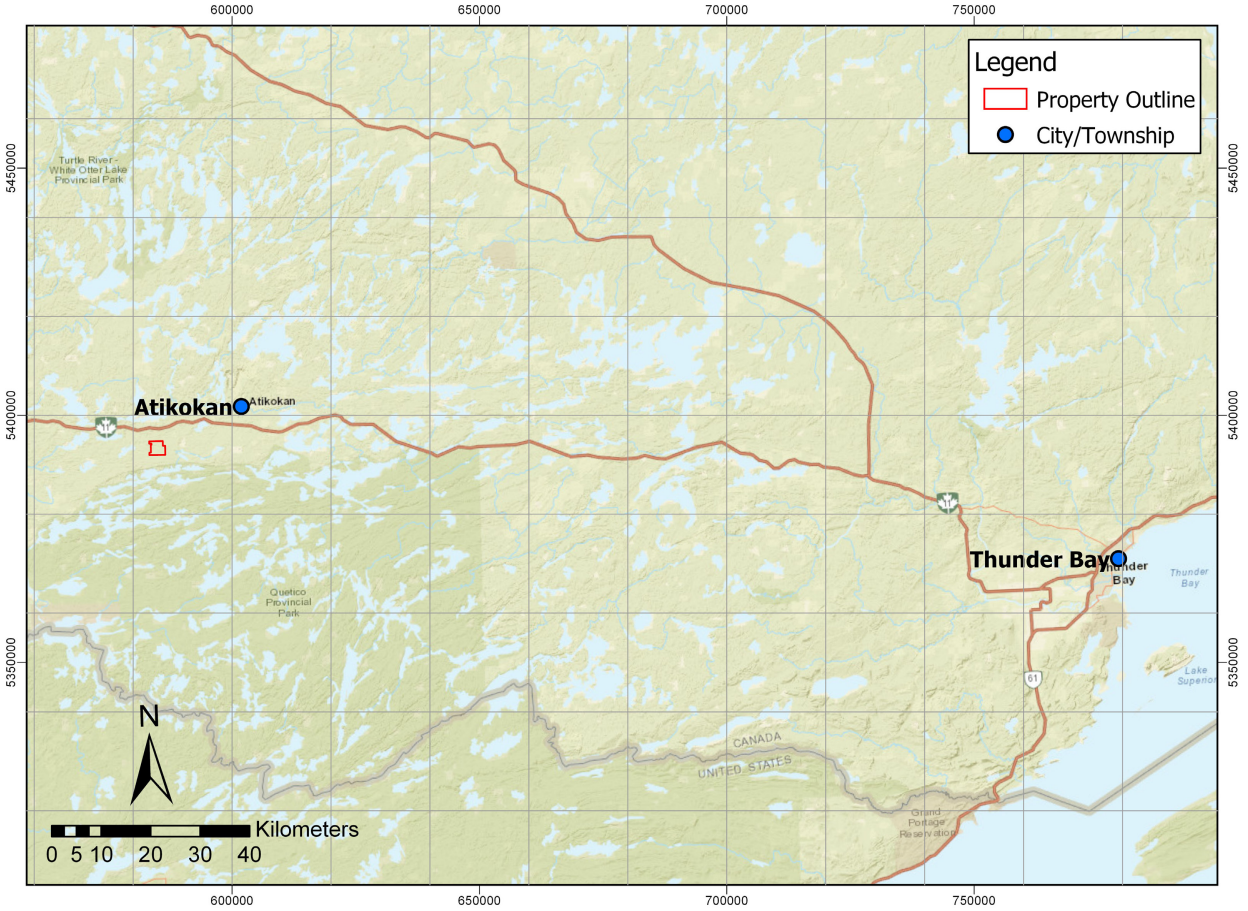

Figure 1: Map showing location of project area

Property Status

The Bill Lake Project consists of 40 claim units, representing 792 Ha. These claims are listed in the table below (Table 2, Figure 2). The 2018 field work took place over 15 of these claims (110174, 110175, 133985, 141051, 165198, 183489, 234819, 254417, 261930, 301388, 303276, 302980, 341770, 501039, 152200).

Table 2 - List of Bill Lake Claims

Township	Provincial Grid Cell Number	Claim Number	Title Type	Holder	Area (ha)
McOuat Lake	52B12K304	110174	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K326	110175	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K263	133985	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K305	141051	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K324	165198	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K307	169505	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K323	183489	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K264	234819	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K306	254417	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K303	261930	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K286	266400	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K346	284907	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.33
McOuat Lake	52B12K283	301388	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K327	303276	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K285	302979	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K284	302980	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K265	320792	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K325	341770	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K242	501028	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K243	501029	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K244	501030	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K245	501031	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K246	501032	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K247	501033	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K266	501034	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K267	501035	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K287	501036	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K288	501037	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K308	501038	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K328	501039	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.32
McOuat Lake	52B12K347	501040	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.33
McOuat Lake	52B12K348	501041	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.33
McOuat Lake	52B12K342	503461	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.33
McOuat Lake	52B12K343	503463	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.33
McOuat Lake	52B12K344	503464	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.33
McOuat Lake	52B12K345	503466	Single Cell Mining Claim	RIO TINTO EXPLORATION CANADA INC.	21.33
McOuat Lake	52B12K282	152200	Boundary Cell Mining	RIO TINTO EXPLORATION CANADA INC.	6.62
McOuat Lake	52B12K322	183490	Boundary Cell Mining	RIO TINTO EXPLORATION CANADA INC.	7.26
McOuat Lake	52B12K302	269200	Boundary Cell Mining	RIO TINTO EXPLORATION CANADA INC.	6.94
McOuat Lake	52B12K262	284163	Boundary Cell Mining	RIO TINTO EXPLORATION CANADA INC.	3.24

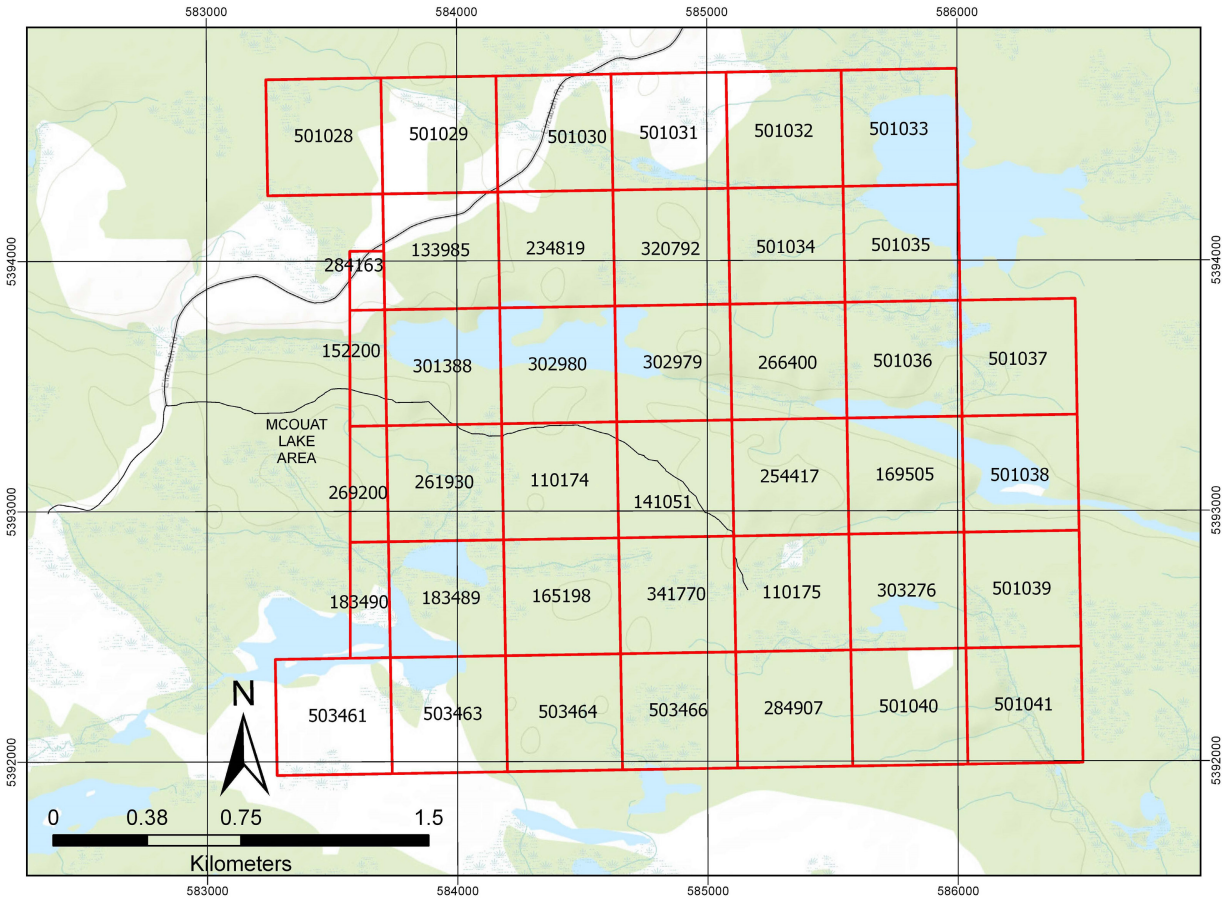

Figure 2: Map of the Bill Lake property claims outlined in red and the local forestry roads shown in black.

Previous Work

Prior to 1979: Minor trenching and sampling (source: Mineral Deposit Inventory for Ontario database).

1979: Sampled and prospected by H. Lundmark (source: Mineral Deposit Inventory for Ontario database).

2000: East West Resources Ltd. completed work to evaluate the potential for PGE, Ni, Cu and possible Au mineralization on the property. This work consisted of 2.2 kilometers of line cutting and induced polarization survey over historical showings with had reported assays from surface grab samples of over 2.0 grams per ton combined Pt + Pd. Based on the results of the geophysical survey subsequent work of stripping of the outcrops at the showing and collecting channel and grab samples was completed. Five samples from the channel returned values ranging between 0.19%-0.68% Cu, 0.54-1.26g/t Pt and 0.58-1.91 g/t Pd.

2001: East West Ltd. completed 5.4 kilometers of line cutting, 2.2 kilometers of re-cut lines, 4 kilometers of induced polarization survey and 7.6 kilometers of a total field magnetometer survey on the property to cover a mag feature situated in the center of the claim block to test the area for its PGE, Ni, and Cu potential.

2016: Prospecting of the mafic-ultramafic intrusion was completed by prospectors Allan Onchulenko and Peter Gehrels. Based on this work the intrusion was noted to be larger than previously recorded and a breccia zone of meta-sediment and quartz clasts in the intrusion was identified.

Regional Geology

The Bill Lake property is located within the Quetico Subprovince, an Archean meta-sedimentary belt that is fault bounded to the north and south by metavolcanic greenstone belts that have been intruded by multiphase granitoids: the Wabigoon Subprovince and the Wawa Subprovince respectively (Figure 3). The Quetico belt consists mainly of polydeformed meta-sedimentary rocks, derived migmatite and granite (Figure 3). A suite of mafic-ultramafic intrusions occur along the northern boundary of the Quetico belt, hosted within meta-sedimentary rocks along a narrow corridor between the Quetico Fault Zone to the north and the Quetico granitoids to the south, and are referred to as Quetico intrusions. These Archean intrusions are commonly associated with syntectonic Alaska-type zoned mafic-ultramafic intrusions and vary in size from meter scale dykes to multi kilometer scale stocks (Pettigrew and Hattori, 2006). Alaska-type ultramafic-mafic complexes of the Quetico are known to host PGE mineralization associated with Cu-Ni sulfides (Pettigrew and Hattori, 2006); hence the Quetico intrusions have potential to host economic concentrations of these metals and are a target for mineral exploration.

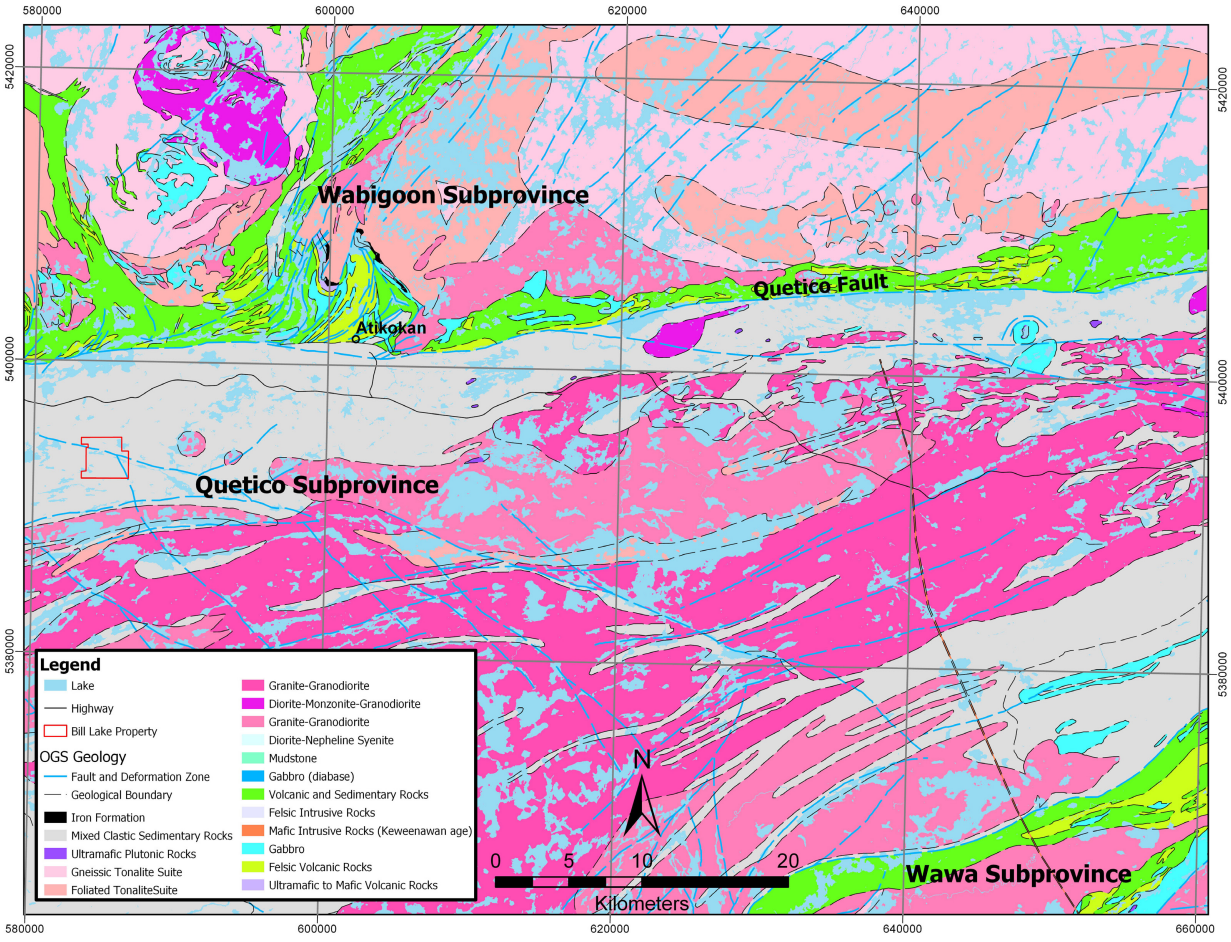

Figure 3: Regional Geological Map of the Bill Lake area (from Santaguida, 2001).

Property Geology

Previous prospecting work on this property indicates the presence of the PGE mineralization in mafic intrusive rocks that are produce a strong magnetic anomaly in the regional survey dataset. The mafic–ultramafic intrusions in the Quetico Subprovince exhibit strong positive aeromagnetic features, and are known to host PGE (Cu-Ni) mineralization. The Samuels Lake intrusion located 20km to the southwest of Bill Lake property also produces a strong positive magnetic anomaly and this intrusion has reported assay results of 15.2m at 0.229% Ni, 0.523% Cu, 0.034% Co from 107.4-122.6m and 3.1m at 0.574% Ni, 1.299% Cu, 0.066% Co from 107.4-110.5m (LeClair, 2009). The mapping and sampling work was completed to evaluate the potential for PGE-Cu-Ni mineralization at the Bill Lake mafic-ultramafic intrusion.

Eleven days were spent in the field mapping and sampling between May 28th and June 9th, 2018. Detailed outcrop polygons were collected using an EOS Arrow 100 GPS with < 60cm accuracy, rare outcrops were mapped in a Garmin GPS. The mafic-ultramafic intrusion occurs within the Quetico Metasedimentary country rocks and is exposed as a serpentine geometry (Figure 4). The intrusion dominantly comprises pyroxenite rimmed by gabbro. From the northwest, it cuts southwest through the regional fabric, turns east subparallel to the main structural fabric and then curves back southwest. The intrusion is widest in the west, nearly pinches out, and then is somewhat anastomosing and slender to its eastern extent. Where the main ultramafic intrusion swings southwest at the east, a <10 m gabbroic dike continues east-northeast for > 200 m. The intrusion shape is reminiscent of 5-20 cm anastomosing gabbroic dikes observed at the outcrop scale. No intrusion was mapped north of the lake. Rock types encountered on the property are listed in Table 3 below.

As mantle-derived intrusions, the Quetico intrusions demark a major lithospheric structure. However, at the intrusion-scale, it is presently unclear what crustal features control the geometry at surface. Possibly, the main intrusion exploited the regional east-west structure and then either followed northeast trending structures to the north in the west and south in the east, or was folded by late dextral transpression, into parts of “z” folds. Such z-folding of quartz veins is readily observed in the sedimentary rocks at the outcrop scale. Alternatively, the intrusion exploited a north-east trending structure that was subsequently translated along the main east-west fabric. This interpretation requires either sinistral east-west displacement, which is inconsistent with regional observations, or significant dip slip of a tilted dike.

Table 3 : Rock Types and descriptions mapped on the Bill Lake property.

Rock Type	Description
Quetico Metasedimentary Rock	Fine-grained banded unit composed of feldspar, biotite, quartz and locally garnet, amphibole and staurolite. Metamorphosed wackes have graded bedding locally. Planar banding within the unit reflects primary bedding. Sandstone-siltstone-mudstone layers define graded bedding of turbidites. There is bedding parallel foliation/cleavage and locally a secondary foliation at a low angle to the bedding. Most bedding-cleavage structures dip steeply to the south. Quartz veins cross cut this unit, locally showing deformation features such as folding and boudinage. On average this unit has a magnetic susceptibility of 0.2 x10^{-3} SI.
Peridotite	Medium grained and very strongly magnetic, commonly foliated. It has 5-10% magnetite, and a magnetic susceptibility of <100 x10-3 SI and locally finely disseminated pyrrhotite>chalcopyrite. A distinct fabric is noted is this unit.

(Hornblende) Pyroxenite	This unit is in gradational contact with the gabbro. Coarse grained, dark green. Pyroxene and hornblende euhedral oikocrysts (10-35 mm) commonly enclose earlier-formed minerals, perhaps orthopyroxene, or, in places, olivine. This unit is concentrated in the centre of the intrusion, and locally contains 5-15% medium-grained plagioclase, local biotite and <3% finely disseminated to blebby pyrrhotite with chalcopyrite was observed in several localities. This unit appears to be layered in places. On average this unit has a magnetic susceptibility of 0.5 $x10^{-3}$ SI, although some rocks of this type are up to 22 $x10^{-3}$ SI.
(Hornblende) Gabbro	This unit forms the outer margin of the ultramafic intrusion. 15-50% plagioclase. Fine to medium grained. At some localities interstitial plagioclase encloses euhedral pyroxene (usually clinopyroxene) and hornblende crystals (up to 20mm in size) and there is occasionally biotite. This unit hosts fine pyrite and pyrrhotite-chalcopyrite locally. On average this unit has a magnetic susceptibility of 0.46 $x10^{-3}$ SI.
Magmatic Breccia	Intrusive breccias are located at the margins of the intrusion or at internal contacts. These units consist of euhedral to subhedral clasts of banded metasediments and coarse pyroxenite and melanogabbro. These clasts occur in a matrix of varitextured gabbro, fine to medium-grained diorite, or a fine-grained felsic (intrusive). At some localities the matrix appears to be the foliated metasedimentary rocks and are interpreted to be related to structural zones of deformation.
Gabbro Breccia with Felsic Inclusions	This unit occurs at the contact in the eastern bend of the intrusion. The inclusions are variably shaped, from elongate to square to triangular, and 2-12 cm. They may be quartz or feldspar or carbonate rich, and many of them are concentrically zoned. Some contain hornblende zones or show a gradational contact with the gabbro. They give the appearance of having been sedimentary clasts that melted and recrystallised within the gabbro as immiscible liquids. They are spatially associated with pyrrhotite-chalcopyrite mineralization in gabbro and local pyrite blebs.
Biotite-Amphibole Intrusive	Biotite-amphibolite rich intrusive unit with a fabric, may represent a deformed margin of the intrusion or a variety of lamprophyre dyke.

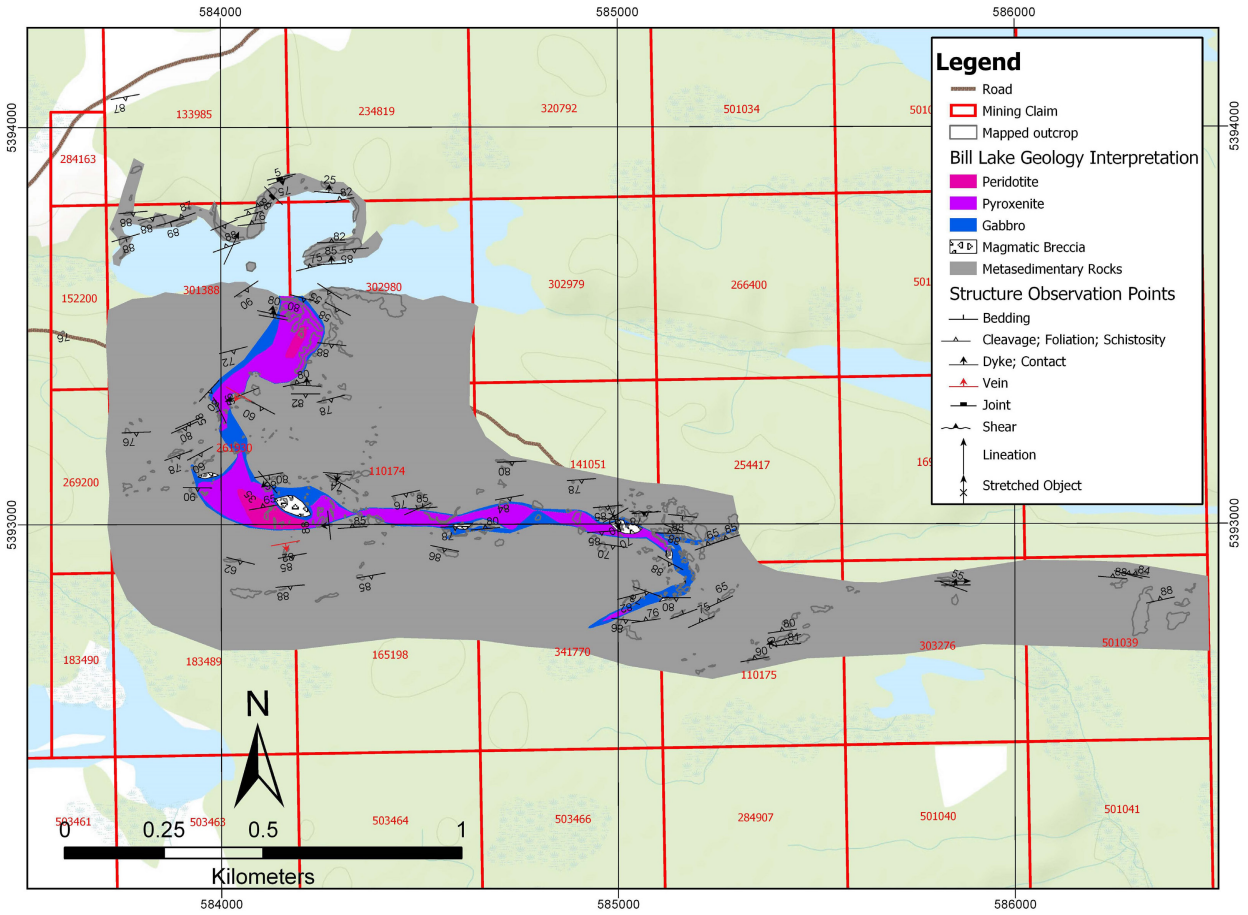

Figure 4: Detailed geological map from the 2018 mapping work on the Bill Lake property showing mapped outcrops (grey outlines) with structural measurements. Map is underlain by the topography map. Soil and glacial till is the most common overburden material covering bedrock in the area.

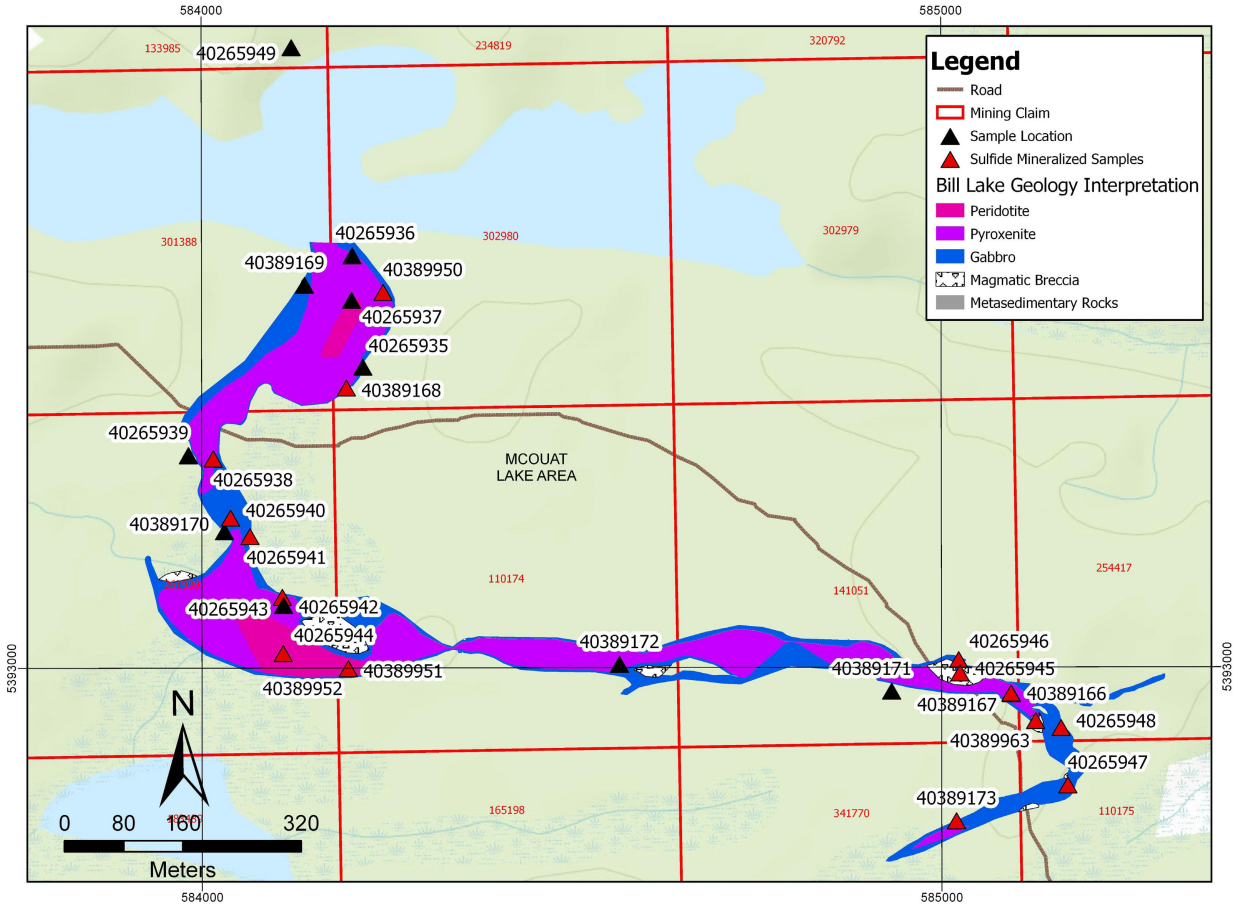

Figure 5: Geological map of the mafic-ultramafic intrusion with the sample sites marked as triangles.

Table 4: Sample number and description with the GPS coordinates.

Sample ID	Description	Easting	Northing
40265935	Gabbro at contact with sediment. Varitextured plagioclase. Collected for geochem and thin sections.	584218	5393408
40265936	Medium grained pyroxenite.	584204	5393559
40265937	Olivine pyroxenite; poikilitic pyroxene crystals up to 2cm in size.	584203	5393498
40265938	Pyroxenite. Coarse grained <18mm pyroxene with 10mm plagioclase. Local blebby chalcopyrite-pyrrhotite and pentlandite.	584016	5393284
40265939	Sheared fine grained amphibolite? Looks almost like mafic volcanic boulder appears to be outcrop. Calcite alteration, trace pyrite	583982	5393289
40265940	Gabbro. Grey. Medium grained with elongated clinopyroxene and 45% plagioclase. 4% pyrrhotite disseminated and minor chalcopyrite.	584039	5393204
40265941	Gabbro. Dark grey; medium grained. Disseminated pyrrhotite and along fractures.	584065	5393179
40265942	Peridotite south of creek.	584110	5393086
40265943	Peridotite with 0.5% sulfides (po; cpy; pn) finely disseminated to interstial.	584109	5393097
40265944	Peridotite. Medium grained. <2% fine chalcopyrite and pyrrhotite. <5% black magnetite.	584110	5393021
40265945	0.5% pyrite; 3mm chlorite porphyroblasts; fine-grained leucogabbro; modified ultramafic due to assimilated country rock?	585025	5392994

40265946	Felsic melt as a matrix around pyroxenite and gabbro. Fine-grained; sheared; 7% euhedral pyrite disseminated.	585023	5393012
40265947	Feldspathic pyroxenite. Pyroxene phenocrysts up to 1cm. <10% medium-grained plagioclase. Trace blebby interstial sulfides.	585171	5392842
40265948	Hornblende gabbro; 20% plagioclase. Medium grained; next to gabbro with 2-10cm felsic clasts. 2% blebby chalcopyrite and pyrrhotite.	585161	5392919
40265949	15cm biotite amphibolite mafic dike along steep foliation.	584122	5393840
40389166	Pyroxenite-hornblendite. Coarse grained <10mm hornblende. 0.5% pyrrhotite-chalcopyrite; with minor pentlandite. Sulfides are blebby and locally disseminated.	585095	5392965
40389167	Pyroxenite-hornblendite. Coarse grained (<10mm) hornblende. Local blebby chalcopyrite and minor pyrrhotite; <3%.	585094	5392966
40389168	Hornblende pyroxenite. Coarse grained (<12mm) hornblende(?) in matrix of fine-grained pyroxene and plagioclase and 5% biotite. 1% pyrrhotite. Local pentlandite; 1% chalcopyrite	584196	5393380
40389169	Medium grained gabbro with 60% cpx 40% plag; equigranular	584139	5393519
40389170	Gabbro; black.	584031	5393186
40389171	4m band of biotite-chlorite-schist in metasedimentary rock. Trace sulfides.	584932	5392969
40389172	Olivine pyroxenite; coarse grained; 10-15mm cpx; 5-10% olivine inclusions; magnetic	584564	5393006
40389173	Pyroxenite with rare pods of disseminated sulfides	585020	5392794
40389950	Pyroxenite. <3cm pyroxene oikocrysts with <3% disseminated fine pyrite-pyrrhotite and minor chalcopyrite.	584245	5393509
40389951	Hornblende pyroxenite. Coarse grained hornblende in pyroxene plagioclase matrix. 3% fine chalcopyrite and pyrrhotite.	584198	5393001
40389952	Hornblende pyroxenite. Coarse grained hornblende in pyroxene plagioclase matrix. 3% fine chalcopyrite and pyrrhotite.	584198	5393001
40389963	Gabbro; fine grained with siliceous-calcite inclusions; 2% fine po-cpy.	585127	5392929

Geochemistry

Sampling Method and Approach

A total of 26 samples were collected (Figure 5, Table 4) and subsequently processed by ALS Chemex for this program. Samples of the various lithologies were collected for lithogeochemistry and samples containing sulfide mineralization were collected for analysis of Ni-Cu-PGE concentrations. All samples collected in the field have been marked with flagging tape and metal tags labelled with sample ID numbers for ease of finding the exact sample location again.

Sample Preparation, Analyses

Once the samples arrived at the laboratory they were scanned, dried and weighed before going through the preparation facility. In the preparation facility the samples were crushed to >70% passing 2mm fraction size and then a representative 1kg split was taken using a rotary splitter from the crushed material. This subsample was then pulverized to 85% passing 75 microns in size. After the preparation was completed the sample was submitted for assay. All samples were submitted for ALS's Complete Characterization package (CCP-PKG01) with the additional PGM-ICP24 analysis for Pt, Pd and Au by fire assay and ICP-AES finish.

Geochemistry Results and Discussion

The assay results the 27 rock samples, analyzed for a total of 67 elements, are presented in Appendix C. Elevated copper and PGE values occur in the pyroxene hornblendite, peridotite and pyroxenite samples, with grades of 0.15-0.54 % Cu associated with values of 0.11-0.90 g/t Pd and 0.18-0.77g/t P. The highest Ni value in this group of samples is 0.11% Ni; however most samples are <0.07% Ni. Select assay values are presented in the table below (Table 5). Whole rock chemistry shows clear compositional differences between the intrusive phases. The units mapped as peridotite and pyroxenite range from is 19-25.7% MgO, the hornblende pyroxenite ranges from 15-18% MgO and the gabbro ranges from 5.6-16.7% MgO.

Table 5: Select samples with assay values for elements of interest.

Sample ID	Rock Type	Magnetic Susceptibility ($x10^{-3}$SI)	Cu (ppm)	MgO (%)	Ni (ppm)	Pd (ppm)	Pt (ppm)
40389173	Pyroxenite	0.52	1465	15.5	360	0.159	0.303
40265944	Peridotite	66	1805	25.7	696	0.114	0.1775
40389168	Pyroxene Hornblendite	0.5	2190	18.4	584	0.823	0.773
40389166	Pyroxene Hornblendite	0.4	2400	15.25	605	0.157	0.189
40389951	Hornblende Pyroxenite	58	3920	20.8	1130	0.896	0.665
40389167	Pyroxene hornblendite	0.5	5370	16.4	567	0.199	0.377

Discussion and Recommendation of Further Work

The mapping work identified a multi-phase narrow (~130m wide at its widest point) convoluted intrusive system that occurs parallel to the E-W foliation in southcentral area and also cross-cuts foliation as a dyke to the northwest and southeast. There is strong evidence for interactions with the country rocks in the form of various breccias mapped along the margins and at internal contacts. Six sample have shown elevated values for Cu-PGE mineralization. The Cu-PGE enriched sulfides could be indicative of sulfide liquid fractionation, and slow prolonged cooling. These features of the Bill Lake intrusion would suggest that it was a dynamic magma pathway which supports its potential to host magmatic accumulations of Cu-Ni-PGE sulfide and would certainly warrant further exploration.

Further fieldwork should focus on follow-up mapping and prospecting adding more detail to the contact in certain areas especially in the eastern tail and the northwestern and southwestern margin of the intrusion.

Follow up drill testing is recommend to test the most prospective portions of the intrusion for Ni-Cu PGE potential.

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Statement of Qualifications

I, Lindsay McClenaghan certify that:

I am a full time employee of Rio Tinto Exploration Canada Inc.

I graduated with Bachelor of Science Honours Specialization in Geology degree from the University of Western, Ontario, in 2008, and Masters of Science degree in Geological Sciences from the University of British Columbia, BC, in 2013.

I am a registered Professional Geoscientist in the province of Ontario and have 8 years of experience working in mineral exploration. I authored this assessment report entitled: 2018 Geological Survey and Rock Sampling Bill Lake Property, managed the activities on the project, including field work and sampling process.

To the best of my knowledge, all costs reported in this Assessment Report were incurred by Rio Tinto Exploration Canada in the Bill Lake 2018 summer exploration program.

Signed,

L. McClenaghan

Dated this 7th of December, 2018

Lindsay McClenaghan
Project Geoscientist
Rio Tinto Exploration Canada Inc

Appendix A: Field Work Daily Logs

Journal for Bill Lake Mapping Program, Rio Tinto

Katarina Bjorkman

May 28th, 2018

This day was spent packing and preparing for work. Lindsay McClenaghan picked me up and we drove to the Indiaonta Resort to help Rob Varrin unpack. It was a late arrival.

May 29th, 2018

Lindsay, Rob and I met Justin at the start of the Elizabeth Road. We briefly discussed company health and safety policies followed by an overview of the Bill Lake Property and the current program objectives. These are (i) to locate and outline the ultramafic intrusive on the property and (ii) to recognise and map out internal lithological units, especially sulphide-bearing rocks.

After driving through banded metasedimentary rocks, we stopped at an intriguing outcrop wherein it appears that gabbro clasts are caught up in a sedimentary matrix. In detail, there are many variably oriented and compositionally distinct sedimentary clasts in addition to the gabbroic-pyroxenite clasts. In places, gabbro encloses angular to subangular metasedimentary clasts. The breccia is clast-supported and clasts are typically angular. There is a strong north-northeast trending fabric to the matrix in places. The strong fabric in the matrix suggests the possibility of a fault breccia, but, if a fault, the rotation direction is not obvious. It is possible that the movement is vertical. A test for this theory may be provided by looking for evidence of a significant offset of lithologic units on either side. Perhaps the fault movement was contemporaneous with the mafic intrusion. Alternatively, mafic magma intruded soft sediment, as suggested by Dean Russell. A difficulty with this hypothesis is the lack of evidence for a quenched margin around the intrusive. An unlikely third possibility is that some of the matrix is a late feldspathic melt that has accommodated the brecciation, which in places has mingled with the gabbroic melt. In either case, the gabbroic melt is finer grained than the pyroxenite clasts, and has a fabric in places.

We mapped a couple outcrops eastward along the road, and Rob found a coarse grained pyroxenite east of the breccia outcrop with some malachite associated with ~3% medium-grained disseminated chalcopyrite-pyrrhotite and minor pentlandite.

The latter part of the day was spent traversing north of the road to the lake. We came across the contact of the intrusion and took a sample. There was a long ridge of coarse-grained pyroxenite and hornblende pyroxenite, with large oikocrysts. The hornblende pyroxenite is black, and tends to be more varitextured and contains more plagioclase than the pyroxenite. In places the coarse pyroxenite has pyroxene oikocrysts enclosing mm rounded olivine (relicts). We also noted a finer grained gabbro that was strongly magnetic.

May 30th, 2018

Lindsay and I returned to the northeast corner of the main magnetic anomaly to map out the contact between the ultramafic intrusion and the country rock: metasandstone and metasiltsone. We found that the contact with the metasedimentary rocks to the east is generally sharp, and that

the intrusion near the contact is a medium-grained gabbro. Justin made the same observation of the western contact. There is barely a chill margin at the contact.

We noted four distinct intrusive phases:

(i) Coarse dark green pyroxenite, with 10-35 mm pyroxene crystals that commonly earlier-formed minerals, perhaps orthopyroxene, or, in places, olivine. This unit seems to be concentrated in the centre of the intrusion, and locally contains 5-15% medium-grained plagioclase <3% finely disseminated pyrrhotite with chalcopyrite.

(ii) Hornblendite or hornblende pyroxenite is dominated by coarse oikocrysts of black euhedral hornblende. A variable texture was commonly observed with this unit, and it has 5-35% plagioclase (hornblende gabbro). Blebby chalcopyrite and pyrrhotite (<2%) was observed in two localities.

(iii) Gabbro is concentrated near intrusion margins. This unit is medium grained. In places, late plagioclase encloses pyroxene and hornblende. This unit locally has fine pyrite and pyrrhotite-chalcopyrite.

(iv) Melanogabbro to peridotite is medium grained and very strongly magnetic, with 5-10% magnetite, and a magnetic susceptibility of <100.

May 31st, 2018

Lindsay and I started mapping where Justin and Rob had left off in the western portion of the magnetic anomaly along the road. We added definition to both contacts of the intrusion and learned that it swings southwest and narrows considerably across the road. We found quite a few outcrops in the swamp that were important for constraining the location of the contact. The sedimentary outcrops in the swamp constrain the intrusion in this area to <40 m. We took a couple samples for geochemistry and polished thin section work, as well as of a pyroxenite with fine sulphides and a gabbro Justin had mapped with finely disseminated chalcopyrite and pyrrhotite.

It absolutely poured on us and we were drenched for the majority of the day. We left a bit early to fuel the truck and get groceries.

June 1st, 2018

Lindsay and I continued south of the road in the southwestern part of the magnetic anomaly. We mapped to the creek, finding a 15m gabbro outcrop in the sediments. We crossed the creek to the south and mapped out north and south contacts of pyroxenite that appears to head east. We also noted a finer grained unit with 5-10% magnetite that consistently has a fabric. The pyroxenite and finer grained peridotite has locally finely disseminated pyrrhotite and chalcopyrite. We took a few representative samples. The metasedimentary outcrop just north of the little lake/pond also has a sheared fine to medium-grained felsic intrusive in contact with the metasiltstone.

June 2nd, 2018

Lindsay and I started at the eastern tail where Rob had found the pyroxenite with malachite. We mapped in the contact to the north with the metasedimentary outcrops. We found that there were several east-trending bands of sediment within the intrusion parallel to the margins. These rafts or

xenoliths of sedimentary material are in contact with medium grained gabbro (as is typical of the intrusion margins). Pyroxenite is located south of the gabbro.

Near the breccia outcrop, we noticed felsic intrusive rocks cutting sediments, and felsic intrusive bands with gabbroic melts. Both gabbroic melt and felsic melts enclose rafts of pyroxenite. The felsic intrusive is fine grained, sheared. Moreover, Lindsay noted that in places, isolated gabbroic fragments actually connect in the third dimension. These observations are consistent with the interpretation that the breccia is magmatic.

By the end of the day, it was raining.

June 3rd, 2018

Lindsay and I stayed in camp. It rained all day. We wrote a short report summarizing our observations and read some papers on the Quetico intrusions. Justin arrived in the late afternoon. I did some of the defensive driving modules.

June 4th, 2018

Justin, Lindsay and I returned to map the eastern tail of the intrusion. Justin started from the east at the breccia outcrop, and Lindsay and I started mapping from the west. In general, the intrusion is more ultramafic and wide in the west (>100 m), and then pinches (~10 m at narrowest) and swells westward. Gabbroic compositions are common, consistently near intrusive margins. There is a lozenge of the gabbro-sedimentary breccia internal to the intrusion that is ~40 m by 80 m, near the junction where the intrusion cuts north. This breccia does not have any felsic melt associated with it, which makes me question my earlier observation at the eastern end.

The pinching and swelling of the intrusion is somewhat reminiscent of 5-20 cm anastomosing gabbroic dikes observed at the outcrop scale. Perhaps the outcrop scale is a fractal representation of the intrusion scale. If so, the intrusion may have been stretched along the main fabric.

We observed a small (~1m) hand dug pit with hornblende pyroxenite containing sulphide blebs (<1x3 cm) of pyrrhotite-chalcopyrite and pentlandite that Justin had previously sampled. We sampled a pyroxenite along the southern margin with <20 mm pyroxene crystals and disseminated chalcopyrite and pyrrhotite.

We parked away from the magnetic signature and the intrusion to mitigate interference with the airborne geophysical survey, but it wasn't flown.

June 5th, 2018

Justin saw a bear on the Elizabeth Road while driving in. It was a beautiful sunny day. The loggers weren't working.

Justin, Lindsay and I worked together. We started in from the west, where the loggers had started cutting earlier, to better understand the geometry where the intrusion swings north from the tail. The gabbro dike we had mapped earlier hinted that there may be mafic rocks southwest of the creek. The entire area was a mess of logs that had been felled, which made mapping challenging. Although the majority of rocks in this area were sedimentary, at the tip of land south and west of the

creek, there was some gabbro breccia, some hornblende gabbro that appears layered, and >30 m of pyroxenite outcrops.

We traversed west across the swamp in hopes of finding outcrop, but this effort merely produced wet boots. Our wet boots were exasperated as we attempted to cross a wet bog to the south, an effort we eventually abandoned to walk around the long way. We had a nice lunch on the long sedimentary outcrop overlooking the lake. Justin heard an animal across the lake and noticed some large birds in the swamp. Later we saw a bear investigating the very defensive and very large sandhill cranes' nest.

We finished the day by filling in the gap and adding detail in the eastern tail. Once again, we noted the gabbro breccia as an internal block of rock, and an area of presumably widening of the intrusion centred over a spruce swamp.

June 6th, 2018

Justin, Lindsay and I returned to map the eastern portion of the tail of the intrusion, where it was found to the south, and where the magnetic signature bends south. Justin mapped south of the road from the known outcrop and showed that it heads west-southwest into the swamp before heading back to Thunder Bay. Lindsay and I mapped north of the road and found that the gabbro and ultramafic form prominent outcrops and that the contact with the sedimentary rocks seem to curve to the north. At the outcrop on the road there is more breccia to the east.

There is a very distinct, biotite-rich unit at the contact with the sedimentary rocks. It is unclear if this is part of the ultramafic intrusion or a separate phase. Justin had also noticed this unit in the sedimentary rock in a western outcrop previously.

Near the north contact, we found gabbro containing angular felsic crystalline inclusions of variable shapes, <12 cm. Some of these inclusions seem to be pure silica, while others have feldspar and show mineral zoning, in places with amphiboles. Some inclusions grade into the host gabbro. Moreover, there are clots of sulphide mineralization, mostly pyrrhotite-chalcopyrite (sampled), but one of cubic pyrite.

Somewhat surprisingly, a gabbroic dike continues straight east-northeast at the main bend. The dike is typically <10 m wide, but consistent in composition. It was followed for nearly 200 m east and seems likely to continue.

June 7th, 2018

Lindsay and I mapped north of the lake. Outcrop is abundant on the north side of the lake, dominantly comprised of steeply-dipping meta siltstone and sandstone. There are consistent joints sets that are late and brittle, dipping shallowly to the north. The main foliation is approximately bedding parallel and is in placed distinctly sheared as well. Most lineations observed are steep, suggesting a dip-slip component.

We noted medium grained, weakly foliated biotite-rich amphibolite dikes ranging from a few cm to 1 m. One such dike was sampled. They seem to be lamprophyre. One dike appears to intrude along the late joint set, suggesting these were late intrusive phases.

Two felsic dikes were noted, 1m and 1.7m thick, respectively. Both are foliation-parallel and fine-grained. The western dike contained abundant quartz.

June 8th, 2018

Lindsay and I finished field work at Bill Lake today. We added detail to the curve to the south in the eastern tail, showing it remains as a narrow unit. A distinct felsic intrusive dike cuts the gabbro. This was similar to the felsic intrusive occurring at the north end of the gabbro breccia. We sampled a mineralized gabbro at the contact with sedimentary rocks.

We finished the day by mapping in the sedimentary rocks to the east. These rocks are consistently cut by quartz veins. Quartz veins can comprise up to 30% of the outcrop in small shear zones. Many quartz veins follow the foliation, and many cross-cut the foliation. Quartz veins that cut the foliation tend to be strongly folded. This appears to reflect movement along the main bedding-foliation planes. There are several examples of en echelon veins. The geometry of these veins supports dextral movement.

Metamorphic grade increases to the east to garnet amphibolite. Nevertheless, primary graded beds are commonly well-preserved, with mud-rich layers highlighted by increased garnet.

Biotite amphibolite dikes were noted cutting the sedimentary rocks at an angle (~70/20). They have distinct alteration halos. They seem to be late lamprophyre dikes.

It appears that the geophysical surveys are being flown ☺

Appendix B: Exploration Costs

Table A1: Summary tables of exploration costs at JR

Cost Type	Service Provider	Subtotal
Assays	ALS	$2552
Accommodation	Indiaonta Resort	$4500
Field Groceries	-	$1240
Fuel (trucks)	-	$1064
Field Supplies	-	$946
Contracted Labour	Karl Bjorkman Prospecting	$9100
Staff Cost	-	$12296
	Subtotal	**$31698**

Notes:

All costs are as reported in Rio Tinto's costs tracking system (SAP), following internal financial guidance. The month a cost is reported is that when the invoice is paid to the provider, and not when the service is received.

Staff costs are that reported by Rio Tinto in its cost tracking system (SAP) and include:

- 5 days J. Laberge, Project Manager
- 11 days L. McClenaghan, Project Geology
- 3 days R. Varrin, Project coordinator

Table A2: Summary tables of exploration costs at Bill Lake

Claim Number	Percentage of Work	Cost of Work	Samples Assayed	Assay Cost	Total Cost
110174	11%	$3,088	3	$283	$3,371
110175	7%	$1,985	1	$95	$2,080
133985	3%	$742	1	$95	$837
141051	8%	$2,418	5	$473	$2,891
165198	1%	$234	-	-	$234
183489	2%	$650	-	-	$650
234819	1%	$192	-	-	$192
254417	9%	$2,622	2	$189	$2,811
261930	7%	$2,055	8	$756	$2,811
301388	10%	$2,798	1	$94	$2,892
302980	28%	$8,205	5	$473	$8,678
303276	2%	$454	-	-	$454
341770	2%	$633	1	$94	$727
501039	11%	$3,070	-	-	$3,070
Total	100%	$29,146	27	$2,552	$31,698

Appendix C: Certificates of Analyses

ALS Canada Ltd.
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North Vancouver BC V7H 0A7
Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
www.alsglobal.com/geochemistry

To: **RIO TINTO EXPLORATION CANADA INC.**
354-200 GRANVILLE STREET
VANCOUVER BC V6C 1S4

Finalized Date: 3-JUL-2018
Account: KAV

CERTIFICATE TB18139298

Project: EB80004013

P.O. No.: 3103094877

This report is for 28 Rock samples submitted to our lab in Thunder Bay, ON, Canada on 13-JUN-2018.

The following have access to data associated with this certificate:

RTXAMRNA ASSAY RESULTS JUSTIN LABERGE	RACHELLE BOULANGER	SUE DRIEBERG

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
LOG-23	Pulp Login - Rcvd with Barcode
LOG-21	Sample logging - ClientBarCode
CRU-31	Fine crushing - 70% <2mm
WSH-21	"Wash" crushers
SPL-22	Split sample - rotary splitter
PUL-32	Pulverize 1000g to 85% < 75 um
WSH-22	"Wash" pulverizers
LOG-21d	Sample logging - ClientBarCode Dup
SPL-21d	Split sample - duplicate
PUL-32d	Pulverize Split -Dup 85% <75um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP06	Whole Rock Package - ICP-AES	ICP-AES
TOT-ICP06	Total Calculation for ICP06	ICP-AES
OA-GRA05	Loss on Ignition at 1000C	WST-SEQ
C-IR07	Total Carbon (Leco)	LECO
S-IR08	Total Sulphur (Leco)	LECO
ME-MS81	Lithium Borate Fusion ICP-MS	ICP-MS
ME-MS42	Up to 34 elements by ICP-MS	ICP-MS
ME-MS61	48 element four acid ICP-MS	
PGM-MS24	Pt, Pd and Au 50g FA ICP-MS	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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Sample Description	Method	WEI-21	CRU-QC	PUL-QC	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06
	Analyte	Recvd Wt.	Pass2mm	Pass75um	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	Cr2O3	TiO2	MnO	P2O5	SrO
	Units	kg	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	LOD	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	0.01	0.01	0.01	0.01
40265935		2.16	76.2	86.2	50.7	6.91	9.05	13.30	14.80	1.37	0.55	0.197	0.57	0.16	0.08	0.02
40265936		2.35		87.2	41.5	3.75	11.50	10.95	21.3	0.19	0.03	0.155	0.22	0.17	0.06	0.01
40265937		3.11			44.8	5.08	14.35	9.57	21.4	0.48	0.19	0.094	0.32	0.20	0.09	0.02
40265938		1.28			49.0	6.18	9.42	12.95	17.10	1.17	0.49	0.185	0.38	0.18	0.04	0.02
40265939		1.46			47.5	12.85	15.90	7.12	4.82	2.89	0.04	0.010	1.73	0.21	0.15	<0.01
40265940		1.73			46.4	15.25	15.60	8.04	5.79	2.99	1.94	0.006	0.95	0.16	0.64	0.07
40265941		1.72			43.0	11.15	16.20	10.40	11.95	1.12	1.05	0.059	1.33	0.18	0.10	0.02
40265942		1.49			44.8	3.43	10.05	11.00	24.4	0.24	0.11	0.389	0.23	0.16	0.05	0.01
40265943		2.09			46.7	4.09	9.62	12.95	20.5	0.30	0.12	0.294	0.26	0.18	0.06	0.01
40265944		0.96			43.6	1.87	11.40	9.33	25.7	0.09	0.02	0.442	0.15	0.25	0.03	<0.01
40265945		1.51			49.9	13.60	10.40	9.21	7.90	2.61	1.50	0.054	0.67	0.19	0.22	0.05
40265946		1.04			65.2	14.95	5.60	3.23	2.34	4.00	1.49	0.019	0.51	0.06	0.12	0.06
40265947		1.44			51.1	8.83	9.95	10.60	14.60	1.49	0.97	0.187	0.46	0.18	0.11	0.02
40265948		0.98			49.5	4.55	9.00	14.90	16.70	0.43	0.46	0.215	0.28	0.16	0.05	0.01
40265949		1.16			44.9	10.20	10.40	11.15	11.90	0.85	2.46	0.091	1.10	0.21	1.62	0.04
40389166		2.09			49.4	6.82	10.70	11.60	15.25	0.74	0.96	0.142	0.36	0.17	0.09	0.03
40389167		2.33			47.7	5.98	12.15	12.35	16.40	0.61	0.49	0.159	0.38	0.17	0.08	0.01
40389168		1.41			48.4	4.17	10.20	13.25	18.40	0.64	0.28	0.359	0.28	0.16	0.17	0.01
40389169		0.97			52.4	14.55	10.60	8.77	6.65	4.11	1.08	0.022	0.75	0.18	0.28	0.06
40389170		1.61			47.6	11.05	11.50	10.65	12.60	1.50	1.11	0.105	0.79	0.17	0.20	0.03
40389170 CRD		<0.02			46.2	11.20	11.20	10.60	12.65	1.40	1.09	0.103	0.79	0.17	0.20	0.03
40389171		1.10			50.5	14.10	11.10	10.15	8.66	2.71	1.65	0.063	0.76	0.17	0.31	0.11
40389172		2.12			43.0	3.63	10.45	9.04	23.8	0.26	0.08	0.248	0.21	0.16	0.07	0.02
40389173		1.43			48.3	8.19	12.35	11.25	15.50	0.92	0.63	0.268	0.47	0.18	0.10	0.03
40389174		0.17			45.4	18.95	12.45	9.71	7.65	2.05	1.10	0.343	1.30	0.14	0.14	0.05
40389950		1.10			48.5	4.86	12.15	13.10	18.80	0.66	0.26	0.151	0.32	0.19	0.07	0.02
40389951		1.00			45.1	4.35	11.80	11.00	20.8	0.45	0.19	0.296	0.26	0.16	0.06	0.02
40389963		2.77			60.2	11.80	9.19	6.89	5.59	2.60	1.81	0.033	0.53	0.15	0.12	0.04

***** See Appendix Page for comments regarding this certificate *****

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VANCOUVER BC V6C 1S4

Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-ICP06	TOT-ICP06	OA-GRA05	C-IR07	S-IR08	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	BaO	Total	LOI	C	S	Ba	Ce	Cr	Cs	Dy	Er	Eu	Ga	Gd	Hf
	Units	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.01	0.01	0.01	0.01	0.01	0.5	0.1	10	0.01	0.05	0.03	0.03	0.1	0.05	0.2
40265935		0.02	100.51	2.78	0.39	0.03	206	31.5	1550	0.20	2.42	1.18	1.15	10.6	3.56	1.7
40265936		<0.01	100.69	10.85	2.13	0.16	12.9	12.1	1130	0.47	1.03	0.56	0.42	5.4	1.28	0.7
40265937		0.01	100.39	3.79	0.37	0.37	41.2	17.5	690	0.18	1.49	0.80	0.58	7.2	1.93	0.9
40265938		0.02	99.92	2.78	0.38	0.05	146.0	19.7	1390	0.56	2.04	1.12	0.79	9.2	2.66	1.2
40265939		<0.01	100.63	7.41	1.25	0.09	17.2	15.2	70	0.14	6.56	4.19	1.29	20.2	5.48	3.4
40265940		0.06	100.67	2.77	0.15	2.44	484	37.1	40	2.28	3.89	2.28	1.51	17.8	4.92	2.3
40265941		0.04	99.85	3.25	0.05	1.08	320	18.0	430	1.08	3.10	1.73	1.10	14.7	3.71	1.3
40265942		<0.01	99.55	4.68	0.21	0.08	31.7	9.6	2880	0.31	1.01	0.54	0.39	4.7	1.29	0.4
40265943		0.01	98.63	3.54	0.26	0.13	58.5	10.9	2290	0.17	1.24	0.64	0.46	6.1	1.45	0.7
40265944		0.01	99.08	6.19	0.07	0.38	52.2	4.6	3370	0.19	0.72	0.41	0.20	3.0	0.90	0.2
40265945		0.07	98.33	1.96	0.02	1.17	567	30.6	410	0.38	2.78	1.62	0.97	15.7	3.24	2.0
40265946		0.05	99.56	1.93	0.09	0.85	452	22.8	150	2.07	1.46	0.96	0.65	16.4	1.63	3.1
40265947		0.04	100.90	2.36	0.14	0.03	302	14.6	1420	0.45	1.65	1.12	0.56	10.3	2.09	1.3
40265948		0.01	99.29	3.02	0.55	0.11	126.0	9.5	1640	0.10	1.35	0.70	0.40	6.6	1.41	0.6
40265949		0.08	98.21	3.21	0.50	<0.01	747	392	730	4.32	9.23	3.15	6.32	17.9	19.75	19.2
40389166		0.06	98.46	2.14	0.14	0.22	509	15.0	1080	0.26	1.61	0.88	0.54	8.1	1.74	1.1
40389167		0.01	99.35	2.86	0.30	0.62	115.5	12.6	1150	0.23	1.47	0.87	0.52	8.9	1.69	0.8
40389168		0.01	99.48	3.15	0.56	0.56	75.7	12.8	2740	0.64	1.26	0.72	0.49	6.9	1.62	0.8
40389169		0.04	101.44	1.95	0.26	0.01	314	49.5	170	0.64	3.10	1.82	1.33	17.2	4.09	2.5
40389170		0.05	99.84	2.48	0.03	0.06	409	26.5	850	0.75	3.58	1.98	1.27	15.7	4.16	1.6
40389170 CRD		0.05	98.08	2.40	0.02	0.06	400	25.3	830	0.73	3.27	1.84	1.30	15.2	3.97	1.5
40389171		0.07	101.53	1.18	0.02	0.22	617	48.2	500	1.55	3.32	1.90	1.49	16.5	4.43	2.4
40389172		<0.01	99.22	8.25	1.34	0.09	36.6	10.3	1870	0.25	0.88	0.47	0.33	5.0	1.15	0.5
40389173		0.02	100.89	2.68	0.02	0.19	192.5	16.2	1910	0.24	1.79	0.97	0.58	11.6	2.16	1.0
40389174		0.04	101.28	1.96	0.03	0.33	329	26.4	2740	2.58	3.46	2.04	1.24	20.9	3.66	2.9
40389950		0.01	101.46	2.37	0.08	0.47	51.5	15.0	1100	0.26	1.57	0.75	0.59	7.1	2.00	0.8
40389951		<0.01	98.30	3.81	0.30	1.21	34.1	13.7	2330	0.11	1.23	0.61	0.50	6.0	1.66	0.7
40389963		0.05	100.56	1.56	0.29	0.83	420	28.9	250	2.23	2.54	1.52	0.87	14.8	2.81	2.3

***** See Appendix Page for comments regarding this certificate *****

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To: **RIO TINTO EXPLORATION CANADA INC.**
354-200 GRANVILLE STREET
VANCOUVER BC V6C 1S4

Project: EB80004013

CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	Ho	La	Lu	Nb	Nd	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th	Tm	U
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.01	0.1	0.01	0.2	0.1	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05	0.01	0.05
40265935		0.47	12.2	0.13	3.1	21.1	4.70	13.8	4.62	1	167.0	0.2	0.46	2.32	0.15	0.80
40265936		0.18	5.2	0.07	0.9	6.9	1.76	1.3	1.55	<1	94.1	<0.1	0.19	0.66	0.07	0.20
40265937		0.29	8.6	0.10	1.3	10.3	2.41	3.3	1.96	<1	169.5	<0.1	0.26	1.67	0.12	0.53
40265938		0.38	7.0	0.15	2.1	14.3	3.17	11.7	3.20	<1	207	0.1	0.37	0.69	0.16	0.22
40265939		1.34	6.0	0.64	5.0	12.4	2.45	2.3	4.06	1	37.8	0.3	1.04	0.68	0.62	0.19
40265940		0.78	15.0	0.27	4.6	24.7	5.46	68.6	5.56	1	599	0.2	0.69	2.44	0.34	1.70
40265941		0.63	6.6	0.24	2.2	14.3	2.85	29.0	3.61	1	171.5	0.1	0.52	0.99	0.23	0.39
40265942		0.18	4.2	0.08	0.6	6.3	1.38	2.6	1.24	<1	111.0	<0.1	0.16	0.42	0.07	0.12
40265943		0.25	4.9	0.08	0.9	7.1	1.58	3.0	1.58	<1	106.0	<0.1	0.23	0.75	0.10	0.21
40265944		0.15	1.7	0.04	0.2	3.5	0.75	1.3	0.85	<1	30.3	<0.1	0.12	0.20	0.05	0.06
40265945		0.54	14.3	0.22	2.8	17.2	4.11	46.1	3.57	1	413	0.2	0.44	2.33	0.27	0.91
40265946		0.29	11.0	0.16	4.7	9.6	2.55	55.6	1.78	1	497	0.4	0.21	6.83	0.15	1.84
40265947		0.37	6.7	0.15	1.6	8.3	1.95	26.2	2.02	<1	199.0	0.1	0.29	1.77	0.17	0.53
40265948		0.27	5.3	0.11	0.8	5.8	1.26	11.1	1.39	<1	124.5	<0.1	0.25	0.86	0.11	0.24
40265949		1.42	170.5	0.32	13.7	200.0	50.2	109.5	32.1	4	342	0.9	1.88	23.6	0.43	4.85
40389166		0.30	6.3	0.13	1.6	8.2	1.97	28.9	1.90	1	203	0.1	0.23	1.34	0.15	0.44
40389167		0.30	5.2	0.12	1.3	7.8	1.80	10.1	1.85	1	82.2	<0.1	0.27	0.91	0.14	0.20
40389168		0.26	5.3	0.09	1.0	8.4	1.88	6.7	1.70	<1	111.5	<0.1	0.22	0.63	0.11	0.21
40389169		0.63	22.3	0.27	4.4	26.4	6.43	27.0	4.98	1	536	0.2	0.53	2.84	0.28	0.69
40389170		0.63	8.6	0.25	3.2	21.2	4.32	32.2	4.99	1	245	0.2	0.58	1.14	0.28	0.47
40389170 CRD		0.66	8.3	0.24	3.1	20.9	4.15	31.0	5.01	1	229	0.2	0.56	0.98	0.28	0.44
40389171		0.61	19.1	0.23	6.2	31.3	7.11	45.4	5.54	1	896	0.3	0.56	3.49	0.27	0.94
40389172		0.18	4.8	0.06	0.8	5.8	1.40	3.0	1.24	<1	163.5	<0.1	0.15	0.65	0.07	0.19
40389173		0.35	7.3	0.14	4.2	9.4	2.27	12.3	2.25	1	215	<0.1	0.29	1.15	0.13	0.28
40389174		0.70	12.1	0.28	7.1	15.0	3.49	37.1	3.32	2	409	0.5	0.53	1.26	0.29	0.39
40389950		0.31	6.5	0.10	2.0	9.7	2.17	5.0	2.20	<1	156.5	<0.1	0.33	1.25	0.13	0.38
40389951		0.24	6.2	0.09	1.4	8.5	2.02	3.1	1.90	<1	151.0	<0.1	0.22	0.69	0.09	0.17
40389963		0.50	13.3	0.21	3.4	15.3	3.75	77.3	3.07	1	359	0.3	0.40	3.57	0.21	1.04

***** See Appendix Page for comments regarding this certificate *****

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To: **RIO TINTO EXPLORATION CANADA INC.**
354-200 GRANVILLE STREET
VANCOUVER BC V6C 1S4

Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS61
	Analyte	V	W	Y	Yb	Zr	As	Bi	Hg	In	Re	Sb	Se	Te	Tl	Ag
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	5	1	0.1	0.03	2	0.1	0.01	0.005	0.005	0.001	0.05	0.2	0.01	0.02	0.01
40265935		181	1	11.7	1.04	52	3.5	0.14	0.005	0.008	<0.001	0.07	0.2	0.02	0.04	0.13
40265936		96	1	5.1	0.49	21	3.9	0.08	<0.005	0.010	0.001	<0.05	0.4	0.01	<0.02	0.03
40265937		135	1	7.4	0.72	35	29.5	0.06	0.007	0.014	<0.001	0.09	0.6	0.03	0.02	0.04
40265938		136	1	10.4	0.96	37	0.4	0.07	0.008	0.007	<0.001	<0.05	0.2	<0.01	0.06	0.07
40265939		405	1	37.7	4.04	122	1.1	0.01	0.008	0.092	0.002	<0.05	0.4	<0.01	<0.02	0.06
40265940		206	1	21.3	2.13	69	0.5	0.18	<0.005	0.021	0.001	0.05	3.9	0.11	0.23	0.26
40265941		550	2	16.0	1.31	38	0.3	0.17	0.011	0.021	0.001	0.06	1.9	0.04	0.10	0.25
40265942		113	2	5.0	0.48	16	8.9	0.02	<0.005	0.008	<0.001	0.43	0.3	0.02	0.04	0.05
40265943		129	1	5.9	0.60	23	5.4	0.03	<0.005	0.006	<0.001	0.21	0.4	0.05	0.03	0.07
40265944		97	2	3.3	0.27	7	3.2	0.15	0.007	0.014	<0.001	0.14	2.0	0.20	0.05	0.70
40265945		232	1	15.2	1.55	67	0.8	0.13	<0.005	0.010	<0.001	0.11	0.9	0.04	0.04	0.06
40265946		110	1	8.7	1.07	114	1.4	0.15	0.008	0.018	0.002	0.07	0.9	0.02	0.22	0.07
40265947		194	1	9.9	1.00	44	0.5	0.07	<0.005	0.006	0.001	<0.05	<0.2	0.01	0.03	0.03
40265948		175	<1	6.6	0.68	23	1.6	0.07	0.012	0.005	<0.001	0.09	0.6	0.07	0.04	0.28
40265949		199	2	39.5	2.41	767	1.2	0.23	<0.005	0.032	<0.001	<0.05	<0.2	0.01	0.49	0.03
40389166		175	2	8.3	0.80	36	1.8	1.37	<0.005	0.016	<0.001	<0.05	1.0	0.25	0.04	1.63
40389167		176	2	7.8	0.84	27	0.7	1.50	<0.005	0.031	<0.001	<0.05	3.4	0.41	0.13	3.69
40389168		130	1	6.4	0.71	25	0.4	2.06	<0.005	0.017	<0.001	0.38	1.6	0.49	0.10	1.11
40389169		245	1	17.8	1.60	89	0.9	0.03	0.005	0.013	<0.001	0.08	<0.2	0.01	0.03	0.03
40389170		231	1	18.5	1.60	42	0.4	0.06	0.007	0.015	<0.001	0.05	0.3	0.01	0.06	0.07
40389170 CRD		225	1	17.9	1.58	37	0.8	0.06	<0.005	0.015	<0.001	0.05	0.3	0.01	0.07	0.07
40389171		258	1	17.4	1.60	87	1.2	0.09	<0.005	0.009	<0.001	0.11	0.3	0.01	0.21	0.07
40389172		96	1	4.6	0.46	21	10.0	0.12	<0.005	0.010	<0.001	0.07	0.3	0.03	0.03	0.06
40389173		212	1	9.1	0.93	34	1.1	1.43	<0.005	0.049	<0.001	0.07	2.7	0.28	0.29	3.12
40389174		179	1	19.3	1.73	106	5.0	0.13	0.009	0.030	0.003	0.31	0.8	0.05	0.48	0.46
40389950		162	1	7.8	0.70	28	4.0	0.02	<0.005	0.006	<0.001	0.10	0.9	0.03	0.03	0.07
40389951		125	1	6.3	0.62	24	0.9	0.79	<0.005	0.022	0.002	0.36	4.8	0.46	0.13	1.83
40389963		181	2	14.5	1.39	81	0.3	0.18	<0.005	0.012	<0.001	<0.05	1.7	0.12	0.17	0.12

***** See Appendix Page for comments regarding this certificate *****

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To: **RIO TINTO EXPLORATION CANADA INC.**
354-200 GRANVILLE STREET
VANCOUVER BC V6C 1S4

Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	PGM-MS24	PGM-MS24	PGM-MS24
	Analyte	Cd	Co	Cu	Li	Mo	Ni	Pb	Sc	Zn	Au	Pt	Pd
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.02	0.1	0.2	0.2	0.05	0.2	0.5	0.1	2	0.001	0.0005	0.001
40265935		0.09	51.4	129.5	9.1	0.09	135.5	10.9	46.2	65	0.003	0.0083	0.008
40265936		0.06	100.0	112.5	23.0	0.07	300	0.9	30.4	66	0.002	0.0024	0.003
40265937		0.07	101.5	248	0.9	0.23	222	1.7	37.4	76	0.009	0.0019	0.002
40265938		0.11	67.0	133.5	10.0	0.10	259	3.2	40.8	72	0.008	0.0137	0.014
40265939		0.08	46.1	99.9	16.7	0.33	57.9	0.8	40.6	125	0.003	0.0029	0.004
40265940		0.10	39.3	399	25.7	0.63	18.4	10.3	25.7	89	0.012	0.0017	0.003
40265941		0.09	80.2	585	43.2	0.21	107.5	6.4	63.7	71	0.002	0.0032	0.003
40265942		0.07	78.9	99.6	1.2	0.78	460	3.6	30.4	58	0.007	0.0104	0.012
40265943		0.09	67.2	198.5	1.9	0.35	368	2.1	39.0	64	0.007	0.0301	0.029
40265944		0.09	95.4	1805	6.1	0.32	696	1.7	31.1	62	0.103	0.1775	0.114
40265945		0.19	37.3	49.5	16.5	0.48	51.1	9.8	32.6	92	<0.001	0.0011	0.001
40265946		0.05	13.6	37.3	19.0	1.10	38.4	12.3	11.7	39	0.001	0.0014	0.001
40265947		0.09	51.3	86.2	22.2	1.00	241	3.5	33.5	71	<0.001	0.0060	0.005
40265948		0.10	63.7	701	5.7	0.38	349	3.6	52.8	53	0.008	0.0282	0.033
40265949		0.31	42.1	15.4	35.7	0.24	200	9.9	22.7	114	<0.001	0.0035	0.002
40389166		0.23	71.0	2400	11.8	0.25	605	3.7	42.3	61	0.008	0.189	0.157
40389167		0.33	75.5	5370	16.3	0.19	567	3.6	43.7	67	0.011	0.377	0.199
40389168		0.15	68.4	2190	11.2	0.19	584	2.1	33.9	68	0.029	0.773	0.823
40389169		0.14	31.9	44.1	15.1	0.27	29.4	6.9	29.3	97	0.001	0.0013	0.001
40389170		0.13	44.8	139.5	39.1	0.27	178.0	3.7	27.1	89	0.001	0.0035	0.004
40389170 CRD		0.15	46.7	145.0	40.9	0.27	182.0	3.8	28.2	90	0.002	0.0052	0.006
40389171		0.12	34.5	41.1	15.9	0.21	85.7	8.5	29.2	90	<0.001	0.0026	0.002
40389172		0.09	89.2	147.0	1.7	0.23	491	2.1	26.2	70	0.005	0.0113	0.009
40389173		0.13	43.5	1465	13.6	0.18	360	7.9	35.0	67	0.018	0.303	0.159
40389174		0.26	60.6	1150	38.0	2.81	718	6.0	18.8	110	0.024	0.0405	0.214
40389950		0.11	86.3	406	3.9	0.23	230	2.2	47.3	69	0.003	0.0016	0.001
40389951		0.28	112.5	3920	1.6	0.57	1130	3.0	30.5	66	0.181	0.665	0.896
40389963		0.14	31.8	127.5	13.5	1.02	60.2	7.8	26.1	77	<0.001	0.0020	0.002

***** See Appendix Page for comments regarding this certificate *****

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To: **RIO TINTO EXPLORATION CANADA INC.**
354-200 GRANVILLE STREET
VANCOUVER BC V6C 1S4

Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

CERTIFICATE OF ANALYSIS TB18139298

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

REE's may not be totally soluble in this method.

Applies to Method: ME-MS61

LABORATORY ADDRESSES

Processed at ALS Thunder Bay located at 645 Norah Crescent, Thunder Bay, ON, Canada

Applies to Method:				
CRU-31	CRU-QC	LOG-21	LOG-21d
LOG-23	PUL-32	PUL-32d	PUL-QC
SPL-21d	SPL-22	WEI-21	WSH-21
WSH-22			

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:			
C-IR07	ME-ICP06	ME-MS42	ME-MS61
ME-MS81	OA-GRA05	PGM-MS24	S-IR08
TOT-ICP06			

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To: **RIO TINTO EXPLORATION CANADA INC.**
354-200 GRANVILLE STREET
VANCOUVER BC V6C 1S4

Finalized Date: 3-JUL-2018
Account: KAV

QC CERTIFICATE TB18139298

Project: EB80004013

P.O. No.: 3103094877

This report is for 28 Rock samples submitted to our lab in Thunder Bay, ON, Canada on 13-JUN-2018.

The following have access to data associated with this certificate:

RTXAMRNA ASSAY RESULTS JUSTIN LABERGE	RACHELLE BOULANGER	SUE DRIEBERG

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
LOG-23	Pulp Login - Rcvd with Barcode
LOG-21	Sample logging - ClientBarCode
CRU-31	Fine crushing - 70% <2mm
WSH-21	"Wash" crushers
SPL-22	Split sample - rotary splitter
PUL-32	Pulverize 1000g to 85% < 75 um
WSH-22	"Wash" pulverizers
LOG-21d	Sample logging - ClientBarCode Dup
SPL-21d	Split sample - duplicate
PUL-32d	Pulverize Split -Dup 85% <75um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP06	Whole Rock Package - ICP-AES	ICP-AES
TOT-ICP06	Total Calculation for ICP06	ICP-AES
OA-GRA05	Loss on Ignition at 1000C	WST-SEQ
C-IR07	Total Carbon (Leco)	LECO
S-IR08	Total Sulphur (Leco)	LECO
ME-MS81	Lithium Borate Fusion ICP-MS	ICP-MS
ME-MS42	Up to 34 elements by ICP-MS	ICP-MS
ME-MS61	48 element four acid ICP-MS	
PGM-MS24	Pt, Pd and Au 50g FA ICP-MS	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Colin Ramshaw, Vancouver Laboratory Manager

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Finalized Date: 3-JUL-2018
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Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	TOT-ICP06	OA-GRA05
	Analyte	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	Total	LOI
	Units	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	LOD	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	0.01	0.01	0.01	0.01	0.01	0.01	0.01
STANDARDS																
AMIS0167																
Target Range - Lower Bound																
Upper Bound																
AMIS0167															101.07	
AMIS0167		93.0	2.43	3.42	0.13	0.24	0.08	0.59	0.058	0.14	0.02	0.03	<0.01	0.01	101.77	
AMIS0167		93.4	2.46	3.44	0.12	0.25	0.08	0.50	0.059	0.15	0.02	0.03	<0.01	0.01	>102.00	
Target Range - Lower Bound		89.6	2.29	3.28	0.10	0.21	0.06	0.45	0.049	0.12	<0.01	<0.01	<0.01	<0.01	97.99	
Upper Bound		93.3	2.55	3.62	0.16	0.27	0.12	0.55	0.067	0.18	0.04	0.05	0.02	0.02	>102.00	
AMIS0286																7.64
Target Range - Lower Bound																7.25
Upper Bound																8.03
AMIS0304																
Target Range - Lower Bound																
Upper Bound																
DS-1																
Target Range - Lower Bound																
Upper Bound																
GPP-04																
Target Range - Lower Bound																
Upper Bound																
GPP-14																
Target Range - Lower Bound																
Upper Bound																
GS313-8																
Target Range - Lower Bound																
Upper Bound																
MRGeo08																
Target Range - Lower Bound																
Upper Bound																
OGGeo08																
Target Range - Lower Bound																
Upper Bound																

***** See Appendix Page for comments regarding this certificate *****

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To: **RIO TINTO EXPLORATION CANADA INC.**
354-200 GRANVILLE STREET
VANCOUVER BC V6C 1S4

Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	C-IR07	S-IR08	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	C	S	Ba	Ce	Cr	Cs	Dy	Er	Eu	Ga	Gd	Hf	Ho	La	Lu
	Units	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.01	0.01	0.5	0.1	10	0.01	0.05	0.03	0.03	0.1	0.05	0.2	0.01	0.1	0.01
STANDARDS																
AMIS0167				83.7	45.1	460	1.08	5.79	3.14	0.73	3.3	4.84	2.8	1.04	23.7	0.32
Target Range - Lower Bound																
Upper Bound																
AMIS0167																
AMIS0167																
AMIS0167																
Target Range - Lower Bound																
Upper Bound																
AMIS0286																
Target Range - Lower Bound																
Upper Bound																
AMIS0304				2670	8190	90	0.40	136.5	34.4	148.0	48.6	352	27.9	18.20	3490	2.10
Target Range - Lower Bound				2340	7280	70	0.35	119.0	30.6	135.0	47.8	309	25.0	16.20	3250	1.83
Upper Bound				2860	8900	120	0.45	145.5	37.4	165.0	58.7	377	31.0	19.80	3970	2.26
DS-1		3.12	2.59													
Target Range - Lower Bound		3.01	2.51													
Upper Bound		3.25	2.71													
GPP-04																
Target Range - Lower Bound																
Upper Bound																
GPP-14																
Target Range - Lower Bound																
Upper Bound																
GS313-8		0.95	1.19													
Target Range - Lower Bound		0.90	1.19													
Upper Bound		0.98	1.29													
MRGeo08																
Target Range - Lower Bound																
Upper Bound																
OGGeo08																
Target Range - Lower Bound																
Upper Bound																

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354-200 GRANVILLE STREET
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Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	Nb	Nd	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th	Tm	U	V	W	Y
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.2	0.1	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05	0.01	0.05	5	1	0.1
STANDARDS																
AMIS0167		4.2	18.7	5.09	17.4	4.55	2	19.2	1.8	0.92	49.1	0.44	500	66	1	24.9
Target Range - Lower Bound																
Upper Bound																
AMIS0167																
AMIS0167																
AMIS0167																
Target Range - Lower Bound																
Upper Bound																
AMIS0286																
Target Range - Lower Bound																
Upper Bound																
AMIS0304		>2500	3950	>1000	10.8	594	24	3440	13.0	33.6	433	3.49	23.4	382	5	410
Target Range - Lower Bound		4670	3610	925	9.3	543	22	3060	11.1	30.8	406	3.14	21.6	331	3	369
Upper Bound		>2500	4410	>1000	11.8	664	29	3740	13.8	37.7	496	3.86	26.5	415	7	451
DS-1																
Target Range - Lower Bound																
Upper Bound																
GPP-04																
Target Range - Lower Bound																
Upper Bound																
GPP-14																
Target Range - Lower Bound																
Upper Bound																
GS313-8																
Target Range - Lower Bound																
Upper Bound																
MRGeo08																
Target Range - Lower Bound																
Upper Bound																
OGGeo08																
Target Range - Lower Bound																
Upper Bound																

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Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS81	ME-MS81	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Yb	Zr	As	Bi	Hg	In	Re	Sb	Se	Te	Tl	Ag	Cd	Co	Cu
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.03	2	0.1	0.01	0.005	0.005	0.001	0.05	0.2	0.01	0.02	0.01	0.02	0.1	0.2
STANDARDS																
AMIS0167		2.50	99													
Target Range - Lower Bound																
Upper Bound																
AMIS0167																
AMIS0167																
AMIS0167																
Target Range - Lower Bound																
Upper Bound																
AMIS0286																
Target Range - Lower Bound																
Upper Bound																
AMIS0304		17.30	1185													
Target Range - Lower Bound		15.25	1005													
Upper Bound		18.75	1230													
DS-1																
Target Range - Lower Bound																
Upper Bound																
GPP-04																
Target Range - Lower Bound																
Upper Bound																
GPP-14																
Target Range - Lower Bound																
Upper Bound																
GS313-8																
Target Range - Lower Bound																
Upper Bound																
MRGeo08													4.24	2.21	18.3	660
Target Range - Lower Bound													4.00	2.00	17.7	587
Upper Bound													4.92	2.48	21.9	675
OGGeo08													19.55	19.30	100.0	8430
Target Range - Lower Bound													18.15	16.70	87.2	7800
Upper Bound													22.2	20.5	107.0	8980

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VANCOUVER BC V6C 1S4

Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	PGM-MS24	PGM-MS24	PGM-MS24
	Analyte	Li	Mo	Ni	Pb	Sc	Zn	Au	Pt	Pd
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.2	0.05	0.2	0.5	0.1	2	0.001	0.0005	0.001
STANDARDS										
AMIS0167										
Target Range - Lower Bound										
Upper Bound										
AMIS0167										
AMIS0167										
AMIS0167										
Target Range - Lower Bound										
Upper Bound										
AMIS0286										
Target Range - Lower Bound										
Upper Bound										
AMIS0304										
Target Range - Lower Bound										
Upper Bound										
DS-1										
Target Range - Lower Bound										
Upper Bound										
GPP-04								0.077	0.0865	0.097
Target Range - Lower Bound								0.074	0.0822	0.091
Upper Bound								0.086	0.0938	0.105
GPP-14								0.875	0.503	0.510
Target Range - Lower Bound								0.853	0.472	0.451
Upper Bound								0.965	0.534	0.511
GS313-8										
Target Range - Lower Bound										
Upper Bound										
MRGeo08		34.3	14.25	735	1140	11.9	849			
Target Range - Lower Bound		29.5	13.65	622	971	11.1	722			
Upper Bound		36.5	16.75	760	1185	13.7	886			
OGGeo08		33.6	932	9010	7550	10.2	7270			
Target Range - Lower Bound		29.7	841	8000	6520	9.2	6500			
Upper Bound		36.7	1030	9770	7970	11.4	7950			

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Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	TOT-ICP06	OA-GRA05
	Analyte	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	Total	LOI
	Units	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	LOD	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	0.01	0.01	0.01	0.01	0.01	0.01	0.01
STANDARDS																
OREAS 146																
OREAS 146																
Target Range - Lower Bound																
Upper Bound																
OREAS 905																
Target Range - Lower Bound																
Upper Bound																
OREAS 920																
Target Range - Lower Bound																
Upper Bound																
OREAS 920																
Target Range - Lower Bound																
Upper Bound																
OREAS-105																
Target Range - Lower Bound																
Upper Bound																
OREAS-45d																
Target Range - Lower Bound																
Upper Bound																
SARM-43																47.5
Target Range - Lower Bound																45.7
Upper Bound																50.5
SRM88B		1.09	0.31	0.28	30.6	21.2	0.03	0.10	<0.002	0.02	0.02	0.01	0.01	<0.01	100.65	
Target Range - Lower Bound		1.05	0.30	0.24	29.1	20.4	<0.01	0.08	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	97.99	
Upper Bound		1.21	0.37	0.31	30.8	21.7	0.05	0.13	0.006	0.04	0.04	0.03	0.03	0.03	>102.00	
SY-4																
SY-4																
Target Range - Lower Bound																
Upper Bound																
SY-4		49.1	20.7	6.09	7.95	0.51	6.86	1.62	0.002	0.27	0.10	0.11	0.14	0.04	98.05	
SY-4		50.6	20.8	6.22	8.13	0.52	7.14	1.64	<0.002	0.28	0.11	0.12	0.14	0.04	100.30	
SY-4		49.9	20.7	6.15	8.09	0.52	7.20	1.61	0.002	0.28	0.11	0.13	0.14	0.04	99.43	
Target Range - Lower Bound		48.7	20.1	5.95	7.74	0.49	6.81	1.56	<0.002	0.25	0.08	0.10	0.11	<0.01	97.99	
Upper Bound		51.1	21.3	6.47	8.36	0.59	7.39	1.76	0.005	0.32	0.13	0.16	0.17	0.06	>102.00	
WCM-PG134																
Target Range - Lower Bound																
Upper Bound																

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Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	C-IR07	S-IR08	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	C	S	Ba	Ce	Cr	Cs	Dy	Er	Eu	Ga	Gd	Hf	Ho	La	Lu
	Units	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.01	0.01	0.5	0.1	10	0.01	0.05	0.03	0.03	0.1	0.05	0.2	0.01	0.1	0.01
STANDARDS																
OREAS 146				>10000	4590	200	0.56	216	82.0	123.0	26.5	327	4.0	33.8	2500	6.23
OREAS 146				>10000	4510	180	0.48	216	81.1	121.5	25.9	338	3.9	35.3	2470	6.00
Target Range - Lower Bound				11450	4220	160	0.47	202	78.3	114.5	26.2	323	3.6	33.1	2260	5.66
Upper Bound				>10000	5160	220	0.59	246	95.7	139.5	32.2	395	4.8	40.5	2760	6.94
OREAS 905																
Target Range - Lower Bound																
Upper Bound																
OREAS 920																
Target Range - Lower Bound																
Upper Bound																
OREAS 920																
Target Range - Lower Bound																
Upper Bound																
OREAS-105				685	113.0	50	2.16	12.20	7.14	1.43	28.0	12.75	6.4	2.55	49.4	0.99
Target Range - Lower Bound				632	105.0	40	1.96	10.95	6.72	1.32	24.3	11.65	5.6	2.19	45.8	0.88
Upper Bound				774	129.0	80	2.42	13.45	8.28	1.68	29.9	14.35	7.2	2.69	56.2	1.10
OREAS-45d																
Target Range - Lower Bound																
Upper Bound																
SARM-43																
Target Range - Lower Bound																
Upper Bound																
SRM88B																
Target Range - Lower Bound																
Upper Bound																
SY-4				353	130.0	10	1.63	19.70	15.10	2.12	38.1	15.25	11.9	4.47	62.9	2.28
SY-4				338	119.5	10	1.57	18.60	14.60	1.96	38.4	14.75	11.3	4.41	58.8	2.07
Target Range - Lower Bound				306	109.5	<10	1.34	16.35	12.75	1.77	31.4	12.55	9.8	3.86	52.1	1.88
Upper Bound				375	134.5	30	1.66	20.1	15.65	2.23	38.6	15.45	12.4	4.74	63.9	2.32
SY-4																
SY-4																
SY-4																
Target Range - Lower Bound																
Upper Bound																
WCM-PG134																
Target Range - Lower Bound																
Upper Bound																

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Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	Nb	Nd	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th	Tm	U	V	W	Y
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.2	0.1	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05	0.01	0.05	5	1	0.1
STANDARDS																
OREAS 146		384	2190	546	27.5	434	47	3060	4.2	42.1	901	10.20	2.81	161	28	935
OREAS 146		399	2130	550	25.5	435	41	3050	4.1	45.8	848	9.47	2.50	143	28	892
Target Range - Lower Bound		349	1965	493	23.7	397	40	2790	3.6	42.5	813	8.90	2.37	140	25	814
Upper Bound		427	2400	603	29.5	485	52	3410	4.6	51.9	993	10.90	3.01	182	33	996
OREAS 905																
Target Range - Lower Bound																
Upper Bound																
OREAS 920																
Target Range - Lower Bound																
Upper Bound																
OREAS 920																
Target Range - Lower Bound																
Upper Bound																
OREAS-105		41.0	63.7	15.20	105.5	15.25	8	88.9	4.4	2.09	355	1.10	520	29	4	62.8
Target Range - Lower Bound		36.9	57.8	14.35	94.8	13.30	8	85.3	4.3	1.95	332	1.02	479	19	<1	58.3
Upper Bound		45.6	70.8	17.65	116.5	16.30	13	104.5	5.5	2.41	406	1.26	585	43	5	71.5
OREAS-45d																
Target Range - Lower Bound																
Upper Bound																
SARM-43																
Target Range - Lower Bound																
Upper Bound																
SRM88B																
Target Range - Lower Bound																
Upper Bound																
SY-4		14.1	61.8	15.90	59.6	13.50	8	1265	0.9	2.85	1.84	2.50	0.84	7	1	128.0
SY-4		13.8	56.8	15.05	53.7	12.50	7	1200	0.8	2.89	1.49	2.27	0.91	5	<1	116.5
Target Range - Lower Bound		11.5	51.2	13.45	49.3	11.40	6	1070	0.7	2.33	1.11	2.06	0.66	<5	<1	107.0
Upper Bound		14.5	62.8	16.55	60.7	14.00	10	1310	1.1	2.87	1.47	2.54	0.94	18	3	131.0
SY-4																
SY-4																
SY-4																
Target Range - Lower Bound																
Upper Bound																
WCM-PG134																
Target Range - Lower Bound																
Upper Bound																

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Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS81	ME-MS81	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Yb	Zr	As	Bi	Hg	In	Re	Sb	Se	Te	Tl	Ag	Cd	Co	Cu
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.03	2	0.1	0.01	0.005	0.005	0.001	0.05	0.2	0.01	0.02	0.01	0.02	0.1	0.2
STANDARDS																
OREAS 146		49.2	223													
OREAS 146		51.1	224													
Target Range - Lower Bound		48.1	204													
Upper Bound		58.9	254													
OREAS 905													0.52	0.35	13.5	1545
Target Range - Lower Bound													0.46	0.30	13.2	1425
Upper Bound													0.58	0.42	16.4	1640
OREAS 920				5.7	0.68	<0.005	0.032	<0.001	0.55	<0.2	0.02	0.17				
Target Range - Lower Bound				3.8	0.60	<0.005	0.019	<0.001	0.45	<0.2	<0.01	0.07				
Upper Bound				4.9	0.76	0.010	0.043	0.002	0.77	0.7	0.04	0.18				
OREAS 920													0.10	0.06	15.9	113.5
Target Range - Lower Bound													0.08	0.04	13.9	104.0
Upper Bound													0.13	0.12	17.3	120.0
OREAS-105		7.39	232													
Target Range - Lower Bound		6.54	208													
Upper Bound		8.06	259													
OREAS-45d				6.6	0.33	0.031	0.080	<0.001	0.27	1.1	0.03	0.13				
Target Range - Lower Bound				5.8	0.26	0.025	0.071	<0.001	0.22	0.7	0.02	0.07				
Upper Bound				7.3	0.34	0.053	0.099	0.003	0.49	1.7	0.06	0.17				
SARM-43																
Target Range - Lower Bound																
Upper Bound																
SRM88B																
Target Range - Lower Bound																
Upper Bound																
SY-4		15.70	611													
SY-4		15.35	633													
Target Range - Lower Bound		13.30	523													
Upper Bound		16.30	643													
SY-4																
SY-4																
SY-4																
Target Range - Lower Bound																
Upper Bound																
WCM-PG134																
Target Range - Lower Bound																
Upper Bound																

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To: **RIO TINTO EXPLORATION CANADA INC.**
354-200 GRANVILLE STREET
VANCOUVER BC V6C 1S4

Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method / Analyte / Units / LOD	ME-MS61 Li ppm 0.2	ME-MS61 Mo ppm 0.05	ME-MS61 Ni ppm 0.2	ME-MS61 Pb ppm 0.5	ME-MS61 Sc ppm 0.1	ME-MS61 Zn ppm 2	PGM-MS24 Au ppm 0.001	PGM-MS24 Pt ppm 0.0005	PGM-MS24 Pd ppm 0.001
STANDARDS										
OREAS 146										
OREAS 146										
Target Range - Lower Bound										
Upper Bound										
OREAS 905		19.7	3.11	9.3	29.7	4.8	144			
Target Range - Lower Bound		17.8	2.89	8.4	26.9	4.3	122			
Upper Bound		22.2	3.65	10.7	33.9	5.5	154			
OREAS 920										
Target Range - Lower Bound										
Upper Bound										
OREAS 920		28.6	0.40	43.0	24.9	15.5	120			
Target Range - Lower Bound		26.0	0.34	37.4	20.7	12.8	102			
Upper Bound		32.2	0.58	46.2	26.4	15.8	130			
OREAS-105										
Target Range - Lower Bound										
Upper Bound										
OREAS-45d										
Target Range - Lower Bound										
Upper Bound										
SARM-43										
Target Range - Lower Bound										
Upper Bound										
SRM88B										
Target Range - Lower Bound										
Upper Bound										
SY-4										
SY-4										
Target Range - Lower Bound										
Upper Bound										
SY-4										
SY-4										
SY-4										
Target Range - Lower Bound										
Upper Bound										
WCM-PG134								0.939	0.342	0.202
Target Range - Lower Bound								0.857	0.338	0.195
Upper Bound								0.969	0.382	0.223

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QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	TOT-ICP06	OA-GRA05
	Analyte	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	Total	LOI
	Units	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	LOD	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	0.01	0.01	0.01	0.01	0.01	0.01	0.01
BLANKS																
BLANK																0.01
Target Range - Lower Bound																<0.01
Upper Bound																0.02
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK		0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	
BLANK		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
BLANK		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	
BLANK		<0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	
Target Range - Lower Bound		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01		
Upper Bound		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.004	0.02	0.02	0.02	0.02	0.02		
DUPLICATES																
ORIGINAL		2.80	0.68	4.23	59.0	3.40	0.20	0.05	<0.002	0.06	0.14	0.01	0.02	0.03		
DUP		2.84	0.69	4.21	58.5	3.40	0.19	0.03	<0.002	0.02	0.14	0.01	0.02	0.03		
Target Range - Lower Bound		2.74	0.66	4.10	57.3	3.31	0.18	0.03	<0.002	0.03	0.13	<0.01	<0.01	0.02		
Upper Bound		2.90	0.71	4.34	60.2	3.50	0.21	0.05	0.004	0.05	0.15	0.02	0.03	0.04		

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Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	C-IR07	S-IR08	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	C	S	Ba	Ce	Cr	Cs	Dy	Er	Eu	Ga	Gd	Hf	Ho	La	Lu
	Units	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.01	0.01	0.5	0.1	10	0.01	0.05	0.03	0.03	0.1	0.05	0.2	0.01	0.1	0.01
BLANKS																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK				26.6	<0.1	<10	0.01	<0.05	<0.03	<0.03	0.1	<0.05	<0.2	<0.01	<0.1	<0.01
BLANK				4.0	0.2	<10	0.05	<0.05	<0.03	<0.03	<0.1	<0.05	<0.2	<0.01	0.2	0.01
Target Range - Lower Bound				<0.5	<0.1	<10	<0.01	<0.05	<0.03	<0.03	<0.1	<0.05	<0.2	<0.01	<0.1	<0.01
Upper Bound				1.0	0.2	20	0.02	0.10	0.06	0.06	0.2	0.10	0.4	0.02	0.2	0.02
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK		<0.01	<0.01													
Target Range - Lower Bound		<0.01	<0.01													
Upper Bound		0.02	0.02													
BLANK																
BLANK																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
DUPLICATES																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																

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QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method Analyte Units LOD	ME-MS81 Nb ppm 0.2	ME-MS81 Nd ppm 0.1	ME-MS81 Pr ppm 0.03	ME-MS81 Rb ppm 0.2	ME-MS81 Sm ppm 0.03	ME-MS81 Sn ppm 1	ME-MS81 Sr ppm 0.1	ME-MS81 Ta ppm 0.1	ME-MS81 Tb ppm 0.01	ME-MS81 Th ppm 0.05	ME-MS81 Tm ppm 0.01	ME-MS81 U ppm 0.05	ME-MS81 V ppm 5	ME-MS81 W ppm 1	ME-MS81 Y ppm 0.1
BLANKS																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK		<0.2	<0.1	<0.03	0.2	<0.03	<1	1.2	<0.1	<0.01	<0.05	<0.01	<0.05	<5	<1	<0.1
BLANK		<0.2	0.1	0.04	0.2	<0.03	<1	0.9	<0.1	<0.01	<0.05	0.01	<0.05	<5	<1	<0.1
Target Range - Lower Bound		<0.2	<0.1	<0.03	<0.2	<0.03	<1	<0.1	<0.1	<0.01	<0.05	<0.01	<0.05	<5	<1	<0.1
Upper Bound		0.4	0.2	0.06	0.4	0.06	2	0.2	0.2	0.02	0.10	0.02	0.10	10	2	0.2
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
BLANK																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
DUPLICATES																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																

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Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS81	ME-MS81	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Yb	Zr	As	Bi	Hg	In	Re	Sb	Se	Te	Tl	Ag	Cd	Co	Cu
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.03	2	0.1	0.01	0.005	0.005	0.001	0.05	0.2	0.01	0.02	0.01	0.02	0.1	0.2
BLANKS																
BLANK				<0.1	<0.01	0.009	<0.005	<0.001	<0.05	<0.2	<0.01	<0.02				
Target Range - Lower Bound				<0.1	<0.01	<0.005	<0.005	<0.001	<0.05	<0.2	<0.01	<0.02				
Upper Bound				0.2	0.02	0.010	0.010	0.002	0.10	0.4	0.02	0.04				
BLANK													<0.01	<0.02	<0.1	<0.2
BLANK													<0.01	<0.02	<0.1	0.5
Target Range - Lower Bound													<0.01	<0.02	<0.1	<0.2
Upper Bound													0.02	0.04	0.2	0.4
BLANK		<0.03	<2													
BLANK		<0.03	<2													
Target Range - Lower Bound		<0.03	<2													
Upper Bound		0.06	4													
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK																
BLANK																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
DUPLICATES																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																

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Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method / Analyte / Units / LOD	ME-MS61 Li ppm 0.2	ME-MS61 Mo ppm 0.05	ME-MS61 Ni ppm 0.2	ME-MS61 Pb ppm 0.5	ME-MS61 Sc ppm 0.1	ME-MS61 Zn ppm 2	PGM-MS24 Au ppm 0.001	PGM-MS24 Pt ppm 0.0005	PGM-MS24 Pd ppm 0.001
BLANKS										
BLANK										
Target Range - Lower Bound										
Upper Bound										
BLANK		0.2	<0.05	<0.2	<0.5	0.2	<2			
BLANK		<0.2	<0.05	<0.2	<0.5	<0.1	<2			
Target Range - Lower Bound		<0.2	<0.05	<0.2	<0.5	<0.1	<2			
Upper Bound		0.4	0.10	0.4	1.0	0.2	4			
BLANK										
BLANK										
Target Range - Lower Bound										
Upper Bound										
BLANK										
Target Range - Lower Bound										
Upper Bound										
BLANK								0.001	<0.0005	<0.001
BLANK								0.002	<0.0005	<0.001
Target Range - Lower Bound								<0.001	<0.0005	<0.001
Upper Bound								0.002	0.0010	0.002
BLANK										
Target Range - Lower Bound										
Upper Bound										
BLANK										
BLANK										
BLANK										
BLANK										
Target Range - Lower Bound										
Upper Bound										
DUPLICATES										
ORIGINAL										
DUP										
Target Range - Lower Bound										
Upper Bound										

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QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	TOT-ICP06	OA-GRA05
	Analyte	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	Total	LOI
	Units	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	LOD	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	0.01	0.01	0.01	0.01	0.01	0.01	0.01
DUPLICATES																
ORIGINAL		46.4	7.28	10.60	6.89	21.3	0.67	0.28	0.299	0.33	0.18	0.12	<0.01	<0.01		
DUP		46.4	7.32	10.60	6.85	21.4	0.65	0.20	0.297	0.33	0.18	0.11	<0.01	<0.01		
Target Range - Lower Bound		45.2	7.11	10.35	6.69	20.8	0.63	0.22	0.289	0.31	0.17	0.10	<0.01	<0.01		
Upper Bound		47.6	7.49	10.90	7.05	21.9	0.69	0.26	0.307	0.35	0.19	0.13	0.02	0.02		
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																
40265942																4.68
DUP																4.61
Target Range - Lower Bound																4.52
Upper Bound																4.77
40265943																
DUP																
Target Range - Lower Bound																
Upper Bound																
40265944																
DUP																
Target Range - Lower Bound																
Upper Bound																
40389167																
DUP																
Target Range - Lower Bound																
Upper Bound																
40389168																
DUP																
Target Range - Lower Bound																
Upper Bound																
40389951																
DUP																
Target Range - Lower Bound																
Upper Bound																

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QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	C-IR07	S-IR08	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	C	S	Ba	Ce	Cr	Cs	Dy	Er	Eu	Ga	Gd	Hf	Ho	La	Lu
	Units	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.01	0.01	0.5	0.1	10	0.01	0.05	0.03	0.03	0.1	0.05	0.2	0.01	0.1	0.01
DUPLICATES																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																
40265942																
DUP																
Target Range - Lower Bound																
Upper Bound																
40265943																
DUP																
Target Range - Lower Bound																
Upper Bound																
40265944		0.07	0.38	52.2	4.6	3370	0.19	0.72	0.41	0.20	3.0	0.90	0.2	0.15	1.7	0.04
DUP		0.07	0.39	45.0	4.1	3510	0.17	0.68	0.38	0.22	3.0	0.84	0.2	0.13	1.5	0.05
Target Range - Lower Bound		0.06	0.37	45.7	4.0	3260	0.16	0.62	0.35	0.17	2.8	0.78	<0.2	0.12	1.4	0.03
Upper Bound		0.08	0.40	51.5	4.7	3620	0.20	0.79	0.44	0.25	3.3	0.96	0.4	0.16	1.8	0.06
40389167																
DUP																
Target Range - Lower Bound																
Upper Bound																
40389168				75.7	12.8	2740	0.64	1.26	0.72	0.49	6.9	1.62	0.8	0.26	5.3	0.09
DUP				72.7	12.5	2700	0.58	1.32	0.70	0.48	6.6	1.70	0.7	0.26	5.2	0.09
Target Range - Lower Bound				70.0	11.9	2570	0.57	1.18	0.64	0.43	6.3	1.53	0.5	0.24	4.9	0.08
Upper Bound				78.4	13.4	2870	0.65	1.40	0.78	0.54	7.2	1.79	1.0	0.28	5.6	0.10
40389951																
DUP																
Target Range - Lower Bound																
Upper Bound																

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Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	Nb	Nd	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th	Tm	U	V	W	Y
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.2	0.1	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05	0.01	0.05	5	1	0.1
DUPLICATES																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																
40265942																
DUP																
Target Range - Lower Bound																
Upper Bound																
40265943																
DUP																
Target Range - Lower Bound																
Upper Bound																
40265944		0.2	3.5	0.75	1.3	0.85	<1	30.3	<0.1	0.12	0.20	0.05	0.06	97	2	3.3
DUP		0.2	3.4	0.67	1.5	0.92	<1	29.2	<0.1	0.12	0.22	0.06	0.08	98	2	3.6
Target Range - Lower Bound		<0.2	3.2	0.64	1.1	0.81	<1	28.2	<0.1	0.10	0.15	0.04	<0.05	88	<1	3.2
Upper Bound		0.4	3.7	0.78	1.7	0.96	2	31.3	0.2	0.14	0.27	0.07	0.10	107	3	3.7
40389167																
DUP																
Target Range - Lower Bound																
Upper Bound																
40389168		1.0	8.4	1.88	6.7	1.70	<1	111.5	<0.1	0.22	0.63	0.11	0.21	130	1	6.4
DUP		1.0	8.1	1.92	6.5	1.80	<1	111.5	<0.1	0.23	0.76	0.09	0.20	126	4	6.6
Target Range - Lower Bound		0.8	7.7	1.78	6.1	1.63	<1	106.0	<0.1	0.20	0.61	0.09	0.14	117	<1	6.1
Upper Bound		1.3	8.8	2.03	7.1	1.87	2	117.0	0.2	0.25	0.78	0.12	0.27	139	4	6.9
40389951																
DUP																
Target Range - Lower Bound																
Upper Bound																

***** See Appendix Page for comments regarding this certificate *****

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To: **RIO TINTO EXPLORATION CANADA INC.**
354-200 GRANVILLE STREET
VANCOUVER BC V6C 1S4

Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS81	ME-MS81	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS42	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Yb	Zr	As	Bi	Hg	In	Re	Sb	Se	Te	Tl	Ag	Cd	Co	Cu
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.03	2	0.1	0.01	0.005	0.005	0.001	0.05	0.2	0.01	0.02	0.01	0.02	0.1	0.2
DUPLICATES																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL													0.45	0.03	8.3	3.8
DUP													0.43	0.03	7.5	3.7
Target Range - Lower Bound													0.41	<0.02	7.4	3.4
Upper Bound													0.47	0.04	8.4	4.1
40265942																
DUP																
Target Range - Lower Bound																
Upper Bound																
40265943				5.4	0.03	<0.005	0.006	<0.001	0.21	0.4	0.05	0.03				
DUP				6.4	0.14	<0.005	0.008	<0.001	0.23	0.4	0.05	0.02				
Target Range - Lower Bound				5.5	0.07	<0.005	<0.005	<0.001	0.15	<0.2	0.04	<0.02				
Upper Bound				6.3	0.10	0.010	0.010	0.002	0.29	0.6	0.06	0.04				
40265944		0.27	7													
DUP		0.33	6													
Target Range - Lower Bound		0.26	4													
Upper Bound		0.35	9													
40389167													3.69	0.33	75.5	5370
DUP													3.66	0.34	77.8	5460
Target Range - Lower Bound													3.48	0.30	72.7	5230
Upper Bound													3.87	0.37	80.6	5600
40389168		0.71	25													
DUP		0.63	22													
Target Range - Lower Bound		0.61	20													
Upper Bound		0.73	27													
40389951																
DUP																
Target Range - Lower Bound																
Upper Bound																

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354-200 GRANVILLE STREET
VANCOUVER BC V6C 1S4

Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description / Method / Analyte / Units / LOD	ME-MS61 Li ppm 0.2	ME-MS61 Mo ppm 0.05	ME-MS61 Ni ppm 0.2	ME-MS61 Pb ppm 0.5	ME-MS61 Sc ppm 0.1	ME-MS61 Zn ppm 2	PGM-MS24 Au ppm 0.001	PGM-MS24 Pt ppm 0.0005	PGM-MS24 Pd ppm 0.001
DUPLICATES									
ORIGINAL									
DUP									
Target Range - Lower Bound									
Upper Bound									
ORIGINAL	2.0	22.3	13.7	2.9	4.8	27			
DUP	1.8	21.6	12.7	2.9	4.3	26			
Target Range - Lower Bound	1.6	20.8	12.3	2.3	4.2	23			
Upper Bound	2.2	23.1	14.1	3.5	4.9	30			
40265942									
DUP									
Target Range - Lower Bound									
Upper Bound									
40265943									
DUP									
Target Range - Lower Bound									
Upper Bound									
40265944									
DUP									
Target Range - Lower Bound									
Upper Bound									
40389167	16.3	0.19	567	3.6	43.7	67			
DUP	17.4	0.20	572	3.4	45.3	64			
Target Range - Lower Bound	15.8	0.14	541	2.8	42.2	60			
Upper Bound	17.9	0.25	598	4.2	46.8	71			
40389168									
DUP									
Target Range - Lower Bound									
Upper Bound									
40389951							0.181	0.665	0.896
DUP							0.173	0.734	0.850
Target Range - Lower Bound							0.167	0.664	0.828
Upper Bound							0.187	0.735	0.918

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Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	TOT-ICP06	OA-GRA05
	Analyte	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	Total	LOI
	Units	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	LOD	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	0.01	0.01	0.01	0.01	0.01	0.01	0.01
DUPLICATES																
40389963																
DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL		1.33	0.97	13.75	0.19	0.93	0.02	0.02	0.047	15.00	1.60	<0.01	0.01	0.01		
DUP		1.25	0.92	12.80	0.16	0.89	0.01	0.01	0.058	18.50	1.53	0.01	<0.01	0.01		
Target Range - Lower Bound		1.25	0.91	12.95	0.16	0.88	<0.01	<0.01	0.049	16.30	1.52	<0.01	<0.01	<0.01		
Upper Bound		1.33	0.98	13.60	0.19	0.94	0.02	0.02	0.056	17.20	1.61	0.02	0.02	0.02		
ORIGINAL		46.6	13.05	10.05	13.75	5.98	4.27	0.13	0.084	0.62	0.19	0.07	0.11	0.02		
DUP		46.6	13.00	10.00	13.65	5.97	4.27	0.20	0.084	0.62	0.19	0.06	0.10	0.02		
Target Range - Lower Bound		45.4	12.70	9.76	13.35	5.82	4.15	0.15	0.080	0.59	0.18	0.05	0.09	<0.01		
Upper Bound		47.8	13.35	10.30	14.05	6.13	4.39	0.18	0.088	0.65	0.20	0.08	0.12	0.03		

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354-200 GRANVILLE STREET
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Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	C-IR07	S-IR08	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	C	S	Ba	Ce	Cr	Cs	Dy	Er	Eu	Ga	Gd	Hf	Ho	La	Lu
	Units	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.01	0.01	0.5	0.1	10	0.01	0.05	0.03	0.03	0.1	0.05	0.2	0.01	0.1	0.01
DUPLICATES																
40389963																
DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																

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QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81	ME-MS81
	Analyte	Nb	Nd	Pr	Rb	Sm	Sn	Sr	Ta	Tb	Th	Tm	U	V	W	Y
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.2	0.1	0.03	0.2	0.03	1	0.1	0.1	0.01	0.05	0.01	0.05	5	1	0.1
		DUPLICATES														
40389963 DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL DUP																
Target Range - Lower Bound																
Upper Bound																

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QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method / Analyte / Units / LOD	ME-MS81 Yb ppm 0.03	ME-MS81 Zr ppm 2	ME-MS42 As ppm 0.1	ME-MS42 Bi ppm 0.01	ME-MS42 Hg ppm 0.005	ME-MS42 In ppm 0.005	ME-MS42 Re ppm 0.001	ME-MS42 Sb ppm 0.05	ME-MS42 Se ppm 0.2	ME-MS42 Te ppm 0.01	ME-MS42 Tl ppm 0.02	ME-MS61 Ag ppm 0.01	ME-MS61 Cd ppm 0.02	ME-MS61 Co ppm 0.1	ME-MS61 Cu ppm 0.2
		DUPLICATES														
40389963																
DUP																
Target Range - Lower Bound																
	Upper Bound															
ORIGINAL																
DUP																
Target Range - Lower Bound																
	Upper Bound															
ORIGINAL																
DUP																
Target Range - Lower Bound																
	Upper Bound															

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QC CERTIFICATE OF ANALYSIS TB18139298

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	PGM-MS24	PGM-MS24	PGM-MS24
	Analyte	Li	Mo	Ni	Pb	Sc	Zn	Au	Pt	Pd
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.2	0.05	0.2	0.5	0.1	2	0.001	0.0005	0.001
DUPLICATES										
40389963								<0.001	0.0020	0.002
DUP								<0.001	0.0025	0.002
Target Range - Lower Bound								<0.001	0.0016	<0.001
Upper Bound								0.002	0.0029	0.003
ORIGINAL										
DUP										
Target Range - Lower Bound										
Upper Bound										
ORIGINAL										
DUP										
Target Range - Lower Bound										
Upper Bound										

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Finalized Date: 3-JUL-2018
Account: KAV

Project: EB80004013

QC CERTIFICATE OF ANALYSIS TB18139298

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: REE's may not be totally soluble in this method.
ME-MS61

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Thunder Bay located at 645 Norah Crescent, Thunder Bay, ON, Canada

CRU-31	CRU-QC	LOG-21	LOG-21d
LOG-23	PUL-32	PUL-32d	PUL-QC
SPL-21d	SPL-22	WEI-21	WSH-21
WSH-22			

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

C-IR07	ME-ICP06	ME-MS42	ME-MS61
ME-MS81	OA-GRA05	PGM-MS24	S-IR08
TOT-ICP06			