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**REPORT OF 2018 DIAMOND DRILLING
ON THE JUMPING MOOSE PROJECT
BURROWS TOWNSHIP, ONTARIO**

Larder Lake Mining Division, Ontario

NTS 41P14

Datum: NAD83 – UTM Zone 17N

Exploration Permit Number: PR-17-11114

Claims : 180602, 342106, 271185

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1. SUMMARY

A diamond drilling program was carried out in Burrows Township on the Jumping Moose property (claims 180602, 342106, 271185) between October 1st and November 28th 2018. A total of 19 days were spent in the field by either IAMGOLD employees or the drill contractors. An additional 31 days were spent processing core (logging, cutting, sampling), and/or report writing. The purpose of the drill program was to follow up on the successful discovery of two gold bearing units exposed by an IAMGOLD mechanical stripping program in late 2017. A total of six diamond drill holes totalling 1,122 meters were drilled. The holes were drilled in an area proximal to the IAMGOLD stripping, which contains gold bearing iron formation and high-grade Au (up to 22.7 g/t Au) folded quartz veins. The holes were strategically located to intersect areas of interest, such as chargeability and resistivity anomalies, surface soil anomalies, and structural features that may be related to the gold mineralization on the property. The diamond drill program partially explained many of the geophysical anomalies and intersected some anomalous gold bearing veins and/or lithologies. Suggested future work includes additional prospecting and geological mapping, and an in-depth structural analysis to determine their role on gold mineralization and controls on the property.

The work was completed by IAMGOLD geologists, geotechnicians and by contractors through IAMGOLD. The work was performed for IAMGOLD and Canadian Gold Miner Corp. The coordinate system used to locate the area of work is the Universal Transverse Mercator (UTM) and the datum used is NAD 83 in Zone 17.

2. INTRODUCTION

This report has been generated to meet the requirements for filing the assessment work under the provisions of the Ontario Mining Act. This report has been prepared by IAMGOLD Corporation and describes the scope of diamond drilling and associated work completed on a property located in Burrows and Kemp Townships, Larder Lake Mining District between October 2018 and November 2018. The company conducted the work on behalf of the joint venture with Canadian Gold Miner (CGM). The content of this report is believed by the author to be current, as of April 2019.

The Jumping Moose Project is an Option and Joint Venture Agreement between IAMGOLD Corporation and Canadian Gold Miner (“CGM”). These projects are owned at 100% by CGM.

An Exploration Plan and Permit application was submitted to the MNM on May 9, 2017. An Exploration Permit was granted for the Jumping Moose property on June 28, 2017 for the purpose of mechanized drilling, mechanized stripping, and line cutting. The Exploration Permit is valid until June 28, 2020. The Exploration Permit Number is PR-17-11114 and can be found in Appendix G.

The work performed on the property was overseen by IAMGOLD Senior Geologist, Brad McKinley, M.Sc., P.Geo.

3. PROPERTY LOCATION, ACCESS, AND DESCRIPTION

The property is located in the central portion of Burrows and southwest corner of Kemp Township, encompassing Jumping Moose Lake and extending south-easterly to the southern tip of Marne Lake. (Figure 1, Figure 2). Burrows and Kemp Township are located in the northwest corner of the Larder Lake Mining District, approximately 80 km south of Timmins. The property can be accessed via a network of logging roads branching to the west off of the Grassy Road. The south end of the Grassy Road intersects Highway 560 just east of Shining Tree and the north end connects with Pine St. South in Timmins. The distance to travel from IAMGOLD's Cote Gold camp to the Jumping Property is approximately 108km via Highway 144, Highway 560, Grassy Rd, and a series of logging roads.

The property consists of 145 single cell mining claims (Figure 2; Table 1), 137 of these claims are located in Burrows Township, and 8 claims are located in Kemp Township. The claims are located within Provincial Grid Groups 41P14D and 41P14C. The entire Jumping Moose property totals 2680 hectares. Table 1 presents a list of claims included in this agreement. At the time the work was conducted, the claims were registered to Canadian Gold Miner and/or Swain and Decker.

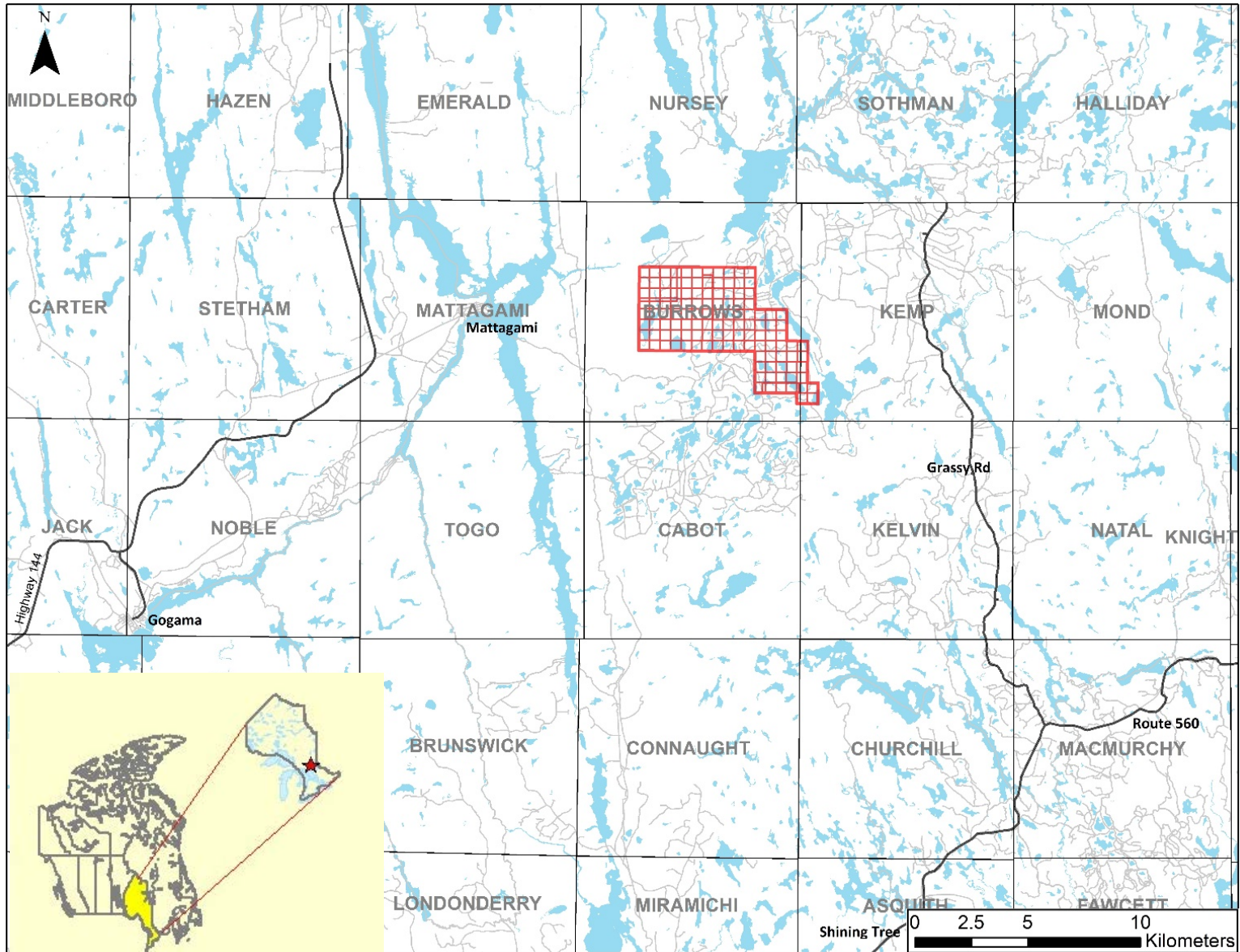


Figure 1. Location of Jumping Moose Project

Table 1. List of claims composing the Jumping Moose Property.

Claim No.	Hectares	Township	Type	Holder
339065	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
102376	21.69	Kemp	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
102339	4.57	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
105262	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
107309	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
111333	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
112016	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
112017	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
113193	21.68	Kemp	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
113194	21.69	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
112987	21.67	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
112988	9.22	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
118698	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
118722	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
124678	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
124679	6.57	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
127390	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
127391	0.72	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
127392	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
138941	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
138942	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
138943	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
139657	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
141926	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
145118	21.49	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
148891	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
149801	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
152573	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
154775	21.67	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
154776	21.06	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
156013	1.22	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
153297	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
159219	21.38	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
159220	13.22	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
160431	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
162432	17.94	Kemp	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
169944	21.67	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
170672	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.

170673	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
170674	21.69	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
169964	21.67	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
169965	21.67	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
173501	0.5	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
173502	0.4	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
177598	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
177491	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
180602	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
184985	21.67	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
187897	21.67	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
188642	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
191425	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
190918	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
190919	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
190920	0.61	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
197941	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
197139	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
199909	20.95	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
200644	21.68	Kemp	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
200645	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
200646	21.69	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
203571	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
205898	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
208656	21.69	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
209721	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
209722	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
211744	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
215241	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
220709	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
217980	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
219200	12.64	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
228761	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
228762	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
228763	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
238065	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
238066	5.53	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
233786	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
236502	21.67	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
242034	17.91	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
241827	3.24	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option

241828	20.56	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
243610	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
243611	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
243612	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
245107	0.29	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
248449	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
251645	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
251646	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
251647	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
255312	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
253153	0.06	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
252623	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
255790	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
258395	21.69	Kemp	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
260453	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
260454	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
265185	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
267890	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
267891	21.69	Kemp	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
267892	1.13	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
267893	16.4	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
271185	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
271186	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
271923	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
273930	5.79	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
281801	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
284449	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
284450	6.49	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
286738	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
293269	15.1	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
294749	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
299692	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
299693	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
299694	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
301789	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
307717	21.28	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
310529	9.04	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
310530	21.17	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
307442	15.87	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
307443	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
313641	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.

313642	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
318329	21.67	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
317679	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
317680	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
317681	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
321190	3.03	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
321191	12.45	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
321192	21.67	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
323273	2.32	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
323274	21.67	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
319115	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
323957	1.03	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
324964	20.46	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
324993	21.69	Kemp	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
336816	20.66	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
336837	15.18	Burrows	Boundary Cell Mining Claim	(100) CGM; Swain-Decker Option
344822	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
344823	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
344114	12.63	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
344115	3.76	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
342106	21.68	Burrows	Single Cell Mining Claim	(100) CGM; Swain-Decker Option
333017	0.19	Burrows	Boundary Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
334355	21.68	Kemp	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
334376	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.
334377	21.68	Burrows	Single Cell Mining Claim	(100) CANADIAN GOLD MINER CORP.

4. PHYSIOGRAPHY AND VEGETATION

The land surface in the central Burrows Township is nearly evenly divided between dry and wet areas interspersed with occasional minor rocky ridges. The high sandy areas contain a system of esker ridges, kettles, and moraines providing local relief in the order of 20 metres. The lowland is either saturated slough, swamp, or muskeg. Drainage is north towards Mattagami Lake and the Mattagami River which are part of the James Bay watershed. Except for open muskegs and grassy meadows, along creeks and ponds, the area is well forested with a forty year old growth. Good stands of jack-pine along with some white pine and rarer red pine dominate the sandy areas while alder, cedar and spruce occupy the swamps. Open muskegs are generally found near bodies of water, while the spruce and larch muskegs occur throughout the area.

5. PREVIOUS WORK

A summary of the work previously conducted on the property is listed in Table 2 (Modified from Pettigrew, N. 2005)

Table 2. Summary of previous work

Date	Description of Work
1926	T.L. Gledhill conducted reconnaissance mapping in the Grassy lake area for the Ontario Department of Mines, Annual Report, Vol. 32, part 6
1950	Discovery of high grade float west of Jumping Moose Lake.
1951	Dominion Gulf Co. optioned the property and carried out exploration including 4 diamond drill holes.
1957	Paymaster Consolidated Mines Ltd. conducted geophysics and mapping in the Little Marne Lake area, and followed up with 3 diamond drill holes.
1960-1962	Picklands Mather and Company performed exploration for iron south of Jumping Moose Lake, and completed 3 diamond drill holes.
1971	Canex Aerial Exploration conducted a magnetometer survey in the southern part of the current property.
1971-1972	Amax Potash conducted ground geophysics, mapping, soil geochemistry, and diamond drilling west of Little Marne Lake.
1973	Pyke et al. 1973. Burrows Township was covered by in the regional compilation published as the Timmins-Kirkland Lake Sheet, map 2205.
1973-1974	Dowa Mining Company Ltd. conducted ground geophysics and follow-up diamond drilling, 2 holes, west of Hook Lake.
1974-1975	Hollinger Mines Ltd. conducted exploration in the vicinity of the high grade float including 4 diamond drill holes.
1977	Lovell et al. 1977. Summary of assessment work for Burrows Township, Data series map P.1218.
1979-1980	D.E. Sirola , B.D. Sirola , and W.O. Karvinen , conducted trenching and blasting in the vicinity of the high grade float.
1981-1983	Newmont Exploration of Canada Ltd. completed extensive exploration in the Jumping Moose and Little Marne Lake area. Work included linecutting, mapping, ground geophysics, basal till sampling, and drilling 10 holes.
1987	M.W. Carter, Argentex Resources Exploration Corporation, performed mapping, humus geochemical sampling, and diamond drilling in the vicinity of the high grade boulders.
1988	S. Mortson of Ingamar Exploration carried out an airborne magnetic and VLF_EM survey over the north central part of the property.

Date	Description of Work
1990-1998	H. Z. Tittley H.Z. conducted several exploration programs in the vicinity of the high grade boulders. Work including mapping, prospecting, ground geophysics, stripping and trenching, compilation, and drilling. A total of 14 diamond drill holes were completed. The Tittley showing was also discovered during this period.
2003	G.W. Johns - carried out a regional 1:50,000 scale OGS mapping program in the Shining tree area, which covered Burrows Township, map P.3521.
2005	Temex Resources conducted line cutting, ground based magnetic and induced polarization geophysical surveys, prospecting, grid and trench mapping on their Jumping Moose property.
2010	Transition Metals Corp. optioned the Jumping Moose Property from Sherry Swain and James Decker. During the fall of 2010, five rock samples collected from prospecting activities completed on the property were submitted and filed for assessment.
2011	Transition Metals completed a program of trenching, sampling and prospecting on behalf of Abalor Minerals. Three trenches were completed in the area overlying historical diamond drill hole intersections of gold mineralization. Prospecting examined the showings west of Jumping Moose Lake and the immediate area of historical drilling.
2012	Abalor Minerals completed a ground magnetic and induced polarization surveys and a prospecting program in the area of historical diamond drilling. A fourteen hole, 1,500 m diamond drill program was completed but analytical work was not received.
2015	Transition Metals re-logged and re-sampled core from the 2012 Abalor drill program
2017-2018	IAMGOLD completed a B-horizon soil sampling program and a program of mechanical stripping. Two strippings were completed East on Jumping Moose Lake. Additional prospecting was completed in the vicinity of the historic float.

6. GEOLOGY

6.1. Regional Geology

The following description of the Abitibi greenstone belt was summarized by Hart (2011), and was extracted from Ayer et al. (2002, 2005) and Thurston et al. (2008) and the references found in those papers. The Abitibi greenstone belt is composed of east-trending synclines of mainly volcanic rocks and intervening domes cored by synvolcanic and/or syntectonic plutonic rocks (gabbro-diorite, tonalite, and granite) alternating with east-trending bands of turbiditic wackes. Most of the volcanic and sedimentary rocks dip vertically and are generally separated by east-trending faults with variable dips. Numerous late-tectonic plutons from syenite and gabbro to granite with lesser dikes of lamprophyre and carbonatite cut the belt.

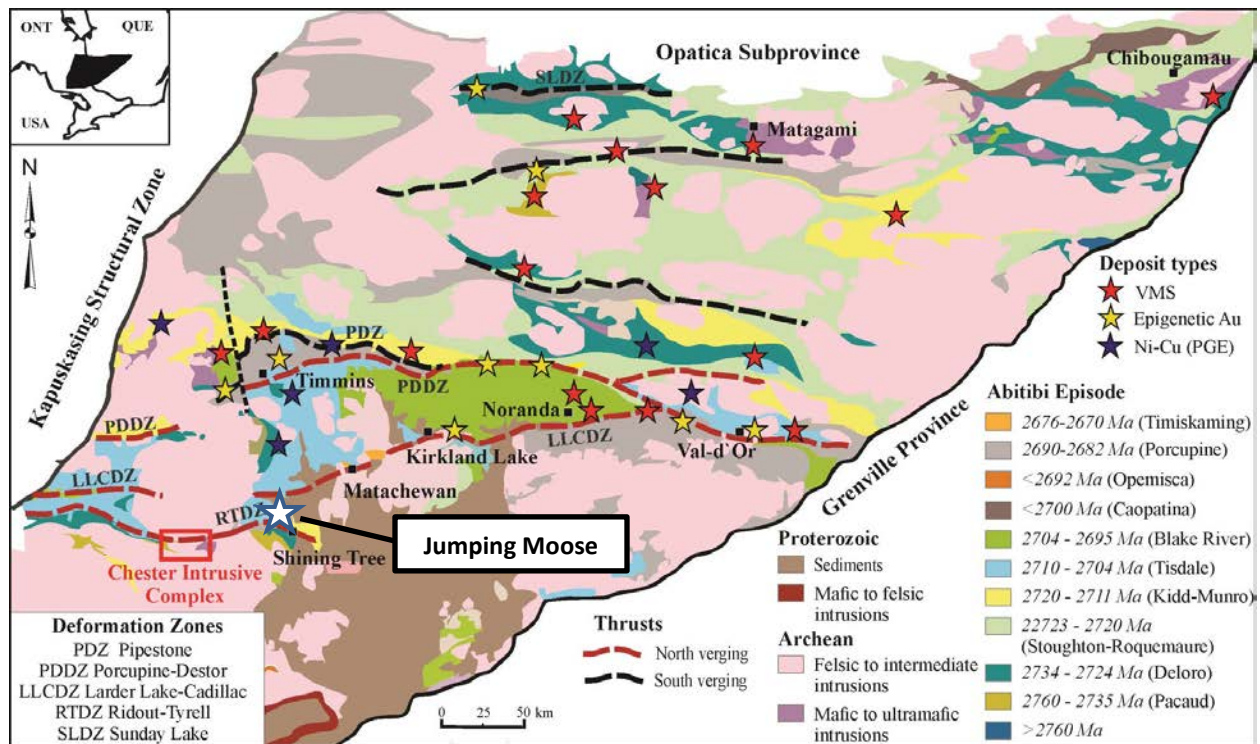


Figure 3. Regional geology of the southern Abitibi greenstone belt (Thurston et al. 2008) with the property location starred.

Metavolcanic and metasedimentary rocks of the Abitibi greenstone belt have been subdivided into a series of assemblages, the Pacaud, Deloro, Stoughton-Roquemaure, Kidd-Munro, Tisdale, and Blake River. The 2710 to 2703 Ma Tisdale assemblage consists of mafic tholeiitic flows with locally developed komatiite and intermediate to felsic calc-alkaline volcanic rocks and iron formation, and has been interpreted to underlay the area of the Jumping Moose property (Figure 3).

The plutonic rocks of the Abitibi greenstone belt were subdivided by Ayer et al. (2005) into synvolcanic, syn-tectonic and post-tectonic intrusions. The synvolcanic intrusions were further subdivided into felsic to intermediate and mafic to ultramafic intrusions. Felsic to intermediate synvolcanic intrusions range in age from about 2745 to 2696 Ma and are coeval with, and geochemically similar to, the volcanic assemblages. These intrusions predate significant compressional strain, are typically foliated tonalite to granodiorite, and are found predominantly within the larger granitic complexes (e.g. Kenogamissi) batholiths. Syn-tectonic plutons range may be related to the deformational events and can be subdivided into early and late series. Early 2695 to 2685 Ma tonalite, granodiorite, diorite and feldspar±quartz porphyries with adakitic geochemistry similar and coeval to the Porcupine assemblage volcanic rocks occur as stocks within the greenstone belt and as major portions of the surrounding batholithic complexes (e.g. Kenogamissi). Late-tectonic intrusions range in age from about 2670 to 2660 Ma and are typically massive and occur within batholiths and the greenstones. They consist of “Algomian” biotite granite, pegmatite and biotite-muscovite S-type granite.

A number of mafic dyke swarms cut the rocks of the Abitibi greenstone belt (Osmani 1991). The 2454 Ma Matachewan dykes are north-trending, vertical to sub-vertical and composed of quartz diabase and commonly contain plagioclase phenocrysts up to 20 cm in length.

The Archean rocks are unconformably overlain by Paleoproterozoic rocks of the Huronian Supergroup, which were deposited in a north-trending graben referred to as the Cobalt Embayment in the area overlying the Abitibi greenstone belt

6.2. Local Geology

The property is located near the southwest boundary of the Abitibi greenstone belt along the southeast side of the Kenogamissi Batholith which has metamorphosed the rock units adjacent and surrounding the Jumping Moose Lake area to lower amphibolite facies. East of Jumping Moose Lake, and farther south from the batholith, the rock units have reached lower greenschist facies (Machado, 2002). The property is underlain by ultramafic to felsic metavolcanic rocks, chemical sedimentary rocks and gabbroic rocks of Keewatin age (Pettigrew, 2005). On the west side of Jumping Moose Lake a large gabbroic intrusion is intruded by aplitic dykes (Pettigrew, 2005). Along the southwest side of Jumping Moose Lake, along the margin of the Kenogamissi batholith, felsic metavolcanic rocks are intruded by gabbro bodies and syenite and granite dykes. Matachewan diabase dykes cut all younger lithologies in the area.

The Jumping Moose Lake area is underlain predominantly by mafic to felsic metavolcanic rocks with lesser ultramafic metavolcanic rocks and is intruded by metamorphosed ultramafic to mafic sills (Machado, 2002). Highly deformed chemical metasedimentary rocks, including oxide and sulphide facies iron formations, possibly representing in part interflow horizons, are interlayered with the metavolcanic rocks. Neil Pettigrew (2005) also noted the occurrence of deformed metamorphosed gabbro intruding the metavolcanic rocks. All younger lithologies are intruded by north-northwest to northwest-trending Matachewan diabase dykes.

The dominant foliations in the metavolcanic units west of Jumping Moose Lake are east- to northeast striking, with dips ranging between 65°-90°, wrapping around the margin of the Kenogamissi batholith (Machado, 2002). Lineations in the metavolcanic units near the Kenogamissi batholith are generally steeply dipping and plunging roughly to the southeast. The steep plunge of the lineations has been interpreted to be the result of the forceful intrusion of the Kenogamissi batholith (Machado, 2002).

On the east side of Jumping Moose Lake, three possible folds, two synforms and one antiform with fold axes trending to the northwest, were identified by Machado (2002). Machado (2002) also reported numerous northwest, northeast and east trending faults in the area with sinistral displacements. Lineations on the east side of Jumping Moose Lake are more moderately plunging, 50°-70°, to the southeast. Between Jumping Moose Lake and Marne Lake the rock units are less deformed with tectonic foliations in the area trending to the northeast and dipping to the southeast (Machado, 2002).

7. DIAMOND DRILLING

The diamond drill program was designed to test multiple targets related to a 2017 IAMGOLD stripping area which hosts both gold bearing iron formation rock and folded high-grade quartz veins hosted in the volcanic rocks. The holes are located in the up-ice direction of historic high-grade boulders located on the property. The drill holes were also planned to test chargeability and resistivity anomalies from past induced polarization surveys, and interpreted regional scale folds. Low magnetic corridors were also targeted as potential structures that may be gold bearing. A plan map with drill-hole locations in relation to the IAMGOLD stripping (stripping #1) can be found in Figure 6.



Figure 4. Drill rig on Jumping Moose property, October 2018.

The drill contractor used for the diamond drilling was NPLH Drilling, of Timmins, Ontario. Drilling commenced on October 10th, 2018, and was completed on October 23rd, 2018. NPLH mobilized onto the Jumping Moose property on October 9th, 2018. A feller buncher was used to create drill pads and drill trails. All trees were neatly stacked in piles alongside the trails. The tree cutting was supervised by Brian Wright. Drill collar locations were located and flagged using a handheld Garmin GPSmap 62s and front sights for each setup were lined up with the use of a compass. Prior to drilling, the drill would be lined up using a Reflex North Finder Azimuth Pointing System (APS). Single-shot collar tests were taken every 50 meters until the end of the hole. Once the drill-hole was complete a multi-shot survey test was performed every three meters from the bottom to the top of the drill-hole. Due to the highly magnetic nature of the surrounding rocks in the area, and the fact that the downhole survey tool used magnetics for orientation

many of the downhole surveys proved to be inaccurate. All drill-hole plan view and sections are projected with the planned azimuth and dip. Core orientation, using the Reflex ACT III tool, was performed on each drill-hole drilled during the program. Drill core was stored in core boxes at the drill, and was delivered once per day, every morning to the IAMGOLD core shack, located at 3 Mesomikenda Lake Road, Gogama, Ontario.

The processing of drill core started with RQD measurements then aligning the orientation marks on the core. If the orientation was successful, then an orientation line was marked along the core for that particular run. These measurements and core orientation was performed by IAMGOLD geotechnician, Shane O’Neil. A total of eight days was spent on core alignment and RQD measurements. The core was then logged by IAMGOLD junior geologist GIT Erik Bobechko, and/or Adam Waram. Samples were selected by the geologists based on the presence of mineralization, structure, and/or veining. Logging of the core took place between October 17th and November 20th, 2018, for a total of 20 days. Cutting and sampling of the core was then carried out by IAMGOLD geotechnicians Claude Constant, Yvon Constant, and Doreen Luke, over the course of 11 days. The core was cut in half using a diamond blade on a core cutting saw. The core was cut along the core orientation line. The core was cut and sampled based on the logging geologist’s instructions. All samples were indicated on the core by line markings and sample tags. Sampling the core involved removing the top half of the cut core and placing it into a sample bag with the sample tag. The bag is then labelled with the sample number on the outside and secured with staples. Sample bags were then put into large rice bags and closed with a security tag before being driven to the assay laboratory. The remaining drill core, both sampled and whole-core, is being stored at the IAMGOLD exploration camp near Gogama, Ontario. Daily activity logs of personnel involved in the drill program can be found in Appendix E.

Environmental inspections were performed on all drill pads and trails after the drilling was completed. All six drill pads were left in good condition and did not require any additional remediation.

A list of IAMGOLD employees who worked on the Jumping Moose Property between October 2018 and December 2018 is below in Table 3. Employees were lodged at either the Jumping Moose remote camp, the IAMGOLD camp at the Cote Gold Project, the Watershed Restaurant 144 Ltd, or commuted from the town of Gogama.

Table 3. IAMGOLD personnel list

Person	Job Description	Domicile
Brad McKinley	Senior Geologist	Sudbury, Ontario
Erik Bobechko	Junior Geologist GIT	Newmarket, Ontario
Adam Waram	Junior Geologist GIT	Sudbury, Ontario
Brian Wright	Prospector	Markstay, Ontario
Shane O’Neil	Geo-technician	Sudbury, Ontario
Claude Constant	Geo-technician	Gogama, Ontario
Yvon Constant	Geo-technician	Gogama, Ontario
Doreen Luke	Geo-technician	Mattagami, Ontario

A summary table of the drill hole information can be found below in Table 4. Full drill logs, with information such as location, azimuth, dip, core diameter, overburden depth, rock-type, alteration, mineralization, sample numbers, etc. can be found in Appendix A. A plan map of drill hole locations with their surface projected drill traces can be found in Figure 6. Vertical cross-sections of each hole, showing rock-type and assay results can be found in Appendix B.

Table 4. Drill Hole Summary Table *NAD 83 Zone 17

Drillhole Number	Claim No.	Provincial Cell No.	Easting	Northing	Azimuth	Dip	Length (m)	Start Drill Date	End Drill Date	Start Log Date	End Log Date	Samples Collected & Assayed
JM18-001	180602	41P14D175	469518	5293746	350	-55	171	10-Oct-18	12-Oct-18	17-Oct-18	28-Oct-18	73
JM18-002	180602	41P14D175	469574	5293906	230	-50	300	12-Oct-18	15-Oct-18	25-Oct-18	07-Nov-18	81
JM18-003	342106	41P14D176	469710	5293732	350	-55	150	15-Oct-18	16-Oct-18	29-Oct-18	02-Nov-18	65
JM18-004	342106	41P14D176	469945	5293781	350	-55	150	16-Oct-18	18-Oct-18	03-Nov-18	06-Nov-18	21
JM18-005	342106	41P14D176	469871	5293865	230	-50	201	18-Oct-18	20-Oct-18	07-Nov-18	11-Nov-18	47
JM18-006	271185	41P14D195	469488	5293670	165	-55	150	20-Oct-18	22-Oct-18	06-Nov-18	20-Nov-18	31

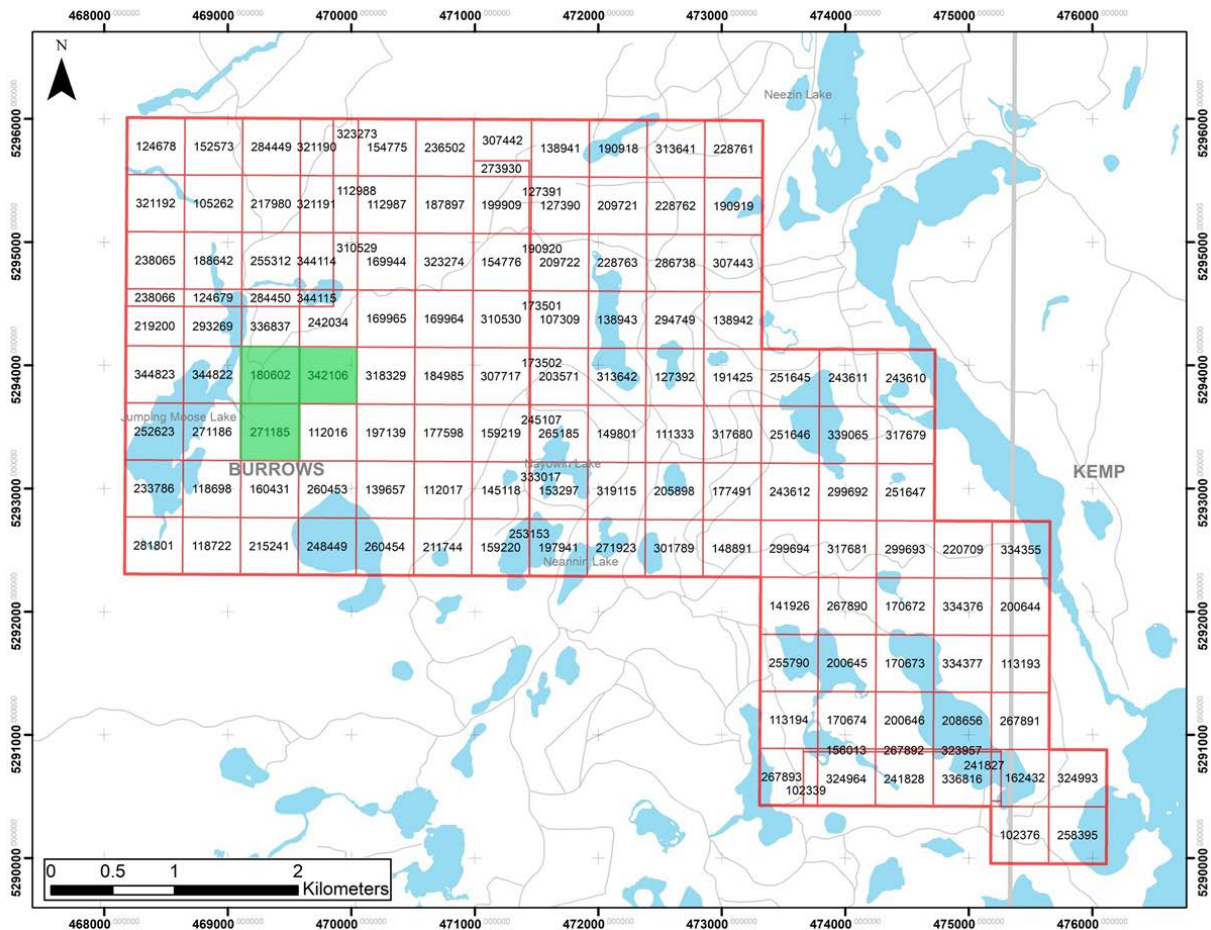


Figure 5. Jumping Moose property claims with claims which were drilled on highlighted in green.

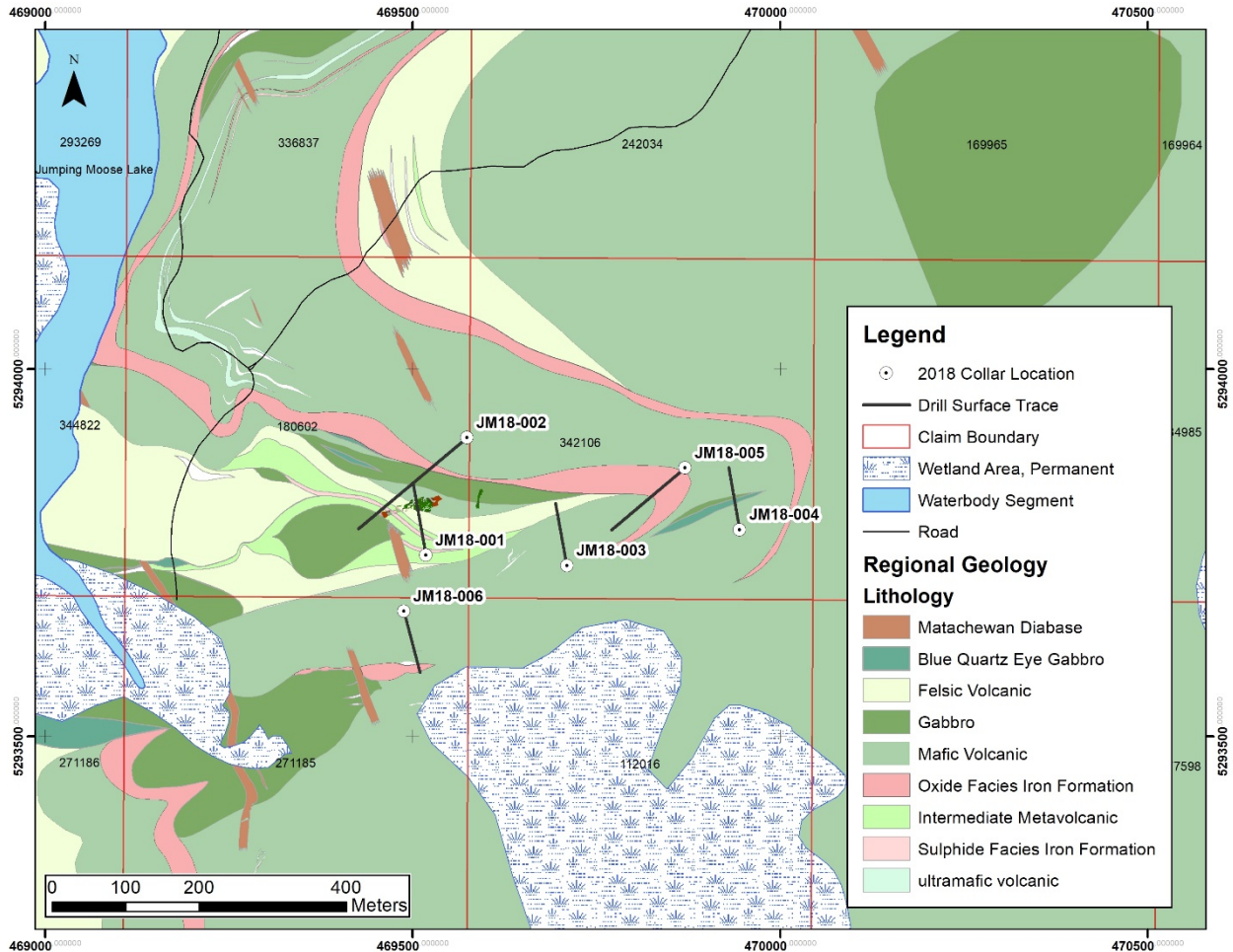


Figure 6. Plan map of 2018 Jumping Moose drill holes

8. ROCK TYPES

The following lithologic descriptions are a summary of the observations made during the logging of the six diamond drill holes on the Jumping Moose property. The property scale geologic information used in Figure 6 was provided by Canadian Gold Miner.

8.1 Metavolcanic Rocks

Metavolcanic rock units were intersected in all drill holes. The majority of the metavolcanic rock units were mafic in composition, with minor felsic-intermediate volcanic rock units. The metavolcanic rock units are fine- to medium-grained and contain trace to 1-2% disseminated pyrite. The colour of the mafic volcanic rock units range from dark green to green-grey. The felsic to intermediate volcanic rock units range from light grey to light green to beige. All metavolcanic rocks are moderately to strongly foliated. The rocks contain weak to strong quartz+carbonate+/-chlorite veins, are typically 1-10cm thick and occasionally appear folded with trace to 1% pyrite mineralization. Contacts between the mafic, intermediate, and/or felsic volcanic rocks are typically sharp, but can be diffuse, suggesting that the mafic rocks may be altered/bleached to appear more felsic in composition, or the felsic rocks may be chloritized

to appear mafic in composition. Felsic volcanic rocks occasionally contain stretched lapillis. Fine to medium grained garnet porphyroblasts are occasionally found within the felsic rocks, suggesting that it may be actually be of a sedimentary origin. Where the volcanic rocks are in contact with the banded iron formation rocks, they are heavily sulphidized.

Ultramafic metavolcanic rocks are occasionally encountered in the drill-holes. The rocks are fine- to very fine-grained and is green-grey to blue-grey in colour. The rocks exhibit strong talc alteration, along with strong irregular/deformed quartz-carbonate veining.

8.2 Mafic Intrusive Rocks

8.2a. Gabbro Intrusion

Small gabbroic rock units are encountered in holes JM18-001 and JM18-003. The unit is medium- to fine-grained, consists of minor blue quartz eyes and ranges from massive to strongly foliated. The presence of strong foliation in the gabbro rock can make it difficult to distinguish between a mafic volcanic rock unit. The gabbro is strongly chloritized, weakly sericitized, and contains areas with fine-grained amphiboles. The rock contains 1-2% disseminated pyrite.

8.2b. Matachewan Diabase:

Matachewan Diabase dykes were encountered in all holes except JM18-006. The diabase was very fine-grained with an occasional porphyritic texture. The diabase had sharp contacts and was weakly to strongly magnetic.

8.2c. Lamprophyre:

Lamprophyre dykes were encountered in all but a single drill-hole. The lamprophyre dykes crosscut all lithologies except the Matachewan diabase rock units. The Lamprophyre dykes are typically between 10 centimetre to 1 meter in thickness in the drill-hole. The lamprophyres are strongly chloritized, moderately to strongly foliated, and contain up to 25% biotite.

8.3 Banded Iron Formation

Iron formation rocks are encountered in all but one hole from the drill program. Two types of banded iron formation rocks are encountered in the drill-holes. Sulphide facies and oxide facies. The sulphide facies iron formation rock unit consists of bands of pyrite/pyrrhotite, silica, and minor bands of magnetite. Up to 40% sulphide content can be found within this rock unit. Within the oxide facies iron formation rocks, little to no sulphide minerals are present and consists primarily of bands of magnetite and silica. Both rock units show evidence of deformation. Rock units adjacent to the sulphide facies iron formation are often "enriched" in sulphide minerals. Anomalous to low grade gold mineralization were found in a sulphide facies iron formation rocks in surface stripping #1 on the Jumping Moose property.

8.4 Mineralization

Historic mineralization on the Jumping Moose property consisted of high-grade gold mineralization within large (>2 m diameter) boulders located on the property. The gold mineralization was associated with an anomalous silver-tellurium signature. The source of these high-grade boulders has driven exploration on the Jumping Moose property over the past few decades. The surface in-situ gold mineralization

discovered in the IAMGOLD stripping shows the same elevated silver-tellurium signature as the high-grade boulders. The gold mineralization intersected in the 2018 drill program showed a similar correlation between gold, silver and tellurium. This association may suggest that the gold mineralization is part of the same gold mineralizing system as the high-grade boulders and surface veins.

From the extensive channel sampling done by IAMGOLD in 2017-2018, it was noted that gold mineralization is constrained to quartz veining and the iron formation rock units. With this information, the drill core was selectively sampled based on the presence of quartz veining, mineralization, and within iron formations.

Pyrite mineralization in the core was widespread throughout the wall-rock of the volcanic rock units. However, without the presence of the quartz veining, no gold mineralization was associated with sulphide mineralization. Three samples of mafic metavolcanic rock containing quartz carbonate veining with pyrite mineralization returned gold values ranging between 0.89 to 2.3 g/t Au. Gold mineralization within the iron formations was limited to the sulphide facies iron formation, where anomalous gold values were received.

All assay certificates for Au fire assay and ICP geochemistry can be found in Appendix C.

9. DIAMOND DRILL-HOLE RESULTS

9.1 JM18-001

Drill-hole JM18-001 (171 m) was drilled to test the depth extent of the high-grade gold mineralization that was discovered in the folded quartz veins found in stripping #1. The chemistry of the mineralized gold bearing veins was similar to that of high-grade gold bearing boulders located approximately 200 meters to the southwest. Multiple horizons of iron formation with intense pyrite +/- pyrrhotite mineralization were intersected down-hole. The iron formation is interlayered with mafic volcanic rocks which contain deformed and mineralized (1-2% pyrite) quartz veining. The veining has characteristics similar to what is found within the high grade boulders. Anomalous gold values were intersected within a sulphide facies iron formation between 26.4-42.8 meters down hole. The unit consisted of semi-massive pyrite and pyrrhotite (up to 40%), with strong, discontinuous, siliceous bands. Five samples from this rock unit assayed between 0.1 to 0.6 g/t Au. Silver and tellurium assays ranged from 0.23 to 1.11 g/t, and 0.7 to 9.0 g/t respectively. A sample of a mafic volcanic rock containing ~10% quartz+carbonate+/-pyrite veining, yielded 2.02 g/t gold, 101 meters down the hole. This sample also assayed 0.97 g/t silver, with anomalous tellurium.

9.2 JM18-002

Drill-hole JM18-002 (300 m) was targeting the high-grade gold-bearing quartz vein found in stripping #1, as well as the anomalous gold-bearing iron formation at depth. The drill-hole consisted of mafic volcanic rocks, with smaller amounts of iron formation. Strong sulphide mineralization was present within the iron formation. Increased veining was noted within the mafic volcanic rock units, however mineralization was poor. No significant results were returned from this drill-hole.

9.3 JM18-003

Drill-hole JM18-003 (150 m) was targeting a strong resistivity anomaly on the edge of a strong chargeability anomaly generated from a 2005 Temex IP survey. These anomalies also occur within a low magnetic region of the property, which could be a potential structural corridor. The presence of intense sulphide mineralization in iron formation rocks between 80m to 150m explains the strong chargeability anomaly. Increased quartz-pyrite veining was noted within the iron formation. No significant results were received from this drill-hole. The sulphide facies iron formation yielded the occasional anomalous sample up to 0.09 g/t gold.

9.4 JM18-004

Drill-hole JM18-004 (150m) was designed to test the interpreted large-scale axial plane projection from the gold-bearing vein located in stripping #1. This large-scale fold hinge, which was interpreted by Temex from airborne magnetics, is also spatially associated with an arsenic anomaly generated from the 2017 IAMGOLD soil sampling program. There is also a magnetic low in this area, which is interpreted to represent a possible structural corridor. The hole intersected 72m of Matachewan diabase and alternating units of mafic metavolcanics rocks and iron formation. The iron formation contained weak to strong pyrite mineralization. One sample of mafic metavolcanic rock hosted quartz-carbonate-chlorite veining which yielded a sample of 2.3 g/t gold.

9.5 JM18-005

Drill-hole JM18-005 (201m) was drilled to test an interpreted large-scale fold hinge. Smaller scale fold hinges on the property contain higher concentrations of gold mineralization. This drill-hole drilled down the interpreted hinge of the fold in an attempt to intersect gold mineralization and to determine the size of the overall folded structure. The hole consisted primarily of mafic volcanic rocks with interlayered sulphide and oxide facies iron formations. The iron formation contained up to 5% pyrite mineralization with trace pyrrhotite. A mafic volcanic unit hosted quartz-carbonate-sericite veining with trace pyrite that yielded 0.89 g/t gold.

9.6 JM18-006

Drill-hole JM18-006 (150m) was drilled to test a strong chargeability anomaly within a low magnetic region on the property. The drill-hole consisted of mafic volcanic rocks. The mafic volcanic rocks hosted irregular quartz-carbonate veining/fracture-filling likely related to a possible east-west structure running through the target area. No significant results were received from this drill-hole.

10. QA/QC

A total of 318 samples, 13 blanks and 14 certified reference materials were sent to Actlabs labs in Timmins, Ontario for processing in four separate batches. All samples were sent for gold analyses by fire assay method. All samples were also sent for ICP geochemical analysis. Standards and blanks were alternately inserted every 12th sample. Blank material consisted of certified blank diabase and/or granite packets and the certified reference materials were OREAS standards purchased from Analytical Solutions Ltd. The

standards that were used on this project were OREAS 224 OREAS 501C, OREAS 502C, and OREAS 504B. Mean gold values for the standards ranged from 0.221 ppm to 2.15 ppm.

All of the 13 blanks sent for analysis returned below the upper limit of 0.1 ppm Au. This represents a 0% failure rate for blank material used. Thirteen of the 14 standards sent for assay fell within the tolerance limits of 2SD, one sample fell with the tolerance limit of 3SD. This represents a certified reference material failure rate of 0%.

In addition to the blank and reference material sent by IAMGOLD, Actlabs perform in house quality control testing. QA/QC procedures for Actlabs can be found in Appendix D. A list of all QA/QC assay results from inserted reference material can be found in Appendix I.

11. STATEMENT OF EXPENDITURES

The total value of work done on the Jumping Moose Lake property can be found in an expenditure table in Appendix F. Individual claim expenditures provided in Appendix F were calculated based the total meters drilled and number of samples taken on each claim.

12. CONCLUSIONS

The diamond drilling program completed by IAMGOLD on the Jumping Moose property between October and December 2018. Overall the drilling program did not discover significant gold bearing zones within the drilling footprint. There were some anomalous gold-bearing iron formation rocks at depth. The six drill-holes totalling 1,122 meters of core, were designed to target a number of geophysical targets and interpreted structural features that had the potential to host gold mineralization. Drill core samples that did returned anomalous to low-grade gold values show a similar gold-silver-tellurium signature as the historic gold bearing boulders and the high-grade veins on surface. Gold mineralization was found within sulphide facies iron formation, and mafic volcanic rocks that hosted quartz-carbonate-pyrite veining. Gold values in the sulphide facies iron formation range between 0.1 to 0.6 g/t Au, but vary and are discontinuous throughout the different occurrences. Gold mineralization within the quartz-carbonate-pyrite veins ranges from 0.89 to 2.3 g/t Au, and is also discontinuous.

13. RECOMMENDATIONS

The stripping with the high-gold mineralization located with the fold hinge of the quartz vein did show that the gold mineralization on the Jumping Moose property appears to be structurally controlled. Additional work is recommended to better understand these structural constraints and controls throughout the property, but more importantly around the high-grade veins discovered in the stripping area. In addition, the banded iron formation did return some anomalous gold mineralization. Further work should entail an in-depth structural look at the iron-formation and determine if there is potential for additional gold mineralization.

Further work on the property should include:

- A basal till sampling program by overburden drilling to aid in the identification of near source gold grain anomalies as well as to better constrain the bedrock lithologies under portions of the property hosting extensive glacial fluvial sediments
- Trenching/stripping, washing, mapping and channel sampling of areas identified as potential sources for gold mineralization

14. REFERENCES

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15. STATEMENT OF QUALIFICATIONS

I, Erik Bobechko, do hereby certify that:

- 1) I have been a Junior Geologist at IAMGOLD since May 28th, 2017.
- 2) I studied geology at the University of Ottawa between 2011 and 2016 and graduated with a Bachelor of Science with a Major in Geology.
- 3) The report is true and accurate to the best of my knowledge. The report includes information that was gathered from various sources, such as assessment files, publications and contractor-provided information.
- 4) I am responsible for the writing of the Report of Physical Work on the Jumping Moose Project, Burrows Township, Ontario
- 5) I have no personal interest in the property covered by this report.

Dated in Gogama, Ontario, this 26th day of September 2019.

Respectfully Submitted,



Erik Bobechko, B.Sc.,
Junior Geologist
September 26, 2019

I, Bradley McKinley, P.Ge., a professional geologist with a business address of Unit 10 – 2140 Regent Street , Sudbury, ON., certify that:

1. I have been a Registered Member of the Association of Professional Geoscientists of Ontario since 2009.
2. I graduated with a B.Sc. from the University of Waterloo (Honours Geology) in Earth Sciences in 2003.
3. I graduated with a M.Sc. from the University of British Columbia (Economic Geology) in 2006.
4. I have been practicing in my profession as a geologist since 2004.
5. I have been an employee of IAMGOLD Corporation since February 21st, 2017.
6. The information presented in this document is true and accurate to the best of my knowledge. This information was gathered from such various sources as assessment files, publications, in-house work and contractor-provided reports.
7. I planned and oversaw the field work covered in this report.
8. I have no personal interest in the property covered by this report.

Dated in Sudbury, Ontario, this 26th day of September 2019.

Respectfully Submitted,



Brad McKinley, M.Sc.,
P.Ge. Senior Geologist
September 26, 2019

APPENDIX A.

Drill Logs

DRILL HOLE REPORT

Hole Number: **JM18-001**

Project: **JUMPING MOOSE**

Project Number: **262**

Drilling	Casing	Core	Location	Other
Azimuth: 350	Length: 9	Dimension: NQ	Claim No.: 180602	Company: IAMGOLD
Dip: -55	Pulled: no	Diam Chang: no	NTS:	Contractor: NPLH
Length: 171	Capped: yes	Storage: Klondike Lodge	Hole: SURFACE	Spotted by:
Started: 10-Oct-18	Cemented: no	Hole Type: DDH	Section:	Surveyed:
Completed: 12-Oct-18	Left in hole: no	Logged by: Erik Bobechko	Zone: 17	Surveyed by:
Logged: 13-Oct-18	Making water:	Relog by:	NAD: NAD83	Multi shot su yes
Township: BURROWS	Plugged:			
Target:			Coordinate - Gemcom	Coordinate - UTM
Comment:			East: 469518	East: 469518
			North: 5293746	North: 5293746
			Elev.: 350	Elev.: 350
				Coordinate - Local
				East: 0
				North: 0
				Elev.: 0

Deviation Tests

Density Tests

<i>Distance</i>	<i>Azimuth</i>	<i>Dip</i>	<i>Easting</i>	<i>Northing</i>	<i>Elevation</i>	<i>Mag. Fie.</i>	<i>Type</i>	<i>Good</i>	<i>Comments</i>
0.00	350.00	-55.00	0	0	0		C	<input checked="" type="checkbox"/>	

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-001**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
0.00	9.00	OB Overburden 9m Casing										
9.00	9.70	FVOL Felsic Metavolcanic Lapilli Tuff. Garnetiferous (up to 20% Garnets). Strongly chloritized, monolithic silicious (rhyolitic?) lapillis, lapillis are stretched. Weak to strong Mag		808001	9.00	10.00	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		9.00 - 9.70	SR PV 2	Sericitization, Pervasive, Weak								
		9.00 - 9.70	SI FRG 1	Silicification, Fragments, Very weak								
		9.00 - 9.70	CL PV 4	Chloritization, Pervasive, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		9.00 - 9.70	Py FOL 1	Pyrite, Along foliation, 1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		9.00 - 9.70	M FOL	Foliated								
		Texture Maj:	Type	Comment								
		9.00 - 9.70	LAM	Laminated								
9.70	9.90	SBIF Sulphide Facies Iron Formation Small layer of Py rich (80%) Iron formation, very strong Mag, 15% QV										
		Alteration Maj:	Type/Style/Intensity	Comment								
		9.70 - 9.90	CL SPT 2	Chloritization, Spotty/Patchy, Weak								

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		Texture Maj:	Type	Comment								
		9.70 - 9.90	BND	Banded								
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment								
		9.70 - 9.90	STG 15 2 QPYV	Quartz Pyrite Vein, 2%								
		9.70 - 9.90	STG 15 3 CHLV	Chlorite Veining, 3%								
		9.70 - 9.90	STG 15 95 QV	Quartz Vein, 95%								
9.90	13.20	FVOL Felsic Metavolcanic			808002	10.00	11.00	1.00	0.01	-	0.01	-
		Lapilli Tuff. Garnetiferous (up to 20% Garnets). Strongly chloritized, monolithic silicious (rhyolitic?) lapillis, lapillis are stretched. Weak to strong mag			808003	11.00	12.00	1.00	0.01	-	0.01	-
					808004	12.00	13.20	1.20	0.01	-	0.01	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		9.90 - 13.20	SR PV 2	Sericitization, Pervasive, Weak								
		9.90 - 13.20	SI FRG 1	Silicification, Fragments, Very weak								
		9.90 - 13.20	CL PV 4	Chloritization, Pervasive, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		9.90 - 12.80	Py FOL 2	Pyrite, Along foliation, 2%								
		12.80 - 13.20	Py BNDS 4	Pyrite, Bands, 4%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		9.90 - 13.20	M FOL	Foliated								
		Texture Maj:	Type	Comment								
		9.90 - 13.20	FG	Fine Grained (<1mm)								
		9.90 - 13.20	BND	Banded								
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment								
		12.80 - 13.00	BOV 50 10 QPYV	Quartz Pyrite Vein, 10%								
		12.80 - 13.00	BOV 50 15 CHLV	Chlorite Veining, 15%								
		12.80 - 13.00	BOV 50 75 QV	Quartz Vein, 75%								

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13.20	14.40	GBB Gabbro Intrusive, medium grained, equigranular, weak shearing		808005	13.20	14.40	1.20	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		13.20 - 14.40	CB SPT 1	Carbonatization, Spotty/Patchy, Very weak								
		13.20 - 14.40	CL PV 4	Chloritization, Pervasive, Strong								
		13.20 - 14.40	SR PV 2	Sericitization, Pervasive, Weak								
		13.20 - 14.40	SI PV 3	Silicification, Pervasive, Moderate								
		Texture Maj:	Type	Comment								
		13.20 - 14.40	EQ	Equigranular								
		13.20 - 14.40	MG	Medium Grained(1-5mm)								
14.40	15.40	FVOL Felsic Metavolcanic Lapilli Tuff. Garnetiferous (up to 20% Garnets). Chloritized, monolithic silicious (rhyolitic?) 0.5-2cm lapillis, lapillis are stretched,		808006	14.40	15.40	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		14.40 - 15.40	SR PV 2	Sericitization, Pervasive, Weak								
		14.40 - 15.40	SI FRG 1	Silicification, Fragments, Very weak								
		14.40 - 15.40	CL PV 4	Chloritization, Pervasive, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		14.40 - 15.40	Py FOL 2	Pyrite, Along foliation, 2%								

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15.40	25.15	DIA Diabase Strong Mag										
25.15	26.40	MVOL Mafic Metavolcanic Volcanoclastic Sediment, ash tuff to lapilli tuff. Stretched mm scale lapillis, <5% Blue Quartz eyes,		808007	25.15	26.40	1.25	0.01	-	0.01	-	-
26.40	42.80	SBIF Sulphide Facies Iron Formation ~40% sulphides. PY+PO, lots of quartz "flooding" from 26.4-35.6m (Stretched quartz lapillis?). Deformed 1 cm magnetite bands and less sulphides from 37-40m.		808008	26.40	27.50	1.10	0.01	-	0.01	-	-
				808009	27.50	28.40	0.90	0.03	-	0.03	-	-
				808010	28.40	29.45	1.05	0.05	-	0.05	-	-
				808011	29.45	30.26	0.81	0.11	-	0.11	-	-
				808013	30.26	31.00	0.74	0.08	-	0.08	-	-
				808014	31.00	32.00	1.00	0.08	-	0.08	-	-
				808015	32.00	33.00	1.00	0.13	-	0.13	-	-
				808016	33.00	34.00	1.00	0.48	-	0.48	-	-
				808017	34.00	34.75	0.75	0.06	-	0.06	-	-
				808018	34.75	35.60	0.85	0.04	-	0.04	-	-
				808019	35.60	36.70	1.10	0.05	-	0.05	-	-
				808020	36.70	38.00	1.30	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		26.40 - 35.60	SR SPT 1	Sericitization, Spotty/Patchy, Very weak								
		26.40 - 35.60	CL MX 2	Chloritization, Matrix, Weak								
		26.40 - 35.60	SI PV 3	Silicification, Pervasive, Moderate								
		35.60 - 42.80	SR SPT 1	Sericitization, Spotty/Patchy, Very weak								
		35.60 - 42.80	CL PV 2	Chloritization, Pervasive, Weak								
		35.60 - 42.80	SI PV 1	Silicification, Pervasive, Very weak								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		26.40 - 27.50	Py DIS 10	Pyrite, Disseminated, 10%								

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	27.50 - 28.40	Po BNDS 20	Pyrrhotite, Bands, 20%	808021	38.00	39.00	1.00	0.01	-	0.01	-	-
	27.50 - 28.40	Py DIS 4	Pyrite, Disseminated, 4%	808022	39.00	40.05	1.05	0.01	-	0.01	-	-
	28.40 - 30.25	Po BNDS 5	Pyrrhotite, Bands, 5%	808023	40.05	41.00	0.95	0.34	-	0.34	-	-
	28.40 - 30.25	Py DIS 18	Pyrite, Disseminated, 18%	808025	41.00	42.00	1.00	0.61	-	0.61	-	-
	30.25 - 34.00	Po BNDS 20	Pyrrhotite, Bands, 20%	808026	42.00	42.80	0.80	0.08	-	0.08	-	-
	30.25 - 34.00	Py DIS 5	Pyrite, Disseminated, 5%									
	34.00 - 35.60	Po BNDS 5	Pyrrhotite, Bands, 5%									
	34.00 - 35.60	Py BNDS 15	Pyrite, Bands, 15%									
	35.60 - 36.70	Py DIS 5	Pyrite, Disseminated, 5%									
	35.60 - 36.70	Po MAS 65	Pyrrhotite, Massive, 65%									
	36.70 - 42.80	Po BNDS 2	Pyrrhotite, Bands, 2%									
	36.70 - 42.80	Py BNDS 10	Pyrite, Bands, 10%									
42.80	47.40	DIA Diabase										
47.40	50.90	SBIF Sulphide Facies Iron Formation		808027	47.40	48.54	1.14	0.01	-	0.01	-	-
		quartz flooded iron foramation. Strong py and tr po. Mm to cm bands of magnetite. Deformed.		808028	48.54	49.45	0.91	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808029	49.45	50.90	1.45	0.01	-	0.01	-
	47.40 - 50.90	CL DISS 2	Chloritization, Disseminated, Weak									

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	47.40 - 50.90	SI PV 3	Silicification, Pervasive, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	47.40 - 50.90	Po BNDS 5	Pyrrhotite, Bands, 5%									
	47.40 - 50.90	Py BNDS 20	Pyrite, Bands, 20%									
		Texture Maj:	Type	Comment								
	47.40 - 50.90	BND	Banded									
50.90	88.00	DIA Diabase	moderate mag, massive, fine gr.									
88.00	94.70	FVOL Felsic Metavolcanic		808030	93.00	94.40	1.40	0.01	-	0.01	-	-
			Felsic Tuff, Chloritized, strong lineation. Strong foliation, areas of folding, qz cb vning ~2%, very rare Blue quartz eyes. Beige to green.									
		Alteration Maj:	Type/Style/Intensity	Comment								
	88.00 - 94.70	CB BNDS 1	Carbonatization, Bands/Banded, Very weak									
	88.00 - 94.70	CL BNDS 3	Chloritization, Bands/Banded, Moderate									
	88.00 - 94.70	SR BNDS 2	Sericitization, Bands/Banded, Weak									
	88.00 - 94.70	SI PV 1	Silicification, Pervasive, Very weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	88.00 - 94.70	Py FOL 0.5	Pyrite, Along foliation, 0.5%									

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		Texture Maj:	Type	Comment								
		88.00 - 94.70	LAM	Laminated								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		88.80 - 89.10	VN 10 15	CHLV Chlorite Veining, 15%								
		88.80 - 89.10	VN 10 10	CBV Carbonate Vein, 10%								
		88.80 - 89.10	VN 10 75	QV Quartz Vein, 75%								
94.70	108.00	MVOL Mafic Metavolcanic			808031	100.00	101.00	1.00	0.13	-	0.13	-
		Mafic Tuff? Could be heavily chloritized felsic tuff. Strong foliation. Dark green. Stretched. Strong veining (~10%) from 100-108m. Weak to mod py along fol.			808032	101.00	102.00	1.00	2.02	-	2.02	-
		Alteration Maj:	Type/Style/Intensity	Comment	808033	102.00	103.30	1.30	0.27	-	0.27	-
		94.70 - 108.00	BIO SEL 1	Biotitization, Selective, Very weak	808034	103.30	104.50	1.20	0.02	-	0.02	-
		94.70 - 108.00	SI PV 3	Silicification, Pervasive, Moderate	808035	104.50	105.75	1.25	0.01	-	0.01	-
		94.70 - 108.00	SR PV 3	Sericitization, Pervasive, Moderate	808037	105.75	107.10	1.35	0.01	-	0.01	-
		94.70 - 108.00	CL PV 4	Chloritization, Pervasive, Strong	808038	107.10	108.00	0.90	0.01	-	0.01	-
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		94.70 - 100.00	Py DIS 0.5	Pyrite, Disseminated, 0.5%								
		100.00 - 108.00	Py FOL 2	Pyrite, Along foliation, 2%								
		100.00 - 108.00	Py VN 2	Pyrite, Vein-controlled, 2%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		94.70 - 108.00	MS FOL	Foliated								
		Texture Maj:	Type	Comment								
		94.70 - 108.00	FG	Fine Grained (<1mm)								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		100.00 - 108.00	VN 8 3	SCV Sericite Vein, 3%								
		100.00 - 108.00	VN 8 2	QPYV Quartz Pyrite Vein, 2%								
		100.00 - 108.00	VN 8 5	CBV Carbonate Vein, 5%								
		100.00 - 108.00	VN 8 20	CHLV Chlorite Veining, 20%								

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	100.00 - 108.00	VN 8 70 QV	Quartz Vein, 70%									
108.00	109.00	GDR Granodiorite										
		felsic igneous intrusive? Could potentially be pegmatitic separation of minerals?. Coarse grained. Mixed with mafic volcanics.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		108.00 - 109.00	CL SEL 3	Chloritization, Selective, Moderate								
		108.00 - 109.00	BIO SEL 1	Biotitization, Selective, Very weak								
		108.00 - 109.00	HM SEL 3	Hematization, Selective, Moderate								
		108.00 - 109.00	SI PV 2	Silicification, Pervasive, Weak								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		108.00 - 109.00	Py DIS 1	Pyrite, Disseminated, 1%								
		Texture Maj:	Type	Comment								
		108.00 - 109.00	CG	Coarse Grained (>5mm)								
		108.00 - 109.00	PG	Pegmatitic								
109.00	111.10	MVOL Mafic Metavolcanic										
		Tuffaceous unit with cm scale lithic fragments.very fine grained. Dark green to black. Potentially intrusive?										
		Alteration Maj:	Type/Style/Intensity	Comment								
		109.00 - 111.10	HM SEL 1	Hematization, Selective, Very weak								
		109.00 - 111.10	SI PV 2	Silicification, Pervasive, Weak								
		109.00 - 111.10	CL PV 3	Chloritization, Pervasive, Moderate								
		109.00 - 111.10	BIO PV 2	Biotitization, Pervasive, Weak								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		109.00 - 111.10	Py DIS 0.2	Pyrite, Disseminated, 0.2%								

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		Texture Maj:	Type	Comment									
	109.00 - 111.10		AP	Aphanitic									
111.10	129.55	MVOL Mafic Metavolcanic			808039	111.00	112.00	1.00	0.01	-	0.01	-	-
		Massive Flow. Strong foliation in areas. Green colour. Lots of qz-cb veinlets along foliation. 7cm of BIF at 128.85			808040	112.00	113.00	1.00	0.01	-	0.01	-	-
					808041	113.00	114.00	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808042	114.00	115.00	1.00	0.50	-	0.50	-	-
	111.10 - 129.55		EP SEL 1	Epidotization, Selective, Very weak	808043	115.00	116.00	1.00	0.49	-	0.49	-	-
	111.10 - 129.55		BIO SPT 1	Biotitization, Spotty/Patchy, Very weak	808044	121.00	122.00	1.00	0.01	-	0.01	-	-
	111.10 - 129.55		SR PV 2	Sericitization, Pervasive, Weak	808045	123.00	124.00	1.00	0.01	-	0.01	-	-
	111.10 - 129.55		CL PV 4	Chloritization, Pervasive, Strong	808046	124.00	125.00	1.00	0.01	-	0.01	-	-
		Mineralization Maj. :	Type/Style/%Mineral	Comment	808047	128.00	129.00	1.00	0.01	-	0.01	-	-
	111.10 - 116.00		Py DIS 3	Pyrite, Disseminated, 3%	808049	129.00	130.00	1.00	0.01	-	0.01	-	-
	116.00 - 129.55		Py DIS 0.2	Pyrite, Disseminated, 0.2%									
		Structure Maj.:	Inte/Type/Core Angle	Comment									
	123.00 - 124.00		MS FLD	Folded									
		Texture Maj:	Type	Comment									
	111.10 - 129.55		BND	Banded									
	111.10 - 129.55		FG	Fine Grained (<1mm)									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment									
	111.10 - 116.00		VN 8 10 CHLV	Chlorite Veining, 10%									
	111.10 - 116.00		VN 8 4 SCV	Sericite Vein, 4%									
	111.10 - 116.00		VN 8 1 QPYV	Quartz Pyrite Vein, 1%									
	111.10 - 116.00		VN 8 2 CBV	Carbonate Vein, 2%									
	111.10 - 116.00		VN 8 83 QV	Quartz Vein, 83%									
	116.00 - 129.55		VN 5 5 CHLV	Chlorite Veining, 5%									

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	116.00 - 129.55	VN 5 10 CBV	Carbonate Vein, 10%									
	116.00 - 129.55	VN 5 85 QV	Quartz Vein, 85%									
129.55	129.83	SBIF Sulphide Facies Iron Formation										
		Quartz and pyrite dominated iron formation. Strong mag. 0.5cm magnetite bands. Quartz flooded.										
		Alteration Maj:	Type/Style/Intensity	Comment								
	129.55 - 129.83	SI BNDS 4	Silicification, Bands/Banded, Strong									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	129.55 - 129.83	Po BNDS 3	Pyrrhotite, Bands, 3%									
	129.55 - 129.83	Cpy BNDS 1	Chalcopyrite, Bands, 1%									
	129.55 - 129.83	Py BNDS 11	Pyrite, Bands, 11%									
		Texture Maj:	Type	Comment								
	129.55 - 129.83	BND	Banded									
129.83	131.00	MVOL Mafic Metavolcanic		808050	130.00	131.00	1.00	0.03	-	0.03	-	-
		green mafic volcanic unit. Strong foliation, irregular deformation/folding. 5% qz-cb-ch vning. 1% py MTV. 15cm lamprophyre dyke at 130.1m										
		Alteration Maj:	Type/Style/Intensity	Comment								
	129.83 - 131.00	SR SEL 2	Sericitization, Selective, Weak									
	129.83 - 131.00	BIO SEL 1	Biotitization, Selective, Very weak									
	129.83 - 131.00	SI SEL 1	Silicification, Selective, Very weak									
	129.83 - 131.00	CL PV 4	Chloritization, Pervasive, Strong									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	130.30 - 130.35	Py VN 5	Pyrite, Vein-controlled, 5%									
		Structure Maj.:	Inte/Type/Core Angle	Comment								

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<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)	
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment									
		129.83 - 131.00	FPV 4 2 QPYV	Quartz Pyrite Vein, 2%									
		129.83 - 131.00	FPV 4 8 CHLV	Chlorite Veining, 8%									
		129.83 - 131.00	FPV 4 10 CBV	Carbonate Vein, 10%									
		129.83 - 131.00	FPV 4 80 QV	Quartz Vein, 80%									
131.00	132.80	OBIF Oxide Facies Iron Formation			808051	131.00	132.00	1.00	0.01	-	0.01	-	-
		iron formation with 1mm-1cm magnetite bands, 60% magnetite, 5% pyrite, 3% po			808052	132.00	132.80	0.80	0.02	-	0.02	-	-
		Alteration Maj:	Type/Style/Intensity	Comment									
		131.00 - 132.80	SI BNDS 1	Silicification, Bands/Banded, Very weak									
		131.00 - 132.80	CL BNDS 2	Chloritization, Bands/Banded, Weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
		131.00 - 132.80	Po BNDS 3	Pyrrhotite, Bands, 3%									
		131.00 - 132.80	Py BNDS 5	Pyrite, Bands, 5%									
		Texture Maj:	Type	Comment									
		131.00 - 132.80	BND	Banded									
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment									
		131.00 - 132.80	VN 3 5 QPYV	Quartz Pyrite Vein, 5%									
		131.00 - 132.80	VN 3 5 CHLV	Chlorite Veining, 5%									
		131.00 - 132.80	VN 3 15 CBV	Carbonate Vein, 15%									
		131.00 - 132.80	VN 3 75 QV	Quartz Vein, 75%									
132.80	137.00	MVOL Mafic Metavolcanic			808053	132.80	134.00	1.20	0.03	-	0.03	-	-
		Alteration Maj:	Type/Style/Intensity	Comment									
		132.80 - 137.00	SR FP 2	Sericitization, Along Foliation Planes, Weak									

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Hole Number: **JM18-001**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
	132.80 - 137.00	CB FP 2	Carbonatization, Along Foliation Planes, Weak									
	132.80 - 137.00	CL PV 4	Chloritization, Pervasive, Strong									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	132.80 - 137.00	Py FOL 0.5	Pyrite, Along foliation, 0.5%									
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	132.80 - 137.00	S FOL	Foliated									
		Texture Maj:	Type	Comment								
	132.80 - 137.00	FG	Fine Grained (<1mm)									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	132.80 - 137.00	VN 2 30 CBV	Carbonate Vein, 30%									
	132.80 - 137.00	VN 2 70 QV	Quartz Vein, 70%									
137.00	142.10	FVOL Felsic Metavolcanic		808054	140.00	141.00	1.00	0.01	-	0.01	-	-
		Tuff, rare blue quartz eyes, lightly sheared/foliated, strong sericite		808055	141.00	142.10	1.10	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
	137.00 - 142.10	CB SEL 2	Carbonatization, Selective, Weak									
	137.00 - 142.10	SR PV 3	Sericitization, Pervasive, Moderate									
	137.00 - 142.10	CL PV 3	Chloritization, Pervasive, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	140.00 - 142.10	Py DIS 2	Pyrite, Disseminated, 2%									
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	137.00 - 142.10	M SHRD	Sheared									
		Texture Maj:	Type	Comment								
	137.00 - 142.10	FG	Fine Grained (<1mm)									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	137.00 - 142.10	VN 1 5 CHLV	Chlorite Veining, 5%									
	137.00 - 142.10	VN 1 5 SCV	Sericite Vein, 5%									

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Hole Number: **JM18-001**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
	137.00 - 142.10	VN 1 15 CBV	Carbonate Vein, 15%									
	137.00 - 142.10	VN 1 75 QV	Quartz Vein, 75%									
142.10	143.30	SBIF <i>Sulphide Facies Iron Formation</i>		808056	142.10	143.30	1.20	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
	142.10 - 143.30	SI BNDS 1	Silicification, Bands/Banded, Very weak									
	142.10 - 143.30	CL BNDS 2	Chloritization, Bands/Banded, Weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	142.10 - 143.30	Po BNDS 6	Pyrrhotite, Bands, 6%									
	142.10 - 143.30	Py BNDS 10	Pyrite, Bands, 10%									
		Texture Maj:	Type	Comment								
	142.10 - 143.30	BND	Banded									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	142.10 - 143.30	VN 2 5 CHLV	Chlorite Veining, 5%									
	142.10 - 143.30	VN 2 5 QPYV	Quartz Pyrite Vein, 5%									
	142.10 - 143.30	VN 2 90 QV	Quartz Vein, 90%									
143.30	144.00	MVOL <i>Mafic Metavolcanic</i>		808057	143.30	144.00	0.70	0.02	-	0.02	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
	143.30 - 144.00	BIO SEL 3	Biotitization, Selective, Moderate									
	143.30 - 144.00	CB SEL 1	Carbonatization, Selective, Very weak									
	143.30 - 144.00	SR PV 2	Sericitization, Pervasive, Weak									
	143.30 - 144.00	CL PV 3	Chloritization, Pervasive, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	143.30 - 144.00	Py FOL 2	Pyrite, Along foliation, 2%									

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Hole Number: **JM18-001**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		143.30 - 144.00	M FOL	Foliated								
		Texture Maj:	Type	Comment								
		143.30 - 144.00	FG	Fine Grained (<1mm)								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		143.30 - 144.00	VN 1 1 QPYV	Quartz Pyrite Vein, 1%								
		143.30 - 144.00	VN 1 99 QV	Quartz Vein, 99%								
144.00	146.40	FVOL Felsic Metavolcanic										
		Blue Quartz eye Tuff, intense semi pervasive alteration (si+sr). QCV w/ 1-3% py. Unaltered area grey with 5-10% BQE1-4mm.		808058	144.00	145.20	1.20	0.01	-	0.01	-	-
				808059	145.20	146.40	1.20	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		144.00 - 145.20	SR SPV 4	Sericitization, Semi-Pervasive, Strong								
		144.00 - 145.20	SI SPV 4	Silicification, Semi-Pervasive, Strong								
		145.20 - 146.40	CL SEL 1	Chloritization, Selective, Very weak								
		145.20 - 146.40	SR SPV 3	Sericitization, Semi-Pervasive, Moderate								
		145.20 - 146.40	SI SPV 1	Silicification, Semi-Pervasive, Very weak								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		144.00 - 146.40	Py VN 1	Pyrite, Vein-controlled, 1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		144.00 - 146.40	S FOL	Foliated								
		Texture Maj:	Type	Comment								
		144.00 - 146.40	SCH	Schistose								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		144.00 - 146.40	VN 8 12 CHLV	Chlorite Veining, 12%								
		144.00 - 146.40	VN 8 5 CBV	Carbonate Vein, 5%								
		144.00 - 146.40	VN 8 3 QPCPYV	Quartz Pyrite Chalcopyrite Vein, 3%								

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Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
	144.00 - 146.40	VN 8 80 QV	Quartz Vein, 80%									
146.40	147.70	OBIF <i>Oxide Facies Iron Formation</i> 2%py, 2%po. 1cm magnetite bands ~65%.		808061	146.40	147.70	1.30	0.01	-	0.01	-	-
	146.40 - 147.70	Alteration Maj: CL BNDS 1 <i>Type/Style/Intensity</i> Chloritization, Bands/Banded, Very weak <i>Comment</i>										
	146.40 - 147.70	Texture Maj: BND <i>Type</i> Banded <i>Comment</i>										
147.70	149.50	FVOL <i>Felsic Metavolcanic</i> Blue Quartz eye Tuff. 5-10% BQE1-4mm.		808062	147.70	149.00	1.30	0.01	-	0.01	-	-
	147.70 - 149.50	Alteration Maj: CL SEL 1 <i>Type/Style/Intensity</i> Chloritization, Selective, Very weak <i>Comment</i>		808063	149.00	150.00	1.00	0.01	-	0.01	-	-
	147.70 - 149.50	SR PV 3 <i>Type/Style/Intensity</i> Sericitization, Pervasive, Moderate <i>Comment</i>										
	147.70 - 149.50	SI SPV 1 <i>Type/Style/Intensity</i> Silicification, Semi-Pervasive, Very weak <i>Comment</i>										
	147.70 - 149.50	Structure Maj.: S FOL <i>Inte/Type/Core Angle</i> Foliated <i>Comment</i>										
	147.70 - 149.50	Texture Maj: SCH <i>Type</i> Schistose <i>Comment</i>										
	147.70 - 149.50	Vein Maj. : VN 2 4 CHLV <i>Style/%vein/CoreA%/min/min</i> Chlorite Veining, 4% <i>Comment</i>										
	147.70 - 149.50	VN 2 6 SCV <i>Style/%vein/CoreA%/min/min</i> Sericite Vein, 6% <i>Comment</i>										
	147.70 - 149.50	VN 2 10 CBV <i>Style/%vein/CoreA%/min/min</i> Carbonate Vein, 10% <i>Comment</i>										

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<i>From</i> <i>(m)</i>	<i>To</i> <i>(m)</i>	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> <i>(ppm)</i>	<i>AV</i> <i>Au</i> <i>(ppm)</i>	<i>FA</i> <i>Au</i> <i>(ppm)</i>	<i>FA2</i> <i>Au</i> <i>(ppm)</i>	<i>FA3</i> <i>Au</i> <i>(ppm)</i>
	147.70 - 149.50	VN 2 80 QV	Quartz Vein, 80%									
149.50	155.80	MVOL Mafic Metavolcanic irregular folding/foliation. Irregular veining. Pegmatitic patches (intrusive?). Dis py throughout.		808064	150.00	151.00	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808066	152.00	153.00	1.00	0.01	-	0.01	-
	149.50 - 155.80	BIO SEL 1	Biotitization, Selective, Very weak	808067	153.00	154.00	1.00	0.05	-	0.05	-	-
	149.50 - 155.80	CB FP 2	Carbonatization, Along Foliation Planes, Weak	808068	154.00	155.00	1.00	0.01	-	0.01	-	-
	149.50 - 155.80	SR PV 2	Sericitization, Pervasive, Weak	808069	155.00	155.80	0.80	0.01	-	0.01	-	-
	149.50 - 155.80	CL PV 4	Chloritization, Pervasive, Strong									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	149.50 - 155.80	Py DIS 1	Pyrite, Disseminated, 1%									
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	149.50 - 155.80	S FLD	Folded									
	149.50 - 155.80	S FOL	Foliated									
		Texture Maj:	Type	Comment								
	149.50 - 155.80	SCH	Schistose									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	149.50 - 155.80	VN 6 8 CHLV	Chlorite Veining, 8%									
	149.50 - 155.80	VN 6 2 QPYV	Quartz Pyrite Vein, 2%									
	149.50 - 155.80	VN 6 10 CBV	Carbonate Vein, 10%									
	149.50 - 155.80	VN 6 80 QV	Quartz Vein, 80%									
155.80	158.00	OBIF Oxide Facies Iron Formation Alternating bands of sulphides, magnetite, and silica. Translucent quartz. Could be sulphide or oxide facies. cubic pyrite		808070	155.80	157.00	1.20	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808071	157.00	158.00	1.00	0.01	-	0.01	-
	155.80 - 158.00	SI BNDS 1	Silicification, Bands/Banded, Very weak									

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Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
	155.80 - 158.00	CL BNDS 1	Chloritization, Bands/Banded, Very weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	155.80 - 158.00	Po BNDS 2	Pyrrhotite, Bands, 2%									
	155.80 - 158.00	Py BNDS 7	Pyrite, Bands, 7%									
158.00	168.80	UMVO Ultramafic Metavolcanic L		808073	158.00	159.00	1.00	0.01	-	0.01	-	-
		very deformed, strong talc alteration. Intense irregular qz-cb veining		808074	161.15	162.50	1.35	0.01	-	0.01	-	-
		Alteration Maj.:	Type/Style/Intensity	Comment	808075	165.00	166.00	1.00	0.01	-	0.01	-
	158.00 - 168.80	CL PV 4	Chloritization, Pervasive, Strong	808076	166.00	167.00	1.00	0.01	-	0.01	-	-
		Structure Maj.:	Inte/Type/Core Angle	Comment	808077	167.00	168.00	1.00	0.01	-	0.01	-
	158.00 - 168.80	S FLD	Folded	808078	168.00	168.75	0.75	0.01	-	0.01	-	-
	158.00 - 168.80	S FOL	Foliated									
		Texture Maj.:	Type	Comment								
	158.00 - 168.80	SCH	Schistose									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	158.00 - 168.80	STWV 0.2 1	QPYV Quartz Pyrite Vein, 1%									
	158.00 - 168.80	STWV 0.2 9	CHLV Chlorite Veining, 9%									
	158.00 - 168.80	STWV 0.2 30	CBV Carbonate Vein, 30%									
	158.00 - 168.80	STWV 0.2 60	QV Quartz Vein, 60%									
168.80	170.00	SBIF Sulphide Facies Iron Formation		808079	168.75	170.00	1.25	0.01	-	0.01	-	-
		10% pyrite mineralization, 0.1-1cm cubic py. Irregular magnetite banding 1-3cm thick. 2% po										
		Alteration Maj.:	Type/Style/Intensity	Comment								

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Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
	168.80 - 170.00	CL SEL 2	Chloritization, Selective, Weak									
	168.80 - 170.00	CB SEL 2	Carbonatization, Selective, Weak									
	168.80 - 170.00	SI PV 2	Silicification, Pervasive, Weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	168.80 - 170.00	Po DIS 2	Pyrrhotite, Disseminated, 2%									
	168.80 - 170.00	Py DIS 10	Pyrite, Disseminated, 10%									
		Texture Maj:	Type	Comment								
	168.80 - 170.00	BND	Banded									
170.00	171.00	UMVO Ultramafic Metavolcanic L										
		very deformed, strong talc alteration. Intense irregular qz-cb veining										
		Alteration Maj:	Type/Style/Intensity	Comment								
	170.00 - 171.00	CL PV 4	Chloritization, Pervasive, Strong									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	170.00 - 171.00	Py DIS 0.5	Pyrite, Disseminated, 0.5%									
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	170.00 - 171.00	I FLD	Folded									
	170.00 - 171.00	I FOL	Foliated									
		Texture Maj:	Type	Comment								
	170.00 - 171.00	SCH	Schistose									

QUALITY CONTROL REPORT

Hole Number: **JM18-001**

Project: **JUMPING MOOSE**

Project Number: **262**

Sample #	Sample Type	Duplicate of	Standard name	Laboratory	AV	FA	FA2	FA3	FA4	FA5	SFA	SFA2	SFA3	GA	GA2	GA3	GA4	GA5	AR	AR2	AR3	Wt (kg)
					Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	
808012	STANDARD		OREAS 501	Actlabs	0	-	0.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808024	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808036	STANDARD		OREAS 502	Actlabs	0	-	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808048	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808060	STANDARD		OREAS 224	Actlabs	2	-	2.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808072	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DRILL HOLE REPORT

Hole Number: **JM18-002**

Project: **JUMPING MOOSE**

Project Number: **262**

Drilling	Casing	Core	Location	Other
Azimuth: 230	Length: 9	Dimension: NQ	Claim No.: 180602	Company: IAMGOLD
Dip: -50	Pulled: no	Diam Chang: no	NTS:	Contractor: NPLH
Length: 300	Capped: yes	Storage: Klondike Lodge	Hole: SURFACE	Spotted by: Erik Bobeckko
Started: 12-Oct-18	Cemented: no	Hole Type: DDH	Section: t	Surveyed: no
Completed: 15-Oct-18	Left in hole: no	Logged by: Adam Warram	Zone: 17	Surveyed by:
Logged: 16-Oct-18	Making water: no	Relog by:	NAD: NAD83	Multi shot su yes
Township:	Plugged: no			
Target:				
Comment:			Coordinate - Gemcom	Coordinate - UTM
			East: 469574	East: 469574
			North: 5293906	North: 5293906
			Elev.: 358	Elev.: 358
			Coordinate - Local	East: 0
				North: 0
				Elev.: 0

Deviation Tests

Density Tests

<i>Distance</i>	<i>Azimuth</i>	<i>Dip</i>	<i>Easting</i>	<i>Northing</i>	<i>Elevation</i>	<i>Mag. Fie.</i>	<i>Type</i>	<i>Good</i>	<i>Comments</i>
0.00	230.00	-50.00	0	0	0		C	<input checked="" type="checkbox"/>	

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Hole Number: **JM18-002**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
0.00	4.30	OB Overburden										
4.30	38.75	MVOL Mafic Metavolcanic	DGY	850701	5.15	6.65	1.50	0.01	-	0.01	-	-
		Mafic to intermediate metavolcanic (likely massive flow). Green-grey to dark green grey. Fg. Weakly foliated. Weak pv chl, weak sel bt + ser + cb. Trace dis Py, trace Py + Cpy in irregular sub-parallel qtz-cb-ser veinlets/stringers throughout unit (1-2%). Lower contact with Oxide facies Iron formation gradational.		850702	13.00	14.00	1.00	0.01	-	0.01	-	-
				850703	29.70	30.35	0.65	0.01	-	0.01	-	-
				850704	30.35	31.40	1.05	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		4.30 - 38.75	SR DISS 2	Sericitization, Disseminated, Weak								
		4.30 - 38.75	CB DISS 2	Carbonatization, Disseminated, Weak								
		4.30 - 38.75	BIO DISS 2	Biotitization, Disseminated, Weak								
		4.30 - 38.75	CL PV 2	Chloritization, Pervasive, Weak								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		4.30 - 38.75	Cpy VN 0.1	Chalcopyrite, Vein-controlled, 0.1%								
		4.30 - 38.75	Py VN 0.1	Pyrite, Vein-controlled, 0.1%								
		4.30 - 38.75	Py DIS 0.1	Pyrite, Disseminated, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		4.30 - 38.75	W FOL	Foliated								
		Texture Maj:	Type	Comment								
		4.30 - 38.75	FG	Fine Grained (<1mm)								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		4.30 - 38.75	FPV 1 100	QCSCV Quartz Carb Sericite Vein, 100%								

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38.75	43.25	OBIF Oxide Facies Iron Formation	DGY	850705	39.00	39.75	0.75	0.01	-	0.01	-	-
		Oxide facies iron formation. Dark grey to blackish grey. Fg-mg. Weak to mod foliated (lepidoblastic foliation). Strongly magnetic. Weak pv chl, mod-strong sel bt + mag, weak sel ser, very weak sel ep. Trace to 3% dis/fof PY. 2-3% Qtz-carb-ser-chl veining (some ribbon textured) with up to 30% py within the veins +/- comb texture epidote in vein. Upper contact with Mafic to intermediate metavolcanic gradational. Lower contact with lamp dyke sharp but very irregular.		850706	39.75	40.25	0.50	0.01	-	0.01	-	-
				850707	40.25	41.00	0.75	0.01	-	0.01	-	-
				850708	41.00	42.00	1.00	0.01	-	0.01	-	-
				850709	42.00	42.70	0.70	0.01	-	0.01	-	-
				850710	42.70	43.40	0.70	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		38.75 - 43.25	SR DISS 2	Sericitization, Disseminated, Weak								
		38.75 - 43.25	EP DISS 2	Epidotization, Disseminated, Weak								
		38.75 - 43.25	BIO DISS 3	Biotitization, Disseminated, Moderate								
		38.75 - 43.25	CL PV 2	Chloritization, Pervasive, Weak								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		38.75 - 43.25	Py VN 2	Pyrite, Vein-controlled, 2%								
		38.75 - 43.25	Py DIS 2	Pyrite, Disseminated, 2%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		38.75 - 43.25	M FOL	Foliated								
		Texture Maj:	Type	Comment								
		38.75 - 43.25	HT	Heterogeneous								
		38.75 - 43.25	FG	Fine Grained (<1mm)								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		38.75 - 43.25	VN 3 100	QCSCV Quartz Carb Sericite Vein, 100%								
43.25	45.00	LAMP Lamprophyre Dyke	GRBLK									
		D										
		Lamprophyre dyke (Possibly altered mafic metavolcanic). Blackish grey. Fg -mg. Massive (weakly foliated at contacts). Mod sel bt, weak pv chl, very weak sel cb. 3% dis py. Irregular qtz-ser-chl veining (1%) and sub-parallel qtz-ser stringers up to 2mm wide (1%). 15cm of volcanoclastic/argillite unit within dyke. Upper contact with Qxide facies iron formation sharp but very irregular. Lower contact with volcanoclastic/metasediment unit sharp and slightly irregular.										
		Alteration Maj:	Type/Style/Intensity	Comment								

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	43.25 - 45.00	CB DISS 1	Carbonatization, Disseminated, Very weak									
	43.25 - 45.00	CL PV 2	Chloritization, Pervasive, Weak									
	43.25 - 45.00	BIO DISS 3	Biotitization, Disseminated, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	43.25 - 45.00	Py DIS 3	Pyrite, Disseminated, 3%									
45.00	46.40	VCLT Volcaniclastic										
		Metasediments (likely argillite/wacke with clasts)/volcaniclastic. Vfg-fg. Greenish black/dark grey. Strong irregular foliation (lepidoblastic). Mod pv chl, mod sel bt, weak sel cb + ser. 2% dis/fol py. White granitic/volcanic clasts up to 3cm sparsely throughout unit (3%). Banded/laminated texture (green/white/black laminations up to 1mm thick). Felsic-intermediate fragment at upper contact (likely associated with int dyke below underlying lamp unit). Upper contact with lamprophyre dyke sharp and slightly irregular. Lower contact with lamprophyre dyke sharp and slightly irregular.										
		Alteration Maj:	Type/Style/Intensity	Comment								
	45.00 - 46.40	SR DISS 1	Sericitization, Disseminated, Very weak									
	45.00 - 46.40	CB DISS 1	Carbonatization, Disseminated, Very weak									
	45.00 - 46.40	BIO DISS 3	Biotitization, Disseminated, Moderate									
	45.00 - 46.40	CL PV 3	Chloritization, Pervasive, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	45.00 - 46.40	Py DIS 2	Pyrite, Disseminated, 2%									
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	45.00 - 46.40	MS FOL	Foliated									
		Texture Maj:	Type	Comment								
	45.00 - 46.40	LAM	Laminated									
	45.00 - 46.40	HT	Heterogeneous									
	45.00 - 46.40	FG	Fine Grained (<1mm)									

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		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	45.00 - 46.40	1 100 QCSCV	Quartz Carb Sericite Vein, 100%									
46.40	49.05	LAMP Lamprophyre Dyke D	GRBLK									
		Lamprophyre dyke. Blackish grey. Fg -mg. Massive to very weakly foliated. Mod sel bt, weak pv chl, very weak sel cb. 1% dis py. Irregular qtz-cb stringers (<1%). Upper contact with volcanoclastic/metasediments sharp and slightly irregular. Lower contact with intermediate dyke sharp and sheared.										
		Alteration Maj:	Type/Style/Intensity	Comment								
	46.40 - 49.05	CB DISS 2	Carbonatization, Disseminated, Weak									
	46.40 - 49.05	CL PV 2	Chloritization, Pervasive, Weak									
	46.40 - 49.05	BIO DISS 3	Biotitization, Disseminated, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	46.40 - 49.05	Py DIS 1	Pyrite, Disseminated, 1%									
		Texture Maj:	Type	Comment								
	46.40 - 49.05	FG	Fine Grained (<1mm)									
	46.40 - 49.05	HT	Heterogeneous									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	46.40 - 49.05	0.1 100 QCV	Quartz-Calcite Vein, 100%									
49.05	52.80	INTD Intermediate Dyke	GY	850711	51.50	52.80	1.30	0.01	-	0.01	-	-
		Intermedite dyke (possibly meta sediments). Fg. Light grey to grey. Massive to very weakly foliated (lower half of dyke mod-strongly sheared). Weak sel ep, weak to mod sel bt, weak-mod pv chl. Trace dis PY. Epidote+chlorite stringers throughout unit (<1%). Upper contact with lamprophyre dyke sharp but sheared. Lower contact with oxide facies iron formation fairly sharp and sheared.										
		Alteration Maj:	Type/Style/Intensity	Comment								
	49.05 - 51.50	BIO DISS 2	Biotitization, Disseminated, Weak									

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	49.05 - 51.50	CL PV 1	Chloritization, Pervasive, Very weak										
	49.05 - 51.50	EP DISS 2	Epidotization, Disseminated, Weak										
	51.50 - 52.80	SR DISS 2	Sericitization, Disseminated, Weak										
	51.50 - 52.80	BIO DISS 3	Biotitization, Disseminated, Moderate										
	51.50 - 52.80	CL PV 3	Chloritization, Pervasive, Moderate										
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
	49.05 - 51.50	Py DIS 0.1	Pyrite, Disseminated, 0.1%										
	51.50 - 52.80	Py DIS 1	Pyrite, Disseminated, 1%										
		Structure Maj.:	Inte/Type/Core Angle	Comment									
	49.05 - 51.50	W FOL	Foliated										
	51.50 - 52.80	MS FOL	Foliated										
		Texture Maj:	Type	Comment									
	49.05 - 52.80	HT	Heterogeneous										
	49.05 - 52.80	FG	Fine Grained (<1mm)										
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment									
	49.05 - 52.80	FACV 0.1 100 EV	Epidote Veining, 100%										
52.80	54.75	OBIF Oxide Facies Iron Formation		DGY	850713	52.80	53.60	0.80	0.01	-	0.01	-	-
		Oxide facies iron formation (possibly magnetic metaseds). Dark grey to blackish grey. Fg. Weak to mod foliated. Strongly magnetic. Weak pv chl, very weak sel ser+bt + cb+ ep, strong pv mag. Trace to 1% dis/fo PY. 5-7% irregular Qtz-carb-ser-chl veining (irregular but sub parallel). Unit appears to have stretched out granitic/intermediate dyke fragments (5-10%). Epidote filled fractures (>1%). Upper contact with int dyke fairly sharp. Lower contact with diabase dyke sharp.			850714	53.60	54.55	0.95	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment									
	52.80 - 54.75	SR DISS 1	Sericitization, Disseminated, Very weak										
	52.80 - 54.75	BIO DISS 1	Biotitization, Disseminated, Very weak										
	52.80 - 54.75	CL PV 2	Chloritization, Pervasive, Weak										
	52.80 - 54.75	MAG DISS 4	Magnetite, Disseminated, Strong										

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		Mineralization Maj. : <i>Type/Style/%Mineral</i> Comment										
	52.80 - 54.75	Py DIS 1	Pyrite, Disseminated, 1%									
		Structure Maj.: <i>Inte/Type/Core Angle</i> Comment										
	52.80 - 54.75	M FOL	Foliated									
		Texture Maj: <i>Type</i> Comment										
	52.80 - 54.75	HT	Heterogeneous									
	52.80 - 54.75	FG	Fine Grained (<1mm)									
		Vein Maj. : <i>Style/%vein/CoreA/%min/min</i> Comment										
	52.80 - 54.75	FPV 8 100 QCSCV	Quartz Carb Sericite Vein, 100%									
54.75	55.10	DIA Diabase	BLK	850715	54.55	55.10	0.55	0.01	-	0.01	-	-
		Diabase. Aphanitic-vfg. Black. Strongly magnetic. Weak pv chl. Trace to 1% py along fractures. Upper contact with Oxide facies iron formation sharp. Lower contact with Oxide facies iron formation sharp.										
		Alteration Maj: <i>Type/Style/Intensity</i> Comment										
	54.75 - 55.10	CL PV 2	Chloritization, Pervasive, Weak									
		Mineralization Maj. : <i>Type/Style/%Mineral</i> Comment										
	54.75 - 55.10	Py FAC 0.5	Pyrite, Fracture-controlled, 0.5%									
		Texture Maj: <i>Type</i> Comment										
	54.75 - 55.10	MAS	Massive									
	54.75 - 55.10	AP	Aphanitic									
	54.75 - 55.10	HO	Homogeneous									
55.10	56.20	OBIF Oxide Facies Iron Formation	GRBLK	850716	55.10	56.20	1.10	0.01	-	0.01	-	-
		Oxide facies iron formation (possibly magnetic metaseds). Dark grey to blackish grey. Fg. Weak to mod foliated. Strongly magnetic. Weak pv chl, very weak sel ser+bt + cb+ ep+ hem, strong pv mag. Trace dis/fol PY. 13 % irregular Qtz-carb-ser-chl veining (irregular but generally parallel to foliation). Unit										

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		appears to have stretched out granitic/intermediate dyke fragments (5-10%) Upper contact with diabase sharp. Lower contact with int dyke sharp but slightly irregular.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		55.10 - 56.20	BIO DISS 1	Biotitization, Disseminated, Very weak								
		55.10 - 56.20	SR DISS 1	Sericitization, Disseminated, Very weak								
		55.10 - 56.20	CL PV 2	Chloritization, Pervasive, Weak								
		55.10 - 56.20	MAG PV 4	Magnetite, Pervasive, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		55.10 - 56.20	Py DIS 0.1	Pyrite, Disseminated, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		55.10 - 56.20	M FOL	Foliated								
		Texture Maj:	Type	Comment								
		55.10 - 56.20	FG	Fine Grained (<1mm)								
		55.10 - 56.20	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment								
		55.10 - 56.20	FPV 13 100 QCSCV	Quartz Carb Sericite Vein, 100%								
56.20	57.35	INTD Intermediate Dyke										
		Intermedite dyke. Fg. Light grey to beige. Massive to very weakly foliated. Weak pv hem, weak sel chl + bt+ser. Trace dis PY. Chl-Carb (possibly minor epidote) stringers throughout unit (<1%). Upper contact with lamprophyre dyke sharp but slightly irregular. Lower contact with oxide facies iron formation sharp but slightly irregular.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		56.20 - 57.35	BIO DISS 1	Biotitization, Disseminated, Very weak								
		56.20 - 57.35	SR DISS 1	Sericitization, Disseminated, Very weak								
		56.20 - 57.35	CL DISS 1	Chloritization, Disseminated, Very weak								
		56.20 - 57.35	HM PV 2	Hematization, Pervasive, Weak								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								

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		Texture Maj:	Type	Comment								
		56.20 - 57.35	FG	Fine Grained (<1mm)								
		56.20 - 57.35	HT	Heterogeneous								
57.35	59.75	MVOL Mafic Metavolcanic		DGY								
		Mafic to intermediate metavolcanic (possibly metasediments). Dark grey to blackish grey. Aphanitic to Fg. Weak to mod foliated. Weak to mod patchy magnetism. Weak-mod pv chl, weak sel ser+bt + cb+ ep+ hem, strong pv mag. Trace dis/fol PY. 5-7 % irregular Qtz-carb-ser-chl veining (irregular but generally parallel to foliation). Epidote filled fractures (<1%). Upper contact with int dyke sharp but slightly irregular. Lower contact with oxide facies iron formation gradational (marked by increased magnetism).										
		Alteration Maj:	Type/Style/Intensity	Comment								
		57.35 - 59.75	SR DISS 2	Sericitization, Disseminated, Weak								
		57.35 - 59.75	BIO DISS 2	Biotitization, Disseminated, Weak								
		57.35 - 59.75	CL PV 3	Chloritization, Pervasive, Moderate								
		57.35 - 59.75	MAG SPT 3	Magnetite, Spotty/Patchy, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		57.35 - 59.75	Py DIS 0.1	Pyrite, Disseminated, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		57.35 - 59.75	WM FOL	Foliated								
		Texture Maj:	Type	Comment								
		57.35 - 59.75	FG	Fine Grained (<1mm)								
		57.35 - 59.75	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment								
		57.35 - 59.75	FPV 7 100	QCSCV Quartz Carb Sericite Vein, 100%								

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59.75	61.90	OBIF Oxide Facies Iron Formation	DGY	850717	59.75	60.90	1.15	0.01	-	0.01	-	-
<p>Oxide facies iron formation. Possibly magnatic mafic-int metavolcanic/metasediments. Dark grey to blackish grey. Fg. Weak to moderately foliated. Strongly magnetic. Weak pv chl, weak-mod sel bt + ser, strong pv mag. Trace dis PY. 3-5% Qtz/Qtz-carb-ser veining (irregular but generally parallel to foliation). Unit appears to have stretched out lapillis/fragments parallel to foliation, but texture could be result of alteration and shearing. Upper contact with Mafic to intermediate metavolcanic gradational (marked by increased magnetism). Lower contact with mafic to intermediate metavolcanic gradational (marked by increased magnetism).</p>												
<p>Alteration Maj: Type/Style/Intensity Comment</p>												
59.75 - 61.90 SR DISS 2 Sericitization, Disseminated, Weak												
59.75 - 61.90 BIO DISS 2 Biotitization, Disseminated, Weak												
59.75 - 61.90 CL PV 2 Chloritization, Pervasive, Weak												
59.75 - 61.90 MAG PV 4 Magnetite, Pervasive, Strong												
<p>Mineralization Maj. : Type/Style/%Mineral Comment</p>												
59.75 - 61.90 Py DIS 0.1 Pyrite, Disseminated, 0.1%												
<p>Structure Maj.: Inte/Type/Core Angle Comment</p>												
59.75 - 61.90 M FOL Foliated												
<p>Texture Maj: Type Comment</p>												
59.75 - 61.90 FG Fine Grained (<1mm)												
59.75 - 61.90 HT Heterogeneous												
<p>Vein Maj. : Style/%vein/CoreA%/min/min Comment</p>												
59.75 - 61.90 FPV 4 60 QCSCV Quartz Carb Sericite Vein, 60%												
59.75 - 61.90 FPV 4 40 QV Quartz Vein, 40%												
61.90	65.65	MVOL Mafic Metavolcanic	DGY									
<p>Mafic to intermediate metavolcanic (possibly metasediments). Dark grey to blackish grey. Aphanitic to Fg. Weakly foliated. Weak to mod patchy magnetism. Weak pv chl, weak sel ser+bt + cb, weak sel mag. Trace dis/fo PY. 5 % irregular Qtz-carb-ser-chl veining (irregular but generally parallel to foliation). Upper contact with oxide facies iron formation gradational (marked by increased magnetism). Lower contact with diabase sharp but irregular.</p>												
<p>Alteration Maj: Type/Style/Intensity Comment</p>												

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	61.90 - 65.65	CB DISS 1	Carbonatization, Disseminated, Very weak									
	61.90 - 65.65	SR DISS 1	Sericitization, Disseminated, Very weak									
	61.90 - 65.65	BIO DISS 1	Biotitization, Disseminated, Very weak									
	61.90 - 65.65	CL PV 2	Chloritization, Pervasive, Weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	61.90 - 65.65	Py DIS 0.1	Pyrite, Disseminated, 0.1%									
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	61.90 - 65.65	W FOL	Foliated									
		Texture Maj:	Type	Comment								
	61.90 - 65.65	FG	Fine Grained (<1mm)									
	61.90 - 65.65	HT	Heterogeneous									
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment								
	61.90 - 65.65	FPV 5 100	QCSCV Quartz Carb Sericite Vein, 100%									
65.65	66.20	DIA Diabase										
		Diabase. Aphanitic-vfg. Black. Strongly magnetic. Massive. Weak pv chl. Trace to 1% py along fractures. Qtz-carb stringers (<1%). Upper contact with mafic to intermediate volcanic sharp but irregular. Lower contact with mafic to intermediate volcanic sharp and slightly irregular.										
		Alteration Maj:	Type/Style/Intensity	Comment								
	65.65 - 66.20	CL PV 2	Chloritization, Pervasive, Weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	65.65 - 66.20	Py DIS 0.5	Pyrite, Disseminated, 0.5%									
		Texture Maj:	Type	Comment								
	65.65 - 66.20	MAS	Massive									
	65.65 - 66.20	FG	Fine Grained (<1mm)									
	65.65 - 66.20	HO	Homogeneous									

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66.20	67.05	MVOL Mafic Metavolcanic	DGY									
<p>Mafic to intermediate metavolcanic (possibly metasediments). Dark grey to blackish grey. Aphanitic to Fg. Weak to moderately foliated. Weak to mod patchy magnetism. Weak pv chl, weak sel ser+bt+hem, weak sel mag. Trace dis/fo PY. 2 % irregular Qtz-carb-ser-chl veining (irregular but generally parallel to foliation). Upper contact with diabase sharp and slightly irregular. Lower contact with diabase sharp but irregular.</p>												
<p>Alteration Maj: Type/Style/Intensity Comment</p>												
66.20 - 67.05 MAG DISS 2 Magnetite, Disseminated, Weak												
66.20 - 67.05 SR DISS 2 Sericitization, Disseminated, Weak												
66.20 - 67.05 BIO DISS 2 Biotitization, Disseminated, Weak												
66.20 - 67.05 CL PV 2 Chloritization, Pervasive, Weak												
<p>Mineralization Maj. : Type/Style/%Mineral Comment</p>												
66.20 - 67.05 Py DIS 0.1 Pyrite, Disseminated, 0.1%												
<p>Structure Maj.: Inte/Type/Core Angle Comment</p>												
66.20 - 67.05 M FOL Foliated												
<p>Texture Maj: Type Comment</p>												
66.20 - 67.05 HT Heterogeneous												
66.20 - 67.05 FG Fine Grained (<1mm)												
<p>Vein Maj. : Style/%vein/CoreA/%min/min Comment</p>												
66.20 - 67.05 FPV 2 100 QCSCV Quartz Carb Sericite Vein, 100%												
67.05	97.45	DIA Diabase	DGY									
<p>Diabase. Fg-mg (chill margins). Black to dark grey. Massive. Strongly magnetic. Weak pv chl, weak sel bt. Trace to 1% dis py. Chl-carb stringers (<1%). Upper contact with mafic to intermediate metavolcanic sharp but irregular. Lower contact with Gabbro/Mafic to intermediate metavolcanic fairly sharp but diffuse.</p>												
<p>Alteration Maj: Type/Style/Intensity Comment</p>												
67.05 - 97.45 BIO DISS 2 Biotitization, Disseminated, Weak												

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	67.05 - 97.45	CL PV 2	Chloritization, Pervasive, Weak									
	Mineralization Maj. :	Type/Style/%Mineral	Comment									
	67.05 - 97.45	Py DIS 0.5	Pyrite, Disseminated, 0.5%									
	Texture Maj:	Type	Comment									
	67.05 - 97.45	HT	Heterogeneous									
	67.05 - 97.45	MAS	Massive									
	67.05 - 97.45	FG	Fine Grained (<1mm)									
97.45	106.00	OBIF Oxide Facies Iron Formation	DGY	850718	99.00	100.00	1.00	0.01	-	0.01	-	-
		Oxide facies iron formation. Dark grey to blackish grey. Fg-mg. Weak to mod foliated. Strongly magnetic (slightly patchy). Weak pv chl, mod-strong sel amphibole (possibly bt alt) + mag, weak sel ser, very weak-mod sel ep + hem (in fragments/clasts/qtz veins). Trace to 3% dis/fo/vn/PY. 2-3% Qtz-cb-hem-ser-chl-ep veining. Possible granitic/felsic fragments/clasts in unit that have been slightly dissolved/stretched out(5-7%). Upper contact with diabse sharp but irregular. Lower contact with mafic-intermediate volcanic/gabbro unit gradational (marked by increase in magnetism)		850719	100.00	100.50	0.50	0.01	-	0.01	-	-
				850720	100.50	101.00	0.50	0.01	-	0.01	-	-
				850721	101.00	102.00	1.00	0.01	-	0.01	-	-
				850722	102.00	102.70	0.70	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	850723	102.70	103.30	0.60	0.01	-	0.01	-
	97.45 - 106.00	MAG SEL 4	Magnetite, Selective, Strong	850725	103.30	104.00	0.70	0.01	-	0.01	-	-
	97.45 - 106.00	EP SEL 2	Epidotization, Selective, Weak	850726	104.00	105.00	1.00	0.01	-	0.01	-	-
	97.45 - 106.00	HM SEL 2	Hematization, Selective, Weak									
	97.45 - 106.00	AM SEL 4	Amphibolitization, Selective, Strong									
	Mineralization Maj. :	Type/Style/%Mineral	Comment									
	97.45 - 106.00	Py VN 0.5	Pyrite, Vein-controlled, 0.5%									
	97.45 - 106.00	Py DIS 3	Pyrite, Disseminated, 3%									
	Structure Maj.:	Inte/Type/Core Angle	Comment									
	97.45 - 106.00	WM FOL	Foliated									
	Texture Maj:	Type	Comment									

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	97.45 - 106.00	HT	Heterogeneous									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	97.45 - 106.00	VN 2	100 QEV	Quartz-Epidote, 100%								
106.00	110.90	MVOL Mafic Metavolcanic	GG	850727	108.00	109.50	1.50	0.01	-	0.01	-	-
		Mafic to intermediate metavolcanic (possibly gabbro/gabbro breccia). Dark grey to greenish grey. Fg-mg. Weak to moderately foliated (nematoblastic foliation? Aligned amphiboles). Weak to mod patchy magnetism. Mod-strong sel amphibole alt, Weak pv chl, weak sel ser+bt, weak sel mag. Trace dis/fo/vnl PY. 1-2% subparallel Qtz-carb-ser-chl-ep-hem veining. Possible granitic/felsic fragments/clasts in unit that have been slightly dissolved/stretched out(2-4%) Upper contact with oxide facies iron formation gradational (marked by increase in magnetism). Lower contact with oxide facies iron formation gradational (marked by increase in magnetism).		850728	109.50	110.90	1.40	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
	106.00 - 110.90	SR SEL 1		Sericitization, Selective, Very weak								
	106.00 - 110.90	BIO SEL 2		Biotitization, Selective, Weak								
	106.00 - 110.90	CL PV 2		Chloritization, Pervasive, Weak								
	106.00 - 110.90	AM SEL 4		Amphibolitization, Selective, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	106.00 - 110.90	Py VN 0.1		Pyrite, Vein-controlled, 0.1%								
	106.00 - 110.90	Py DIS 1		Pyrite, Disseminated, 1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	106.00 - 110.90	WM FOL		Foliated								
		Texture Maj:	Type	Comment								
	106.00 - 110.90	FG		Fine Grained (<1mm)								
	106.00 - 110.90	HT		Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	106.00 - 110.90	VN 1	100 QEV	Quartz-Epidote, 100%								

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110.90	113.70	OBIF Oxide Facies Iron Formation	DGY	850729	110.90	112.00	1.10	0.01	-	0.01	-	-
		Oxide facies iron formation. Dark grey to blackish grey. Fg-mg. Weak to mod foliated. Strongly magnetic. Weak pv chl, mod-strong sel amphibole (possibly bt alt) + mag, weak sel ser, very weak-mod sel ep. Trace to 3% dis/fo/vn/PY. 1% Qtz-cb-hem-ser-chl-ep veining. Possible granitic/felsic fragments/clasts in unit that have been slightly dissolved/stretched out(2-5%). Upper contact with mafic-intermediate volcanic gradational (marked by increased magnetism). Lower contact with mafic-intermediate volcanic diffuse and sheared.		850730	112.00	113.00	1.00	0.01	-	0.01	-	-
				850731	113.00	113.70	0.70	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		110.90 - 113.70	AM SEL 3	Amphibolitization, Selective, Moderate								
		110.90 - 113.70	BIO SEL 2	Biotitization, Selective, Weak								
		110.90 - 113.70	SR SEL 2	Sericitization, Selective, Weak								
		110.90 - 113.70	MAG SEL 3	Magnetite, Selective, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		110.90 - 113.70	Py VN 0.4	Pyrite, Vein-controlled, 0.4%								
		110.90 - 113.70	Py DIS 3	Pyrite, Disseminated, 3%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		110.90 - 113.70	WM FOL	Foliated								
		Texture Maj:	Type	Comment								
		110.90 - 113.70	FG	Fine Grained (<1mm)								
		110.90 - 113.70	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		110.90 - 113.70	VN 2 50 QEV	Quartz-Epidote, 50%								
		110.90 - 113.70	VN 2 50 QCHLV	Quartz-Chlorite Vein, 50%								
113.70	127.50	MVOL Mafic Metavolcanic	GG	850732	119.50	121.00	1.50	0.01	-	0.01	-	-
		Mafic to intermediate metavolcanic (likely massive flow). Green-grey to dark green grey. Fg. Weak to moderately foliated. Weak to mod pv chl (section with mod-strong pv chl/talc alt+weak pv silica alt), weak sel bt + ser + cb. Trace to 1% dis Py. Irregular but qtz-cb-ser veinlets/stringers throughout unit (2-3%). Upper contact with oxide facies iron formation diffuse and sheared. Lower contact with Lamprophyre dyke faulted (20cm of fault in volcanics @ contact).		850733	126.00	127.50	1.50	0.01	-	0.01	-	-

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		Alteration Maj:	Type/Style/Intensity	Comment								
113.70	123.00	CB SEL 1		Carbonatization, Selective, Very weak								
113.70	123.00	SR SEL 2		Sericitization, Selective, Weak								
113.70	123.00	BIO SEL 2		Biotitization, Selective, Weak								
113.70	123.00	CL PV 2		Chloritization, Pervasive, Weak								
123.00	126.00	BIO SEL 1		Biotitization, Selective, Very weak								
123.00	126.00	SR SEL 2		Sericitization, Selective, Weak								
123.00	126.00	SI PV 2		Silicification, Pervasive, Weak								
123.00	126.00	CL PV 3		Chloritization, Pervasive, Moderate								
126.00	127.50	CB SEL 1		Carbonatization, Selective, Very weak								
126.00	127.50	BIO SEL 2		Biotitization, Selective, Weak								
126.00	127.50	SR SEL 2		Sericitization, Selective, Weak								
126.00	127.50	CL PV 3		Chloritization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
113.70	127.50	Py DIS 0.5		Pyrite, Disseminated, 0.5%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
113.70	127.50	M FOL		Foliated								
		Texture Maj:	Type	Comment								
113.70	127.50	FG		Fine Grained (<1mm)								

127.50 131.90

LAMP Lamprophyre Dyke
D

GRBLK

Lamprophyre dyke. Blackish grey. Fg -mg. Weakly foliated. Mod sel bt, weak pv chl, very weak sel cb. trace dis py. Irregular qtz-cb stringers (<1%). 10cm of mafic volcanics @ 129.95. Upper contact with mafic-intermediate volcanics faulted (20cm of fault in volcanics @ contact). Lower contact with mafic-intermediate volcanics sharp but irregular.

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		Alteration Maj:	Type/Style/Intensity	Comment								
	127.50 - 131.90	CL PV 2		Chloritization, Pervasive, Weak								
	127.50 - 131.90	CB SEL 2		Carbonatization, Selective, Weak								
	127.50 - 131.90	BIO SEL 3		Biotitization, Selective, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	127.50 - 131.90	Py DIS 0.2		Pyrite, Disseminated, 0.2%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	127.50 - 131.90	W FOL		Foliated								
		Texture Maj:	Type	Comment								
	127.50 - 131.90	FG		Fine Grained (<1mm)								
	127.50 - 131.90	HT		Heterogeneous								
131.90	139.70	MVOL Mafic Metavolcanic		GG	850734	138.20	139.70	1.50	0.01	-	0.01	-
		Mafic to intermediate metavolcanic. Green-grey to dark green grey. Fg. moderately foliated. Mod pv chl, weak-mod sel bt + ser. Trace dis/vn py. Irregular (generally parallel to foliation) qtz-cb-ser veinlets/stringers throughout unit (2-3%). Small lamp dykes (3%, up to 13cm) @ top of unit (first 1.5m) near main lamprophyre dyke. Upper contact with lamprophyre dyke sharp but irregular. Lower contact with sulphide facies iron formation fairly sharp.										
		Alteration Maj:	Type/Style/Intensity	Comment								
	131.90 - 139.70	BIO SEL 2		Biotitization, Selective, Weak								
	131.90 - 139.70	SR SEL 2		Sericitization, Selective, Weak								
	131.90 - 139.70	CL PV 3		Chloritization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	131.90 - 139.70	Py VN 0.1		Pyrite, Vein-controlled, 0.1%								
	131.90 - 139.70	Py DIS 0.1		Pyrite, Disseminated, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	131.90 - 139.70	M FOL		Foliated								

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		Texture Maj:	Type	Comment									
		131.90 - 139.70	FG	Fine Grained (<1mm)									
		131.90 - 139.70	HT	Heterogeneous									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment									
		131.90 - 139.70	FPV 2 100	QCSCV Quartz Carb Sericite Vein, 100%									
139.70	143.65	SBIF Sulphide Facies Iron Formation		GRBLK	850735	139.70	140.70	1.00	0.01	-	0.01	-	-
		Sulphide facies iron formation. Possibly oxide facies iron formation with increased sulphide content. Vfg- fg. Dark grey to blackish grey. Moderately foliated (irregular/wavy). Intensely magnetic. 10-14% Py + trace cpy dis/fol/vn. Weak-mod pv chl, strong pv mag, weak sel cb. 25-30 % Qtz/Qtz-carb-ser veining (some with massive py). 1m section of more mafic-intermediate metavolcanic looking rock from 140.7- 141.85m but still strongly magnetic and contacts are gradational. Upper contact with Mafic-intermediate metavolcanic fairly sharp. Lower contact with mafic-intermediate metavolcanic sharp but slightly irregular.			850737	140.70	141.85	1.15	0.01	-	0.01	-	-
					850738	141.85	142.85	1.00	0.01	-	0.01	-	-
					850739	142.85	143.65	0.80	0.02	-	0.02	-	-
		Alteration Maj:	Type/Style/Intensity	Comment									
		139.70 - 143.65	BIO SEL 1	Biotitization, Selective, Very weak									
		139.70 - 143.65	SR SEL 2	Sericitization, Selective, Weak									
		139.70 - 143.65	CL PV 2	Chloritization, Pervasive, Weak									
		139.70 - 143.65	MAG PV 4	Magnetite, Pervasive, Strong									
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
		139.70 - 143.65	Py FOL 4	Pyrite, Along foliation, 4%									
		139.70 - 143.65	Py VN 10	Pyrite, Vein-controlled, 10%									
		Structure Maj.:	Inte/Type/Core Angle	Comment									
		139.70 - 143.65	M FOL	Foliated									
		Texture Maj:	Type	Comment									
		139.70 - 143.65	FG	Fine Grained (<1mm)									
		139.70 - 143.65	HT	Heterogeneous									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment									
		139.70 - 143.65	STWV 30 50	QCPV Quartz Carb Pyrite Vein, 50%									
		139.70 - 143.65	STWV 30 50	QCSCV Quartz Carb Sericite Vein, 50%									

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143.65	155.50	MVOL Mafic Metavolcanic	GG	850740	145.80	146.30	0.50	0.01	-	0.01	-	-
		Mafic to intermediate metavolcanic. Green-grey to dark green grey. Fg. Moderately foliated. Weak-mod pv chl, weak -mod sel bt + ser, weak-mod pv cb. Trace dis/vn py. Irregular (generally parallel to foliation) qtz-cb-ser veinlets/stringers throughout unit (3-5%). Upper contact with sulphide facies iron formation sharp but slightly irregular. Lower contact with lamprophyre dyke sharp.		850741	149.50	150.25	0.75	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		143.65 - 155.50	BIO SEL 2	Biotitization, Selective, Weak								
		143.65 - 155.50	SR SEL 3	Sericitization, Selective, Moderate								
		143.65 - 155.50	CB PV 2	Carbonatization, Pervasive, Weak								
		143.65 - 155.50	CL PV 3	Chloritization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		143.65 - 155.50	Py VN 0.1	Pyrite, Vein-controlled, 0.1%								
		143.65 - 155.50	Py DIS 0.1	Pyrite, Disseminated, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		143.65 - 155.50	M FOL	Foliated								
		Texture Maj:	Type	Comment								
		143.65 - 155.50	FG	Fine Grained (<1mm)								
		143.65 - 155.50	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		143.65 - 155.50	FPV 4 100	QCSCV Quartz Carb Sericite Vein, 100%								
155.50	157.05	LAMP Lamprophyre Dyke	GRBLK									
		D										
		Lamprophyre dyke. Blackish grey. Fg -mg. Weak-moderately foliated. Mod sel bt, weak pv chl, very weak sel cb. 1% dis py. Irregular qtz-cb stringers (<1%). Upper contact with mafic -intermediate volcanic sharp. Lower contact with mafic-intermediate volcanics sharp.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		155.50 - 157.05	CB SEL 2	Carbonatization, Selective, Weak								

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	155.50 - 157.05	CL PV 2	Chloritization, Pervasive, Weak										
	155.50 - 157.05	BIO SEL 3	Biotitization, Selective, Moderate										
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
	155.50 - 157.05	Py DIS 1	Pyrite, Disseminated, 1%										
		Structure Maj.:	Inte/Type/Core Angle	Comment									
	155.50 - 157.05	WM FOL	Foliated										
		Texture Maj:	Type	Comment									
	155.50 - 157.05	FG	Fine Grained (<1mm)										
	155.50 - 157.05	HT	Heterogeneous										
157.05	214.60	MVOL Mafic Metavolcanic		GG									
		Mafic to intermediate metavolcanic. Green-grey to dark green grey. Fg. Moderately foliated. Weak patchy magnetism. Weak-mod pv chl, weak -mod sel bt + ser, weak-mod pv cb. Trace dis/vn py. Irregular (generally parallel to foliation) qtz-cb-ser veinlets/stringers throughout unit (3-5%) before 166.3m. Strongly sheared and folded between 166.3m and 183.25m with 30-35% qtz-carb-ser veinlets/stringeres along shear/folding with trace py in veins. Small sheared lamp dykes throughout unit up to 45cm (2-3%). Pinkish qtz-carb veining (may be small pegmatitic QDR dykes or granitoid fragments) throughout unit after 183.25m (3-5%). Upper contact with lamprophyre dyke sharp. Lower contact with intermediate dyke sharp but irregular.			850742	158.50	159.00	0.50	0.01	-	0.01	-	-
					850743	163.65	164.25	0.60	0.01	-	0.01	-	-
					850744	164.25	165.50	1.25	0.01	-	0.01	-	-
					850745	165.50	167.00	1.50	0.01	-	0.01	-	-
					850746	167.00	168.50	1.50	0.01	-	0.01	-	-
					850747	168.50	170.00	1.50	0.01	-	0.01	-	-
					850749	170.00	171.50	1.50	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment									
	157.05 - 187.50	CB PV 2	Carbonatization, Pervasive, Weak		850750	177.00	178.00	1.00	0.01	-	0.01	-	-
	157.05 - 187.50	BIO SEL 2	Biotitization, Selective, Weak		850751	180.00	181.40	1.40	0.01	-	0.01	-	-
	157.05 - 187.50	SR SEL 3	Sericitization, Selective, Moderate		850752	183.85	185.00	1.15	0.01	-	0.01	-	-
	157.05 - 187.50	CL PV 3	Chloritization, Pervasive, Moderate		850753	185.00	186.00	1.00	0.01	-	0.01	-	-
	157.05 - 187.50	CL PV 3	Chloritization, Pervasive, Moderate		850754	186.00	187.00	1.00	0.01	-	0.01	-	-
	187.50 - 203.00	EP SEL 1	Epidotization, Selective, Very weak		850755	187.00	188.20	1.20	0.01	-	0.01	-	-
	187.50 - 203.00	BIO SEL 2	Biotitization, Selective, Weak		850756	193.60	195.00	1.40	0.02	-	0.02	-	-
	187.50 - 203.00	SR PV 3	Sericitization, Pervasive, Moderate		850757	196.00	197.00	1.00	0.01	-	0.01	-	-
	187.50 - 203.00	CL PV 2	Chloritization, Pervasive, Weak		850758	212.00	213.00	1.00	0.01	-	0.01	-	-

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<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
	203.00 - 214.60	EP SEL 2	Epidotization, Selective, Weak	850759	213.00	213.85	0.85	0.01	-	0.01	-	-
	203.00 - 214.60	BIO SEL 3	Biotitization, Selective, Moderate	850761	213.85	214.75	0.90	0.01	-	0.01	-	-
	203.00 - 214.60	SR SEL 2	Sericitization, Selective, Weak									
	203.00 - 214.60	CL PV 3	Chloritization, Pervasive, Moderate									
	Mineralization Maj. :		Type/Style/%Mineral	Comment								
	157.05 - 183.85	Py FOL 0.1	Pyrite, Along foliation, 0.1%									
	157.05 - 183.85	Py VN 0.1	Pyrite, Vein-controlled, 0.1%									
	183.85 - 195.00	Py DIS 0.5	Pyrite, Disseminated, 0.5%									
	183.85 - 195.00	Py VN 1	Pyrite, Vein-controlled, 1%									
	195.00 - 214.60	Py DIS 0.1	Pyrite, Disseminated, 0.1%									
	195.00 - 214.60	Py VN 0.1	Pyrite, Vein-controlled, 0.1%									
	Structure Maj.:		Inte/Type/Core Angle	Comment								
	157.05 - 166.30	WM FOL	Foliated									
	166.30 - 183.30	S FOL	Foliated									
	183.30 - 214.60	WM FOL	Foliated									
	Texture Maj:		Type	Comment								
	157.05 - 214.60	FG	Fine Grained (<1mm)									
	157.05 - 214.60	HT	Heterogeneous									
	Vein Maj. :		Style/%vein/CoreA/%min/min	Comment								
	157.05 - 166.30	VN 2 100	QCSCV Quartz Carb Sericite Vein, 100%									
	166.30 - 184.00	FPV 19 100	QCSCV Quartz Carb Sericite Vein, 100%									
214.60	216.35	INTD Intermediate Dyke		GY	850762	214.75	216.00	1.25	0.01	-	0.01	-
	Intermediate dyke. Possibly crystal tuff or metasediments. Aphanitic to vfg. Grey. Moderately foliated. Weak pv chl, weak pv si, mod ser fol. Small blue quartz eyes up to 3mm (5-7%). Upper contact with mafic-intermediate metavolcanics sharp but irregular. Lower contact with Mafic-intermediate metavolcanic diffuse and sheared.											
	Alteration Maj:		Type/Style/Intensity	Comment								

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	214.60 - 216.35	SR FP 3	Sericitization, Along Foliation Planes, Moderate										
	214.60 - 216.35	SI PV 2	Silicification, Pervasive, Weak										
	214.60 - 216.35	CL PV 2	Chloritization, Pervasive, Weak										
		Structure Maj.:	Inte/Type/Core Angle	Comment									
	214.60 - 216.35	M FOL	Foliated										
		Texture Maj.:	Type	Comment									
	214.60 - 216.35	HT	Heterogeneous										
	214.60 - 216.35	FG	Fine Grained (<1mm)										
	214.60 - 216.35	AUG	Augen										
216.35	219.85	MVOL Mafic Metavolcanic		DGR	850763	216.00	217.00	1.00	0.01	-	0.01	-	-
		Mafic to intermediate metavolcanic. Green-grey to dark green. Fg. Weak to moderately foliated. Weak-mod patchy magnetism. Mod-strong pv chl, weak sel mag, weak -mod sel bt + ser, weak sel cb. 1% py vn/dis. Irregular (generally parallel to foliation) qtz-cb-ser veinlets/stringers throughout unit (1-2%). Pinkish qtz-carb veining (may be small pegmatitic QDR dykes or granitoid fragments) throughout unit (3-5%) Upper contact with intermediate dyke diffuse, sheared and 35cm zone of cubic Py and garnets @ contact. Lower contact with lamprophyre dyke sharp but irregular (13cm Qtz-cb-py vein @ contact).			850764	217.00	218.50	1.50	0.01	-	0.01	-	-
					850765	218.50	219.85	1.35	0.01	-	0.01	-	-
		Alteration Maj.:	Type/Style/Intensity	Comment									
	216.35 - 219.85	CB SEL 1	Carbonatization, Selective, Very weak										
	216.35 - 219.85	SR SEL 2	Sericitization, Selective, Weak										
	216.35 - 219.85	BIO SEL 2	Biotitization, Selective, Weak										
	216.35 - 219.85	CL PV 4	Chloritization, Pervasive, Strong										
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
	216.35 - 219.85	Py DIS 0.3	Pyrite, Disseminated, 0.3%										
	216.35 - 219.85	Py VN 0.7	Pyrite, Vein-controlled, 0.7%										
		Structure Maj.:	Inte/Type/Core Angle	Comment									

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	216.35 - 219.85	M FOL	Foliated										
		Texture Maj:	Type	Comment									
	216.35 - 219.85	FG	Fine Grained (<1mm)										
	216.35 - 219.85	HT	Heterogeneous										
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment									
	216.35 - 219.85	FACV	1 100 QCSCV	Quartz Carb Sericite Vein, 100%									
219.85	220.80	LAMP D Lamprophyre Dyke		GRBLK	850766	219.85	220.80	0.95	0.01	-	0.01	-	-
		Lamprophyre dyke (possibly other type of mafic dyke). Fg. Grey-black. Massive (weakly sheared at contacts). 1-2% diss py. Weak sel cb, weak-mod pv chl, mod sel bt. Upper contact with mafic-intermediate metavolcanics fairly sharp but irregular. Lower contact with mafic-intermediate metavolcanics sharp and weakly sheared.											
		Alteration Maj:	Type/Style/Intensity	Comment									
	219.85 - 220.80	BIO	SEL 2	Biotitization, Selective, Weak									
	219.85 - 220.80	CL	PV 2	Chloritization, Pervasive, Weak									
	219.85 - 220.80	CB	SEL 2	Carbonatization, Selective, Weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
	219.85 - 220.80	Py	DIS 2	Pyrite, Disseminated, 2%									
		Texture Maj:	Type	Comment									
	219.85 - 220.80	HO		Homogeneous									
	219.85 - 220.80	FG		Fine Grained (<1mm)									
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment									
	219.85 - 220.80	VN	1 100 QCV	Quartz-Calcite Vein, 100%									
220.80	244.50	MVOL Mafic Metavolcanic		GG	850767	220.80	222.00	1.20	0.01	-	0.01	-	-
		Mafic to intermediate metavolcanic. (possibly ultramafic volcanics). Green-grey to dark green. Vfg- Fg. Weak to moderately foliated. Mod-strong patchy magnetism from 220.8-231.5m. Mod-strong pv chl											

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<p>(possibly also semi pervasive mod talc alt?), weak-mod sel bt + ser, weak sel cb. Trace to 1% dis/vn/fo py. Irregular (generally parallel to foliation) qtz-cb-ser veinlets/stringers throughout unit (5-7%). Small sheared lamp dykes throughout unit up to 30cm (3-5%). Upper contact with lamprophyre dyke sharp and weakly sheared. Lower contact with diabase sharp.</p>												
Alteration Maj:		Type/Style/Intensity	Comment									
220.80 - 234.30		CB SEL 1	Carbonatization, Selective, Very weak									
220.80 - 234.30		BIO SEL 2	Biotitization, Selective, Weak									
220.80 - 234.30		SR SEL 2	Sericitization, Selective, Weak									
220.80 - 234.30		CL PV 3	Chloritization, Pervasive, Moderate									
234.30 - 244.50		CB SEL 1	Carbonatization, Selective, Very weak									
234.30 - 244.50		BIO SEL 1	Biotitization, Selective, Very weak									
234.30 - 244.50		SR SEL 2	Sericitization, Selective, Weak									
234.30 - 244.50		CL PV 3	Chloritization, Pervasive, Moderate									
Mineralization Maj. :		Type/Style/%Mineral	Comment									
220.80 - 244.50		Py DIS 0.5	Pyrite, Disseminated, 0.5%									
220.80 - 244.50		Py VN 0.3	Pyrite, Vein-controlled, 0.3%									
Structure Maj.:		Inte/Type/Core Angle	Comment									
220.80 - 227.00		M FOL	Foliated									
227.00 - 244.50		WM FOL	Foliated									
Texture Maj:		Type	Comment									
220.80 - 244.50		FG	Fine Grained (<1mm)									
220.80 - 244.50		HT	Heterogeneous									
Vein Maj. :		Style%/vein/CoreA%/min/min	Comment									
220.80 - 226.00		FPV 20 100 QCSCV	Quartz Carb Sericite Vein, 100%									
226.00 - 244.50		FACV 3 100 QCSCV	Quartz Carb Sericite Vein, 100%									
244.50	259.50	DIA Diabase	BLK									
Diabase. Vfg-fg. Black. Strongly magnetic. Massive. Weak pv chl. 1% Py diss/along fractures. Upper												

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		contact with mafic-intermediate metavolcanic sharp. Lower contact with mafic-intermediate metavolcanic sharp.											
		Alteration Maj:	Type/Style/Intensity	Comment									
		244.50 - 259.50	BIO SEL 2	Biotitization, Selective, Weak									
		244.50 - 259.50	CL PV 2	Chloritization, Pervasive, Weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
		244.50 - 259.50	Py DIS 1	Pyrite, Disseminated, 1%									
		Structure Maj.:	Inte/Type/Core Angle	Comment									
		244.50 - 259.50	MAS	Massive									
		Texture Maj:	Type	Comment									
		244.50 - 259.50	FG	Fine Grained (<1mm)									
		244.50 - 259.50	HO	Homogeneous									
259.50	264.35	IVOL Intermediate Metavolcanic		LGY	850768	260.00	261.00	1.00	0.01	-	0.01	-	-
		Felsic to intermediate metavolcanic/volcaniclastic. Light grey to light green. Fg. Moderate to strongly foliated. Mod pv si (qtz flooded?), Mod-strong sel ser, Weak-mod sel chl, weak sel hem, very weak sel bt. 1-2% py vn/dis. Irregular qtz-cb veining throughout unit (2-4%). Qtz-chl stringers throughout unit along foliation with silica-sericite alteration halos giving unit banded texture. Upper contact with diabase dyke sharp. Lower contact with mafic-intermediate metavolcanic diffuse.											
					850769	261.00	262.00	1.00	0.01	-	0.01	-	-
					850770	262.00	263.00	1.00	0.01	-	0.01	-	-
					850771	263.00	264.35	1.35	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment									
		259.50 - 264.35	HM SEL 2	Hematization, Selective, Weak									
		259.50 - 264.35	CL SEL 2	Chloritization, Selective, Weak									
		259.50 - 264.35	SR SEL 4	Sericitization, Selective, Strong									
		259.50 - 264.35	SI PV 3	Silicification, Pervasive, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
		259.50 - 264.35	Py VN 0.3	Pyrite, Vein-controlled, 0.3%									
		259.50 - 264.35	Py DIS 1	Pyrite, Disseminated, 1%									

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		Structure Maj.:	Inte/Type/Core Angle	Comment								
		259.50 - 264.35	M FOL	Foliated								
		Texture Maj:	Type	Comment								
		259.50 - 264.35	FG	Fine Grained (<1mm)								
		259.50 - 264.35	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment								
		259.50 - 264.35	VN 2 100 QCV	Quartz-Calcite Vein, 100%								
264.35	266.00	MVOL Mafic Metavolcanic		GY								
		Mafic to intermediate metavolcanic. Green-grey to dark green. Fg. Moderate to strongly foliated. Weak patchy magnetism. Mod pv chl, weak sel mag, mod-strong sel ser, mod sel bt. Trace dis PY. Irregular (generally parallel to foliation) qtz-chl-ser veinlets/stringers throughout unit (5-7%). Upper contact with felsic to intermediate metavolcanic diffuse. Lower contact with oxide facies iron formation gradational and marked by change in magnetism.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		264.35 - 266.00	MAG SEL 2	Magnetite, Selective, Weak								
		264.35 - 266.00	BIO SEL 3	Biotitization, Selective, Moderate								
		264.35 - 266.00	SR SEL 4	Sericitization, Selective, Strong								
		264.35 - 266.00	CL PV 3	Chloritization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		264.35 - 266.00	Py DIS 0.1	Pyrite, Disseminated, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		264.35 - 266.00	MS FOL	Foliated								
		Texture Maj:	Type	Comment								
		264.35 - 266.00	FG	Fine Grained (<1mm)								
		264.35 - 266.00	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment								
		264.35 - 266.00	FPV 7 10 QV	Quartz Vein, 10%								

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	264.35 - 266.00	FPV 7 90 QCHLV	Quartz-Chlorite Vein, 90%									
266.00	268.30	OBIF Oxide Facies Iron Formation	GRBLK	850773	266.80	268.30	1.50	0.01	-	0.01	-	-
		Oxide facies iron formation. Dark grey to greenish grey. Fg. Weak to mod foliated. Strongly magnetic. mod pv chl, mod-strong sel mag, weak sel ser+bt, very weak sel cb. Trace to 2% dis/vn PY. 3% Qtz-chl veining generally parallel to foliation but slightly irregular. Upper contact with mafic-intermediate metavolcanic gradational (marked by increased magnetism). Lower contact with mafic-intermediate metavolcanic gradational (marked by increased magnetism).										
		Alteration Maj:	Type/Style/Intensity	Comment								
		266.00 - 268.30	SR SEL 2	Sericitization, Selective, Weak								
		266.00 - 268.30	BIO SEL 2	Biotitization, Selective, Weak								
		266.00 - 268.30	MAG SEL 4	Magnetite, Selective, Strong								
		266.00 - 268.30	CL PV 3	Chloritization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		266.00 - 268.30	Py VN 0.2	Pyrite, Vein-controlled, 0.2%								
		266.00 - 268.30	Py DIS 1.5	Pyrite, Disseminated, 1.5%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		266.00 - 268.30	WM FOL	Foliated								
		Texture Maj:	Type	Comment								
		266.00 - 268.30	FG	Fine Grained (<1mm)								
		266.00 - 268.30	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		266.00 - 268.30	FPV 3 100 QCHLV	Quartz-Chlorite Vein, 100%								
268.30	275.60	MVOL Mafic Metavolcanic	GG	850774	270.00	271.50	1.50	0.01	-	0.01	-	-
		Mafic to intermediate metavolcanic. Green-grey to dark green. Vfg- Fg. Weak to Moderately foliated. Weak-mod patchy magnetism. Weak-mod pv chl, weak sel mag, weak-mod sel ser+ bt. Trace dis/vn PY. Irregular qtz-chl-ser veinlets/stringers throughout unit (2-4%). Upper contact with oxide facies iron formation gradational (marked by increased magnetism). Lower contact with oxide facies iron formation gradational (marked by change in magnetism).										

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		Alteration Maj:	Type/Style/Intensity										
268.30	275.60	MAG SEL 1											
268.30	275.60	BIO SEL 2											
268.30	275.60	SR SEL 2											
268.30	275.60	CL PV 2											
		Mineralization Maj. :	Type/Style/%Mineral										
268.30	275.60	Py VN 0.1											
268.30	275.60	Py DIS 0.1											
		Structure Maj.:	Inte/Type/Core Angle										
268.30	275.60	WM FOL											
		Texture Maj:	Type										
268.30	275.60	FG											
268.30	275.60	HT											
		Vein Maj. :	Style/%vein/CoreA/%min/min										
268.30	275.60	VN 2 100	QCSCV										
275.60	281.75	OBIF Oxide Facies Iron Formation		DGY	850775	275.60	277.00	1.40	0.01	-	0.01	-	-
		Oxide facies iron formation. Dark grey to greenish grey. Fg. Very weak to weakly foliated. Strongly magnetic (sometimes patchy). Weak-mod pv chl, mod-strong sel mag, weak sel ser+bt. Trace to 1% dis/vn PY. 4% Qtz-ser-cb irregular veining. Small sections of what appear to be granitoid intrusive rock (possibly dyking). Upper contact with mafic-intermediate metavolcanic gradational (marked by increased magnetism). Lower contact with mafic-intermediate metavolcanic gradational (marked by increased magnetism).											
275.60	281.75	BIO SEL 2											
275.60	281.75	SR SEL 2											
275.60	281.75	MAG SEL 4											
275.60	281.75	CL PV 2											

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-002**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)	
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
		275.60 - 281.75	Py VN 0.5	Pyrite, Vein-controlled, 0.5%									
		275.60 - 281.75	Py DIS 0.1	Pyrite, Disseminated, 0.1%									
		Structure Maj.:	Inte/Type/Core Angle	Comment									
		275.60 - 281.75	WM FOL	Foliated									
		Texture Maj:	Type	Comment									
		275.60 - 281.75	FG	Fine Grained (<1mm)									
		275.60 - 281.75	HT	Heterogeneous									
		Vein Maj. :	Style%/vein/CoreA%/min/min	Comment									
		275.60 - 281.75	VN 4 100 QCSCV	Quartz Carb Sericite Vein, 100%									
281.75	285.75	MVOL Mafic Metavolcanic		DGY	850778	284.00	285.00	1.00	0.01	-	0.01	-	-
		<p>Mafic to intermediate metavolcanic that is possibly brecciated from granitoid intrusive rock. Very odd unit as there appears to be ghostly fragments of the pink granitoid intrusive rock as well, and also sections of slightly more mafic granitoid rock (possibly dyking). Dark green grey to pinkish green. Vfg- Fg. Massive to Moderately foliated. Weak-mod patchy magnetism. Weak sel chl, weak sel mag, weak-mod sel ser, very weak sel bt. Trace dis PY. Blue qtz eyes throughout unit in patches (1-2%). Irregular qtz-cb veining (2%). Upper contact with oxide facies iron formation gradational (marked by increased magnetism). Lower contact with Felsic to intermediate metavolcanic sharp but irregular (may just be contact of granitoid dyke).</p>											
		Alteration Maj:	Type/Style/Intensity	Comment									
		281.75 - 285.75	BIO SEL 2	Biotitization, Selective, Weak									
		281.75 - 285.75	SR SEL 3	Sericitization, Selective, Moderate									
		281.75 - 285.75	MAG SEL 2	Magnetite, Selective, Weak									
		281.75 - 285.75	CL SEL 2	Chloritization, Selective, Weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
		281.75 - 285.75	Py DIS 0.1	Pyrite, Disseminated, 0.1%									
		Structure Maj.:	Inte/Type/Core Angle	Comment									
		281.75 - 285.75	W FOL	Foliated									

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Hole Number: **JM18-002**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)	
		Texture Maj:	Type	Comment									
		281.75 - 285.75	HT	Heterogeneous									
		281.75 - 285.75	FG	Fine Grained (<1mm)									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment									
		281.75 - 285.75	VN 2 100	QCV Quartz-Calcite Vein, 100%									
285.75	294.10	IVOL Intermediate Metavolcanic		LGY	850779	287.50	289.00	1.50	0.01	-	0.01	-	-
		Felsic to intermediate metavolcanic/volcaniclastic. Light grey to grey. Vfg -fg. Moderate to strongly foliated. Mod semi-pv si, Mod-strong sel ser, Weak sel chl. Trace to 1% Py vn/dis, Trace to 1% fol Po marginal to lower contact. Irregular qtz-cb veining throughout unit (2-4%). Intermediate dyking in unit (1-2%). Upper contact with mafic to intermediate metavolcanic sharp. Lower contact with sulphide facies iron formation gradational (marked by change in magnetism).			850780	289.00	290.50	1.50	0.01	-	0.01	-	-
					850781	290.50	292.00	1.50	0.01	-	0.01	-	-
					850782	292.00	293.20	1.20	0.01	-	0.01	-	-
					850783	293.20	294.10	0.90	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment									
		285.75 - 294.10	MAG SEL 2	Magnetite, Selective, Weak									
		285.75 - 294.10	CL SEL 2	Chloritization, Selective, Weak									
		285.75 - 294.10	SR SEL 4	Sericitization, Selective, Strong									
		285.75 - 294.10	SI SEL 3	Silicification, Selective, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
		285.75 - 293.50	Py VN 0.1	Pyrite, Vein-controlled, 0.1%									
		285.75 - 293.50	Py DIS 0.5	Pyrite, Disseminated, 0.5%									
		293.50 - 294.10	Po DIS 0.5	Pyrrhotite, Disseminated, 0.5%									
		293.50 - 294.10	Py DIS 0.1	Pyrite, Disseminated, 0.1%									
		Structure Maj.:	Inte/Type/Core Angle	Comment									
		285.75 - 294.10	MS FOL	Foliated									
		Texture Maj:	Type	Comment									
		285.75 - 294.10	FG	Fine Grained (<1mm)									
		285.75 - 294.10	HT	Heterogeneous									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment									
		285.75 - 294.10	VN 3 100	QCV Quartz-Calcite Vein, 100%									

LITHOLOGY REPORT
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Hole Number: **JM18-002**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
294.10	297.35	SBIF Sulphide Facies Iron Formation	GRB	850785	294.10	295.00	0.90	0.04	-	0.04	-	-
		Sulphide facies iron formation. Possibly oxide facies iron formation with increased sulphide content. Vfg- fg. Brownish grey to dark green grey. Moderately foliated (irregular/wavy) and some banded sections (chl rich bands and silica-sericite rich bands laminated with Po+Py. Intensely magnetic. 3-6% dis/fo/vn Py, 8-15% dis/fo/vn Po, trace fol Cpy. Weak-mod sel chl, strong pv mag, weak sel si. Irregular qtz-cb- chl veining (6%) Some with Py + Po. Upper contact with Felsic-intermediate metavolcanic gradational (marked by change in magnetism). Lower contact with Felsic-intermediate metavolcanic marked with a quartz vein.		850786	295.00	296.30	1.30	0.03	-	0.03	-	-
				850787	296.30	297.35	1.05	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
294.10 - 297.35		SI SEL 2	Silicification, Selective, Weak									
294.10 - 297.35		MAG PV 4	Magnetite, Pervasive, Strong									
294.10 - 297.35		CL SEL 2	Chloritization, Selective, Weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
294.10 - 295.80		Cpy FOL 0.1	Chalcopyrite, Along foliation, 0.1%									
294.10 - 295.80		Po FOL 13	Pyrrhotite, Along foliation, 13%									
294.10 - 295.80		Py FOL 4	Pyrite, Along foliation, 4%									
295.80 - 297.35		Po FOL 1	Pyrrhotite, Along foliation, 1%									
295.80 - 297.35		Py FOL 1	Pyrite, Along foliation, 1%									
295.80 - 297.35		Po VN 2	Pyrrhotite, Vein-controlled, 2%									
295.80 - 297.35		Py VN 3	Pyrite, Vein-controlled, 3%									
		Structure Maj.:	Inte/Type/Core Angle	Comment								
294.10 - 297.35		M FOL	Foliated									
		Texture Maj:	Type	Comment								
294.10 - 297.35		FG	Fine Grained (<1mm)									
294.10 - 297.35		HT	Heterogeneous									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
294.10 - 297.35		VN 6 100	QCHLV	Quartz-Chlorite Vein, 100%								

LITHOLOGY REPORT
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Hole Number: **JM18-002**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
297.35	298.05	IVOL Intermediate Metavolcanic	GY	850788	297.35	298.05	0.70	0.01	-	0.01	-	-
<p>Felsic to intermediate metavolcanic/volcaniclastic. Light grey to grey. Vfg -fg. Moderate to strongly foliated. Weak pv si, Mod-strong sel ser, Weak sel chl. Slight banded texture. Trace dis/foi PY. 1% qtz-cb-ser veining. Upper contact with sulphide facies iron formation marked with quartz vein. Lower contact with Mafic- intermediate metavolcanic sharp but irregular.</p>												
<p>Alteration Maj: Type/Style/Intensity Comment</p>												
297.35 - 298.05 CL SEL 2 Chloritization, Selective, Weak												
297.35 - 298.05 SI SEL 2 Silicification, Selective, Weak												
297.35 - 298.05 SR SEL 4 Sericitization, Selective, Strong												
<p>Mineralization Maj. : Type/Style/%Mineral Comment</p>												
297.35 - 298.05 Py DIS 0.1 Pyrite, Disseminated, 0.1%												
<p>Structure Maj.: Inte/Type/Core Angle Comment</p>												
297.35 - 298.05 M FOL Foliated												
<p>Texture Maj: Type Comment</p>												
297.35 - 298.05 FG Fine Grained (<1mm)												
297.35 - 298.05 HT Heterogeneous												
<p>Vein Maj. : Style/%vein/CoreA/%min/min Comment</p>												
297.35 - 298.05 FPV 1 100 QCSCV Quartz Carb Sericite Vein, 100%												
298.05	300.00	MVOL Mafic Metavolcanic	DGY									
<p>Mafic to intermediate metavolcanic. Dark green. Fg. Weak to moderately foliated. Weak-mod patchy magnetism. Weak-mod pv chl, weak sel mag, mod sel ser, weak sel bt, very weak sel cb. Trace dis PY. Qtz-cb stringers along fol (2-4%). Upper contact with felsic to intermediate metavolcanic sharp but irregular. EOH.</p>												
<p>Alteration Maj: Type/Style/Intensity Comment</p>												
298.05 - 300.00 CB SEL 1 Carbonatization, Selective, Very weak												
298.05 - 300.00 BIO SEL 2 Biotitization, Selective, Weak												
298.05 - 300.00 SR SEL 3 Sericitization, Selective, Moderate												
298.05 - 300.00 CL PV 2 Chloritization, Pervasive, Weak												

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Hole Number: **JM18-002**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	298.05 - 300.00	Py DIS 0.1		Pyrite, Disseminated, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	298.05 - 300.00	M FOL		Foliated								
		Texture Maj:	Type	Comment								
	298.05 - 300.00	FG		Fine Grained (<1mm)								
	298.05 - 300.00	HT		Heterogeneous								

QUALITY CONTROL REPORT

Hole Number: **JM18-002**

Project: **JUMPING MOOSE**

Project Number: **262**

Sample #	Sample Type	Duplicate of	Standard name	Laboratory	AV	FA	FA2	FA3	FA4	FA5	SFA	SFA2	SFA3	GA	GA2	GA3	GA4	GA5	AR	AR2	AR3	Wt (kg)
					Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	
850712	STANDARD		OREAS 501	Actlabs	0	-	0.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
850724	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
850736	STANDARD		OREAS 502	Actlabs	0	-	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
850748	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
850760	STANDARD		OREAS 224	Actlabs	2	-	2.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
850772	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
850784	STANDARD		OREAS 504	Actlabs	2	-	1.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DRILL HOLE REPORT

Hole Number: **JM18-003**

Project: **JUMPING MOOSE**

Project Number: **262**

Drilling	Casing	Core	Location	Other
Azimuth: 350	Length:	Dimension: NQ	Claim No.: 342106	Company: IAMGOLD
Dip: -55	Pulled: no	Diam Chang: no	NTS:	Contractor: NPLH
Length: 150	Capped: yes	Storage: Klondike Lodge	Hole: SURFACE	Spotted by:
Started: 15-Oct-18	Cemented: no	Hole Type: DDH	Section:	Surveyed:
Completed: 16-Oct-18	Left in hole: no	Logged by: Erik Bobeckko	Zone: 17	Surveyed by:
Logged: 01-Nov-18	Making water:	Relog by:	NAD: NAD83	Multi shot su yes
Township: BURROWS	Plugged: no			
Target:			Coordinate - Gemcom	Coordinate - UTM
Comment:			East: 469710	East: 469710
			North: 5293781	North: 5293732
			Elev.: 354	Elev.: 350
				Coordinate - Local
				East: 0
				North: 0
				Elev.: 0

Deviation Tests

Density Tests

<i>Distance</i>	<i>Azimuth</i>	<i>Dip</i>	<i>Easting</i>	<i>Northing</i>	<i>Elevation</i>	<i>Mag. Fie.</i>	<i>Type</i>	<i>Good</i>	<i>Comments</i>
0.00	350.00	-55.00	0	0	0		C	<input checked="" type="checkbox"/>	

LITHOLOGY REPORT
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Hole Number: **JM18-003**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
0.00	7.66	OB Overburden										
7.66	51.30	MVOL Mafic Metavolcanic										
		Mafic volcanic with strong qz-cb stringers. Strong chl alteration, medium green, fine grained, Tuffaceous from 23-25m. Very silicified, and much darker (almost black) from 42-43m. Carbonate veining brecciating volcanics @45.5m-45.6m.		808080	7.66	9.00	1.34	0.01	-	0.01	-	-
				808081	23.00	24.00	1.00	0.01	-	0.01	-	-
				808082	32.00	33.00	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808083	33.00	34.00	1.00	0.01	-	0.01	-
		7.66 - 42.00	EP SEL 1	Epidotization, Selective, Very weak	808085	34.00	35.00	1.00	0.01	-	0.01	-
		7.66 - 42.00	SR PV 2	Sericitization, Pervasive, Weak	808086	37.00	38.00	1.00	0.01	-	0.01	-
		7.66 - 42.00	CB PV 2	Carbonatization, Pervasive, Weak	808087	38.00	39.00	1.00	0.01	-	0.01	-
		7.66 - 42.00	CL PV 4	Chloritization, Pervasive, Strong	808088	39.00	40.15	1.15	0.01	-	0.01	-
		42.00 - 51.30	CL PV 2	Chloritization, Pervasive, Weak	808089	49.00	50.50	1.50	0.01	-	0.01	-
		42.00 - 51.30	BIO PV 2	Biotitization, Pervasive, Weak								
		42.00 - 51.30	SI PV 4	Silicification, Pervasive, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		7.66 - 30.00	Py DIS 0.3	Pyrite, Disseminated, 0.3%								
		30.00 - 51.30	Py DIS 0.1	Pyrite, Disseminated, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		7.66 - 23.00	S FOL	Foliated								
		Texture Maj:	Type	Comment								
		7.66 - 23.00	SCH	Schistose								

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Hole Number: **JM18-003**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	7.66 - 23.00	VN 15	70 CBV	Carbonate Vein, 70%								
	7.66 - 23.00	VN 15	30 QV	Quartz Vein, 30%								
	23.00 - 51.30	VN 3	5 CHLV	Chlorite Veining, 5%								
	23.00 - 51.30	VN 3	1 QPYV	Quartz Pyrite Vein, 1%								
	23.00 - 51.30	VN 3	2 EV	Epidote Veining, 2%								
	23.00 - 51.30	VN 3	15 CBV	Carbonate Vein, 15%								
	23.00 - 51.30	VN 3	75 QV	Quartz Vein, 75%								
51.30	52.30	LAMP Lamprophyre Dyke	D									
52.30	63.15	MVOL Mafic Metavolcanic										
		Silicified mafic volcanic. Strong tectonic carbonate fracture filling realated to adjacent fault, moderate hematite alteration.		808090	52.30	53.70	1.40	0.01	-	0.01	-	-
				808091	53.70	55.00	1.30	0.01	-	0.01	-	-
				808092	55.00	56.00	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
	52.30 - 63.15	BIO SEL 1		Biotitization, Selective, Very weak	808093	56.00	57.00	1.00	0.01	-	0.01	-
	52.30 - 63.15	SI SPV 3		Silicification, Semi-Pervasive, Moderate	808094	61.50	63.00	1.50	0.01	-	0.01	-
	52.30 - 63.15	CB SPV 2		Carbonatization, Semi-Pervasive, Weak								
	52.30 - 63.15	CL PV 4		Chloritization, Pervasive, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	52.30 - 63.15	Py DIS 0.3		Pyrite, Disseminated, 0.3%								

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Hole Number: **JM18-003**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		52.30 - 63.15	S FOL	Foliated								
		Texture Maj:	Type	Comment								
		52.30 - 63.15	FG	Fine Grained (<1mm)								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		52.30 - 63.15	STWV 8 1 HMV	Hematite Vein, 1%								
		52.30 - 63.15	STWV 8 30 CBV	Carbonate Vein, 30%								
		52.30 - 63.15	STWV 8 69 QV	Quartz Vein, 69%								
63.15	66.00	FLT	Fault									
		Fault gouge in mvol. Lots of clay minerals.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		63.15 - 66.00	HM SEL 1	Hematization, Selective, Very weak								
		63.15 - 66.00	SI SEL 2	Silicification, Selective, Weak								
		63.15 - 66.00	CL PV 3	Chloritization, Pervasive, Moderate								
		63.15 - 66.00	AG SEL 3	Argillic, Selective, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		63.15 - 66.00	Py DIS 0.5	Pyrite, Disseminated, 0.5%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		63.15 - 66.00	S FLTZN	Fault Zone								
66.00	68.25	UMVO	Ultramafic Metavolcanic									
		L										
		talc rich umvol. Strong pv carb alteration. Very soft, green/blue colour, strong foliation.										
		Alteration Maj:	Type/Style/Intensity	Comment								

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Hole Number: **JM18-003**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
	66.00 - 68.25	CB PV 4	Carbonatization, Pervasive, Strong									
	66.00 - 68.25	CL PV 3	Chloritization, Pervasive, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	66.00 - 68.25	Py FOL 1	Pyrite, Along foliation, 1%									
		Texture Maj:	Type	Comment								
	66.00 - 68.25	SCH	Schistose									
68.25	70.90	DIA Diabase										
		Texture Maj:	Type	Comment								
	68.25 - 70.90	EQ	Equigranular									
	68.25 - 70.90	FG	Fine Grained (<1mm)									
70.90	74.10	UMVO Ultramafic Metavolcanic										
		L										
		talc rich umvol. Strong pv carb alteration. Very soft, green/blue colour, strong foliation. 1% cubic py 1-5mm										
		Alteration Maj:	Type/Style/Intensity	Comment								
	70.90 - 74.10	EP SEL 1	Epidotization, Selective, Very weak									
	70.90 - 74.10	CB PV 3	Carbonatization, Pervasive, Moderate									
	70.90 - 74.10	CL PV 3	Chloritization, Pervasive, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	70.90 - 74.10	Pv DIS 1	Pvrite. Disseminated. 1%									

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<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
74.10	81.00	FVOL Felsic Metavolcanic felsic tuff. Fine laminations, silicious		808095	75.00	76.00	1.00	0.01	-	0.01	-	-
				808097	78.00	79.00	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808098	79.00	80.00	1.00	0.01	-	0.01	-
		74.10 - 78.00	CL BNDS 1	Chloritization, Bands/Banded, Very weak	808099	80.00	81.00	1.00	0.01	-	0.01	-
		74.10 - 78.00	SR PV 3	Sericitization, Pervasive, Moderate								
		74.10 - 78.00	SI PV 3	Silicification, Pervasive, Moderate								
		78.00 - 81.00	BIO SPV 1	Biotitization, Semi-Pervasive, Very weak								
		78.00 - 81.00	CL PV 3	Chloritization, Pervasive, Moderate								
		78.00 - 81.00	SR PV 1	Sericitization, Pervasive, Very weak								
		78.00 - 81.00	SI PV 3	Silicification, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		74.10 - 81.00	Py VN 0.1	Pyrite, Vein-controlled, 0.1%								
		74.10 - 81.00	Py DIS 1	Pyrite, Disseminated, 1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		74.10 - 81.00	S FOL	Foliated								
		Texture Maj:	Type	Comment								
		74.10 - 81.00	BND	Banded								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		74.10 - 81.00	VN 1 1 QPYV	Quartz Pyrite Vein, 1%								
		74.10 - 81.00	VN 1 4 CHLV	Chlorite Veining, 4%								
		74.10 - 81.00	VN 1 15 CBV	Carbonate Vein, 15%								
		74.10 - 81.00	VN 1 80 QV	Quartz Vein, 80%								

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<i>From</i> <i>(m)</i>	<i>To</i> <i>(m)</i>	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> <i>(ppm)</i>	<i>AV</i> <i>Au</i> <i>(ppm)</i>	<i>FA</i> <i>Au</i> <i>(ppm)</i>	<i>FA2</i> <i>Au</i> <i>(ppm)</i>	<i>FA3</i> <i>Au</i> <i>(ppm)</i>
81.00	82.40	FVOL Felsic Metavolcanic Felsic Lapilli Tuff. Felsic fragments, 0.5-2cm, round to angular, stretched. Chlorite altered ash matrix containing rare 2mm garnets. Strong py in matrix.		808100	81.00	82.40	1.40	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		81.00 - 82.40	CB SEL 1	Carbonatization, Selective, Very weak								
		81.00 - 82.40	CL SPV 3	Chloritization, Semi-Pervasive, Moderate								
		81.00 - 82.40	SI SPV 3	Silicification, Semi-Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		81.00 - 82.40	Py VN 1	Pyrite, Vein-controlled, 1%								
		81.00 - 82.40	Py DIS 3	Pyrite, Disseminated, 3%								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		81.00 - 82.40	VN 5 3 QPYV	Quartz Pyrite Vein, 3%								
		81.00 - 82.40	VN 5 15 CHLV	Chlorite Veining, 15%								
		81.00 - 82.40	VN 5 31 CBV	Carbonate Vein, 31%								
		81.00 - 82.40	VN 5 50 QV	Quartz Vein, 50%								
82.40	84.15	FVOL Felsic Metavolcanic felsic tuff. Fine laminations, silicious		808101	83.00	84.15	1.15	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		82.40 - 84.15	SR PV 2	Sericitization, Pervasive, Weak								
		82.40 - 84.15	CL BNDS 2	Chloritization, Bands/Banded, Weak								
		82.40 - 84.15	SI PV 3	Silicification, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		82.40 - 84.15	Py FOL 0.5	Pyrite, Along foliation, 0.5%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		82.40 - 84.15	S FOL	Foliated								

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84.15	85.60	MVOL Mafic Metavolcanic Mafic volcanic with 1-3mm garnets. Strong foliation. Dark green		808102	84.15	85.60	1.45	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		84.15 - 85.60	SR SEL 1	Sericitization, Selective, Very weak								
		84.15 - 85.60	CB PV 2	Carbonatization, Pervasive, Weak								
		84.15 - 85.60	CL PV 4	Chloritization, Pervasive, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		84.15 - 85.60	Py DIS 1	Pyrite, Disseminated, 1%								
85.60	90.00	FVOL Felsic Metavolcanic Lapilli Tuff fragmental unit. Mafic ash matrix. Felsic (rhyolite-dacite) lapillis/fragments. Garnetiferous matrix. Fragments are rimmed with carbonate. 50% fragments, 1-5cm, round to angular, stretched. Strong mineralization in matrix. Rare quartz fragments. Weak to Strong mag. Iron formation with fragments? Lense of BIF at 86.2-86.4 (60%PY).		808103	85.60	86.20	0.60	0.01	-	0.01	-	-
				808104	86.20	87.00	0.80	0.02	-	0.02	-	-
				808105	87.00	88.00	1.00	0.02	-	0.02	-	-
				808106	88.00	89.00	1.00	0.02	-	0.02	-	-
				808107	89.00	90.00	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		85.60 - 90.00	SR SPV 1	Sericitization, Semi-Pervasive, Very weak								
		85.60 - 90.00	SI FRG 3	Silicification, Fragments, Moderate								
		85.60 - 90.00	CB MX 3	Carbonatization, Matrix, Moderate								
		85.60 - 90.00	CL MX 4	Chloritization, Matrix, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		85.60 - 90.00	Po MTX 2	Pyrrhotite, Matrix-controlled, 2%								

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	85.60 - 90.00	Py MTX 13	Pyrite, Matrix-controlled, 13%									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	88.50 - 89.10	VN 15	2 CBV	Carbonate Vein, 2%								
	88.50 - 89.10	VN 15	3 QPYV	Quartz Pyrite Vein, 3%								
	88.50 - 89.10	VN 15	95 QV	Quartz Vein, 95%								
90.00	91.40	SBIF Sulphide Facies Iron Formation		808108	90.00	91.40	1.40	0.06	-	0.06	-	-
		SBIF with 65% Py, 10% Po. Very strong Mag, irregular quartz flooding, includes some 2-10cm dacitic fragments/lapillis. Similar to lapillituff unit above, but stronger mag and more intense pyrite mineralization.										
		Alteration Maj:	Type/Style/Intensity	Comment								
	90.00 - 91.40	CB SEL 2		Carbonatization, Selective, Weak								
	90.00 - 91.40	CL SEL 2		Chloritization, Selective, Weak								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	90.00 - 91.40	Po DIS 10		Pyrrhotite, Disseminated, 10%								
	90.00 - 91.40	Py DIS 65		Pyrite, Disseminated, 65%								

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91.40	115.50	FVOL Felsic Metavolcanic		808109	91.40	92.00	0.60	0.01	-	0.01	-	-	
				808110	92.00	93.15	1.15	0.02	-	0.02	-	-	
		Alteration Maj:	Type/Style/Intensity	Comment	808111	93.15	93.85	0.70	0.02	-	0.02	-	-
91.40 - 93.15		SR SPV 1	Sericitization, Semi-Pervasive, Very weak	808113	93.85	95.00	1.15	0.02	-	0.02	-	-	
91.40 - 93.15		CB SPV 2	Carbonatization, Semi-Pervasive, Weak	808114	95.00	96.00	1.00	0.02	-	0.02	-	-	
91.40 - 93.15		SI SPV 2	Silicification, Semi-Pervasive, Weak	808115	96.00	97.30	1.30	0.02	-	0.02	-	-	
91.40 - 93.15		CL SPV 3	Chloritization, Semi-Pervasive, Moderate	808116	97.30	98.00	0.70	0.01	-	0.01	-	-	
93.15 - 110.10		CL SEL 1	Chloritization, Selective, Very weak	808117	98.00	99.00	1.00	0.01	-	0.01	-	-	
93.15 - 110.10		CB SPV 2	Carbonatization, Semi-Pervasive, Weak	808118	99.00	100.50	1.50	0.02	-	0.02	-	-	
93.15 - 110.10		SR SPV 3	Sericitization, Semi-Pervasive, Moderate	808119	102.00	103.00	1.00	0.01	-	0.01	-	-	
93.15 - 110.10		SI SPV 3	Silicification, Semi-Pervasive, Moderate	808120	103.00	104.00	1.00	0.01	-	0.01	-	-	
93.15 - 110.10		SI SPV 3	Silicification, Semi-Pervasive, Moderate	808121	108.60	110.10	1.50	0.01	-	0.01	-	-	
110.10 - 115.50		FU SEL 1	Fuchsite, Selective, Very weak	808122	110.10	111.40	1.30	0.01	-	0.01	-	-	
110.10 - 115.50		CL PV 3	Chloritization, Pervasive, Moderate	808123	111.40	112.75	1.35	0.01	-	0.01	-	-	
110.10 - 115.50		CB SEL 1	Carbonatization, Selective, Very weak	808125	112.75	114.06	1.31	0.01	-	0.01	-	-	
110.10 - 115.50		SR PV 3	Sericitization, Pervasive, Moderate	808126	114.06	115.50	1.44	0.02	-	0.02	-	-	
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
91.40 - 97.30		Py DIS 20	Pyrite, Disseminated, 20%										
97.30 - 100.50		Po BNDS 0.5	Pyrrhotite, Bands, 0.5%										
97.30 - 100.50		Py DIS 3	Pyrite, Disseminated, 3%										
100.50 - 110.10		Py DIS 0.1	Pyrite, Disseminated, 0.1%										
114.10 - 115.50		Py DIS 10	Pyrite, Disseminated, 10%										

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115.50	119.80	SBIF Sulphide Facies Iron Formation		808127	115.50	116.00	0.50	0.04	-	0.04	-	-
				808128	116.00	117.00	1.00	0.09	-	0.09	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808129	117.00	118.00	1.00	0.01	-	0.01	-
		115.50 - 119.80	SR SEL 1	Sericitization, Selective, Very weak	808130	118.00	119.00	1.00	0.01	-	0.01	-
		115.50 - 119.80	CB SEL 1	Carbonatization, Selective, Very weak	808131	119.00	119.80	0.80	0.04	-	0.04	-
		115.50 - 119.80	CL SPV 3	Chloritization, Semi-Pervasive, Moderate								
		115.50 - 119.80	SI SPV 2	Silicification, Semi-Pervasive, Weak								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		115.50 - 119.80	Py DIS 20	Pyrite, Disseminated, 20%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		115.50 - 119.80	S FLD	Folded								
		Texture Maj:	Type	Comment								
		115.50 - 119.80	BND	Banded								
119.80	131.00	FVOL Felsic Metavolcanic		808132	119.80	121.00	1.20	0.01	-	0.01	-	-
		BIF+Quartz from 130-130.3m		808133	127.60	129.00	1.40	0.01	-	0.01	-	-
				808134	129.00	130.06	1.06	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808135	130.06	131.00	0.94	0.02	-	0.02	-
		119.80 - 124.00	CB SPV 2	Carbonatization, Semi-Pervasive, Weak								
		119.80 - 124.00	SR SPV 2	Sericitization, Semi-Pervasive, Weak								
		119.80 - 124.00	SI SPV 1	Silicification, Semi-Pervasive, Very weak								
		119.80 - 124.00	CL PV 3	Chloritization, Pervasive, Moderate								
		124.00 - 131.00	SR SEL 2	Sericitization, Selective, Weak								
		124.00 - 131.00	CB SEL 1	Carbonatization, Selective, Very weak								
		124.00 - 131.00	CL SPV 1	Chloritization, Semi-Pervasive, Very weak								

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<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
	124.00 - 131.00	SI SPV 3	Silicification, Semi-Pervasive, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	119.80 - 128.00	Py DIS 0.4	Pyrite, Disseminated, 0.4%									
	128.00 - 130.00	Py DIS 1	Pyrite, Disseminated, 1%									
	130.00 - 131.00	Py DIS 2	Pyrite, Disseminated, 2%									
	130.00 - 131.00	Py VN 10	Pyrite, Vein-controlled, 10%									
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	119.80 - 131.00	S FOL	Foliated									
		Texture Maj:	Type	Comment								
	119.80 - 131.00	SCH	Schistose									
131.00	132.00	SBIF Sulphide Facies Iron Formation		808137	131.00	132.00	1.00	0.04	-	0.04	-	-
		Deformed, quartz flooding/veining, strong py+mag. Sulphides "leech" into adjacent units.										
		Alteration Maj:	Type/Style/Intensity	Comment								
	131.00 - 132.00	SI SPV 3	Silicification, Semi-Pervasive, Moderate									
	131.00 - 132.00	SI SPV 2	Silicification, Semi-Pervasive, Weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	131.00 - 132.00	Py DIS 18	Pyrite, Disseminated, 18%									
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	131.00 - 132.00	S FLD	Folded									
132.00	134.34	FVOL Felsic Metavolcanic		808138	132.00	133.00	1.00	0.06	-	0.06	-	-
		Unit grades from BIF to FVOL. Difficult to distinguish contacts.										
		Alteration Maj:	Type/Style/Intensity	Comment								

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	132.00 - 134.34	CB SPV 2	Carbonatization, Semi-Pervasive, Weak									
	132.00 - 134.34	SR PV 2	Sericitization, Pervasive, Weak									
	132.00 - 134.34	CL PV 1	Chloritization, Pervasive, Very weak									
	132.00 - 134.34	SI PV 3	Silicification, Pervasive, Moderate									
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	132.00 - 134.34	Py FOL 7	Pyrite, Along foliation, 7%									
134.34	140.44	GBB Gabbro		808139	135.00	136.20	1.20	0.01	-	0.01	-	-
		Sheared gabbro, might be mafic volcanic. Difficult to tell. Rare blue quartz eyes.										
		Alteration Maj:	Type/Style/Intensity	Comment								
	134.34 - 140.44	AM SEL 1	Amphibolitization, Selective, Very weak									
	134.34 - 140.44	CB SPV 2	Carbonatization, Semi-Pervasive, Weak									
	134.34 - 140.44	CL PV 4	Chloritization, Pervasive, Strong									
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	134.34 - 140.44	S FOL	Foliated									
		Texture Maj:	Type	Comment								
	134.34 - 140.44	EQ	Equigranular									
	134.34 - 140.44	FG	Fine Grained (<1mm)									

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140.44	145.70	FVOL Felsic Metavolcanic		808140	140.44	141.30	0.86	0.01	-	0.01	-	-
				808141	141.30	142.25	0.95	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808142	142.25	143.30	1.05	0.01	-	0.01	-
		140.44 - 145.70	SR SPV 1	Sericitization, Semi-Pervasive, Very weak	808143	143.30	144.00	0.70	0.02	-	0.02	-
		140.44 - 145.70	CB SPV 2	Carbonatization, Semi-Pervasive, Weak	808144	144.00	145.00	1.00	0.01	-	0.01	-
		140.44 - 145.70	CL SPV 3	Chloritization, Semi-Pervasive, Moderate	808145	145.00	145.70	0.70	0.04	-	0.04	-
		140.44 - 145.70	SI SPV 4	Silicification, Semi-Pervasive, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		140.44 - 145.70	Py DIS 5	Pyrite, Disseminated, 5%								
145.70	150.00	SBIF Sulphide Facies Iron Formation		808146	145.70	147.00	1.30	0.04	-	0.04	-	-
		Iron formation with 10% interlayered volcanics. Intense Quartz veining, with felsic intrusive?		808147	147.00	148.30	1.30	0.02	-	0.02	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808149	148.30	149.00	0.70	0.01	-	0.01	-
		145.70 - 150.00	SR SPV 1	Sericitization, Semi-Pervasive, Very weak	808150	149.00	150.00	1.00	0.02	-	0.02	-
		145.70 - 150.00	CL SPV 3	Chloritization, Semi-Pervasive, Moderate								
		145.70 - 150.00	SI SPV 3	Silicification, Semi-Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		145.70 - 150.00	Py DIS 10	Pyrite, Disseminated, 10%								
		145.70 - 150.00	Py VN 10	Pyrite, Vein-controlled, 10%								

QUALITY CONTROL REPORT

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Project Number: **262**

Sample #	Sample Type	Duplicate of	Standard name	Laboratory	AV	FA	FA2	FA3	FA4	FA5	SFA	SFA2	SFA3	GA	GA2	GA3	GA4	GA5	AR	AR2	AR3	Wt (kg)
					Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	
808084	STANDARD		OREAS 504	Actlabs	2	-	1.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808096	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808112	STANDARD		OREAS 501	Actlabs	0	-	0.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808124	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808136	STANDARD		OREAS 502	Actlabs	0	-	0.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808148	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DRILL HOLE REPORT

Hole Number: **JM18-004**

Project: **JUMPING MOOSE**

Project Number: **262**

Drilling	Casing	Core	Location	Other
Azimuth: 350	Length: 9	Dimension: NQ	Claim No.: 342106	Company: IAMGOLD
Dip: -55	Pulled: no	Diam Chang: no	NTS:	Contractor: NPLH
Length: 150	Capped: yes	Storage: Klondike Lodge	Hole: SURFACE	Spotted by:
Started: 16-Oct-18	Cemented: no	Hole Type: DDH	Section:	Surveyed:
Completed: 18-Oct-18	Left in hole: no	Logged by: Erik Bobeckko	Zone: 17	Surveyed by:
Logged: 05-Nov-18	Making water: no	Relog by:	NAD: NAD83	Multi shot su yes
Township: BURROWS	Plugged: no			
Target:			Coordinate - Gemcom	Coordinate - UTM
Comment:			East: 469945	East: 469945
			North: 5293781	North: 5293781
			Elev.: 358	Elev.: 350
				Coordinate - Local
				East: 0
				North: 0
				Elev.: 0

Deviation Tests

Density Tests

<i>Distance</i>	<i>Azimuth</i>	<i>Dip</i>	<i>Easting</i>	<i>Northing</i>	<i>Elevation</i>	<i>Mag. Fie.</i>	<i>Type</i>	<i>Good</i>	<i>Comments</i>
0.00	350.00	-55.00	0	0	0		C	<input checked="" type="checkbox"/>	

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-004**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> <i>(m)</i>	<i>To</i> <i>(m)</i>	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> <i>(ppm)</i>	<i>AV</i> <i>Au</i> <i>(ppm)</i>	<i>FA</i> <i>Au</i> <i>(ppm)</i>	<i>FA2</i> <i>Au</i> <i>(ppm)</i>	<i>FA3</i> <i>Au</i> <i>(ppm)</i>
0.00	9.60	OB Overburden										
9.60	12.00	MVOL Mafic Metavolcanic										
Chloritized+silicified mafic volcanic.epidote alteration. Very hard. Dark green to black.												
Alteration Maj: Type/Style/Intensity Comment												
9.60 - 12.00 SR SEL 1 Sericitization, Selective, Very weak												
9.60 - 12.00 EP SPV 2 Epidotization, Semi-Pervasive, Weak												
9.60 - 12.00 CL PV 2 Chloritization, Pervasive, Weak												
9.60 - 12.00 SI PV 3 Silicification, Pervasive, Moderate												
12.00	84.80	DIA Diabase										
Metachewan Diabase. Megaporphyritic epidote altered plag phenos. 0.5-5cm. Strong mag. More densely packed phenos from 14-20m, more sparse beyond.												

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-004**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
84.80	99.40	MVOL Mafic Metavolcanic		808151	84.80	86.00	1.20	0.01	-	0.01	-	-
		Massive to sheared. Light green. Strong qz-cb-hm veining. Rare blue quartz eyes.		808152	86.00	87.00	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808153	91.00	92.46	1.46	0.01	-	0.01	-
		84.80 - 99.40	EP SPV 1	Epidotization, Semi-Pervasive, Very weak								
		84.80 - 99.40	CB SEL 1	Carbonatization, Selective, Very weak								
		84.80 - 99.40	SI SPV 1	Silicification, Semi-Pervasive, Very weak								
		84.80 - 99.40	CL PV 4	Chloritization, Pervasive, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		96.00 - 99.40	Py DIS 0.5	Pyrite, Disseminated, 0.5%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		84.80 - 99.40	M FOL	Foliated								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		84.80 - 99.40	VN 10 1 HMV	Hematite Vein, 1%								
		84.80 - 99.40	VN 10 29 CBV	Carbonate Vein, 29%								
		84.80 - 99.40	VN 10 70 QV	Quartz Vein, 70%								
99.40	100.30	LAMP Lamprophyre Dyke										
		D										
		Maybe just Mafic Dyke. Biotite rich. Moderate carb+hm. Strongly sheared, 1-2% dis py.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		99.40 - 100.30	BIO SPV 2	Biotitization, Semi-Pervasive, Weak								
		99.40 - 100.30	CB SPV 2	Carbonatization, Semi-Pervasive, Weak								
		99.40 - 100.30	HM SPV 2	Hematization, Semi-Pervasive, Weak								
		99.40 - 100.30	CL PV 3	Chloritization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		99.40 - 100.30	Py DIS 2	Pyrite, Disseminated, 2%								

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-004**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)	
		Structure Maj.:	Inte/Type/Core Angle	Comment									
	99.40 - 100.30	S FOL		Foliated									
		Texture Maj:	Type	Comment									
	99.40 - 100.30	SCH		Schistose									
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment									
	99.40 - 100.30	BOV 2 20	CBV	Carbonate Vein, 20%									
	99.40 - 100.30	BOV 2 80	QV	Quartz Vein, 80%									
100.30	105.90	MVOL Mafic Metavolcanic			808154	100.30	101.15	0.85	0.01	-	0.01	-	-
		3 Minor Lamp/mafic Dykes (10-20cm), some folded quartz veining with MTV pyrite at 100.3-101m			808155	104.00	105.00	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808156	105.00	105.90	0.90	2.30	-	2.30	-	-
	100.30 - 105.90	CB SPV 2		Carbonatization, Semi-Pervasive, Weak									
	100.30 - 105.90	BIO SEL 1		Biotitization, Selective, Very weak									
	100.30 - 105.90	CL PV 4		Chloritization, Pervasive, Strong									
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
	100.30 - 101.00	Py VN 3		Pyrite, Vein-controlled, 3%									
	101.00 - 105.90	Py DIS 0.2		Pyrite, Disseminated, 0.2%									
		Structure Maj.:	Inte/Type/Core Angle	Comment									
	100.30 - 105.90	MS FOL		Foliated									
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment									
	100.30 - 101.00	ANV 5 1	QPYV	Quartz Pyrite Vein, 1%									
	100.30 - 101.00	ANV 5 15	CBV	Carbonate Vein, 15%									
	100.30 - 101.00	ANV 5 80	QV	Quartz Vein, 80%									
	101.00 - 105.90	VN 2 5	CHLV	Chlorite Veining, 5%									
	101.00 - 105.90	VN 2 15	CBV	Carbonate Vein, 15%									
	101.00 - 105.90	VN 2 80	QV	Quartz Vein, 80%									

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-004**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> <i>(m)</i>	<i>To</i> <i>(m)</i>	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> <i>(ppm)</i>	<i>AV</i> <i>Au</i> <i>(ppm)</i>	<i>FA</i> <i>Au</i> <i>(ppm)</i>	<i>FA2</i> <i>Au</i> <i>(ppm)</i>	<i>FA3</i> <i>Au</i> <i>(ppm)</i>
105.90	106.50	LAMP D Lamprophyre Dyke strong biotite										
		Alteration Maj:	Type/Style/Intensity	Comment								
	105.90 - 106.50	HM SEL 1		Hematization, Selective, Very weak								
	105.90 - 106.50	CB PV 2		Carbonatization, Pervasive, Weak								
	105.90 - 106.50	CL PV 2		Chloritization, Pervasive, Weak								
	105.90 - 106.50	BIO SEL 3		Biotitization, Selective, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	105.90 - 106.50	Py DIS 0.5		Pyrite, Disseminated, 0.5%								
106.50	107.10	MVOL Mafic Metavolcanic Unit of tuffaceous medium green mvol. Maybe fine grained Gabbro?										
		Alteration Maj:	Type/Style/Intensity	Comment								
	106.50 - 107.10	CB SEL 1		Carbonatization, Selective, Very weak								
	106.50 - 107.10	BIO SEL 1		Biotitization, Selective, Very weak								
	106.50 - 107.10	CL PV 3		Chloritization, Pervasive, Moderate								
107.10	107.42	LAMP D Lamprophyre Dyke strong biotite, sharp contacts.										

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-004**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
		Alteration Maj:	Type/Style/Intensity	Comment								
	107.10 - 107.42	CB SEL 1		Carbonatization, Selective, Very weak								
	107.10 - 107.42	CL PV 2		Chloritization, Pervasive, Weak								
	107.10 - 107.42	BIO SEL 3		Biotitization, Selective, Moderate								
107.42	108.20	MVOL Mafic Metavolcanic										
		Alteration Maj:	Type/Style/Intensity	Comment								
	107.42 - 108.20	CB SPV 2		Carbonatization, Semi-Pervasive, Weak								
	107.42 - 108.20	BIO SPV 2		Biotitization, Semi-Pervasive, Weak								
	107.42 - 108.20	CL PV 4		Chloritization, Pervasive, Strong								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	107.42 - 108.20	S FOL		Foliated								
108.20	110.40	UMVO Ultramafic Metavolcanic			808157	109.50	110.40	0.90	0.01	-	0.01	-
		L		Ultra mafic, strong talc. Faulted argillic zone 108.25-108.5 and 109-109.5m. Alternating between umvol and mvol.								
		Alteration Maj:	Type/Style/Intensity	Comment								
	108.20 - 110.40	AG SEL 2		Argillic, Selective, Weak								

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-004**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> <i>(m)</i>	<i>To</i> <i>(m)</i>	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> <i>(ppm)</i>	<i>AV</i> <i>Au</i> <i>(ppm)</i>	<i>FA</i> <i>Au</i> <i>(ppm)</i>	<i>FA2</i> <i>Au</i> <i>(ppm)</i>	<i>FA3</i> <i>Au</i> <i>(ppm)</i>
	108.20 - 110.40	CL SPV 4	Chloritization, Semi-Pervasive, Strong									
	Mineralization Maj. :		Type/Style/%Mineral	Comment								
	109.50 - 110.40	Py DIS 2	Pyrite, Disseminated, 2%									
	Structure Maj.:		Inte/Type/Core Angle	Comment								
	108.25 - 108.50	S FLTD	Faulted									
	109.00 - 109.40	S FLTD	Faulted									
	Texture Maj:		Type	Comment								
	108.20 - 110.40	SCH	Schistose									
110.40	111.13	OBIF Oxide Facies Iron Formation		808158	110.40	111.13	0.73	0.17	-	0.17	-	-
	Iron formation with 12cm qz vn at 110.4. <5% pyrite (cubic). Strong mag.											
	Alteration Maj:		Type/Style/Intensity	Comment								
	110.40 - 111.13	SI SPV 2	Silicification, Semi-Pervasive, Weak									
	110.40 - 111.13	CL SPV 2	Chloritization, Semi-Pervasive, Weak									
	Mineralization Maj. :		Type/Style/%Mineral	Comment								
	110.40 - 111.13	Py BNDS 2	Pyrite, Bands, 2%									
	Vein Maj. :		Style/%vein/CoreA%/min/min	Comment								
	110.40 - 111.13	VN 15 20	CHLV Chlorite Veining, 20%									
	110.40 - 111.13	VN 15 80	QV									
111.13	113.60	MVOL Mafic Metavolcanic										
	sheared tuffaceous mafic volcanic.											
	Alteration Maj:		Type/Style/Intensity	Comment								
	111.13 - 113.60	CB SEL 1	Carbonatization, Selective, Very weak									
	111.13 - 113.60	BIO SEL 1	Biotitization, Selective, Very weak									

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-004**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
	111.13 - 113.60	SI SPV 1	Silicification, Semi-Pervasive, Very weak									
	111.13 - 113.60	CL PV 3	Chloritization, Pervasive, Moderate									
		Texture Maj:	Type	Comment								
	111.13 - 113.60		EQ	Equigranular								
	111.13 - 113.60		FG	Fine Grained (<1mm)								
113.60	115.80	SBIF Sulphide Facies Iron Formation										
		strong sulphides (20%) from 114.5 to 115.8m. 113.6-114.5 trace py. Strong magnetite		808159	113.60	114.50	0.90	0.01	-	0.01	-	-
				808161	114.50	115.80	1.30	0.04	-	0.04	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
	113.60 - 115.80		SI SPV 2	Silicification, Semi-Pervasive, Weak								
	113.60 - 115.80		CL SPV 2	Chloritization, Semi-Pervasive, Weak								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	113.60 - 114.50		Py DIS 1	Pyrite, Disseminated, 1%								
	114.50 - 115.80		Py DIS 20	Pyrite, Disseminated, 20%								
		Texture Maj:	Type	Comment								
	113.60 - 115.80		BND	Banded								
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment								
	113.60 - 115.80		VN 4 5 CHLV	Chlorite Veining, 5%								
	113.60 - 115.80		VN 4 15 CBV	Carbonate Vein, 15%								
	113.60 - 115.80		VN 4 80 QV	Quartz Vein, 80%								
115.80	118.70	UMVO Ultramafic Metavolcanic										
		L										

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-004**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)	
		strong talc, very schistose,											
		Alteration Maj:	Type/Style/Intensity	Comment									
		115.80 - 118.70	CB SPV 2	Carbonatization, Semi-Pervasive, Weak									
		115.80 - 118.70	CL PV 3	Chloritization, Pervasive, Moderate									
		Texture Maj:	Type	Comment									
		115.80 - 118.70	SCH	Schistose									
118.70	146.00	MVOL Mafic Metavolcanic			808162	119.65	120.60	0.95	0.01	-	0.01	-	-
		Variable Mag (none to strong), variable cb alt (weak to strong). Pv cl, strong foliation, weak disseminated py, moderate qz-cb veins/veinlets. Small lense of BIF from 120.8-121.1m			808163	120.60	121.30	0.70	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808164	124.00	125.00	1.00	0.01	-	0.01	-	-
		118.70 - 146.00	BIO SEL 1	Biotitization, Selective, Very weak	808165	130.00	131.00	1.00	0.02	-	0.02	-	-
		118.70 - 146.00	CB SPV 3	Carbonatization, Semi-Pervasive, Moderate	808166	131.00	132.10	1.10	0.02	-	0.02	-	-
		118.70 - 146.00	CL PV 3	Chloritization, Pervasive, Moderate	808167	140.70	142.00	1.30	0.01	-	0.01	-	-
		Mineralization Maj. :	Type/Style/%Mineral	Comment	808168	142.00	143.00	1.00	0.01	-	0.01	-	-
		118.70 - 120.80	Py DIS 0.5	Pyrite, Disseminated, 0.5%	808169	145.15	146.60	1.45	0.01	-	0.01	-	-
		120.80 - 121.00	Py DIS 5	Pyrite, Disseminated, 5%									
		121.00 - 146.00	Py DIS 0.5	Pyrite, Disseminated, 0.5%									

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-004**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> <i>(m)</i>	<i>To</i> <i>(m)</i>	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> <i>(ppm)</i>	<i>AV</i> <i>Au</i> <i>(ppm)</i>	<i>FA</i> <i>Au</i> <i>(ppm)</i>	<i>FA2</i> <i>Au</i> <i>(ppm)</i>	<i>FA3</i> <i>Au</i> <i>(ppm)</i>
146.00	150.00	OBIF <i>Oxide Facies Iron Formation</i>		808170	146.60	148.00	1.40	0.01	-	0.01	-	-
				808171	148.00	149.00	1.00	0.01	-	0.01	-	-
				808173	149.00	150.00	1.00	0.01	-	0.01	-	-

QUALITY CONTROL REPORT

Hole Number: **JM18-004**

Project: **JUMPING MOOSE**

Project Number: **262**

Sample #	Sample Type	Duplicate of	Standard name	Laboratory	AV	FA	FA2	FA3	FA4	FA5	SFA	SFA2	SFA3	GA	GA2	GA3	GA4	GA5	AR	AR2	AR3	Wt (kg)
					Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	
808160	STANDARD		OREAS 224	Actlabs	2	-	2.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808172	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DRILL HOLE REPORT

Hole Number: **JM18-005**

Project: **JUMPING MOOSE**

Project Number: **262**

Drilling	Casing	Core	Location	Other
Azimuth: 230	Length: 6	Dimension: NQ	Claim No.: 342106	Company: IAMGOLD
Dip: -50	Pulled: no	Diam Chang: no	NTS:	Contractor: NPLH
Length: 204	Capped: yes	Storage: Klondike Lodge	Hole: SURFACE	Spotted by: Adam Warram
Started: 18-Oct-18	Cemented: no	Hole Type: DDH	Section: t	Surveyed:
Completed: 20-Oct-18	Left in hole: no	Logged by: Adam Warram	Zone: 17	Surveyed by:
Logged: 07-Nov-18	Making water: no	Relog by:	NAD: NAD83	Multi shot su yes
Township:	Plugged: no			
Target: Fold nose of quartz vein (any depth) and iron formation (80-170m)			Coordinate - Gemcom	Coordinate - UTM
Comment: Testing the fold nose of the quartz vein in Trench #1 (could encounter at any depth) along with the gold-bearing iron formation (roughly between 80m-170m)			East: 469871	East: 469574
			North: 5293865	North: 5293906
			Elev.: 354	Elev.: 354
				Coordinate - Local
				East: 0
				North: 0
				Elev.: 0

Deviation Tests

Density Tests

<i>Distance</i>	<i>Azimuth</i>	<i>Dip</i>	<i>Easting</i>	<i>Northing</i>	<i>Elevation</i>	<i>Mag. Fie.</i>	<i>Type</i>	<i>Good</i>	<i>Comments</i>
0.00	230.00	-50.00	0	0	0		C	<input checked="" type="checkbox"/>	

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-005**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
0.00	7.67	OB Overburden overburden.										
7.67	35.50	MVOL Mafic Metavolcanic Mafic-intermediate metavolcanics (possibly diorite). Light Green-grey to light green. Weak-moderately foliated. Fg-mg. Mod pv chl, weak sel bt, mod sel ser. Trace to 1% dis/fo/vn Py. Irregular sub-parallel qtz-cb-ser+/- chl+/- hem veinlets/stringers throughout unit (2-3%)some with trace PY. Lower contact with ultramafic volcanic sharp.	GG	850789	20.85	22.00	1.15	0.01	-	0.01	-	-
				850790	22.00	23.50	1.50	0.01	-	0.01	-	-
				850791	31.00	32.00	1.00	0.01	-	0.01	-	-
				850792	34.00	35.00	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		7.67 - 35.50	BIO SEL 2	Biotitization, Selective, Weak								
		7.67 - 35.50	SR SEL 3	Sericitization, Selective, Moderate								
		7.67 - 35.50	CL PV 3	Chloritization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		7.67 - 35.50	Py VN 0.1	Pyrite, Vein-controlled, 0.1%								
		7.67 - 35.50	Py DIS 0.1	Pyrite, Disseminated, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		7.67 - 35.50	WM FOL	Foliated								
		Texture Maj:	Type	Comment								
		7.67 - 35.50	MG	Medium Grained(1-5mm)								
		7.67 - 35.50	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		7.67 - 35.50	VN 2 100	QCSCV Quartz Carb Sericite Vein, 100%								

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-005**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)																
35.50	50.35	UMVO Ultramafic Metavolcanic L	GRBLK																									
<p>Ultramafic metavolcanic. Dark grey to blackish grey. Vfg-fg. Weak-mod foliated (some sections of mod-strong shearing). Strong pervasive mag. Mod-strong pv chl, mod-strong pv talc, mod sel ser, strong pv mag. Trace dis/vn py. 1-3% qtz-cb-ser veining mostly along foliation but some irregular. Small non-magnetic diabase/possibly lamprophyre dykes up to 45cm (2%) towards bottom of unit approaching contact with small diabase dyke. Last 4m of unit mod-strongly sheared with some minor folding. Upper contact with mafic-intermediate metavolcanics sharp. Lower contact with diabase dyke sharp but strongly sheared/weak fault.</p>																												
<p>Alteration Maj:</p> <table border="1"> <thead> <tr> <th><i>Type/Style/Intensity</i></th> <th><i>Comment</i></th> </tr> </thead> <tbody> <tr> <td>35.50 - 46.00 MAG PV 4</td> <td>Magnetite, Pervasive, Strong</td> </tr> <tr> <td>35.50 - 46.00 SR SEL 3</td> <td>Sericitization, Selective, Moderate</td> </tr> <tr> <td>35.50 - 46.00 CL PV 4</td> <td>Chloritization, Pervasive, Strong + mod-strong talc</td> </tr> <tr> <td>46.00 - 50.35 CB SEL 2</td> <td>Carbonatization, Selective, Weak</td> </tr> <tr> <td>46.00 - 50.35 MAG PV 4</td> <td>Magnetite, Pervasive, Strong</td> </tr> <tr> <td>46.00 - 50.35 SR SEL 3</td> <td>Sericitization, Selective, Moderate</td> </tr> <tr> <td>46.00 - 50.35 CL PV 4</td> <td>Chloritization, Pervasive, Strong + mod-strong talc</td> </tr> </tbody> </table>													<i>Type/Style/Intensity</i>	<i>Comment</i>	35.50 - 46.00 MAG PV 4	Magnetite, Pervasive, Strong	35.50 - 46.00 SR SEL 3	Sericitization, Selective, Moderate	35.50 - 46.00 CL PV 4	Chloritization, Pervasive, Strong + mod-strong talc	46.00 - 50.35 CB SEL 2	Carbonatization, Selective, Weak	46.00 - 50.35 MAG PV 4	Magnetite, Pervasive, Strong	46.00 - 50.35 SR SEL 3	Sericitization, Selective, Moderate	46.00 - 50.35 CL PV 4	Chloritization, Pervasive, Strong + mod-strong talc
<i>Type/Style/Intensity</i>	<i>Comment</i>																											
35.50 - 46.00 MAG PV 4	Magnetite, Pervasive, Strong																											
35.50 - 46.00 SR SEL 3	Sericitization, Selective, Moderate																											
35.50 - 46.00 CL PV 4	Chloritization, Pervasive, Strong + mod-strong talc																											
46.00 - 50.35 CB SEL 2	Carbonatization, Selective, Weak																											
46.00 - 50.35 MAG PV 4	Magnetite, Pervasive, Strong																											
46.00 - 50.35 SR SEL 3	Sericitization, Selective, Moderate																											
46.00 - 50.35 CL PV 4	Chloritization, Pervasive, Strong + mod-strong talc																											
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<i>Type/Style/%Mineral</i>	<i>Comment</i>																											
35.50 - 50.35 Py VN 0.1	Pyrite, Vein-controlled, 0.1%																											
35.50 - 50.35 Py DIS 0.2	Pyrite, Disseminated, 0.2%																											
<p>Structure Maj.:</p> <table border="1"> <thead> <tr> <th><i>Inte/Type/Core Angle</i></th> <th><i>Comment</i></th> </tr> </thead> <tbody> <tr> <td>35.50 - 46.00 M FOL</td> <td>Foliated</td> </tr> <tr> <td>46.00 - 50.35 MS SHRD</td> <td>Sheared</td> </tr> </tbody> </table>													<i>Inte/Type/Core Angle</i>	<i>Comment</i>	35.50 - 46.00 M FOL	Foliated	46.00 - 50.35 MS SHRD	Sheared										
<i>Inte/Type/Core Angle</i>	<i>Comment</i>																											
35.50 - 46.00 M FOL	Foliated																											
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<i>Type</i>	<i>Comment</i>																											
35.50 - 50.35 FG	Fine Grained (<1mm)																											
35.50 - 50.35 HT	Heterogeneous																											
<p>Vein Maj. :</p> <table border="1"> <thead> <tr> <th><i>Style/%vein/CoreA/%min/min</i></th> <th><i>Comment</i></th> </tr> </thead> <tbody> <tr> <td>35.50 - 46.00 VN 2 100 QCSCV</td> <td>Quartz Carb Sericite Vein, 100%</td> </tr> </tbody> </table>													<i>Style/%vein/CoreA/%min/min</i>	<i>Comment</i>	35.50 - 46.00 VN 2 100 QCSCV	Quartz Carb Sericite Vein, 100%												
<i>Style/%vein/CoreA/%min/min</i>	<i>Comment</i>																											
35.50 - 46.00 VN 2 100 QCSCV	Quartz Carb Sericite Vein, 100%																											

LITHOLOGY REPORT - Detailed -

Hole Number: **JM18-005**

Project: **JUMPING MOOSE**

Project Number: **262**

From (m)	To (m)	Lithology	Weathering Oxidation Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
50.35	51.00	DIA Diabase	GRBLK									
<p>Diabase dyke (possibly lamprophyre dyke). Fg. Dark grey to blackish grey. Weak to moderately broken core the whole way through. Non magnetic. Trace dis py. Weak-mod pv chl, weak sel bt, weak sel cb. Upper contact with ultramafic volcanics sharp but sheared/weak fault. Lower contact with Ultramafic volcanics sharp but irregular (broken core).</p>												
<p>Alteration Maj: Type/Style/Intensity Comment</p>												
50.35 - 51.00 CB SEL 2 Carbonatization, Selective, Weak												
50.35 - 51.00 BIO SEL 2 Biotitization, Selective, Weak												
50.35 - 51.00 CL PV 2 Chloritization, Pervasive, Weak												
<p>Mineralization Maj. : Type/Style/%Mineral Comment</p>												
50.35 - 51.00 Py DIS 0.1 Pyrite, Disseminated, 0.1%												
<p>Structure Maj.: Inte/Type/Core Angle Comment</p>												
50.35 - 51.00 M BC Broken Core												
<p>Texture Maj: Type Comment</p>												
50.35 - 51.00 MAS Massive												
50.35 - 51.00 FG Fine Grained (<1mm)												
50.35 - 51.00 HO Homogeneous												
51.00	63.00	UMVO Ultramafic Metavolcanic L	DGY	850793	52.00	53.50	1.50	0.01	-	0.01	-	-
<p>Ultramafic metavolcanic. Dark grey to blackish grey. Vfg-fg. Strongly sheared (wavy, minor folding). Intense sheared from 58.1-63m (weak-mod fault zone from 61.3-61.7m) Strong pervasive mag until 57m. Mod-strong pv chl, mod-strong pv talc, weak-mod sel ser, strong pv mag, weak-mod sel cb. Trace dis/vn py. 30% qtz-cb-ser veining along shear plane (ribbon texture). Small non-magnetic diabase/possibly lamprophyre dykes up to 40cm (3%). Upper contact with diabase/lamprophyre dyke sharp but irregular (broken core). Lower contact with Oxide facies iron formation sharp (5cm piece of oxide facies iron formation at 61.1m).</p>												
<p>Alteration Maj: Type/Style/Intensity Comment</p>												
51.00 - 58.00 MAG SEL 3 Magnetite, Selective, Moderate												

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<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
	51.00 - 58.00	CB SEL 3	Carbonatization, Selective, Moderate									
	51.00 - 58.00	SR SEL 2	Sericitization, Selective, Weak									
	51.00 - 58.00	CL PV 4	Chloritization, Pervasive, Strong + mod-strong talc									
	58.00 - 63.00	MAG SEL 1	Magnetite, Selective, Very weak									
	58.00 - 63.00	CB SEL 3	Carbonatization, Selective, Moderate									
	58.00 - 63.00	SR SEL 3	Sericitization, Selective, Moderate									
	58.00 - 63.00	CL PV 5	Chloritization, Pervasive, Intense + strong talc									
	Mineralization Maj. :	Type/Style/%Mineral	Comment									
	51.00 - 63.00	Py VN 0.1	Pyrite, Vein-controlled, 0.1%									
	51.00 - 63.00	Py DIS 0.1	Pyrite, Disseminated, 0.1%									
	Structure Maj.:	Inte/Type/Core Angle	Comment									
	51.00 - 58.10	S SHRD	Sheared									
	58.10 - 61.30	I SHRD	Sheared									
	61.30 - 61.70	M FLTD	Faulted									
	61.70 - 63.00	S SHRD	Sheared									
	Texture Maj:	Type	Comment									
	51.00 - 63.00	FG	Fine Grained (<1mm)									
	51.00 - 63.00	HT	Heterogeneous									
	Vein Maj. :	Style/%vein/CoreA/%min/min	Comment									
	51.00 - 60.20	SHRV 30 100 QCSCV	Quartz Carb Sericite Vein, 100%									
	60.20 - 63.00	SHRV 5 100 QCSCV	Quartz Carb Sericite Vein, 100%									

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63.00	72.50	OBIF Oxide Facies Iron Formation	GRBLK	850794	63.00	64.00	1.00	0.01	-	0.01	-	-
		Oxide facies iron formation. Banded texture. Dark grey to blackish grey. Aphanitic to Vfg. Mod foliated (chl/Po lineations in quartz veining and slicken lines on ends of broken/separated core. Dark grey to black magnetite bands (25-30%) and light silica rich bands (possibly veining, possibly chert?,25-30%). Intense pv mag, Weak pv chl, weak-mod sel ser, weak-mod sel si. 8-12% Po (+/- trace to 1% CPY) as Massive Bands/along fol/lineations in veining/dis, 2-5% PY semi massive in veins/dis/fol. 2-3% irregular Qtz-carb-ser-chl veining, sometimes vuggy and parallel to core axis. Upper contact with ultramafic metavolcanic sharp. Lower contact with mafic to intermediate metavolcanic sharp/sheared and marked by 4cm qtz-cb vein.		850795	64.00	65.00	1.00	0.01	-	0.01	-	-
				850797	65.00	66.00	1.00	0.01	-	0.01	-	-
				850798	66.00	67.00	1.00	0.01	-	0.01	-	-
				850799	67.00	68.00	1.00	0.01	-	0.01	-	-
				850800	68.00	69.00	1.00	0.01	-	0.01	-	-
				850801	69.00	70.00	1.00	0.01	-	0.01	-	-
				850802	70.00	71.00	1.00	0.01	-	0.01	-	-
				850803	71.00	72.00	1.00	0.01	-	0.01	-	-
				850804	72.00	72.50	0.50	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		63.00 - 72.50	SI SEL 2	Silicification, Selective, Weak								
		63.00 - 72.50	SR SEL 2	Sericitization, Selective, Weak								
		63.00 - 72.50	CL PV 2	Chloritization, Pervasive, Weak								
		63.00 - 72.50	MAG BNDS 5	Magnetite, Bands/Banded, Intense								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		63.00 - 72.50	Py FOL 2	Pyrite, Along foliation, 2%								
		63.00 - 72.50	Cpy FOL 1	Chalcopyrite, Along foliation, 1%								
		63.00 - 72.50	Py VN 2	Pyrite, Vein-controlled, 2%								
		63.00 - 72.50	Po VN 2	Pyrrhotite, Vein-controlled, 2%								
		63.00 - 72.50	Po DIS 3	Pyrrhotite, Disseminated, 3%								
		63.00 - 72.50	Po FOL 5	Pyrrhotite, Along foliation, 5%								
		63.00 - 72.50	Po BNDS 3	Pyrrhotite, Bands, 3%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		63.00 - 72.50	M FOL	Foliated								
		Texture Maj:	Type	Comment								
		63.00 - 72.50	BND	Banded								
		63.00 - 72.50	FG	Fine Grained (<1mm)								
		63.00 - 72.50	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		63.00 - 72.50	VN 3 100	QCSCV Quartz Carb Sericite Vein, 100% + chl								

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72.50	111.40	MVOL Mafic Metavolcanic	GG	850805	72.50	74.00	1.50	0.01	-	0.01	-	-
		Mafic-intermediate metavolcanic. Green grey to dark green grey. Fg-mg. Weak to mod foliated. Trace dis/vn py. Weak-mod pv chl, weak sel hem, weak -mod sel ser, very weak sel bt, very weay sel cb. Sub-parallel but sometimes irregular qtz-cb-ser-hem veinlets/stringers (3-5%). Broken core from 83.15-83.6m. Small pinkish-purple fg dykes (up yo 18cm) at 102.7m (likely lamp dyke). Upper contact with oxide facies iron formation sharp and marked by 4cm qtz-cb vein. Lower contact with ultramafic metavolcanic sharp.		850806	79.00	80.00	1.00	0.01	-	0.01	-	-
				850807	82.50	84.00	1.50	0.01	-	0.01	-	-
				850808	84.00	85.50	1.50	0.01	-	0.01	-	-
				850809	85.50	87.00	1.50	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	850810	94.15	95.40	1.25	0.01	-	0.01	-
		72.50 - 111.40	CB SEL 1	Carbonatization, Selective, Very weak	850811	106.20	107.40	1.20	0.01	-	0.01	-
		72.50 - 111.40	BIO SEL 1	Biotitization, Selective, Very weak	850813	108.60	110.00	1.40	0.01	-	0.01	-
		72.50 - 111.40	SR SEL 2	Sericitization, Selective, Weak								
		72.50 - 111.40	CL PV 3	Chloritization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		72.50 - 111.40	Py VN 0.1	Pyrite, Vein-controlled, 0.1%								
		72.50 - 111.40	Py DIS 0.1	Pyrite, Disseminated, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		72.50 - 111.40	WM FOL	Foliated								
		Texture Maj:	Type	Comment								
		72.50 - 111.40	FG	Fine Grained (<1mm)								
		72.50 - 111.40	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment								
		72.50 - 94.15	STG 3 100	QCSCV Quartz Carb Sericite Vein, 100% +/- hem								
		94.15 - 95.40	VN 65 100	QCSCV Quartz Carb Sericite Vein, 100%, irregular								
		95.40 - 111.40	VN 2 100	QCSCV Quartz Carb Sericite Vein, 100%								
111.40	114.70	UMVO Ultramafic Metavolcanic	GG	850814	113.80	114.70	0.90	0.01	-	0.01	-	-
		L										
		Ultramafic metavolcanic. Grey green to blue grey green. Vfg-fg. Mod-strongly foliated/sheared (slightly										

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		wavy). Intense sheared and chl altered from 114.3-114.7. Weak-mod pv magnetism. Mod-strong pv chl, mod pv talc, weak sel ser, mod sel mag. Trace dis/vn py. qtz-cb-ser stringers/irregular veinlets (2%). Upper contact with mafic-intermediate metavolcanic sharp. Lower contact with int/lamp dyke sharp but intensely sheared.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		111.40 - 114.30	MAG SEL 3	Magnetite, Selective, Moderate								
		111.40 - 114.30	SR SEL 2	Sericitization, Selective, Weak								
		111.40 - 114.30	CL PV 3	Chloritization, Pervasive, Moderate + mod talc								
		114.30 - 114.70	CL PV 5	Chloritization, Pervasive, Intense + mod talc?								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		111.40 - 114.70	Py VN 0.1	Pyrite, Vein-controlled, 0.1%								
		111.40 - 114.70	Py DIS 0.1	Pyrite, Disseminated, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		111.40 - 114.30	M FOL	Foliated								
		114.30 - 114.70	I SHRD	Sheared								
		Texture Maj:	Type	Comment								
		111.40 - 114.70	FG	Fine Grained (<1mm)								
		111.40 - 114.70	HT	Heterogeneous								
114.70	115.35	INTD Intermediate Dyke		PI								
		Possibly hematite altered lamprophyre/non-magnetic diabase dyke. Aphanitic to vfg. Pinkish purple. Non magnetic. Trace to 1% dis py. Weak sel ser, mod pv hem. Upper contact with ultramafic volcanics sharp. Lower contact with Ultramafic volcanics sharp.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		114.70 - 115.35	SR SEL 2	Sericitization, Selective, Weak								
		114.70 - 115.35	HM PV 3	Hematization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		114.70 - 115.35	Py DIS 1	Pyrite, Disseminated, 1%								

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		Texture Maj:	Type	Comment								
		114.70 - 115.35	HO	Homogeneous								
		114.70 - 115.35	AP	Aphanitic								
		114.70 - 115.35	MAS	Massive								
115.35	127.00	UMVO Ultramafic Metavolcanic L		GG								
		Ultramafic metavolcanic. Grey green to blue grey green. Vfg-fg. Mod-strongly foliated/sheared (slightly wavy). Mod-strong pv magnetism. Mod pv chl, mod pv talc, weak sel ser, mod sel mag, weak sel cb. Trace dis/vn py. Sub-parallel (sometimes irregular) qtz-cb-ser stringers/irregular veinlets (6-8%) along foliation/shear plane. Upper contact with int/lamp dyke sharp. Lower contact with lamp dyke sharp.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		115.35 - 127.00	MAG SEL 3	Magnetite, Selective, Moderate								
		115.35 - 127.00	CB SEL 2	Carbonatization, Selective, Weak								
		115.35 - 127.00	SR SEL 2	Sericitization, Selective, Weak								
		115.35 - 127.00	CL PV 3	Chloritization, Pervasive, Moderate + mod talc								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		115.35 - 127.00	Py DIS 0.1	Pyrite, Disseminated, 0.1%								
		115.35 - 127.00	Py DIS 0.3	Pyrite, Disseminated, 0.3%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		115.35 - 127.00	MS FOL	Foliated								
		Texture Maj:	Type	Comment								
		115.35 - 127.00	FG	Fine Grained (<1mm)								
		115.35 - 127.00	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment								
		115.35 - 122.00	SHRV 3 100	QCSCV Quartz Carb Sericite Vein, 100%								

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<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)	
	122.00 - 127.00	8 100 QCSCV	Quartz Carb Sericite Vein, 100%										
127.00	129.70	LAMP Lamprophyre Dyke D	BLK										
		Lamprophyre dyke. Blackish grey. Fg. Massive. Non-magnetic. Weak-mod sel bt+ser, weak pv chl, very weak sel cb. 2-3% dis py. Irregular qtz-cb stringers (<1%). Upper contact with Ultramafic metavolcanic sharp. Lower contact with Ultramafic metavolcanic sharp.											
		Alteration Maj:	Type/Style/Intensity	Comment									
		127.00 - 129.70	CB SEL 1	Carbonatization, Selective, Very weak									
		127.00 - 129.70	SR SEL 2	Sericitization, Selective, Weak									
		127.00 - 129.70	BIO SEL 2	Biotitization, Selective, Weak									
		127.00 - 129.70	CL PV 2	Chloritization, Pervasive, Weak									
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
		127.00 - 129.70	Py DIS 3	Pyrite, Disseminated, 3%									
		Texture Maj:	Type	Comment									
		127.00 - 129.70	FG	Fine Grained (<1mm)									
		127.00 - 129.70	HT	Heterogeneous									
		127.00 - 129.70	MAS	Massive									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment									
		127.00 - 129.70	STG 0.2 100 QCV	Quartz-Calcite Vein, 100%									
129.70	146.00	UMVO Ultramafic Metavolcanic L	GG		850815	138.70	140.20	1.50	0.01	-	0.01	-	-
					850816	143.00	144.15	1.15	0.01	-	0.01	-	-
		Ultramafic metavolcanic. Grey to blue grey green. Vfg-fg. Mod foliated/sheared (slightly wavy). Mod-strong pv magnetism. Mod pv chl, mod pv talc, weak sel ser, mod sel mag, weak sel cb. 1-2% dis/vn py. Sub-parallel (sometimes irregular) qtz-cb-ser stringers/irregular veinlets (6-8%) along foliation/shear plane. Upper contact with lamp dyke sharp. Lower contact with mafic-intermediate metavolcanic sharp.											
		Alteration Maj:	Type/Style/Intensity	Comment									

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<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)	
	129.70 - 146.00	CB SEL 2	Carbonatization, Selective, Weak										
	129.70 - 146.00	MAG SEL 3	Magnetite, Selective, Moderate										
	129.70 - 146.00	SR SEL 2	Sericitization, Selective, Weak										
	129.70 - 146.00	CL PV 3	Chloritization, Pervasive, Moderate + mod talc										
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
	129.70 - 146.00	Py VN 0.1	Pyrite, Vein-controlled, 0.1%										
	129.70 - 146.00	Py DIS 2	Pyrite, Disseminated, 2%										
		Texture Maj:	Type	Comment									
	129.70 - 146.00	FG	Fine Grained (<1mm)										
	129.70 - 146.00	HT	Heterogeneous										
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment									
	129.70 - 146.00	SHRV 7 100	QCSCV Quartz Carb Sericite Vein, 100%										
146.00	156.20	MVOL Mafic Metavolcanic		GG	850817	152.85	154.00	1.15	0.01	-	0.01	-	-
		Diorite intrusive or fg-mg mafic-intermediate metavolcanic. Green grey. Fg-mg. Massive to very weakly foliated. Weak to mod magnetic. Trace to 1% dis/vn/frac py.weak-mod sel mag, weak-mod pv chl,weak-mod sel amphibole/bt alt?. Sub-parallel but sometimes irregular qtz-cb-ser+/-hem veinlets/stringers (3-5%). Upper contact with ultramafic metavolcanic sharp. Lower contact with ultramafic metavolcanic marked by 30cm lamprophyre dyke.											
		Alteration Maj:	Type/Style/Intensity	Comment									
	146.00 - 156.20	MAG SEL 2	Magnetite, Selective, Weak										
	146.00 - 156.20	AM SEL 3	Amphibolitization, Selective, Moderate or possibly biotite										
	146.00 - 156.20	CL PV 2	Chloritization, Pervasive, Weak										
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
	146.00 - 156.20	Py FAC 0.1	Pyrite, Fracture-controlled, 0.1%										
	146.00 - 156.20	Py VN 0.3	Pyrite, Vein-controlled, 0.3%										
	146.00 - 156.20	Py DIS 0.5	Pyrite, Disseminated, 0.5%										

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<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)	
		Texture Maj:	Type	Comment									
		146.00 - 156.20	MG	Medium Grained(1-5mm)									
		146.00 - 156.20	HT	Heterogeneous									
		146.00 - 156.20	MAS	Massive									
		Vein Maj. :	Style/%vein/CoreA%/min/min	Comment									
		146.00 - 156.20	STG 4 35 QCSCV	Quartz Carb Sericite Vein, 35% + hem									
		146.00 - 156.20	STG 4 65 QCTCV	Quartz Carb Tourmaline Chalcopyrite Vein, 65%									
156.20	167.05	UMVO Ultramafic Metavolcanic L		GG	850818	166.00	167.05	1.05	0.01	-	0.01	-	-
		<p>Ultramafic-mafic metavolcanic. Grey to blue grey green. Vfg-fg. Weak to mod foliated (some minor folding). Small lamp dykes up to 30cm (5-8%). Mod-strong pv magnetism. Mod pv chl, weak pv talc), weak-mod sel ser, weak sel cb, weak-mod sel actinolite?. Trace py/po+cpy along veinlets/fracs. Irregular/folded Qtz-cb-ser stringers/veinlets (1%). Upper contact with diorite/mafic metavolcanic marked by 30cm lamprophyre dyke. Lower contact with oxide facies iron formation sharp and marked by 2cm Qtz vein.</p>											
		Alteration Maj:	Type/Style/Intensity	Comment									
		156.20 - 167.05	AM SEL 2	Amphibolitization, Selective, Weak									
		156.20 - 167.05	CB SEL 2	Carbonatization, Selective, Weak									
		156.20 - 167.05	SR SEL 2	Sericitization, Selective, Weak									
		156.20 - 167.05	CL PV 3	Chloritization, Pervasive, Moderate + weak talc									
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
		156.20 - 167.05	Cpy VN 0.1	Chalcopyrite, Vein-controlled, 0.1%									
		156.20 - 167.05	Po VN 0.1	Pyrrhotite, Vein-controlled, 0.1%									
		156.20 - 167.05	Py FAC 0.1	Pyrite, Fracture-controlled, 0.1%									
		Structure Maj.:	Inte/Type/Core Angle	Comment									
		156.20 - 167.05	WM FOL	Foliated									
		Texture Maj:	Type	Comment									

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	156.20 - 167.05	HT	Heterogeneous									
	Vein Maj. :	Style/%vein/CoreA/%min/min	Comment									
	156.20 - 167.05	VN 1 100	QCSCV Quartz Carb Sericite Vein, 100%									
167.05	170.15	OBIF Oxide Facies Iron Formation	DGY	850819	167.05	168.00	0.95	0.01	-	0.01	-	-
		Oxide facies iron formation. Appears to be exact same style iron formation as unit from 63-72.5m. Banded texture. Dark grey to blackish grey. Aphanitic to Vfg. Mod foliated (chl/Po lineations in quartz veining and slicken lines on ends of broken/separated core. Dark grey to black magnetite bands (30-35%) and light silica rich bands (possibly other generation of veining, possibly chert?,20-25%). Intense pv mag, Weak sel chl, weak sel ser, very weak sel cb, weak-mod sel si. 3-6% Po (+/- trace to 1% CPY) as thin Bands/along fol/lineations in veining/frac, 1-2% PY semi massive in veins/dis/fol (mostly near upper contact). Sub parallel but slightly Irregular Qtz-carb-ser-chl veining along fol (6-8%). Upper contact with ultramafic-mafic metavolcanic sharp and marked by 2cm quartz vien. Lower contact with mafic to intermediate metavolcanic sharp and marked by 3cm qtz-cb-chl vein.		850820	168.00	169.00	1.00	0.01	-	0.01	-	-
				850821	169.00	170.15	1.15	0.01	-	0.01	-	-
	Alteration Maj:	Type/Style/Intensity	Comment									
	167.05 - 170.15	SI SEL 2	Silicification, Selective, Weak									
	167.05 - 170.15	CB SEL 1	Carbonatization, Selective, Very weak									
	167.05 - 170.15	CL SEL 2	Chloritization, Selective, Weak									
	167.05 - 170.15	MAG BNDS 5	Magnetite, Bands/Banded, Intense									
	Mineralization Maj. :	Type/Style/%Mineral	Comment									
	167.05 - 170.15	Cpy FOL 0.1	Chalcopyrite, Along foliation, 0.1%									
	167.05 - 170.15	Cpy VN 0.1	Chalcopyrite, Vein-controlled, 0.1%									
	167.05 - 170.15	Cpy FAC 0.2	Chalcopyrite, Fracture-controlled, 0.2%									
	167.05 - 170.15	Py VN 2	Pyrite, Vein-controlled, 2%									
	167.05 - 170.15	Po FAC 2	Pyrrhotite, Fracture-controlled, 2%									
	167.05 - 170.15	Po VN 1	Pyrrhotite, Vein-controlled, 1%									
	167.05 - 170.15	Po FOL 2	Pyrrhotite, Along foliation, 2%									
	Structure Maj.:	Inte/Type/Core Angle	Comment									
	167.05 - 170.15	M FOL	Foliated									
	Texture Maj:	Type	Comment									
	167.05 - 170.15	AP	Aphanitic									

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	167.05 - 170.15	BND	Banded									
	167.05 - 170.15	HT	Heterogeneous									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	167.05 - 170.15	FPV 30	70	QCSCV	Quartz Carb Sericite Vein, 70%							
	167.05 - 170.15	FPV 30	30	QCHLV	Quartz-Chlorite Vein, 30%							
170.15	191.00	MVOL Mafic Metavolcanic	GG	850822	170.15	171.00	0.85	0.01	-	0.01	-	-
		Mafic-intermediate metavolcanic. Green grey (brownish grey to grey from 182-191m, may be clastic metasediments with gradational contact but likely just result of alteration and boudinaged/folded veining resembling felsic clasts. Fg. Moderately to strongly foliated, minor folding after 182, moderate folding after 189m. Non-magnetic. Trace to 2% dis/fo/vn py. Mod pv chl, mod sel ser, weak sel bt. Sub-parallel but sometimes irregular (irregular and folded after 182m) qtz-cb-ser vienlets/stringers (3-5% before 182m, 20-25% after 182m, 40-50% after 189m). Upper contact with oxide facies iron formation sharp. Lower contact with lamprophyre dyke sharp.		850823	182.00	183.00	1.00	0.01	-	0.01	-	-
				850825	183.00	184.00	1.00	0.01	-	0.01	-	-
				850826	184.00	185.00	1.00	0.01	-	0.01	-	-
				850827	185.00	186.00	1.00	0.01	-	0.01	-	-
				850828	186.00	187.00	1.00	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	850829	187.00	188.00	1.00	0.01	-	0.01	-
	170.15 - 182.00	BIO SEL 2		Biotitization, Selective, Weak	850830	188.00	189.00	1.00	0.01	-	0.01	-
	170.15 - 182.00	SR SEL 3		Sericitization, Selective, Moderate	850831	189.00	190.00	1.00	0.01	-	0.01	-
	170.15 - 182.00	CL PV 3		Chloritization, Pervasive, Moderate	850832	190.00	191.00	1.00	0.01	-	0.01	-
	182.00 - 191.00	CB SEL 3		Carbonatization, Selective, Moderate								
	182.00 - 191.00	BIO SEL 3		Biotitization, Selective, Moderate								
	182.00 - 191.00	SR SEL 2		Sericitization, Selective, Weak								
	182.00 - 191.00	CL PV 3		Chloritization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
	170.15 - 182.00	Py VN 0.1		Pyrite, Vein-controlled, 0.1%								
	170.15 - 182.00	Py DIS 0.1		Pyrite, Disseminated, 0.1%								
	182.00 - 191.00	Py VN 0.5		Pyrite, Vein-controlled, 0.5%								
	182.00 - 191.00	Py DIS 2		Pyrite, Disseminated, 2%								
		Texture Maj:	Type	Comment								
	170.15 - 191.00	FG		Fine Grained (<1mm)								

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	170.15 - 191.00	HT	Heterogeneous											
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment										
	170.15 - 182.00	FPV 3	100	QCSCV	Quartz Carb Sericite Vein, 100%									
	182.00 - 189.00	FPV 25	100	QCSCV	Quartz Carb Sericite Vein, 100%									
	189.00 - 191.00	40	100	QCSCV	Quartz Carb Sericite Vein, 100%									
191.00	192.00	LAMP D <i>Lamprophyre Dyke</i>												
		Lamprophyre dyke. Purple grey. Fg-mg. Weak-moderately foliated. Non-magnetic. Mod pv hem, weak pv chl, mod sel bt, very weak sel cb. 1-2% dis py. Qtz-cb stringers (<1%). Upper contact with mafic-intermediate metavolcanic sharp. Lower contact with mafic to intermediate metavolcanic sharp.												
		Alteration Maj:	Type/Style/Intensity	Comment										
	191.00 - 192.00	CB SEL 1		Carbonatization, Selective, Very weak										
	191.00 - 192.00	BIO SEL 3		Biotitization, Selective, Moderate										
	191.00 - 192.00	CL PV 2		Chloritization, Pervasive, Weak										
	191.00 - 192.00	HM PV 3		Hematization, Pervasive, Moderate										
		Mineralization Maj. :	Type/Style/%Mineral	Comment										
	191.00 - 192.00	Py DIS 2		Pyrite, Disseminated, 2%										
		Structure Maj.:	Inte/Type/Core Angle	Comment										
	191.00 - 192.00	WM FOL		Foliated										
		Texture Maj:	Type	Comment										
	191.00 - 192.00	FG		Fine Grained (<1mm)										
	191.00 - 192.00	HT		Heterogeneous										
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment										
	191.00 - 192.00	STG 0.5	100	QCV	Quartz-Calcite Vein, 100%									

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192.00	194.55	MVOL Mafic Metavolcanic	GY	850833	192.00	193.00	1.00	0.89	-	0.89	-	-
		Mafic-intermediate metavolcanic (possibly metasediments/volcaniclastics/ultramafic volcanics - most of unit is shear hosted qtz-cb-ser veining difficult to identify protolith). Green grey. Vfg-Fg. Strong to intensely sheared and folded with 50-60% ribbon texture qtz-cb-ser veining (6cm of possible fuchsite alteration in veining at 193.45m). Non-magnetic. Trace fol/vn py. Mod-strong pv chl, mod-strong sel ser. Upper contact with lamprophyre dyke sharp. Lower contact with oxide facies iron formation sharp.		850834	193.00	194.55	1.55	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment								
		192.00 - 194.55	CB SEL 3	Carbonatization, Selective, Moderate								
		192.00 - 194.55	SR SEL 3	Sericitization, Selective, Moderate								
		192.00 - 194.55	CL PV 3	Chloritization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		192.00 - 194.55	Py VN 0.1	Pyrite, Vein-controlled, 0.1%								
		192.00 - 194.55	Py FOL 0.1	Pyrite, Along foliation, 0.1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		192.00 - 194.55	S FLD	Folded								
		192.00 - 194.55	S SHRD	Sheared								
		Texture Maj:	Type	Comment								
		192.00 - 194.55	FG	Fine Grained (<1mm)								
		192.00 - 194.55	HT	Heterogeneous								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		192.00 - 194.55	SHRV 50 100	QCSCV Quartz Carb Sericite Vein, 100%								
194.55	195.00	OBIF Oxide Facies Iron Formation	DGY	850835	194.55	195.00	0.45	0.02	-	0.02	-	-
		Dark grey to blackish grey. Aphanitic to fg. Weak to mod foliated. Mod pv chl, strong sel mag (irregular bands/massive), weak sel cb, weak sel ser. 10-12% dis/fol/vn/cubic PY, trace cpy vn. 6-8% Qtz-carb-ser veining, also 35-40% ghosty boudinaged veining/quartz rich felsic stretched lapillis. Upper contact with Mafic to intermediate metavolcanic sharp. Lower contact with Mafic to intermediate metavolcanic sharp.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		194.55 - 195.00	CB SEL 2	Carbonatization, Selective, Weak								

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	194.55 - 195.00	SR SEL 2	Sericitization, Selective, Weak										
	194.55 - 195.00	CL PV 2	Chloritization, Pervasive, Weak										
	194.55 - 195.00	MAG BNDS 5	Magnetite, Bands/Banded, Intense										
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
	194.55 - 195.00	Cpy VN 0.1	Chalcopyrite, Vein-controlled, 0.1%										
	194.55 - 195.00	Py VN 4	Pyrite, Vein-controlled, 4%										
	194.55 - 195.00	Py FOL 8	Pyrite, Along foliation, 8%										
		Structure Maj.:	Inte/Type/Core Angle	Comment									
	194.55 - 195.00	M FOL	Foliated										
		Texture Maj:	Type	Comment									
	194.55 - 195.00	FG	Fine Grained (<1mm)										
	194.55 - 195.00	HT	Heterogeneous										
	194.55 - 195.00	BND	Banded										
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment									
	194.55 - 195.00	VN 6 100	QCSCV	Quartz Carb Sericite Vein, 100%									
195.00	204.00	MVOL Mafic Metavolcanic		GG	850837	195.00	196.00	1.00	0.01	-	0.01	-	-
		Mafic-intermediate metavolcanic. Green grey. Fg. Moderately foliated. Moderate magnetism (slightly patchy). 1- 2% dis/fo/vn py. Mod pv chl,weak sel cb, weak-mod sel ser + bt. Sub-parallel but sometimes irregular qtz-cb-ser vienlets/stringers(3-5%). 20cm qtz-cb-ser-chl vein with 3-5% Py @ 200.75m. Upper contact with oxide facies iron formation sharp. EOH			850838	200.60	201.30	0.70	0.02	-	0.02	-	-
		Alteration Maj:	Type/Style/Intensity	Comment									
	195.00 - 204.00	BIO SEL 2	Biotitization, Selective, Weak										
	195.00 - 204.00	SR SEL 2	Sericitization, Selective, Weak										
	195.00 - 204.00	CL PV 3	Chloritization, Pervasive, Moderate										
	195.00 - 204.00	CB SEL 2	Carbonatization, Selective, Weak										
		Mineralization Maj. :	Type/Style/%Mineral	Comment									
	195.00 - 204.00	Py VN 1	Pyrite, Vein-controlled, 1%										

LITHOLOGY REPORT - Detailed -

Hole Number: **JM18-005**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
	195.00 - 204.00	Py DIS 2	Pyrite, Disseminated, 2%									
		Structure Maj.:	Inte/Type/Core Angle	Comment								
	195.00 - 204.00	M FOL	Foliated									
		Texture Maj:	Type	Comment								
	195.00 - 204.00	FG	Fine Grained (<1mm)									
	195.00 - 204.00	HT	Heterogeneous									
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
	195.00 - 204.00	STG 4	100 QCSCV	Quartz Carb Sericite Vein, 100%								

QUALITY CONTROL REPORT

Hole Number: **JM18-005**

Project: **JUMPING MOOSE**

Project Number: **262**

Sample #	Sample Type	Duplicate of	Standard name	Laboratory	AV	FA	FA2	FA3	FA4	FA5	SFA	SFA2	SFA3	GA	GA2	GA3	GA4	GA5	AR	AR2	AR3	Wt (kg)
					Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	
850796	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
850812	STANDARD		OREAS 501	Actlabs	0	-	0.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
850824	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
850836	STANDARD		OREAS 502	Actlabs	0	-	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DRILL HOLE REPORT

Hole Number: **JM18-006**

Project: **JUMPING MOOSE**

Project Number: **262**

Drilling	Casing	Core	Location	Other
Azimuth: 165	Length: 3	Dimension: NQ	Claim No.: 271185	Company: IAMGOLD
Dip: 55	Pulled: no	Diam Chang: no	NTS:	Contractor: NPLH
Length: 150	Capped: yes	Storage: Klondike Lodge	Hole: SURFACE	Spotted by:
Started: 20-Oct-18	Cemented:	Hole Type: DDH	Section:	Surveyed:
Completed: 22-Oct-18	Left in hole: no	Logged by: Erik Bobechko	Zone: 17	Surveyed by:
Logged: 07-Nov-18	Making water: yes	Relog by:	NAD: NAD83	Multi shot su yes
Township: BURROWS	Plugged:			
Target:			Coordinate - Gemcom	Coordinate - UTM
Comment:			East: 469488	East: 469488
			North: 5293670	North: 5293670
			Elev.: 350	Elev.: 350
				Coordinate - Local
				East: 0
				North: 0
				Elev.: 0

Deviation Tests

Density Tests

<i>Distance</i>	<i>Azimuth</i>	<i>Dip</i>	<i>Easting</i>	<i>Northing</i>	<i>Elevation</i>	<i>Mag. Fie.</i>	<i>Type</i>	<i>Good</i>	<i>Comments</i>
0.00	165.00	55.00	0	0	0		C	<input checked="" type="checkbox"/>	

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-006**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
0.00	3.00	OB Overburden										
3.00	17.00	FVOL Felsic Metavolcanic		808174	4.20	5.45	1.25	0.01	-	0.01	-	-
<p>Irregular Contact (drilling down dip). Gradual transition from felsic to mafic volcanic. 3-17m could be silicified mafic? Very strong irregular qz-cb veining.</p>												
<p>Alteration Maj:</p>												
		Type/Style/Intensity	Comment									
3.00 - 17.00		CB SEL 1	Carbonatization, Selective, Very weak									
3.00 - 17.00		SR SPV 3	Sericitization, Semi-Pervasive, Moderate									
3.00 - 17.00		CL SPV 2	Chloritization, Semi-Pervasive, Weak									
3.00 - 17.00		SI SPV 2	Silicification, Semi-Pervasive, Weak									
<p>Structure Maj.:</p>												
		Inte/Type/Core Angle	Comment									
3.00 - 17.00		S FOL	Foliated									
<p>Texture Maj:</p>												
		Type	Comment									
3.00 - 17.00		SCH	Schistose									
<p>Vein Maj. :</p>												
		Style/%vein/CoreA%/min/min	Comment									
3.00 - 17.00		VN 10 50 CBV	Carbonate Vein, 50%									
3.00 - 17.00		VN 10 50 QV	Quartz Vein, 50%									

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-006**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> <i>(m)</i>	<i>To</i> <i>(m)</i>	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> <i>(ppm)</i>	<i>AV</i> <i>Au</i> <i>(ppm)</i>	<i>FA</i> <i>Au</i> <i>(ppm)</i>	<i>FA2</i> <i>Au</i> <i>(ppm)</i>	<i>FA3</i> <i>Au</i> <i>(ppm)</i>
17.00	42.00	MVOL Mafic Metavolcanic		808175	16.80	18.00	1.20	0.01	-	0.01	-	-
				808176	18.00	18.95	0.95	0.01	-	0.01	-	-
		Alteration Maj:	Type/Style/Intensity	Comment	808177	23.20	24.00	0.80	0.02	-	0.02	-
		17.00 - 42.00	CB PV 3	Carbonatization, Pervasive, Moderate	808178	27.90	28.50	0.60	0.01	-	0.01	-
		17.00 - 42.00	SR SPV 2	Sericitization, Semi-Pervasive, Weak	808179	30.00	31.00	1.00	0.01	-	0.01	-
		17.00 - 42.00	SI SPV 1	Silicification, Semi-Pervasive, Very weak	808180	31.00	32.00	1.00	0.01	-	0.01	-
		17.00 - 42.00	CL PV 4	Chloritization, Pervasive, Strong	808181	36.00	36.90	0.90	0.01	-	0.01	-
		17.00 - 42.00	CL PV 4	Chloritization, Pervasive, Strong	808182	38.00	39.00	1.00	0.01	-	0.01	-
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		18.00 - 23.00	Py FOL 1	Pyrite, Along foliation, 1%								
		23.00 - 24.00	Po DIS 1	Pyrrhotite, Disseminated, 1%								
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		17.00 - 42.00	S FOL	Foliated								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		30.70 - 31.80	VN 25 0.5 QPYV	Quartz Pyrite Vein, 0.5%								
		30.70 - 31.80	VN 25 9.5 CHLV	Chlorite Veining, 9.5%								
		30.70 - 31.80	VN 25 40 CBV	Carbonate Vein, 40%								
		30.70 - 31.80	VN 25 50 QV	Quartz Vein, 50%								
42.00	44.00	UMVO Ultramafic Metavolcanic										
		L										
		Talc rich unit. Potentially Ultramafic.										
		Alteration Maj:	Type/Style/Intensity	Comment								
		42.00 - 44.00	CB PV 3	Carbonatization, Pervasive, Moderate								
		42.00 - 44.00	CL PV 3	Chloritization, Pervasive, Moderate								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		42.00 - 44.00	Py DIS 0.2	Pyrite, Disseminated, 0.2%								

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-006**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> (ppm)	<i>AV</i> <i>Au</i> (ppm)	<i>FA</i> <i>Au</i> (ppm)	<i>FA2</i> <i>Au</i> (ppm)	<i>FA3</i> <i>Au</i> (ppm)
		Structure Maj.:	Inte/Type/Core Angle	Comment								
		42.00 - 44.00	S FOL	Foliated								
		Texture Maj:	Type	Comment								
		42.00 - 44.00	SCH	Schistose								
44.00	71.75	MVOL Mafic Metavolcanic			808183	53.00	54.00	1.00	0.01	-	0.01	-
		Mafic volcanic, massive to sheared. qz-cb veining with variable intensity and deformation. Tectonic fault breccia from 56-56.5m. Dry looking unit.			808185	54.00	55.50	1.50	0.01	-	0.01	-
					808186	55.50	57.00	1.50	0.01	-	0.01	-
		Alteration Maj:	Type/Style/Intensity	Comment	808187	57.00	58.30	1.30	0.01	-	0.01	-
		44.00 - 71.75	EP SEL 1	Epidotization, Selective, Very weak	808188	58.30	59.65	1.35	0.01	-	0.01	-
		44.00 - 71.75	CB SPV 2	Carbonatization, Semi-Pervasive, Weak	808189	61.20	62.20	1.00	0.01	-	0.01	-
		44.00 - 71.75	SI SPV 1	Silicification, Semi-Pervasive, Very weak	808190	69.00	70.00	1.00	0.01	-	0.01	-
		44.00 - 71.75	CL PV 4	Chloritization, Pervasive, Strong								
		Mineralization Maj. :	Type/Style/%Mineral	Comment								
		53.00 - 56.00	Py FOL 0.5	Pyrite, Along foliation, 0.5%								
		56.00 - 60.00	Py FAC 0.5	Pyrite, Fracture-controlled, 0.5%								
		Vein Maj. :	Style/%vein/CoreA/%min/min	Comment								
		44.00 - 53.00	VN 2 50 CBV	Carbonate Vein, 50%								
		44.00 - 53.00	VN 2 50 QV	Quartz Vein, 50%								
		53.00 - 63.00	VN 4 30 CBV	Carbonate Vein, 30%								
		53.00 - 63.00	VN 4 70 QV	Quartz Vein, 70%								
		68.00 - 71.00	VN 1 50 CBV	Carbonate Vein, 50%								
		68.00 - 71.00	VN 1 50 QV	Quartz Vein, 50%								

LITHOLOGY REPORT
- Detailed -

Hole Number: **JM18-006**

Project: **JUMPING MOOSE**

Project Number: **262**

<i>From</i> <i>(m)</i>	<i>To</i> <i>(m)</i>	<i>Lithology</i>	<i>Weathering Oxidation Colour</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Au</i> <i>(ppm)</i>	<i>AV</i> <i>Au</i> <i>(ppm)</i>	<i>FA</i> <i>Au</i> <i>(ppm)</i>	<i>FA2</i> <i>Au</i> <i>(ppm)</i>	<i>FA3</i> <i>Au</i> <i>(ppm)</i>	
71.75	150.00	MVOL Mafic Metavolcanic		808191	82.00	83.00	1.00	0.01	-	0.01	-	-	
		Lots of irregular qz-cb veins. Irregular core angles cross cutting primary foliation of unit. Monotonous unit.											
		Alteration Maj:	Type/Style/Intensity	Comment	808192	95.00	96.00	1.00	0.01	-	0.01	-	-
		71.75 - 150.00	EP SEL 1	Epidotization, Selective, Very weak	808193	96.00	97.00	1.00	0.01	-	0.01	-	-
		71.75 - 150.00	CB SPV 2	Carbonatization, Semi-Pervasive, Weak	808194	97.00	98.30	1.30	0.01	-	0.01	-	-
		71.75 - 150.00	SI SPV 1	Silicification, Semi-Pervasive, Very weak	808195	110.34	111.00	0.66	0.01	-	0.01	-	-
		71.75 - 150.00	SI SPV 1	Silicification, Semi-Pervasive, Very weak	808197	114.00	115.00	1.00	0.01	-	0.01	-	-
		71.75 - 150.00	CL PV 4	Chloritization, Pervasive, Strong	808198	123.90	125.02	1.12	0.01	-	0.01	-	-
		Mineralization Maj. :	Type/Style/%Mineral	Comment	808199	126.30	127.50	1.20	0.01	-	0.01	-	-
		71.75 - 150.00	Py FOL 0.1	Pyrite, Along foliation, 0.1%	808200	128.70	130.00	1.30	0.01	-	0.01	-	-
					808201	130.00	131.00	1.00	0.01	-	0.01	-	-
		Texture Maj:	Type	Comment	808202	131.00	132.00	1.00	0.01	-	0.01	-	-
		71.75 - 150.00	SCH	Schistose	808203	132.00	133.00	1.00	0.01	-	0.01	-	-
		71.75 - 150.00	FG	Fine Grained (<1mm)	808204	133.00	134.00	1.00	0.01	-	0.01	-	-
					808205	134.00	135.00	1.00	0.01	-	0.01	-	-
					808206	148.00	149.50	1.50	0.01	-	0.01	-	-

QUALITY CONTROL REPORT

Hole Number: **JM18-006**

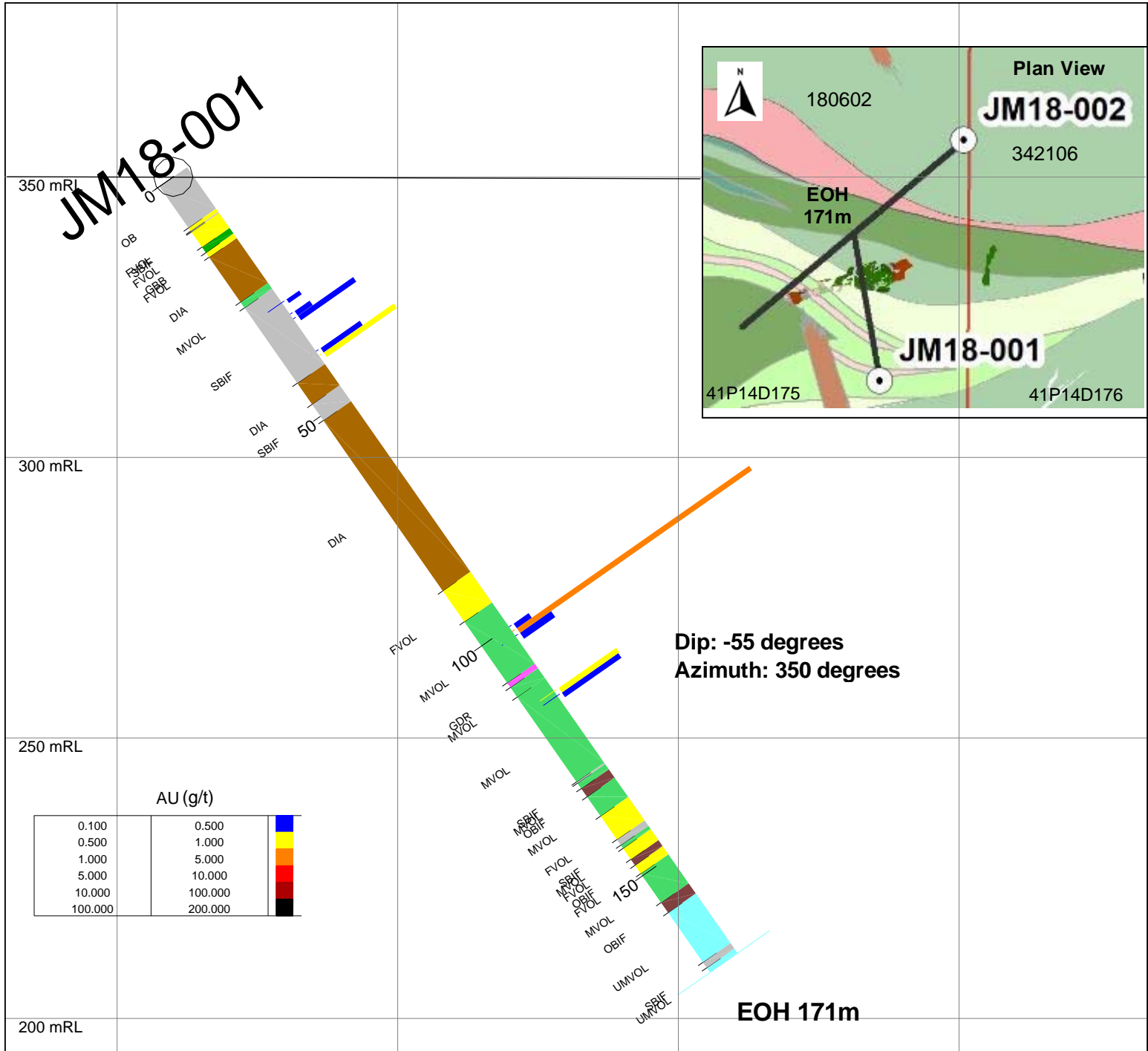
Project: **JUMPING MOOSE**

Project Number: **262**

Sample #	Sample Type	Duplicate of	Standard name	Laboratory	AV	FA	FA2	FA3	FA4	FA5	SFA	SFA2	SFA3	GA	GA2	GA3	GA4	GA5	AR	AR2	AR3	Wt (kg)
					Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	Au (ppm)	
808184	STANDARD		OREAS 504	Actlabs	2	-	1.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
808196	BLKDIA			Actlabs	0	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX B.

Drill Sections



AU (g/t)	
0.100	0.500
0.500	1.000
1.000	5.000
5.000	10.000
10.000	100.000
100.000	200.000



Date: 17/05/2019

Claim Number: 180602

Scale: 1:1000

2018 Jumping Moose Drilling Report

Drill Hole Section with litho and assay histograms (g/t)

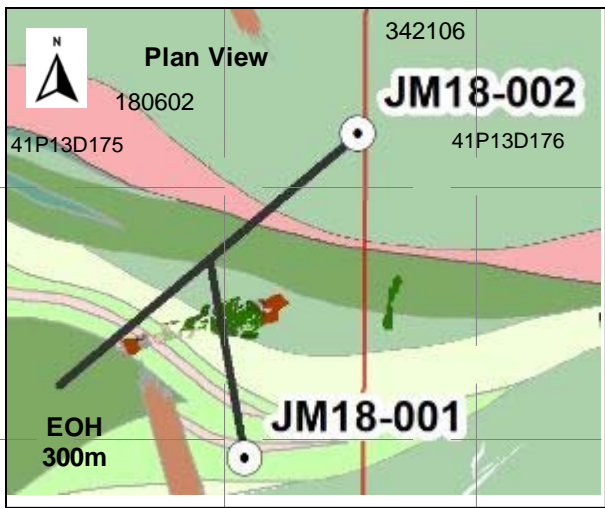
JM18-01 (looking westerly)

Projection: UTM NAD 83 ZN 17 (meters)

Drill Hole Collar Coordinates: 469518E, 5293746N

LEGEND	
OB: Overburden	
DIA: Diabase	
LAMPD: Lamprophyre Dyke	
INTD: Intermediate Dyke	
FLT: Fault	
GDR: Granodiorite	
GBB: Gabbro	
OBIF: Oxide Facies IF	
SBIF: Sulphide Facies IF	
VCLT: Volcaniclastic	
FVOL: Felsic Volcanic	
IVOL: Intermediate Volcanic	
MVOL: Mafic Volcanic	
UMVOL: Ultramafic Volcanic	





350 mRL

300 mRL

250 mRL

200 mRL

150 mRL

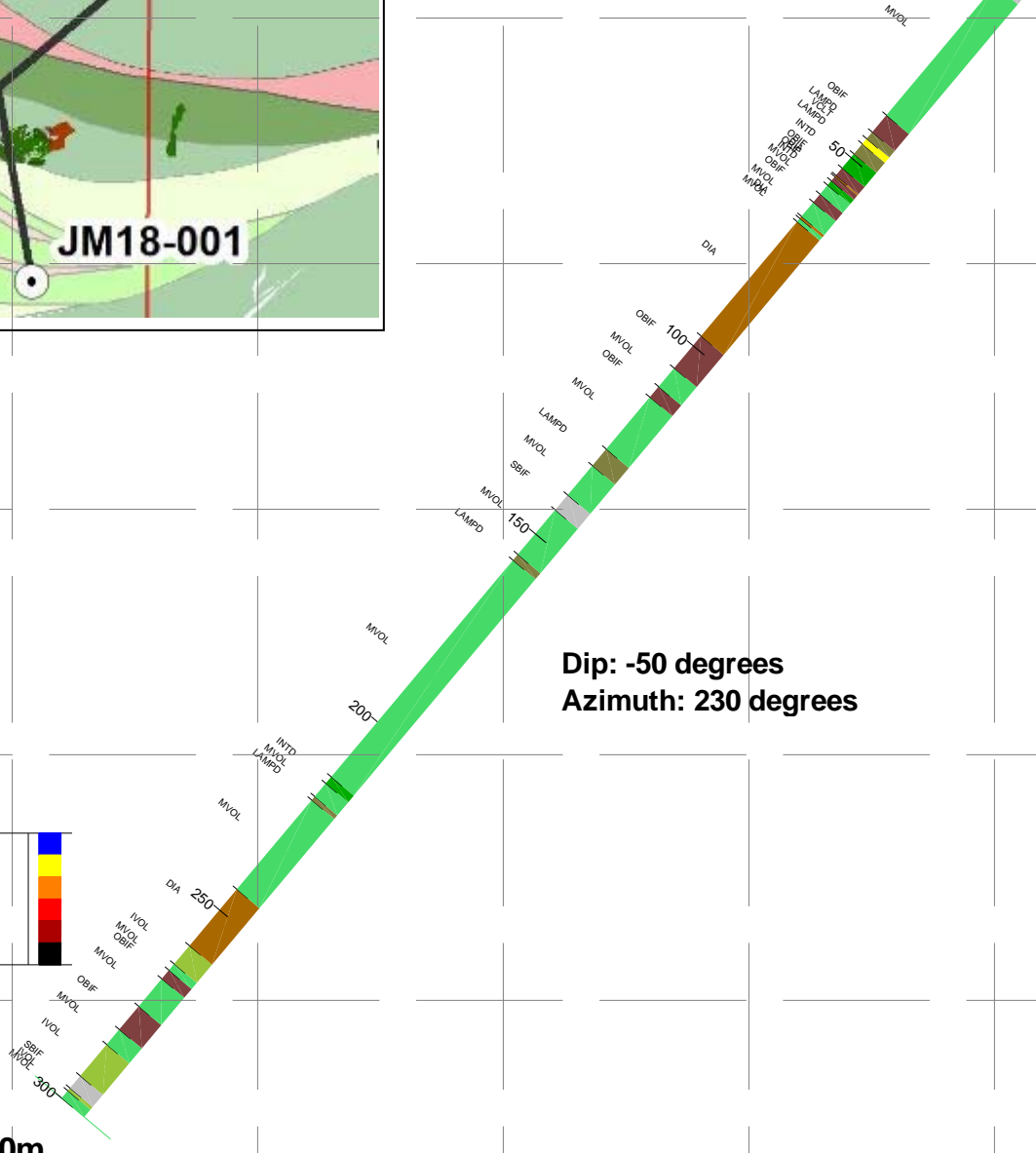
AU (g/t)

0.100	0.500	
0.500	1.000	
1.000	5.000	
5.000	10.000	
10.000	100.000	
100.000	200.000	

EOH 300m

Dip: -50 degrees
Azimuth: 230 degrees

JM18-002



LEGEND

OB: Overburden	
DIA: Diabase	
LAMPD: Lamprophyre Dyke	
INTD: Intermediate Dyke	
FLT: Fault	
GDR: Granodiorite	
GBB: Gabbro	
OBIF: Oxide Facies IF	
SBIF: Sulphide Facies IF	
VCLT: Volcaniclastic	
FVOL: Felsic Volcanic	
IVOL: Intermediate Volcanic	
MVOL: Mafic Volcanic	
UMVOL: Ultramafic Volcanic	



2018 Jumping Moose Drilling Report

Drill Hole Section with litho and assay histograms

JM18-02 (looking north-westerly)

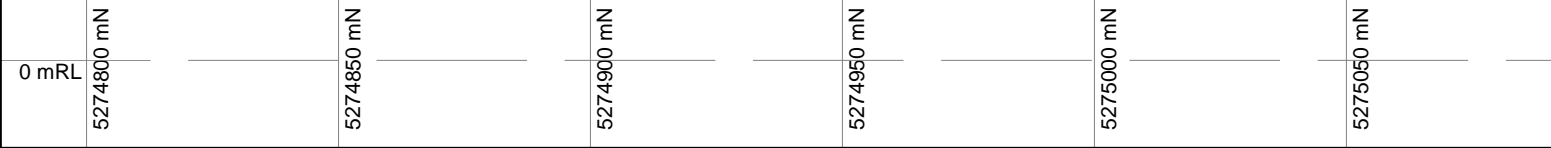
Projection: UTM NAD 83 ZN 17 (meters)

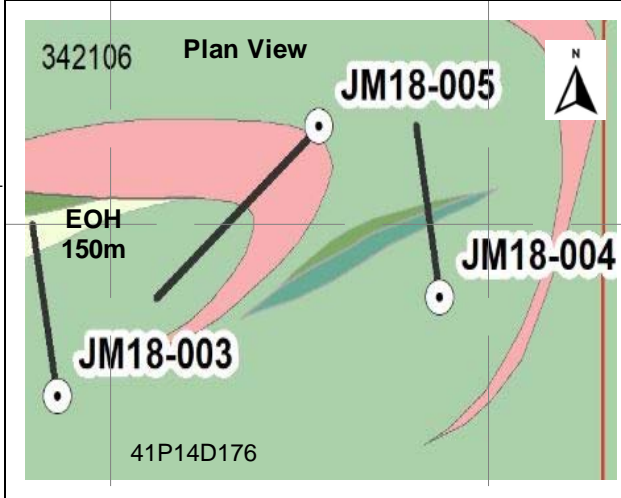
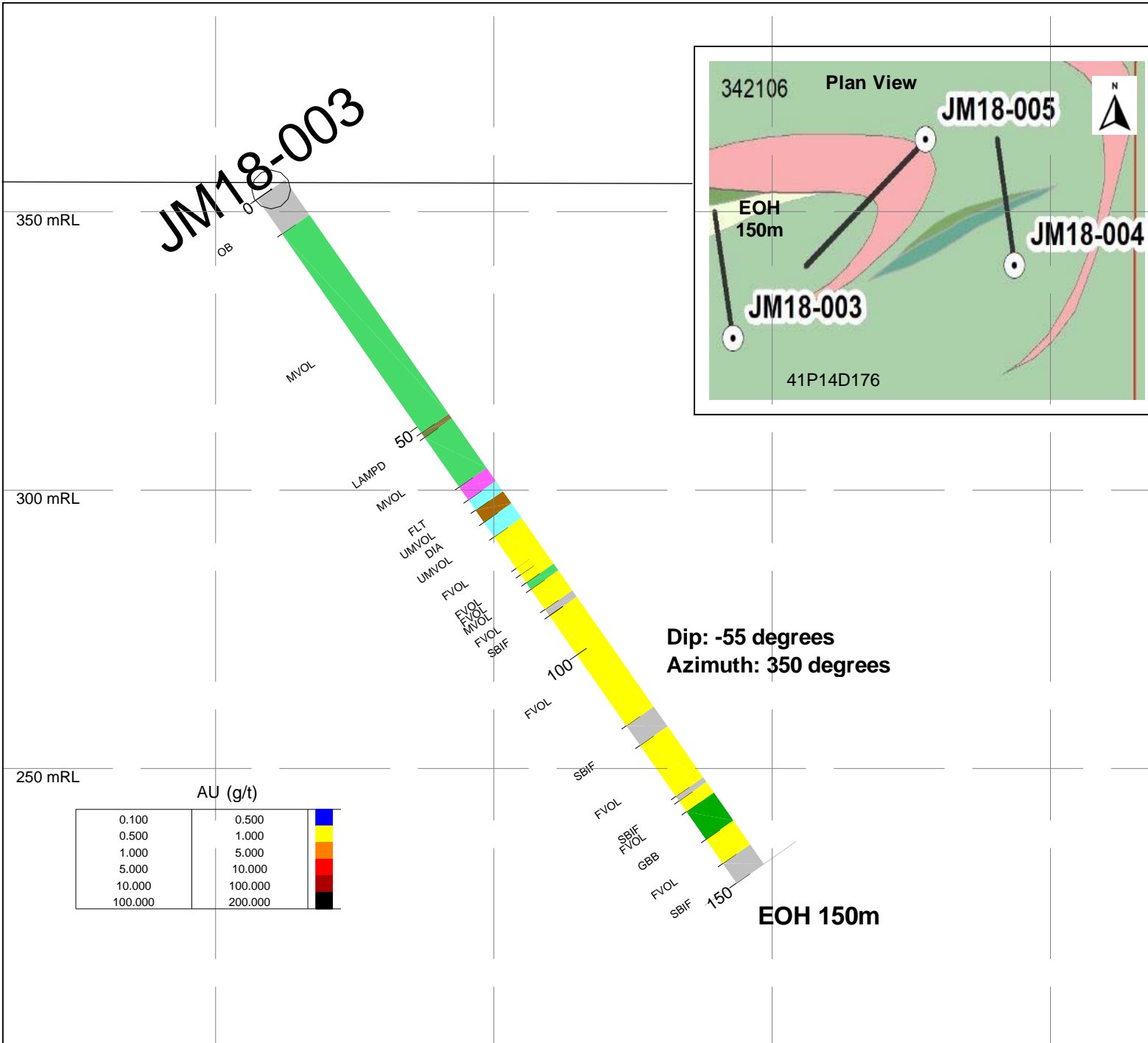
Date: 17/05/2019

Claim Number: 180602

Scale: 1:1500

Drill Hole Collar Coordinates: 469574E, 5293906N



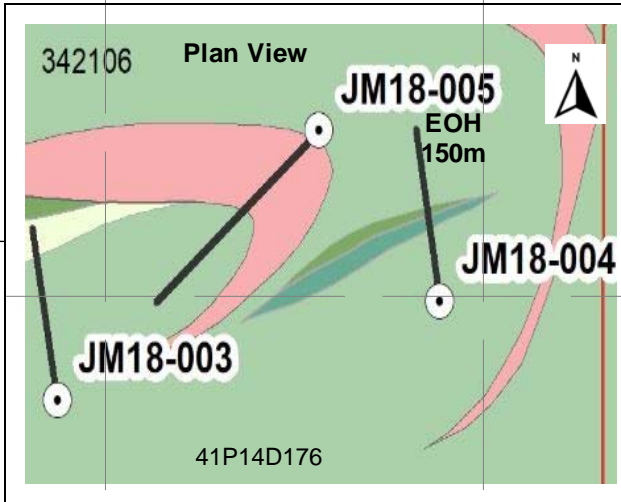
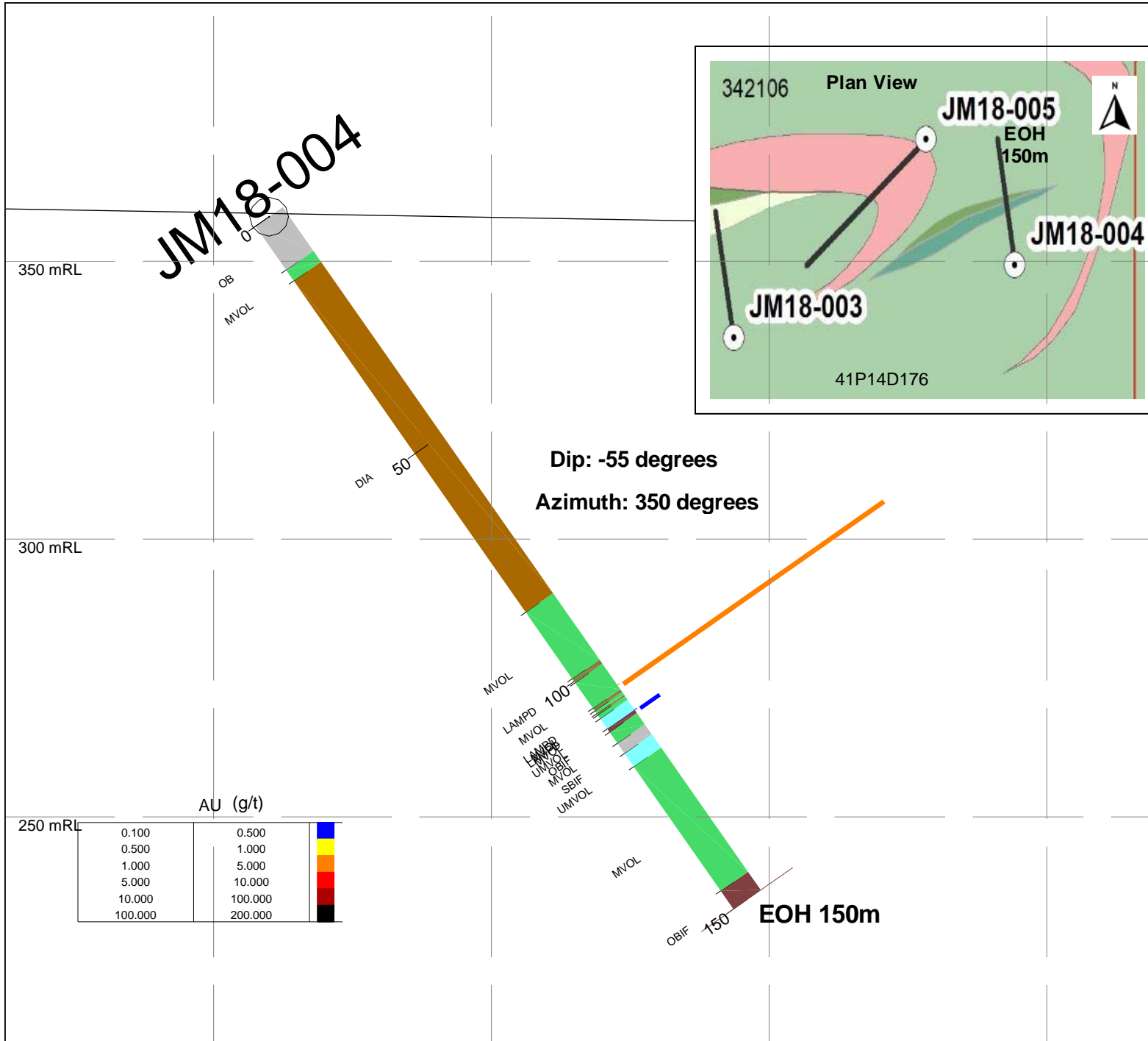


AU (g/t)	
0.100	0.500
0.500	1.000
1.000	5.000
5.000	10.000
10.000	100.000
100.000	200.000

	2018 Jumping Moose Drilling Report
	Drill Hole Section with litho and assay histograms
	JM18-03 (looking westerly)
	Projection: UTM NAD 83 ZN 17 (meters)
Date: 17/05/2019	
Claim Number: 342106	
Scale: 1:1000	
Drill Hole Collar Coordinates: 469710E, 5293781N	

LEGEND	
OB: Overburden	
DIA: Diabase	
LAMPD: Lamprophyre Dyke	
INTD: Intermediate Dyke	
FLT: Fault	
GDR: Granodiorite	
GBB: Gabbro	
OBIF: Oxide Facies IF	
SBIF: Sulphide Facies IF	
VCLT: Volcaniclastic	
FVOL: Felsic Volcanic	
IVOL: Intermediate Volcanic	
MVOL: Mafic Volcanic	
UMVOL: Ultramafic Volcanic	





AU (g/t)

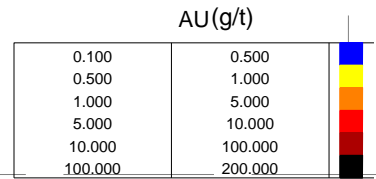
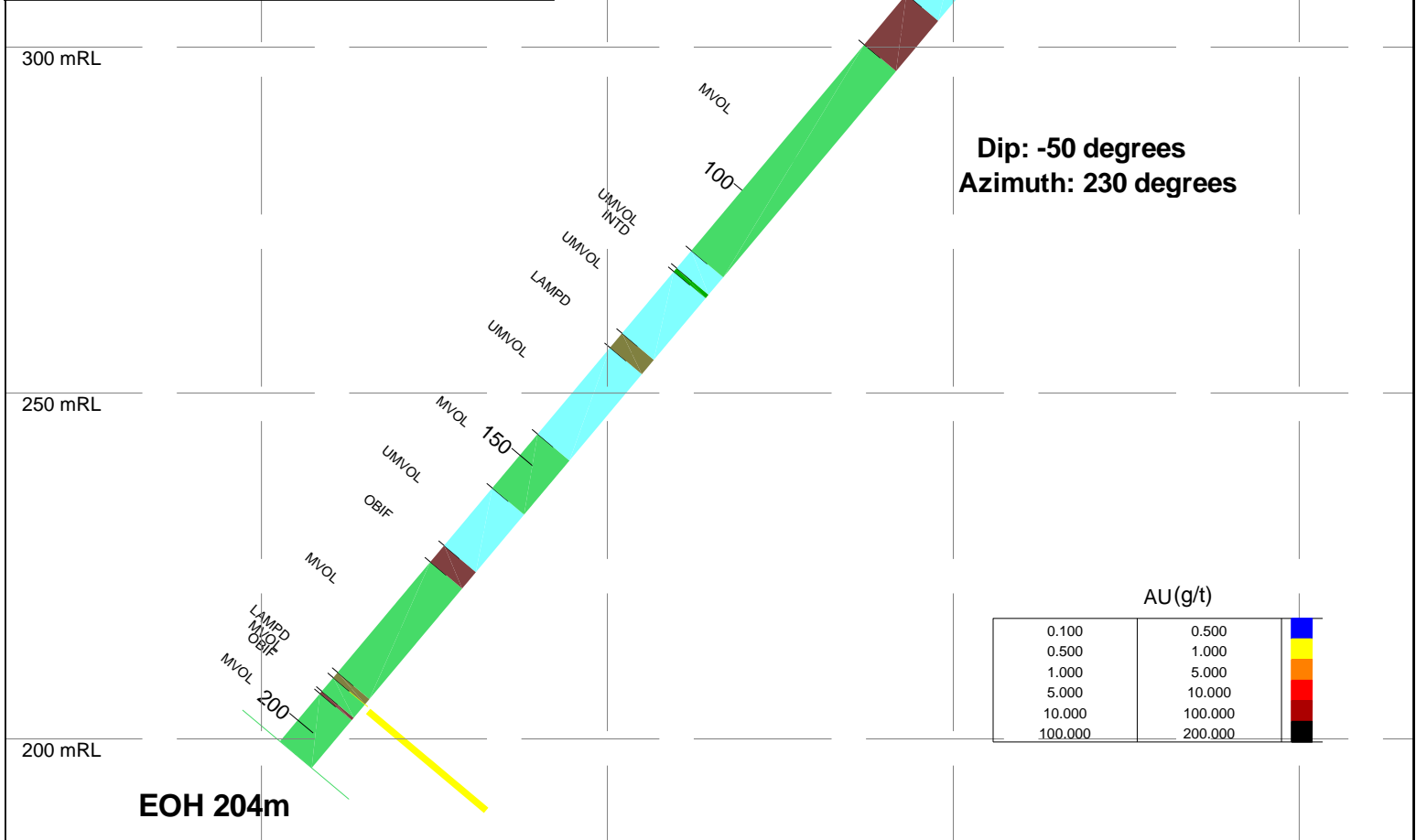
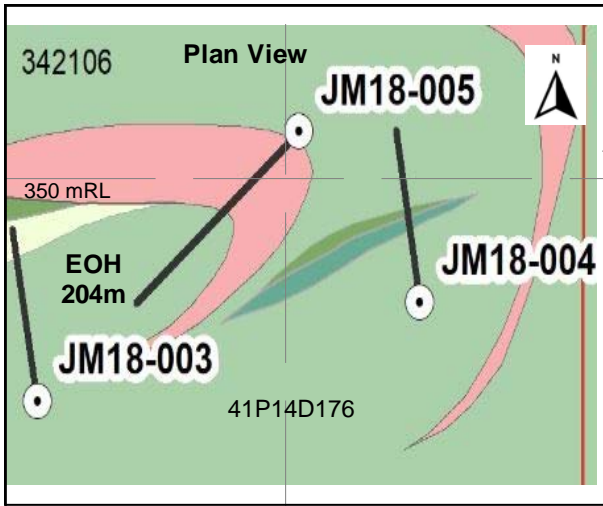
0.100	0.500	
0.500	1.000	
1.000	5.000	
5.000	10.000	
10.000	100.000	
100.000	200.000	

	2018 Jumping Moose Drilling Report
	Drill Hole Section with litho and assay histograms
	JM18-03 (looking westerly)
	Projection: UTM NAD 83 ZN 17 (meters)
Date: 17/05/2019	
Claim Number: 342106	
Scale: 1:1000	
Drill Hole Collar Coordinates: 469945E, 5293781N	

LEGEND

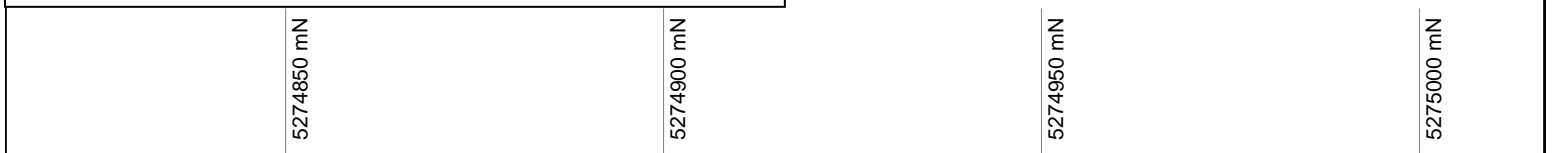
OB: Overburden	
DIA: Diabase	
LAMPD: Lamprophyre Dyke	
INTD: Intermediate Dyke	
FLT: Fault	
GDR: Granodiorite	
GBB: Gabbro	
OBIF: Oxide Facies IF	
SBIF: Sulphide Facies IF	
VCLT: Volcaniclastic	
FVOL: Felsic Volcanic	
IVOL: Intermediate Volcanic	
MVOL: Mafic Volcanic	
UMVOL: Ultramafic Volcanic	

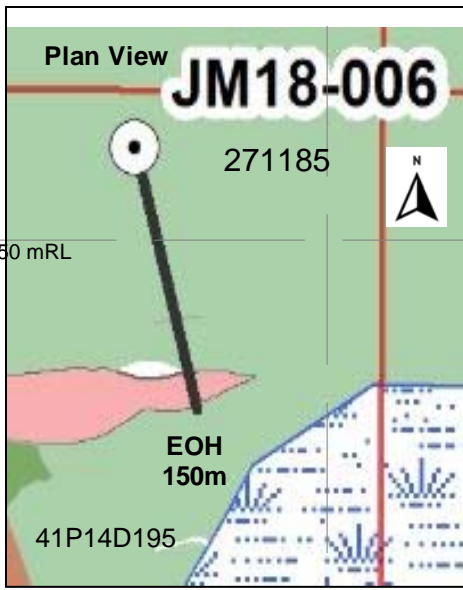




	2018 Jumping Moose Drilling Report Drill Hole Section with litho and assay histograms JM18-05 (looking north-westerly)
	Projection: UTM NAD 83 ZN 17 (meters)
	Drill Hole Collar Coordinates: 469871E, 52938651N
Date: 17/05/2019	
Claim Number: 342106	
Scale: 1:1000	

LEGEND	
OB: Overburden	
DIA: Diabase	
LAMPD: Lamprophyre Dyke	
INTD: Intermediate Dyke	
FLT: Fault	
GDR: Granodiorite	
GBB: Gabbro	
OBIF: Oxide Facies IF	
SBIF: Sulphide Facies IF	
VCLT: Volcaniclastic	
FVOL: Felsic Volcanic	
IVOL: Intermediate Volcanic	
MVOL: Mafic Volcanic	
UMVOL: Ultramafic Volcanic	





300 mRL

250 mRL

200 mRL

JM18-006
OB 0

Dip: -55 degrees
Azimuth: 165 degrees

EOH 150m

AU (g/t)

0.100	0.500	
0.500	1.000	
1.000	5.000	
5.000	10.000	
10.000	100.000	
100.000	200.000	



2018 Jumping Moose Drilling Report

Drill Hole Section with litho and assay histograms

Date: 17/05/2019

Claim Number: 271185

Scale: 1:1000

JM18-06 (looking south-westerly)

Projection: UTM NAD 83 ZN 17 (meters)

Drill Hole Collar Coordinates: 469488E, 5293670 N

LEGEND

- OB: Overburden
- DIA: Diabase
- LAMPD: Lamprophyre Dyke
- INTD: Intermediate Dyke
- FLT: Fault
- GDR: Granodiorite
- GBB: Gabbro
- OBIF: Oxide Facies IF
- SBIF: Sulphide Facies IF
- VCLT: Volcaniclastic
- FVOL: Felsic Volcanic
- IVOL: Intermediate Volcanic
- MVOL: Mafic Volcanic
- UMVOL: Ultramafic Volcanic

5274850 mN

5274900 mN

5274950 mN

5275000 mN

APPENDIX C.

Assay Certificates



Date Submitted: 07-Nov-18
Invoice No.: A18-16932-Au
Invoice Date: 11-Dec-18
Your Reference: 262

IAMGOLD Corporation
2140 Regent Street Unit 10
Sudbury Ontario P3E 5S8
Canada

ATTN: Brad McKinley

CERTIFICATE OF ANALYSIS

129 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-Timmins (ppm) Au - Fire Assay AA

REPORT **A18-16932-Au**

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Notes:

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

CERTIFIED BY:

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

Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
1752 Riverside Drive, Timmins, Ontario, Canada, P4R 1N1
TELEPHONE +705 264-0123 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Timmins@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Date Submitted: 07-Nov-18
Invoice No.: A18-16932-Au
Invoice Date: 11-Dec-18
Your Reference: 262

IAMGOLD Corporation
2140 Regent Street Unit 10
Sudbury Ontario P3E 5S8
Canada

ATTN: Brad McKinley

CERTIFICATE OF ANALYSIS

129 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code UT-6 Total Digestion ICP & ICP/MS

REPORT **A18-16932-Au**

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Notes:

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

CERTIFIED BY:



Emmanuel Esemé , Ph.D.
Quality Control

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

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
808001	0.012
808002	< 0.005
808003	< 0.005
808004	< 0.005
808005	< 0.005
808006	< 0.005
808007	0.006
808008	0.008
808009	0.027
808010	0.052
808011	0.111
808012	0.221
808013	0.077
808014	0.080
808015	0.134
808016	0.479
808017	0.064
808018	0.035
808019	0.051
808020	< 0.005
808021	< 0.005
808022	0.006
808023	0.337
808024	< 0.005
808025	0.612
808026	0.081
808027	0.011
808028	0.012
808029	< 0.005
808030	< 0.005
808031	0.129
808032	2.022
808033	0.265
808034	0.017
808035	< 0.005
808036	0.472
808037	< 0.005
808038	< 0.005
808039	0.007
808040	< 0.005
808041	0.006
808042	0.502

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
808043	0.493
808044	< 0.005
808045	< 0.005
808046	< 0.005
808047	< 0.005
808048	< 0.005
808049	< 0.005
808050	0.034
808051	0.006
808052	0.015
808053	0.025
808054	< 0.005
808055	< 0.005
808056	0.008
808057	0.016
808058	< 0.005
808059	< 0.005
808060	2.217
808061	< 0.005
808062	< 0.005
808063	0.005
808064	0.005
808065	0.011
808066	0.005
808067	0.052
808068	< 0.005
808069	< 0.005
808070	0.008
808071	0.008
808072	< 0.005
808073	0.009
808074	0.005
808075	0.005
808076	0.008
808077	0.005
808078	0.005
808079	0.007
850701	0.005
850702	< 0.005
850703	< 0.005
850704	0.005
850705	< 0.005

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
850706	0.009
850707	< 0.005
850708	< 0.005
850709	< 0.005
850710	< 0.005
850711	< 0.005
850712	0.224
850713	< 0.005
850714	< 0.005
850715	< 0.005
850716	< 0.005
850717	< 0.005
850718	< 0.005
850719	0.005
850720	< 0.005
850721	< 0.005
850722	< 0.005
850723	< 0.005
850724	< 0.005
850725	< 0.005
850726	< 0.005
850727	< 0.005
850728	< 0.005
850729	< 0.005
850730	< 0.005
850731	< 0.005
850732	< 0.005
850733	0.005
850734	< 0.005
850735	< 0.005
850736	0.472
850737	< 0.005
850738	0.010
850739	0.015
850740	< 0.005
850741	< 0.005
850742	0.006
850743	< 0.005
850744	< 0.005
850745	< 0.005
850746	< 0.005
850747	< 0.005

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
850748	< 0.005
850749	< 0.005
850750	< 0.005

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
OREAS 224 Meas	2.162
OREAS 224 Cert	2.15
OREAS 224 Meas	2.188
OREAS 224 Cert	2.15
OREAS 224 Meas	2.080
OREAS 224 Cert	2.15
OREAS 224 Meas	2.134
OREAS 224 Cert	2.15
Oreas 221 (Fire Assay) Meas	1.089
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.083
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.047
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.033
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.056
Oreas 221 (Fire Assay) Cert	1.06
808010 Orig	0.052
808010 Dup	0.052
808020 Orig	< 0.005
808020 Dup	0.005
808030 Orig	< 0.005
808030 Dup	< 0.005
808045 Orig	< 0.005
808045 Dup	< 0.005
808050 Split Orig PREP DUP	0.034
808050 Split PREP DUP	0.006
808054 Orig	0.007
808054 Dup	< 0.005
808079 Orig	0.007
808079 Dup	0.006
850710 Orig	< 0.005

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
850710 Dup	< 0.005
850720 Orig	0.006
850720 Dup	< 0.005
850721 Split Orig PREP DUP	< 0.005
850721 Split PREP DUP	< 0.005
850734 Orig	< 0.005
850734 Dup	< 0.005
850744 Orig	< 0.005
850744 Dup	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005



Date Submitted: 07-Nov-18
Invoice No.: A18-16932-TD
Invoice Date: 10-Jan-19
Your Reference: 262

IAMGOLD Corporation
2140 Regent Street Unit 10
Sudbury Ontario P3E 5S8
Canada

ATTN: Brad McKinley

CERTIFICATE OF ANALYSIS

129 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code UT-6 Total Digestion ICP & ICP/MS

REPORT **A18-16932-TD**

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Notes:

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Elitsa Hrischeva". The signature is written in a cursive style with a horizontal line underneath it.

Elitsa Hrischeva, Ph.D.
Quality Control

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

Results

Activation Laboratories Ltd.

Report: A18-16932

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
808001	12.3	0.72	0.72	5.08	1.33	2.61	< 0.1	38	16	7520	18.2	2.8	60	9.8	0.8	0.8	0.3	0.25	3.84	9.1	0.66	0.42	0.2
808002	9.8	0.93	0.59	5.63	0.65	2.92	< 0.1	29	17	7190	10.5	2.6	40	4.4	0.6	0.8	0.2	0.14	1.66	3.4	0.54	0.37	0.1
808003	9.6	1.98	0.63	5.80	0.69	3.25	< 0.1	27	12	6140	9.04	2.9	20	2.6	0.7	1.1	0.2	0.05	1.33	2.7	0.60	0.18	< 0.1
808004	8.7	2.16	0.78	5.24	0.38	2.95	< 0.1	29	12	4540	9.94	2.7	20	4.4	0.7	0.8	0.2	0.07	1.24	5.3	0.54	0.19	< 0.1
808005	24.3	> 3.00	4.44	6.84	0.69	6.09	< 0.1	124	261	1960	5.96	3.6	20	195	1.5	1.4	0.5	0.08	1.49	30.6	1.90	0.05	< 0.1
808006	13.3	1.97	1.35	6.07	1.09	3.01	< 0.1	70	16	3810	8.90	3.1	20	12.4	1.0	0.9	0.3	0.06	1.40	11.0	0.62	0.03	< 0.1
808007	24.6	1.37	1.55	8.31	2.92	3.85	0.1	287	182	7670	9.03	1.0	10	62.4	1.7	1.0	0.6	0.07	2.99	41.5	0.75	0.07	< 0.1
808008	6.6	0.09	1.17	2.22	0.08	1.05	0.1	75	73	6200	13.3	0.5	10	23.7	0.9	0.2	0.3	0.08	2.23	21.7	0.54	0.21	1.1
808009	< 0.5	0.01	0.63	0.19	0.01	1.16	0.3	10	14	2890	17.1	0.1	< 10	22.1	0.5	< 0.1	0.1	0.21	0.89	23.3	0.20	0.37	1.6
808010	0.9	0.01	0.74	0.46	0.03	1.08	0.1	18	26	4050	12.2	0.2	20	17.1	0.5	< 0.1	0.2	0.24	2.20	11.2	0.30	0.16	3.0
808011	0.7	0.02	0.97	0.46	0.08	1.16	< 0.1	15	21	5570	16.6	0.2	20	24.8	0.6	< 0.1	0.2	0.68	4.59	24.3	0.29	0.35	2.9
808012	33.3	1.98	1.45	7.06	3.00	2.37	0.1	81	68	510	4.24	2.5	30	57.9	2.7	3.2	0.8	0.38	9.92	13.7	1.17	0.75	0.4
808013	1.0	< 0.01	1.11	0.54	0.02	1.20	0.8	23	18	5670	18.4	0.2	70	19.8	1.0	0.1	0.3	0.44	1.96	29.2	0.44	0.23	1.9
808014	< 0.5	0.01	1.37	0.16	0.03	2.15	0.3	9	12	9110	19.9	0.1	20	19.2	1.1	0.2	0.3	0.49	2.46	28.8	0.35	0.28	1.5
808015	< 0.5	0.01	0.91	0.10	0.02	1.53	< 0.1	5	15	5620	19.4	< 0.1	50	23.5	0.6	0.2	0.2	0.64	1.54	25.3	0.19	0.32	3.5
808016	3.6	< 0.01	1.02	0.86	0.04	0.91	10.6	26	36	3030	13.3	0.6	60	16.3	0.7	0.1	0.2	1.11	1.18	24.7	0.40	2.09	14.2
808017	< 0.5	0.02	0.97	0.29	0.06	1.33	< 0.1	7	19	3830	12.2	0.1	10	13.4	0.4	0.2	0.1	0.46	4.32	31.3	0.22	0.50	8.1
808018	< 0.5	0.02	0.71	0.11	0.03	1.21	< 0.1	3	14	3200	15.5	< 0.1	< 10	23.4	0.3	< 0.1	< 0.1	0.27	1.15	55.4	0.16	0.36	6.2
808019	< 0.5	0.01	0.52	0.09	0.02	1.08	< 0.1	4	10	2400	27.1	< 0.1	10	39.1	0.3	< 0.1	< 0.1	0.51	1.09	63.0	0.22	0.37	4.5
808020	0.8	0.03	1.37	0.23	0.06	3.17	0.3	25	23	4610	23.6	< 0.1	10	9.8	0.4	0.2	0.1	0.10	2.84	14.8	0.30	0.12	1.7
808021	5.8	0.08	1.98	1.57	0.09	4.36	0.7	50	25	6040	13.9	0.5	20	11.3	0.6	0.2	0.2	0.10	5.58	13.9	0.50	0.13	1.8
808022	2.7	0.04	1.80	0.82	0.08	3.84	1.0	33	42	4330	21.1	0.3	10	16.3	0.6	0.2	0.2	0.08	4.65	10.5	0.42	0.06	1.0
808023	10.9	0.03	1.96	2.37	0.08	1.95	0.2	55	13	4260	20.5	< 0.1	50	14.3	0.5	0.2	0.1	0.23	3.64	29.3	0.20	0.24	7.9
808024	5.9	0.06	0.02	0.21	0.05	0.03	< 0.1	3	7	48	0.33	0.2	40	0.9	0.1	< 0.1	< 0.1	< 0.05	0.16	0.4	< 0.05	< 0.02	0.2
808025	7.9	0.06	2.16	2.54	0.08	2.15	0.2	49	30	4550	18.7	0.4	30	25.4	0.6	0.2	0.2	0.68	3.05	20.7	0.55	0.26	10.2
808026	4.3	0.02	1.29	1.07	0.01	1.75	0.1	35	31	2980	12.6	0.3	20	11.5	0.5	0.2	0.2	0.11	1.43	11.4	0.38	0.04	0.9
808027	2.7	0.04	1.36	0.77	0.06	3.14	3.7	42	45	5200	16.1	0.5	10	49.3	0.6	0.1	0.2	0.27	3.45	49.9	0.88	0.59	3.1
808028	1.8	0.02	0.64	0.51	0.03	0.74	3.8	23	47	2400	11.4	0.3	30	12.3	0.2	< 0.1	< 0.1	0.24	1.45	43.6	0.25	0.40	4.6
808029	1.6	0.02	1.15	0.54	0.05	1.72	0.8	19	16	4390	12.2	0.1	30	5.6	0.3	< 0.1	< 0.1	< 0.05	2.33	6.6	0.20	0.04	< 0.1
808030	51.9	2.05	5.26	7.46	0.71	5.51	< 0.1	197	167	1300	7.35	1.0	30	90.1	1.7	0.7	0.6	< 0.05	1.59	38.8	0.81	0.05	< 0.1
808031	46.5	1.39	3.69	7.15	1.91	6.08	< 0.1	205	65	1690	7.24	2.6	< 10	50.6	2.2	1.8	0.7	0.07	2.46	31.3	1.46	0.11	< 0.1
808032	33.9	0.59	2.74	7.08	2.19	6.38	0.2	239	45	1740	7.28	1.3	30	43.9	1.8	1.7	0.6	0.97	1.67	33.7	0.64	0.11	< 0.1
808033	34.1	1.13	3.92	6.36	1.29	5.94	< 0.1	192	87	1680	6.94	1.9	40	76.5	1.9	1.2	0.6	0.15	1.27	33.0	1.44	0.09	< 0.1
808034	36.2	0.93	4.87	6.84	0.89	8.66	0.1	199	137	1690	7.24	1.4	< 10	120	1.8	1.1	0.6	0.07	1.09	37.0	1.77	0.04	< 0.1
808035	30.8	2.28	3.46	7.89	1.08	4.58	< 0.1	152	68	1900	7.04	1.2	30	47.3	2.1	0.8	0.7	0.05	1.18	25.9	1.03	< 0.02	< 0.1
808036	33.5	2.05	1.87	7.63	3.12	2.39	0.3	124	66	533	5.34	2.9	70	42.2	2.5	3.3	0.8	0.89	9.33	13.9	1.06	0.74	2.3
808037	25.9	2.23	3.07	6.89	0.69	5.13	< 0.1	140	71	1720	5.92	1.3	30	42.2	1.7	0.8	0.5	< 0.05	0.74	23.5	0.78	< 0.02	0.3
808038	13.4	2.37	3.17	7.84	0.73	6.87	0.2	138	64	2060	8.10	0.9	40	49.4	2.2	1.4	0.6	< 0.05	0.49	33.6	0.87	0.06	< 0.1
808039	51.3	0.27	7.87	6.28	0.30	7.36	< 0.1	209	335	1620	8.13	2.5	30	267	1.9	0.5	0.7	0.17	0.45	46.7	3.74	0.11	< 0.1
808040	48.1	0.19	7.94	5.34	0.23	8.23	0.2	172	292	1480	6.77	2.6	10	276	1.7	0.4	0.7	0.12	0.20	41.7	3.36	0.04	< 0.1
808041	45.2	0.46	5.27	7.01	0.94	7.12	0.1	226	191	1770	8.17	1.4	< 10	143	1.9	0.9	0.6	0.25	0.91	46.0	1.81	0.24	0.3
808042	36.7	0.45	3.25	8.36	1.60	7.10	0.1	230	142	2100	8.16	0.6	10	100	2.0	1.3	0.6	0.11	1.68	51.8	0.66	0.10	< 0.1

Results

Activation Laboratories Ltd.

Report: A18-16932

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
808043	28.6	0.27	3.26	6.86	1.33	7.43	< 0.1	197	128	2110	7.78	0.4	< 10	74.1	2.1	0.8	0.6	0.11	1.17	39.9	0.62	0.05	< 0.1
808044	21.8	1.52	3.85	6.19	0.10	6.40	< 0.1	206	78	1400	7.58	0.5	30	46.4	1.9	0.4	0.6	0.05	0.23	32.6	0.60	0.05	< 0.1
808045	23.9	1.69	5.13	6.97	0.15	6.86	< 0.1	151	66	1400	8.27	0.5	30	51.6	2.1	0.3	0.7	0.07	0.38	38.0	0.63	0.06	< 0.1
808046	24.2	1.69	5.45	6.97	0.07	5.47	< 0.1	161	46	1210	8.13	0.6	20	52.4	2.1	0.4	0.6	0.06	0.22	35.5	0.63	0.05	< 0.1
808047	34.5	1.51	6.00	6.27	0.05	4.98	< 0.1	210	81	1230	7.47	0.6	< 10	58.8	1.8	0.4	0.6	< 0.05	0.16	30.9	0.67	0.04	< 0.1
808048	5.3	0.05	0.03	0.19	0.04	0.04	< 0.1	3	5	44	0.32	0.7	< 10	1.5	0.2	< 0.1	< 0.1	< 0.05	0.12	0.5	< 0.05	0.02	< 0.1
808049	30.1	0.33	6.92	5.97	0.04	3.11	< 0.1	204	150	1510	12.9	0.6	30	110	1.2	0.3	0.4	0.63	0.31	38.4	0.53	0.17	2.3
808050	34.2	1.45	6.74	7.07	0.49	4.43	< 0.1	200	125	1170	9.21	1.5	30	82.3	1.4	0.7	0.5	0.09	1.92	36.6	1.22	0.08	< 0.1
808051	3.0	0.03	2.17	1.92	0.17	1.46	0.2	157	27	970	21.7	0.9	40	34.7	0.5	0.3	0.2	0.24	0.15	20.5	0.55	1.46	4.5
808052	0.8	0.03	2.09	0.65	0.02	0.62	0.3	36	20	1200	28.6	0.2	20	26.9	0.4	< 0.1	0.1	0.08	0.11	13.9	0.34	0.19	1.8
808053	26.2	0.44	4.26	7.81	1.67	5.64	0.1	220	88	1210	8.62	0.4	20	101	1.3	1.4	0.4	0.07	0.92	40.7	0.58	0.03	< 0.1
808054	25.7	0.80	2.47	8.51	1.05	6.78	< 0.1	234	77	1510	7.96	0.5	< 10	77.5	2.3	0.8	0.7	0.09	2.09	43.7	0.62	0.27	< 0.1
808055	21.4	1.03	2.29	8.81	1.43	6.07	< 0.1	244	103	1740	7.37	0.6	< 10	73.1	1.8	0.7	0.5	< 0.05	0.80	35.8	0.58	0.04	< 0.1
808056	3.2	0.13	1.63	2.27	0.39	1.18	< 0.1	106	60	1320	16.8	0.4	30	31.5	0.6	0.5	0.2	0.34	0.38	24.3	0.51	0.48	3.2
808057	24.3	> 3.00	3.96	9.59	0.61	2.46	< 0.1	245	218	1420	9.76	0.8	20	69.4	1.7	1.9	0.5	0.08	1.08	33.8	0.45	0.75	< 0.1
808058	1.8	2.74	0.06	6.67	1.35	0.43	< 0.1	10	8	81	0.72	0.7	30	2.8	1.3	1.1	0.5	< 0.05	0.16	1.4	0.89	0.11	< 0.1
808059	12.7	0.36	2.03	8.13	2.18	1.62	< 0.1	121	154	537	5.32	2.3	20	56.5	1.4	1.9	0.5	0.06	0.48	18.9	0.79	0.33	< 0.1
808060	16.1	1.61	5.81	7.46	0.31	6.51	0.1	149	177	1340	7.79	0.6	50	124	2.1	0.4	0.7	0.50	0.22	41.7	0.73	0.20	< 0.1
808061	4.6	0.04	1.53	3.45	0.64	0.47	< 0.1	110	159	1380	16.1	0.5	< 10	62.3	0.6	0.5	0.2	0.07	0.14	23.5	0.45	0.22	< 0.1
808062	13.7	0.12	1.11	6.75	2.17	0.23	0.1	52	67	268	3.04	0.1	10	24.9	1.4	1.0	0.5	< 0.05	0.46	8.6	0.86	0.09	< 0.1
808063	24.8	0.82	3.44	8.63	2.03	1.89	< 0.1	195	168	583	7.55	1.5	30	47.0	1.8	1.6	0.5	0.11	0.60	26.9	0.53	0.29	0.3
808064	26.3	2.15	4.98	7.29	0.38	6.47	0.2	219	111	1030	8.08	0.5	30	48.2	1.5	0.8	0.5	0.10	0.87	34.0	0.40	0.14	< 0.1
808065	29.5	2.20	5.27	7.30	0.60	6.85	0.2	195	113	1420	9.33	0.7	10	52.7	1.5	0.8	0.5	0.13	1.87	37.7	0.40	0.09	< 0.1
808066	32.2	1.93	4.27	6.90	0.42	6.84	0.3	164	187	1070	8.14	0.5	< 10	54.2	1.3	0.7	0.5	< 0.05	1.09	39.2	0.35	0.09	0.4
808067	33.9	2.12	4.01	7.87	0.54	6.33	0.3	216	188	989	8.87	0.7	< 10	64.6	1.5	1.0	0.5	0.07	0.60	44.2	0.41	0.06	0.4
808068	30.8	0.67	3.26	6.71	1.65	7.19	0.2	224	147	805	6.45	0.4	20	51.6	1.2	0.9	0.4	0.09	0.75	33.7	0.34	0.10	0.7
808069	25.3	0.63	3.03	6.56	1.39	6.78	0.1	254	147	861	8.39	0.3	< 10	54.1	1.5	0.9	0.5	0.12	0.92	34.1	0.52	0.09	0.9
808070	1.3	0.02	0.91	1.15	0.13	1.69	0.2	47	26	1750	18.9	0.7	< 10	29.4	0.8	0.2	0.3	0.30	0.12	23.7	0.95	0.65	4.1
808071	< 0.5	< 0.01	0.63	0.29	< 0.01	0.44	0.3	19	13	2280	21.5	0.2	< 10	13.5	0.4	< 0.1	0.2	0.30	< 0.05	11.4	0.83	0.53	1.4
808072	4.5	0.05	0.02	0.19	0.05	0.02	< 0.1	1	17	29	0.29	0.3	< 10	1.1	0.2	< 0.1	< 0.1	< 0.05	0.11	0.5	< 0.05	0.03	< 0.1
808073	8.1	0.04	6.45	4.78	0.23	5.43	0.1	164	1170	1010	10.1	0.5	< 10	420	0.8	0.7	0.3	0.38	0.19	77.3	0.37	0.07	1.0
808074	39.4	0.82	4.78	6.38	0.81	6.82	< 0.1	140	358	968	5.92	1.4	< 10	158	1.3	0.5	0.4	< 0.05	0.81	40.4	0.76	0.05	0.2
808075	6.1	0.02	6.58	3.48	0.08	9.30	0.4	110	978	1470	9.29	0.4	< 10	525	0.6	0.6	0.2	0.10	0.38	85.1	0.45	0.24	0.9
808076	16.5	0.04	4.37	6.03	0.65	5.52	0.3	181	830	1130	11.4	0.5	< 10	239	0.8	1.5	0.3	0.13	0.55	43.8	0.41	0.65	1.7
808077	9.9	0.07	7.38	4.26	0.04	8.90	0.2	154	1160	1340	9.60	0.4	< 10	560	0.9	0.9	0.3	0.12	0.20	97.2	0.30	0.06	0.4
808078	14.2	0.42	7.89	4.53	0.47	8.81	0.2	131	640	1430	7.72	0.8	< 10	387	1.0	0.6	0.3	0.72	1.95	66.3	0.75	0.28	0.3
808079	4.6	0.33	1.97	2.31	0.44	3.53	0.3	454	142	1880	29.3	0.7	< 10	85.8	0.7	0.4	0.2	0.10	0.74	93.7	0.61	0.13	1.3
850701	12.6	1.22	3.13	6.35	0.09	5.23	0.1	238	26	1300	10.8	0.3	< 10	35.5	3.0	0.4	1.0	0.06	0.06	40.8	1.02	0.03	< 0.1
850702	16.6	1.53	2.39	5.92	0.06	6.21	0.1	236	27	1520	10.6	0.4	< 10	33.2	2.9	0.5	1.0	0.08	0.26	40.4	1.03	0.05	0.5
850703	30.7	2.01	2.58	6.29	0.10	6.10	< 0.1	194	47	1590	9.84	0.4	< 10	44.5	2.7	0.3	0.9	0.06	0.60	40.3	0.91	0.05	0.1
850704	24.2	1.95	2.71	6.48	0.13	5.69	< 0.1	256	44	1590	10.6	0.6	< 10	46.2	2.8	0.5	0.9	0.08	0.29	42.7	0.95	0.05	0.1
850705	16.0	1.88	2.67	7.76	0.75	6.73	0.2	141	114	2480	7.90	1.1	< 10	70.7	2.9	1.0	1.0	0.05	0.86	30.5	1.40	0.15	0.2

Results

Activation Laboratories Ltd.

Report: A18-16932

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850706	11.9	0.45	1.74	4.91	0.33	13.0	0.3	262	23	4690	12.2	0.6	< 10	31.8	4.3	0.4	1.3	0.19	1.26	31.4	0.90	0.30	0.9
850707	17.0	0.48	2.30	6.51	0.39	7.28	0.3	391	29	4640	13.8	0.8	< 10	36.8	3.9	0.5	1.3	0.16	1.13	33.5	1.07	0.27	1.0
850708	11.3	0.73	2.14	6.22	0.23	7.46	0.2	289	56	4110	11.9	1.2	< 10	49.8	3.1	0.5	1.1	0.09	0.31	27.4	1.10	0.44	0.6
850709	8.3	0.59	1.72	6.33	0.31	8.03	0.1	209	34	4930	15.1	0.5	< 10	40.6	3.8	0.4	1.2	0.10	0.33	35.9	1.02	0.11	0.5
850710	20.2	0.31	2.07	5.38	0.79	6.25	0.8	218	131	2840	14.8	1.7	< 10	128	2.6	0.6	0.9	0.26	1.59	53.2	0.99	0.67	4.5
850711	41.5	2.32	6.08	6.23	0.85	7.26	0.1	155	673	1240	6.01	2.7	< 10	357	1.6	1.5	0.6	0.07	0.93	42.6	2.06	0.22	0.8
850712	35.7	2.41	1.54	8.20	2.59	2.87	0.2	123	81	600	4.74	2.8	240	64.6	2.6	3.2	1.0	0.51	10.9	15.1	1.28	0.76	1.4
850713	35.0	2.29	3.22	6.64	0.92	4.12	< 0.1	268	25	1880	10.8	1.4	110	45.2	2.9	0.4	1.0	0.11	1.90	46.0	0.90	0.10	0.8
850714	32.6	1.56	3.47	6.77	1.05	6.78	< 0.1	282	47	2010	10.2	1.3	< 10	75.2	2.6	0.3	1.0	0.10	1.77	51.6	0.94	0.08	0.5
850715	25.0	2.16	3.21	7.16	0.94	4.85	0.1	337	52	1770	9.86	2.4	< 10	80.0	2.7	0.6	1.0	0.11	1.72	53.5	1.04	0.08	0.7
850716	38.4	> 3.00	3.00	8.01	0.82	4.55	< 0.1	140	52	1970	6.79	0.9	< 10	98.9	2.1	0.6	0.8	< 0.05	1.47	67.8	0.88	0.07	0.3
850717	32.6	0.47	3.21	5.95	1.02	6.27	0.1	265	102	3220	14.5	1.8	< 10	52.1	3.3	0.9	1.1	0.15	2.48	38.1	1.12	0.09	< 0.1
850718	10.0	1.52	3.09	6.12	1.16	5.95	0.2	320	21	3740	14.4	1.6	< 10	33.7	3.6	0.6	1.2	0.12	0.78	38.6	0.96	0.30	0.1
850719	11.5	2.19	2.83	5.86	0.84	5.91	< 0.1	316	24	2410	12.2	1.4	< 10	30.8	3.1	0.9	1.1	0.06	0.33	27.7	1.08	0.19	0.4
850720	18.5	1.23	2.99	6.82	1.02	6.25	0.2	341	21	3240	13.1	0.9	< 10	32.9	3.6	0.6	1.2	0.13	0.91	35.3	1.10	0.30	0.7
850721	9.7	1.61	2.88	7.01	0.94	8.02	0.2	282	17	3470	12.5	0.9	< 10	32.6	3.9	0.7	1.4	0.12	0.42	27.5	1.36	0.38	0.3
850722	12.1	1.53	2.79	6.73	0.48	6.50	0.2	268	22	3660	13.4	0.9	< 10	30.0	3.8	0.7	1.3	0.11	0.44	32.9	1.15	0.36	0.7
850723	4.8	0.49	2.28	5.98	0.24	7.96	0.2	166	21	3040	10.8	0.3	70	19.7	2.9	0.3	1.0	0.07	0.15	20.9	1.31	0.51	0.5
850724	6.2	0.03	0.04	0.17	0.03	0.07	< 0.1	5	7	67	0.52	0.4	< 10	1.7	0.2	< 0.1	< 0.1	< 0.05	0.12	0.7	< 0.05	0.03	0.2
850725	6.5	0.87	2.63	6.70	0.37	8.75	0.2	214	17	3340	11.5	0.6	< 10	29.8	3.5	0.5	1.2	0.07	0.21	30.5	1.48	0.55	0.6
850726	21.2	1.12	2.93	7.25	0.58	6.50	0.2	273	25	3040	12.7	0.9	< 10	32.2	3.7	0.4	1.3	0.12	0.82	40.9	1.13	0.31	0.6
850727	15.5	0.95	2.61	7.34	0.25	8.05	0.2	247	24	2950	10.5	0.8	< 10	35.5	3.5	0.5	1.2	0.15	0.20	38.3	1.27	0.31	0.7
850728	21.9	2.43	2.70	8.35	1.23	4.30	0.2	220	35	2270	9.22	0.6	< 10	35.5	3.4	0.6	1.2	0.09	5.31	35.9	1.16	0.22	0.4
850729	20.0	> 3.00	2.97	8.35	1.60	4.98	0.2	189	48	2210	10.2	0.5	< 10	41.4	3.8	0.8	1.3	0.10	6.77	37.9	1.25	0.26	0.4
850730	11.3	1.83	2.55	7.08	0.40	7.09	0.3	264	37	2840	11.2	1.0	50	37.9	3.4	0.4	1.1	0.10	1.25	35.1	1.24	0.30	0.5
850731	13.7	1.38	3.13	6.59	0.47	7.17	0.2	272	172	2540	11.3	1.0	20	121	3.1	0.3	1.1	0.14	1.84	40.1	1.05	0.25	0.6
850732	27.7	> 3.00	5.28	8.40	0.13	6.06	< 0.1	223	146	1170	6.99	0.3	< 10	82.9	1.4	0.1	0.5	< 0.05	0.08	40.6	0.36	0.03	0.5
850733	52.9	2.37	8.30	8.60	0.28	2.53	0.4	288	223	1090	8.15	0.6	< 10	138	1.6	0.2	0.5	0.17	0.37	48.6	0.43	0.12	1.7
850734	17.5	0.51	11.8	5.30	0.11	4.80	0.3	180	1020	1310	9.35	0.4	< 10	549	0.7	0.4	0.2	0.19	0.44	90.2	0.28	0.20	0.5
850735	5.3	0.15	2.79	1.68	0.08	10.2	0.7	488	113	2800	27.6	1.0	< 10	76.0	1.1	0.2	0.3	0.36	0.64	33.4	0.89	0.24	1.7
850736	32.7	2.38	1.59	7.48	3.72	2.76	0.4	135	80	597	5.37	3.0	540	44.9	2.3	3.0	0.9	0.97	10.6	14.8	1.24	0.76	3.3
850737	2.2	< 0.01	1.10	1.09	0.01	2.60	0.6	56	129	1540	19.8	0.4	< 10	33.5	0.6	< 0.1	0.2	0.59	0.28	46.3	0.57	0.74	4.2
850738	13.9	0.04	6.27	5.18	0.04	7.82	0.2	198	2380	2050	13.9	0.5	< 10	534	0.9	0.4	0.3	0.25	0.62	106	0.48	0.09	0.9
850739	1.5	< 0.01	1.01	0.77	0.02	1.70	0.5	29	35	1880	17.4	0.3	< 10	75.8	0.4	< 0.1	0.1	1.00	0.35	38.2	0.43	1.26	6.4
850740	33.8	1.05	3.56	6.83	1.43	6.21	0.1	260	141	784	7.70	0.3	< 10	39.6	1.4	0.6	0.4	0.17	1.11	30.6	0.35	0.06	0.4
850741	32.9	0.79	2.90	6.72	1.39	7.01	0.3	255	151	1300	9.90	0.4	< 10	52.1	1.5	0.8	0.5	0.12	0.99	28.8	0.54	0.12	0.9
850742	45.4	1.96	4.60	7.05	0.49	6.45	0.3	236	117	1030	5.73	0.1	< 10	74.8	1.0	0.3	0.3	0.09	0.30	29.3	0.33	0.09	0.8
850743	41.3	1.93	3.12	9.98	2.87	5.65	0.1	193	238	940	5.81	0.3	< 10	98.5	1.2	1.2	0.4	< 0.05	1.10	27.0	0.39	0.03	0.4
850744	47.3	2.74	3.86	9.05	1.39	4.28	< 0.1	199	269	903	7.02	0.6	< 10	139	1.0	1.1	0.4	0.06	0.71	34.5	0.63	0.06	0.3
850745	41.7	0.52	5.12	6.32	0.74	6.61	< 0.1	172	736	1450	10.8	0.3	< 10	282	1.0	0.7	0.3	< 0.05	0.50	50.8	0.53	0.04	0.3
850746	37.8	0.16	7.72	4.37	0.42	8.21	0.2	147	1130	1630	8.14	1.3	< 10	416	0.9	0.6	0.3	0.13	1.27	66.0	0.98	0.03	0.3
850747	30.6	0.01	11.1	4.10	0.05	5.14	0.2	144	1350	1580	8.04	0.4	10	653	0.4	0.4	0.1	0.06	0.67	82.9	0.24	0.03	0.3

Results

Activation Laboratories Ltd.

Report: A18-16932

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850748	8.0	0.06	0.08	0.32	0.11	0.11	< 0.1	4	19	64	0.53	0.4	< 10	5.1	0.2	< 0.1	< 0.1	< 0.05	0.16	1.1	0.06	0.03	0.2
850749	34.5	< 0.01	9.99	4.68	0.01	5.58	0.2	160	923	1600	7.68	0.4	10	548	0.3	0.2	0.1	< 0.05	0.39	73.1	0.26	< 0.02	0.4
850750	45.3	0.37	6.49	4.98	0.13	7.19	< 0.1	165	728	1500	8.52	0.1	< 10	438	0.5	0.6	0.2	< 0.05	0.18	64.6	0.27	0.03	0.5

Results

Activation Laboratories Ltd.

Report: A18-16932

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
808001	108	16.7	< 0.1	36.2	7.8	104	116	3.6	2.21	< 0.1	< 1	< 0.1	0.6	40	11.8	22.4	2.5	9.5	1.7	1.5	0.2	1.2	29.8
808002	66.8	14.8	< 0.1	19.1	6.6	299	101	3.5	1.81	< 0.1	< 1	< 0.1	0.3	183	11.7	21.5	2.3	8.8	1.5	1.4	0.2	1.0	15.5
808003	60.7	12.1	< 0.1	17.5	6.1	222	118	3.7	2.04	< 0.1	< 1	< 0.1	0.1	317	12.2	22.9	2.3	8.9	2.4	1.6	0.2	1.1	9.0
808004	77.0	13.1	< 0.1	9.8	6.2	196	114	3.4	3.35	< 0.1	< 1	< 0.1	0.2	159	11.5	21.1	2.2	8.1	1.6	1.3	0.2	1.0	11.6
808005	95.8	15.7	< 0.1	16.5	14.1	313	144	5.0	0.25	< 0.1	< 1	< 0.1	< 0.1	269	42.4	90.2	11.1	47.5	7.7	5.8	0.7	3.1	36.3
808006	81.8	9.9	< 0.1	24.0	9.0	151	123	4.0	0.63	< 0.1	< 1	< 0.1	< 0.1	447	12.7	24.4	2.8	10.5	2.1	2.1	0.3	1.6	29.0
808007	124	11.5	< 0.1	70.7	15.6	122	34	1.6	0.63	< 0.1	< 1	< 0.1	0.1	568	3.1	8.2	1.2	6.5	1.9	2.3	0.4	3.0	142
808008	118	6.6	2.3	4.9	8.4	8.9	19	0.5	4.83	< 0.1	< 1	< 0.1	0.4	42	3.0	5.9	0.8	3.6	1.0	1.3	0.2	1.3	17.6
808009	117	1.5	1.3	1.6	4.4	1.6	6	0.2	3.63	< 0.1	< 1	< 0.1	0.9	7	1.7	3.2	0.3	1.7	0.4	0.5	< 0.1	0.6	95.7
808010	60.5	3.5	1.3	4.7	5.5	4.3	11	0.2	6.21	< 0.1	< 1	< 0.1	0.8	5	3.7	7.3	0.9	3.8	0.8	0.8	0.1	0.7	20.5
808011	39.7	2.9	1.0	10.1	5.1	3.1	8	0.3	2.75	< 0.1	< 1	< 0.1	1.5	9	3.1	5.8	0.7	3.0	0.6	0.7	0.1	0.8	44.6
808012	70.4	1.7	14.5	169	20.6	274	78	1.5	30.2	< 0.1	3	0.7	< 0.1	981	32.2	66.5	7.6	29.8	5.3	5.4	0.7	4.2	2030
808013	277	3.4	0.7	3.6	9.5	1.7	12	0.5	2.01	0.2	< 1	< 0.1	1.2	14	2.8	5.3	0.6	2.9	0.8	0.9	0.2	1.2	66.7
808014	128	2.4	< 0.1	4.7	10.2	1.8	8	0.2	1.76	0.1	< 1	< 0.1	1.7	2	2.9	5.3	0.6	2.9	0.7	1.1	0.2	1.1	76.8
808015	52.9	1.8	0.3	2.8	6.0	1.6	4	< 0.1	2.83	< 0.1	< 1	< 0.1	2.1	< 1	2.6	4.4	0.5	2.4	0.5	0.7	0.1	0.7	65.4
808016	3190	8.1	0.2	3.2	7.0	2.0	25	0.8	7.30	0.7	< 1	< 0.1	9.0	29	3.3	7.2	0.9	3.7	0.8	0.8	0.1	0.9	72.7
808017	55.8	3.2	1.2	8.9	3.6	2.4	6	0.2	1.54	0.2	< 1	< 0.1	2.0	23	1.5	3.0	0.3	1.7	0.1	0.4	< 0.1	0.4	28.2
808018	55.6	0.9	1.2	3.1	2.8	1.6	4	< 0.1	1.67	< 0.1	< 1	< 0.1	1.5	16	1.5	2.9	0.3	1.2	0.4	0.3	< 0.1	0.4	71.3
808019	41.8	0.7	< 0.1	2.4	2.9	1.6	3	0.1	2.26	< 0.1	< 1	< 0.1	1.1	23	1.7	3.1	0.3	1.6	0.4	0.4	< 0.1	0.4	207
808020	118	3.3	< 0.1	5.6	5.2	71.8	5	0.6	2.26	< 0.1	< 1	0.2	0.3	73	1.4	3.0	0.4	1.7	0.4	0.5	< 0.1	0.5	127
808021	282	5.6	< 0.1	8.8	6.0	52.4	20	1.3	1.76	< 0.1	< 1	0.2	0.5	93	4.0	7.7	0.9	3.4	0.7	0.8	0.1	0.7	88.7
808022	352	4.7	< 0.1	7.9	6.2	48.9	11	1.0	1.13	< 0.1	< 1	0.2	0.1	136	3.2	6.3	0.8	3.1	0.7	0.7	0.1	0.7	58.1
808023	162	8.9	1.0	6.6	5.2	16.5	4	0.4	3.06	< 0.1	< 1	0.2	0.7	38	1.5	2.7	0.3	1.5	0.3	0.5	< 0.1	0.5	237
808024	4.7	0.5	< 0.1	2.2	1.6	2.8	6	0.6	0.23	< 0.1	< 1	0.4	< 0.1	16	1.7	3.3	0.4	1.5	0.3	0.3	< 0.1	0.3	1.4
808025	149	8.7	< 0.1	5.0	6.4	14.6	17	1.0	2.43	< 0.1	< 1	0.2	1.9	39	5.6	11.4	1.4	5.5	1.5	1.2	0.2	1.0	595
808026	90.7	3.7	< 0.1	1.2	5.1	11.4	12	0.8	1.58	< 0.1	< 1	0.1	0.2	60	2.2	4.4	0.6	2.3	0.6	0.7	0.1	0.7	74.1
808027	1150	4.0	0.3	6.1	7.2	19.7	20	1.0	3.76	< 0.1	< 1	0.3	0.8	24	11.6	22.1	2.6	10.2	1.8	1.5	0.2	1.0	113
808028	1100	3.2	0.9	3.2	2.8	4.5	13	0.7	8.24	0.2	< 1	< 0.1	0.4	23	1.6	3.0	0.4	1.5	0.2	0.3	< 0.1	0.3	63.9
808029	280	4.3	0.7	4.9	3.0	17.5	6	0.3	7.02	< 0.1	< 1	< 0.1	< 0.1	24	1.7	3.0	0.4	1.5	0.3	0.5	< 0.1	0.3	56.6
808030	107	11.4	< 0.1	21.5	13.9	261	39	0.1	0.26	< 0.1	< 1	< 0.1	< 0.1	332	10.8	24.0	3.2	14.3	2.4	2.6	0.4	2.7	75.1
808031	95.6	10.4	< 0.1	53.0	18.0	262	109	1.8	1.27	< 0.1	< 1	< 0.1	0.2	530	19.1	42.3	5.7	24.8	4.7	4.3	0.6	3.2	50.9
808032	75.5	12.1	0.6	56.7	15.4	195	51	0.3	0.41	< 0.1	< 1	< 0.1	0.3	423	4.3	10.3	1.4	6.8	1.4	2.4	0.4	2.5	96.8
808033	84.4	5.3	< 0.1	35.9	16.2	201	74	2.2	0.95	< 0.1	< 1	< 0.1	0.2	570	24.7	54.2	7.0	29.9	4.4	4.4	0.5	3.1	63.3
808034	99.8	7.9	< 0.1	24.5	15.9	191	58	1.1	1.27	< 0.1	< 1	< 0.1	< 0.1	431	36.5	77.8	10.2	41.9	6.5	4.9	0.6	3.1	60.9
808035	77.2	12.4	< 0.1	30.6	17.6	186	49	0.3	0.35	< 0.1	< 1	< 0.1	< 0.1	369	5.8	13.6	1.9	9.6	2.5	3.4	0.5	3.4	64.3
808036	99.3	13.8	49.1	168	21.8	303	108	15.2	221	< 0.1	3	5.1	0.5	380	30.9	62.2	7.0	26.9	5.3	4.7	0.7	4.0	6830
808037	61.4	11.1	< 0.1	18.5	13.3	173	53	0.4	1.01	< 0.1	< 1	< 0.1	< 0.1	248	8.0	16.9	2.2	10.7	2.4	2.8	0.4	2.5	78.9
808038	107	13.7	2.4	14.6	17.6	493	33	< 0.1	0.29	< 0.1	< 1	< 0.1	< 0.1	284	6.4	14.3	2.1	9.5	2.6	2.6	0.5	3.3	82.8
808039	134	16.7	< 0.1	7.8	19.0	206	110	2.7	1.85	< 0.1	< 1	< 0.1	0.4	153	95.0	200	25.7	110	15.7	9.6	0.9	4.6	84.4
808040	107	14.1	< 0.1	5.6	17.6	122	110	2.4	0.44	< 0.1	< 1	< 0.1	0.3	87	90.4	190	24.5	103	13.6	9.3	0.9	3.8	28.2
808041	104	11.8	< 0.1	24.0	16.4	164	57	1.7	1.37	< 0.1	< 1	< 0.1	1.6	298	36.1	78.7	10.0	42.9	7.0	4.9	0.6	3.2	88.6
808042	104	3.0	< 0.1	43.4	15.4	197	21	1.0	0.45	< 0.1	< 1	< 0.1	0.3	736	4.1	10.0	1.4	7.8	1.8	2.3	0.4	2.7	98.9

Results

Activation Laboratories Ltd.

Report: A18-16932

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
808043	102	4.5	< 0.1	36.1	15.4	147	13	0.5	0.33	< 0.1	< 1	< 0.1	< 0.1	514	2.1	5.8	1.0	4.9	1.6	2.3	0.4	2.8	106
808044	67.8	15.4	0.2	2.6	14.7	122	21	0.2	1.55	< 0.1	< 1	< 0.1	< 0.1	55	3.1	7.4	1.1	5.4	2.2	2.0	0.4	2.6	81.3
808045	77.2	17.3	0.3	3.4	16.7	162	17	< 0.1	0.37	< 0.1	< 1	< 0.1	< 0.1	54	3.6	8.7	1.2	6.7	1.6	2.4	0.4	3.0	117
808046	73.3	17.4	< 0.1	1.4	16.7	116	21	< 0.1	0.12	< 0.1	< 1	< 0.1	< 0.1	30	3.5	8.3	1.2	6.1	1.9	2.4	0.4	2.9	80.4
808047	55.7	15.0	< 0.1	1.2	14.5	138	26	0.7	0.24	< 0.1	< 1	< 0.1	< 0.1	28	1.8	5.0	0.8	4.4	1.2	2.0	0.3	2.5	29.8
808048	2.5	0.3	1.0	1.8	1.8	3.6	24	0.5	0.15	< 0.1	< 1	0.1	< 0.1	17	1.9	3.7	0.5	1.7	0.1	0.3	< 0.1	0.3	21.8
808049	96.5	14.4	1.2	1.4	10.5	70.0	24	1.3	0.49	0.2	< 1	< 0.1	1.2	19	2.1	5.1	0.8	3.6	1.4	1.6	0.3	1.9	664
808050	104	15.3	< 0.1	17.5	12.6	193	63	2.3	1.12	< 0.1	< 1	< 0.1	0.1	211	26.3	52.0	6.2	27.0	4.2	3.6	0.5	2.4	49.7
808051	187	11.4	< 0.1	4.1	4.4	20.7	38	0.9	26.7	< 0.1	< 1	< 0.1	1.3	33	5.7	11.8	1.4	6.0	1.0	1.1	0.1	0.9	228
808052	304	5.0	0.7	0.7	3.8	8.9	10	0.4	2.42	< 0.1	< 1	< 0.1	0.3	9	3.4	6.8	0.9	3.7	0.8	0.8	0.1	0.7	90.2
808053	105	1.1	< 0.1	44.2	10.2	98.9	13	< 0.1	0.20	< 0.1	< 1	< 0.1	< 0.1	846	2.1	5.6	0.9	4.7	1.2	1.9	0.3	2.0	69.4
808054	91.2	18.6	0.2	41.3	16.6	188	19	0.3	0.24	< 0.1	< 1	< 0.1	< 0.1	213	2.3	6.0	1.0	5.1	1.9	2.6	0.4	3.2	117
808055	92.9	12.0	< 0.1	39.2	13.6	153	23	0.8	0.23	< 0.1	< 1	< 0.1	< 0.1	362	2.0	5.6	0.8	4.4	1.4	2.1	0.3	2.4	73.6
808056	89.9	9.0	1.0	8.3	5.4	24.4	17	0.6	4.91	< 0.1	< 1	< 0.1	0.7	37	3.4	7.3	1.0	5.0	0.7	1.3	0.2	1.0	278
808057	188	19.8	1.0	19.5	13.4	241	27	2.1	3.24	< 0.1	2	< 0.1	0.7	247	1.6	3.7	0.5	3.0	0.9	1.5	0.3	2.2	18.8
808058	7.2	12.5	< 0.1	16.2	12.1	129	35	1.6	38.4	< 0.1	< 1	< 0.1	< 0.1	257	18.5	40.3	4.2	16.3	3.3	3.0	0.4	2.4	5.4
808059	98.8	13.9	< 0.1	39.3	13.6	73.1	85	2.2	0.94	< 0.1	1	< 0.1	0.3	399	13.8	27.9	3.3	13.3	2.8	2.8	0.4	2.6	31.5
808060	89.6	16.0	8.5	9.1	17.3	166	19	< 0.1	0.33	< 0.1	< 1	< 0.1	< 0.1	110	3.8	9.5	1.3	7.0	2.0	2.7	0.4	3.1	146
808061	208	9.2	0.9	10.8	5.3	16.0	22	0.6	2.28	< 0.1	< 1	< 0.1	0.2	104	2.8	6.4	0.9	4.5	0.9	1.6	0.2	1.2	60.9
808062	150	14.9	< 0.1	40.9	13.1	26.2	12	1.7	1.10	< 0.1	< 1	< 0.1	< 0.1	276	17.6	34.2	3.8	16.8	3.6	3.3	0.4	2.5	5.1
808063	129	6.7	0.2	43.7	13.7	76.7	50	2.1	0.90	< 0.1	1	< 0.1	0.4	706	7.0	14.8	1.8	7.3	1.6	2.0	0.3	2.3	57.4
808064	98.8	14.0	< 0.1	12.7	12.1	169	22	0.7	0.42	< 0.1	< 1	< 0.1	0.2	115	1.0	2.6	0.4	2.4	0.9	1.4	0.3	2.2	63.0
808065	170	16.0	< 0.1	23.5	13.1	184	25	1.3	0.75	0.1	1	< 0.1	0.1	136	1.1	3.0	0.5	2.6	0.9	1.6	0.3	2.3	68.8
808066	170	13.1	< 0.1	14.2	12.8	171	18	0.1	0.43	< 0.1	1	< 0.1	< 0.1	113	0.9	2.2	0.4	2.0	0.8	1.3	0.3	1.9	27.4
808067	191	13.4	< 0.1	15.0	14.3	170	23	1.1	1.37	< 0.1	3	< 0.1	0.2	261	0.9	2.4	0.4	2.1	0.9	1.4	0.3	2.1	26.3
808068	119	5.8	< 0.1	44.5	10.5	101	13	0.9	1.59	< 0.1	2	< 0.1	0.2	658	1.0	2.5	0.4	2.2	0.8	1.2	0.2	1.6	59.7
808069	100	8.5	< 0.1	40.2	12.7	88.5	11	0.7	0.31	< 0.1	< 1	< 0.1	< 0.1	556	1.0	2.7	0.5	2.5	1.0	1.4	0.3	2.0	80.0
808070	178	5.7	< 0.1	2.9	7.8	19.8	27	1.0	8.00	0.2	1	< 0.1	0.9	61	4.6	9.7	1.3	5.4	1.6	1.5	0.2	1.3	198
808071	137	2.8	< 0.1	0.3	4.6	7.3	8	0.3	7.91	0.2	1	0.1	0.9	3	4.0	7.5	0.9	3.6	0.7	0.8	0.1	0.7	97.8
808072	5.1	0.6	0.8	2.1	1.6	3.4	12	0.4	0.51	< 0.1	< 1	0.2	< 0.1	17	1.9	3.4	0.4	1.5	0.4	0.3	< 0.1	0.3	2.1
808073	112	6.5	< 0.1	5.0	7.3	53.8	16	0.5	3.40	< 0.1	< 1	< 0.1	0.2	381	1.4	3.0	0.4	1.8	0.7	0.9	0.2	1.1	221
808074	83.3	7.8	< 0.1	24.8	12.0	123	54	1.2	0.42	< 0.1	< 1	< 0.1	< 0.1	553	9.4	21.5	2.9	12.3	2.6	2.4	0.4	2.0	36.0
808075	263	6.9	< 0.1	3.8	6.2	103	16	0.5	0.69	< 0.1	< 1	< 0.1	0.4	22	2.5	5.6	0.7	3.4	0.8	1.0	0.2	1.0	83.2
808076	266	10.4	< 0.1	14.3	7.8	78.8	16	0.9	0.81	0.1	2	< 0.1	1.8	412	1.7	3.8	0.5	2.4	0.9	1.0	0.2	1.3	97.3
808077	181	7.9	0.1	0.9	7.8	99.9	11	0.4	0.49	< 0.1	< 1	< 0.1	0.2	32	0.8	1.8	0.3	1.5	0.5	0.9	0.2	1.2	102
808078	163	9.4	< 0.1	17.9	9.3	249	29	1.3	0.56	< 0.1	< 1	< 0.1	0.8	175	15.1	29.3	3.6	14.2	2.7	2.0	0.3	1.6	73.9
808079	175	11.3	< 0.1	11.8	5.5	176	29	0.6	0.72	< 0.1	1	< 0.1	0.1	190	8.1	16.9	2.0	7.8	1.5	1.4	0.2	1.1	49.5
850701	117	17.7	< 0.1	1.2	28.2	158	10	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	31	5.5	13.5	2.1	10.3	3.2	3.7	0.7	4.3	142
850702	132	17.6	< 0.1	1.3	28.1	160	14	0.2	< 0.05	< 0.1	< 1	< 0.1	< 0.1	37	5.3	13.3	2.0	9.9	3.0	3.8	0.7	4.6	150
850703	124	16.9	< 0.1	3.6	25.9	112	14	< 0.1	0.08	< 0.1	< 1	< 0.1	< 0.1	54	4.7	12.0	1.8	9.1	2.7	3.6	0.7	4.0	145
850704	129	17.9	< 0.1	2.6	26.3	130	20	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	52	4.8	12.2	1.8	9.3	2.9	3.5	0.7	4.1	149
850705	122	17.2	< 0.1	18.4	30.2	311	42	< 0.1	0.12	< 0.1	< 1	< 0.1	< 0.1	483	18.7	41.9	5.6	24.0	5.2	5.1	0.8	4.7	113

Results

Activation Laboratories Ltd.

Report: A18-16932

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850706	157	14.8	< 0.1	9.4	40.7	109	20	0.4	2.12	0.1	< 1	< 0.1	< 0.1	121	5.9	13.7	2.0	10.0	3.2	4.3	0.9	5.8	306
850707	206	18.8	< 0.1	9.9	36.7	122	26	2.3	8.00	< 0.1	< 1	< 0.1	< 0.1	120	6.2	15.7	2.4	11.8	3.4	4.9	0.9	5.8	161
850708	191	17.7	< 0.1	3.1	30.8	180	39	2.1	2.40	0.1	< 1	< 0.1	< 0.1	71	9.9	22.2	3.1	14.5	3.9	4.4	0.8	5.0	78.5
850709	136	16.9	< 0.1	2.8	34.1	79.5	16	< 0.1	0.40	< 0.1	< 1	< 0.1	< 0.1	44	5.8	14.2	2.1	10.6	3.3	4.3	0.8	5.5	143
850710	322	15.0	< 0.1	21.0	25.7	352	65	3.0	4.10	0.1	1	< 0.1	0.4	99	11.3	25.6	3.5	14.9	3.7	3.9	0.7	3.9	271
850711	133	11.4	< 0.1	21.7	19.4	349	111	4.1	1.05	< 0.1	< 1	< 0.1	0.1	384	59.0	118	13.9	53.3	9.4	6.6	0.8	3.5	67.6
850712	86.0	15.3	19.8	182	26.9	351	98	6.8	81.2	< 0.1	3	1.3	< 0.1	1140	37.8	71.2	8.5	30.9	5.9	5.2	0.8	4.6	2800
850713	138	15.7	< 0.1	26.8	27.4	261	50	0.5	0.39	< 0.1	< 1	< 0.1	< 0.1	355	5.6	13.6	2.0	10.0	3.1	3.8	0.7	4.4	198
850714	135	14.7	< 0.1	29.6	25.0	371	45	0.9	0.20	< 0.1	< 1	< 0.1	< 0.1	390	4.9	11.8	1.8	8.5	2.9	3.6	0.7	4.2	220
850715	121	15.3	< 0.1	42.6	26.9	236	89	4.2	0.50	< 0.1	< 1	< 0.1	< 0.1	483	9.8	20.5	2.8	12.7	3.4	4.2	0.7	4.4	122
850716	145	16.9	< 0.1	25.7	19.9	261	35	< 0.1	0.08	< 0.1	< 1	< 0.1	< 0.1	366	4.6	11.4	1.7	8.5	2.5	3.1	0.6	3.5	57.9
850717	168	13.4	< 0.1	35.6	30.3	293	68	< 0.1	0.41	< 0.1	< 1	< 0.1	< 0.1	507	10.2	23.0	3.4	15.5	4.0	4.8	0.8	4.9	282
850718	151	15.6	< 0.1	29.2	32.8	180	55	0.2	14.4	< 0.1	< 1	< 0.1	< 0.1	410	6.1	14.9	2.4	11.4	4.0	4.4	0.8	5.0	182
850719	134	15.0	< 0.1	17.3	30.1	199	46	0.3	1.66	< 0.1	< 1	< 0.1	< 0.1	267	6.0	14.8	2.3	11.1	3.4	4.4	0.8	5.0	80.2
850720	156	17.1	< 0.1	24.6	33.9	220	30	0.8	4.17	< 0.1	< 1	< 0.1	< 0.1	435	6.8	16.3	2.6	12.6	3.5	4.9	0.9	5.6	226
850721	140	17.9	< 0.1	20.4	36.7	261	28	0.4	2.35	0.1	< 1	< 0.1	< 0.1	308	7.3	17.5	2.6	13.2	3.7	5.1	0.9	5.9	189
850722	148	19.3	< 0.1	9.0	35.0	176	29	0.2	0.65	0.1	< 1	< 0.1	< 0.1	178	6.7	16.8	2.6	12.7	3.6	4.9	0.9	5.9	206
850723	105	18.7	< 0.1	3.8	30.7	157	11	< 0.1	0.91	< 0.1	< 1	< 0.1	< 0.1	58	6.3	14.4	2.3	10.8	2.6	3.9	0.7	4.6	137
850724	4.2	0.5	0.5	1.3	2.1	3.8	13	0.5	0.31	< 0.1	< 1	0.2	< 0.1	13	1.7	3.2	0.4	1.4	0.3	0.3	< 0.1	0.3	5.2
850725	120	19.5	< 0.1	6.4	34.6	157	20	< 0.1	0.17	< 0.1	< 1	< 0.1	< 0.1	104	7.3	17.1	2.6	12.7	3.7	4.9	0.9	5.2	159
850726	152	18.9	< 0.1	13.3	35.4	199	31	0.2	0.74	< 0.1	< 1	< 0.1	< 0.1	225	7.3	17.8	2.7	13.5	3.4	5.1	0.9	5.5	195
850727	133	19.7	< 0.1	4.3	33.0	181	27	0.2	0.16	< 0.1	< 1	< 0.1	< 0.1	135	7.1	16.5	2.5	12.4	3.6	5.0	0.9	5.3	231
850728	184	20.9	< 0.1	41.1	31.2	124	25	0.3	0.41	0.1	< 1	< 0.1	< 0.1	513	6.3	15.7	2.4	11.7	3.8	4.8	0.9	5.0	156
850729	172	19.1	< 0.1	55.2	33.9	180	18	0.1	0.13	< 0.1	< 1	< 0.1	< 0.1	598	6.7	16.8	2.6	13.1	3.4	5.0	0.9	5.7	162
850730	168	18.9	< 0.1	11.1	31.9	182	34	0.3	0.11	< 0.1	< 1	< 0.1	< 0.1	145	6.6	16.2	2.5	11.9	3.5	4.6	0.8	4.8	129
850731	219	17.2	< 0.1	16.7	29.3	196	33	0.1	0.45	0.1	< 1	< 0.1	< 0.1	169	5.3	12.9	2.0	10.3	2.9	4.0	0.7	4.6	169
850732	65.2	13.1	< 0.1	2.2	14.0	234	9	0.3	0.41	< 0.1	< 1	< 0.1	< 0.1	73	1.0	2.8	0.5	2.5	0.8	1.5	0.3	2.1	70.0
850733	373	13.2	< 0.1	5.3	15.3	167	16	1.0	0.74	0.1	< 1	< 0.1	0.2	110	1.4	3.5	0.6	3.1	0.9	1.7	0.3	2.3	397
850734	156	8.8	< 0.1	3.5	6.5	117	16	0.5	0.45	< 0.1	< 1	< 0.1	0.2	42	1.0	2.0	0.3	1.5	0.6	0.8	0.2	1.0	142
850735	161	9.3	< 0.1	4.0	10.2	407	40	1.3	0.20	0.1	< 1	< 0.1	0.2	162	5.8	11.1	1.4	6.0	1.6	1.8	0.3	1.6	216
850736	118	16.8	55.7	196	25.5	360	107	18.1	263	< 0.1	4	6.5	0.5	532	33.4	66.0	8.1	30.1	5.3	4.9	0.8	4.4	7800
850737	172	4.9	< 0.1	1.0	6.3	32.8	20	0.5	11.4	0.3	< 1	< 0.1	1.4	8	3.3	6.5	0.8	3.7	1.0	1.1	0.2	0.9	339
850738	324	12.3	< 0.1	2.0	8.3	165	19	1.5	1.28	< 0.1	< 1	< 0.1	0.2	30	2.4	4.7	0.7	3.2	0.9	1.2	0.2	1.4	179
850739	126	3.6	< 0.1	1.4	4.3	31.1	16	0.5	8.46	0.2	< 1	< 0.1	2.8	10	2.9	5.6	0.7	3.0	0.7	0.7	0.1	0.7	504
850740	101	11.8	< 0.1	38.4	12.8	169	12	0.4	0.62	< 0.1	< 1	< 0.1	< 0.1	336	1.1	2.7	0.5	2.4	1.0	1.3	0.3	2.0	147
850741	263	9.9	< 0.1	40.5	13.7	157	14	1.1	0.38	< 0.1	< 1	< 0.1	< 0.1	526	1.1	3.1	0.5	3.0	1.2	1.5	0.3	2.0	75.1
850742	166	11.0	< 0.1	14.3	9.5	174	8	0.4	1.44	< 0.1	< 1	< 0.1	< 0.1	183	0.7	1.7	0.3	1.7	0.6	1.1	0.2	1.5	51.4
850743	122	7.8	< 0.1	74.3	10.9	183	12	0.4	0.22	< 0.1	< 1	< 0.1	< 0.1	1220	0.6	1.8	0.3	2.0	0.9	1.2	0.3	1.6	12.4
850744	165	11.4	< 0.1	43.1	10.0	217	26	0.8	0.25	< 0.1	< 1	< 0.1	< 0.1	690	8.4	17.3	2.2	9.8	1.7	2.1	0.3	1.6	91.1
850745	231	7.5	< 0.1	18.4	9.0	124	15	0.7	0.59	< 0.1	< 1	< 0.1	< 0.1	601	3.5	7.4	1.0	4.9	1.3	1.6	0.3	1.5	64.1
850746	149	8.9	< 0.1	19.4	9.7	157	49	1.2	0.37	< 0.1	< 1	< 0.1	< 0.1	116	14.0	29.8	3.9	17.0	3.3	2.6	0.4	1.9	29.6
850747	112	7.7	< 0.1	2.5	3.5	139	15	0.5	0.39	< 0.1	< 1	< 0.1	< 0.1	11	2.0	4.5	0.6	3.0	0.5	0.6	0.1	0.6	96.2

Results

Activation Laboratories Ltd.

Report: A18-16932

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850748	5.9	0.7	0.6	3.3	2.0	5.5	13	0.4	0.19	< 0.1	< 1	0.2	< 0.1	42	2.2	3.6	0.5	1.9	0.3	0.3	< 0.1	0.3	4.7
850749	106	9.5	< 0.1	0.7	3.4	147	14	0.4	1.25	< 0.1	< 1	< 0.1	< 0.1	6	1.6	3.5	0.5	2.1	0.7	0.6	0.1	0.6	63.6
850750	152	8.4	0.2	3.8	4.9	88.6	7	0.3	0.32	< 0.1	< 1	< 0.1	< 0.1	129	1.1	2.5	0.4	2.0	0.5	0.7	0.1	0.8	51.9

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
808001	0.1	0.1	0.9	0.1	0.3	0.9	0.002	0.39	8.3	4	1.6	0.7	0.114	0.019	4.06
808002	< 0.1	< 0.1	0.6	< 0.1	0.3	0.3	< 0.001	0.23	7.7	3	2.0	0.7	0.126	0.022	1.39
808003	< 0.1	< 0.1	0.6	0.1	0.4	0.4	< 0.001	0.13	5.4	3	2.2	0.7	0.130	0.024	0.75
808004	< 0.1	< 0.1	0.6	< 0.1	0.3	0.4	< 0.001	0.07	4.1	3	2.0	0.7	0.124	0.025	1.48
808005	< 0.1	0.2	1.3	0.2	0.3	0.7	< 0.001	0.10	15.7	15	5.2	1.3	0.338	0.126	0.05
808006	< 0.1	0.1	1.0	0.1	0.4	0.5	< 0.001	0.18	2.9	9	2.3	0.8	0.213	0.028	0.52
808007	0.3	0.3	1.9	0.3	< 0.1	1.7	0.002	0.60	4.5	47	0.3	< 0.1	0.522	0.031	0.75
808008	0.1	0.1	1.0	0.1	< 0.1	0.7	0.004	< 0.05	5.5	15	0.2	0.1	0.137	0.019	3.01
808009	0.1	< 0.1	0.6	< 0.1	< 0.1	0.3	0.002	< 0.05	5.4	1	< 0.1	0.1	0.0170	0.004	7.92
808010	0.1	< 0.1	0.6	< 0.1	< 0.1	0.5	0.003	< 0.05	3.9	2	0.4	0.2	0.0176	0.011	4.17
808011	0.2	< 0.1	0.7	0.1	< 0.1	0.6	0.002	0.08	7.8	2	0.2	0.2	0.0308	0.006	9.94
808012	0.2	0.3	2.5	0.3	< 0.1	0.4	0.003	0.99	22.8	13	18.3	5.7	0.297	0.093	0.34
808013	0.1	0.2	1.0	0.1	< 0.1	1.3	0.001	0.08	6.7	3	< 0.1	0.2	0.0633	0.005	6.96
808014	0.2	0.2	1.1	0.1	< 0.1	0.4	0.002	< 0.05	7.0	1	< 0.1	0.2	0.0115	0.006	7.59
808015	0.1	< 0.1	0.6	< 0.1	< 0.1	0.3	0.002	< 0.05	7.0	< 1	< 0.1	0.1	0.0050	0.007	8.70
808016	0.1	< 0.1	0.7	< 0.1	< 0.1	1.4	0.019	0.08	23.8	5	0.6	0.3	0.0536	0.009	6.07
808017	0.1	< 0.1	0.4	< 0.1	< 0.1	0.3	0.001	0.06	7.4	1	< 0.1	< 0.1	0.0094	0.009	8.37
808018	0.1	< 0.1	0.4	< 0.1	< 0.1	0.3	0.002	< 0.05	15.5	< 1	< 0.1	< 0.1	0.0046	0.006	10.6
808019	0.2	< 0.1	0.3	< 0.1	0.1	0.4	0.003	< 0.05	14.0	< 1	< 0.1	< 0.1	0.0057	0.010	16.6
808020	0.1	< 0.1	0.4	< 0.1	< 0.1	0.8	0.003	< 0.05	3.3	< 1	< 0.1	< 0.1	0.0045	0.006	1.15
808021	< 0.1	< 0.1	0.6	< 0.1	< 0.1	0.9	0.004	< 0.05	3.8	2	0.6	0.1	0.0383	0.013	1.49
808022	< 0.1	< 0.1	0.6	< 0.1	< 0.1	0.8	< 0.001	< 0.05	2.3	1	0.2	< 0.1	0.0294	0.013	0.85
808023	0.1	< 0.1	0.6	< 0.1	< 0.1	0.4	0.002	0.24	7.4	4	< 0.1	< 0.1	0.0097	0.016	4.39
808024	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.2	< 0.001	< 0.05	1.2	< 1	0.9	0.3	0.0146	0.001	0.01
808025	0.1	< 0.1	0.6	< 0.1	< 0.1	0.9	0.002	0.13	7.4	5	0.5	0.1	0.0672	0.041	6.14
808026	< 0.1	< 0.1	0.5	< 0.1	< 0.1	0.6	0.002	< 0.05	2.0	4	0.2	< 0.1	0.0625	0.024	0.77
808027	< 0.1	< 0.1	0.7	0.1	< 0.1	0.6	0.002	0.13	21.2	4	0.8	0.3	0.0676	0.013	11.4
808028	< 0.1	< 0.1	0.3	< 0.1	< 0.1	0.5	0.008	< 0.05	10.5	1	0.2	0.1	0.0400	0.004	5.31
808029	< 0.1	< 0.1	0.4	< 0.1	< 0.1	0.3	0.002	< 0.05	1.8	< 1	< 0.1	< 0.1	0.0113	0.009	0.33
808030	< 0.1	0.2	1.8	0.3	< 0.1	0.2	< 0.001	0.13	4.5	32	1.3	0.3	0.310	0.038	0.14
808031	< 0.1	0.3	2.1	0.3	< 0.1	15.1	0.001	0.40	5.1	25	2.7	1.0	0.390	0.149	0.61
808032	0.3	0.3	2.1	0.3	< 0.1	1.3	0.002	0.43	5.7	30	0.6	0.3	0.360	0.027	0.84
808033	< 0.1	0.3	1.9	0.2	< 0.1	4.7	0.001	0.22	4.2	27	2.9	0.7	0.383	0.110	0.48
808034	< 0.1	0.3	1.9	0.2	< 0.1	7.3	0.001	0.14	4.1	31	4.1	0.8	0.349	0.092	0.20
808035	0.4	0.3	2.1	0.3	< 0.1	0.3	0.001	0.23	2.7	33	0.8	0.2	0.294	0.083	0.03
808036	< 0.1	0.3	2.4	0.3	0.9	4.2	0.004	0.94	23.4	12	16.1	5.3	0.433	0.097	0.78
808037	0.4	0.2	1.7	0.3	< 0.1	0.2	< 0.001	0.10	3.2	27	1.2	0.4	0.303	0.049	0.27
808038	0.4	0.3	2.2	0.3	< 0.1	0.2	< 0.001	0.08	9.0	34	0.8	0.3	0.196	0.036	0.13
808039	< 0.1	0.3	1.7	0.2	0.1	1.1	0.002	< 0.05	3.9	24	10.7	2.2	0.357	0.218	0.15
808040	< 0.1	0.2	1.6	0.2	< 0.1	2.8	< 0.001	< 0.05	7.1	22	10.7	2.1	0.317	0.207	0.08
808041	< 0.1	0.3	1.9	0.3	< 0.1	5.5	0.002	0.13	6.1	33	4.0	0.9	0.376	0.098	0.97
808042	0.2	0.3	2.0	0.3	< 0.1	1.6	0.001	0.28	5.2	41	0.4	0.1	0.375	0.030	0.34

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
808043	0.2	0.3	2.0	0.3	< 0.1	0.3	0.001	0.22	3.7	38	0.2	< 0.1	0.327	0.022	0.12
808044	0.2	0.3	1.8	0.2	< 0.1	0.1	0.003	< 0.05	1.8	29	0.3	< 0.1	0.327	0.021	0.05
808045	0.4	0.3	2.1	0.3	< 0.1	0.1	0.002	< 0.05	2.2	32	0.4	0.1	0.226	0.024	0.15
808046	0.3	0.3	2.0	0.3	< 0.1	< 0.1	0.002	< 0.05	2.0	33	0.4	0.1	0.251	0.025	0.08
808047	0.3	0.2	1.8	0.2	< 0.1	0.3	< 0.001	< 0.05	1.9	34	0.2	< 0.1	0.354	0.023	0.21
808048	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.2	< 0.001	< 0.05	1.3	< 1	0.8	0.3	0.0170	0.002	< 0.01
808049	0.3	0.2	1.4	0.2	< 0.1	0.5	0.001	< 0.05	1.7	30	0.2	< 0.1	0.315	0.025	1.21
808050	< 0.1	0.2	1.5	0.2	0.1	1.7	0.002	0.14	5.9	30	4.6	1.1	0.324	0.050	0.24
808051	0.1	< 0.1	0.5	< 0.1	< 0.1	0.3	0.008	< 0.05	2.2	6	0.8	0.2	0.0822	0.045	4.27
808052	0.1	< 0.1	0.5	< 0.1	< 0.1	0.2	0.002	< 0.05	6.2	4	0.3	< 0.1	0.0406	0.050	0.99
808053	0.9	0.2	1.4	0.2	< 0.1	0.2	< 0.001	0.19	2.3	38	0.2	< 0.1	0.296	0.023	0.08
808054	1.4	0.3	2.3	0.3	< 0.1	0.3	< 0.001	0.44	4.5	47	0.2	< 0.1	0.352	0.028	0.37
808055	1.0	0.2	1.8	0.2	< 0.1	0.3	0.001	0.26	3.7	42	0.2	< 0.1	0.407	0.028	0.05
808056	0.1	< 0.1	0.6	< 0.1	< 0.1	1.0	0.004	0.06	2.4	8	0.3	0.1	0.109	0.038	3.05
808057	0.5	0.2	1.8	0.2	0.2	1.4	0.002	0.20	6.4	51	0.1	0.2	0.361	0.021	0.74
808058	< 0.1	0.2	1.3	0.2	< 0.1	0.9	0.014	0.07	5.5	2	3.8	1.0	0.0764	0.041	0.12
808059	< 0.1	0.2	1.5	0.2	< 0.1	3.0	0.001	0.28	5.0	16	2.9	0.8	0.262	0.041	0.14
808060	0.2	0.3	2.0	0.3	< 0.1	0.2	0.003	< 0.05	10.8	37	0.6	0.2	0.173	0.031	0.29
808061	1.6	< 0.1	0.6	< 0.1	< 0.1	6.0	0.001	< 0.05	3.1	21	0.4	< 0.1	0.195	0.041	0.94
808062	< 0.1	0.2	1.4	0.2	< 0.1	3.5	< 0.001	0.27	3.0	9	3.8	1.1	0.195	0.064	0.04
808063	0.2	0.2	1.8	0.2	0.3	4.3	< 0.001	0.28	3.8	33	1.7	0.5	0.222	0.023	0.43
808064	< 0.1	0.2	1.6	0.2	< 0.1	1.4	0.001	0.12	5.3	41	< 0.1	< 0.1	0.269	0.014	0.46
808065	0.2	0.2	1.8	0.2	< 0.1	0.7	< 0.001	0.25	5.8	42	< 0.1	< 0.1	0.286	0.016	0.48
808066	0.5	0.2	1.4	0.2	< 0.1	0.3	< 0.001	0.15	4.3	41	< 0.1	< 0.1	0.210	0.015	0.18
808067	0.4	0.2	1.6	0.3	< 0.1	0.5	0.001	0.11	4.7	45	< 0.1	< 0.1	0.308	0.020	0.31
808068	< 0.1	0.2	1.3	0.2	< 0.1	4.0	0.003	0.32	4.1	39	< 0.1	< 0.1	0.228	0.019	0.44
808069	0.2	0.2	1.4	0.2	< 0.1	2.3	< 0.001	0.30	4.5	42	< 0.1	< 0.1	0.275	0.014	0.72
808070	< 0.1	0.1	0.8	0.1	< 0.1	1.1	0.003	< 0.05	2.7	5	0.3	0.1	0.0717	0.058	3.10
808071	0.1	< 0.1	0.4	< 0.1	< 0.1	1.2	0.007	< 0.05	6.2	1	0.2	0.1	0.0108	0.051	1.42
808072	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.1	< 0.001	< 0.05	1.4	< 1	1.1	0.3	0.0133	0.001	< 0.01
808073	0.1	0.1	0.9	0.1	< 0.1	1.1	0.001	< 0.05	2.7	28	< 0.1	< 0.1	0.171	0.013	0.53
808074	< 0.1	0.2	1.3	0.2	< 0.1	0.3	< 0.001	0.16	2.7	22	2.2	0.6	0.220	0.051	0.03
808075	0.5	< 0.1	0.7	0.1	< 0.1	0.4	< 0.001	< 0.05	3.8	20	0.3	0.1	0.130	0.018	0.47
808076	0.3	0.1	0.9	0.1	< 0.1	2.1	0.001	0.13	13.1	31	0.2	< 0.1	0.212	0.023	0.70
808077	< 0.1	0.1	0.9	0.1	< 0.1	0.6	0.001	< 0.05	2.1	27	< 0.1	< 0.1	0.143	0.007	0.13
808078	< 0.1	0.1	1.0	0.1	< 0.1	0.4	< 0.001	0.20	5.0	24	3.1	0.8	0.151	0.025	0.07
808079	0.2	0.1	0.8	0.1	< 0.1	2.0	< 0.001	0.10	3.8	19	1.2	0.2	0.0972	0.007	1.46
850701	0.1	0.4	2.7	0.4	< 0.1	< 0.1	0.002	< 0.05	1.1	38	0.6	0.2	0.177	0.031	0.05
850702	0.2	0.4	2.8	0.4	< 0.1	< 0.1	0.002	< 0.05	1.7	36	0.6	0.2	0.253	0.039	0.23
850703	0.2	0.4	2.6	0.4	< 0.1	< 0.1	0.003	< 0.05	1.6	38	0.5	0.1	0.217	0.033	0.11
850704	0.2	0.4	2.6	0.4	< 0.1	< 0.1	0.002	< 0.05	1.6	39	0.5	0.1	0.254	0.029	0.09
850705	0.2	0.4	2.8	0.4	< 0.1	< 0.1	0.002	0.14	7.4	34	2.5	0.7	0.211	0.085	0.09

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
850706	0.2	0.7	4.5	0.7	< 0.1	< 0.1	0.006	0.09	6.1	34	0.5	0.1	0.327	0.029	1.23
850707	0.5	0.6	3.9	0.6	0.1	0.1	0.010	0.10	6.5	41	0.6	0.2	0.653	0.049	0.75
850708	0.3	0.5	3.1	0.4	< 0.1	< 0.1	0.003	< 0.05	8.7	34	1.3	0.4	0.535	0.050	0.42
850709	0.3	0.5	3.6	0.5	< 0.1	< 0.1	0.004	< 0.05	4.0	37	0.6	0.2	0.283	0.043	0.33
850710	0.1	0.4	2.5	0.4	0.1	0.2	0.004	0.19	10.3	24	1.8	0.5	0.460	0.054	4.24
850711	< 0.1	0.2	1.4	0.2	0.2	0.7	0.001	0.15	7.4	19	10.0	2.0	0.291	0.121	0.32
850712	0.5	0.4	2.5	0.4	0.4	1.7	0.003	1.05	22.4	13	20.3	5.5	0.341	0.088	0.31
850713	0.3	0.4	2.8	0.4	< 0.1	< 0.1	0.002	0.21	3.3	38	0.7	0.2	0.485	0.041	0.30
850714	0.4	0.4	2.6	0.4	< 0.1	< 0.1	< 0.001	0.21	3.9	38	0.6	0.1	0.461	0.032	0.13
850715	0.3	0.4	2.8	0.4	0.2	0.2	0.002	0.24	4.4	41	1.7	0.5	0.627	0.043	0.21
850716	0.2	0.3	2.0	0.3	< 0.1	< 0.1	0.002	0.17	2.9	39	0.6	0.2	0.193	0.037	0.06
850717	0.2	0.5	3.2	0.5	< 0.1	< 0.1	0.003	0.25	4.1	33	1.4	0.5	0.302	0.050	0.07
850718	0.2	0.5	3.3	0.5	< 0.1	< 0.1	0.031	0.22	7.6	37	0.6	0.2	0.476	0.041	0.86
850719	0.2	0.5	3.1	0.5	< 0.1	< 0.1	0.004	0.14	4.0	35	0.7	0.3	0.458	0.034	0.57
850720	0.2	0.5	3.5	0.5	< 0.1	< 0.1	0.007	0.19	8.4	39	0.7	0.2	0.549	0.046	0.53
850721	0.3	0.6	3.6	0.5	< 0.1	< 0.1	0.006	0.18	11.3	40	0.8	0.2	0.449	0.045	0.25
850722	0.2	0.6	3.6	0.6	< 0.1	< 0.1	0.007	0.07	12.7	39	0.8	0.2	0.320	0.048	0.49
850723	0.3	0.4	2.8	0.4	< 0.1	< 0.1	0.006	< 0.05	16.4	25	0.5	0.1	0.196	0.048	0.32
850724	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.1	< 0.001	< 0.05	1.3	< 1	1.0	0.3	0.0159	0.001	< 0.01
850725	0.4	0.5	3.3	0.5	< 0.1	< 0.1	0.001	< 0.05	21.0	37	0.7	0.2	0.272	0.048	0.31
850726	0.2	0.5	3.5	0.5	< 0.1	< 0.1	0.005	0.09	13.7	41	0.9	0.2	0.426	0.048	0.71
850727	0.2	0.5	3.4	0.5	< 0.1	< 0.1	0.004	0.06	14.6	40	0.7	0.2	0.289	0.049	0.43
850728	0.2	0.5	3.1	0.4	< 0.1	< 0.1	0.013	0.44	11.0	44	0.8	0.2	0.272	0.050	0.27
850729	0.1	0.5	3.5	0.5	< 0.1	< 0.1	0.004	0.52	14.1	45	0.9	0.3	0.267	0.052	0.46
850730	0.3	0.5	3.2	0.5	< 0.1	< 0.1	0.001	0.10	14.5	39	0.6	0.2	0.250	0.048	0.26
850731	0.3	0.5	3.0	0.4	< 0.1	< 0.1	0.006	0.16	14.3	37	0.6	0.2	0.338	0.034	0.61
850732	0.5	0.2	1.4	0.2	< 0.1	< 0.1	0.002	< 0.05	4.0	39	< 0.1	< 0.1	0.226	0.014	0.06
850733	0.1	0.2	1.6	0.2	< 0.1	0.2	0.002	< 0.05	3.5	44	0.1	< 0.1	0.303	0.017	0.22
850734	0.1	< 0.1	0.7	0.1	< 0.1	0.4	< 0.001	< 0.05	4.1	28	< 0.1	< 0.1	0.152	0.010	0.08
850735	0.1	0.2	1.4	0.2	0.2	1.0	< 0.001	0.06	8.0	21	0.5	0.3	0.177	0.007	0.82
850736	0.1	0.4	2.3	0.3	1.2	3.8	0.010	1.03	24.6	12	18.8	5.0	0.436	0.097	0.77
850737	0.1	< 0.1	0.6	< 0.1	< 0.1	0.6	0.006	< 0.05	8.1	5	0.3	0.1	0.0379	0.036	3.41
850738	0.3	0.1	1.0	0.2	< 0.1	0.6	0.002	< 0.05	2.7	32	< 0.1	< 0.1	0.241	0.014	0.43
850739	0.1	< 0.1	0.4	< 0.1	< 0.1	0.7	0.006	< 0.05	11.1	3	0.3	0.1	0.0259	0.041	4.57
850740	0.9	0.2	1.4	0.2	< 0.1	0.1	< 0.001	0.30	4.3	43	< 0.1	< 0.1	0.267	0.015	0.10
850741	1.2	0.2	1.6	0.2	< 0.1	0.4	< 0.001	0.32	4.7	41	0.1	< 0.1	0.291	0.007	0.67
850742	0.2	0.1	1.1	0.2	< 0.1	< 0.1	< 0.001	0.08	3.1	39	< 0.1	< 0.1	0.167	0.007	0.09
850743	0.9	0.2	1.2	0.2	< 0.1	0.5	< 0.001	0.43	3.4	44	< 0.1	< 0.1	0.203	0.006	< 0.01
850744	0.4	0.2	1.1	0.2	< 0.1	0.5	0.001	0.26	3.6	39	1.1	0.2	0.217	0.021	0.08
850745	0.2	0.1	0.9	0.1	< 0.1	1.0	< 0.001	0.10	2.0	28	0.2	< 0.1	0.169	0.005	0.05
850746	0.5	0.1	0.9	0.1	< 0.1	0.7	< 0.001	0.17	1.8	21	2.1	0.6	0.146	0.054	0.04
850747	0.3	< 0.1	0.4	< 0.1	< 0.1	0.4	< 0.001	< 0.05	1.1	23	0.3	< 0.1	0.109	0.013	0.06

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
850748	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.1	< 0.001	< 0.05	1.6	< 1	1.1	0.3	0.0150	0.002	< 0.01
850749	< 0.1	< 0.1	0.4	< 0.1	< 0.1	0.8	< 0.001	< 0.05	1.2	24	0.1	< 0.1	0.108	0.009	0.01
850750	0.1	< 0.1	0.6	0.1	< 0.1	0.4	0.002	< 0.05	1.6	28	< 0.1	< 0.1	0.101	0.009	0.02

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-4 Meas	13.5	0.57	1.66	7.64	4.23	1.02	0.3	89	46	150	3.11	1.4	440	38.6		2.0		3.48	2.32	12.7	1.33	19.7	5.9
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
GXR-4 Meas	14.2	0.57	1.88	8.00	4.01	1.04	< 0.1	90	46	163	3.25	1.4	< 10	39.7		2.1		3.73	2.50	14.6	1.37	21.8	5.7
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
GXR-4 Meas	12.2	0.49	1.60	7.46	3.65	0.85	0.2	80	44	154	2.81	1.3	< 10	33.9		1.7		3.11	2.40	12.2	1.23	18.6	5.1
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
SDC-1 Meas	38.9	1.72	1.07	9.33	2.21	0.97		56	46	964	5.63	1.1	70	36.7	4.1	3.3	1.3		3.80	18.5	1.59		
SDC-1 Cert	34.0	1.52	1.02	8.34	2.72	1.00		102.00	64.00	880.00	4.82	8.30	200.00	38.0	4.10	3.00	1.50		4.00	18.0	1.70		
SDC-1 Meas	33.5	1.60	0.99	7.29	1.64	0.94		50	51	862	4.70	1.1	10	33.8	3.1	2.7	1.1		3.87	17.7	1.35		
SDC-1 Cert	34.0	1.52	1.02	8.34	2.72	1.00		102.00	64.00	880.00	4.82	8.30	200.00	38.0	4.10	3.00	1.50		4.00	18.0	1.70		
SDC-1 Meas																							
SDC-1 Cert																							
GXR-6 Meas	32.9	0.10	0.52	> 10.0	2.02	0.16	< 0.1	115	52	1080	5.92	1.8	70	25.6		1.1		0.32	4.03	13.2	0.65	0.19	0.7
GXR-6 Cert	32.0	0.104	0.609	17.7	1.87	0.180	1.00	186	96.0	1010	5.58	4.30	68.0	27.0		1.40		1.30	4.20	13.8	0.760	0.290	0.940
OREAS 97 (4 Acid) Meas																		20.2		62.5		41.7	72.6
OREAS 97 (4 Acid) Cert																		19.6		62.9		40.1	71.4
OREAS 97 (4 Acid) Meas																		20.2		59.5		44.6	70.6
OREAS 97 (4 Acid) Cert																		19.6		62.9		40.1	71.4
OREAS 97 (4 Acid) Meas																		18.2		59.9		38.8	65.0
OREAS 97 (4 Acid) Cert																		19.6		62.9		40.1	71.4
OREAS 97 (4 Acid) Meas																							
OREAS 97 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																		44.4		104		96.6	165
OREAS 98 (4 Acid) Cert																		45.1		121		97.2	158
OREAS 98 (4 Acid) Meas																		45.2		112		94.3	167
OREAS 98 (4 Acid) Cert																		45.1		121		97.2	158
OREAS 98 (4 Acid) Meas																		42.1		117		89.0	157
OREAS 98 (4 Acid) Cert																		45.1		121		97.2	158
DNC-1a Meas	5.1	1.54				8.07		145	136		7.16			258						56.8	0.52		
DNC-1a Cert	5.2	1.40				8.21		148	270		6.97			247						57	0.59		
SBC-1 Meas	172						0.3	212	86			3.4		87.1	3.3	3.4	1.2		7.79	22.7	1.86	0.77	

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
SBC-1 Cert	163						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
SBC-1 Meas	166						0.2	203	78			3.4		77.3	3.2	3.1	1.2		7.48	20.9	1.65	0.67	
SBC-1 Cert	163						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d (4-Acid) Meas	22.8	0.11	0.22	8.31	0.44	0.20		130	565	534	15.0	2.1		245	1.5	0.8	0.5		3.82	29.3	0.62	0.34	
OREAS 45d (4-Acid) Cert	21.5	0.101	0.245	8.150	0.412	0.185		235.0	549	490.000	14.5	3.830		231.0	1.38	0.79	0.46		3.910	29.50	0.57	0.31	
OREAS 45d (4-Acid) Meas	23.1	0.09	0.19	7.52	0.41	0.16		145	439	474	13.6	3.0		210	1.3	0.7	0.4		3.55	27.7	0.53	0.32	
OREAS 45d (4-Acid) Cert	21.5	0.101	0.245	8.150	0.412	0.185		235.0	549	490.000	14.5	3.830		231.0	1.38	0.79	0.46		3.910	29.50	0.57	0.31	
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
OREAS 96 (4 Acid) Meas																		11.6		48.1		30.0	39.9
OREAS 96 (4 Acid) Cert																		11.5		49.9		26.3	40.7
OREAS 96 (4 Acid) Meas																		11.4		47.6		27.1	40.6
OREAS 96 (4 Acid) Cert																		11.5		49.9		26.3	40.7
OREAS 621 (4 Acid) Meas	13.1	1.31	0.48	6.25	2.12	1.79	236	33	35	480	3.41	4.4		26.4		1.6		56.8	2.95	26.5		3.74	4.0
OREAS 621 (4 Acid) Cert	14.2	1.31	0.507	6.40	2.20	1.97	284	31.8	37.1	532	3.70	4.41		26.2		1.69		69.0	3.28	29.3		3.93	5.64
808011 Orig	0.7	0.02	1.07	0.50	0.08	1.24	< 0.1	16	24	6050	17.8	0.2	20	28.0	0.6	0.1	0.2	0.75	4.95	26.6	0.31	0.38	3.3
808011 Dup	0.6	0.02	0.87	0.42	0.07	1.07	< 0.1	13	18	5090	15.4	0.1	10	21.6	0.6	< 0.1	0.2	0.62	4.22	22.0	0.27	0.31	2.6
808026 Orig	4.2	0.02	1.26	1.06	0.01	1.70	0.1	33	28	2950	12.4	0.3	20	11.2	0.5	0.2	0.2	0.12	1.40	11.0	0.38	0.04	0.9
808026 Dup	4.3	0.02	1.32	1.08	0.01	1.81	0.1	37	34	3010	12.7	0.3	20	11.8	0.5	0.1	0.2	0.11	1.46	11.7	0.38	0.05	1.0
808041 Orig	45.8	0.48	5.33	7.18	0.95	7.12	0.1	226	188	1810	8.23	1.4	< 10	145	1.9	0.9	0.6	0.25	0.87	46.6	1.87	0.25	0.3
808041 Dup	44.6	0.44	5.21	6.85	0.93	7.11	0.1	225	195	1740	8.10	1.4	10	141	1.9	0.9	0.6	0.26	0.96	45.4	1.74	0.24	0.3
808050 Split Orig PREP DUP	34.2	1.45	6.74	7.07	0.49	4.43	< 0.1	200	125	1170	9.21	1.5	30	82.3	1.4	0.7	0.5	0.09	1.92	36.6	1.22	0.08	< 0.1
808050 Split PREP DUP	36.4	1.53	7.09	7.62	0.51	4.80	0.1	189	146	1260	9.74	1.4	30	89.4	1.6	0.8	0.5	0.06	2.03	38.0	1.26	0.08	< 0.1
808053 Orig	27.3	0.45	4.46	8.14	1.73	5.92	0.2	223	93	1250	8.90	0.4	20	106	1.4	1.4	0.4	0.07	0.95	42.1	0.64	0.03	< 0.1
808053 Dup	25.2	0.43	4.07	7.48	1.61	5.35	0.1	218	83	1160	8.35	0.4	10	97.2	1.3	1.3	0.4	0.06	0.89	39.2	0.51	0.03	< 0.1
808074 Orig	37.9	0.80	4.72	6.17	0.79	6.68	< 0.1	137	402	952	5.80	1.4	< 10	155	1.2	0.5	0.4	< 0.05	0.80	39.3	0.74	0.05	0.2
808074 Dup	40.8	0.84	4.84	6.59	0.83	6.96	< 0.1	143	315	984	6.04	1.4	20	160	1.3	0.4	0.5	< 0.05	0.82	41.4	0.78	0.04	0.3
850712 Orig	36.1	2.43	1.52	8.20	3.01	2.82	0.2	118	90	598	4.73	2.9	230	65.2	2.6	3.2	1.0	0.51	10.6	15.0	1.27	0.74	1.5
850712 Dup	35.3	2.40	1.56	8.21	2.17	2.92	0.2	127	72	603	4.74	2.7	260	64.1	2.6	3.1	1.0	0.51	11.1	15.2	1.29	0.78	1.4

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850717 Orig	33.0	0.47	3.21	6.03	1.03	6.30	0.1	271	114	3250	14.7	1.8	< 10	53.8	3.4	0.9	1.1	0.15	2.57	38.8	1.14	0.09	0.2
850717 Dup	32.2	0.46	3.20	5.86	1.00	6.24	0.1	259	91	3190	14.3	1.7	< 10	50.4	3.2	0.9	1.1	0.15	2.38	37.4	1.10	0.09	< 0.1
850720 Orig	18.7	1.25	3.00	6.88	1.02	6.24	0.2	336	22	3240	13.1	0.9	< 10	33.0	3.7	0.7	1.3	0.13	0.93	35.3	1.09	0.30	0.6
850720 Dup	18.3	1.21	2.97	6.75	1.02	6.27	0.1	346	20	3240	13.1	0.9	< 10	32.8	3.5	0.6	1.2	0.13	0.89	35.2	1.10	0.31	0.7
850721 Split Orig PREP DUP	9.7	1.61	2.88	7.01	0.94	8.02	0.2	282	17	3470	12.5	0.9	< 10	32.6	3.9	0.7	1.4	0.12	0.42	27.5	1.36	0.38	0.3
850721 Split PREP DUP	9.4	1.59	2.88	6.83	0.93	7.76	0.1	193	17	3270	12.1	0.4	< 10	29.7	3.7	0.7	1.3	0.10	0.40	26.6	1.30	0.36	0.2
Method Blank																							
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	3	9	2	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.2
Method Blank	< 0.5	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.1	2	3	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.3
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	2	5	7	< 0.01	< 0.1	30	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.3
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	2	6	< 0.01	< 0.1	30	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	2	4	< 0.01	< 0.1	20	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank																							
Method Blank																							
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	4	2	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	0.03	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.1	< 1	1	1	0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	1	2	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	3	1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank																							

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-4 Meas	76.3	18.7	102	145	13.5	232	45	9.6	349	0.2	7	4.5	0.7	524	56.4	104		39.2	6.2	4.5	0.5	2.6	6260
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
GXR-4 Meas	70.7	20.7	104	135	12.7	216	50	9.3	311	0.2	7	4.5	1.1	184	55.5	105		43.7	5.1	4.5	0.5	2.4	6380
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
GXR-4 Meas	60.2	17.1	89.0	103	10.5	188	45	8.7	278	0.2	6	3.9	0.7	182	49.9	97.3		39.4	5.3	4.3	0.4	2.5	5640
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
SDC-1 Meas	115	16.1	< 0.1	109		189	42	< 0.1			< 1	< 0.1		698	44.2	93.2		45.7	8.0	7.2	1.0	6.4	30.1
SDC-1 Cert	103.00	21.00	0.220	127.00		180.00	290.00	21.00			3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.000
SDC-1 Meas	103	23.9	< 0.1	74.0		162	43	1.2			< 1	< 0.1		593	34.7	86.0		37.1	7.0	6.5	0.9	5.5	31.4
SDC-1 Cert	103.00	21.00	0.220	127.00		180.00	290.00	21.00			3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.000
SDC-1 Meas																							
SDC-1 Cert																							
GXR-6 Meas	142	26.8	242	83.0	13.1	34.4	61	0.1	0.26	< 0.1	< 1	0.4	< 0.1	1220	12.5	33.7		11.7	2.8	2.2	0.4	2.1	68.0
GXR-6 Cert	118	35.0	330	90.0	14.0	35.0	110	7.50	2.40	0.260	1.70	3.60	0.0180	1300	13.9	36.0		13.0	2.67	2.97	0.415	2.80	66.0
OREAS 97 (4 Acid) Meas	668										97	8.5											> 10000
OREAS 97 (4 Acid) Cert	646										95.7	9.23											63100.00
OREAS 97 (4 Acid) Meas	629										91	7.9											> 10000
OREAS 97 (4 Acid) Cert	646										95.7	9.23											63100.00
OREAS 97 (4 Acid) Meas	552										88	4.9											> 10000
OREAS 97 (4 Acid) Cert	646										95.7	9.23											63100.00
OREAS 97 (4 Acid) Meas																							
OREAS 97 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas	1320										> 200	8.2											> 10000
OREAS 98 (4 Acid) Cert	1360										206	20.1											14800.0
OREAS 98 (4 Acid) Meas	1220										191	5.6											> 10000
OREAS 98 (4 Acid) Cert	1360										206	20.1											14800.0
OREAS 98 (4 Acid) Meas	1210										186	4.5											> 10000
OREAS 98 (4 Acid) Cert	1360										206	20.1											14800.0
DNC-1a Meas	64.5	13.1		3.0	13.8	138	38	2.1				0.7		97	3.5			5.3					105
DNC-1a Cert	70	15		5	18.0	144	38.0	3				0.96		118	3.6			5.20					100
SBC-1 Meas	198	23.8	24.9	136	29.5	189	130	15.9	2.52		3	1.1		592	50.9	104	11.7	52.0	8.9	8.3	1.1	6.4	29.2

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	
SBC-1 Cert	186	27.0	25.7	147	36.5	178.0	134.0	15.3	2.40		3.3	1.01		788.0	52.5	108.0	12.6	49.2	9.6	8.5	1.20	7.10	31.0	
SBC-1 Meas	181	26.6	22.4	97.2	25.1	156	120	13.0	2.14		3	0.9		676	43.8	96.5	11.1	45.6	9.3	7.5	1.0	5.7	33.2	
SBC-1 Cert	186	27.0	25.7	147	36.5	178.0	134.0	15.3	2.40		3.3	1.01		788.0	52.5	108.0	12.6	49.2	9.6	8.5	1.20	7.10	31.0	
SBC-1 Meas																								
SBC-1 Cert																								
OREAS 45d (4-Acid) Meas	46.5	22.3	6.3	44.8	12.4	34.3	84	0.3	0.32	0.1	< 1	< 0.1		199	18.2	37.2	4.0	14.7	2.7	2.5	0.4	2.3	379	
OREAS 45d (4-Acid) Cert	45.7	21.20	13.8	42.1	9.53	31.30	141	14.50	2.500	0.096	2.78	0.82		183.0	16.9	37.20	3.70	13.4	2.80	2.42	0.400	2.26	371	
OREAS 45d (4-Acid) Meas	37.8	19.6	9.7	29.7	8.8	27.3	116	2.8	0.73	< 0.1	< 1	< 0.1		166	14.1	32.9	3.4	13.1	2.4	2.0	0.3	1.9	363	
OREAS 45d (4-Acid) Cert	45.7	21.20	13.8	42.1	9.53	31.30	141	14.50	2.500	0.096	2.78	0.82		183.0	16.9	37.20	3.70	13.4	2.80	2.42	0.400	2.26	371	
OREAS 45d (4-Acid) Meas																								
OREAS 45d (4-Acid) Cert																								
OREAS 96 (4 Acid) Meas	440										61	5.3												> 10000
OREAS 96 (4 Acid) Cert	457										65.6	5.09												39300
OREAS 96 (4 Acid) Meas	402										66	2.4												> 10000
OREAS 96 (4 Acid) Cert	457										65.6	5.09												39300
OREAS 621 (4 Acid) Meas	> 10000	24.7	60.2	62.3	10.2	63.4	174	9.3	12.6	1.5	5	22.7			19.1	45.5					0.4		3160	
OREAS 621 (4 Acid) Cert	52200	24.6	77.0	84.0	11.1	91.0	168	8.61	13.6	1.83	5.25	139			21.6	46.6					0.460		3630	
808011 Orig	43.4	3.1	1.1	10.7	5.5	3.2	8	0.3	2.83	0.1	< 1	< 0.1	1.6	10	3.4	6.3	0.7	3.3	0.6	0.7	0.1	0.8	49.2	
808011 Dup	35.9	2.6	0.9	9.4	4.7	3.0	7	0.3	2.67	< 0.1	< 1	< 0.1	1.3	9	2.7	5.2	0.6	2.7	0.5	0.7	0.1	0.7	40.0	
808026 Orig	89.4	3.6	< 0.1	1.2	5.0	11.1	12	0.8	1.47	< 0.1	< 1	0.1	0.2	60	2.2	4.5	0.6	2.3	0.5	0.6	0.1	0.7	72.3	
808026 Dup	92.0	3.8	< 0.1	1.3	5.2	11.8	12	0.9	1.69	< 0.1	< 1	0.1	0.2	61	2.1	4.3	0.6	2.3	0.6	0.7	0.1	0.7	76.0	
808041 Orig	108	13.8	< 0.1	24.1	17.0	169	57	1.5	1.36	< 0.1	< 1	< 0.1	1.6	216	37.1	80.9	10.2	42.6	7.9	4.9	0.6	3.4	90.5	
808041 Dup	100	9.8	0.5	24.0	15.9	159	57	1.9	1.37	< 0.1	< 1	< 0.1	1.6	381	35.1	76.5	9.8	43.3	6.1	5.0	0.6	3.0	86.7	
808050 Split Orig PREP DUP	104	15.3	< 0.1	17.5	12.6	193	63	2.3	1.12	< 0.1	< 1	< 0.1	0.1	211	26.3	52.0	6.2	27.0	4.2	3.6	0.5	2.4	49.7	
808050 Split PREP DUP	114	16.4	< 0.1	18.4	13.6	209	55	0.4	0.79	< 0.1	< 1	< 0.1	< 0.1	221	27.7	54.5	6.6	28.2	5.0	3.6	0.4	2.5	54.3	
808053 Orig	110	1.7	< 0.1	46.2	10.8	106	13	< 0.1	0.15	< 0.1	< 1	< 0.1	< 0.1	879	2.2	5.9	0.9	4.8	0.9	2.0	0.3	2.1	71.5	
808053 Dup	99.4	0.5	< 0.1	42.2	9.6	91.9	14	0.3	0.25	< 0.1	< 1	< 0.1	< 0.1	812	2.0	5.3	0.8	4.5	1.4	1.8	0.3	1.9	67.4	
808074 Orig	86.5	7.7	< 0.1	24.2	11.7	119	53	1.8	0.50	< 0.1	< 1	< 0.1	< 0.1	536	9.0	21.3	2.9	11.7	2.7	2.3	0.3	1.9	33.5	
808074 Dup	80.1	7.9	< 0.1	25.3	12.3	127	56	0.5	0.34	< 0.1	< 1	< 0.1	< 0.1	570	9.8	21.8	3.0	12.8	2.6	2.5	0.4	2.0	38.6	
850712 Orig	87.1	15.2	20.9	192	26.6	344	96	8.9	75.8	< 0.1	3	1.6	0.1	1120	36.3	69.1	8.3	30.0	5.7	5.0	0.8	4.5	2800	
850712 Dup	84.8	15.4	18.7	171	27.2	359	100	4.8	86.5	< 0.1	3	1.0	< 0.1	1170	39.2	73.3	8.8	31.9	6.1	5.3	0.9	4.7	2810	

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850717 Orig	172	13.9	< 0.1	36.3	31.1	297	70	0.2	0.43	< 0.1	< 1	< 0.1	< 0.1	512	10.4	23.3	3.4	15.8	4.0	4.7	0.8	4.9	281
850717 Dup	165	12.9	< 0.1	35.0	29.4	289	66	< 0.1	0.39	< 0.1	< 1	< 0.1	< 0.1	502	10.0	22.6	3.4	15.2	4.1	4.9	0.8	4.9	283
850720 Orig	154	17.2	< 0.1	24.6	34.1	219	29	0.8	3.81	< 0.1	< 1	< 0.1	< 0.1	437	6.7	16.1	2.5	12.5	3.6	4.9	0.9	5.5	223
850720 Dup	158	17.0	< 0.1	24.7	33.6	222	31	0.9	4.53	0.1	< 1	< 0.1	< 0.1	432	6.9	16.5	2.6	12.8	3.4	4.9	0.9	5.6	229
850721 Split Orig PREP DUP	140	17.9	< 0.1	20.4	36.7	261	28	0.4	2.35	0.1	< 1	< 0.1	< 0.1	308	7.3	17.5	2.6	13.2	3.7	5.1	0.9	5.9	189
850721 Split PREP DUP	137	17.3	< 0.1	19.8	35.9	254	14	< 0.1	0.69	< 0.1	< 1	< 0.1	< 0.1	288	6.9	16.6	2.6	12.6	4.2	5.0	0.9	5.9	178
Method Blank																							
Method Blank	0.4	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	0.07	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Method Blank	0.5	0.1	0.1	< 0.2	< 0.1	0.7	< 1	< 0.1	0.06	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.4
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	0.16	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.5
Method Blank	1.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.5
Method Blank																							
Method Blank																							
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	0.3	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank																							

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
GXR-4 Meas		0.2	0.9	0.1	0.6	35.1		3.24	47.8	7	20.6	5.4	0.259	0.133	1.74
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20	0.29	0.120	1.77
GXR-4 Meas		0.2	1.1	0.1	0.6	35.4		3.31	50.4	7	19.9	5.8	0.260	0.134	1.77
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20	0.29	0.120	1.77
GXR-4 Meas		0.2	1.0	0.1	0.5	33.0		2.95	45.2	7	19.7	5.2	0.253	0.131	1.76
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20	0.29	0.120	1.77
SDC-1 Meas		0.5	3.7		< 0.1	0.2		0.68	25.5	15	11.7	3.0	0.149	0.056	
SDC-1 Cert		0.65	4.00		1.20	0.80		0.70	25.00	17.00	12.00	3.10	0.606	0.0690	
SDC-1 Meas		0.5	3.4		< 0.1	0.2		0.58	24.2	15	10.9	2.5	0.182	0.056	
SDC-1 Cert		0.65	4.00		1.20	0.80		0.70	25.00	17.00	12.00	3.10	0.606	0.0690	
SDC-1 Meas										13			0.151	0.055	
SDC-1 Cert										17.00			0.606	0.0690	
GXR-6 Meas			1.7	0.3	< 0.1	< 0.1		2.30	97.1	27	4.9	1.3		0.035	0.01
GXR-6 Cert			2.40	0.330	0.485	1.90		2.20	101	27.6	5.30	1.54		0.0350	0.0160
OREAS 97 (4 Acid) Meas									147						6.59
OREAS 97 (4 Acid) Cert									147						6.07
OREAS 97 (4 Acid) Meas									138						6.55
OREAS 97 (4 Acid) Cert									147						6.07
OREAS 97 (4 Acid) Meas									128						6.69
OREAS 97 (4 Acid) Cert									147						6.07
OREAS 97 (4 Acid) Meas															6.61
OREAS 97 (4 Acid) Cert															6.07
OREAS 98 (4 Acid) Meas									339						15.0
OREAS 98 (4 Acid) Cert									345						15.5
OREAS 98 (4 Acid) Meas									286						15.3
OREAS 98 (4 Acid) Cert									345						15.5
OREAS 98 (4 Acid) Meas									289						14.3
OREAS 98 (4 Acid) Cert									345						15.5
DNC-1a Meas			2.0						6.2	28			0.253		
DNC-1a Cert			2.0						6.3	31			0.29		
SBC-1 Meas		0.5	3.6	0.5	1.1	1.7		0.86	36.7	20	14.4	5.8	0.473		

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
SBC-1 Cert		0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76	0.51		
SBC-1 Meas		0.5	3.3	0.5	0.7	1.4		0.79	33.4	20	14.4	5.3	0.475		
SBC-1 Cert		0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76	0.51		
SBC-1 Meas										20			0.468		
SBC-1 Cert										20.0			0.51		
OREAS 45d (4-Acid) Meas			1.5	0.2	< 0.1	< 0.1		0.25	22.0	52	15.7	2.9	0.222	0.036	0.04
OREAS 45d (4-Acid) Cert			1.33	0.18	1.02	1.62		0.27	21.8	49.30	14.5	2.63	0.773	0.042	0.049
OREAS 45d (4-Acid) Meas			1.4	0.2	< 0.1	0.2		0.19	20.3	50	12.6	2.6	0.206	0.036	0.05
OREAS 45d (4-Acid) Cert			1.33	0.18	1.02	1.62		0.27	21.8	49.30	14.5	2.63	0.773	0.042	0.049
OREAS 45d (4-Acid) Meas										50			0.414	0.038	0.04
OREAS 45d (4-Acid) Cert										49.30			0.773	0.042	0.049
OREAS 96 (4 Acid) Meas									98.7						4.13
OREAS 96 (4 Acid) Cert									101						4.19
OREAS 96 (4 Acid) Meas									89.1						4.09
OREAS 96 (4 Acid) Cert									101						4.19
OREAS 621 (4 Acid) Meas			0.9	0.1		2.1		1.75	> 5000	6	5.7	2.5	0.175	0.036	4.48
OREAS 621 (4 Acid) Cert			0.990	0.140		2.35		1.96	13600	6.24	7.48	2.83	0.149	0.0359	4.48
808011 Orig	0.2	< 0.1	0.7	0.1	< 0.1	0.7	0.002	0.09	8.5	2	0.3	0.2	0.0304	0.006	9.87
808011 Dup	0.1	< 0.1	0.6	0.1	< 0.1	0.6	0.002	0.07	7.1	2	0.2	0.2	0.0311	0.006	10.0
808026 Orig	< 0.1	< 0.1	0.5	< 0.1	< 0.1	0.6	0.001	< 0.05	1.9	4	0.2	< 0.1	0.0624	0.024	0.77
808026 Dup	< 0.1	< 0.1	0.5	< 0.1	< 0.1	0.6	0.002	< 0.05	2.1	4	0.2	< 0.1	0.0626	0.023	0.76
808041 Orig	< 0.1	0.3	1.9	0.2	< 0.1	5.3	0.002	0.12	6.2	33	4.1	0.9	0.373	0.099	0.96
808041 Dup	< 0.1	0.3	1.8	0.3	< 0.1	5.7	0.002	0.13	6.1	33	4.0	0.9	0.380	0.098	0.97
808050 Split Orig PREP DUP	< 0.1	0.2	1.5	0.2	0.1	1.7	0.002	0.14	5.9	30	4.6	1.1	0.324	0.050	0.24
808050 Split PREP DUP	0.2	0.2	1.6	0.2	< 0.1	0.2	0.001	0.14	6.2	30	5.0	1.2	0.287	0.050	0.24
808053 Orig	0.9	0.2	1.5	0.2	< 0.1	0.1	< 0.001	0.20	2.4	38	0.2	< 0.1	0.262	0.022	0.08
808053 Dup	1.0	0.2	1.4	0.2	< 0.1	0.2	< 0.001	0.19	2.2	39	0.2	< 0.1	0.331	0.023	0.09
808074 Orig	< 0.1	0.2	1.2	0.2	< 0.1	0.5	< 0.001	0.16	2.7	22	2.1	0.6	0.228	0.050	0.03
808074 Dup	0.4	0.2	1.3	0.2	< 0.1	0.1	< 0.001	0.17	2.7	23	2.3	0.7	0.213	0.051	0.03
850712 Orig	0.7	0.4	2.4	0.4	0.6	2.2	0.003	1.04	22.1	13	20.6	5.7	0.308	0.087	0.31
850712 Dup	0.3	0.4	2.5	0.4	0.1	1.2	0.003	1.06	22.6	13	19.9	5.4	0.373	0.088	0.31

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
850717 Orig	0.2	0.5	3.2	0.5	< 0.1	< 0.1	0.003	0.26	4.3	33	1.5	0.5	0.313	0.051	0.07
850717 Dup	0.2	0.5	3.1	0.5	< 0.1	< 0.1	0.003	0.24	3.8	33	1.4	0.5	0.291	0.048	0.06
850720 Orig	0.2	0.5	3.5	0.5	< 0.1	< 0.1	0.007	0.19	8.3	39	0.7	0.2	0.532	0.046	0.53
850720 Dup	0.2	0.5	3.5	0.5	< 0.1	0.6	0.007	0.19	8.6	39	0.7	0.2	0.566	0.045	0.53
850721 Split Orig PREP DUP	0.3	0.6	3.6	0.5	< 0.1	< 0.1	0.006	0.18	11.3	40	0.8	0.2	0.449	0.045	0.25
850721 Split PREP DUP	0.2	0.6	3.5	0.5	< 0.1	< 0.1	0.005	0.15	11.1	39	0.7	0.2	0.239	0.045	0.25
Method Blank										< 1			< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.002	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.002	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01



Date Submitted: 12-Nov-18
Invoice No.: A18-17275-Au
Invoice Date: 10-Dec-18
Your Reference: 262

IAMGOLD Corporation
2140 Regent Street Unit 10
Sudbury Ontario P3E 5S8
Canada

ATTN: Brad McKinley

CERTIFICATE OF ANALYSIS

132 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-Timmins (ppm) Au - Fire Assay AA

REPORT **A18-17275-Au**

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

Notes:

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

CERTIFIED BY:

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

Emmanuel Esemé , Ph.D.
Quality Control

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Date Submitted: 12-Nov-18
Invoice No.: A18-17275-Au
Invoice Date: 10-Dec-18
Your Reference: 262

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2140 Regent Street Unit 10
Sudbury Ontario P3E 5S8
Canada

ATTN: Brad McKinley

CERTIFICATE OF ANALYSIS

132 Rock samples were submitted for analysis.

The following analytical package(s) were requested: Code UT-6 Total Digestion ICP & ICP/MS

REPORT **A18-17275-Au**

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

Notes:

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

CERTIFIED BY:



Emmanuel Esemé , Ph.D.
Quality Control

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

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
808080	0.007
808081	0.006
808082	0.005
808083	0.005
808084	1.532
808085	0.005
808086	0.006
808087	0.005
808088	< 0.005
808089	< 0.005
808090	0.005
808091	< 0.005
808092	< 0.005
808093	< 0.005
808094	< 0.005
808095	0.006
808096	< 0.005
808097	< 0.005
808098	< 0.005
808099	0.006
808100	0.008
808101	0.007
808102	< 0.005
808103	0.008
808104	0.020
808105	0.022
808106	0.015
808107	0.007
808108	0.057
808109	0.006
808110	0.016
808111	0.023
808112	0.224
808113	0.024
808114	0.023
808115	0.018
808116	< 0.005
808117	< 0.005
808118	0.019
808119	0.005
808120	< 0.005
808121	< 0.005

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
808122	0.006
808123	< 0.005
808124	< 0.005
808125	0.006
808126	0.021
808127	0.042
808128	0.085
808129	0.014
808130	0.014
808131	0.037
808132	0.005
808133	< 0.005
808134	0.010
808135	0.015
808136	0.460
808137	0.036
808138	0.060
808139	0.008
808140	0.006
808141	< 0.005
808142	0.005
808143	0.015
808144	0.007
808145	0.042
808146	0.035
808147	0.024
808148	0.005
808149	0.007
808150	0.018
808151	0.010
808152	0.005
808153	< 0.005
808154	0.007
808155	0.007
808156	2.295
808157	0.006
808158	0.165
808159	0.005
808160	2.103
808161	0.039
808162	0.005
808163	0.010

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
808164	0.006
808165	0.016
808166	0.017
808167	0.008
808168	0.007
808169	0.008
808170	0.008
808171	0.006
808172	0.007
808173	0.005
850751	0.006
850752	0.009
850753	0.005
850754	0.007
850755	0.008
850756	0.019
850757	0.006
850758	0.006
850759	0.006
850760	2.008
850761	0.009
850762	0.005
850763	0.007
850764	0.006
850765	0.008
850766	0.005
850767	< 0.005
850768	0.005
850769	0.005
850770	0.005
850771	0.005
850772	0.005
850773	0.006
850774	0.012
850775	0.010
850776	0.010
850777	0.009
850778	0.008
850779	0.009
850780	0.006
850781	0.006
850782	0.006

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
850783	0.011
850784	1.575
850785	0.041
850786	0.026
850787	0.010
850788	0.006

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
OREAS 224 Meas	2.079
OREAS 224 Cert	2.15
OREAS 224 Meas	2.081
OREAS 224 Cert	2.15
OREAS 224 Meas	2.087
OREAS 224 Cert	2.15
OREAS 224 Meas	2.078
OREAS 224 Cert	2.15
Oreas 221 (Fire Assay) Meas	1.016
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.067
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.048
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.046
Oreas 221 (Fire Assay) Cert	1.06
808089 Orig	0.005
808089 Dup	< 0.005
808099 Orig	0.006
808099 Dup	0.006
808109 Orig	0.006
808109 Dup	0.006
808124 Orig	< 0.005
808124 Dup	< 0.005
808129 Split Orig PREP DUP	0.014
808129 Split PREP DUP	0.015
808133 Orig	< 0.005
808133 Dup	< 0.005
808143 Orig	0.016
808143 Dup	0.015
808158 Orig	0.165
808168 Orig	0.007
808168 Dup	0.007
850755 Orig	0.007

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
850755 Dup	0.008
850756 Split Orig PREP DUP	0.019
850756 Split PREP DUP	0.018
850769 Orig	0.005
850769 Dup	0.006
850779 Orig	0.009
850779 Dup	0.008
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	0.005
Method Blank	0.005
Method Blank	< 0.005



Date Submitted: 12-Nov-18
Invoice No.: A18-17275-TD
Invoice Date: 11-Feb-19
Your Reference: 262

IAMGOLD Corporation
2140 Regent Street Unit 10
Sudbury Ontario P3E 5S8
Canada

ATTN: Brad McKinley

CERTIFICATE OF ANALYSIS

132 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code UT-6 Total Digestion ICP & ICP/MS

REPORT **A18-17275-TD**

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Notes:

CERTIFIED BY:

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

Emmanuel Esemé , Ph.D.
Quality Control

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

Results

Activation Laboratories Ltd.

Report: A18-17275

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
808080	13.8	1.92	3.08	7.49	0.23	6.83	< 0.1	188	157	2140	7.91	0.4	< 10	73.1	1.8	0.4	0.7	0.07	0.39	45.5	0.70	0.07	0.4
808081	15.3	2.41	2.54	7.96	0.86	5.26	< 0.1	157	182	2030	6.90	0.3	< 10	74.0	1.5	0.3	0.5	< 0.05	1.02	41.5	0.66	< 0.02	0.4
808082	15.3	1.98	3.80	7.37	0.16	6.97	< 0.1	146	144	1540	6.35	0.3	< 10	82.7	1.7	0.2	0.6	< 0.05	0.14	44.9	0.60	< 0.02	0.3
808083	16.3	1.39	3.58	7.02	0.13	7.21	< 0.1	170	155	1900	7.41	0.2	< 10	78.3	1.8	0.2	0.6	< 0.05	0.14	44.7	0.61	< 0.02	0.3
808084	24.9	2.27	1.74	6.81	2.48	2.71	< 0.1	151	75	550	7.24	2.4	30	35.4	1.7	1.7	0.6	3.01	4.57	20.5	0.80	5.26	11.6
808085	19.9	1.36	3.47	7.15	0.16	7.70	< 0.1	207	173	2230	7.99	0.3	10	78.1	1.9	0.2	0.6	< 0.05	0.15	44.6	0.63	0.02	0.6
808086	21.0	1.05	4.07	6.97	0.26	6.90	< 0.1	236	190	2220	9.08	0.3	< 10	84.2	1.8	0.3	0.6	< 0.05	0.47	48.1	0.61	0.02	0.4
808087	24.6	1.64	3.41	6.83	0.56	7.31	< 0.1	208	171	2100	7.59	0.2	< 10	75.0	1.6	0.2	0.5	< 0.05	0.28	42.2	0.59	0.02	0.6
808088	18.7	2.02	3.57	6.85	0.59	6.24	< 0.1	141	112	1970	7.56	0.4	< 10	75.9	1.6	0.2	0.6	< 0.05	0.48	44.6	0.62	0.02	0.4
808089	29.8	1.90	3.72	6.78	0.20	6.38	< 0.1	135	99	2440	8.24	0.3	< 10	74.5	1.7	0.2	0.6	< 0.05	0.18	43.9	0.53	< 0.02	0.4
808090	20.9	1.69	3.81	6.68	0.50	6.33	< 0.1	232	116	2000	8.21	0.5	< 10	79.3	1.7	0.2	0.6	< 0.05	0.33	44.8	0.62	0.05	0.5
808091	30.4	1.44	3.74	6.88	0.44	6.39	< 0.1	151	118	2100	7.81	0.2	< 10	80.3	1.7	0.2	0.6	< 0.05	0.23	44.6	0.53	0.03	0.4
808092	22.1	1.84	4.38	7.18	0.54	6.15	< 0.1	241	164	1980	8.56	1.4	< 10	136	1.8	0.4	0.6	0.05	0.42	45.6	0.95	0.07	0.5
808093	32.4	1.43	3.61	6.05	0.22	6.73	< 0.1	195	121	1850	7.70	0.4	< 10	69.9	1.4	0.1	0.5	0.12	0.13	42.3	0.44	0.03	0.9
808094	26.7	1.97	4.09	6.63	0.93	7.15	< 0.1	175	161	1910	7.98	0.9	< 10	81.9	1.6	0.5	0.6	< 0.05	0.55	37.2	0.76	0.13	0.4
808095	16.2	2.04	1.37	6.26	1.91	4.05	0.2	65	67	1060	5.36	2.6	< 10	48.7	0.8	0.9	0.3	0.16	1.05	22.9	0.68	0.14	1.3
808096	6.4	0.05	0.03	0.19	0.05	0.02	< 0.1	4	16	98	0.92	0.6	< 10	3.8	0.2	< 0.1	< 0.1	< 0.05	0.14	1.0	< 0.05	< 0.02	0.3
808097	18.4	2.51	1.30	7.32	1.47	3.33	0.2	47	43	2010	6.83	2.2	< 10	19.4	0.9	1.0	0.3	0.10	0.78	14.8	0.70	0.12	1.1
808098	18.9	2.20	1.47	6.84	0.66	3.50	< 0.1	39	15	2910	9.43	1.6	< 10	10.9	1.0	0.9	0.3	< 0.05	0.49	7.2	0.61	0.03	0.3
808099	18.3	2.97	1.96	6.97	0.40	3.52	< 0.1	63	62	2180	7.39	2.1	< 10	25.9	1.1	0.9	0.4	0.07	0.58	12.6	0.85	0.13	0.4
808100	13.7	> 3.00	0.96	6.65	0.87	4.00	< 0.1	35	21	1750	6.35	1.8	< 10	13.1	0.9	0.7	0.3	0.07	0.52	8.6	0.79	0.36	0.7
808101	12.8	1.69	0.90	7.32	2.60	4.30	< 0.1	48	18	1120	4.45	2.4	< 10	14.5	0.9	0.8	0.3	0.13	0.80	9.2	0.64	0.09	0.8
808102	24.9	0.46	1.92	6.05	0.03	4.75	< 0.1	30	19	5150	15.2	1.7	< 10	9.4	1.5	0.4	0.5	< 0.05	0.27	6.6	0.61	0.04	0.7
808103	21.5	0.65	1.63	5.32	0.18	4.42	< 0.1	32	15	4930	13.7	1.7	< 10	12.9	1.7	0.7	0.6	0.09	0.85	8.9	0.76	0.20	0.8
808104	16.0	0.85	1.55	4.71	0.17	3.64	< 0.1	27	26	4120	18.5	1.6	< 10	33.0	1.6	0.6	0.5	0.29	0.72	19.1	0.56	0.75	1.2
808105	7.8	0.42	0.96	2.74	0.05	2.41	< 0.1	18	13	2940	11.8	0.9	< 10	12.3	0.7	0.2	0.3	0.19	0.50	10.3	0.43	0.66	1.0
808106	12.5	0.59	1.38	4.50	0.23	4.41	< 0.1	38	20	3830	13.6	1.3	< 10	13.7	0.9	0.7	0.3	0.17	0.68	16.4	0.51	0.67	1.6
808107	14.8	1.09	1.24	6.30	1.16	2.56	< 0.1	35	20	2760	9.34	1.9	< 10	7.3	0.7	0.9	0.2	0.10	0.52	9.3	0.47	0.25	0.9
808108	3.5	0.33	1.09	2.48	0.05	5.17	< 0.1	44	12	4520	25.9	0.8	< 10	29.8	0.8	0.3	0.2	0.50	0.45	36.2	0.54	4.27	3.4
808109	16.6	0.23	1.87	5.77	0.25	3.18	< 0.1	36	24	4040	16.7	1.9	20	15.6	0.7	0.5	0.3	0.19	0.55	7.6	0.61	0.14	1.1
808110	13.1	0.35	1.08	4.76	1.04	3.68	3.0	32	17	2050	13.4	1.4	< 10	23.9	0.7	0.7	0.2	0.42	0.57	27.8	0.46	0.70	3.9
808111	10.1	0.38	0.92	2.83	0.41	4.87	0.2	31	15	1660	10.4	1.3	< 10	20.3	0.6	0.4	0.2	0.39	0.26	37.8	0.36	1.69	4.5
808112	37.8	2.15	1.61	7.77	2.64	2.61	< 0.1	88	72	554	4.42	2.7	< 10	61.1	2.4	3.2	0.9	0.40	10.9	15.0	1.12	0.71	1.2
808113	11.5	0.64	0.95	4.43	1.09	3.87	0.3	71	12	1070	7.85	1.8	< 10	19.8	0.6	0.4	0.2	0.36	0.35	48.8	0.39	1.11	4.2
808114	13.1	0.49	0.81	4.21	1.33	3.04	1.8	33	15	687	7.76	1.9	< 10	26.7	0.6	0.6	0.2	0.53	0.42	35.7	0.39	2.05	4.8
808115	13.8	0.09	0.77	4.13	1.47	2.56	1.1	29	15	767	8.86	1.8	< 10	26.6	0.5	0.5	0.2	0.40	0.39	38.3	0.37	0.63	3.9
808116	15.0	0.40	0.71	8.10	3.38	2.79	< 0.1	44	17	535	3.03	2.8	< 10	9.6	0.5	1.1	0.2	< 0.05	0.82	3.8	0.57	0.04	0.3
808117	23.7	2.14	1.21	7.41	1.57	3.36	< 0.1	66	40	825	4.56	2.6	< 10	12.3	0.7	1.0	0.2	0.05	0.55	8.0	0.64	0.13	0.3
808118	13.3	0.70	0.74	5.84	1.84	2.91	2.0	38	18	724	7.24	2.3	< 10	34.9	0.6	1.0	0.2	0.43	0.61	28.1	0.53	0.49	5.4
808119	13.7	2.22	0.57	7.44	2.20	4.29	< 0.1	41	20	394	2.22	3.3	< 10	11.6	0.7	1.0	0.2	0.08	0.63	6.2	0.63	0.07	0.5
808120	12.4	2.34	0.58	6.96	2.53	4.06	< 0.1	54	19	413	2.14	3.7	< 10	12.6	0.6	0.9	0.2	< 0.05	0.80	5.9	0.50	0.04	0.4
808121	16.4	1.88	1.63	6.40	2.05	4.15	< 0.1	59	83	558	3.11	3.5	< 10	72.5	0.8	1.0	0.3	0.05	0.90	13.6	1.18	0.06	0.4

Results

Activation Laboratories Ltd.

Report: A18-17275

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
808122	50.3	1.44	5.36	6.89	0.12	8.09	< 0.1	167	350	1190	7.14	0.7	< 10	247	0.7	0.4	0.2	< 0.05	0.30	51.8	0.34	< 0.02	0.5
808123	42.9	1.03	5.58	5.43	0.03	7.06	< 0.1	131	312	1150	5.79	0.5	< 10	215	0.6	0.3	0.2	< 0.05	0.16	41.1	0.29	< 0.02	< 0.1
808124	5.6	0.04	0.03	0.19	0.06	0.04	< 0.1	4	12	70	0.60	0.7	10	3.2	0.2	< 0.1	< 0.1	< 0.05	0.14	0.7	0.05	< 0.02	0.2
808125	43.4	0.74	4.13	5.50	0.25	7.46	< 0.1	147	417	1020	5.87	0.5	< 10	198	0.7	0.3	0.2	0.10	0.35	40.3	0.22	< 0.02	< 0.1
808126	22.7	1.49	1.45	6.83	1.47	4.03	1.0	60	66	917	9.20	2.9	< 10	61.8	0.7	1.1	0.2	0.46	0.71	37.9	0.59	0.52	5.1
808127	22.4	1.10	1.49	6.25	1.47	2.40	0.5	75	47	920	12.8	2.4	< 10	42.8	0.5	0.8	0.2	0.57	0.74	40.8	0.62	0.89	6.3
808128	9.8	0.38	1.15	4.24	0.94	3.39	1.7	56	39	963	14.4	1.4	< 10	37.9	0.5	0.5	0.2	1.15	0.55	52.6	0.64	1.33	9.1
808129	4.7	0.21	1.52	1.70	0.02	2.11	0.4	67	30	1030	23.9	0.3	< 10	16.2	0.4	0.2	0.1	0.23	0.44	22.6	0.47	0.51	4.2
808130	27.9	1.27	2.61	4.22	0.10	4.51	< 0.1	75	158	1010	12.3	2.3	< 10	138	0.7	0.4	0.3	0.17	0.35	23.6	1.71	0.38	2.0
808131	5.4	0.03	1.70	1.22	0.07	2.26	< 0.1	25	48	1560	22.7	0.8	< 10	34.5	0.5	< 0.1	0.2	0.47	0.79	10.4	0.76	0.66	3.6
808132	35.0	1.02	2.80	4.72	0.21	6.74	< 0.1	100	183	1020	7.43	1.5	< 10	147	1.1	0.4	0.4	0.07	0.57	20.9	1.95	0.09	0.8
808133	8.1	> 3.00	0.58	5.82	0.21	4.20	< 0.1	39	20	697	2.74	2.8	< 10	10.6	0.8	1.1	0.3	< 0.05	0.23	6.9	0.76	0.12	< 0.1
808134	8.4	> 3.00	0.53	5.82	0.20	6.38	< 0.1	32	18	1060	3.34	2.7	< 10	12.6	0.9	0.8	0.3	0.09	0.19	8.5	0.86	0.46	0.5
808135	11.0	2.87	1.30	5.22	0.09	3.23	0.4	53	17	884	10.8	2.3	< 10	18.4	0.6	0.6	0.2	0.27	0.30	30.0	0.55	0.97	4.9
808136	33.7	2.16	1.58	7.53	3.33	2.58	< 0.1	123	66	554	4.93	3.1	< 10	39.6	2.3	2.8	0.8	0.81	10.0	14.2	1.12	0.70	2.6
808137	7.1	0.79	1.37	3.13	0.08	3.56	2.0	97	43	1200	15.6	1.1	< 10	19.1	0.6	0.3	0.2	0.39	0.54	45.1	0.53	0.86	7.5
808138	20.4	> 3.00	2.17	7.86	0.38	4.26	0.5	131	65	1070	7.72	3.3	< 10	31.5	1.1	1.3	0.4	0.47	0.85	33.4	1.05	0.69	2.8
808139	27.5	2.12	3.80	6.45	0.18	7.37	< 0.1	229	152	1500	8.77	0.9	< 10	76.3	1.8	0.8	0.6	< 0.05	0.65	48.8	0.64	0.22	< 0.1
808140	9.7	> 3.00	1.03	7.80	0.46	5.86	< 0.1	53	31	1080	4.28	3.3	< 10	19.8	1.0	1.0	0.3	0.06	0.33	12.1	0.89	0.21	0.7
808141	8.5	> 3.00	1.36	5.65	0.11	6.85	< 0.1	36	54	1180	2.74	1.9	< 10	37.3	1.0	0.9	0.3	< 0.05	0.27	8.3	0.84	0.33	< 0.1
808142	15.1	> 3.00	2.06	7.68	0.23	9.03	< 0.1	58	57	1430	4.25	2.8	< 10	48.7	1.0	1.3	0.4	< 0.05	0.41	11.5	1.56	0.29	0.3
808143	6.9	> 3.00	0.75	7.31	0.23	6.65	< 0.1	25	16	1190	3.84	2.7	< 10	18.7	1.1	1.3	0.4	0.11	0.20	21.7	0.76	1.12	0.9
808144	5.7	> 3.00	0.80	5.41	0.17	2.80	< 0.1	36	22	751	3.93	3.9	< 10	17.7	0.8	1.0	0.3	0.13	0.26	19.1	0.84	0.72	1.9
808145	12.6	1.79	0.77	5.20	1.10	3.61	0.2	44	24	873	4.82	2.2	< 10	14.8	0.6	1.3	0.2	0.36	0.55	16.4	0.62	0.75	2.2
808146	13.1	2.14	1.58	5.42	0.43	2.87	0.1	195	42	1550	20.9	1.6	< 10	30.3	0.6	0.7	0.2	0.66	0.48	41.2	0.56	0.88	6.7
808147	5.4	> 3.00	1.13	6.31	0.13	1.97	< 0.1	162	32	911	15.0	1.3	< 10	23.3	0.4	0.9	0.2	0.23	0.22	28.6	0.61	0.63	5.0
808148	6.5	0.09	0.02	0.30	0.10	0.02	< 0.1	5	15	128	1.18	0.3	< 10	1.7	0.3	< 0.1	< 0.1	< 0.05	0.17	0.9	0.06	< 0.02	< 0.1
808149	3.2	> 3.00	0.88	7.80	0.31	2.70	< 0.1	57	23	868	4.48	2.4	< 10	13.6	0.6	1.2	0.2	0.15	0.12	22.6	0.66	0.64	1.6
808150	5.5	> 3.00	1.34	5.55	0.23	3.62	0.6	82	34	1150	10.9	1.6	< 10	33.4	0.8	0.8	0.3	0.35	0.29	48.4	0.56	1.54	5.3
808151	29.0	1.78	4.70	7.02	1.54	5.59	< 0.1	250	164	2380	8.96	1.3	< 10	121	1.9	0.7	0.6	0.27	1.46	47.4	0.90	0.16	0.6
808152	33.8	2.22	5.25	7.80	0.97	7.03	< 0.1	230	161	1410	6.75	0.3	< 10	52.5	1.3	0.2	0.4	< 0.05	0.68	33.9	0.37	< 0.02	< 0.1
808153	37.2	1.36	4.47	6.70	0.83	7.24	< 0.1	190	148	862	5.52	0.2	< 10	54.2	1.2	< 0.1	0.4	< 0.05	0.32	27.4	0.34	< 0.02	< 0.1
808154	58.7	0.18	10.4	5.73	0.81	4.97	< 0.1	181	770	1430	9.41	0.9	< 10	632	1.2	0.7	0.4	0.14	2.26	72.1	0.52	0.09	0.9
808155	42.2	0.93	4.78	7.77	0.35	6.59	< 0.1	258	95	1240	7.59	0.2	< 10	44.7	1.7	0.1	0.5	< 0.05	0.50	39.5	0.44	< 0.02	< 0.1
808156	34.9	1.34	3.98	7.90	1.23	6.70	< 0.1	208	49	1140	7.29	0.7	< 10	37.0	1.7	0.8	0.6	0.09	2.79	35.6	0.76	0.11	0.2
808157	25.0	0.07	13.3	4.97	0.39	4.52	0.1	125	855	1150	7.61	1.3	< 10	807	0.8	0.6	0.3	0.27	1.91	80.2	1.07	0.34	0.8
808158	8.3	0.02	3.71	3.50	0.05	0.72	< 0.1	120	121	740	10.4	0.4	< 10	68.3	0.4	0.2	0.1	0.18	0.45	35.1	0.15	0.10	2.1
808159	1.0	0.02	4.13	3.35	0.01	2.31	0.2	119	72	997	12.6	0.5	< 10	35.3	0.7	0.4	0.3	0.15	0.27	42.4	0.29	0.05	2.0
808160	16.4	1.55	4.55	7.29	0.31	6.95	< 0.1	242	154	1300	7.46	1.5	< 10	123	1.9	0.3	0.7	0.45	0.25	43.6	0.69	0.19	0.3
808161	3.9	0.02	3.88	3.61	0.03	1.67	0.3	69	354	925	15.8	1.0	< 10	326	0.5	0.2	0.2	0.68	0.75	111	0.30	0.17	10.7
808162	27.7	2.57	3.74	7.21	0.32	4.29	< 0.1	149	46	1250	8.21	0.3	< 10	30.4	1.1	0.5	0.4	0.05	1.24	35.6	0.59	0.03	< 0.1
808163	22.8	1.42	4.58	5.55	1.70	5.62	0.5	187	234	1470	8.84	0.7	< 10	143	0.7	0.8	0.2	0.12	8.58	67.5	0.37	0.15	1.3

Results

Activation Laboratories Ltd.

Report: A18-17275

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
808164	24.8	> 3.00	2.84	7.95	0.77	7.26	< 0.1	184	42	2240	7.49	1.9	< 10	36.3	1.5	1.5	0.6	0.08	1.75	30.0	1.27	0.10	0.4
808165	15.6	1.47	2.22	5.02	0.45	10.5	< 0.1	231	20	3160	9.43	1.8	< 10	25.2	1.3	0.3	0.4	0.06	0.21	28.8	0.71	0.05	0.3
808166	22.0	1.15	2.72	6.38	0.82	6.18	< 0.1	272	24	2810	10.4	2.2	< 10	30.1	1.2	0.4	0.4	0.06	0.31	35.0	0.80	0.02	0.2
808167	24.2	1.56	2.59	6.71	0.85	7.89	< 0.1	248	25	1990	8.85	2.0	< 10	39.3	1.4	0.4	0.5	0.07	0.47	42.1	0.84	< 0.02	0.2
808168	29.5	1.99	2.87	7.24	0.39	7.26	< 0.1	289	28	1860	10.7	1.9	< 10	42.4	1.7	0.4	0.6	0.07	0.29	48.6	0.88	0.03	< 0.1
808169	31.4	2.02	2.98	7.13	0.47	6.30	< 0.1	218	38	1970	9.29	1.3	< 10	44.5	1.2	0.4	0.5	0.07	0.40	45.9	0.86	0.03	0.1
808170	35.1	1.73	3.83	5.75	0.98	7.13	< 0.1	216	238	2410	9.82	2.0	< 10	99.0	1.3	0.8	0.5	0.11	4.50	38.2	1.41	0.15	0.3
808171	26.1	2.47	3.00	6.71	0.74	5.35	< 0.1	173	34	2000	8.62	0.8	< 10	51.1	2.5	0.5	0.9	0.08	3.23	45.2	1.01	0.29	0.4
808172	9.2	0.01	0.02	0.11	0.02	0.02	< 0.1	3	12	116	0.89	0.4	< 10	1.6	0.2	< 0.1	< 0.1	< 0.05	0.20	0.7	< 0.05	< 0.02	0.3
808173	27.1	2.00	2.67	7.14	0.77	6.69	0.2	291	22	2770	9.90	1.3	< 10	38.3	3.0	0.4	1.1	0.18	3.27	49.0	1.14	0.43	0.7
850751	30.4	0.27	5.38	4.03	0.41	12.0	< 0.1	122	316	1920	8.47	0.2	< 10	171	0.8	0.7	0.2	< 0.05	0.80	41.8	0.47	0.06	< 0.1
850752	20.5	1.63	1.87	5.54	0.85	2.09	< 0.1	80	57	707	6.69	2.6	< 10	51.8	1.1	0.9	0.4	0.16	0.91	22.9	0.95	0.47	1.2
850753	21.0	1.84	1.66	7.43	1.59	2.25	< 0.1	70	86	848	6.56	2.9	< 10	39.8	1.0	1.3	0.3	0.06	1.01	11.0	0.78	0.12	0.3
850754	30.1	2.29	3.34	7.33	0.89	5.18	< 0.1	124	94	1700	8.34	1.1	< 10	75.2	2.4	1.0	0.8	0.05	3.50	39.9	1.43	0.22	0.5
850755	27.3	1.66	2.32	6.40	0.45	4.72	< 0.1	177	59	1310	6.60	1.0	< 10	51.9	1.5	0.5	0.6	0.07	0.85	34.6	0.77	0.25	0.6
850756	26.7	> 3.00	2.12	7.36	0.66	4.67	< 0.1	207	33	1280	7.67	1.6	< 10	59.4	2.6	1.1	0.9	0.34	1.60	51.6	0.96	0.12	1.1
850757	28.1	0.28	2.48	7.78	1.56	5.69	< 0.1	213	51	1420	7.12	0.6	< 10	55.5	2.1	0.3	0.7	< 0.05	0.50	36.4	0.65	0.05	< 0.1
850758	13.6	1.57	2.64	5.86	0.69	7.24	< 0.1	138	78	1560	5.51	0.5	< 10	95.8	1.3	0.9	0.4	< 0.05	2.38	31.2	0.43	0.20	< 0.1
850759	10.4	2.69	3.24	6.24	0.52	5.55	< 0.1	103	296	2790	7.01	1.7	< 10	151	1.1	1.2	0.4	0.09	1.09	24.9	0.70	0.31	0.5
850760	15.6	1.55	4.10	6.71	0.29	6.55	< 0.1	119	129	1210	6.75	0.6	< 10	113	1.8	0.3	0.6	0.40	0.22	39.9	0.70	0.19	0.2
850761	20.0	2.54	4.73	6.40	1.12	3.14	< 0.1	70	163	1050	3.56	3.5	< 10	273	1.0	1.4	0.4	< 0.05	2.21	24.0	0.95	0.03	< 0.1
850762	18.2	0.81	0.98	7.22	2.65	0.69	< 0.1	31	18	553	2.66	4.0	< 10	17.5	1.3	0.7	0.4	< 0.05	0.92	4.9	0.60	< 0.02	< 0.1
850763	19.3	0.44	1.62	6.51	1.38	2.11	0.1	53	33	1990	8.91	2.4	< 10	28.1	1.3	0.7	0.4	0.18	0.86	12.9	0.54	0.30	1.0
850764	22.6	2.62	3.27	8.16	0.83	4.34	< 0.1	155	165	1870	6.09	1.8	< 10	109	1.5	1.0	0.5	0.09	1.88	22.8	0.71	0.46	0.2
850765	14.6	0.39	9.93	4.50	0.32	4.96	< 0.1	107	680	2120	8.37	0.6	< 10	481	0.8	0.4	0.3	0.28	1.73	66.3	0.33	0.26	0.7
850766	18.8	> 3.00	1.61	7.30	1.81	4.95	< 0.1	48	57	501	2.70	4.8	< 10	53.9	1.4	2.5	0.6	0.09	3.60	12.9	2.76	0.25	0.2
850767	32.3	0.50	9.47	7.13	1.08	4.05	0.2	148	969	2880	10.4	0.9	< 10	551	0.8	0.7	0.3	0.10	5.16	68.4	0.35	0.24	0.2
850768	41.2	1.19	1.62	8.22	1.71	3.82	< 0.1	48	32	959	4.33	2.0	< 10	18.7	0.6	0.9	0.2	< 0.05	3.10	9.8	0.75	0.15	0.1
850769	36.4	2.14	1.53	8.38	1.43	3.32	< 0.1	48	22	710	3.09	1.9	< 10	13.0	0.6	2.3	0.2	< 0.05	2.26	7.6	0.68	0.21	< 0.1
850770	38.7	1.46	1.85	8.24	1.51	3.77	< 0.1	39	17	737	3.02	2.0	< 10	11.3	0.7	1.3	0.3	< 0.05	2.09	6.2	0.59	0.10	0.1
850771	26.4	1.25	2.03	8.26	1.00	6.76	< 0.1	86	23	1170	4.00	1.6	< 10	17.2	1.0	1.4	0.4	< 0.05	0.85	13.7	0.75	0.29	< 0.1
850772	5.5	0.05	0.01	0.19	0.05	0.01	< 0.1	4	12	112	1.01	0.3	< 10	1.4	0.2	< 0.1	< 0.1	< 0.05	0.14	0.6	< 0.05	< 0.02	< 0.1
850773	30.9	0.60	2.70	6.14	0.65	5.34	< 0.1	278	13	2450	9.73	0.9	< 10	28.6	2.4	0.4	0.8	0.13	1.91	29.8	0.68	0.65	0.6
850774	30.5	1.45	2.18	7.66	1.07	5.07	< 0.1	214	14	1470	8.58	0.6	< 10	26.3	2.6	0.7	0.8	0.14	0.72	47.8	0.80	0.36	0.2
850775	34.4	2.26	2.43	7.43	1.16	7.15	< 0.1	249	62	1590	8.13	1.3	40	48.2	2.0	1.1	0.7	0.14	1.23	46.4	1.00	0.22	0.4
850776	33.4	2.69	2.53	7.87	0.82	5.20	< 0.1	269	90	1890	9.74	0.8	40	41.2	2.4	0.9	0.8	0.19	0.73	42.6	0.71	0.17	0.5
850777	29.1	2.45	2.05	7.18	0.64	4.73	< 0.1	191	49	1640	7.77	1.9	30	26.8	2.5	1.0	0.8	0.14	0.49	26.0	1.43	0.29	< 0.1
850778	20.5	0.87	1.72	6.71	0.92	3.41	< 0.1	167	65	1240	6.16	1.6	20	35.3	1.6	0.7	0.5	0.13	0.56	25.5	0.57	0.10	0.1
850779	27.1	0.95	1.18	7.84	1.14	2.01	0.1	52	24	558	3.72	2.1	20	27.5	0.8	1.4	0.3	0.16	0.50	26.5	0.64	0.48	0.7
850780	29.2	0.55	1.68	8.10	0.97	3.71	< 0.1	141	45	1040	5.59	1.4	20	28.5	1.4	1.2	0.4	0.08	0.48	20.9	0.71	0.12	< 0.1
850781	29.8	1.17	1.43	8.48	1.03	2.74	< 0.1	46	18	499	2.85	1.8	930	20.5	0.7	1.1	0.2	0.06	0.55	13.2	0.61	0.15	0.1
850782	29.6	1.05	1.60	8.12	1.16	4.44	0.1	72	25	739	3.39	2.2	30	20.8	0.8	1.4	0.3	< 0.05	0.61	15.6	0.62	0.53	< 0.1

Results

Activation Laboratories Ltd.

Report: A18-17275

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850783	29.8	1.14	1.82	> 10.0	2.20	2.00	< 0.1	210	138	735	5.65	0.8	20	77.7	1.8	1.2	0.5	0.16	0.93	59.6	0.45	0.24	< 0.1
850784	22.4	2.00	1.64	6.71	2.76	2.51	< 0.1	146	64	566	7.37	2.1	40	36.1	1.8	1.6	0.6	3.03	4.46	20.8	0.86	5.37	10.8
850785	0.5	< 0.01	2.91	0.17	0.01	7.44	0.3	9	13	609	13.6	< 0.1	30	13.8	0.4	< 0.1	0.1	1.43	0.06	175	0.33	1.56	17.1
850786	2.6	0.08	2.12	2.43	0.05	5.86	0.3	49	16	918	12.4	0.6	40	19.5	0.7	0.2	0.2	0.80	0.09	82.8	0.42	1.78	7.8
850787	8.1	0.15	2.25	3.22	0.22	6.41	0.1	56	22	1550	11.5	1.2	30	22.6	1.1	0.4	0.3	0.41	0.24	35.5	0.49	0.82	4.2
850788	25.0	1.96	1.83	9.18	0.81	6.65	0.1	175	189	1160	5.29	1.1	30	93.7	2.2	2.2	0.7	0.09	0.52	45.0	0.89	0.22	< 0.1

Results

Activation Laboratories Ltd.

Report: A18-17275

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
808080	84.4	14.8	0.8	6.5	14.6	192	13	< 0.1	0.20	< 0.1	< 1	< 0.1	< 0.1	109	5.6	14.1	1.8	8.7	2.0	2.6	0.4	2.8	134
808081	66.3	17.5	< 0.1	37.8	12.9	61.0	9	0.2	0.15	< 0.1	< 1	< 0.1	< 0.1	348	2.9	8.2	1.2	6.0	1.6	2.1	0.4	2.5	147
808082	89.6	13.7	0.4	4.5	13.4	127	8	< 0.1	0.11	< 0.1	< 1	< 0.1	< 0.1	73	2.9	8.0	1.1	6.1	1.8	2.4	0.4	2.6	131
808083	87.1	13.4	0.3	3.1	13.8	110	6	< 0.1	0.15	< 0.1	< 1	< 0.1	< 0.1	50	3.0	8.1	1.2	6.3	1.9	2.4	0.4	2.8	141
808084	99.5	16.4	8.8	75.0	14.7	374	83	9.7	449	0.7	11	1.0	0.3	185	17.1	36.4	4.1	16.7	3.0	3.4	0.5	2.7	> 10000
808085	88.6	14.3	0.4	4.7	14.2	116	8	0.1	0.46	< 0.1	< 1	< 0.1	< 0.1	59	2.8	8.0	1.2	6.3	1.6	2.4	0.4	2.8	170
808086	89.6	14.4	0.7	7.0	14.9	162	8	0.3	0.38	< 0.1	< 1	< 0.1	< 0.1	131	2.6	7.4	1.1	5.7	1.9	2.2	0.4	2.8	186
808087	75.9	14.4	< 0.1	16.8	13.1	90.9	5	0.2	0.29	< 0.1	< 1	< 0.1	< 0.1	350	2.5	7.3	1.0	5.3	1.8	2.2	0.4	2.6	149
808088	84.7	22.0	< 0.1	17.8	12.8	106	12	< 0.1	0.17	< 0.1	< 1	< 0.1	< 0.1	1240	3.5	9.5	1.3	6.5	1.8	2.2	0.3	2.5	129
808089	83.3	13.9	0.6	5.4	13.5	71.0	10	< 0.1	0.16	< 0.1	< 1	< 0.1	< 0.1	287	2.4	6.6	1.0	5.2	1.5	2.1	0.3	2.5	134
808090	86.1	14.3	< 0.1	12.8	13.8	202	16	1.3	0.91	< 0.1	< 1	< 0.1	< 0.1	182	4.0	10.1	1.4	6.7	1.6	2.3	0.4	2.5	147
808091	83.1	14.0	0.2	12.4	13.3	146	7	< 0.1	0.32	< 0.1	< 1	< 0.1	< 0.1	210	3.2	8.1	1.1	5.9	1.5	2.1	0.3	2.6	167
808092	89.7	16.6	0.2	15.6	15.6	263	46	2.4	0.78	< 0.1	< 1	< 0.1	< 0.1	279	11.5	28.8	3.5	15.4	3.2	3.1	0.4	2.9	122
808093	76.9	11.5	0.3	5.5	11.7	67.8	13	0.8	0.55	< 0.1	< 1	< 0.1	< 0.1	74	2.0	5.5	0.8	4.2	1.3	1.6	0.3	2.1	126
808094	107	14.4	< 0.1	23.2	13.1	107	31	0.3	1.12	< 0.1	< 1	< 0.1	< 0.1	255	7.3	18.1	2.2	10.0	2.2	2.5	0.4	2.5	95.3
808095	128	18.9	1.5	36.5	6.9	147	93	3.7	0.85	< 0.1	1	< 0.1	0.2	209	9.3	21.5	2.6	11.0	2.4	1.9	0.2	1.5	60.2
808096	2.7	0.8	1.5	1.8	1.9	3.2	18	0.5	0.65	< 0.1	1	0.2	< 0.1	14	1.9	4.0	0.4	1.8	0.4	0.3	< 0.1	0.3	9.7
808097	188	19.9	0.6	33.9	8.2	247	84	3.4	1.01	< 0.1	< 1	< 0.1	0.2	297	9.7	22.4	2.5	10.6	1.7	2.0	0.2	1.4	53.4
808098	51.9	16.8	1.1	15.8	9.3	222	60	2.8	0.58	< 0.1	< 1	< 0.1	< 0.1	155	8.0	18.0	2.0	9.3	1.5	1.7	0.2	1.5	12.8
808099	57.7	16.3	0.1	9.5	11.1	275	80	3.1	1.05	< 0.1	< 1	< 0.1	0.1	143	11.7	27.0	3.1	13.6	2.5	2.5	0.3	2.0	26.4
808100	57.2	17.2	< 0.1	19.8	8.7	254	71	3.0	3.69	< 0.1	< 1	< 0.1	0.3	192	9.0	20.2	2.3	9.9	1.9	1.9	0.2	1.5	18.0
808101	87.5	21.0	< 0.1	56.0	8.4	181	89	3.5	1.06	< 0.1	< 1	< 0.1	< 0.1	374	10.5	24.1	2.7	11.1	1.9	2.0	0.3	1.5	35.6
808102	55.6	14.2	0.3	0.8	12.6	149	72	2.7	0.50	< 0.1	< 1	< 0.1	< 0.1	7	8.1	18.5	2.1	8.8	2.1	2.0	0.3	2.1	15.5
808103	75.5	13.9	< 0.1	5.2	14.9	211	66	2.7	0.94	< 0.1	< 1	< 0.1	0.4	96	9.4	21.3	2.5	10.3	2.4	2.5	0.4	2.5	36.1
808104	54.2	12.5	1.8	5.3	14.0	169	61	2.4	3.08	< 0.1	< 1	< 0.1	1.2	115	8.1	18.1	2.0	8.7	2.0	2.1	0.3	2.2	50.3
808105	55.6	7.0	1.7	1.8	7.5	86.0	37	1.4	2.34	< 0.1	< 1	< 0.1	0.9	24	4.9	10.7	1.2	5.0	0.9	1.2	0.2	1.2	28.5
808106	150	11.8	1.5	5.1	8.5	121	48	1.6	4.27	< 0.1	< 1	< 0.1	0.8	88	6.6	14.0	1.5	6.4	1.2	1.4	0.2	1.3	76.0
808107	98.8	17.8	0.9	22.3	6.0	120	73	2.7	0.87	< 0.1	< 1	< 0.1	0.3	280	7.6	17.0	1.8	6.9	1.4	1.2	0.2	1.1	30.1
808108	114	7.3	4.2	1.7	8.0	102	33	1.1	11.7	< 0.1	< 1	< 0.1	3.3	34	6.2	12.0	1.3	5.7	1.1	1.2	0.2	1.0	40.7
808109	116	15.4	1.2	6.8	7.4	43.8	72	3.2	1.58	< 0.1	1	0.2	0.3	101	9.8	21.0	2.4	9.4	1.5	2.0	0.2	1.3	152
808110	1030	12.6	2.9	21.9	6.0	60.0	53	1.9	3.49	0.1	1	< 0.1	1.4	35	6.7	14.7	1.7	6.9	1.7	1.3	0.2	1.1	299
808111	187	9.1	3.4	9.3	5.5	117	47	1.6	4.77	< 0.1	1	< 0.1	1.8	88	6.8	14.7	1.6	6.6	1.3	1.3	0.2	1.0	211
808112	76.0	23.9	16.4	125	20.3	277	80	2.2	36.0	< 0.1	3	0.9	< 0.1	977	31.8	68.4	7.4	29.9	5.3	4.8	0.6	4.1	2590
808113	252	12.9	3.5	21.2	5.0	131	66	1.8	19.9	0.1	2	< 0.1	1.5	77	6.9	15.4	1.6	6.9	1.1	1.2	0.2	1.0	193
808114	780	11.8	4.0	26.5	5.1	95.9	70	2.3	2.84	0.2	1	< 0.1	2.2	39	7.0	15.4	1.7	7.2	1.4	1.4	0.2	1.1	337
808115	572	12.1	5.4	28.7	4.7	76.2	65	2.1	2.28	0.1	2	< 0.1	1.6	54	7.5	16.6	1.9	7.7	1.2	1.2	0.1	0.9	262
808116	78.6	23.1	0.2	62.0	5.0	155	98	3.1	0.61	< 0.1	1	< 0.1	< 0.1	459	11.7	26.4	2.9	11.7	1.8	1.7	0.2	1.1	24.6
808117	78.6	20.1	0.1	34.8	6.0	314	99	3.3	1.43	< 0.1	< 1	< 0.1	< 0.1	373	11.6	25.6	2.8	12.0	1.9	1.7	0.2	1.2	19.7
808118	834	17.3	2.8	41.6	5.6	165	84	2.8	2.85	0.2	2	< 0.1	2.6	97	10.6	23.3	2.6	10.4	1.7	1.7	0.2	1.1	283
808119	114	20.9	0.4	51.3	6.0	247	121	0.9	0.38	< 0.1	< 1	< 0.1	< 0.1	308	12.2	27.2	3.1	13.1	2.1	1.8	0.2	1.1	31.0
808120	47.7	22.4	0.2	58.0	6.0	230	151	2.9	0.42	< 0.1	< 1	< 0.1	< 0.1	412	10.2	23.9	2.7	10.7	2.1	1.6	0.2	1.2	21.8
808121	59.2	22.1	< 0.1	45.9	7.5	262	151	6.0	1.31	< 0.1	< 1	< 0.1	< 0.1	642	24.0	55.9	6.5	26.6	4.5	3.1	0.3	1.6	21.9

Results

Activation Laboratories Ltd.

Report: A18-17275

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
808122	90.7	11.9	< 0.1	3.3	5.3	151	22	0.7	0.67	< 0.1	< 1	< 0.1	0.1	46	1.5	3.6	0.5	2.3	0.9	1.0	0.1	1.0	29.4
808123	103	8.9	0.6	0.9	4.1	162	18	0.5	0.78	< 0.1	< 1	< 0.1	0.3	9	1.6	4.1	0.5	2.9	0.7	0.9	0.1	0.8	28.6
808124	2.5	0.7	2.5	2.1	2.5	3.8	22	0.5	0.56	< 0.1	< 1	0.2	< 0.1	16	2.1	4.4	0.5	1.7	0.3	0.4	< 0.1	0.4	5.1
808125	79.5	9.2	0.9	5.4	7.8	147	16	0.4	0.66	< 0.1	< 1	< 0.1	0.5	68	1.1	2.8	0.4	1.9	0.6	0.8	0.1	0.9	48.9
808126	461	16.3	1.7	32.4	5.1	136	96	2.7	10.4	< 0.1	2	< 0.1	2.7	47	11.4	25.3	2.8	11.4	1.8	1.7	0.2	1.1	221
808127	282	19.5	3.4	27.9	4.8	74.6	82	2.8	11.5	0.2	2	< 0.1	2.9	53	10.5	24.3	2.6	10.3	1.3	1.6	0.2	0.9	147
808128	641	13.5	3.9	19.7	4.9	83.7	57	1.8	3.53	0.2	2	< 0.1	6.4	49	7.8	17.3	1.9	7.8	1.3	1.3	0.2	0.9	325
808129	284	7.3	1.0	0.9	4.1	81.0	17	0.5	4.72	< 0.1	< 1	< 0.1	1.2	3	2.7	6.2	0.7	3.2	0.6	0.8	0.1	0.6	152
808130	99.2	12.0	0.3	2.9	8.1	125	102	1.5	2.12	< 0.1	< 1	< 0.1	0.5	41	38.8	86.6	10.2	42.6	6.4	4.3	0.4	1.9	76.0
808131	58.3	4.3	2.2	3.4	5.6	46.8	35	0.8	1.76	< 0.1	< 1	< 0.1	1.8	11	10.9	24.7	2.8	11.6	1.5	1.5	0.2	0.9	298
808132	97.7	12.2	0.7	4.8	11.4	105	74	2.0	0.57	< 0.1	< 1	< 0.1	0.2	69	43.2	97.7	11.8	49.5	7.2	5.4	0.5	2.5	12.8
808133	45.2	10.4	0.4	5.0	6.2	290	101	2.6	7.02	< 0.1	< 1	< 0.1	< 0.1	125	13.1	30.0	3.4	14.1	2.5	1.9	0.2	1.3	23.7
808134	46.2	10.0	0.7	4.5	7.1	222	89	2.0	151	< 0.1	< 1	< 0.1	0.3	62	11.0	24.2	2.8	11.5	2.2	2.3	0.3	1.6	12.1
808135	251	13.2	1.4	2.0	5.0	164	85	2.4	46.0	< 0.1	1	< 0.1	1.0	55	9.9	21.2	2.3	9.2	1.6	1.6	0.2	0.9	114
808136	101	19.4	49.7	134	19.6	280	99	16.5	211	< 0.1	3	5.5	0.4	468	30.8	65.2	7.3	28.6	5.4	4.8	0.6	4.0	7390
808137	639	11.1	1.6	2.2	5.6	84.1	42	1.1	31.7	0.1	< 1	< 0.1	1.4	51	6.1	12.8	1.4	6.2	1.6	1.4	0.2	1.0	149
808138	244	20.1	0.4	9.2	10.5	254	122	4.3	8.67	< 0.1	1	< 0.1	0.8	180	18.1	40.5	4.8	20.4	3.7	3.3	0.4	2.2	109
808139	108	13.7	1.5	3.6	13.8	165	30	< 0.1	1.07	< 0.1	< 1	< 0.1	< 0.1	64	3.0	8.2	1.1	5.9	1.6	2.4	0.4	2.5	130
808140	83.7	16.3	0.8	8.2	8.2	341	125	3.1	36.8	< 0.1	< 1	< 0.1	< 0.1	131	12.6	28.1	3.2	12.8	2.5	2.1	0.2	1.6	143
808141	68.0	9.7	1.0	1.9	8.5	378	69	2.1	61.1	< 0.1	< 1	< 0.1	< 0.1	52	12.5	27.8	3.3	13.3	2.1	2.1	0.3	1.6	11.2
808142	102	15.2	< 0.1	3.4	10.6	448	98	4.1	24.8	< 0.1	< 1	< 0.1	< 0.1	77	20.6	45.6	5.5	22.3	4.1	3.6	0.4	2.0	14.2
808143	74.9	12.9	1.0	3.0	9.1	348	90	3.1	222	< 0.1	< 1	< 0.1	0.3	70	10.6	23.8	2.8	11.3	2.1	2.2	0.3	1.8	11.1
808144	98.8	11.4	0.8	3.2	6.8	210	135	5.4	67.4	< 0.1	1	< 0.1	0.3	90	15.8	33.5	3.7	14.7	2.6	2.2	0.3	1.3	43.3
808145	240	13.6	1.1	21.1	5.7	146	80	2.9	11.3	< 0.1	1	< 0.1	1.8	89	10.2	22.5	2.5	9.6	1.6	1.6	0.2	1.1	154
808146	221	15.8	2.4	9.4	5.9	187	63	1.9	59.4	< 0.1	< 1	< 0.1	0.8	29	6.9	15.2	1.7	6.8	1.0	1.1	0.1	1.0	212
808147	114	14.3	1.8	2.4	4.1	191	55	1.3	37.5	< 0.1	< 1	< 0.1	0.4	52	8.9	19.3	2.2	8.4	1.5	1.3	0.1	0.7	73.5
808148	4.5	1.1	2.0	3.4	2.3	4.7	11	0.5	0.80	< 0.1	< 1	0.1	< 0.1	30	2.7	5.5	0.6	2.4	0.4	0.4	< 0.1	0.4	2.5
808149	83.0	15.5	1.9	4.9	5.4	385	90	2.4	16.1	< 0.1	< 1	< 0.1	0.2	135	10.7	22.7	2.5	9.5	1.7	1.6	0.2	1.0	86.5
808150	313	13.3	2.0	4.3	6.6	199	58	2.2	67.7	0.1	< 1	< 0.1	1.0	62	8.4	17.4	1.9	7.5	1.5	1.5	0.2	1.3	114
808151	115	17.7	2.0	36.1	15.3	135	45	2.4	1.86	< 0.1	< 1	< 0.1	0.1	504	9.6	23.1	2.9	12.7	2.7	3.0	0.4	2.9	132
808152	78.1	13.2	1.0	20.1	10.2	139	9	0.8	0.48	< 0.1	< 1	< 0.1	< 0.1	248	0.7	2.2	0.4	2.1	0.7	1.4	0.2	1.7	15.4
808153	65.6	10.3	< 0.1	16.7	9.3	103	7	0.7	0.75	< 0.1	< 1	< 0.1	< 0.1	206	0.9	2.6	0.4	2.2	0.7	1.4	0.2	1.7	12.5
808154	140	11.6	1.1	21.5	8.9	31.0	32	1.2	3.27	< 0.1	< 1	< 0.1	0.1	135	5.1	12.7	1.7	7.3	1.5	1.6	0.3	1.8	265
808155	83.4	12.7	0.6	7.3	12.2	140	6	0.3	0.22	< 0.1	< 1	< 0.1	< 0.1	75	1.1	3.3	0.5	3.1	0.9	1.7	0.3	2.3	65.0
808156	88.3	16.2	< 0.1	32.6	13.5	295	26	0.3	0.37	< 0.1	< 1	< 0.1	< 0.1	269	7.7	18.3	2.2	10.5	2.2	2.8	0.4	2.5	114
808157	258	9.5	0.4	11.6	8.3	90.1	50	1.4	0.47	< 0.1	< 1	< 0.1	0.1	59	23.1	52.4	6.4	28.3	4.9	3.5	0.3	1.9	126
808158	106	7.5	1.8	1.6	3.1	12.7	14	0.5	1.52	< 0.1	< 1	< 0.1	< 0.1	9	2.3	5.6	0.7	3.1	0.5	0.7	< 0.1	0.6	292
808159	177	6.8	3.6	0.8	5.8	20.0	18	0.5	1.38	0.1	< 1	< 0.1	< 0.1	2	2.8	6.6	0.8	3.7	1.0	1.1	0.2	1.1	469
808160	79.2	14.3	14.5	8.0	15.4	167	46	1.5	1.75	< 0.1	< 1	< 0.1	< 0.1	99	3.9	9.9	1.3	6.7	1.8	2.7	0.4	3.2	169
808161	208	10.4	5.4	2.5	4.2	20.5	40	1.2	2.51	0.1	< 1	< 0.1	0.5	4	2.9	6.7	0.8	3.7	1.0	0.9	0.1	0.8	980
808162	116	14.7	0.5	9.5	9.2	171	10	< 0.1	0.07	< 0.1	< 1	< 0.1	< 0.1	99	4.9	12.5	1.6	7.5	1.9	2.2	0.3	1.9	65.7
808163	381	13.0	0.9	53.3	5.3	169	24	0.8	2.62	0.1	1	< 0.1	< 0.1	154	2.0	4.7	0.6	3.0	0.7	1.2	0.1	1.0	157

Results

Activation Laboratories Ltd.

Report: A18-17275

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
808164	97.0	18.5	< 0.1	21.4	13.1	396	67	< 0.1	0.24	< 0.1	< 1	< 0.1	< 0.1	414	15.0	35.1	4.3	19.3	4.2	3.8	0.5	2.9	153
808165	84.4	12.3	< 0.1	8.5	10.5	157	62	1.3	0.64	< 0.1	< 1	< 0.1	< 0.1	124	3.7	10.0	1.4	7.6	2.3	2.6	0.3	2.0	147
808166	109	16.3	< 0.1	14.8	9.1	99.2	81	0.3	0.13	< 0.1	< 1	< 0.1	< 0.1	175	5.0	13.8	1.9	9.9	2.7	2.9	0.4	2.1	226
808167	111	16.3	< 0.1	18.7	10.5	136	67	0.4	0.12	< 0.1	< 1	< 0.1	< 0.1	176	4.8	13.7	1.8	9.8	2.5	3.0	0.4	2.2	171
808168	124	17.5	< 0.1	8.6	13.2	153	68	0.1	0.07	< 0.1	< 1	< 0.1	< 0.1	126	5.3	14.7	2.1	10.8	2.6	3.2	0.4	2.8	188
808169	109	16.8	0.4	9.6	11.0	156	46	< 0.1	0.12	< 0.1	< 1	< 0.1	< 0.1	162	4.6	12.8	2.0	9.7	2.4	3.0	0.4	2.5	184
808170	113	14.6	< 0.1	32.2	10.3	567	76	0.1	1.03	< 0.1	< 1	< 0.1	< 0.1	249	21.0	49.6	6.5	28.6	5.4	4.6	0.5	2.4	212
808171	104	16.2	0.6	24.2	20.9	180	25	< 0.1	0.72	< 0.1	< 1	< 0.1	< 0.1	185	6.0	15.8	2.3	11.2	3.2	3.9	0.6	3.9	200
808172	1.8	0.5	1.4	1.2	2.0	3.4	18	0.4	0.53	< 0.1	< 1	< 0.1	< 0.1	10	2.2	4.7	0.5	1.9	0.4	0.3	< 0.1	0.3	2.6
808173	215	18.1	< 0.1	25.8	24.9	144	48	0.5	2.06	< 0.1	1	< 0.1	< 0.1	202	6.5	16.4	2.4	11.1	3.4	4.1	0.7	4.5	318
850751	182	8.7	0.2	12.5	6.0	138	8	0.3	0.19	< 0.1	< 1	< 0.1	< 0.1	464	0.9	2.7	0.4	2.4	0.9	1.1	0.2	1.2	49.7
850752	106	13.0	0.2	19.1	8.9	162	99	2.4	51.3	< 0.1	1	< 0.1	0.1	70	12.3	27.2	3.1	13.3	2.9	2.5	0.3	1.9	125
850753	101	24.5	< 0.1	29.5	8.3	192	113	4.6	22.4	< 0.1	2	< 0.1	< 0.1	931	11.9	25.8	3.0	12.0	2.1	2.1	0.3	1.5	32.6
850754	134	19.2	< 0.1	32.1	20.8	250	34	< 0.1	0.36	< 0.1	1	< 0.1	< 0.1	253	16.2	38.1	5.0	21.8	5.0	4.8	0.6	4.0	137
850755	99.7	13.9	0.4	11.5	13.4	150	36	0.7	4.26	< 0.1	1	< 0.1	< 0.1	155	6.9	16.7	2.1	10.4	2.4	2.7	0.4	2.6	143
850756	80.9	16.1	0.9	16.6	20.7	190	55	1.9	0.65	< 0.1	< 1	< 0.1	< 0.1	212	9.6	24.0	3.0	13.1	3.8	3.6	0.5	3.9	297
850757	93.7	15.3	0.8	27.9	16.0	85.4	23	0.5	0.24	< 0.1	< 1	< 0.1	< 0.1	191	2.6	7.3	1.1	5.6	1.8	2.7	0.4	3.1	61.0
850758	80.1	11.4	0.6	22.9	10.1	341	15	0.7	1.99	< 0.1	< 1	< 0.1	< 0.1	238	1.9	5.2	0.8	3.8	0.9	1.6	0.2	1.8	69.6
850759	118	16.5	0.3	12.6	9.2	257	56	3.9	0.62	< 0.1	< 1	< 0.1	< 0.1	182	8.8	20.8	2.6	11.0	2.5	2.5	0.3	1.8	122
850760	72.3	12.8	8.4	7.3	14.2	148	17	< 0.1	0.18	< 0.1	< 1	< 0.1	< 0.1	92	3.4	9.1	1.3	6.1	2.0	2.6	0.4	2.9	157
850761	85.7	16.6	< 0.1	29.6	10.7	198	119	3.6	0.67	< 0.1	1	< 0.1	< 0.1	423	18.5	42.1	5.0	20.0	3.3	3.5	0.4	2.3	37.4
850762	73.5	21.7	< 0.1	42.9	11.2	125	131	6.1	0.68	< 0.1	2	< 0.1	< 0.1	495	18.4	39.1	4.2	15.6	2.9	2.9	0.3	2.1	6.7
850763	141	16.2	0.6	22.5	10.7	124	78	4.0	3.40	< 0.1	1	< 0.1	0.2	181	12.6	27.2	3.1	11.8	2.6	2.2	0.3	2.1	145
850764	129	23.0	0.5	21.1	11.9	359	58	3.9	38.3	< 0.1	< 1	< 0.1	< 0.1	488	8.3	20.2	2.5	11.2	2.5	2.8	0.4	2.5	59.0
850765	117	9.5	0.9	11.1	6.3	103	20	1.2	6.85	< 0.1	< 1	< 0.1	< 0.1	86	3.4	8.0	1.0	4.5	0.7	1.1	0.2	1.2	241
850766	63.0	23.9	< 0.1	50.1	14.1	> 1000	218	2.3	0.80	< 0.1	< 1	< 0.1	< 0.1	1200	61.4	141	16.8	72.8	10.6	8.4	0.8	3.7	67.7
850767	255	26.1	0.4	39.8	6.1	184	33	4.5	50.7	< 0.1	< 1	< 0.1	< 0.1	309	4.7	10.7	1.2	5.4	1.0	1.1	0.2	1.1	52.0
850768	64.1	20.5	0.1	47.4	5.7	284	69	2.8	6.13	< 0.1	< 1	< 0.1	< 0.1	216	11.5	25.4	2.6	11.2	1.9	1.8	0.2	1.2	23.8
850769	53.1	19.1	0.4	39.0	5.5	272	71	1.0	4.25	< 0.1	< 1	< 0.1	< 0.1	211	9.7	22.7	2.5	10.5	2.1	1.7	0.2	1.3	12.2
850770	65.0	19.7	0.3	45.9	6.7	194	75	2.2	2.08	< 0.1	< 1	< 0.1	< 0.1	195	9.0	20.5	2.2	9.3	1.5	1.7	0.2	1.2	8.4
850771	78.8	19.5	0.5	26.0	9.5	174	58	0.3	2.44	< 0.1	< 1	< 0.1	< 0.1	163	9.3	21.3	2.4	10.5	2.0	2.2	0.3	1.9	20.6
850772	4.1	0.7	1.7	1.8	1.8	3.0	10	0.4	0.51	< 0.1	< 1	< 0.1	< 0.1	17	1.9	4.1	0.4	1.6	0.3	0.3	< 0.1	0.3	1.5
850773	111	16.4	< 0.1	19.6	19.2	146	32	0.6	1.86	< 0.1	< 1	< 0.1	< 0.1	178	3.2	9.1	1.2	7.1	1.9	3.0	0.5	3.5	256
850774	95.4	16.8	0.9	25.1	20.0	137	21	0.2	1.11	< 0.1	< 1	< 0.1	< 0.1	359	3.3	9.5	1.4	7.2	2.1	3.1	0.6	3.7	262
850775	112	17.8	< 0.1	29.6	16.3	260	52	1.1	0.58	< 0.1	1	< 0.1	< 0.1	211	12.1	29.0	3.6	16.3	3.3	3.5	0.5	3.2	261
850776	104	17.6	< 0.1	18.1	19.1	329	31	0.9	0.58	< 0.1	< 1	< 0.1	< 0.1	161	4.4	11.3	1.6	7.9	2.1	2.9	0.5	3.5	271
850777	108	13.5	< 0.1	14.5	19.8	569	77	3.1	2.04	< 0.1	< 1	< 0.1	< 0.1	430	30.8	67.1	8.1	34.8	5.5	5.2	0.6	3.8	150
850778	86.1	11.6	< 0.1	21.8	13.0	280	61	1.4	0.97	< 0.1	< 1	< 0.1	< 0.1	561	7.4	17.0	2.0	10.0	1.5	2.3	0.4	2.2	153
850779	74.2	20.1	2.5	27.1	8.0	122	84	3.1	2.34	< 0.1	< 1	< 0.1	0.2	252	10.2	22.5	2.6	10.9	1.9	1.9	0.3	1.4	139
850780	77.6	19.1	< 0.1	25.9	11.8	102	54	2.9	0.80	< 0.1	< 1	< 0.1	< 0.1	243	7.1	16.0	2.0	8.9	2.1	2.2	0.3	2.2	74.5
850781	47.5	21.1	5.9	28.5	5.6	116	72	2.6	1.92	< 0.1	< 1	< 0.1	< 0.1	208	9.0	18.7	2.1	8.7	1.6	1.5	0.2	1.0	23.6
850782	89.3	21.0	< 0.1	30.6	7.6	124	78	2.8	3.75	< 0.1	1	< 0.1	< 0.1	223	10.8	21.9	2.4	9.7	1.9	1.9	0.2	1.4	21.0

Results

Activation Laboratories Ltd.

Report: A18-17275

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850783	121	19.6	1.4	41.7	13.4	94.0	32	0.2	0.25	< 0.1	< 1	< 0.1	< 0.1	656	2.6	6.8	1.0	5.3	1.5	1.9	0.3	2.4	196
850784	105	16.8	9.3	90.5	14.9	366	77	9.2	423	0.7	11	1.1	0.5	98	17.8	36.1	4.4	17.5	3.8	3.4	0.5	2.9	> 10000
850785	121	2.8	5.9	0.4	4.2	45.5	2	0.2	2.91	0.1	< 1	< 0.1	1.8	3	2.2	4.3	0.6	2.4	0.4	0.7	0.1	0.6	1150
850786	119	10.4	1.1	1.1	5.6	41.7	26	0.9	22.1	< 0.1	< 1	< 0.1	1.5	18	4.6	8.9	1.1	4.3	1.1	1.0	0.1	0.9	909
850787	107	9.6	< 0.1	4.8	9.1	53.9	50	1.8	37.5	< 0.1	< 1	< 0.1	1.0	79	6.4	12.9	1.5	6.2	1.0	1.7	0.2	1.6	600
850788	72.4	15.8	< 0.1	21.1	17.7	323	43	0.2	0.93	< 0.1	< 1	< 0.1	< 0.1	330	6.8	17.3	2.5	12.1	3.4	3.7	0.5	3.4	101

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP	4Acid ICPOE S
808080	0.3	0.3	2.0	0.3	< 0.1	0.2	< 0.001	< 0.05	3.5	40	0.8	0.2	0.236	0.027	0.10	
808081	0.2	0.2	1.7	0.2	< 0.1	0.1	< 0.001	0.08	0.6	41	0.3	< 0.1	0.210	0.025	0.09	
808082	0.2	0.3	1.8	0.2	< 0.1	< 0.1	< 0.001	< 0.05	0.8	44	0.3	< 0.1	0.165	0.022	0.06	
808083	0.4	0.3	1.9	0.2	< 0.1	< 0.1	< 0.001	< 0.05	0.8	41	0.2	< 0.1	0.241	0.023	0.12	
808084	< 0.1	0.3	1.9	0.3	0.6	3.3	0.008	0.43	25.8	14	7.1	2.4	0.354	0.095	1.27	1.10
808085	0.2	0.3	2.0	0.2	< 0.1	0.2	< 0.001	< 0.05	0.8	40	0.2	< 0.1	0.265	0.023	0.18	
808086	0.3	0.3	2.1	0.3	< 0.1	0.2	< 0.001	< 0.05	0.9	40	0.2	< 0.1	0.291	0.022	0.12	
808087	0.1	0.3	1.8	0.2	< 0.1	0.2	< 0.001	0.11	0.7	36	0.2	< 0.1	0.308	0.024	0.21	
808088	0.1	0.3	1.8	0.2	< 0.1	< 0.1	< 0.001	0.12	0.8	38	0.4	0.1	0.165	0.029	0.27	
808089	0.2	0.3	1.8	0.2	< 0.1	< 0.1	< 0.001	< 0.05	0.9	37	0.2	< 0.1	0.203	0.025	0.14	
808090	0.2	0.3	1.9	0.3	< 0.1	0.2	< 0.001	0.06	2.0	38	0.4	0.1	0.418	0.027	0.11	
808091	0.3	0.3	1.8	0.2	< 0.1	< 0.1	< 0.001	< 0.05	1.5	39	0.2	< 0.1	0.244	0.024	0.10	
808092	0.2	0.3	2.0	0.3	< 0.1	0.4	< 0.001	0.10	2.6	35	2.0	0.4	0.424	0.048	0.23	
808093	0.3	0.2	1.7	0.2	< 0.1	0.2	< 0.001	< 0.05	0.8	33	0.2	< 0.1	0.353	0.024	0.50	
808094	0.2	0.2	1.8	0.2	< 0.1	< 0.1	< 0.001	0.14	2.1	32	1.2	0.3	0.321	0.037	0.30	
808095	< 0.1	0.1	0.9	0.1	0.2	0.6	< 0.001	0.22	4.0	7	1.4	0.6	0.257	0.050	1.31	
808096	< 0.1	< 0.1	0.3	< 0.1	< 0.1	0.3	< 0.001	< 0.05	1.2	< 1	1.3	0.3	0.0133	0.002	< 0.01	
808097	< 0.1	0.1	1.0	0.1	0.2	0.5	< 0.001	0.18	5.4	6	1.2	0.4	0.211	0.037	0.38	
808098	< 0.1	0.1	1.1	0.1	0.1	0.3	< 0.001	< 0.05	2.4	5	0.9	0.3	0.173	0.030	0.20	
808099	< 0.1	0.2	1.3	0.2	0.2	0.5	< 0.001	< 0.05	3.2	8	1.8	0.5	0.216	0.059	0.31	
808100	< 0.1	0.1	1.1	0.2	0.2	0.4	< 0.001	0.08	4.1	5	1.0	0.3	0.166	0.030	1.21	
808101	< 0.1	0.1	1.1	0.2	0.2	0.6	< 0.001	0.37	7.2	6	1.3	0.4	0.204	0.035	0.45	
808102	< 0.1	0.2	2.0	0.3	0.1	0.1	< 0.001	< 0.05	2.2	4	1.0	0.3	0.128	0.025	0.37	
808103	< 0.1	0.3	2.1	0.3	0.2	0.3	< 0.001	< 0.05	6.6	4	1.1	0.3	0.129	0.027	1.71	
808104	< 0.1	0.3	1.9	0.3	0.1	0.2	< 0.001	< 0.05	7.3	3	1.0	0.3	0.111	0.023	5.43	
808105	< 0.1	0.1	0.9	0.1	< 0.1	0.1	< 0.001	< 0.05	4.7	3	0.6	0.2	0.0919	0.019	6.23	
808106	< 0.1	0.1	1.1	0.1	< 0.1	0.3	< 0.001	< 0.05	6.8	3	0.8	0.3	0.0928	0.015	4.01	
808107	< 0.1	0.1	0.8	0.1	0.2	0.8	< 0.001	0.16	4.8	4	1.3	0.3	0.127	0.020	1.04	
808108	< 0.1	0.1	0.9	0.1	< 0.1	0.4	0.002	< 0.05	10.1	2	0.5	0.2	0.0515	0.009	15.6	
808109	< 0.1	0.1	0.8	0.1	0.2	0.3	< 0.001	0.08	6.3	4	1.3	0.4	0.142	0.027	3.40	
808110	< 0.1	0.1	0.9	0.1	0.1	0.7	< 0.001	0.19	11.6	4	0.8	0.3	0.104	0.020	6.47	
808111	< 0.1	< 0.1	0.7	< 0.1	0.1	0.5	< 0.001	0.05	9.2	3	0.9	0.3	0.0856	0.021	6.51	
808112	0.3	0.4	2.6	0.3	< 0.1	0.7	< 0.001	0.90	22.4	12	18.6	5.6	0.304	0.089	0.31	
808113	< 0.1	< 0.1	0.7	< 0.1	0.1	0.5	0.014	0.15	7.9	7	1.2	0.3	0.0998	0.023	4.06	
808114	< 0.1	< 0.1	0.6	< 0.1	0.2	0.6	< 0.001	0.22	15.8	4	1.0	0.3	0.103	0.023	5.42	
808115	< 0.1	< 0.1	0.6	< 0.1	0.1	0.4	< 0.001	0.24	9.8	4	1.1	0.3	0.103	0.023	6.22	
808116	0.2	< 0.1	0.6	< 0.1	0.1	0.3	< 0.001	0.69	7.4	5	1.9	0.4	0.210	0.039	0.27	
808117	< 0.1	< 0.1	0.7	< 0.1	0.2	0.8	< 0.001	0.30	8.9	8	1.7	0.5	0.251	0.047	0.51	
808118	< 0.1	< 0.1	0.6	< 0.1	0.2	0.9	< 0.001	0.39	21.7	4	1.5	0.4	0.133	0.032	3.07	
808119	0.2	0.1	0.7	< 0.1	< 0.1	0.2	< 0.001	0.32	6.5	5	1.6	0.4	0.223	0.048	0.19	
808120	0.4	< 0.1	0.6	< 0.1	< 0.1	0.2	< 0.001	0.31	3.9	6	1.5	0.5	0.263	0.046	0.08	

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP	4Acid ICPOE S
808121	< 0.1	0.1	0.7	< 0.1	0.3	2.0	< 0.001	0.28	4.3	7	3.0	0.8	0.232	0.079	0.28	
808122	0.1	0.1	0.8	0.1	< 0.1	1.1	< 0.001	< 0.05	2.1	31	0.1	< 0.1	0.139	0.011	0.05	
808123	< 0.1	< 0.1	0.7	0.1	< 0.1	1.2	< 0.001	< 0.05	2.1	28	0.2	< 0.1	0.109	0.013	0.04	
808124	< 0.1	< 0.1	0.3	< 0.1	< 0.1	0.3	< 0.001	< 0.05	1.7	< 1	1.1	0.3	0.0138	0.002	< 0.01	
808125	< 0.1	< 0.1	0.9	0.1	< 0.1	1.9	< 0.001	< 0.05	3.1	30	< 0.1	< 0.1	0.154	0.010	0.10	
808126	< 0.1	< 0.1	0.8	0.1	0.2	1.8	< 0.001	0.22	8.0	9	1.9	0.5	0.146	0.033	4.31	
808127	0.2	< 0.1	0.6	< 0.1	0.2	2.0	< 0.001	0.13	9.0	9	1.9	0.3	0.156	0.040	5.51	
808128	< 0.1	< 0.1	0.6	< 0.1	0.1	1.1	0.001	0.08	13.9	7	1.2	0.3	0.101	0.032	6.15	
808129	< 0.1	< 0.1	0.4	< 0.1	< 0.1	0.5	< 0.001	< 0.05	2.6	4	0.2	< 0.1	0.0455	0.044	3.79	
808130	< 0.1	< 0.1	0.7	< 0.1	< 0.1	0.6	< 0.001	< 0.05	6.2	7	4.6	0.9	0.0885	0.122	2.38	
808131	< 0.1	< 0.1	0.6	< 0.1	< 0.1	0.4	< 0.001	< 0.05	3.9	2	1.0	0.2	0.0347	0.058	3.49	
808132	< 0.1	0.2	1.2	0.2	< 0.1	2.1	< 0.001	< 0.05	2.3	10	5.1	0.9	0.145	0.122	1.01	
808133	< 0.1	0.1	0.8	< 0.1	0.2	0.5	< 0.001	< 0.05	5.4	6	2.2	0.7	0.233	0.061	0.71	
808134	< 0.1	0.1	1.0	0.1	0.1	0.6	0.049	< 0.05	6.1	6	1.4	0.4	0.203	0.046	1.30	
808135	< 0.1	< 0.1	0.6	< 0.1	0.2	0.6	0.019	< 0.05	5.3	5	1.8	0.5	0.115	0.035	6.27	
808136	0.1	0.3	2.5	0.3	1.2	4.4	< 0.001	0.86	23.1	13	18.2	5.1	0.435	0.096	0.79	
808137	< 0.1	< 0.1	0.7	< 0.1	< 0.1	0.4	0.013	< 0.05	3.9	9	0.8	0.2	0.111	0.041	7.03	
808138	0.2	0.2	1.3	0.2	0.2	0.6	< 0.001	< 0.05	6.6	14	3.0	0.8	0.325	0.070	1.72	
808139	0.3	0.3	2.0	0.3	< 0.1	0.1	< 0.001	< 0.05	4.3	35	0.3	< 0.1	0.316	0.020	0.52	
808140	< 0.1	0.1	1.0	0.1	0.2	0.4	0.012	< 0.05	6.3	7	1.6	0.5	0.224	0.040	1.03	
808141	< 0.1	0.1	1.1	0.1	0.2	0.3	0.020	< 0.05	6.6	7	1.5	0.4	0.170	0.041	0.33	
808142	< 0.1	0.2	1.1	0.1	0.3	0.5	0.004	< 0.05	6.5	8	2.0	0.6	0.255	0.058	0.52	
808143	< 0.1	0.2	1.3	0.1	0.3	0.5	0.096	< 0.05	19.4	6	1.5	0.5	0.235	0.050	2.39	
808144	< 0.1	0.1	0.8	0.1	0.4	0.8	0.023	< 0.05	10.4	7	2.9	0.7	0.226	0.051	2.48	
808145	< 0.1	< 0.1	0.7	< 0.1	0.2	0.7	0.001	0.08	9.8	5	1.5	0.4	0.136	0.029	2.11	
808146	< 0.1	< 0.1	0.8	0.1	0.1	0.7	0.019	< 0.05	9.4	7	0.9	0.3	0.150	0.025	7.38	
808147	< 0.1	< 0.1	0.5	< 0.1	< 0.1	0.3	0.010	< 0.05	7.6	5	1.1	0.2	0.0993	0.011	7.31	
808148	< 0.1	< 0.1	0.3	< 0.1	< 0.1	0.1	< 0.001	< 0.05	1.8	< 1	1.4	0.4	0.0173	0.002	< 0.01	
808149	< 0.1	< 0.1	0.6	< 0.1	0.2	0.3	0.003	< 0.05	10.0	7	1.5	0.5	0.165	0.044	1.47	
808150	< 0.1	0.1	0.9	0.1	0.1	0.3	0.026	< 0.05	10.4	8	1.3	0.6	0.136	0.029	5.88	
808151	< 0.1	0.3	2.1	0.2	0.1	0.8	< 0.001	0.24	9.4	35	1.5	0.4	0.403	0.044	0.36	
808152	0.5	0.2	1.4	0.2	< 0.1	0.3	< 0.001	0.11	1.0	39	< 0.1	< 0.1	0.246	0.009	0.02	
808153	0.3	0.2	1.4	0.2	< 0.1	0.3	< 0.001	< 0.05	1.4	39	< 0.1	< 0.1	0.247	0.020	0.08	
808154	0.3	0.1	1.3	0.2	< 0.1	0.6	< 0.001	0.10	3.3	30	1.1	0.2	0.284	0.037	0.59	
808155	0.3	0.2	1.7	0.2	< 0.1	< 0.1	< 0.001	< 0.05	2.9	46	< 0.1	< 0.1	0.263	0.015	0.01	
808156	0.5	0.2	1.8	0.2	< 0.1	0.2	< 0.001	0.23	5.6	35	1.4	0.7	0.253	0.058	0.08	
808157	< 0.1	0.1	0.9	0.1	< 0.1	0.5	< 0.001	< 0.05	11.6	22	2.8	0.6	0.164	0.067	0.22	
808158	0.3	< 0.1	0.4	< 0.1	< 0.1	0.2	< 0.001	< 0.05	2.5	18	0.3	< 0.1	0.130	0.026	1.01	
808159	0.3	< 0.1	0.8	0.1	< 0.1	0.2	< 0.001	< 0.05	1.9	21	0.1	< 0.1	0.136	0.027	0.90	
808160	0.3	0.3	2.0	0.3	< 0.1	0.8	< 0.001	< 0.05	10.9	36	0.7	0.2	0.457	0.033	0.28	
808161	< 0.1	< 0.1	0.6	< 0.1	< 0.1	0.3	0.004	< 0.05	5.3	13	0.5	0.1	0.125	0.028	5.49	

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP	4Acid ICPOE S
808162	0.2	0.2	1.4	0.2	< 0.1	< 0.1	< 0.001	< 0.05	4.3	46	0.8	0.2	0.111	0.030	0.13	
808163	0.4	0.1	1.0	0.1	< 0.1	< 0.1	< 0.001	0.49	7.6	29	0.2	< 0.1	0.233	0.019	1.50	
808164	0.3	0.2	1.8	0.2	< 0.1	< 0.1	< 0.001	0.13	5.5	24	2.8	1.1	0.302	0.086	0.32	
808165	0.2	0.2	1.8	0.2	< 0.1	0.2	< 0.001	< 0.05	2.2	28	0.4	0.1	0.459	0.045	0.24	
808166	0.2	0.2	1.6	0.2	< 0.1	< 0.1	< 0.001	< 0.05	1.6	35	0.5	0.1	0.347	0.034	0.07	
808167	0.1	0.2	1.9	0.3	< 0.1	< 0.1	< 0.001	< 0.05	2.2	36	0.5	0.1	0.400	0.035	0.09	
808168	0.1	0.2	2.1	0.3	< 0.1	< 0.1	< 0.001	< 0.05	2.1	38	0.6	0.2	0.338	0.032	0.11	
808169	0.1	0.2	1.6	0.2	< 0.1	0.1	< 0.001	< 0.05	2.5	39	0.5	0.1	0.252	0.031	0.13	
808170	0.1	0.2	1.6	0.2	< 0.1	< 0.1	< 0.001	0.21	6.3	30	2.6	0.6	0.345	0.074	0.57	
808171	0.2	0.4	2.7	0.4	< 0.1	< 0.1	0.005	0.14	8.8	37	0.8	0.2	0.288	0.043	0.44	
808172	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.1	< 0.001	< 0.05	1.2	< 1	1.3	0.4	0.0104	0.001	< 0.01	
808173	0.2	0.5	3.2	0.4	< 0.1	< 0.1	0.006	0.15	14.6	39	0.6	0.2	0.450	0.040	0.52	
850751	0.2	0.1	0.9	0.1	< 0.1	3.6	< 0.001	0.09	2.9	25	< 0.1	< 0.1	0.141	0.007	0.77	
850752	< 0.1	0.2	1.2	0.2	0.2	0.8	0.016	0.11	4.1	15	1.8	0.6	0.269	0.067	2.06	
850753	0.2	0.1	1.0	0.1	0.2	1.6	0.004	0.16	4.7	9	1.9	0.5	0.276	0.046	0.19	
850754	0.2	0.4	2.6	0.3	< 0.1	< 0.1	< 0.001	0.27	5.7	35	2.3	0.7	0.254	0.083	0.41	
850755	0.2	0.3	1.8	0.3	< 0.1	0.2	< 0.001	0.09	4.7	29	0.6	0.2	0.358	0.036	0.45	
850756	0.5	0.4	2.9	0.4	< 0.1	0.4	< 0.001	0.17	4.8	32	1.5	0.4	0.537	0.047	0.90	
850757	0.6	0.3	2.1	0.3	< 0.1	0.2	< 0.001	0.09	3.0	38	0.3	< 0.1	0.324	0.028	0.04	
850758	0.5	0.2	1.4	0.2	< 0.1	0.2	< 0.001	0.24	10.5	25	0.2	< 0.1	0.264	0.026	0.04	
850759	0.1	0.2	1.3	0.2	< 0.1	0.1	< 0.001	0.11	8.9	19	1.4	0.6	0.415	0.062	0.43	
850760	0.1	0.3	2.0	0.3	< 0.1	< 0.1	< 0.001	< 0.05	10.3	36	0.6	0.2	0.165	0.030	0.28	
850761	0.1	0.2	1.1	0.1	0.3	1.2	< 0.001	0.32	6.5	10	4.3	1.4	0.217	0.100	0.04	
850762	0.3	0.2	1.4	0.2	0.5	5.6	< 0.001	0.28	4.9	5	4.9	1.4	0.165	0.030	0.02	
850763	< 0.1	0.2	1.5	0.2	0.4	1.3	< 0.001	0.14	7.4	8	2.6	1.0	0.172	0.029	0.72	
850764	< 0.1	0.2	1.6	0.2	0.2	2.0	0.019	0.17	11.8	23	1.0	0.4	0.370	0.043	0.26	
850765	< 0.1	0.1	1.0	0.1	< 0.1	0.4	0.002	0.07	3.9	22	0.4	0.1	0.142	0.017	0.93	
850766	< 0.1	0.2	1.1	0.1	< 0.1	0.4	< 0.001	0.43	30.6	6	16.0	4.4	0.275	0.149	0.35	
850767	0.1	0.1	0.9	0.1	0.2	0.4	0.109	0.44	6.9	29	0.8	0.3	0.196	0.023	0.19	
850768	0.3	< 0.1	0.6	< 0.1	0.1	0.7	0.009	0.28	6.7	6	1.3	0.4	0.209	0.043	0.26	
850769	0.9	< 0.1	0.6	< 0.1	< 0.1	0.3	< 0.001	0.19	9.6	6	1.2	0.3	0.190	0.043	0.16	
850770	0.3	< 0.1	0.6	< 0.1	< 0.1	0.4	< 0.001	0.24	6.4	6	1.2	0.3	0.168	0.031	0.06	
850771	0.8	0.2	1.1	0.2	< 0.1	0.2	0.004	0.11	8.4	14	1.2	0.4	0.199	0.034	0.14	
850772	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.1	< 0.001	< 0.05	1.2	< 1	1.1	0.3	0.0130	0.002	0.01	
850773	0.6	0.4	2.8	0.4	< 0.1	< 0.1	< 0.001	0.11	6.1	39	0.3	0.1	0.467	0.040	0.56	
850774	0.2	0.4	2.7	0.4	< 0.1	0.2	0.009	0.14	4.8	46	0.3	< 0.1	0.334	0.039	0.55	
850775	0.2	0.3	2.2	0.3	< 0.1	0.3	< 0.001	0.24	5.1	37	1.6	0.5	0.413	0.055	0.95	
850776	0.2	0.3	2.6	0.3	< 0.1	0.2	< 0.001	0.14	5.6	47	0.5	0.2	0.436	0.030	0.94	
850777	< 0.1	0.3	2.5	0.4	0.2	0.5	0.002	0.09	9.5	31	5.0	1.3	0.399	0.083	0.47	
850778	< 0.1	0.2	1.7	0.2	< 0.1	0.5	< 0.001	0.13	6.4	29	1.4	0.4	0.421	0.037	0.37	
850779	< 0.1	0.1	0.8	0.1	0.2	0.7	0.002	0.27	9.0	7	1.4	0.6	0.215	0.035	0.43	

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP	4Acid ICPOE S
850780	< 0.1	0.2	1.4	0.2	0.2	0.9	0.001	0.21	4.6	21	0.9	0.3	0.339	0.036	0.17	
850781	< 0.1	< 0.1	0.6	< 0.1	0.2	0.7	< 0.001	0.30	5.8	6	1.2	0.4	0.181	0.031	0.27	
850782	< 0.1	0.1	0.8	0.1	0.2	0.9	0.001	0.23	7.1	8	2.1	0.6	0.149	0.025	0.11	
850783	0.4	0.3	1.9	0.3	< 0.1	0.1	0.003	0.41	7.1	60	0.3	0.1	0.170	0.030	0.17	
850784	0.2	0.2	1.8	0.2	0.6	2.9	0.009	0.49	25.5	15	7.1	2.3	0.367	0.094	1.26	1.08
850785	0.1	< 0.1	0.4	< 0.1	< 0.1	0.2	0.002	< 0.05	5.0	1	< 0.1	< 0.1	0.0080	0.045	4.92	
850786	< 0.1	< 0.1	0.7	0.1	< 0.1	0.3	0.008	< 0.05	3.6	5	0.3	0.1	0.0469	0.034	3.99	
850787	< 0.1	0.1	1.1	0.2	0.2	0.5	0.034	< 0.05	4.8	9	0.6	0.3	0.0958	0.026	3.65	
850788	< 0.1	0.3	2.1	0.3	< 0.1	0.1	0.002	0.15	10.1	41	0.9	0.3	0.252	0.046	0.09	

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-4 Meas	12.3	0.56	1.89	7.92	4.21	1.02	0.2	89	60	164	3.29	1.5	10	40.9		2.1		3.58	2.74	14.3	1.39	19.6	6.0
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
GXR-4 Meas	10.7	0.48	1.60	6.24	3.67	0.84	0.3	78	41	132	2.81	1.3	50	34.4		1.8		3.32	2.46	12.2	1.30	19.4	5.4
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
GXR-4 Meas	11.4	0.51	1.66	6.59	3.72	0.90	0.2	82	39	137	2.85	1.3	70	34.8		1.8		3.29	2.56	12.3	1.28	19.1	5.4
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
GXR-4 Meas	13.9	0.58	1.98	8.13	4.24	1.06	0.1	95	50	164	3.34	1.4	< 10	43.0		2.3		3.82	2.47	14.9	1.48	22.2	5.7
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
GXR-4 Meas	14.9	0.60	1.99	8.70	4.13	1.06	0.2	97	46	166	3.41	1.5	< 10	42.1		2.4		3.81	2.53	15.1	1.50	23.5	5.7
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
GXR-4 Meas	11.9	0.58	1.80	6.62	4.39	0.99	0.2	91	51	166	3.20	1.4	30	41.9		2.2		3.50	2.64	14.1	1.37	20.1	5.9
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
SDC-1 Meas	30.0	1.42	0.96	7.03	2.48	0.93		34	43	830	4.68	1.0	120	32.0	3.4	2.7	1.2		3.79	16.5	1.41		
SDC-1 Cert	34.0	1.52	1.02	8.34	2.72	1.00		102.00	64.00	880.00	4.82	8.30	200.00	38.0	4.10	3.00	1.50		4.00	18.0	1.70		
SDC-1 Meas	31.6	1.60	1.03	7.82	2.16	0.99		45	49	885	4.75	1.1	130	33.8	3.4	2.6	1.1		3.63	18.1	1.40		
SDC-1 Cert	34.0	1.52	1.02	8.34	2.72	1.00		102.00	64.00	880.00	4.82	8.30	200.00	38.0	4.10	3.00	1.50		4.00	18.0	1.70		
SDC-1 Meas	36.9	1.60	0.97	8.51	2.63	0.95		62	47	888	4.84	1.0	20	31.0	3.2	3.0	1.1		3.52	16.9	1.44		
SDC-1 Cert	34.0	1.52	1.02	8.34	2.72	1.00		102.00	64.00	880.00	4.82	8.30	200.00	38.0	4.10	3.00	1.50		4.00	18.0	1.70		
SDC-1 Meas	35.4	1.53	0.99	8.24	3.25	0.97		45	43	867	4.71	0.9	10	33.6	3.5	3.1	1.2		3.59	17.0	1.45		
SDC-1 Cert	34.0	1.52	1.02	8.34	2.72	1.00		102.00	64.00	880.00	4.82	8.30	200.00	38.0	4.10	3.00	1.50		4.00	18.0	1.70		
SDC-1 Meas	34.9	1.57	1.05	8.76	2.63	1.01		30	42	850	4.87	0.8	20	33.3	3.4	2.7	1.2		3.96	17.9	1.44		
SDC-1 Cert	34.0	1.52	1.02	8.34	2.72	1.00		102.00	64.00	880.00	4.82	8.30	200.00	38.0	4.10	3.00	1.50		4.00	18.0	1.70		
GXR-6 Meas	34.1	0.11	0.69	> 10.0	2.01	0.19	0.1	157	70	1160	6.36	2.7	50	26.8		1.1		0.36	4.54	15.0	0.65	0.21	0.8
GXR-6 Cert	32.0	0.104	0.609	17.7	1.87	0.180	1.00	186	96.0	1010	5.58	4.30	68.0	27.0		1.40		1.30	4.20	13.8	0.760	0.290	0.940
GXR-6 Meas	29.1	0.09	0.54	> 10.0	1.69	0.13	0.1	189	59	947	5.10	2.9	20	22.4		0.9		0.37	4.24	13.0	0.52	0.18	0.7
GXR-6 Cert	32.0	0.104	0.609	17.7	1.87	0.180	1.00	186	96.0	1010	5.58	4.30	68.0	27.0		1.40		1.30	4.20	13.8	0.760	0.290	0.940
GXR-6 Meas	29.5	0.09	0.36	8.78	1.63	0.12	0.1	194	61	1080	5.18	2.9	50	22.8		0.9		0.36	3.50	12.7	0.33	0.19	0.8
GXR-6 Cert	32.0	0.104	0.609	17.7	1.87	0.180	1.00	186	96.0	1010	5.58	4.30	68.0	27.0		1.40		1.30	4.20	13.8	0.760	0.290	0.940
GXR-6 Meas	37.6	0.10	0.60	> 10.0	1.91	0.16	< 0.1	189	66	1200	6.31	2.7	30	27.4		1.2		0.36	4.30	14.0	0.64	0.21	0.7
GXR-6 Cert	32.0	0.104	0.609	17.7	1.87	0.180	1.00	186	96.0	1010	5.58	4.30	68.0	27.0		1.40		1.30	4.20	13.8	0.760	0.290	0.940
GXR-6 Meas	36.1	0.10	0.55	> 10.0	1.57	0.16	< 0.1	150	58	1200	6.05	2.3	70	26.8		1.2		0.33	4.28	14.6	0.64	0.21	0.4
GXR-6 Cert	32.0	0.104	0.609	17.7	1.87	0.180	1.00	186	96.0	1010	5.58	4.30	68.0	27.0		1.40		1.30	4.20	13.8	0.760	0.290	0.940
MP-1b Meas																							
MP-1b Cert																							
MP-1b Meas																							
MP-1b Cert																							
OREAS 97 (4 Acid) Meas																		20.8		69.5		42.9	76.5
OREAS 97 (4 Acid) Cert																		19.6		62.9		40.1	71.4
OREAS 97 (4 Acid) Meas																		20.0		64.0		42.0	71.9
OREAS 97 (4																		19.6		62.9		40.1	71.4

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Acid) Cert																							
OREAS 97 (4 Acid) Meas																		18.4		66.2		38.9	67.0
OREAS 97 (4 Acid) Cert																		19.6		62.9		40.1	71.4
OREAS 97 (4 Acid) Meas																		19.8		60.9		43.9	70.6
OREAS 97 (4 Acid) Cert																		19.6		62.9		40.1	71.4
OREAS 97 (4 Acid) Meas																		18.8		59.4		42.0	66.4
OREAS 97 (4 Acid) Cert																		19.6		62.9		40.1	71.4
OREAS 97 (4 Acid) Meas																		18.7		62.6		39.6	74.1
OREAS 97 (4 Acid) Cert																		19.6		62.9		40.1	71.4
OREAS 98 (4 Acid) Meas																		46.6		127		94.3	168
OREAS 98 (4 Acid) Cert																		45.1		121		97.2	158
OREAS 98 (4 Acid) Meas																		44.3		122		93.2	163
OREAS 98 (4 Acid) Cert																		45.1		121		97.2	158
OREAS 98 (4 Acid) Meas																		45.0		122		91.8	159
OREAS 98 (4 Acid) Cert																		45.1		121		97.2	158
OREAS 98 (4 Acid) Meas																		47.7		118		101	165
OREAS 98 (4 Acid) Cert																		45.1		121		97.2	158
OREAS 98 (4 Acid) Meas																		47.4		121		98.2	164
OREAS 98 (4 Acid) Cert																		45.1		121		97.2	158
OREAS 98 (4 Acid) Meas																		48.7		132		94.1	191
OREAS 98 (4 Acid) Cert																		45.1		121		97.2	158
DNC-1a Meas	4.5	1.41				8.12		155	116		6.70			250						53.5	0.53		
DNC-1a Cert	5.2	1.40				8.21		148	270		6.97			247						57	0.59		
DNC-1a Meas	4.3	1.47				8.01		148	123		7.21			261						57.0	0.54		
DNC-1a Cert	5.2	1.40				8.21		148	270		6.97			247						57	0.59		
DNC-1a Meas	4.9	1.50				7.76		151	133		7.00			257						53.6	0.53		
DNC-1a Cert	5.2	1.40				8.21		148	270		6.97			247						57	0.59		

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
DNC-1a Meas	4.6	1.43				7.60		145	129		6.82			259						54.4	0.51		
DNC-1a Cert	5.2	1.40				8.21		148	270		6.97			247						57	0.59		
DNC-1a Meas	5.3	1.57				7.82		145	129		6.93			257						55.1	0.51		
DNC-1a Cert	5.2	1.40				8.21		148	270		6.97			247						57	0.59		
CZN-4 Meas																							
CZN-4 Cert																							
CZN-4 Meas																							
CZN-4 Cert																							
SBC-1 Meas	153						0.3	216	85			3.6		81.7	3.6	3.1	1.2		7.95	20.9	1.76	0.73	
SBC-1 Cert	163						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
SBC-1 Meas	151						0.2	223	88			3.5		82.2	3.3	3.2	1.2		7.89	21.3	1.78	0.70	
SBC-1 Cert	163						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
SBC-1 Meas	179						0.5	218	99			3.4		90.2	3.4	3.4	1.2		7.87	22.3	1.92	0.74	
SBC-1 Cert	163						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
SBC-1 Meas	176						0.4	218	103			3.5		88.9	3.4	3.3	1.2		7.93	22.9	1.80	0.80	
SBC-1 Cert	163						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
SBC-1 Meas	171						0.2	208	100			3.7		84.7	3.2	2.9	1.2		7.83	21.8	1.75	0.70	
SBC-1 Cert	163						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
OREAS 45d (4-Acid) Meas	21.4	0.10	0.26	8.77	0.44	0.19		129	601	516	15.6	2.5		257	1.5	0.9	0.5		4.21	32.5	0.62	0.34	
OREAS 45d (4-Acid) Cert	21.5	0.101	0.245	8.150	0.412	0.185		235.0	549	490.000	14.5	3.830		231.0	1.38	0.79	0.46		3.910	29.50	0.57	0.31	
OREAS 45d (4-Acid) Meas	20.6	0.09	0.23	7.95	0.39	0.17		162	494	466	13.7	2.9		216	1.2	0.7	0.4		3.56	27.8	0.52	0.32	
OREAS 45d (4-Acid) Cert	21.5	0.101	0.245	8.150	0.412	0.185		235.0	549	490.000	14.5	3.830		231.0	1.38	0.79	0.46		3.910	29.50	0.57	0.31	
OREAS 45d (4-Acid) Meas	21.4	0.10	0.23	8.06	0.41	0.18		173	493	501	14.2	3.5		219	1.4	0.8	0.4		3.98	27.9	0.59	0.33	
OREAS 45d (4-Acid) Cert	21.5	0.101	0.245	8.150	0.412	0.185		235.0	549	490.000	14.5	3.830		231.0	1.38	0.79	0.46		3.910	29.50	0.57	0.31	
OREAS 45d (4-Acid) Meas	21.6	0.10	0.23	8.01	0.42	0.18		186	478	489	15.2	3.9		246	1.5	0.9	0.5		3.74	30.4	0.63	0.37	
OREAS 45d (4-Acid) Cert	21.5	0.101	0.245	8.150	0.412	0.185		235.0	549	490.000	14.5	3.830		231.0	1.38	0.79	0.46		3.910	29.50	0.57	0.31	
OREAS 45d (4-Acid) Meas	20.7	0.09	0.21	7.44	0.37	0.16		80	403	471	13.9	1.6		220	1.3	0.7	0.4		3.33	28.2	0.54	0.34	
OREAS 45d (4-Acid) Cert	21.5	0.101	0.245	8.150	0.412	0.185		235.0	549	490.000	14.5	3.830		231.0	1.38	0.79	0.46		3.910	29.50	0.57	0.31	
OREAS 45d (4-Acid) Meas	25.2	0.11	0.23	8.73	0.48	0.20		101	516	562	16.6	1.6		256	1.2	0.8	0.4		3.92	33.2	0.63	0.34	
OREAS 45d (4-Acid) Cert	21.5	0.101	0.245	8.150	0.412	0.185		235.0	549	490.000	14.5	3.830		231.0	1.38	0.79	0.46		3.910	29.50	0.57	0.31	
PTC-1b Meas																							
PTC-1b Cert																							
PTC-1b Meas																							

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
PTC-1b Cert																							
CCU-1e Meas																							
CCU-1e Cert																							
CCU-1e Meas																							
CCU-1e Cert																							
OREAS 96 (4 Acid) Meas																		11.6		47.9		28.8	41.0
OREAS 96 (4 Acid) Cert																		11.5		49.9		26.3	40.7
OREAS 96 (4 Acid) Meas																		11.4		50.5		29.1	43.6
OREAS 96 (4 Acid) Cert																		11.5		49.9		26.3	40.7
OREAS 96 (4 Acid) Meas																		11.4		51.1		30.7	41.3
OREAS 96 (4 Acid) Cert																		11.5		49.9		26.3	40.7
OREAS 96 (4 Acid) Meas																		11.3		50.6		28.6	44.2
OREAS 96 (4 Acid) Cert																		11.5		49.9		26.3	40.7
OREAS 923 (4 Acid) Meas	30.7	0.34	1.84	7.95	2.67	0.47	0.5	94	77	963	6.67	4.0		38.2	3.0	2.3	1.1	1.93	6.66	23.2	1.32	20.0	6.2
OREAS 923 (4 Acid) Cert	31.4	0.324	1.69	7.29	2.51	0.473	0.420	91.0	71.0	950	6.43	3.42		35.8	2.86	2.42	0.960	1.60	6.70	23.1	1.37	21.4	6.54
OREAS 923 (4 Acid) Meas	28.9	0.34	1.88	7.31	2.47	0.52	0.4	90	67	947	6.35	3.7		35.3	2.5	2.2	0.9	1.67	6.65	22.1	1.18	17.4	6.9
OREAS 923 (4 Acid) Cert	31.4	0.324	1.69	7.29	2.51	0.473	0.420	91.0	71.0	950	6.43	3.42		35.8	2.86	2.42	0.960	1.60	6.70	23.1	1.37	21.4	6.54
OREAS 923 (4 Acid) Meas	29.1	0.32	1.76	7.14	2.43	0.50	0.4	90	67	956	6.66	3.6		35.4	2.9	2.3	0.9	1.68	6.96	22.8	1.27	22.8	5.8
OREAS 923 (4 Acid) Cert	31.4	0.324	1.69	7.29	2.51	0.473	0.420	91.0	71.0	950	6.43	3.42		35.8	2.86	2.42	0.960	1.60	6.70	23.1	1.37	21.4	6.54
OREAS 621 (4 Acid) Meas	14.6	1.49	0.60	8.01	2.50	2.19	312	34	37	582	4.17	5.1		32.1		1.9		70.0	3.50	32.8		4.14	4.7
OREAS 621 (4 Acid) Cert	14.2	1.31	0.507	6.40	2.20	1.97	284	31.8	37.1	532	3.70	4.41		26.2		1.69		69.0	3.28	29.3		3.93	5.64
OREAS 621 (4 Acid) Meas	13.7	1.48	0.57	7.72	2.43	2.14	290	33	36	550	4.09	4.8		28.3		1.8		65.5	3.39	31.0		3.95	4.4
OREAS 621 (4 Acid) Cert	14.2	1.31	0.507	6.40	2.20	1.97	284	31.8	37.1	532	3.70	4.41		26.2		1.69		69.0	3.28	29.3		3.93	5.64
OREAS 621 (4 Acid) Meas	13.7	1.37	0.54	6.39	2.20	1.92	259	33	39	545	3.90	4.6		26.4		1.8		58.4	2.87	29.0		4.15	3.5
OREAS 621 (4 Acid) Cert	14.2	1.31	0.507	6.40	2.20	1.97	284	31.8	37.1	532	3.70	4.41		26.2		1.69		69.0	3.28	29.3		3.93	5.64
OREAS 520 (4 Acid) Meas	16.5	1.28	1.21	5.67	3.30	3.93		283	54	2430	16.6	3.9		78.7	2.3	1.1	0.8	0.49	0.72	203	1.26	3.08	1.3

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
OREAS 520 (4 Acid) Cert	16.9	1.35	1.19	5.63	3.46	4.10		257	36.4	2420	16.4	3.53		76.0	2.21	1.06	0.760	0.450	0.800	203	1.29	2.94	1.76
OREAS 520 (4 Acid) Meas	16.5	1.32	1.31	5.99	3.41	4.30		305	47	2640	17.4	4.0		82.3	2.5	1.2	0.9	0.46	0.76	208	1.27	3.11	1.2
OREAS 520 (4 Acid) Cert	16.9	1.35	1.19	5.63	3.46	4.10		257	36.4	2420	16.4	3.53		76.0	2.21	1.06	0.760	0.450	0.800	203	1.29	2.94	1.76
OREAS 520 (4 Acid) Meas	16.8	1.35	1.24	5.42	3.54	4.33		273	36	2490	17.0	3.7		74.1	2.3	1.1	0.8	0.41	0.73	205	1.22	3.01	1.2
OREAS 520 (4 Acid) Cert	16.9	1.35	1.19	5.63	3.46	4.10		257	36.4	2420	16.4	3.53		76.0	2.21	1.06	0.760	0.450	0.800	203	1.29	2.94	1.76
808080 Orig	13.6	1.92	3.01	7.23	0.22	6.70	< 0.1	189	159	2100	7.76	0.4	< 10	71.5	1.8	0.4	0.7	0.06	0.38	44.4	0.70	0.07	0.3
808080 Dup	14.0	1.92	3.15	7.74	0.24	6.96	< 0.1	188	156	2180	8.06	0.4	< 10	74.8	1.9	0.4	0.6	0.07	0.39	46.5	0.71	0.07	0.4
808084 Orig																							
808084 Dup																							
808097 Orig	18.6	2.50	1.31	7.14	1.49	3.31	0.2	46	62	1990	6.78	2.3	< 10	19.5	0.8	1.0	0.3	0.08	0.78	14.6	0.73	0.12	1.1
808097 Dup	18.1	2.51	1.30	7.50	1.46	3.35	0.3	48	25	2040	6.88	2.2	< 10	19.2	0.9	1.0	0.3	0.11	0.78	15.1	0.68	0.12	1.2
808112 Orig	38.4	2.19	1.61	7.95	2.66	2.62	< 0.1	88	71	563	4.49	2.7	< 10	61.8	2.5	3.2	0.9	0.39	10.9	15.2	1.11	0.73	1.1
808112 Dup	37.2	2.10	1.60	7.59	2.62	2.60	< 0.1	88	74	545	4.35	2.7	< 10	60.4	2.4	3.2	0.8	0.40	11.0	14.8	1.14	0.70	1.4
808118 Orig	12.4	0.66	0.69	5.55	1.75	2.75	1.9	36	18	661	6.74	2.1	< 10	32.8	0.6	0.8	0.2	0.40	0.56	25.9	0.48	0.45	5.0
808118 Dup	14.2	0.74	0.80	6.12	1.94	3.08	2.2	40	19	788	7.73	2.5	< 10	37.1	0.6	1.1	0.2	0.46	0.67	30.2	0.59	0.53	5.8
808129 Split Orig PREP DUP	4.7	0.21	1.52	1.70	0.02	2.11	0.4	67	30	1030	23.9	0.3	< 10	16.2	0.4	0.2	0.1	0.23	0.44	22.6	0.47	0.51	4.2
808129 Split PREP DUP	4.6	0.20	1.55	1.72	0.02	2.05	0.4	66	30	1050	24.0	0.4	< 10	15.4	0.4	0.2	0.1	0.24	0.49	21.7	0.47	0.59	4.0
808156 Orig	34.6	1.33	3.92	7.53	1.20	6.58	< 0.1	188	55	1120	7.23	0.6	< 10	37.0	1.6	0.8	0.6	0.09	2.71	35.3	0.75	0.10	0.1
808156 Dup	35.2	1.35	4.03	8.26	1.27	6.82	< 0.1	227	42	1160	7.34	0.8	< 10	37.0	1.7	0.7	0.6	0.09	2.86	35.9	0.77	0.11	0.3
808159 Orig	1.0	0.02	3.97	3.34	0.01	2.25	0.2	117	73	988	12.3	0.5	< 10	35.0	0.7	0.4	0.2	0.16	0.27	41.6	0.27	0.05	2.0
808159 Dup	1.0	0.02	4.28	3.36	0.02	2.36	0.3	121	72	1010	12.8	0.5	< 10	35.7	0.7	0.4	0.3	0.14	0.27	43.1	0.30	0.05	2.0
850753 Orig	21.4	1.86	1.69	7.46	1.47	2.25	< 0.1	68	145	842	6.50	2.9	< 10	52.9	1.0	1.2	0.3	0.07	1.01	11.0	0.78	0.12	0.3
850753 Dup	20.6	1.82	1.63	7.40	1.70	2.24	< 0.1	72	26	854	6.62	2.8	< 10	26.8	1.0	1.3	0.3	0.05	1.02	11.0	0.78	0.12	0.3
850756 Split Orig PREP DUP	26.7	> 3.00	2.12	7.36	0.66	4.67	< 0.1	207	33	1280	7.67	1.6	< 10	59.4	2.6	1.1	0.9	0.34	1.60	51.6	0.96	0.12	1.1
850756 Split PREP DUP	26.6	> 3.00	2.14	7.31	0.67	4.91	< 0.1	215	33	1330	7.83	1.6	< 10	59.6	2.6	1.1	0.9	0.18	1.59	53.9	0.93	0.12	0.8
850762 Orig	18.7	0.81	0.98	7.31	2.68	0.68	< 0.1	31	17	559	2.70	4.1	< 10	18.1	1.4	0.8	0.4	< 0.05	0.91	5.0	0.61	< 0.02	0.3
850762 Dup	17.7	0.80	0.97	7.13	2.62	0.69	< 0.1	30	19	547	2.62	4.0	< 10	16.9	1.2	0.7	0.4	< 0.05	0.93	4.8	0.59	0.02	< 0.1
850775 Orig	33.5	2.25	2.39	7.26	1.13	6.89	< 0.1	235	57	1590	7.99	1.3	10	46.8	1.9	1.1	0.6	0.15	1.19	44.7	0.99	0.21	0.4
850775 Dup	35.3	2.28	2.46	7.59	1.19	7.41	< 0.1	263	67	1590	8.27	1.4	60	49.6	2.1	1.1	0.7	0.14	1.27	48.0	1.01	0.22	0.5
Method Blank																							
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	2	5	1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.3
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	6	2	< 0.01	< 0.1	50	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	1	3	6	< 0.01	< 0.1	30	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 1	3	< 0.01	< 0.1	20	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank																							
Method Blank	0.6	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	1	5	3	< 0.01	< 0.1	50	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	2	< 1	< 0.01	< 0.1	20	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	2	7	< 0.01	< 0.1	40	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank																							
Method Blank																							
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	2	3	1	< 0.01	< 0.1	60	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.2
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	6	2	< 0.01	< 0.1	80	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	2	9	7	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	4	< 1	< 0.01	< 0.1	50	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	5	9	< 0.01	< 0.1	120	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	12	8	< 0.01	< 0.1	40	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	12	< 1	< 0.01	< 0.1	10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.2
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	10	1	< 0.01	< 0.1	40	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.2
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	4	4	< 0.01	< 0.1	20	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.2
Method Blank																							

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-4 Meas	71.6	19.8	102	141	12.9	206	46	9.9	344	0.2	7	4.9	0.8	144	54.1	109		42.0	6.8	5.3	0.5	2.8	6710
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
GXR-4 Meas	70.8	16.5	97.4	140	12.2	222	41	9.3	320	0.2	6	4.4	0.9	123	52.8	106		41.8	6.3	4.7	0.5	2.6	5900
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
GXR-4 Meas	68.7	17.3	97.2	140	11.8	211	42	9.3	306	0.2	7	4.3	0.8	100	51.1	104		40.0	5.5	4.8	0.5	2.5	5810
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
GXR-4 Meas	69.3	22.3	107	140	13.0	225	49	9.3	322	0.2	7	4.7	1.0	103	57.2	107		45.0	5.9	4.9	0.5	2.9	6800
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
GXR-4 Meas	78.5	22.9	110	138	13.2	216	54	10.1	315	0.3	7	5.1	1.0	99	59.4	110		45.9	6.4	5.2	0.5	2.9	7290
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
GXR-4 Meas	71.6	17.6	104	119	12.3	213	46	9.9	314	0.2	7	4.5	0.8	159	56.0	110		43.3	5.5	4.9	0.5	2.7	6620
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
SDC-1 Meas	100	20.7	< 0.1	122		176	37	< 0.1			< 1	< 0.1		647	38.6	88.6		41.8	7.5	7.8	1.0	6.2	27.7
SDC-1 Cert	103.00	21.00	0.220	127.00		180.00	290.00	21.00			3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.000
SDC-1 Meas	103	24.1	< 0.1	99.0		176	38	< 0.1			< 1	< 0.1		609	36.5	84.5		38.2	7.9	7.1	0.9	5.6	28.8
SDC-1 Cert	103.00	21.00	0.220	127.00		180.00	290.00	21.00			3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.000
SDC-1 Meas	104	16.4	< 0.1	107		165	41	2.2			1	0.1		640	37.7	82.7		39.4	7.8	7.0	0.9	5.7	28.0
SDC-1 Cert	103.00	21.00	0.220	127.00		180.00	290.00	21.00			3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.000
SDC-1 Meas	106	17.3	< 0.1	127		165	34	0.3			< 1	< 0.1		642	38.3	80.7		39.7	7.7	6.7	1.0	5.9	29.8
SDC-1 Cert	103.00	21.00	0.220	127.00		180.00	290.00	21.00			3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.000
SDC-1 Meas	106	25.3	< 0.1	97.2		179	30	< 0.1			< 1	< 0.1		603	37.4	86.7		39.8	7.5	6.8	0.9	5.8	34.4
SDC-1 Cert	103.00	21.00	0.220	127.00		180.00	290.00	21.00			3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.000
GXR-6 Meas	136	39.7	284	85.7	12.8	36.5	96	0.5	1.07	< 0.1	1	0.9	< 0.1	1290	12.6	37.1		13.3	3.0	2.6	0.4	2.6	75.1
GXR-6 Cert	118	35.0	330	90.0	14.0	35.0	110	7.50	2.40	0.260	1.70	3.60	0.0180	1300	13.9	36.0		13.0	2.67	2.97	0.415	2.80	66.0
GXR-6 Meas	128	28.5	324	70.3	9.2	36.3	100	6.4	2.32	< 0.1	1	2.9	< 0.1	1200	8.3	26.1		10.8	2.4	2.0	0.3	1.9	63.8
GXR-6 Cert	118	35.0	330	90.0	14.0	35.0	110	7.50	2.40	0.260	1.70	3.60	0.0180	1300	13.9	36.0		13.0	2.67	2.97	0.415	2.80	66.0
GXR-6 Meas	126	28.1	323	43.5	5.1	30.6	96	6.7	2.32	< 0.1	2	3.4	< 0.1	1010	3.2	11.4		5.7	1.2	1.4	0.2	1.4	64.5
GXR-6 Cert	118	35.0	330	90.0	14.0	35.0	110	7.50	2.40	0.260	1.70	3.60	0.0180	1300	13.9	36.0		13.0	2.67	2.97	0.415	2.80	66.0
GXR-6 Meas	142	18.2	334	81.0	12.0	37.6	104	3.1	1.94	< 0.1	1	2.2	0.1	1330	13.5	36.2		13.8	2.8	2.6	0.4	2.3	75.3
GXR-6 Cert	118	35.0	330	90.0	14.0	35.0	110	7.50	2.40	0.260	1.70	3.60	0.0180	1300	13.9	36.0		13.0	2.67	2.97	0.415	2.80	66.0
GXR-6 Meas	145	23.9	273	65.0	11.7	34.3	85	0.3	1.11	< 0.1	< 1	0.8	0.1	1230	12.5	36.0		12.9	2.6	2.7	0.4	2.3	76.0
GXR-6 Cert	118	35.0	330	90.0	14.0	35.0	110	7.50	2.40	0.260	1.70	3.60	0.0180	1300	13.9	36.0		13.0	2.67	2.97	0.415	2.80	66.0
MP-1b Meas																							
MP-1b Cert																							
MP-1b Meas																							
MP-1b Cert																							
OREAS 97 (4 Acid) Meas	634										98	7.0											> 10000
OREAS 97 (4 Acid) Cert	646										95.7	9.23											63100.00
OREAS 97 (4 Acid) Meas	660										96	5.5											> 10000
OREAS 97 (4 Acid) Cert	646										95.7	9.23											63100.00

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Acid) Cert																							00
OREAS 97 (4 Acid) Meas	670										89	4.7											> 10000
OREAS 97 (4 Acid) Cert	646										95.7	9.23											63100.00
OREAS 97 (4 Acid) Meas	585										91	5.5											> 10000
OREAS 97 (4 Acid) Cert	646										95.7	9.23											63100.00
OREAS 97 (4 Acid) Meas	602										88	7.3											> 10000
OREAS 97 (4 Acid) Cert	646										95.7	9.23											63100.00
OREAS 97 (4 Acid) Meas	588										90	5.2											> 10000
OREAS 97 (4 Acid) Cert	646										95.7	9.23											63100.00
OREAS 98 (4 Acid) Meas	1340										> 200	11.2											> 10000
OREAS 98 (4 Acid) Cert	1360										206	20.1											14800.0
OREAS 98 (4 Acid) Meas	1380										> 200	5.7											> 10000
OREAS 98 (4 Acid) Cert	1360										206	20.1											14800.0
OREAS 98 (4 Acid) Meas	1380										200	6.3											> 10000
OREAS 98 (4 Acid) Cert	1360										206	20.1											14800.0
OREAS 98 (4 Acid) Meas	1280										> 200	7.3											> 10000
OREAS 98 (4 Acid) Cert	1360										206	20.1											14800.0
OREAS 98 (4 Acid) Meas	1370										196	8.7											> 10000
OREAS 98 (4 Acid) Cert	1360										206	20.1											14800.0
OREAS 98 (4 Acid) Meas	1380										> 200	6.3											> 10000
OREAS 98 (4 Acid) Cert	1360										206	20.1											14800.0
DNC-1a Meas	63.7	12.4		3.5	14.9	150	36	1.5				0.8		99	3.3			4.8					87.4
DNC-1a Cert	70	15		5	18.0	144	38.0	3				0.96		118	3.6			5.20					100
DNC-1a Meas	64.6	13.3		3.6	14.3	147	37	1.5				0.8		100	3.4			5.0					89.4
DNC-1a Cert	70	15		5	18.0	144	38.0	3				0.96		118	3.6			5.20					100
DNC-1a Meas	66.9	14.5		3.4	15.1	145	40	2.3				0.8		107	3.5			5.1					94.9
DNC-1a Cert	70	15		5	18.0	144	38.0	3				0.96		118	3.6			5.20					100

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
DNC-1a Meas	63.6	14.2		3.3	14.2	147	39	2.4				0.8		99	3.5			4.6					92.1
DNC-1a Cert	70	15		5	18.0	144	38.0	3				0.96		118	3.6			5.20					100
DNC-1a Meas	62.0	13.2		2.9	13.7	137	39	1.8				0.7		96	3.4			4.8					109
DNC-1a Cert	70	15		5	18.0	144	38.0	3				0.96		118	3.6			5.20					100
CZN-4 Meas																							
CZN-4 Cert																							
CZN-4 Meas																							
CZN-4 Cert																							
SBC-1 Meas	196	25.7	24.9	152	29.5	189	121	16.7	2.42		3	1.1		491	48.1	105	12.6	48.8	9.5	8.3	1.0	6.2	28.3
SBC-1 Cert	186	27.0	25.7	147	36.5	178.0	134.0	15.3	2.40		3.3	1.01		788.0	52.5	108.0	12.6	49.2	9.6	8.5	1.20	7.10	31.0
SBC-1 Meas	194	27.1	24.3	145	29.1	183	120	16.5	2.26		4	1.2		619	47.5	106	12.5	47.9	9.6	8.6	1.0	6.5	30.9
SBC-1 Cert	186	27.0	25.7	147	36.5	178.0	134.0	15.3	2.40		3.3	1.01		788.0	52.5	108.0	12.6	49.2	9.6	8.5	1.20	7.10	31.0
SBC-1 Meas	205	23.1	24.8	133	29.3	181	131	15.1	2.28		3	1.1		605	50.5	105	12.2	50.3	10.4	8.2	1.1	6.7	32.8
SBC-1 Cert	186	27.0	25.7	147	36.5	178.0	134.0	15.3	2.40		3.3	1.01		788.0	52.5	108.0	12.6	49.2	9.6	8.5	1.20	7.10	31.0
SBC-1 Meas	212	25.1	26.4	134	28.4	183	132	16.3	2.58		4	1.1		517	49.3	103	12.9	50.1	9.7	8.1	1.1	6.2	32.8
SBC-1 Cert	186	27.0	25.7	147	36.5	178.0	134.0	15.3	2.40		3.3	1.01		788.0	52.5	108.0	12.6	49.2	9.6	8.5	1.20	7.10	31.0
SBC-1 Meas	184	29.4	25.2	116	28.9	174	133	16.4	2.34		4	1.0		748	47.6	105	11.8	49.0	9.0	7.6	1.0	6.0	34.3
SBC-1 Cert	186	27.0	25.7	147	36.5	178.0	134.0	15.3	2.40		3.3	1.01		788.0	52.5	108.0	12.6	49.2	9.6	8.5	1.20	7.10	31.0
OREAS 45d (4-Acid) Meas	44.7	23.2	7.9	43.4	11.8	33.2	97	0.1	0.25	< 0.1	< 1	0.1		200	18.0	40.8	4.3	15.6	2.9	2.8	0.4	2.5	385
OREAS 45d (4-Acid) Cert	45.7	21.20	13.8	42.1	9.53	31.30	141	14.50	2.500	0.096	2.78	0.82		183.0	16.9	37.20	3.70	13.4	2.80	2.42	0.400	2.26	371
OREAS 45d (4-Acid) Meas	49.4	19.4	10.3	39.6	10.0	29.8	109	0.3	0.51	< 0.1	< 1	< 0.1		174	15.3	35.0	3.7	13.8	2.5	2.5	0.4	2.1	332
OREAS 45d (4-Acid) Cert	45.7	21.20	13.8	42.1	9.53	31.30	141	14.50	2.500	0.096	2.78	0.82		183.0	16.9	37.20	3.70	13.4	2.80	2.42	0.400	2.26	371
OREAS 45d (4-Acid) Meas	43.8	21.2	11.0	40.6	10.6	34.5	135	2.9	0.87	< 0.1	1	0.2		199	16.7	38.0	4.0	14.7	2.9	2.8	0.4	2.3	345
OREAS 45d (4-Acid) Cert	45.7	21.20	13.8	42.1	9.53	31.30	141	14.50	2.500	0.096	2.78	0.82		183.0	16.9	37.20	3.70	13.4	2.80	2.42	0.400	2.26	371
OREAS 45d (4-Acid) Meas	44.0	23.3	11.8	40.5	10.3	31.9	154	5.3	1.15	< 0.1	1	< 0.1		198	17.4	36.8	4.0	15.6	2.9	2.7	0.4	2.4	376
OREAS 45d (4-Acid) Cert	45.7	21.20	13.8	42.1	9.53	31.30	141	14.50	2.500	0.096	2.78	0.82		183.0	16.9	37.20	3.70	13.4	2.80	2.42	0.400	2.26	371
OREAS 45d (4-Acid) Meas	43.1	20.8	5.8	36.4	9.3	27.5	67	0.2	0.38	< 0.1	< 1	< 0.1		174	15.0	34.2	3.5	13.3	2.7	2.4	0.3	2.1	345
OREAS 45d (4-Acid) Cert	45.7	21.20	13.8	42.1	9.53	31.30	141	14.50	2.500	0.096	2.78	0.82		183.0	16.9	37.20	3.70	13.4	2.80	2.42	0.400	2.26	371
OREAS 45d (4-Acid) Meas	47.3	23.1	7.4	40.9	11.6	37.6	62	0.1	0.39	< 0.1	< 1	< 0.1		196	17.6	40.0	4.1	15.6	2.4	2.6	0.4	2.2	431
OREAS 45d (4-Acid) Cert	45.7	21.20	13.8	42.1	9.53	31.30	141	14.50	2.500	0.096	2.78	0.82		183.0	16.9	37.20	3.70	13.4	2.80	2.42	0.400	2.26	371
PTC-1b Meas																							
PTC-1b Cert																							
PTC-1b Meas																							

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
PTC-1b Cert																							
CCU-1e Meas																							
CCU-1e Cert																							
CCU-1e Meas																							
CCU-1e Cert																							
OREAS 96 (4 Acid) Meas	451										65	3.7											> 10000
OREAS 96 (4 Acid) Cert	457										65.6	5.09											39300
OREAS 96 (4 Acid) Meas	453										63	3.4											> 10000
OREAS 96 (4 Acid) Cert	457										65.6	5.09											39300
OREAS 96 (4 Acid) Meas	467										63	4.8											> 10000
OREAS 96 (4 Acid) Cert	457										65.6	5.09											39300
OREAS 96 (4 Acid) Meas	426										65	3.5											> 10000
OREAS 96 (4 Acid) Cert	457										65.6	5.09											39300
OREAS 923 (4 Acid) Meas	341	21.4	7.2	162	24.9	40.4	137	15.4	1.03	0.5	14	1.4		326	41.4	85.2	10.0	37.4	6.3	6.1	0.8	5.1	4500
OREAS 923 (4 Acid) Cert	345	20.3	7.61	166	26.4	43.0	116	14.1	0.930	0.520	13.3	1.29		434	42.2	83.0	9.58	35.4	6.64	5.73	0.850	5.05	4230
OREAS 923 (4 Acid) Meas	347	19.2	6.9	175	23.7	44.2	124	15.8	1.20	0.5	14	1.4		458	39.2	84.8	9.8	36.4	6.1	5.9	0.8	4.5	4130
OREAS 923 (4 Acid) Cert	345	20.3	7.61	166	26.4	43.0	116	14.1	0.930	0.520	13.3	1.29		434	42.2	83.0	9.58	35.4	6.64	5.73	0.850	5.05	4230
OREAS 923 (4 Acid) Meas	383	18.9	6.6	153	24.6	42.4	137	10.1	0.97	0.5	14	1.3		460	42.7	89.0	10.2	38.0	6.6	6.3	0.8	4.7	4380
OREAS 923 (4 Acid) Cert	345	20.3	7.61	166	26.4	43.0	116	14.1	0.930	0.520	13.3	1.29		434	42.2	83.0	9.58	35.4	6.64	5.73	0.850	5.05	4230
OREAS 621 (4 Acid) Meas	> 10000	26.3	74.7	88.3	13.1	66.9	197	10.2	15.4	1.8	6	23.5			18.9	49.1					0.5		4000
OREAS 621 (4 Acid) Cert	52200	24.6	77.0	84.0	11.1	91.0	168	8.61	13.6	1.83	5.25	139			21.6	46.6					0.460		3630
OREAS 621 (4 Acid) Meas	> 10000	25.0	73.2	82.9	12.2	65.8	185	10.3	14.8	1.7	6	21.1			17.9	46.9					0.5		3890
OREAS 621 (4 Acid) Cert	52200	24.6	77.0	84.0	11.1	91.0	168	8.61	13.6	1.83	5.25	139			21.6	46.6					0.460		3630
OREAS 621 (4 Acid) Meas	> 10000	22.8	68.8	78.7	10.7	58.5	168	8.7	12.9	1.5	5	16.5			16.2	43.5					0.5		3410
OREAS 621 (4 Acid) Cert	52200	24.6	77.0	84.0	11.1	91.0	168	8.61	13.6	1.83	5.25	139			21.6	46.6					0.460		3630
OREAS 520 (4 Acid) Meas	20.5	17.9	133	101	19.5	77.0	147	6.4	69.4	0.1	5	2.3	0.2		64.0	74.5	6.5	21.7	4.1	4.4	0.6	4.0	2790

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
OREAS 520 (4 Acid) Cert	22.7	18.7	153	111	20.8	104	134	5.68	65.0	0.110	4.76	3.21	0.360		85.0	86.0	6.69	22.1	4.02	4.08	0.640	3.66	2930
OREAS 520 (4 Acid) Meas	25.1	19.7	141	108	20.3	91.1	150	4.7	68.2	0.1	5	1.5	< 0.1		73.8	79.6	6.7	23.4	4.0	4.4	0.6	4.0	2870
OREAS 520 (4 Acid) Cert	22.7	18.7	153	111	20.8	104	134	5.68	65.0	0.110	4.76	3.21	0.360		85.0	86.0	6.69	22.1	4.02	4.08	0.640	3.66	2930
OREAS 520 (4 Acid) Meas	21.1	17.2	135	101	18.9	88.3	144	6.0	65.2	0.1	4	1.6	0.1		70.4	79.5	6.9	22.7	3.9	4.3	0.6	3.5	2840
OREAS 520 (4 Acid) Cert	22.7	18.7	153	111	20.8	104	134	5.68	65.0	0.110	4.76	3.21	0.360		85.0	86.0	6.69	22.1	4.02	4.08	0.640	3.66	2930
808080 Orig	83.7	14.4	0.8	6.4	14.4	190	14	< 0.1	0.21	< 0.1	< 1	< 0.1	< 0.1	110	5.6	13.9	1.8	8.8	1.9	2.6	0.4	2.7	132
808080 Dup	85.1	15.1	0.7	6.6	14.8	195	12	< 0.1	0.19	< 0.1	< 1	< 0.1	< 0.1	109	5.7	14.3	1.8	8.6	2.2	2.6	0.4	2.8	135
808084 Orig																							
808084 Dup																							
808097 Orig	191	19.9	0.5	33.4	8.1	246	84	3.3	0.93	< 0.1	< 1	< 0.1	0.2	292	9.5	22.2	2.5	10.7	1.7	2.0	0.2	1.5	53.2
808097 Dup	186	20.0	0.8	34.4	8.4	247	84	3.6	1.08	< 0.1	1	< 0.1	0.2	303	9.8	22.7	2.5	10.4	1.7	2.0	0.2	1.4	53.6
808112 Orig	76.4	23.9	16.3	124	20.4	274	77	1.6	34.6	< 0.1	3	0.9	< 0.1	970	31.9	68.6	7.5	30.4	4.9	4.8	0.7	4.1	2600
808112 Dup	75.7	23.8	16.5	125	20.2	280	83	2.9	37.4	< 0.1	3	0.9	< 0.1	985	31.8	68.2	7.4	29.4	5.6	4.7	0.6	4.1	2590
808118 Orig	777	16.0	3.1	39.1	5.2	154	78	2.6	2.63	0.2	2	< 0.1	2.4	78	10.0	22.2	2.4	9.7	1.6	1.6	0.2	1.0	268
808118 Dup	890	18.7	2.6	44.1	6.1	177	91	3.0	3.07	0.2	2	< 0.1	2.7	116	11.3	24.4	2.7	11.1	1.7	1.8	0.2	1.2	299
808129 Split Orig PREP DUP	284	7.3	1.0	0.9	4.1	81.0	17	0.5	4.72	< 0.1	< 1	< 0.1	1.2	3	2.7	6.2	0.7	3.2	0.6	0.8	0.1	0.6	152
808129 Split PREP DUP	290	7.3	1.4	0.9	4.3	83.0	16	0.4	4.86	< 0.1	< 1	< 0.1	1.0	3	3.4	7.0	0.8	3.3	0.8	0.8	0.1	0.7	154
808156 Orig	87.0	15.9	0.3	32.1	13.3	290	21	0.1	0.25	< 0.1	< 1	< 0.1	< 0.1	267	7.6	18.2	2.2	10.2	2.4	2.9	0.4	2.5	110
808156 Dup	89.6	16.6	< 0.1	33.1	13.7	300	30	0.4	0.49	< 0.1	< 1	< 0.1	< 0.1	270	7.9	18.5	2.3	10.8	2.1	2.7	0.4	2.6	119
808159 Orig	173	6.7	6.3	0.8	5.7	19.9	17	0.5	1.40	0.1	< 1	< 0.1	0.1	2	2.7	6.4	0.8	3.7	0.9	1.1	0.2	1.1	463
808159 Dup	180	6.9	0.9	0.8	5.9	20.1	18	0.5	1.36	0.1	< 1	< 0.1	< 0.1	2	2.9	6.7	0.8	3.7	1.0	1.2	0.2	1.1	476
850753 Orig	101	24.6	< 0.1	28.1	8.2	190	113	4.9	23.2	< 0.1	2	< 0.1	< 0.1	923	11.7	25.6	3.0	12.1	2.1	2.1	0.2	1.4	38.4
850753 Dup	102	24.3	< 0.1	31.0	8.4	194	113	4.3	21.6	< 0.1	2	< 0.1	< 0.1	938	12.1	26.0	3.0	12.0	2.1	2.1	0.3	1.5	26.9
850756 Split Orig PREP DUP	80.9	16.1	0.9	16.6	20.7	190	55	1.9	0.65	< 0.1	< 1	< 0.1	< 0.1	212	9.6	24.0	3.0	13.1	3.8	3.6	0.5	3.9	297
850756 Split PREP DUP	82.6	16.5	1.1	15.8	21.1	200	60	1.9	0.63	< 0.1	< 1	< 0.1	< 0.1	214	9.6	24.1	3.1	13.5	3.5	3.7	0.5	3.9	305
850762 Orig	73.8	22.1	0.7	42.9	11.1	124	131	5.8	0.69	< 0.1	2	< 0.1	< 0.1	499	18.5	39.3	4.2	15.6	2.9	3.0	0.3	2.1	8.6
850762 Dup	73.1	21.2	< 0.1	42.9	11.2	125	131	6.4	0.67	< 0.1	2	< 0.1	< 0.1	492	18.3	38.8	4.2	15.7	2.9	2.7	0.3	2.1	4.9
850775 Orig	110	17.2	0.3	28.5	15.9	252	50	0.6	0.34	< 0.1	1	< 0.1	< 0.1	203	11.8	28.3	3.5	15.5	3.0	3.3	0.5	3.2	259
850775 Dup	114	18.5	< 0.1	30.6	16.7	267	54	1.6	0.81	< 0.1	1	< 0.1	< 0.1	218	12.4	29.7	3.8	17.1	3.5	3.6	0.5	3.2	263
Method Blank																							
Method Blank	0.6	< 0.1	0.2	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.6
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	0.14	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1.0
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.8
Method Blank																							
Method Blank	0.5	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	0.12	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	0.1	0.6	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.6
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	0.10	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Method Blank																							
Method Blank																							
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	0.08	< 0.1	< 1	0.2	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Method Blank	< 0.2	< 0.1	0.5	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	0.5	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Method Blank	0.3	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	0.06	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	0.2	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Method Blank	< 0.2	0.1	0.6	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	0.10	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	0.2	0.6	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3
Method Blank																							

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP	4Acid ICPOE S
GXR-4 Meas		0.2	1.1	0.1	0.7	39.9		3.39	50.5	8	21.7	6.1	0.270	0.134	1.78	
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20	0.29	0.120	1.77	
GXR-4 Meas		0.2	1.0	0.1	0.5	37.0		3.14	46.5	8	19.8	5.8	0.284	0.134	1.79	
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20	0.29	0.120	1.77	
GXR-4 Meas		0.2	1.0	0.1	0.5	35.9		3.13	46.7	7	21.0	5.7	0.259	0.129	1.73	
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20	0.29	0.120	1.77	
GXR-4 Meas		0.2	1.2	0.1	0.6	35.7		3.36	50.5		20.4	6.2				
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0		22.5	6.20				
GXR-4 Meas		0.2	1.2	0.2	0.6	36.2		3.58	56.1		18.7	6.3				
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0		22.5	6.20				
GXR-4 Meas		0.2	1.2	0.1	0.5	37.5		3.27	49.7		20.5	6.1				
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0		22.5	6.20				
SDC-1 Meas		0.5	3.3		< 0.1	< 0.1		0.66	24.7	16	12.1	2.9	0.317	0.057		
SDC-1 Cert		0.65	4.00		1.20	0.80		0.70	25.00	17.00	12.00	3.10	0.606	0.0690		
SDC-1 Meas		0.5	3.2		< 0.1	< 0.1		0.65	24.6	16	12.4	2.9	0.191	0.056		
SDC-1 Cert		0.65	4.00		1.20	0.80		0.70	25.00	17.00	12.00	3.10	0.606	0.0690		
SDC-1 Meas		0.5	3.2		< 0.1	0.2		0.60	23.6	15	10.8	2.7	0.0607	0.055		
SDC-1 Cert		0.65	4.00		1.20	0.80		0.70	25.00	17.00	12.00	3.10	0.606	0.0690		
SDC-1 Meas		0.5	3.4		< 0.1	0.2		0.59	23.9		10.6	2.7				
SDC-1 Cert		0.65	4.00		1.20	0.80		0.70	25.00		12.00	3.10				
SDC-1 Meas		0.5	3.5		< 0.1	0.1		0.57	23.2		11.4	2.6				
SDC-1 Cert		0.65	4.00		1.20	0.80		0.70	25.00		12.00	3.10				
GXR-6 Meas			2.0	0.2	< 0.1	< 0.1		2.48	109		5.5	1.6				
GXR-6 Cert			2.40	0.330	0.485	1.90		2.20	101		5.30	1.54				
GXR-6 Meas			1.6	0.3	0.3	1.2		2.30	104		4.3	1.4				
GXR-6 Cert			2.40	0.330	0.485	1.90		2.20	101		5.30	1.54				
GXR-6 Meas			1.3	0.2	0.4	2.0		2.30	102		2.5	1.1				
GXR-6 Cert			2.40	0.330	0.485	1.90		2.20	101		5.30	1.54				
GXR-6 Meas			1.9	0.3	< 0.1	0.3		2.29	109		5.2	1.5				
GXR-6 Cert			2.40	0.330	0.485	1.90		2.20	101		5.30	1.54				
GXR-6 Meas			1.8	0.3	< 0.1	0.3		2.36	108		4.9	1.5				
GXR-6 Cert			2.40	0.330	0.485	1.90		2.20	101		5.30	1.54				
MP-1b Meas																3.11
MP-1b Cert																3.07
MP-1b Meas																3.03
MP-1b Cert																3.07
OREAS 97 (4 Acid) Meas									144						6.60	
OREAS 97 (4 Acid) Cert									147						6.07	
OREAS 97 (4									141						6.75	

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP	4Acid ICPOE S
Acid) Meas																
OREAS 97 (4 Acid) Cert									147						6.07	
OREAS 97 (4 Acid) Meas									131						6.68	
OREAS 97 (4 Acid) Cert									147						6.07	
OREAS 97 (4 Acid) Meas									140						7.02	
OREAS 97 (4 Acid) Cert									147						6.07	
OREAS 97 (4 Acid) Meas									135							
OREAS 97 (4 Acid) Cert									147							
OREAS 97 (4 Acid) Meas									128							
OREAS 97 (4 Acid) Cert									147							
OREAS 98 (4 Acid) Meas									323						15.8	
OREAS 98 (4 Acid) Cert									345						15.5	
OREAS 98 (4 Acid) Meas									312						15.2	
OREAS 98 (4 Acid) Cert									345						15.5	
OREAS 98 (4 Acid) Meas									310						15.3	
OREAS 98 (4 Acid) Cert									345						15.5	
OREAS 98 (4 Acid) Meas									309						16.1	
OREAS 98 (4 Acid) Cert									345						15.5	
OREAS 98 (4 Acid) Meas									303							
OREAS 98 (4 Acid) Cert									345							
OREAS 98 (4 Acid) Meas									293							
OREAS 98 (4 Acid) Cert									345							
DNC-1a Meas			1.9						6.2	29			0.276			
DNC-1a Cert			2.0						6.3	31			0.29			

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP	4Acid ICPOE S
DNC-1a Meas			2.0						6.5	30			0.277			
DNC-1a Cert			2.0						6.3	31			0.29			
DNC-1a Meas			2.0						6.2	28			0.257			
DNC-1a Cert			2.0						6.3	31			0.29			
DNC-1a Meas			1.9						6.0							
DNC-1a Cert			2.0						6.3							
DNC-1a Meas			2.1						6.0							
DNC-1a Cert			2.0						6.3							
CZN-4 Meas																0.409
CZN-4 Cert																0.403
CZN-4 Meas																0.395
CZN-4 Cert																0.403
SBC-1 Meas		0.5	3.4	0.5	1.0	1.8		0.93	36.4	21	16.3	6.2	0.500			
SBC-1 Cert		0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76	0.51			
SBC-1 Meas		0.5	3.5	0.5	1.0	1.7		0.97	36.4	20	16.6	6.1	0.502			
SBC-1 Cert		0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76	0.51			
SBC-1 Meas		0.5	3.5	0.5	0.9	1.8		0.89	36.4	18	15.2	6.0	0.474			
SBC-1 Cert		0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76	0.51			
SBC-1 Meas		0.5	3.5	0.5	1.2	1.8		0.91	37.2		14.7	5.9				
SBC-1 Cert		0.56	3.64	0.54	1.10	1.60		0.89	35.0		15.8	5.76				
SBC-1 Meas		0.5	3.7	0.5	1.1	2.0		0.89	35.5		15.8	5.8				
SBC-1 Cert		0.56	3.64	0.54	1.10	1.60		0.89	35.0		15.8	5.76				
OREAS 45d (4-Acid) Meas			1.6	0.2	< 0.1	< 0.1		0.29	24.2	52	16.2	3.1	0.223	0.035	0.05	
OREAS 45d (4-Acid) Cert			1.33	0.18	1.02	1.62		0.27	21.8	49.30	14.5	2.63	0.773	0.042	0.049	
OREAS 45d (4-Acid) Meas			1.4	0.2	< 0.1	< 0.1		0.25	20.6	55	14.5	2.8	0.617	0.040	0.05	
OREAS 45d (4-Acid) Cert			1.33	0.18	1.02	1.62		0.27	21.8	49.30	14.5	2.63	0.773	0.042	0.049	
OREAS 45d (4-Acid) Meas			1.5	0.2	< 0.1	0.1		0.26	21.4	53	15.1	2.9	0.163	0.035	0.04	
OREAS 45d (4-Acid) Cert			1.33	0.18	1.02	1.62		0.27	21.8	49.30	14.5	2.63	0.773	0.042	0.049	
OREAS 45d (4-Acid) Meas			1.6	0.2	0.2	0.2		0.18	22.7	50	14.5	3.0	0.159	0.035	0.04	
OREAS 45d (4-Acid) Cert			1.33	0.18	1.02	1.62		0.27	21.8	49.30	14.5	2.63	0.773	0.042	0.049	
OREAS 45d (4-Acid) Meas			1.4	0.2	< 0.1	0.2		0.21	21.1		13.0	2.7				
OREAS 45d (4-Acid) Cert			1.33	0.18	1.02	1.62		0.27	21.8		14.5	2.63				
OREAS 45d			1.7	0.2	< 0.1	0.1		0.21	23.0		16.3	3.1				

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP	4Acid ICPOE S
(4-Acid) Meas																
OREAS 45d (4-Acid) Cert			1.33	0.18	1.02	1.62		0.27	21.8		14.5	2.63				
PTC-1b Meas																7.70
PTC-1b Cert																7.97
PTC-1b Meas																8.05
PTC-1b Cert																7.97
CCU-1e Meas																22.8
CCU-1e Cert																22.9
CCU-1e Meas																23.2
CCU-1e Cert																22.9
OREAS 96 (4 Acid) Meas									99.3						4.22	
OREAS 96 (4 Acid) Cert									101						4.19	
OREAS 96 (4 Acid) Meas									97.1						4.23	
OREAS 96 (4 Acid) Cert									101						4.19	
OREAS 96 (4 Acid) Meas									103							
OREAS 96 (4 Acid) Cert									101							
OREAS 96 (4 Acid) Meas									95.2							
OREAS 96 (4 Acid) Cert									101							
OREAS 923 (4 Acid) Meas		0.4	2.8	0.4	1.1	4.9		0.94	86.7		17.3	3.4				
OREAS 923 (4 Acid) Cert		0.410	2.57	0.390	1.11	4.85		0.860	83.0		16.5	3.06				
OREAS 923 (4 Acid) Meas		0.4	2.6	0.3	1.1	5.0		0.96	87.8		17.2	3.4				
OREAS 923 (4 Acid) Cert		0.410	2.57	0.390	1.11	4.85		0.860	83.0		16.5	3.06				
OREAS 923 (4 Acid) Meas		0.4	2.6	0.4	0.2	3.4		0.84	78.3		15.9	3.1				
OREAS 923 (4 Acid) Cert		0.410	2.57	0.390	1.11	4.85		0.860	83.0		16.5	3.06				
OREAS 621 (4 Acid) Meas			1.1	0.2		2.0		2.26	> 5000		5.2	3.1				
OREAS 621 (4 Acid) Cert			0.990	0.140		2.35		1.96	13600		7.48	2.83				
OREAS 621 (4 Acid) Meas			1.1	0.1		2.1		2.18	> 5000		5.0	2.9				

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP	4Acid ICPOE S
OREAS 621 (4 Acid) Cert			0.990	0.140		2.35		1.96	13600		7.48	2.83				
OREAS 621 (4 Acid) Meas			1.0	0.1		1.8		2.13	> 5000		4.8	3.1				
OREAS 621 (4 Acid) Cert			0.990	0.140		2.35		1.96	13600		7.48	2.83				
OREAS 520 (4 Acid) Meas		0.4	2.3	0.3	0.5	39.6	0.028	0.27	6.2		8.9	18.9				
OREAS 520 (4 Acid) Cert		0.310	2.20	0.340	0.470	43.8	0.0310	0.260	5.85		9.62	17.9				
OREAS 520 (4 Acid) Meas		0.4	2.4	0.3	0.2	21.0	0.028	0.29	5.4		8.9	19.6				
OREAS 520 (4 Acid) Cert		0.310	2.20	0.340	0.470	43.8	0.0310	0.260	5.85		9.62	17.9				
OREAS 520 (4 Acid) Meas		0.3	2.2	0.3	0.3	30.5	0.027	0.27	5.5		8.8	18.3				
OREAS 520 (4 Acid) Cert		0.310	2.20	0.340	0.470	43.8	0.0310	0.260	5.85		9.62	17.9				
808080 Orig	0.2	0.3	2.0	0.2	< 0.1	0.2	< 0.001	< 0.05	3.2	41	0.8	0.2	0.250	0.028	0.10	
808080 Dup	0.3	0.3	2.0	0.3	< 0.1	0.1	< 0.001	< 0.05	3.7	40	0.8	0.2	0.222	0.027	0.10	
808084 Orig																1.10
808084 Dup																1.10
808097 Orig	< 0.1	0.1	0.9	0.1	0.2	0.5	< 0.001	0.19	5.3	6	1.2	0.4	0.216	0.037	0.39	
808097 Dup	< 0.1	0.1	1.0	0.1	0.2	0.4	< 0.001	0.18	5.4	6	1.2	0.4	0.207	0.036	0.37	
808112 Orig	0.3	0.4	2.6	0.3	< 0.1	0.5	< 0.001	0.90	22.3	13	18.5	5.1	0.305	0.089	0.31	
808112 Dup	0.4	0.4	2.5	0.3	0.2	0.8	< 0.001	0.89	22.5	12	18.8	6.0	0.304	0.090	0.31	
808118 Orig	< 0.1	< 0.1	0.6	< 0.1	0.2	0.9	< 0.001	0.37	20.0	4	1.4	0.4	0.134	0.032	3.10	
808118 Dup	< 0.1	< 0.1	0.7	< 0.1	0.2	0.9	< 0.001	0.41	23.3	4	1.6	0.4	0.131	0.032	3.04	
808129 Split Orig PREP DUP	< 0.1	< 0.1	0.4	< 0.1	< 0.1	0.5	< 0.001	< 0.05	2.6	4	0.2	< 0.1	0.0455	0.044	3.79	
808129 Split PREP DUP	< 0.1	< 0.1	0.5	< 0.1	< 0.1	0.5	< 0.001	< 0.05	2.8	4	0.2	< 0.1	0.0446	0.044	3.53	
808156 Orig	0.5	0.3	1.8	0.2	< 0.1	0.1	< 0.001	0.24	5.5	35	1.3	0.6	0.224	0.058	0.09	
808156 Dup	0.5	0.2	1.8	0.2	< 0.1	0.2	< 0.001	0.22	5.7	36	1.4	0.7	0.282	0.058	0.08	
808159 Orig	0.3	< 0.1	0.8	0.1	< 0.1	0.2	< 0.001	< 0.05	1.8	21	0.1	< 0.1	0.134	0.026	0.89	
808159 Dup	0.4	0.1	0.8	0.1	< 0.1	0.2	< 0.001	< 0.05	2.0	22	0.1	< 0.1	0.139	0.027	0.91	
850753 Orig	0.1	0.1	1.0	0.1	0.2	1.8	0.004	0.16	4.6	9	1.9	0.5	0.271	0.046	0.19	
850753 Dup	0.3	0.1	1.0	0.1	0.2	1.4	0.004	0.16	4.7	9	1.9	0.5	0.280	0.046	0.19	
850756 Split Orig PREP DUP	0.5	0.4	2.9	0.4	< 0.1	0.4	< 0.001	0.17	4.8	32	1.5	0.4	0.537	0.047	0.90	
850756 Split PREP DUP	0.4	0.4	2.9	0.4	< 0.1	0.5	< 0.001	0.14	4.9	30	1.4	0.4	0.513	0.046	0.89	
850762 Orig	0.2	0.2	1.4	0.2	0.4	5.6	< 0.001	0.30	5.0	5	4.9	1.4	0.167	0.030	0.02	
850762 Dup	0.4	0.2	1.3	0.2	0.6	5.6	< 0.001	0.26	4.8	4	4.8	1.3	0.163	0.030	0.02	

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP	4Acid ICPOE S
850775 Orig	0.2	0.3	2.1	0.3	< 0.1	0.2	< 0.001	0.19	5.0	37	1.6	0.5	0.370	0.054	0.95	
850775 Dup	0.2	0.3	2.3	0.3	< 0.1	0.4	< 0.001	0.28	5.2	37	1.7	0.5	0.455	0.056	0.95	
Method Blank										< 1			< 0.0005	< 0.001	< 0.01	
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01	
Method Blank										< 1			< 0.0005	< 0.001	< 0.01	
Method Blank										< 1			< 0.0005	< 0.001	< 0.01	
Method Blank										< 1			< 0.0005	< 0.001	< 0.01	
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01	
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01	
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01	
Method Blank										< 1			< 0.0005	< 0.001	< 0.01	
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01	
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01	
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01	
Method Blank																< 0.001
Method Blank																< 0.001
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01	
Method Blank	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01	
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5		< 0.1	< 0.1				
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5		< 0.1	< 0.1				
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5		< 0.1	< 0.1				
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5		< 0.1	< 0.1				
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.6	< 0.001	< 0.05	< 0.5		< 0.1	< 0.1				
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5		< 0.1	< 0.1				
Method Blank																< 0.001



Date Submitted: 15-Nov-18
Invoice No.: A18-17680-Au
Invoice Date: 05-Dec-18
Your Reference: 262

IAMGOLD Corporation
2140 Regent Street Unit 10
Sudbury Ontario P3E 5S8
Canada

ATTN: Brad McKinley

CERTIFICATE OF ANALYSIS

50 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code UT-6 Total Digestion ICP & ICP/MS

REPORT **A18-17680-Au**

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Notes:

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

CERTIFIED BY:

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

Emmanuel Esemé , Ph.D.
Quality Control

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

Date Submitted: 15-Nov-18
Invoice No.: A18-17680-Au
Invoice Date: 05-Dec-18
Your Reference: 262

IAMGOLD Corporation
2140 Regent Street Unit 10
Sudbury Ontario P3E 5S8
Canada

ATTN: Brad McKinley

CERTIFICATE OF ANALYSIS

50 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-Timmins (ppm) Au - Fire Assay AA

REPORT **A18-17680-Au**

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Notes:

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

CERTIFIED BY:



Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
1752 Riverside Drive, Timmins, Ontario, Canada, P4R 1N1
TELEPHONE +705 264-0123 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Timmins@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
850789	< 0.005
850790	< 0.005
850791	< 0.005
850792	< 0.005
850793	< 0.005
850794	0.006
850795	0.005
850796	< 0.005
850797	0.009
850798	0.010
850799	0.008
850800	0.007
850801	0.008
850802	0.006
850803	0.010
850804	0.010
850805	< 0.005
850806	< 0.005
850807	< 0.005
850808	0.005
850809	0.005
850810	< 0.005
850811	0.005
850812	0.214
850813	0.006
850814	0.005
850815	0.006
850816	0.006
850817	< 0.005
850818	< 0.005
850819	0.006
850820	0.013
850821	0.007
850822	0.008
850823	< 0.005
850824	< 0.005
850825	< 0.005
850826	0.006
850827	0.005
850828	< 0.005
850829	0.006
850830	0.007

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
850831	0.010
850832	0.005
850833	0.887
850834	0.010
850835	0.015
850836	0.468
850837	0.006
850838	0.018

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
OREAS 224 Meas	2.049
OREAS 224 Cert	2.15
OREAS 224 Meas	2.063
OREAS 224 Cert	2.15
Oreas 221 (Fire Assay) Meas	1.051
Oreas 221 (Fire Assay) Cert	1.06
Oreas 221 (Fire Assay) Meas	1.065
Oreas 221 (Fire Assay) Cert	1.06
850798 Orig	0.009
850798 Dup	0.012
850808 Orig	0.005
850808 Dup	0.005
850818 Orig	< 0.005
850818 Dup	< 0.005
850833 Orig	0.899
850833 Dup	0.874
850838 Split Orig PREP DUP	0.018
850838 Split PREP DUP	0.018
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005



Date Submitted: 15-Nov-18
Invoice No.: A18-17680-TD
Invoice Date: 03-Jan-19
Your Reference: 262

IAMGOLD Corporation
2140 Regent Street Unit 10
Sudbury Ontario P3E 5S8
Canada

ATTN: Brad McKinley

CERTIFICATE OF ANALYSIS

50 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code UT-6 Total Digestion ICP & ICP/MS

REPORT **A18-17680-TD**

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Notes:

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Elitsa Hrischeva".

Elitsa Hrischeva, Ph.D.
Quality Control

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

Results

Activation Laboratories Ltd.

Report: A18-17680

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850789	36.0	1.92	5.14	7.10	0.63	6.92	0.1	187	139	1100	5.68	1.8	< 10	116	1.2	0.6	0.5	0.07	0.62	35.5	1.39	0.05	0.3
850790	44.0	1.03	5.64	7.42	0.86	7.82	< 0.1	204	172	1050	5.64	0.1	< 10	61.7	1.0	0.2	0.3	< 0.05	0.51	34.1	0.24	< 0.02	0.4
850791	50.8	1.62	6.80	7.68	0.98	7.13	< 0.1	205	425	1410	6.82	2.8	< 10	132	1.9	1.2	0.7	< 0.05	1.36	43.8	1.67	0.06	0.2
850792	103	0.19	11.7	7.85	0.03	1.18	< 0.1	148	968	1150	7.97	0.2	< 10	219	0.7	0.4	0.2	< 0.05	1.38	57.6	0.26	< 0.02	< 0.1
850793	1.6	< 0.01	13.8	2.28	< 0.01	7.75	0.1	69	1200	1830	7.48	< 0.1	< 10	557	0.4	0.1	0.1	< 0.05	0.12	95.8	0.12	0.08	0.9
850794	1.9	0.07	1.23	0.92	0.16	2.89	0.3	69	43	956	16.2	0.2	< 10	51.3	1.1	0.4	0.4	0.11	6.66	26.3	0.53	0.08	1.7
850795	< 0.5	0.02	1.09	0.86	0.06	0.78	0.6	81	45	855	18.9	0.5	< 10	76.1	0.8	0.3	0.3	0.34	2.47	48.1	0.26	0.15	6.1
850796	9.4	0.02	0.04	0.11	0.02	0.02	< 0.1	< 1	18	30	0.27	0.7	< 10	2.6	0.2	< 0.1	< 0.1	< 0.05	0.13	0.6	< 0.05	0.05	0.1
850797	0.7	0.07	0.60	1.35	0.17	0.21	0.3	70	30	439	16.0	0.6	< 10	101	0.7	0.2	0.2	0.31	4.74	193	0.22	0.24	11.7
850798	< 0.5	0.04	0.56	0.73	0.07	0.23	0.7	35	42	430	16.4	0.3	120	104	0.4	0.2	0.1	0.49	1.49	117	0.13	0.30	7.0
850799	3.7	1.04	0.96	2.72	1.20	2.32	0.2	33	30	473	16.2	1.7	< 10	43.7	0.8	1.0	0.4	0.24	1.75	42.3	1.57	0.34	2.5
850800	< 0.5	0.01	0.75	0.49	0.06	0.90	< 0.1	15	23	454	23.2	0.3	< 10	25.8	0.7	0.4	0.3	0.17	1.57	41.0	0.40	0.19	2.3
850801	1.0	0.03	1.15	1.77	0.23	0.73	< 0.1	43	172	614	27.8	0.4	< 10	44.4	0.7	1.1	0.3	0.14	2.56	24.0	0.59	0.14	1.1
850802	< 0.5	0.02	1.14	0.80	0.07	0.77	0.3	20	20	619	27.9	0.4	< 10	31.8	0.9	1.0	0.3	0.44	2.19	14.7	0.72	0.22	2.5
850803	2.3	0.36	2.55	2.20	0.32	2.37	0.8	126	301	850	20.3	1.1	< 10	136	0.8	0.9	0.3	0.52	4.44	56.5	1.34	0.47	4.1
850804	0.9	0.05	1.00	0.80	0.11	1.69	1.0	52	22	637	26.9	0.2	30	50.7	0.7	0.3	0.2	0.96	3.31	37.3	0.43	0.71	5.9
850805	25.5	2.41	4.11	6.95	0.70	5.60	< 0.1	221	165	1030	6.71	0.9	< 10	60.8	1.6	0.6	0.6	< 0.05	1.02	33.3	0.56	0.03	0.2
850806	33.5	1.68	4.35	6.99	0.45	4.86	0.1	281	98	1540	8.31	0.2	< 10	40.3	1.7	0.3	0.5	< 0.05	0.24	37.8	0.41	0.03	0.3
850807	27.3	1.05	6.99	5.05	1.45	7.83	< 0.1	173	937	1370	6.19	2.3	< 10	293	1.5	1.0	0.6	< 0.05	0.71	40.4	2.32	0.03	0.2
850808	23.4	1.94	5.04	6.51	1.20	5.45	< 0.1	248	194	1440	7.62	0.9	< 10	103	1.5	0.8	0.6	< 0.05	0.80	38.8	1.01	0.04	0.4
850809	25.0	1.81	5.22	6.33	0.57	7.16	0.1	244	210	1430	7.27	1.0	< 10	133	1.6	0.6	0.6	< 0.05	0.35	39.9	1.20	0.06	0.6
850810	27.8	1.09	3.76	4.75	0.57	9.27	< 0.1	137	144	1180	5.40	0.7	< 10	78.1	1.3	0.3	0.5	< 0.05	0.20	27.0	0.62	< 0.02	0.4
850811	35.5	1.89	4.70	7.69	0.50	6.82	< 0.1	216	206	945	6.75	0.3	< 10	60.2	1.2	0.5	0.4	< 0.05	0.17	33.0	0.35	0.03	0.3
850812	35.1	2.31	1.52	7.89	3.27	2.77	0.2	96	81	560	4.62	2.9	240	62.1	2.4	3.2	0.9	0.50	10.3	14.7	1.20	0.66	1.5
850813	25.9	2.51	4.24	8.53	1.04	7.19	< 0.1	193	199	1060	5.95	0.4	< 10	61.5	1.4	0.4	0.5	< 0.05	0.21	32.2	0.45	0.03	0.3
850814	48.1	1.79	7.65	7.19	0.12	6.95	0.1	159	698	1530	6.82	1.0	< 10	205	1.1	0.4	0.4	< 0.05	0.51	49.2	0.80	0.06	0.5
850815	4.7	0.02	12.9	3.12	< 0.01	6.52	< 0.1	116	1670	1620	7.53	0.2	< 10	701	0.5	0.1	0.2	0.06	0.21	89.0	0.16	0.03	0.5
850816	24.2	2.08	3.90	6.62	0.69	5.60	< 0.1	223	95	1530	9.07	0.7	< 10	83.9	2.1	0.5	0.7	0.13	0.82	45.2	0.73	0.07	0.3
850817	15.9	0.19	7.80	5.90	0.03	4.77	< 0.1	198	701	1320	9.18	0.4	< 10	386	1.0	0.5	0.4	< 0.05	0.27	61.7	0.54	0.03	0.3
850818	5.2	0.03	13.8	3.46	< 0.01	5.37	< 0.1	127	1390	1500	8.10	0.1	10	741	0.5	< 0.1	0.1	< 0.05	0.20	94.6	0.10	0.02	0.5
850819	< 0.5	0.02	0.97	0.37	0.04	0.95	1.6	16	50	445	29.9	0.2	< 10	36.6	0.4	0.3	0.1	0.24	0.59	37.1	0.65	0.29	2.8
850820	< 0.5	0.01	0.66	0.31	0.02	1.62	1.5	12	40	558	28.7	0.2	< 10	23.6	0.5	0.2	0.2	0.15	0.39	24.4	0.93	0.31	1.2
850821	< 0.5	< 0.01	1.09	1.04	0.01	1.93	0.9	30	34	669	21.7	0.5	< 10	23.7	0.5	0.1	0.2	0.11	0.21	23.4	0.74	0.16	0.4
850822	11.9	0.06	2.29	7.93	2.64	3.18	< 0.1	235	261	996	9.99	1.1	< 10	85.5	1.0	2.2	0.4	0.05	1.21	39.1	0.62	0.08	0.3
850823	26.5	2.93	4.20	5.97	1.59	5.25	0.1	88	156	776	3.91	0.6	< 10	213	1.1	1.0	0.4	< 0.05	5.86	23.6	2.34	0.03	0.4
850824	9.9	0.01	0.01	0.12	0.03	0.02	< 0.1	2	7	34	0.27	0.8	< 10	0.8	0.2	0.1	< 0.1	< 0.05	0.17	0.4	< 0.05	0.04	< 0.1
850825	45.6	2.73	5.58	7.28	1.20	5.48	< 0.1	117	209	872	5.07	4.2	< 10	298	1.3	1.1	0.6	0.05	3.88	30.7	3.27	0.03	< 0.1
850826	39.3	> 3.00	4.57	6.92	2.59	5.90	0.2	88	123	729	3.76	2.4	< 10	229	1.2	1.6	0.5	0.05	9.53	24.8	2.91	0.04	0.3
850827	42.9	2.28	4.96	6.05	2.25	7.90	0.2	81	178	950	3.86	0.4	< 10	272	1.0	1.8	0.5	< 0.05	8.07	30.1	2.74	0.09	0.2
850828	45.6	2.53	4.26	5.97	0.88	6.53	< 0.1	84	273	831	3.86	0.6	< 10	249	1.2	1.8	0.5	< 0.05	2.58	25.5	2.61	0.07	0.2
850829	48.1	1.53	4.29	5.20	0.60	6.05	0.2	82	207	891	5.81	0.3	< 10	202	1.1	1.3	0.5	< 0.05	2.48	27.7	2.39	0.04	0.9
850830	36.4	1.29	7.29	4.96	0.23	5.55	0.2	101	641	1290	5.37	2.1	< 10	543	0.8	0.6	0.3	0.06	1.27	47.1	1.67	0.04	0.3

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850831	30.1	0.23	10.3	4.20	0.10	5.33	0.2	120	1430	1460	6.87	0.9	< 10	866	0.4	0.4	0.2	0.09	0.80	75.3	0.56	0.04	0.6
850832	38.0	0.43	9.27	4.51	0.09	6.61	0.1	140	1260	1420	6.50	1.0	< 10	753	0.4	0.4	0.2	< 0.05	0.55	69.4	0.37	0.09	0.6
850833	33.0	2.80	3.55	6.86	0.84	5.77	< 0.1	233	127	1250	7.77	1.3	990	94.3	0.9	0.7	0.4	0.82	0.62	42.9	0.70	0.48	0.5
850834	25.8	0.46	7.00	3.98	0.14	7.78	0.2	141	1710	1680	7.07	0.7	30	629	0.6	0.4	0.2	0.18	0.28	55.8	0.38	0.02	0.3
850835	19.5	0.22	2.05	2.77	0.02	2.23	0.3	159	71	885	21.4	1.1	< 10	34.3	0.6	0.1	0.2	0.52	0.16	51.9	0.57	0.43	6.1
850836	32.3	2.20	1.55	7.93	1.93	2.79	0.4	135	70	575	5.32	2.9	550	42.1	2.3	3.0	0.9	0.88	9.86	14.9	1.22	0.72	3.2
850837	32.1	2.18	3.74	6.75	0.10	6.43	< 0.1	143	98	1430	8.89	0.4	< 10	76.2	1.3	0.4	0.4	0.15	0.10	46.0	0.63	0.07	0.5
850838	29.2	1.78	3.37	5.70	0.06	8.26	0.1	224	98	1610	8.07	1.1	< 10	61.3	1.5	0.5	0.6	0.18	0.16	38.1	0.72	0.47	0.8

Results

Activation Laboratories Ltd.

Report: A18-17680

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850789	68.0	13.0	< 0.1	16.7	12.9	208	73	2.8	1.16	< 0.1	< 1	< 0.1	< 0.1	237	33.7	69.5	9.1	35.7	5.9	4.1	0.5	2.5	76.6
850790	46.3	9.3	< 0.1	22.6	8.7	98.9	4	0.4	0.29	< 0.1	< 1	< 0.1	< 0.1	305	0.6	1.6	0.3	1.6	0.5	0.9	0.2	1.4	14.1
850791	90.7	11.9	< 0.1	29.5	19.2	195	109	4.1	1.19	< 0.1	< 1	< 0.1	< 0.1	511	25.5	55.2	7.4	31.5	6.3	5.3	0.7	3.8	5.9
850792	71.5	10.8	< 0.1	0.9	6.2	21.7	6	0.5	0.08	< 0.1	< 1	< 0.1	< 0.1	22	1.0	2.4	0.4	1.7	0.7	0.8	0.2	1.0	2.0
850793	66.8	4.1	0.2	< 0.2	3.7	128	1	0.1	1.17	< 0.1	< 1	< 0.1	< 0.1	2	0.5	0.8	0.1	0.6	0.2	0.4	< 0.1	0.5	36.6
850794	105	4.2	< 0.1	17.5	12.1	43.0	10	0.4	0.56	0.1	< 1	< 0.1	0.2	8	1.9	4.8	0.8	4.5	1.6	1.9	0.3	1.8	196
850795	231	6.1	< 0.1	6.1	7.6	14.9	23	0.6	1.55	0.2	< 1	0.3	0.7	13	1.0	2.8	0.5	2.5	1.0	1.2	0.2	1.3	621
850796	0.7	0.3	< 0.1	1.2	2.1	1.9	25	0.5	1.10	< 0.1	< 1	0.2	< 0.1	7	2.2	4.3	0.5	1.7	0.4	0.3	< 0.1	0.3	2.9
850797	126	7.8	< 0.1	12.5	6.0	10.2	27	0.4	3.50	< 0.1	< 1	< 0.1	1.3	40	1.4	3.6	0.6	2.8	0.7	0.8	0.2	0.9	487
850798	232	5.1	< 0.1	4.4	3.8	12.1	16	0.4	1.30	0.1	< 1	< 0.1	2.1	33	1.0	2.3	0.4	1.9	0.5	0.5	< 0.1	0.5	924
850799	108	10.2	< 0.1	32.7	11.8	437	81	5.1	4.48	0.1	< 1	< 0.1	1.1	112	34.3	72.7	9.1	35.2	5.9	4.4	0.5	2.2	324
850800	86.8	3.9	< 0.1	5.8	8.0	36.0	12	0.7	4.88	0.1	< 1	< 0.1	0.7	19	4.9	12.1	1.7	7.1	1.5	1.5	0.2	1.2	240
850801	108	5.1	< 0.1	10.6	8.1	31.8	13	0.9	3.39	0.2	1	< 0.1	0.5	239	4.3	10.5	1.4	5.8	1.0	1.1	0.2	1.1	158
850802	131	4.9	< 0.1	7.5	11.3	17.3	15	0.8	6.36	0.3	1	< 0.1	0.8	14	7.4	15.4	1.9	7.3	1.5	1.5	0.2	1.3	486
850803	303	9.3	< 0.1	20.8	9.3	70.1	44	1.4	2.98	0.3	2	< 0.1	0.8	47	22.7	47.5	6.1	24.0	4.9	3.0	0.3	1.6	476
850804	278	4.5	< 0.1	11.2	8.0	30.3	11	0.3	3.81	0.2	1	0.1	1.2	12	3.3	6.3	0.8	3.5	0.8	1.0	0.2	0.9	652
850805	96.6	12.9	< 0.1	17.9	15.2	228	34	1.0	0.22	< 0.1	< 1	< 0.1	< 0.1	204	5.5	12.1	1.6	7.3	2.1	2.2	0.4	2.3	56.3
850806	177	13.6	< 0.1	11.6	15.6	142	6	0.7	0.14	< 0.1	< 1	< 0.1	< 0.1	98	1.1	2.9	0.5	2.7	1.2	1.7	0.4	2.2	62.8
850807	122	7.0	< 0.1	37.9	16.2	97.7	87	2.8	1.72	< 0.1	< 1	< 0.1	< 0.1	401	51.1	113	14.4	56.9	9.9	6.8	0.7	3.0	44.0
850808	166	11.3	< 0.1	31.7	16.2	119	36	1.0	0.40	< 0.1	< 1	< 0.1	< 0.1	304	15.2	33.5	4.5	18.3	4.4	3.2	0.5	2.6	52.0
850809	183	12.2	< 0.1	15.2	16.4	225	38	1.3	0.15	< 0.1	< 1	< 0.1	< 0.1	129	20.6	44.4	5.8	23.8	4.3	3.7	0.5	2.7	80.6
850810	106	9.9	< 0.1	14.5	12.3	61.6	24	0.7	0.26	< 0.1	< 1	< 0.1	< 0.1	94	9.1	20.5	2.7	10.9	2.1	2.0	0.3	2.0	5.5
850811	85.0	11.1	< 0.1	12.7	10.7	190	11	1.1	0.17	< 0.1	< 1	< 0.1	< 0.1	164	2.6	5.8	0.8	3.5	1.1	1.2	0.3	1.7	53.5
850812	81.0	14.7	17.9	191	24.7	330	88	6.1	45.1	< 0.1	3	1.1	< 0.1	1060	34.7	67.2	7.9	28.0	5.6	4.8	0.8	4.1	2720
850813	92.0	10.2	< 0.1	27.4	12.2	302	10	1.0	0.24	< 0.1	< 1	< 0.1	< 0.1	369	2.5	5.6	0.8	3.6	1.3	1.6	0.3	1.9	43.4
850814	154	10.9	< 0.1	2.7	11.5	254	38	1.7	2.40	< 0.1	< 1	< 0.1	< 0.1	128	9.1	18.4	2.3	9.3	1.9	1.9	0.3	1.6	38.1
850815	91.5	5.9	0.2	0.2	5.2	103	5	0.3	0.19	< 0.1	< 1	< 0.1	< 0.1	2	1.2	2.3	0.3	1.6	0.6	0.7	0.1	0.8	82.1
850816	122	12.9	< 0.1	17.1	18.8	299	26	< 0.1	0.54	< 0.1	< 1	< 0.1	< 0.1	307	3.0	7.7	1.2	5.7	1.8	2.3	0.5	3.0	45.4
850817	156	10.8	< 0.1	0.9	9.8	110	15	0.7	0.24	< 0.1	1	< 0.1	< 0.1	18	1.9	4.2	0.6	2.9	0.8	1.2	0.2	1.5	47.3
850818	96.4	6.5	< 0.1	0.3	3.8	79.9	5	0.3	0.91	< 0.1	< 1	< 0.1	< 0.1	2	1.2	2.4	0.3	1.5	0.3	0.5	0.1	0.6	54.1
850819	527	2.4	< 0.1	3.4	5.0	16.5	9	0.5	5.96	0.2	1	0.1	0.6	1	3.3	6.2	0.8	3.1	0.8	0.8	0.1	0.7	210
850820	517	2.0	< 0.1	1.8	4.9	21.9	9	0.4	3.52	0.3	2	< 0.1	0.4	6	4.0	7.2	0.9	3.4	0.8	0.9	0.1	0.7	130
850821	382	4.2	< 0.1	0.9	5.3	24.7	23	1.0	2.21	0.2	1	< 0.1	0.2	< 1	5.6	10.9	1.4	5.6	1.3	1.0	0.1	0.8	90.7
850822	240	10.1	< 0.1	55.3	9.7	65.9	42	0.3	0.08	< 0.1	< 1	< 0.1	< 0.1	1490	3.0	6.9	1.0	4.6	1.3	1.5	0.3	1.7	53.5
850823	91.7	12.2	< 0.1	63.2	12.8	377	64	2.9	0.43	< 0.1	< 1	< 0.1	< 0.1	426	65.1	135	16.9	63.7	9.8	6.6	0.6	2.7	24.5
850824	2.0	0.4	< 0.1	1.5	2.2	1.5	25	0.5	0.09	< 0.1	< 1	0.1	< 0.1	10	2.5	4.6	0.6	2.1	0.4	0.3	< 0.1	0.3	5.3
850825	135	16.6	< 0.1	43.1	16.8	342	183	5.2	0.17	< 0.1	< 1	< 0.1	< 0.1	251	86.7	189	23.2	88.4	14.0	8.9	0.9	3.6	14.6
850826	91.8	12.6	< 0.1	95.5	14.6	400	130	2.1	0.16	< 0.1	< 1	< 0.1	< 0.1	561	78.7	169	21.0	78.6	13.2	8.0	0.8	3.1	43.2
850827	101	5.9	< 0.1	84.3	13.4	511	40	2.5	1.27	< 0.1	< 1	< 0.1	< 0.1	1280	69.5	145	18.4	72.2	11.8	7.6	0.8	2.9	38.1
850828	108	12.6	< 0.1	27.7	13.6	417	52	0.9	0.18	< 0.1	< 1	< 0.1	< 0.1	310	65.6	136	17.0	66.4	11.5	7.3	0.7	3.0	21.4
850829	154	9.3	< 0.1	19.2	12.6	340	36	2.6	0.39	< 0.1	1	< 0.1	< 0.1	406	52.8	109	13.5	52.8	8.1	6.2	0.6	2.6	31.5
850830	127	10.4	< 0.1	8.2	8.9	367	86	1.5	0.79	< 0.1	< 1	< 0.1	0.1	57	36.0	75.8	9.7	37.2	6.3	4.2	0.4	1.9	34.0

Results

Activation Laboratories Ltd.

Report: A18-17680

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
850831	155	8.8	< 0.1	4.2	4.4	287	35	0.6	0.32	< 0.1	< 1	< 0.1	1.5	33	10.4	21.7	2.7	10.9	2.1	1.5	0.2	0.8	49.2
850832	114	8.9	< 0.1	3.3	4.3	282	37	0.6	0.37	< 0.1	< 1	< 0.1	0.2	57	4.8	9.5	1.3	5.5	0.9	1.1	0.1	0.8	50.1
850833	112	14.4	< 0.1	19.2	8.4	307	47	1.0	3.53	< 0.1	< 1	< 0.1	1.0	148	7.7	16.7	2.3	10.2	2.0	2.2	0.3	1.5	125
850834	260	8.6	< 0.1	3.4	5.8	306	27	0.6	0.68	< 0.1	< 1	< 0.1	0.1	34	2.2	5.3	0.8	3.9	0.8	1.1	0.2	1.0	48.9
850835	415	11.6	< 0.1	0.7	6.1	93.6	46	1.5	3.51	0.2	1	< 0.1	0.6	8	5.7	12.8	1.7	7.4	1.6	1.4	0.2	1.2	257
850836	121	17.7	55.1	151	25.3	353	105	17.1	266	0.1	4	6.8	0.5	300	34.8	66.2	7.9	29.4	5.3	4.8	0.8	4.2	8100
850837	112	14.5	< 0.1	2.3	11.0	227	14	< 0.1	0.45	< 0.1	< 1	< 0.1	< 0.1	20	2.8	7.3	1.1	5.4	1.5	1.9	0.3	2.0	131
850838	109	13.6	< 0.1	1.2	13.1	257	37	1.7	3.75	< 0.1	< 1	< 0.1	0.2	16	3.7	9.4	1.5	7.8	1.9	2.5	0.4	2.4	94.4

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
850789	< 0.1	0.2	1.1	0.2	0.2	0.4	< 0.001	0.11	8.8	33	3.9	0.7	0.307	0.108	0.18
850790	0.7	0.1	1.0	0.1	< 0.1	0.3	< 0.001	0.11	1.2	43	< 0.1	< 0.1	0.180	0.007	< 0.01
850791	0.2	0.3	1.7	0.2	0.2	0.4	< 0.001	0.20	2.5	26	4.5	1.2	0.388	0.150	< 0.01
850792	< 0.1	0.1	0.7	< 0.1	< 0.1	0.4	< 0.001	< 0.05	< 0.5	23	< 0.1	< 0.1	0.129	0.014	< 0.01
850793	< 0.1	< 0.1	0.4	< 0.1	< 0.1	0.1	0.002	< 0.05	1.2	14	< 0.1	< 0.1	0.0590	0.002	0.30
850794	0.3	0.2	1.1	0.2	< 0.1	0.9	< 0.001	0.08	2.3	6	0.1	< 0.1	0.0541	0.032	0.91
850795	0.3	0.1	1.0	0.2	< 0.1	1.0	0.001	< 0.05	3.0	4	< 0.1	< 0.1	0.0829	0.017	2.72
850796	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.1	0.003	< 0.05	1.3	< 1	1.2	0.4	0.0101	0.001	< 0.01
850797	0.2	< 0.1	0.8	0.1	< 0.1	1.3	0.004	0.08	6.6	4	0.2	< 0.1	0.103	0.009	5.64
850798	0.1	< 0.1	0.4	< 0.1	< 0.1	0.5	0.006	< 0.05	7.5	3	0.2	< 0.1	0.0331	0.013	5.56
850799	< 0.1	0.1	0.8	0.1	< 0.1	0.3	0.004	0.27	11.2	3	6.1	1.6	0.150	0.122	2.03
850800	0.1	< 0.1	0.7	< 0.1	< 0.1	0.4	0.004	0.07	3.0	1	0.5	0.1	0.0207	0.117	1.54
850801	0.2	0.1	0.7	0.1	< 0.1	0.8	0.004	0.11	2.6	9	0.3	0.1	0.0855	0.069	0.81
850802	0.2	0.1	0.9	0.1	< 0.1	0.6	0.002	0.07	3.5	2	0.5	0.1	0.0341	0.082	2.13
850803	0.1	0.1	0.8	0.1	< 0.1	0.7	0.002	0.28	5.5	11	2.4	0.5	0.114	0.071	4.41
850804	0.2	0.1	0.8	0.1	< 0.1	0.3	0.004	0.14	9.6	5	0.1	< 0.1	0.0395	0.038	6.06
850805	< 0.1	0.2	1.6	0.2	< 0.1	0.2	< 0.001	0.18	2.9	37	0.9	0.2	0.282	0.031	0.04
850806	0.2	0.2	1.7	0.2	< 0.1	0.1	0.001	0.10	2.5	44	< 0.1	< 0.1	0.303	0.016	0.02
850807	< 0.1	0.2	1.2	0.2	0.1	0.5	0.001	0.31	1.7	25	6.3	1.2	0.275	0.178	0.01
850808	0.4	0.2	1.6	0.2	< 0.1	0.3	0.001	0.25	1.8	42	1.9	0.4	0.321	0.061	0.25
850809	0.2	0.2	1.6	0.2	< 0.1	0.2	0.001	0.12	4.1	38	2.3	0.5	0.309	0.077	0.20
850810	0.4	0.2	1.4	0.2	< 0.1	2.8	< 0.001	0.11	1.2	31	1.1	0.2	0.180	0.038	0.02
850811	0.3	0.2	1.2	0.2	< 0.1	0.2	< 0.001	0.09	2.2	39	0.3	0.2	0.229	0.018	0.01
850812	0.3	0.3	2.4	0.4	0.3	1.0	0.003	0.98	21.6	13	18.4	4.9	0.284	0.093	0.34
850813	0.3	0.2	1.3	0.2	< 0.1	0.4	< 0.001	0.19	2.7	36	0.2	< 0.1	0.222	0.016	0.01
850814	0.3	0.2	1.2	0.2	0.1	0.2	0.002	< 0.05	3.2	26	1.7	0.4	0.206	0.028	0.05
850815	0.1	< 0.1	0.6	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	0.9	19	< 0.1	< 0.1	0.112	0.007	0.04
850816	0.3	0.3	1.9	0.3	< 0.1	< 0.1	0.001	0.15	4.1	40	0.3	0.1	0.294	0.017	0.04
850817	0.6	0.2	1.0	0.2	< 0.1	0.5	< 0.001	< 0.05	1.9	33	0.2	< 0.1	0.197	0.016	< 0.01
850818	< 0.1	< 0.1	0.5	< 0.1	< 0.1	< 0.1	0.002	< 0.05	0.5	19	< 0.1	< 0.1	0.119	0.009	0.06
850819	0.2	< 0.1	0.5	< 0.1	< 0.1	0.4	0.004	< 0.05	3.5	2	0.2	< 0.1	0.0255	0.062	2.39
850820	0.2	< 0.1	0.5	< 0.1	< 0.1	2.9	0.007	0.05	1.1	1	0.6	< 0.1	0.0229	0.051	0.76
850821	0.2	< 0.1	0.5	< 0.1	< 0.1	0.1	< 0.001	< 0.05	2.7	4	0.4	0.1	0.0602	0.043	0.23
850822	0.7	0.2	1.1	0.2	< 0.1	0.1	< 0.001	0.24	1.7	42	0.4	< 0.1	0.288	0.027	0.02
850823	< 0.1	0.1	0.8	0.1	< 0.1	0.2	< 0.001	0.54	5.5	11	7.1	1.3	0.249	0.165	0.16
850824	< 0.1	< 0.1	0.3	< 0.1	< 0.1	0.1	< 0.001	< 0.05	1.7	< 1	1.4	0.4	0.0108	0.001	< 0.01
850825	< 0.1	0.2	1.1	0.2	0.3	0.2	< 0.001	0.36	7.2	13	9.9	1.8	0.323	0.233	0.05
850826	< 0.1	0.2	0.9	0.1	< 0.1	0.1	0.001	0.91	12.7	10	8.8	1.6	0.255	0.191	0.32
850827	< 0.1	0.1	0.9	0.1	< 0.1	0.3	0.001	0.80	17.0	10	7.8	1.4	0.242	0.185	0.41
850828	< 0.1	0.2	1.0	0.1	< 0.1	0.3	< 0.001	0.26	10.3	11	7.6	1.5	0.226	0.181	0.16
850829	< 0.1	0.2	0.9	0.1	< 0.1	0.4	0.001	0.18	5.4	13	5.7	1.1	0.213	0.126	0.75
850830	< 0.1	0.1	0.7	0.1	0.1	0.4	< 0.001	0.09	4.9	15	4.2	0.8	0.146	0.112	0.03

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
850831	< 0.1	< 0.1	0.5	< 0.1	< 0.1	0.5	< 0.001	< 0.05	3.3	19	1.0	0.2	0.0935	0.030	0.24
850832	< 0.1	< 0.1	0.6	0.1	< 0.1	0.4	< 0.001	< 0.05	3.4	20	0.5	0.1	0.107	0.019	0.24
850833	0.4	0.1	1.0	0.2	< 0.1	0.5	0.004	0.14	8.9	33	0.8	0.2	0.372	0.035	0.61
850834	0.4	< 0.1	0.7	< 0.1	< 0.1	0.4	< 0.001	< 0.05	3.3	21	0.2	< 0.1	0.152	0.018	0.04
850835	0.3	0.1	0.8	0.1	< 0.1	0.2	0.007	< 0.05	2.8	14	0.6	0.2	0.182	0.037	3.38
850836	0.1	0.4	2.3	0.3	1.0	3.8	0.004	0.96	24.4	13	18.5	4.9	0.432	0.097	0.78
850837	0.2	0.2	1.4	0.2	< 0.1	< 0.1	0.002	< 0.05	3.7	37	0.3	< 0.1	0.165	0.021	0.16
850838	0.3	0.2	1.6	0.2	< 0.1	0.3	0.001	< 0.05	4.8	32	0.3	< 0.1	0.383	0.058	0.61

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-4 Meas	13.5	0.57	1.66	7.64	4.23	1.02	0.3	89	46	150	3.11	1.4	440	38.6		2.0		3.48	2.32	12.7	1.33	19.7	5.9
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
GXR-4 Meas																							
GXR-4 Cert																							
GXR-4 Meas																							
GXR-4 Cert																							
SDC-1 Meas																							
SDC-1 Cert																							
SDC-1 Meas																							
SDC-1 Cert																							
SDC-1 Meas																							
SDC-1 Cert																							
GXR-6 Meas	32.9	0.10	0.52	> 10.0	2.02	0.16	< 0.1	115	52	1080	5.92	1.8	70	25.6		1.1		0.32	4.03	13.2	0.65	0.19	0.7
GXR-6 Cert	32.0	0.104	0.609	17.7	1.87	0.180	1.00	186	96.0	1010	5.58	4.30	68.0	27.0		1.40		1.30	4.20	13.8	0.760	0.290	0.940
OREAS 97 (4 Acid) Meas																		20.2		62.5		41.7	72.6
OREAS 97 (4 Acid) Cert																		19.6		62.9		40.1	71.4
OREAS 97 (4 Acid) Meas																							
OREAS 97 (4 Acid) Cert																							
OREAS 97 (4 Acid) Meas																							
OREAS 97 (4 Acid) Cert																							
OREAS 97 (4 Acid) Meas																							
OREAS 97 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																		44.4		104		96.6	165
OREAS 98 (4 Acid) Cert																		45.1		121		97.2	158
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
DNC-1a Meas																							
DNC-1a Cert																							
SBC-1 Meas																							

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d (4-Acid) Meas	22.8	0.11	0.22	8.31	0.44	0.20		130	565	534	15.0	2.1		245	1.5	0.8	0.5		3.82	29.3	0.62	0.34	
OREAS 45d (4-Acid) Cert	21.5	0.101	0.245	8.150	0.412	0.185		235.0	549	490.000	14.5	3.830		231.0	1.38	0.79	0.46		3.910	29.50	0.57	0.31	
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 621 (4 Acid) Meas																							
OREAS 621 (4 Acid) Cert																							
850800 Orig	< 0.5	0.01	0.75	0.49	0.06	0.92	0.2	16	20	465	23.5	0.3	< 10	26.5	0.7	0.4	0.3	0.19	1.60	40.9	0.41	0.19	2.4
850800 Dup	< 0.5	0.01	0.74	0.50	0.06	0.89	< 0.1	15	27	444	22.8	0.3	< 10	25.1	0.7	0.4	0.3	0.16	1.54	41.1	0.39	0.18	2.2
850802 Orig	< 0.5	0.02	1.16	0.81	0.07	0.79	0.3	20	19	617	27.8	0.4	< 10	32.1	0.9	1.0	0.3	0.43	2.18	14.7	0.70	0.22	2.4
850802 Dup	< 0.5	0.02	1.11	0.79	0.07	0.75	0.3	20	20	622	28.1	0.4	30	31.6	0.9	1.0	0.3	0.46	2.21	14.6	0.73	0.23	2.6
850817 Orig	15.8	0.19	7.78	5.84	0.03	4.81	< 0.1	198	690	1330	9.27	0.4	< 10	391	1.0	0.5	0.3	< 0.05	0.28	62.4	0.55	0.03	0.3
850817 Dup	16.1	0.19	7.82	5.97	0.03	4.73	< 0.1	197	713	1320	9.09	0.4	< 10	382	1.0	0.5	0.4	< 0.05	0.26	60.9	0.53	0.03	0.3
850828 Orig	47.4	2.52	4.36	5.98	0.88	6.61	0.1	83	323	840	3.91	0.8	< 10	249	1.1	1.8	0.5	< 0.05	2.51	25.5	2.49	0.07	0.2
850828 Dup	43.8	2.54	4.16	5.95	0.88	6.46	< 0.1	84	222	823	3.81	0.5	< 10	249	1.2	1.8	0.5	< 0.05	2.66	25.5	2.73	0.07	0.1
850838 Split Orig PREP DUP	29.2	1.78	3.37	5.70	0.06	8.26	0.1	224	98	1610	8.07	1.1	< 10	61.3	1.5	0.5	0.6	0.18	0.16	38.1	0.72	0.47	0.8
850838 Split PREP DUP	31.0	1.90	3.52	6.26	0.06	8.73	0.1	238	97	1690	8.45	1.2	< 10	63.9	1.7	0.5	0.6	0.23	0.19	39.7	0.79	0.14	0.9
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	1	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	4	2	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	0.03	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.1	< 1	1	1	0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	1	2	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	3	1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank																							

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-4 Meas	76.3	18.7	102	145	13.5	232	45	9.6	349	0.2	7	4.5	0.7	524	56.4	104		39.2	6.2	4.5	0.5	2.6	6260
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
GXR-4 Meas																							
GXR-4 Cert																							
GXR-4 Meas																							
GXR-4 Cert																							
SDC-1 Meas																							
SDC-1 Cert																							
SDC-1 Meas																							
SDC-1 Cert																							
SDC-1 Meas																							
SDC-1 Cert																							
GXR-6 Meas	142	26.8	242	83.0	13.1	34.4	61	0.1	0.26	< 0.1	< 1	0.4	< 0.1	1220	12.5	33.7		11.7	2.8	2.2	0.4	2.1	68.0
GXR-6 Cert	118	35.0	330	90.0	14.0	35.0	110	7.50	2.40	0.260	1.70	3.60	0.0180	1300	13.9	36.0		13.0	2.67	2.97	0.415	2.80	66.0
OREAS 97 (4 Acid) Meas	668										97	8.5											> 10000
OREAS 97 (4 Acid) Cert	646										95.7	9.23											63100.00
OREAS 97 (4 Acid) Meas																							
OREAS 97 (4 Acid) Cert																							
OREAS 97 (4 Acid) Meas																							
OREAS 97 (4 Acid) Cert																							
OREAS 97 (4 Acid) Meas																							
OREAS 97 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas	1320										> 200	8.2											> 10000
OREAS 98 (4 Acid) Cert	1360										206	20.1											14800.0
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
DNC-1a Meas																							
DNC-1a Cert																							
SBC-1 Meas																							

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d (4-Acid) Meas	46.5	22.3	6.3	44.8	12.4	34.3	84	0.3	0.32	0.1	< 1	< 0.1		199	18.2	37.2	4.0	14.7	2.7	2.5	0.4	2.3	379
OREAS 45d (4-Acid) Cert	45.7	21.20	13.8	42.1	9.53	31.30	141	14.50	2.500	0.096	2.78	0.82		183.0	16.9	37.20	3.70	13.4	2.80	2.42	0.400	2.26	371
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 621 (4 Acid) Meas																							
OREAS 621 (4 Acid) Cert																							
850800 Orig	88.0	3.9	< 0.1	5.9	8.1	37.1	12	0.7	5.42	0.1	< 1	< 0.1	0.8	18	5.0	12.3	1.7	7.1	1.5	1.6	0.2	1.2	242
850800 Dup	85.7	3.8	< 0.1	5.7	7.8	34.8	12	0.6	4.34	0.1	< 1	< 0.1	0.7	19	4.9	11.9	1.6	7.1	1.6	1.5	0.2	1.2	239
850802 Orig	132	4.9	< 0.1	7.5	11.2	17.3	15	0.8	6.39	0.3	1	< 0.1	0.8	14	7.1	14.9	1.9	7.0	1.4	1.4	0.2	1.3	481
850802 Dup	130	4.9	< 0.1	7.4	11.4	17.2	15	0.8	6.34	0.3	1	< 0.1	0.8	14	7.6	15.8	2.0	7.5	1.6	1.5	0.2	1.3	492
850817 Orig	154	10.9	< 0.1	0.9	9.8	113	17	0.7	0.22	< 0.1	1	< 0.1	< 0.1	18	1.9	4.3	0.7	3.0	0.7	1.2	0.3	1.5	48.4
850817 Dup	158	10.7	< 0.1	0.8	9.8	107	14	0.6	0.27	< 0.1	1	< 0.1	< 0.1	18	1.8	4.2	0.6	2.8	1.0	1.2	0.2	1.5	46.2
850828 Orig	108	12.8	< 0.1	27.7	13.3	414	59	0.5	0.17	< 0.1	< 1	< 0.1	< 0.1	307	65.8	135	16.9	64.0	11.1	7.2	0.7	3.0	21.0
850828 Dup	107	12.4	< 0.1	27.6	13.9	421	46	1.3	0.19	< 0.1	< 1	< 0.1	< 0.1	312	65.5	137	17.2	68.9	11.9	7.4	0.8	2.9	21.8
850838 Split Orig PREP DUP	109	13.6	< 0.1	1.2	13.1	257	37	1.7	3.75	< 0.1	< 1	< 0.1	0.2	16	3.7	9.4	1.5	7.8	1.9	2.5	0.4	2.4	94.4
850838 Split PREP DUP	112	14.4	< 0.1	1.3	13.8	273	39	1.5	0.54	< 0.1	< 1	< 0.1	0.2	17	3.9	10.1	1.6	7.6	2.3	2.6	0.5	2.6	98.7
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	0.3	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank																							

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
GXR-4 Meas		0.2	0.9	0.1	0.6	35.1		3.24	47.8	7	20.6	5.4	0.259	0.133	1.74
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20	0.29	0.120	1.77
GXR-4 Meas										7			0.260	0.134	1.77
GXR-4 Cert										7.70			0.29	0.120	1.77
GXR-4 Meas										7			0.253	0.131	1.76
GXR-4 Cert										7.70			0.29	0.120	1.77
SDC-1 Meas										15			0.149	0.056	
SDC-1 Cert										17.00			0.606	0.0690	
SDC-1 Meas										15			0.182	0.056	
SDC-1 Cert										17.00			0.606	0.0690	
SDC-1 Meas										13			0.151	0.055	
SDC-1 Cert										17.00			0.606	0.0690	
GXR-6 Meas			1.7	0.3	< 0.1	< 0.1		2.30	97.1	27	4.9	1.3		0.035	0.01
GXR-6 Cert			2.40	0.330	0.485	1.90		2.20	101	27.6	5.30	1.54		0.0350	0.0160
OREAS 97 (4 Acid) Meas									147						6.59
OREAS 97 (4 Acid) Cert									147						6.07
OREAS 97 (4 Acid) Meas															6.55
OREAS 97 (4 Acid) Cert															6.07
OREAS 97 (4 Acid) Meas															6.69
OREAS 97 (4 Acid) Cert															6.07
OREAS 97 (4 Acid) Meas															6.61
OREAS 97 (4 Acid) Cert															6.07
OREAS 98 (4 Acid) Meas									339						15.0
OREAS 98 (4 Acid) Cert									345						15.5
OREAS 98 (4 Acid) Meas															15.3
OREAS 98 (4 Acid) Cert															15.5
OREAS 98 (4 Acid) Meas															14.3
OREAS 98 (4 Acid) Cert															15.5
DNC-1a Meas										28			0.253		
DNC-1a Cert										31			0.29		
SBC-1 Meas										20			0.473		

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
SBC-1 Cert										20.0			0.51		
SBC-1 Meas										20			0.475		
SBC-1 Cert										20.0			0.51		
SBC-1 Meas										20			0.468		
SBC-1 Cert										20.0			0.51		
OREAS 45d (4-Acid) Meas			1.5	0.2	< 0.1	< 0.1		0.25	22.0	52	15.7	2.9	0.222	0.036	0.04
OREAS 45d (4-Acid) Cert			1.33	0.18	1.02	1.62		0.27	21.8	49.30	14.5	2.63	0.773	0.042	0.049
OREAS 45d (4-Acid) Meas										50			0.206	0.036	0.05
OREAS 45d (4-Acid) Cert										49.30			0.773	0.042	0.049
OREAS 45d (4-Acid) Meas										50			0.414	0.038	0.04
OREAS 45d (4-Acid) Cert										49.30			0.773	0.042	0.049
OREAS 96 (4 Acid) Meas															4.13
OREAS 96 (4 Acid) Cert															4.19
OREAS 96 (4 Acid) Meas															4.09
OREAS 96 (4 Acid) Cert															4.19
OREAS 621 (4 Acid) Meas										6			0.175	0.036	4.48
OREAS 621 (4 Acid) Cert										6.24			0.149	0.0359	4.48
850800 Orig	0.1	0.1	0.7	0.1	< 0.1	0.4	0.004	0.08	3.1	1	0.5	0.1	0.0206	0.118	1.54
850800 Dup	0.1	< 0.1	0.7	< 0.1	< 0.1	0.4	0.003	0.07	2.9	1	0.5	0.1	0.0208	0.116	1.54
850802 Orig	0.2	0.1	0.9	0.1	< 0.1	0.5	0.003	0.07	3.7	2	0.5	0.1	0.0342	0.082	2.12
850802 Dup	0.2	0.1	1.0	0.1	< 0.1	0.6	0.002	0.06	3.4	2	0.5	0.1	0.0341	0.082	2.15
850817 Orig	0.5	0.2	1.0	0.2	< 0.1	0.5	< 0.001	< 0.05	1.9	33	0.2	< 0.1	0.199	0.016	< 0.01
850817 Dup	0.6	0.2	1.0	0.2	< 0.1	0.5	< 0.001	< 0.05	1.9	32	0.2	< 0.1	0.196	0.015	< 0.01
850828 Orig	< 0.1	0.2	1.0	0.1	< 0.1	0.2	< 0.001	0.25	10.5	11	7.6	1.5	0.203	0.171	0.15
850828 Dup	< 0.1	0.2	1.0	0.1	< 0.1	0.3	< 0.001	0.27	10.2	11	7.6	1.5	0.248	0.191	0.17
850838 Split Orig PREP DUP	0.3	0.2	1.6	0.2	< 0.1	0.3	0.001	< 0.05	4.8	32	0.3	< 0.1	0.383	0.058	0.61
850838 Split PREP DUP	0.4	0.2	1.7	0.3	< 0.1	0.2	0.001	< 0.05	5.0	32	0.3	< 0.1	0.379	0.055	0.63
Method Blank										< 1			< 0.0005	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
													0.0005		
Method Blank										< 1			< 0.0005	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.002	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01



Date Submitted: 10-Dec-18
Invoice No.: A18-18962
Invoice Date: 14-Jan-19
Your Reference: 262

IAMGOLD Corporation
2140 Regent Street Unit 10
Sudbury Ontario P3E 5S8
Canada

ATTN: Brian Tomczuk

CERTIFICATE OF ANALYSIS

33 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-Timmins (ppm) Au - Fire Assay AA

REPORT **A18-18962**

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

Notes:

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

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with a large, stylized 'E' and 'S'.

Emmanuel Esemé , Ph.D.
Quality Control

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

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
808174	0.010
808175	0.009
808176	0.008
808177	0.019
808178	0.007
808179	0.014
808180	< 0.005
808181	0.005
808182	0.012
808183	0.012
808184	1.564
808185	0.005
808186	0.005
808187	0.008
808188	0.007
808189	0.007
808190	0.008
808191	0.011
808192	0.009
808193	0.008
808194	0.008
808195	0.007
808196	< 0.005
808197	0.007
808198	0.007
808199	0.009
808200	0.008
808201	0.006
808202	0.007
808203	0.008
808204	0.008
808205	0.009
808206	0.007

Analyte Symbol	Au
Unit Symbol	ppm
Lower Limit	0.005
Method Code	FA-AA
OREAS 224 Meas	2.076
OREAS 224 Cert	2.15
Oreas 221 (Fire Assay) Meas	1.056
Oreas 221 (Fire Assay) Cert	1.06
808183 Orig	0.011
808183 Dup	0.012
808193 Orig	0.007
808193 Dup	0.008
808203 Orig	0.008
808203 Dup	0.007
Method Blank	< 0.005

APPENDIX D.

Assay Procedure

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1A2 - (1A2-30 or 50) Au Fire Assay - AA

Fire Assay Fusion

A sample size of 5 to 50 grams can be used but the routine size is 30 g for rock pulps, soils or sediments (exploration samples). The sample is mixed with fire assay fluxes (borax, soda ash, silica, litharge) and with Ag added as a collector and the mixture is placed in a fire clay crucible. The mixture is then preheated at 850°C, intermediate 950°C and finish 1060°C with the entire fusion process lasting 60 minutes. The crucibles are then removed from the assay furnace and the molten slag (lighter material) is carefully poured from the crucible into a mould, leaving a lead button at the base of the mould. The lead button is then placed in a preheated cupel which absorbs the lead when cupelled at 950°C to recover the Ag (doré bead) + Au.

AA Finish

The entire Ag dore bead is dissolved in aqua regia and the gold content is determined by AA (Atomic Absorption). AA is an instrumental method of determining element concentration by introducing an element in its atomic form, to a light beam of appropriate wavelength causing the atom to absorb light. The reduction in the intensity of the light beam directly correlates with the concentration of the elemental atomic species. On each tray of 42 samples there is two blanks, three sample duplicates and 2 certified reference materials, one high and one low (QC 7 out of 42 samples). We generally rerun all gold by fire assay gravimetric over 5,000 ppb to ensure accurate values

Code 1A2 (Fire Assay-AA) Detection Limits (ppb)

Element	Detection Limit	Upper Limit
Au	5	5,000

Note: If value exceeds upper limit, reanalysis by Fire Assay-Gravimetric (Code 1A3) is recommended.

Reference:

Hoffman, E.L., Clark, J.R. and Yeager, J.R. 1998. Gold analysis - Fire Assaying and alternative methods. Exploration and Mining Geology, Volume 7, pp. 155-160.

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Sample Preparation

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The largest source of error in any sampling program is the sample collection stage. To obtain meaningful analytical results, it is imperative that this stage, as well as sample preparation be done properly. **Actlabs can advise on sampling protocol for your field program if requested.**

Once the samples arrive in the laboratory, Actlabs will ensure that they are prepared appropriately. As a routine practice with rock and core, the entire sample is crushed to a nominal minus 2 mm, mechanically split (riffle) to obtain a representative sample and then pulverized to at least 95% minus 105 microns (μ m). All of our steel mills are mild steel and do not induce Cr or Ni contamination.



As a routine practice, we will automatically use cleaner sand between each sample at no cost to the customer. Quality of crushing and pulverization is routinely checked as part of our quality assurance program. Samples submitted in an unorganized fashion will be subject to a sorting surcharge and may substantially slow turnaround time. Providing an accurate detailed sample list by e-mail will also aid in improving turnaround time and can be used for Quality Control purposes.

See pages 5 and 6 of the [pricelist](#) for preparation and additional fees.

Our Sample Preparation Pricing is all-inclusive. This includes sorting, drying, labeling, new reject bags, using cleaner sand between each sample and crushing samples up to 7Kg (for RX1).

Rock, Core, and Drill Cuttings

Package	Description
RX1	Crush (<7kg) up to 80% passing 2 mm, split (250 g) and pulverize (mild steel) to 95% passing 105 μ m
RX1-ORE	Crush up to 90% passing 2 mm
RX1+500	500 grams pulverized
R X1+800	800 grams pulverized
RX1+ 1000	1000 grams pulverized
RX1-SD	Crush (<7 kg) up to 80 % passing 2 mm, rotary split (250 g) and pulverized (mild steel) to 95% passing 105 μ m
RX1-SD-ORE	Crush up to 90% passing 2 mm
RX3	Oversize charge per kilogram for crushing
RX4	Pulverization only (mild steel) (coarse pulp or crushed rock) (<800 g)
RX5	Pulverize Ceramic (100 g)
RX6	Hand pulverize small samples (agate mortar & pestle) (< 5 g)
RX7	Crush and Split (<5 kg)
RX8	Sample Prep only surcharge, no analyses
RX9	Compositing (per composite) dry weight
RX10	Weight (kg) as received
RX11	Checking Quality of pulps or rejects prepared by other labs and issuing reports
RX12	Ball Mill preparation
RX13	Rod Mill preparation
RX14	Core cutting
RX15	Special Preparation/Hour
RX16	Specific Gravity on Core
RX16-W	Specific Gravity (WAX) on friable samples
RX17	Specific Gravity on pulps
RX-17-GP	Specific Gravity on pulps by gas pycnometer

Note: Larger sample sizes than listed above can be pulverized at additional costs.

Pulverization Contaminants Added

Mill Type	Contaminant Added
Mild Steel (best choice)	Fe (up to 0.2%)
Hardened Steel	Fe (up to 0.2%). Cr (up to 200 ppm), trace Ni, Si, Mn, and C
Ceramic	Al (up to 0.2%), Ba, Trace REE
Tungsten Carbide	W (up to 0.1%), Co, C, Ta, Nb, Ti
Agate	Si (up to 0.3%), Al, Na, Fe, K, Ca, Mg, Pb

Note: Amount added depends on hardness of material and particle size required

Soils, Stream and Lake Bottom Sediments, and Heavy Minerals

Package	Description
S1	Drying (60°C) and sieving (-177 µm), save all portions
S1 DIS	Drying (60°C) and sieving (-177 µm), discard oversize
S1-230	Drying (60°C) and sieving (-63 µm), save oversize
S1-230 DIS	Drying (60°C) and sieving (-63 µm), discard oversize
S2	Lake Bottom Sediment preparation crush & sieve (-177 µm)
S3	Alternate size fractions and bracket sieving, add
S4	Selective Extractions or SGH drying (40 ° C) & sieving (-177 µm)
S5	Wet or damp samples submitted in plastic bags
S6	Separating -2 micron material
S7mi	Methylene iodide heavy mineral separation Specific gravity can be customized (100 g)
S7w	Sodium Polytungstate heavy mineral separation Specific gravity can be customized (100 g)
S8	Sieve analysis (4 sizes) coarser than 53 µm
S9	Particle size analysis (laser)

Biogeochemical Sample

Code	Description
B1	Drying and Blending Humus
B2	Drying and Macerating vegetation
B3	Dry ashing
B4	Washing vegetation
B5	Samples submitted in plastic bags

Special Digestion Procedures

MDI	Microwave Digestion - Closed Vessel
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UT-1M - Aqua Regia - ICP/MS

A 0.5 g sample is digested in aqua regia at 90 °C in a microprocessor-controlled digestion block for 2 hours. Digested samples are diluted and analyzed by Perkin Elmer Sciex ELAN 6000, 6100 or 9000 ICP/MS. One blank is run for every 68 samples. An in-house control sample is run every 33 samples. Digested standards are run every 68 samples. After every 15 samples, a digestion duplicate is analyzed. Instrument is recalibrated every 68 samples.

Code UT-1M - Elements and Detection Limits (ppm, except where noted)

Element	Detection Limit	Upper Limit	Element	Detection Limit	Upper Limit	Element	Detection Limit	Upper Limit
Ag	0.1	100	Fe	0.01 %	30 %	S ⁺	1 %	20 %
Al	0.01 %	8 %	Ga	1	1,000	Sb	0.1	500
As	0.5	10,000	Hg	0.01	50	Sc	0.1	10,000
Au	0.5 ppb	1,000 ppb	K	0.01 %	5 %	Se	0.5	10,000
B	20	2,000	La	1	10,000	Sr	1	5,000
Ba	1	10,000	Mg	0.01 %	10 %	Te	0.2	500
Bi	0.1	2,000	Mn	1	10,000	Th	0.1	200
Ca	0.01 %	50 %	Mo	0.1	10,000	Ti	0.001 %	10 %
Cd	0.1	2,000	Na	0.001 %	5 %	Tl	0.1	500
Co	0.1	5,000	Ni	0.1	10,000	V	2	1,000
Cr	1	10,000	P	0.001 %	5 %	W	0.1	200
Cu	0.2	10,000	Pb	0.1	5,000	Zn	1	5,000

Note:

Assays are recommended for values which exceed the upper limits.

Au is semi-quantitative due to the small sample size.

Extraction of each element by Aqua Regia Digestion is dependent on mineralogy.

+ Sulphide sulphur and soluble sulphates are extracted.

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APPENDIX E.

Daily Activity Log

Daily Activity Log		
Date	Work Completed	Employee/Contractor
October 1, 2018	Flagging drill trail/setups	Brian Wright
October 2, 2018	Flagging drill trail/setups	Brian Wright
October 9, 2018	Supervising Feller Buncher	Brian Wright
October 10, 2018	Drill Coordination and Support	Erik Bobechko
October 11, 2018	Drill Coordination and Support	Erik Bobechko
	Geotechning Drill Core	Shane O'Neil
October 12, 2018	Drill Coordination and Support	Erik Bobechko
October 13, 2018	Drill Coordination and Support	Erik Bobechko
	Geotechning Drill Core	Shane O'Neil
October 14, 2018	Drill Coordination and Support	Erik Bobechko
October 15, 2018	Drill Coordination and Support	Erik Bobechko
	Geotechning Drill Core	Shane O'Neil
October 16, 2018	Drill Coordination and Support	Erik Bobechko
October 17, 2018	Drill Coordination and Support, Logging JM18-001	Erik Bobechko
	Geotechning Drill Core	Shane O'Neil
October 18, 2018	Drill Coordination and Support	Adam Waram
October 19, 2018	Drill Coordination and Support	Adam Waram
	Geotechning Drill Core	Shane O'Neil
October 20, 2018	Drill Coordination and Support	Adam Waram
October 21, 2018	Drill Coordination and Support	Adam Waram
	Geotechning Drill Core	Shane O'Neil
October 22, 2018	Drill Coordination and Support	Adam Waram
October 23, 2018	Drill Coordination and Support	Adam Waram
	Geotechning Drill Core	Shane O'Neil
October 24, 2018	Environmental Inspections	Adam Waram
	Geotechning Drill Core	Shane O'Neil
October 25, 2018	Logging JM18-002	Adam Waram
October 26, 2018	Logging JM18-002	Adam Waram
	Logging JM18-001	Erik Bobechko
October 27, 2018	Logging JM18-002	Adam Waram
	Logging JM18-001	Erik Bobechko
October 28, 2018	Logging JM18-001	Erik Bobechko
October 29, 2018	Cutting Core JM18-001	Claude Constant
	Logging JM18-003	Erik Bobechko
October 30, 2018	Cutting Core JM18-001, JM18-002	Claude Constant
	Logging JM18-003	Erik Bobechko
October 31, 2018	Sampling Core JM18-001, JM18-002	Doreen Luke
November 1, 2018	Logging JM18-003	Erik Bobechko
November 2, 2018	Logging JM18-003	Erik Bobechko
November 3, 2018	Logging JM18-004	Erik Bobechko
November 4, 2018	Cutting Core JM18-003	Claude Constant

November 4, 2018	Logging JM18-004	Erik Bobechko
November 5, 2018	Logging JM18-002	Adam Waram
	Logging JM18-004	Erik Bobechko
November 6, 2018	Logging JM18-002	Adam Waram
	Logging JM18-004, JM18-006	Erik Bobechko
November 7, 2018	Logging JM18-002, JM18-005	Adam Waram
	Logging JM18-006	Erik Bobechko
	Cutting Core JM18-004, JM18-002	Yvon Constant
November 8, 2018	Sampling Core JM18-002, JM18-003	Doreen Luke
	Logging JM18-005	Adam Waram
November 9, 2018	Sampling Core JM18-003, JM18-004	Doreen Luke
	Logging JM18-005	Adam Waram
November 10, 2018	Logging JM18-005	Adam Waram
November 11, 2018	Logging JM18-005	Adam Waram
November 13, 2018	Cutting Core JM18-005	Yvon Constant
November 14, 2018	Sampling Core JM18-005	Doreen Luke
November 19, 2018	Logging JM18-006	Erik Bobechko
November 20, 2018	Logging JM18-006	Erik Bobechko
November 27, 2018	Cutting Core JM18-006	Yvon Constant
November 28, 2018	Sampling Core JM18-006	Doreen Luke

APPENDIX F.

Drill Program Expenditures

Employee Costs			
Date	Payee	Description	Cost
Oct 1-9, 2018	Brian Wright - Prospector	Flagging drill trails/setups, supervising feller buncher	\$ 1,050
		<i>3 Days x \$350/day</i>	
Oct 10 - Nov 20, 2018	Erik Bobechko - Junior Geologist GIT	Drill Coordination and Support, Logging drill-core	\$ 8,800
		<i>22 man days x \$400/day</i>	
Oct 18 - Nov 11, 2018	Adam Waram - Junior Geologist GIT	Drill Coordination and Support, Logging drill-core	\$ 6,800
		<i>17 man days x \$400/day</i>	
Oct 11-23, 2018	Shane O'Neil - Geotechnician	Geotech oriented drill-core	\$ 2,400
		<i>8 man days x \$300/day</i>	
Oct 29 - Nov 28, 2018	IAMGOLD Geotechnicians	Core cutting, Core sampling	\$ 3,300
		<i>11 man days x \$300/day</i>	
May 1-7, 2019	Erik Bobechko - Junior Geologist GIT	Report Writing	\$ 2,800
		<i>7 man days x \$400/day</i>	
Subtotal			\$ 25,150
Drilling Costs			
Date	Payee	Description	Cost
01-Nov-18	NPLH Drilling	Diamond Drilling Charges - October 1-15, 2018	\$ 57,334
26-Nov-18	NPLH Drilling	Diamond Drilling Charges - October 16-31, 2018	\$ 42,747
Subtotal			\$ 100,081
Associated Costs			
Date	Payee	Description	Cost
15-Jan-19	Actlabs	Drill-core Assays (Invoice A18-16932)	\$ 5,714
22-Feb-19	Actlabs	Drill-core Assays (Invoice A18-17275)	\$ 5,872
10-Jan-19	Actlabs	Drill-core Assays (Invoice A18-17680)	\$ 2,214
17-Jan-19	Actlabs	Drill-core Assays (Invoice A18-18962)	\$ 625
Subtotal			\$ 14,425
Transportation			
Date	Payee	Description	Cost
18-Nov-18	Enterprise Truck Rental	Vehicle expense - November 2018	\$ 1,704
Subtotal			\$ 1,704
Food and Lodging			
Date	Payee	Description	Cost
Oct 10 - Nov 20, 2018	IAMGOLD Employees	Food and Lodging for IAMGOLD Employees	\$ 6,210
		<i>(46 man days x \$135/day)</i>	
Subtotal			\$ 6,210
Total Cost			\$ 147,570

Claim Number	Individual Claim Expenditure
180602	\$ 62,845
271185	\$ 65,974
342106	\$ 18,751
Total	\$ 147,570

APPENDIX G.

Exploration Permit

This permit is issued under the authority of section 78.3 of the *Mining Act* and the Exploration Plans and Exploration Permits Regulation (O. Reg. 308/12). It is subject to the provisions of the Act and regulation as well as the terms and conditions included in this permit.

Ce permis est émis conformément aux dispositions de section 78.3 de la *Loi sur les mines* et des règlements et est sujet aux restrictions et dispositions de ce lois et règlements ainsi qu'aux conditions ci-énoncées

Note: The issuance of this permit does not relieve the applicant from the responsibility of acquiring any other agency, board, government, etc. approval as may be required nor does it relieve the permittee from the requirements of any other legislation or guarantee access to the land.

Remarque : La délivrance de ce permis n'exempte pas le demandeur de l'obligation d'obtenir l'autorisation de tout autre organisme, commission, gouvernement, etc. qui pourrait être exigée, n'exempte pas le titulaire des dispositions de toute autre loi et ne garantit pas l'accès à la terre.

Project Details/ Détails sur le projet

Project Name/ Titre du projet

Jumping Moose

Qualified Supervisor/Superviseur qualifié

Bradley McKinley

This Permit is issued to: Ce Permis est délivré a:

Name of Permittee/Nom du détenteur:

Canadian Gold Miner Corp., and Transition Metals Corp.

Mailing Address/Adresse postale:

5-410 Falconbridge Road, Sudbury Ontario, P3A 4S4

To conduct an early exploration activities from/ Pour effectuer des activités d'exploration du (yyyy/mm/dd): 2017/06/28 to: 2020/06/28

On claim/lease/licence of occupation number(s)/Sur le numéro(s) du claim/bail/permis d'occupation: 3008991, 4260274, 3014456, 3018866, 1239157, 3018865, 1156483, 3008989, 3014454, 4261613, 4261612, 4261611, 3014451, 1076740, 4261610, 4261609, 1239156, 3000443

as per your exploration permit application date/conformément a la demande de permis d'exploration en date du: 2017/05/09

OR

as per your amended exploration permit application date/conformément a la demande de permis d'exploration modifier en date du:

for the purpose of:

- Mechanized Drilling (assembled weight >150kg)/ Forage mécanisé (poids assemblé >150 kg)
- Mechanized Stripping (>100m² in 200m radius)/ Décapage mécanisé (> 100 m² dans un rayon de 200 m)
- Pitting and Trenching (>3m³ in 200m radius)/ Creusement de fosses et de tranchées (>3 m³ dans un rayon de 200 m)
- Line Cutting (>1.5m width)/ Découpage des quadrillages (<1,5 m de largeur)
- Other (Early exploration activities for which Director has required a permit)/Autre (Activités d'exploration préliminaires pour laquelle le Directeur a demandé un permis):

Subject to the following conditions:/Et sous les conditions suivantes:

1. The Permittee shall keep this permit or a true copy thereof on the permit area./Le détenteur conserver ace permis ou une copie conforme sur les lieux des travaux.
2. The person in charge of the operation conducted under this permit shall produce and show this permit or the true copy kept on the exploration permit area to any inspector whenever requested by the officer./Le responsable des travaux couverts par ce permis doit produire le permis ou sa copie conforme si un inspecteur lui demande.
3. The requirements outlined in Schedule 1 of Ontario Regulation 308/2012 and applicable Provincial Standards for Early Exploration/ Les exigences générales identifier à l'annexe 1 du Règlement de l'Ontario 308/2012 et les normes provinciale relatives a l'exploration préliminaire.
4. Other terms and conditions as listed on this permit./Autres termes et conditions énoncées sur ce permis.

Place of Issue/Émis a:

South Porcupine, ON

Issued by/Émis par:

Director of Exploration Northeast Region

Date of Issue/Date émis (yyyy/mm/dd, aaaa/mm/jj):

6/28/2017

Signature of Director/Signature du directeur:


 Desmond O'Connor

APPENDIX I.

QA-QC Results

QA/QC Results

QA/QC Results				Absolute Standard Deviation			
Standard Type	Certified Value - Au (ppm)	Sample #	Assayed value - Au (ppm)	2SD Low	2SD High	3SD Low	3SD High
OREAS-501c	0.221	808012	0.221	0.208	0.234	0.202	0.241
		850712	0.224				
		808112	0.224				
		850812	0.214				
OREAS-502c	0.488	808036	0.472	0.458	0.517	0.444	0.532
		850736	0.472				
		808136	0.460				
		850836	0.468				
OREAS-224	2.15	808060	2.217	2.05	2.26	2.00	2.31
		808160	2.103				
		850760	2.008				
OREAS-504b	1.61	808084	1.532	1.53	1.68	1.50	1.72
		850784	1.575				
		808184	1.564				
Blank	-	808024	0.005	Blanks must fall below upper Limit of 0.1 g/t Au to pass			
		808048	0.005				
		808072	0.005				
		850724	0.005				
		850748	0.005				
		808096	0.005				
		808124	0.005				
		808148	0.005				
		808172	0.007				
		850772	0.005				
		850796	0.005				
		850824	0.005				
808196	0.005						

	= Passed (within 2SD)
	= Passed (within 3SD)
	= Failed

APPENDIX J.

List of Abbreviations

Table P1: List of abbreviations

Symbol Description

Scientific Abbreviations

km	Kilometre
cm	Centimetre
m	Metres
m ³	Cubic metre
mm	Millometre
kg	Kilograms
oz	Ounce
lbs.	Pounds
ft.	Feet
"	inches
ppm	Parts per million
°C	Degrees celsius
%	Percent
µm	Microns
µV	Microvolt
mV	Millivolt
V	Volts
Vp	Input voltage
dB	decibel
SP	SP Bucking
M	Chargeability
kΩ	Kilo-ohm
MΩ	Mega-ohm
Hz	Hertz
AC	Alternating current
KVA	kilovolt-ampere

Other Abbreviations

NAD	North American Datum
NTS	National Topographic System
Corp.	Corporation
Ltd.	Limited
UTV	Utility terrain vehicle
Max	Maximum
No.	Number
<	Less than
>	Greater than
≤	Less than or equal to
L	Length
W	Width

Symbol Description

Geology Abbreviations

ICP	Inductively coupled plasma
ICP/MS	Inductively coupled plasma - mass spectrometry
XRF	X-ray fluorescence
QV	Quartz vein
QCV	Quartz-carbonate vein
QCCHLV	Quartz-carbonate-chlorite vein
QCHLV	Quartz-chlorite vein
QCHLSV	Quartz-chlorite-sulphide vein
QCCHLSV	Quartz-carbonate-chlorite-sulphide vein
QSV	Quartz-sulphide vein
QCSV	Quartz-carbonate-sulphide vein
QTV	Quartz-tourmaline vein
Vn	Vein
py	Pyrite
cpy	Chalcopyrite
DISS	Disseminated
FRC	Fracture-controlled
MTV	Marginal to vein
g/t	Grams per ton
DDHs	Diamond drill holes
Ma	Millions years