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# 2015 GEOLOGICAL REPORT: CROCAN LAKE PROPERTY

### ANTOINE & BUTLER TOWNSHIPS SUDBURY MINING DIVISION, ONTARIO, CANADA

**KYANITE MINING CORP.** 30 Willis Mountain Lane

50 WILLIS MOUNTAIN LA DILLWYN, VA 23936

July 6<sup>th</sup>, 2015

Prepared By:



**JMK Exploration Consulting** 147 Lakeside Dr. North Bay, Ontario P1A 3E1

JOERG KLEINBOECK, B.SC., P.GEO

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## **EXECUTIVE SUMMARY**

JMK Exploration Consulting was contracted by Kyanite Mining Corp. ("KMC") to complete a technical report for assessment purposes on their 2015 prospecting and surface sampling program on the Crocan Lake Property ("Property").

The Property is located 40 km northeast of North Bay, Ontario (Figure 1) in NTS 31L/10 and 31L/11 The Property is located in Antoine and Butler Townships in the Sudbury Mining Division. The Property is bounded by UTM coordinates 650190 E to 654575 E, and 5150630 N to 5155015 N (Figure 2).

In the spring of 2015, KMC completed a total of 2.5 days of prospecting and surface sampling on the property. This work was completed from May 8<sup>th</sup> through to June 3<sup>rd</sup>.

The work program was reconnaissance in nature and targeted chargeability anomalies that were generated from a recently completed induced polarization and magnetometer survey, as well as locating historical trenches and mineralized showings identified on Map 2847 (Easton, 2006).

Prospecting identified several lithologies including diorite, quartz arenite, graphitic paragneiss, kyanite-garnet gneiss, and a quartz gneiss. The quartz gneiss has also been termed historically as a pyrrhotite quartzite, pyritized quartzite, and pyrrhotite-rich quartz gneiss. During the 2015 program, the author noticed that pyrite was the dominant sulphide mineral within the quartz gneiss, with pyrrhotite only present in a few outcrops as well as trace amounts of chalcopyrite at one location (sample 999089).

A total of 7 grab samples were taken within the Property and submitted for analysis. Highlights of the program include 179 ppm Cu, 511 ppm Zn in sample 999089. This sample was taken from a trench that was cleared in 2005. The sample is in proximity to diamond drill hole 3-76 which returned 11.1% Cu, and 0.66 oz/t Ag over a 6 inch sample interval (15.24 cm). Sample descriptions, sample photographs, and assay results from the current program are provided in Appendix II, III, and IV respectively. Sample and outcrop locations are provided in Map 1.

Additional work on the Property is warranted. The author is of the opinion that the remobilized Cu and Ag mineralization reported in drill hole 3-76 is significant; however, it is associated with a narrow calcite vein. Unfortunately the current location of the drill core for 3-76 is unknown, and it has likely been discarded and thus unavailable for review. A beep-mat could be used to try to locate the mineralization at surface if it exists and trenched. This would allow for a better geological understanding of the mineralization prior to diamond drilling. The area between the collar for 3-76 and Trench 4 should be investigated.

A GIS database compilation for the Crocan Lake Property is also recommended. The majority of the historical work was completed from 1951 through to 1976 and exists only in hard copy format.

## **1.0 INTRODUCTION**

In the spring of 2015, KMC completed a total of 2.5 days of prospecting and surface sampling on the property. This work was completed from May 8<sup>th</sup> through to June 3<sup>rd</sup>. A total of 7 grab samples were taken within the Property and submitted for analysis.

## 2.0 PROPERTY DETAILS

## 2.1 Location and Access

The Property is located in Antoine and Butler Townships, approximately 40 km northeast of North Bay, Ontario (Figure 1).

Excellent access to the Property is provided by travelling east of North Bay along Highway 63, then turning south on Highway 533 for 17 km where a rough gravel road provides access to the Property (654500E/5152065N).

A full range of equipment, supplies, services, and skilled labour that would be required for any exploration and mining work are available in the nearby city of North Bay, Ontario.

## 2.2 Topography and Vegetation

Much of the Property has been logged in the past. The topography of the Property is characterized by rolling hills and sand flats. Abundant water resources are present in the lakes, rivers, creeks, and beaver ponds on the Property. The mean elevation of the property is approximately 335 m above sea level. The average total precipitation is 1058.0 mm (796.0 mm rain and 262.0 cm snow). The mean temperature is -14.6°C in January and 19.7°C in July.

## 2.3 Claims

The Property consists of 55 leased claims, and is bounded by UTM coordinates 650190 E to 654575 E, and 5150630 N to 5155015 N (Figure 2) and is covered by National Topographic System (NTS) map sheets 31L/10 and 31L/11.



Figure 1: General Location of the Crocan Lake Property in Ontario, Canada

## **3.0 PREVIOUS WORK**

**1951-1954:** Golwynne Chemical Corp. completed geological mapping, trenching, and 5,695 ft (1735.8 m) of diamond drilling.

**1963:** L.O. Foster completed 5 diamond drill holes totalling 546 ft (166 m).

1965-1971: M. MacWilliams completed 4 diamond drill holes totalling 341 ft (103.9 m).

**1972-1973:** Arrowhead Silica Corp. acquired the Property and completed 21 diamond drill holes totalling 3,592 ft (1,094.8 m).

**1974:** Kyanite Mining Corp. acquired the Property.

**1975-1976:** Kyanite Mining Corp. completed 15 diamond drill holes totalling 6,004 ft (1,830.0 m).

**1988-1998:** Kyanite Mining Corp. completed environmental, bulk sampling, and a pilot plant test.

**2003-2005**: Kyanite Mining Corp. completed a limited induced polarization survey, prospecting, and trenching.



Figure 2: Tenure of the Crocan Lake Property.

## 4.0 GEOLOGY

The following summarized regional and property geology sections have been largely derived from OFR 5554 (Easton, 1998) and from R.M. Blais's 1998 assessment report on the Butler-Antoine Kyanite Project (Blais, 1998).

## 4.1 Regional Geology

The Crocan Lake Property is located within the Tomiko terrane, one of several lithotectonic domains that comprise the Central Gneiss Belt of the Grenville Province. The rocks of the Central Gneiss Belt are generally 1800-1600 million year old quartzo-feldspathic gneisses of igneous origin with subordinate paragneiss of igneous and sedimentary origin.

## 4.2 Property Geology

The geology on the Property is dominantly comprised of kyanite-bearing muscovitebiotite-quartz-almandine garnet gneisses, non-kyanite-bearing muscovite-biotite-quartzalmandine garnet gneisses, and a sulphide-bearing quartz gneiss. The Property covers the eastern half of a syncline, with rocks on the Property generally having a southwestern strike and dipping 25 to 62 degrees to the northwest.

A northwest trending fault transects the Property and minor vertical displacement is evident in the field.



Figure 3: Property Geology with 2015 Grid (after OGS Map 2847).

## 5.0 2014 SURFACE PROSPECTING PROGRAM

### **5.1 Methods**

In the spring of 2015, KMC completed a total of 2.5 days of prospecting and surface sampling on the property. This work was completed from May 8<sup>th</sup> through to June 3<sup>rd</sup>.

The work program was reconnaissance in nature and targeted chargeability anomalies from a recently completed induced polarization and magnetometer survey, as well as locating historical trenches and mineralized showings identified on Map 2847 (Easton, 2006).

## 5.2 Work Completed

A total of 7 grab samples were taken within the Property and submitted for analysis. Highlights of the program include 179 ppm Cu, 511 ppm Zn in sample 999089. This sample was taken from a trench that was cleared in 2005. This site in proximity to diamond drill hole 3-76 which returned 11.1% Cu, and 0.66 oz/t Ag over a 6 inch sample interval (15.24 cm).

Prospecting identified several lithologies including diorite, quartz arenite, graphitic paragneiss, kyanite-garnet gneiss, and a quartz gneiss. The quartz gneiss has also been termed historically as a pyrrhotite quartzite, pyritized quartzite, and pyrrhotite-rich quartz gneiss. During the 2015 program, the author noticed that pyrite was the dominant sulphide mineral within the quartz gneiss, with pyrrhotite only present in a few outcrops as well as trace amounts of chalcopyrite at one location (sample 999089). Appendix III contains the photographs of the samples. Map 1, located in the back pocked, provides the sample and outcrop locations.

## 5.3 Sample Preparation, Analyses, and Security

Sampling was of reconnaissance nature with 1-3 kg grab samples obtained from outcrop. Samples were collected from outcrops that contained sulphide mineralization.

Geochemical grab samples were prepared and assayed by Activation Labratories of Ancastor, Ontario. All analysis was completed using industry standard methods.

Upon receiving the samples, the samples were dried prior to any sample preparation. The samples were then crushed to minus 10 mesh (1.7mm), mechanically split (riffle) to obtain a representative sample, then pulverized to at least 95% minus 150 mesh (105 microns). Samples were then analyzed using the Fire Assay Fusion method with ICP/OES Finish. The sample was then mixed with fire assay fluxes (borax, soda ash, silica, and litharge), with Ag added as a collector, and the mixture then placed in a fire clay crucible. The mixture was then preheated at 850°C, intermediate 950°C and finished at 1060°C. The entire fusion process lasts approximately 60 minutes. The crucibles were

then removed from the assay furnace and the molten slag (lighter material) carefully poured from the crucible into a mould, leaving a lead button at the base of the mould. The lead button was then placed in a preheated cupel which absorbs the lead when cupelled at 950°C to recover the Ag (doré bead) + Au, Pt, and Pd. For the ICP/OES Finish, the entire Ag dore bead was digested in hot HNO3 + HCL and then cooled for 2 hours. The solution was then analyzed for Au, Pt, and Pd by ICP/OES using a Varian 735 ICP. The detection limit for gold using this method is 2 ppb, and the upper limit is 30,000 ppb. The detection limit for Pt and Pd is 5 ppb, and the upper limit is 30,000 ppb.

The ICP data is collected by digesting 0.5 g of a sample with aqua regia (0.5 ml H2O, 0.6 ml concentrated HNO3, and 1.8 ml concentrated HCl) for 2 hours at 95° C. The sample is then cooled and diluted with de-ionized water. The samples are then analyzed on a Varian Vista Pro or Varian Vista 735 ICP for the 35 element suite.

### **5.4 Assay Results**

A total of 7 grab samples were submitted for analysis. Samples were labeled with sample numbers and referenced to sample stations. Selected results of the samples are provided in Table 1. Sample descriptions can be found in Appendix II, and the full assay results are provided in Appendix IV.

Sample	Au	Cu	Ni	Zn
Number	(ppb)	(ppm)	(ppm)	(ppm)
999085	9	29	13	29
999086	8	21	27	17
999087	5	11	<1	18
999088	7	<mark>121</mark>	74	72
999089	7	<mark>179</mark>	83	<mark>511</mark>
999090	<5	8	3	9
999091	6	52	36	33

Table 1: Highlights of the 2015 Surface Program.

## 6.0 CONCLUSIONS

The principle conclusions of the 2015 surface program on the Crocan Lake Property are:

- 1) Multiple lithologies, including diorite, quartz arenite, graphitic paragneiss, quartz gneiss, and kyanite bearing gneisses were observed during the limited program.
- 2) Anomalous Cu and Zn values are associated with the quartz gneiss.
- 3) Copper mineralization as described in the log for drill hole 3-76 was not observed in the field.
- 4) The broad chargeability anomaly outlined from the recently completed geophysical program is associated with the sulphide-bearing quartz gneiss. Abundant finely disseminated pyrite with lesser amounts of pyrrhotite is present throughout the unit.

## 7.0 RECOMMENDATIONS

The following recommendations can be made on the basis of the 2015 surface program completed on the Crocan Lake Property:

 The author is of the opinion that the remobilized Cu and Ag mineralization reported in drill hole 3-76 is significant; however, it is associated with a narrow calcite vein. Unfortunately the current location of the drill core for 3-76 is unknown, and it has likely been discarded and thus unavailable for review. A beep-mat could be used to try to locate the mineralization at surface if it exists and subsequently trenched. This would allow for a better geological understanding of the mineralization prior to diamond drilling. The area between the collar for 3-76 and Trench 4 should be investigated.

- The base metal mineralization encountered from the limited prospecting progam (179 ppm Cu, 511 ppm Zn) may be indicative of sedimentary-exhalative-type mineralization and would require further review.
- A copper showing located to the east of the Property should also be groundtruthed. The approximate coordinates are 654000E/5152400N.
- A GIS database compilation for the Crocan Lake Property is recommended. The majority of the historical work was completed from 1951 through to 1976 and exists only in hard copy format.

### 8.0 REFERENCES

Blais, R.M. 1998. Assessment and Progress Report: Butler-Antoine Kyanite Project, Antoine Township, District of Nipissing, Ontario, 24 p.

Easton, R.M. 2006. Geology and mineral potential of the eastern Tomiko terrane, Grenville Province; Ontario Geological Survey, Open File Report 5554, 117 p.

# Appendix I

# Statement of Qualifications

## **Statement of Qualifications**

I, Joerg Martin Kleinboeck of 147 Lakeside Drive, North Bay, Ontario, do hereby certify that:

I am a graduate of Laurentian University, Sudbury, Ontario with a B.Sc. Geology, 2000, and have been practising my profession as a geologist since.

I am a member with the Association of Professional Geoscientists of Ontario (#1411).

I am a member of the Prospectors & Developers Association of Canada (PDAC).

I hold no interests in the securities of Kyanite Mining Corp.

Joerg Martin Kleinboeck JMK Exploration Consulting July 6<sup>th</sup>, 2015 North Bay, Ontario

# Appendix II

**Descriptions of Outcrops and Grab Samples** 

Sample Number	Easting (NAD 83)	Northing (NAD83)	Rock Type	Rock Code	Texture	Structure	Mineralization	Mag Susc.	Comments
	653423	5153224	gt-ky gn	8a	cg-vcg	fol 203/65	none visible		non-magnetic.
999089	652920	5154126	qtz gn	8b	vfg	fol 218/26	1% finely diss py	0.088	trench #4, non-magnetic, minor quartz veining conformable to bedding
	653161	5154315	gt-ky gn	8a	cg-vcg		none visible	0.540	non-magnetic.
	653154	5154321	gt-ky gn	8a	cg-vcg		none visible	0.286	non-magnetic.
	653143	5154338	gt-ky gn	8a	cg-vcg		none visible	0.461	gt's up to 1 cm in dia, 1 cm books of mus. Occasional qtz veining. Non-magnetic.
	653106	5154367	gt-ky gn	8a	m-cg	fol 228/79	none visible	0.269	rusty-brown weathered surface. Non-magnetic.
	653021	5154407	qtz arenite	9a/10a	f-mg		none visible	0.058	pinkish grey, qtz grains up to 1mm in dia, minor kspar. Non-magnetic.
	653096	5154453	qtz arenite	9a/10a	f-mg	fol 226/51	none visible	0.023	pinkish grey, qtz grains up to 1mm in dia, minor kspar. Non-magnetic.
	653126	5154483	diorite gn	4c	f-mg		none visible	0.214	non-magnetic.
	653160	5154439	bio-qtz-gt gn	8a?	m-cg		none visible	0.277	non-magnetic.
	653203	5154416	gt-ky gn	8a	m-cg		none visible	0.153	non-magnetic.
	653211	5154409	gt-ky gn	8a	cg-vcg		none visible	0.126	non-magnetic. gt's 7-8mm in diameter.
999085	653296	5154340	qtz gn	8b	vfg		3-5% finely disseminated py, tr diss po.	1.640	locally weakly magnetic. Rusty-brown weathered surface.
999086	653327	5154323	qtz gn	8b	vfg	fol 242/59	3-5% finely disseminated + ff py.	0.042	non-magnetic. Mod fractured II to fol'n(bedding), py remobilized along fractures.
	653435	5154249	gt-ky gn	8a	cg-vcg		none visible	0.615	non-magnetic.
	653465	5154218	gt-ky gn	8a	cg-vcg		none visible	0.547	non-magnetic. gt's up to 12mm in diameter.
	653489	5154324	gt-ky gn	8a	cg-vcg		none visible	0.553	non-magnetic.
	653456	5154328	gt-ky gn	8a	cg-vcg		none visible	0.436	non-magnetic. gt's up to 16mm in diameter.
	653457	5154331	gt-ky gn	8a	cg-vcg		none visible	0.648	non-magnetic. gt's generally <5mm in diameter.
	653328	5154442	gph pgneiss		f-mg	fol 236/57	none visible	0.197	rusty-brown in colour, flakes generally <1mm in size. non-magnetic.
	653278	5154503	gt-ky gn	8a	cg-vcg		none visible	0.387	non-magnetic. gt's typically 5-7mm in diameter.
	653240	5154505	gt-ky gn	8a	cg-vcg		none visible	0.352	non-magnetic.gt's typically 5-7mm in diameter.
	653170	5154498	bio-fsp-qtz gn	25/4c?	f-mg		none visible	1.466	intrusive dyke? Weakly magnetic.
	653092	5154550	diorite gn	4c	f-mg		none visible	1.544	non-magnetic.
	653278	5154233	qtz gn	8b	vfg		1% finely diss + ff py.	0.216	rusty-brown weathered surface. Fractures orientated II to fol/bedding. Non-magnetic.
	653413	5154186	gt-ky gn	8a	cg-vcg		none visible	0.331	non-magnetic.
999087	652275	5152626	qtz gn	8b	vfg	fol 070/74	1% finely diss + ff py.	0.367	rusty-brown weathered surface.
999088	652527	5752723	qtz gn	8b	vfg		4% finely to coarsely diss + euh py	0.377	gossan zone along shoreline of Crocan Lake. Non-magnetic.
999089	652920	5154126	qtz gn	8b	vfg		5% medium to coarsely diss py	0.111	trench #4 (described above)
999090	653167	5153497	bio-mus-gtz-ky gn	8a	mg	fol 180/-25	none visible	0.007	old trench, sample taken of quartz vein float (local)
999091	652563	5152710	qtz gn	8b	vfg		5% fine to coarsely diss py.	0.717	non-magnetic, site of historical Cu showing on shoreline of Crocan Lake.

# Appendix III

## **Photographs of Grab Samples**

0999085 W alabs Packages (circle) 1A2, 1C Expl., 1C Research 10 Enh, 1E, 1E1, 1E2, 1H, 1H2 Ultratrace 1, 2, 3 4B, 4Litho Other \_ Analysis For \_\_\_\_ Assay 🗆 Geochemical 0999086 W Packages (circle) 1A2, 1C Expl., 1C Research 1D Enh, 1E, 1E1, 1E2, 1H, 1H2 Ultratrace 1, 2, 3 4B, 4Litho Other Analysis For Assay 🗖 Geochemical







# Appendix IV

## Assay Certificates

Quality Analysis ...



### Innovative Technologies

 Date Submitted:
 10-Jun-15

 Invoice No.:
 A15-04176 (i)

 Invoice Date:
 23-Jun-15

 Your Reference:
 KMC

JMK Exploration Consulting 147 Lakeside Dr. North Bay ON P1A 3E1 Canada

ATTN: Jeorg Kleinboeck

## **CERTIFICATE OF ANALYSIS**

7 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 1A2-Timmins Au - Fire Assay AA Code 1E3-Timmins Aqua Regia ICP(AQUAGEO)

REPORT A15-04176 (i)

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

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3 Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:

Emmanuel Eseme , Ph.D. Quality Control

ACTIVATION LABORATORIES LTD.

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

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#### Activation Laboratories Ltd.

Report: A15-04176

#### Results

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Мо	Ni	Pb	Zn	AI	As	В	Ва	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	К	La
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm							
Lower Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10
Method Code	FA-AA	AR-ICP																					
999085	9	< 0.2	< 0.5	29	140	5	13	16	29	0.62	17	< 10	61	< 0.5	< 2	0.89	11	12	3.58	< 10	< 1	0.15	19
999086	8	< 0.2	< 0.5	21	163	5	27	12	17	0.48	14	< 10	20	< 0.5	< 2	1.15	12	12	3.78	< 10	< 1	0.12	17
999087	5	0.5	< 0.5	11	81	11	< 1	46	18	0.34	21	< 10	28	< 0.5	< 2	0.46	< 1	13	5.91	< 10	< 1	0.20	< 10
999088	7	0.8	< 0.5	121	631	21	74	24	72	0.87	19	< 10	15	0.6	< 2	0.47	34	33	10.6	< 10	< 1	0.09	< 10
999089	7	1.2	2.2	179	457	14	83	62	511	1.15	41	12	22	0.8	< 2	0.38	25	51	9.43	< 10	< 1	0.17	19
999090	< 5	< 0.2	< 0.5	8	49	< 1	3	3	9	0.05	< 2	< 10	11	< 0.5	< 2	< 0.01	2	18	0.64	< 10	< 1	0.04	< 10
999091	6	0.5	< 0.5	52	577	7	36	24	33	1.28	27	< 10	23	0.8	< 2	1.31	18	29	7.95	< 10	< 1	0.08	16

#### Results

Analyte Symbol	Mg	Na	Р	S	Sb	Sc	Sr	Ti	Te	TI	U	V	W	Y	Zr
Unit Symbol	%	%	%	%	ppm	ppm	ppm	%	ppm						
Lower Limit	0.01	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
999085	0.89	0.029	0.034	1.57	< 2	< 1	16	0.13	< 1	< 2	< 10	22	< 10	11	7
999086	0.79	0.034	0.034	1.95	< 2	< 1	7	0.10	< 1	< 2	13	19	< 10	8	6
999087	0.62	0.047	0.054	0.62	2	1	9	0.12	< 1	< 2	< 10	62	< 10	2	7
999088	0.41	0.015	0.096	3.52	5	3	3	0.05	< 1	< 2	< 10	158	< 10	5	7
999089	1.26	0.035	0.111	8.25	4	7	6	0.08	2	< 2	< 10	147	< 10	12	10
999090	0.02	0.014	< 0.001	0.08	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	2	< 10	< 1	< 1
999091	0.69	0.018	0.068	3.85	3	1	6	0.12	< 1	< 2	< 10	57	< 10	14	8

Report: A15-04176

0	C
ų	C.

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Мо	Ni	Pb	Zn	AI	As	В	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	к	La
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10
Method Code	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas		27.0	1.7	1100	781	15	24	566	638	0.33	359	< 10	407	0.8	1380	0.75	5	6	20.3	< 10	< 1	0.03	< 10
GXR-1 Cert		31.0	3.30	1110	852	18.0	41.0	730	760	3.52	427	15.0	750	1.22	1380	0.960	8.20	12.0	23.6	13.8	3.90	0.050	7.50
GXR-4 Meas		3.4	< 0.5	6420	135	334	41	38	64	2.62	98	< 10	104	1.3	11	0.84	13	51	2.82	< 10	< 1	1.62	53
GXR-4 Cert		4.0	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110	4.01	64.5
GXR-6 Meas		0.3	< 0.5	64	956	2	21	80	110	6.50	236	< 10	1120	0.8	2	0.14	12	70	4.86	10	< 1	1.01	10
GXR-6 Cert		1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9
SAR-M (U.S.G.S.) Meas		3.3	5.2	334	4360	13	43	952	950	0.98	35		234	1.0	< 2	0.29	11	80	2.60	< 10		0.23	50
SAR-M (U.S.G.S.) Cert		3.64	5.27	331.0000	5220	13.1	41.5	982	930.0	6.30	38.8		801	2.20	1.94	0.61	10.70	79.7	2.99	17		2.94	57.4
OxD108 Meas	422																						
OxD108 Cert	414																						
SF67 Meas	811																						
SF67 Cert	835.000																						
999090 Orig		0.3	< 0.5	8	48	< 1	3	2	9	0.05	< 2	< 10	11	< 0.5	< 2	< 0.01	2	17	0.62	< 10	< 1	0.04	< 10
999090 Dup		< 0.2	< 0.5	8	51	< 1	3	3	8	0.05	< 2	< 10	12	< 0.5	< 2	< 0.01	2	20	0.65	< 10	< 1	0.04	< 10
999091 Orig		0.5	< 0.5	52	578	7	36	24	30	1.28	27	< 10	24	0.8	< 2	1.32	18	30	7.95	< 10	< 1	0.08	16
999091 Dup		0.5	< 0.5	51	576	7	35	24	35	1.27	27	< 10	23	0.8	< 2	1.30	18	29	7.94	< 10	< 1	0.08	16
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10

#### QC

r	-					-									
Analyte Symbol	Mg	Na	Р	S	Sb	Sc	Sr	Ti	Te	TI	U	V	W	Y	Zr
Unit Symbol	%	%	%	%	ppm	ppm	ppm	%	ppm						
Lower Limit	0.01	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas	0.13	0.049	0.037	0.18	71	1	142	< 0.01	7	< 2	266	77	146	22	14
GXR-1 Cert	0.217	0.0520	0.0650	0.257	122	1.58	275	0.036	13.0	0.390	34.9	80.0	164	32.0	38.0
GXR-4 Meas	1.55	0.125	0.122	1.62	4	7	71	0.13	1	< 2	16	79	15	11	10
GXR-4 Cert	1.66	0.564	0.120	1.77	4.80	7.70	221	0.29	0.970	3.20	6.20	87.0	30.8	14.0	186
GXR-6 Meas	0.37	0.076	0.032	0.01	5	21	30		< 1	< 2	< 10	165	< 10	5	15
GXR-6 Cert	0.609	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110
SAR-M (U.S.G.S.) Meas	0.34	0.030	0.064		5	3	28	0.05	< 1	< 2	< 10	32	< 10	19	
SAR-M (U.S.G.S.) Cert	0.50	1.140	0.07		6.0	7.83	151	0.38	0.96	2.7	3.57	67.2	9.78	28.00	
OxD108 Meas															
OxD108 Cert															
SF67 Meas															
SF67 Cert															
999090 Orig	0.02	0.014	< 0.001	0.08	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	2	< 10	< 1	< 1
999090 Dup	0.02	0.015	0.001	0.08	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	2	< 10	< 1	< 1
999091 Orig	0.69	0.019	0.067	3.86	3	1	6	0.12	1	< 2	< 10	56	< 10	14	8
999091 Dup	0.69	0.018	0.068	3.84	3	1	6	0.12	< 1	< 2	< 10	57	< 10	14	8
Method Blank															
Method Blank															
Method Blank	< 0.01	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1

## Maps

(Back Pocket)

