RAPIER GOLD INC.

PEN GOLD PROJECT

REPORT ON DIAMOND DRILL HOLES PG13-109 AND PG13-110

CLAIMS S63908, S63909 AND S63910

REEVES TOWNSHIP

Report prepared by: Pat Pope, P. Geo.
Timmins, Ontario

Date: May 6, 2015

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1. SUMMARY OF PROGRAM

In May of 2013, Rapier Gold Inc. (Rapier Gold) completed 618 m of NQ sized diamond drilling in two holes on claims S63908, S63909 and S63910 on the Pen Gold Project (also referred to in this report as the Pen Gold property). This drill report was prepared primarily for the purpose of fulfilling assessment work requirements on the property and is not compliant with National Instrument 43-101.

2. PROPERTY LOCATION AND ACCESS

The Pen Gold property is located in Reeves, Penhorwood, Kenogaming, and Keith Townships in north-eastern Ontario, approximately 70 km west of the city of Timmins **(Figure 1)**. Access to the property is via Ontario Provincial Highway 101. A number of gravel roads run north and south off this highway and provide good access to most of the property.

The drill sites for the two holes in this report were accessed using the mine road to the Penhorwood Mine operated by Imerys Talc Canada Inc.

3. PROPERTY DESCRIPTION

The Pen Gold property consists of 37 patented mining claims **(Table 1)**, 15 leased mining claims **(Table 2)**, 3 mining licences of occupation **(Table 3)**, and 91 staked mining claims totalling 990 claim units **(Table 4)**, which together encompass an area of 16721 hectares. All except two of the mining claims (4253023 and 4253030) are contiguous **(Figure 1)**.

Nat River Gold Inc. / Aurifere Riviere Nat Inc. (Nat River) holds rights to all non-talc minerals on the patented and leased mining claims and mining licenses of occupation held by Imerys Talc Canada Inc. through a sub-lease. Nat River has a 100% interest in 30 unpatented staked mining claims. Rapier Gold has entered into an agreement to purchase all the issued and outstanding shares in Nat River from Rio Tinto Minerals (RTM) subject to customary terms and conditions.

Rogue Resources Inc. (Rogue), Rapier's parent company, has a 100% interest in 57 unpatented staked mining claims. Rapier has entered into a license and option agreement with Rogue to explore for gold on these claims.

Frederick John Ross, Garry Frederick Windsor, and Pierre C Robert have a combined 100% interest in two unpatented staked mining claims. Rapier Gold holds an option to acquire the gold rights subject to certain terms.

Rapier Gold has a 100% interest in one unpatented mining claim.

Larry Noel Gervais has a 100% interest in one unpatented mining claim. Rapier Gold has entered into an option agreement with Larry Gervais.

Patented mining claims S63908, S63909 and S63910, on which the drill holes in this report are situated, are located in the north central part of the property in Reeves Township.

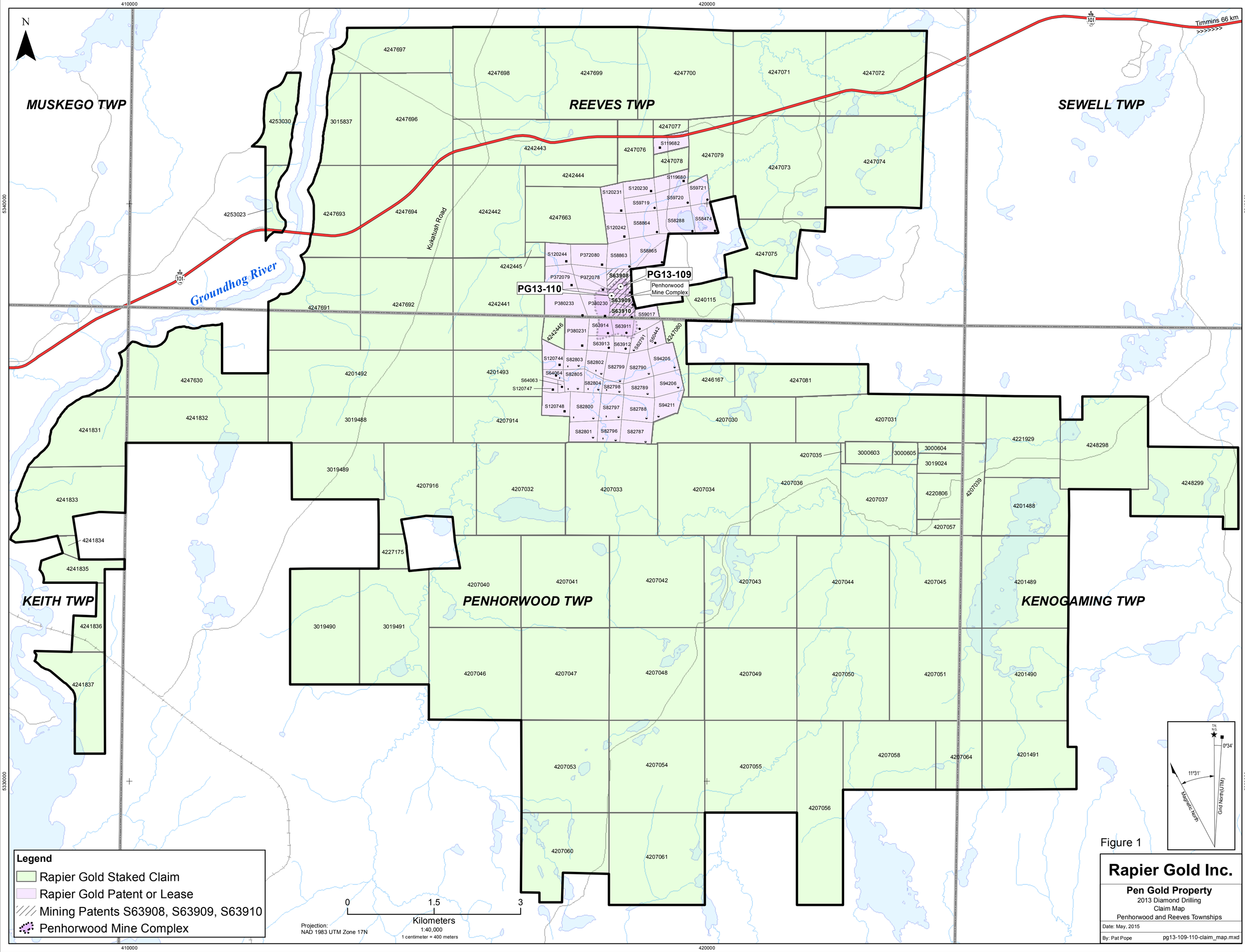


Figure 1

Rapier Gold Inc.

Pen Gold Property
2013 Diamond Drilling
Claim Map
Penhorwood and Reeves Townships

Date: May, 2015

By: Pat Pope

pg13-109-110-claim_map.mxd

Table 1. List of Patented Mining Claims

Township	Patent	Patentee	Parcel Number	Land Titles PIN	Hectares
Reeves	S.58288	IMERYS TALC CANADA INC.	15602 SWS	73017-0007	27.587
Reeves	S.58474	IMERYS TALC CANADA INC.	15589 SWS	73017-0025	20.170
Reeves	S.58863	IMERYS TALC CANADA INC.	15611 SWS	73017-0033	19.567
Reeves	S.58864	IMERYS TALC CANADA INC.	15603 SWS	73017-0016	22.278
Reeves	S.58865	IMERYS TALC CANADA INC.	15591 SWS	73017-0051	32.205
Penhorwood	S.59017	IMERYS TALC CANADA INC.	15582 SWS	73017-0018	17.458
Reeves	S.59719	IMERYS TALC CANADA INC.	15631 SWS	73017-0049	15.228
Reeves	S.59720	IMERYS TALC CANADA INC.	15578 SWS	73017-0014	20.505
Reeves	S.59721	IMERYS TALC CANADA INC.	15577 SWS	73017-0013	15.273
Penhorwood	S.60442	IMERYS TALC CANADA INC.	15607 SWS	73042-0025	11.505
Reeves	S.63908	IMERYS TALC CANADA INC.	15617 SWS	73017-0039	18.308
Reeves	S.63909	IMERYS TALC CANADA INC.	15618 SWS	73017-0040	8.502
Reeves	S.63910	IMERYS TALC CANADA INC.	15632 SWS	73017-0050	9.340
Penhorwood	S.63911	IMERYS TALC CANADA INC.	15608 SWS	73042-0050	13.055
Penhorwood	S.63912	IMERYS TALC CANADA INC.	15633 SWS	73042-0024	8.668
Penhorwood	S.63913	IMERYS TALC CANADA INC.	15609 SWS	73042-0051	11.489
Penhorwood	S.63914	IMERYS TALC CANADA INC.	15653 SWS	73042-0022	14.111
Penhorwood	S.64063	IMERYS TALC CANADA INC.	15610 SWS	73042-0026	2.282
Penhorwood	S.64064	IMERYS TALC CANADA INC.	15654 SWS	73042-0023	5.220
Penhorwood	S.82787	IMERYS TALC CANADA INC.	18626 SWS	73042-0018	20.295
Penhorwood	S.82788	IMERYS TALC CANADA INC.	18627 SWS	73042-0042	22.310
Penhorwood	S.82789	IMERYS TALC CANADA INC.	18628 SWS	73042-0043	16.374
Penhorwood	S.82790	IMERYS TALC CANADA INC.	18629 SWS	73042-0044	20.542
Penhorwood	S.82791	IMERYS TALC CANADA INC.	18630 SWS	73042-0045	10.028
Penhorwood	S.82796	IMERYS TALC CANADA INC.	18633 SWS	73042-0046	14.637
Penhorwood	S.82797	IMERYS TALC CANADA INC.	18634 SWS	73042-0047	17.401
Penhorwood	S.82798	IMERYS TALC CANADA INC.	18635 SWS	73042-0048	8.086
Penhorwood	S.82799	IMERYS TALC CANADA INC.	18636 SWS	73042-0049	17.717
Penhorwood	S.82800	IMERYS TALC CANADA INC.	18645 SWS	73042-0016	27.033
Penhorwood	S.82801	IMERYS TALC CANADA INC.	18646 SWS	73042-0039	16.548
Penhorwood	S.82802	IMERYS TALC CANADA INC.	18637 SWS	73042-0019	14.484
Penhorwood	S.82803	IMERYS TALC CANADA INC.	18647 SWS	73042-0040	12.687
Penhorwood	S.82804	IMERYS TALC CANADA INC.	18648 SWS	73042-0041	11.060
Penhorwood	S.82805	IMERYS TALC CANADA INC.	18649 SWS	73042-0017	13.274
Penhorwood	S.94205	IMERYS TALC CANADA INC.	18655 SWS	73042-0014	21.351
Penhorwood	S.94206	IMERYS TALC CANADA INC.	18656 SWS	73042-0038	18.126
Penhorwood	S.94211	IMERYS TALC CANADA INC.	18657 SWS	73042-0015	17.956
TOTAL					**592.660**

Table 2. List of Leased Mining Claims

Township	Parcel Number	Land Titles PIN	Lease	Lease Number	Lessee	Hectares
Reeves	1509 LSWS	73017-0006	P372078	107432	IMERYS TALC CANADA INC.	22.076
Reeves	1509 LSWS	73017-0006	P372079	107432	IMERYS TALC CANADA INC.	21.525
Reeves	1509 LSWS	73017-0006	P372080	107432	IMERYS TALC CANADA INC.	23.286
Reeves	1509 LSWS	73017-0006	P380230	107432	IMERYS TALC CANADA INC.	20.667
Penhorwood	1509 LSWS	73017-0006	P380231	107432	IMERYS TALC CANADA INC.	23.617
Reeves	1509 LSWS	73017-0006	P380233	107432	IMERYS TALC CANADA INC.	31.549
Penhorwood	1011 LSWS	73042-0001	S120744	106744	IMERYS TALC CANADA INC.	15.969
Penhorwood	1011 LSWS	73042-0001	S120747	106744	IMERYS TALC CANADA INC.	6.503
Penhorwood	1011 LSWS	73042-0001	S120748	106744	IMERYS TALC CANADA INC.	18.652
Reeves	1013 LSWS	73017-0002	S119680	106742	IMERYS TALC CANADA INC.	15.593
Reeves	1013 LSWS	73017-0002	S119682	106742	IMERYS TALC CANADA INC.	17.858
Reeves	1014 LSWS	73017-0003	S120230	106738	IMERYS TALC CANADA INC.	14.617
Reeves	1014 LSWS	73017-0003	S120231	106738	IMERYS TALC CANADA INC.	18.316
Reeves	1014 LSWS	73017-0003	S120242	106738	IMERYS TALC CANADA INC.	19.032
Penhorwood	1029 LSWS	73017-0004	S.120244	106743	IMERYS TALC CANADA INC.	16.596
TOTAL						**285.856**

Table 3. List of Mining License of Occupation

Township	Mining Licence of Occupation	Licensee	Hectares
Penhorwood	MLO 14919	IMERYS TALC CANADA INC.	0.158
Penhorwood	MLO 14918	IMERYS TALC CANADA INC.	1.744
Penhorwood	MLO 12701	IMERYS TALC CANADA INC.	0.348
TOTAL			**2.250**

Table 4. List of Unpatented Mining Claims

Claim Number	Ownership	Township	Record Date	Claim Units	Hectares
4247071	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	16	256
4247072	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	16	256
4247693	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	9	144
4247694	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	16	256
4247696	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	16	256
4247697	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	9	144
4247698	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	16	256
4247699	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	16	256
4247700	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	16	256
3015837	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	04-Aug-09	5	80
4242441	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	15-Oct-08	16	256
4242442	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	15-Oct-08	12	192
4242443	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	15-Oct-08	14	224
4242444	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	15-Oct-08	4	64
4242445	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	15-Oct-08	1	16
4242446	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	PENHORWOOD	15-Oct-08	1	16
4247663	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	03-Mar-09	7	112
4247073	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	16	256
4247075	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	10	160
4247076	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	5	80
4247077	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	1	16
4247078	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	2	32
4247079	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	6	96
4247080	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	PENHORWOOD	30-Mar-09	3	48
4247691	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	12	192
4247692	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	16	256
4247074	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	30-Mar-09	15	240
4253023	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	17-Mar-10	2	32
4253030	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	REEVES	17-Mar-10	4	64
4247081	Nat River Gold Inc. / Aurifere Riviere Nat Inc.	PENHORWOOD	30-Mar-09	9	144
3000605	Rogue Resources Inc.	PENHORWOOD	02-Jan-04	1	16
4207046	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207047	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207054	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207055	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256

Table 4. List of Unpatented Mining Claims

Claim Number	Ownership	Township	Record Date	Claim Units	Hectares
4207060	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	14	224
4207061	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4201492	Rogue Resources Inc.	PENHORWOOD	23-Mar-06	16	256
4201493	Rogue Resources Inc.	PENHORWOOD	23-Mar-06	8	128
4201488	Rogue Resources Inc.	KENOGAMING	05-Apr-06	9	144
4201489	Rogue Resources Inc.	KENOGAMING	05-Apr-06	16	256
4201490	Rogue Resources Inc.	KENOGAMING	05-Apr-06	16	256
4201491	Rogue Resources Inc.	KENOGAMING	05-Apr-06	12	192
3019024	Rogue Resources Inc.	PENHORWOOD	24-Apr-06	2	32
4220806	Rogue Resources Inc.	PENHORWOOD	30-Apr-07	4	64
4207030	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	12	192
4207031	Rogue Resources Inc.	KENOGAMING	07-Jun-05	16	256
4207032	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207033	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207034	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207035	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	1	16
4207036	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207037	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	10	160
4207039	Rogue Resources Inc.	KENOGAMING	07-Jun-05	4	64
4207040	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	15	240
4207041	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207042	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207043	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207044	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207045	Rogue Resources Inc.	KENOGAMING	07-Jun-05	16	256
4207048	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207049	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207050	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207051	Rogue Resources Inc.	KENOGAMING	07-Jun-05	16	256
4207053	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207056	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	16	256
4207057	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	1	16
4207058	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	12	192
4207064	Rogue Resources Inc.	KENOGAMING	07-Jun-05	6	96
4207914	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	9	144
4207916	Rogue Resources Inc.	PENHORWOOD	07-Jun-05	15	240
4241831	Rogue Resources Inc.	KEITH	11-Jul-08	11	176
4241832	Rogue Resources Inc.	PENHORWOOD	11-Jul-08	12	192
4241833	Rogue Resources Inc.	KEITH	11-Jul-08	12	192
4241834	Rogue Resources Inc.	KEITH	11-Jul-08	1	16
4241835	Rogue Resources Inc.	KEITH	11-Jul-08	5	80
4241836	Rogue Resources Inc.	KEITH	11-Jul-08	3	48
4241837	Rogue Resources Inc.	KEITH	11-Jul-08	8	128
4221929	Rogue Resources Inc.	KENOGAMING	03-Aug-07	12	192
3000603	Rogue Resources Inc.	PENHORWOOD	15-Oct-03	2	32
3000604	Rogue Resources Inc.	PENHORWOOD	15-Oct-03	2	32
4246167	Rogue Resources Inc.	PENHORWOOD	14-Nov-08	3	48
3019489	Rogue Resources Inc.	PENHORWOOD	19-Nov-07	10	160
3019491	Rogue Resources Inc.	PENHORWOOD	19-Nov-07	15	240
4227175	Rogue Resources Inc.	PENHORWOOD	19-Nov-07	3	48
3019488	Rogue Resources Inc.	PENHORWOOD	18-Dec-07	16	256
3019490	Rogue Resources Inc.	PENHORWOOD	18-Dec-07	15	240
4248299	Ross, Frederick John Windsor Gary Frederick Robert, Pierre C	KENOGAMING	17-Feb-11	14	224
4248298	Ross, Frederick John Windsor Gary Frederick Robert, Pierre C	KENOGAMING	17-Feb-11	15	240
4247630	Rapier Gold Inc.	PENHORWOOD	08-Jul-13	16	256
4240115	Gervais, Larry Noel	REEVES	24-Jun-08	5	80

4. PROPERTY HISTORY AND PREVIOUS EXPLORATION

The property history was detailed by Pope (2011) in the following description.

Johns-Manville Company Limited (Johns-Manville) identified, developed and operated a chrysotile asbestos mine and plant on what are now the patented and leased mining claims. They first became interested in the serpentinite bodies in 1951. During their term of exploration and development from the 1950's through the 1970's, Johns-Manville evaluated numerous serpentinite bodies in the region to determine their potential for asbestos mineralization. In 1973 the talc carbonate mineralization of the Penhorwood ore body was defined as part of one of their programs.

Johns-Manville operated the Penhorwood talc mine and flotation plant from 1974 to 1976. In 1976 Johns-Manville made the decision to cease operations at both the Penhorwood mine and flotation plant operations and the Timmins mill. The operations were inactive until 1978 when Steetley PLC purchased both operations and resumed production. Steetley operated the mine, plant and mill until 1988 when Luzenac Inc., in partnership with its parent RTZ (now Rio Tinto) purchased the operations as part of their North American expansion. The Canadian operations were operated under separate management from the Luzenac operations in the United States until 1988 when the corporate management in Denver became responsible for all North American operations. As of February 1, 2006 the Luzenac North America operations were merged with the Borax Americas operations to form part of a new global industrial minerals company within Rio Tinto, called Rio Tinto Minerals.

Patented mining claims S63908, S63909 and S63910, on which PG13-109 and PG13-110 are situated, was part of the Johns-Manville property. There is no record of work done on these claims prior to the Johns-Manville ownership. Milne (1972) suggested that detailed geological mapping, ground magnetic and horizontal loop electromagnetic geophysical surveys had been carried out over all the Johns-Manville claims. However, the only survey present in the Ministry of Northern Development and Mines files covering the claim is a ground magnetometer survey with report by Evelegh (1964).

In 2011, Imerys Talc Canada Inc. purchased the Penhorwood mine, plant and mill from RTM.

5. PERSONNEL

Drill holes PG13-109 and PG13-110 were designed and supervised by Pat Pope, P. Geo. with postal address at P.O. Box 853; Timmins, Ontario; P4N 7G7 and by Mary Stalker, P. Geo. with postal address at P.O. Box 664; Schumacher, Ontario; P0N 1G0. The drill core was geologically logged by Pat Pope. Quality control data was reviewed by Gary Lustig, P. Geo. This drill report was prepared by Pat Pope.

6. DIAMOND DRILL PROGRAM

In May of 2013, Rapier Gold completed 618m of NQ sized diamond drilling in two holes on claims S63908, S63909 and S63910 on the Pen Gold Project. NPLH Drilling from Timmins, Ontario provided contract diamond drilling for the program. The holes were NQ-size with a diameter of 47.6 mm. The drill holes were spotted in the field using a Trimble differential GPS unit having an

accuracy of sub-cm in all three directions. After the holes were drilled, the final collar locations were surveyed using the Trimble differential GPS unit.

The drill hole collar data and the core length drilled on each claim is presented in **Table 5**. A plan of the drill holes is presented in **Appendix I**. Cross sections of the drill holes are presented in **Appendix II**.

Table 5. Drill Hole Collars

Hole Number	Collar Easting NAD 83 zone 17	Collar Northing NAD 83 zone 17	Collar Elevation Mean Sea Level	Azimuth	Dip	Hole Length (metres)	Core Length (m) Claim S63908	Core Length (m) Claim S63909	Core Length (m) Claim S63910
PG13-109	418509.582	5338566.631	339.305	225	-45	300	232	68	
PG13-110	418350.035	5338409.616	344.244	180	-45	318		167	151
			Totals			**618**	**232**	**235**	**151**

Drill hole deviation was monitored by a single-shot Reflex electronic instrument capable of taking down-hole dip and azimuth measurements. The first test was taken at 3 runs below the casing, then at 50 m intervals down the hole. The azimuth readings were corrected using a magnetic declination of 10º west.

7. LOGGING AND SAMPLING METHOD

After the core was placed in wooden trays at the drill site, the boxes were taped and delivered by NPLH Drilling to a core shack located in Timmins, provided by NPLH Drilling. Before geological logging, the core was oriented, measured in one metre intervals, measured for recovery and RQD, photographed, and magnetic susceptibility readings taken using a KT-10 Magnetic Susceptibility Meter.

Geological data recorded on the drill logs include lithology, texture, structure, alteration, quartz veining and sulphide mineralization. Geological data was also recorded for each sample interval including alteration intensity, quartz vein percentage, and sulphide percentage. Drill logs along with the legend are presented in **Appendix III**.

Core was sawn in half using a diamond rock saw, with a sample tag placed in the bag and stapled closed. A sample tag was also stapled to the core box at the end of each sample. The remaining half of the core was left in the core box and transported to the Rogue Iron Ore Corp. outside core storage facility at 571 Moneta Avenue, Timmins, Ontario or the core storage facility at 580 Shirley St. N in Timmins. In late 2014, the core was moved to the Shirley St. N. facility.

8. SAMPLE PREPARATION, ANALYSES AND SECURITY

After sawing and bagging, the sealed individual samples were placed in shipping bags, which in turn were sealed with plastic tie straps. The bags remain sealed until they were opened by Actlabs personnel in Timmins, Ontario.

Core samples from the drill program were submitted to Activation Laboratories Ltd (Actlabs) in Timmins, Ontario. The sawn core samples were crushed in their entirety to better than 90% passing a 2 mm or 10 mesh screen. The crushed material was then mechanically or riffle split to arrive at a

sub-sample of 1000 grams, and the sub-sample was pulverized to ensure a minimum of 95% of the material passing through a 0.105 mm or 150 mesh screen (Actlabs Procedure RX1-1000).

Fire assaying was performed on a 30 gram sample drawn from the pulp. The gold bead was assayed using either atomic absorption spectrometry (Procedure 1A2) or a gravimetric technique for values greater than 5000 ppb (Procedure 1A3). Gold values were reported on the certificates in ppb for assays performed by atomic absorption spectrometry and in grams per metric tonne (g/tonne) for assays performed by gravimetric or screen metallic techniques. Values below the detection limit of 5 ppb were reported as below detection limit.

Samples containing visible gold and selected intervals of mineralization were analyzed by a metallic screen method (Procedure 1A4-1000).

An additional 87 of the core samples were also analyzed using the ultratrace 6 package (UT-6), a trace element geochemistry analysis package using 4-acid digestion and ICP/MS or ICP/OES techniques. An additional 50 samples were also analyzed using a lithogeochemistry package (4E-Expl) using fusion and ICP, INAA, ICP/MS, and XRF techniques.

Assay certificates are presented in **Appendix IV**.

9. QUALITY CONTROL AND ANALYTICAL RESULTS

External Quality Assurance / Quality Control (QA/QC) was provided by standards, blanks, and duplicates inserted into the sample stream prior to shipment to the laboratory. Standards and blanks were inserted into the sample stream by the core cutter during sample packing at the rate of one standard and one blank for every twenty samples. In addition, one duplicate was inserted every twenty samples alternating between prep duplicates and field duplicates. For the prep duplicate, Actlabs split the coarse crushed material and prepared two separate pulps for analysis. Two quarter core samples of the same interval were submitted to Actlabs for the field duplicates.

Four external standards were used with gold values of 1.16 g/t, 3.19 g/t, 5.69 g/t and 7.4 g/t. The gold standards were supplied by CDN Resources Laboratories Ltd. of Langley, BC. Two field blanks, diabase and silica quartz, were used in the drill program. Diabase blank material was prepared by sawing barren diabase NQ core so as to be blind to the laboratory. The silica blank material was prepared by hand sorting barren quartz rock samples. The diabase and silica quartz samples were check analyzed for gold at ALS Chemex Laboratories in Timmins, Ontario in 2008. All the samples returned values less than the detection limit of 0.01 g/t Au.

Internal quality control procedures at Actlabs consisted of standards, blanks and duplicate samples. Actlabs reported the results of the internal quality control data with each electronic batch sent and on the final certificates.

All standard, blank, and duplicate assays were reviewed before the assays were accepted for entry into the drill logs and drill hole database by Gary Lustig, P. Geo.

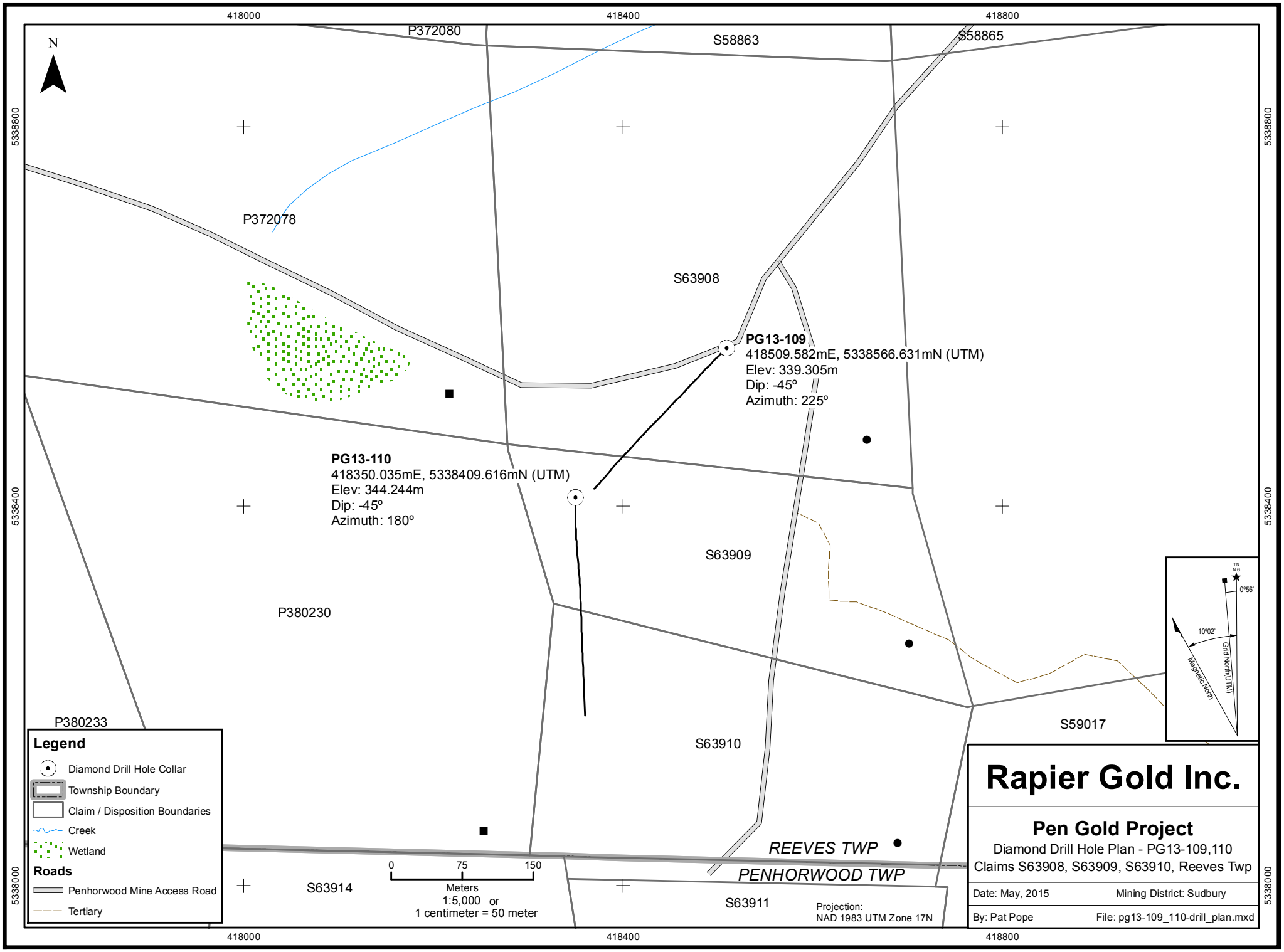
10. REFERENCES

Evelegh, F. J. (1964) Report on a magnetometer survey, Reeves-Penhorwood Township claims; in Ministry of Northern Development and Mines assessment work report T-506.

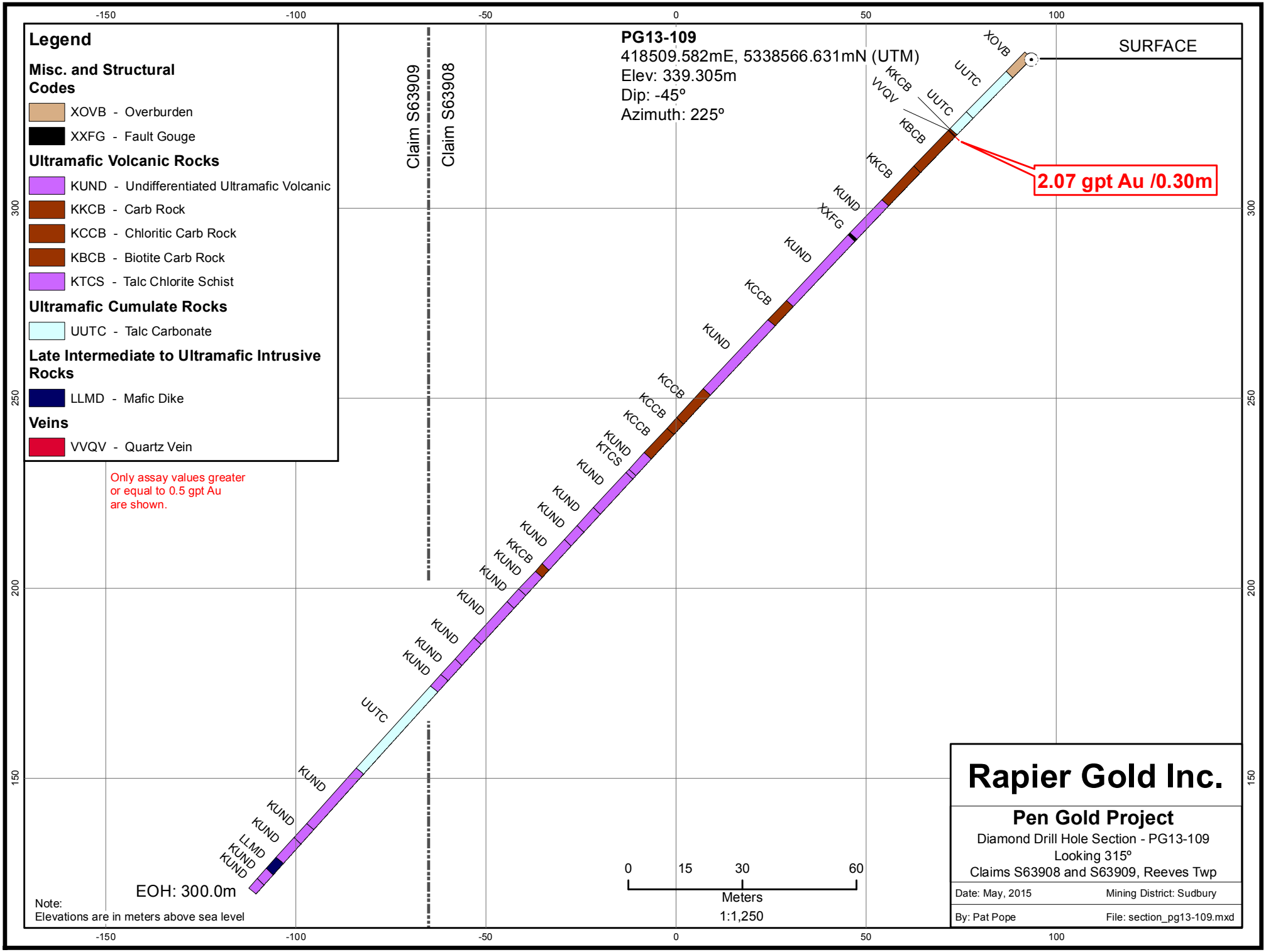
Milne, V.G. (1972) Geology of the Kukatush-Sewell Lake Area, District of Sudbury. Ontario Department of Mines Geological Report 97, accompanied by Map 2230 Reeves and Sewell Townships and Map 2231 Penhorwood and Kenogaming Townships.

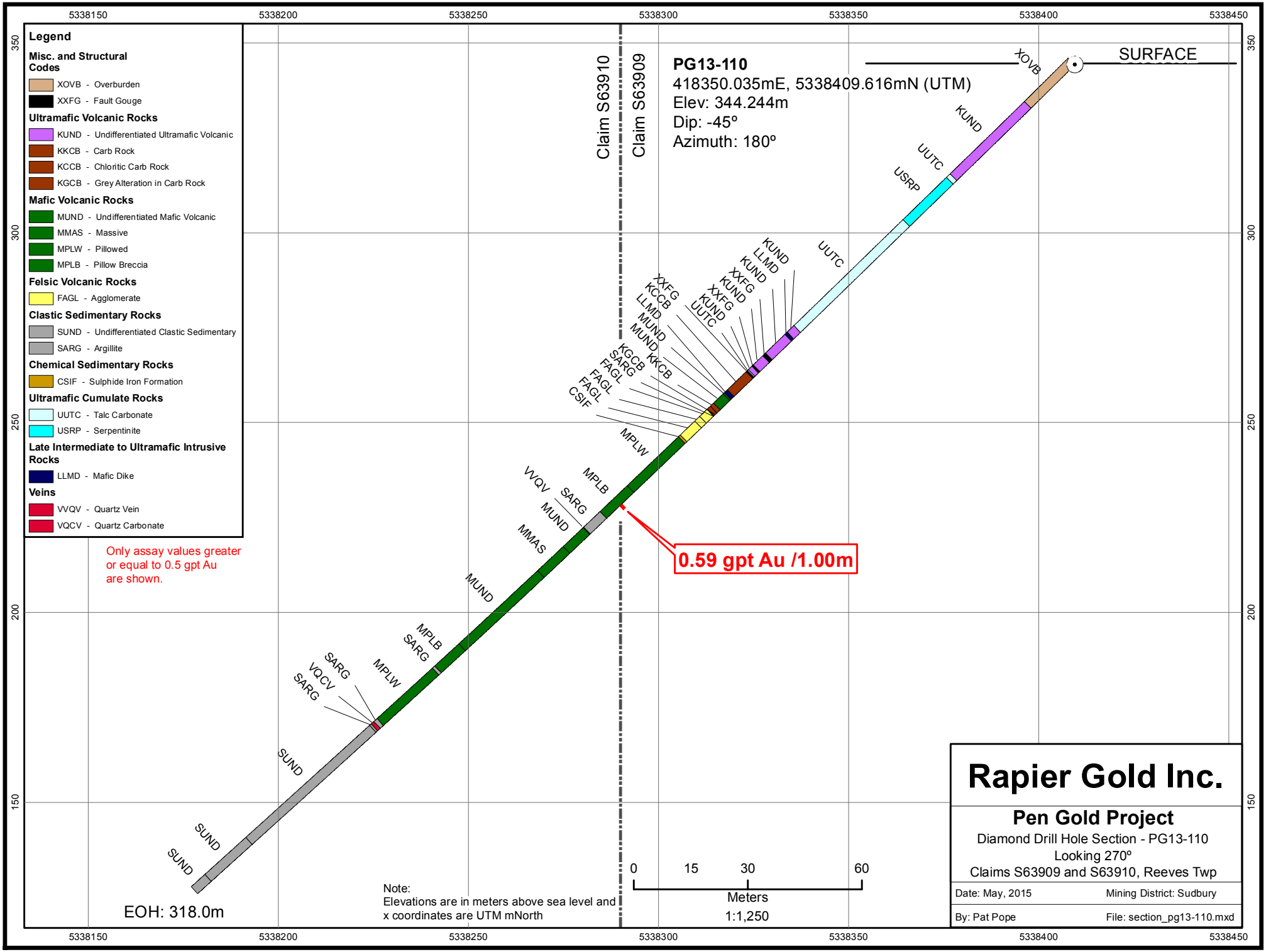
Pope, P. (2011) Rio Tinto Minerals; Report on the 2010 Diamond Drill Program; Drill Holes PC10_001 to PC10_007; Claims S58863 and S63908; Penhorwood and Reeves Townships, Ontario.

Appendix I Drillhole Plan


418000
418400
418800
5338800
5338400
5338000
N
P372080
S58863
S58865
P372078
S63908
PG13-109
418509.582mE, 5338566.631mN (UTM)
Elev: 339.305m
Dip: -45º
Azimuth: 225º
PG13-110
418350.035mE, 5338409.616mN (UTM)
Elev: 344.244m
Dip: -45º
Azimuth: 180º
S63909
P380230
P380233
S63910
S59017
REEVES TWP
PENHORWOOD TWP
S63914
S63911
0 75 150
Meters
1:5,000 or
1 centimeter = 50 meter
Projection:
NAD 1983 UTM Zone 17N
TN
MN
0°56'
10°02'
Grid North(UTM)
Magnetic North
Legend
Diamond Drill Hole Collar
Township Boundary
Claim / Disposition Boundaries
Creek
Wetland
Roads
Penhorwood Mine Access Road
Tertiary
Rapier Gold Inc.
Pen Gold Project
Diamond Drill Hole Plan - PG13-109,110
Claims S63908, S63909, S63910, Reeves Twp
Date: May, 2015
Mining District: Sudbury
By: Pat Pope
File: pg13-109_110-drill_plan.mxd

Appendix II Cross Sections


Legend
Misc. and Structural Codes
XOVB - Overburden
XXFG - Fault Gouge
Ultramafic Volcanic Rocks
KUND - Undifferentiated Ultramafic Volcanic
KKCB - Carb Rock
KCCB - Chloritic Carb Rock
KBCB - Biotite Carb Rock
KTCS - Talc Chlorite Schist
Ultramafic Cumulate Rocks
UUTC - Talc Carbonate
Late Intermediate to Ultramafic Intrusive Rocks
LLMD - Mafic Dike
Veins
VVQV - Quartz Vein
Only assay values greater or equal to 0.5 gpt Au are shown.
Claim S63909
Claim S63908
PG13-109
418509.582mE, 5338566.631mN (UTM)
Elev: 339.305m
Dip: -45º
Azimuth: 225º
SURFACE
2.07 gpt Au /0.30m
EOH: 300.0m
Note:
Elevations are in meters above sea level
0 15 30 60
Meters
1:1,250
Rapier Gold Inc.
Pen Gold Project
Diamond Drill Hole Section - PG13-109
Looking 315º
Claims S63908 and S63909, Reeves Twp
Date: May, 2015
Mining District: Sudbury
By: Pat Pope
File: section_pg13-109.mxd


Legend
Misc. and Structural Codes
XOVB - Overburden
XXFG - Fault Gouge
Ultramafic Volcanic Rocks
KUND - Undifferentiated Ultramafic Volcanic
KKCB - Carb Rock
KCCB - Chloritic Carb Rock
KGCB - Grey Alteration in Carb Rock
Mafic Volcanic Rocks
MUND - Undifferentiated Mafic Volcanic
MMAS - Massive
MPLW - Pillowed
MPLB - Pillow Breccia
Felsic Volcanic Rocks
FAGL - Agglomerate
Clastic Sedimentary Rocks
SUND - Undifferentiated Clastic Sedimentary
SARG - Argillite
Chemical Sedimentary Rocks
CSIF - Sulphide Iron Formation
Ultramafic Cumulate Rocks
UUTC - Talc Carbonate
USRP - Serpentinite
Late Intermediate to Ultramafic Intrusive Rocks
LLMD - Mafic Dike
Veins
VVQV - Quartz Vein
VQCV - Quartz Carbonate
Only assay values greater or equal to 0.5 gpt Au are shown.
Claim S63910
Claim S63909
PG13-110
418350.035mE, 5338409.616mN (UTM)
Elev: 344.244m
Dip: -45º
Azimuth: 180º
SURFACE
XOVB
KUND
UUTC
USRP
KUND
LLMD
KUND
XXFG
KUND
XXFG
KUND
UUTC
XXFG
KCCB
LLMD
MUND
MUND
KKCB
KGCB
SARG
FAGL
FAGL
FAGL
CSIF
MPLW
MPLB
VVQV
SARG
MUND
MMAS
MUND
MPLB
SARG
SARG
VQCV
SARG
MPLW
SUND
SUND
SUND
0.59 gpt Au /1.00m
EOH: 318.0m
Note:
Elevations are in meters above sea level and x coordinates are UTM mNorth
0 15 30 60
Meters
1:1,250
5338150 5338200 5338250 5338300 5338350 5338400 5338450
350 300 250 200 150
Rapier Gold Inc.
Pen Gold Project
Diamond Drill Hole Section - PG13-110
Looking 270º
Claims S63909 and S63910, Reeves Twp
Date: May, 2015
Mining District: Sudbury
By: Pat Pope
File: section_pg13-110.mxd

Appendix III Diamond Drill Logs and Legends

Rapier Gold Inc.

Pat Pope

DDH: PG13-109

Drilled by:	NPLH	Claims title:	S63908; S63909	Section:	
Described by:	Pat Pope	Township:	Reeves Twp	Work place:	Pen Gold North
		Range:		Description date:	2013-05-31
		Lot:		Surveyed By:	Mary Stalker; Trimble differential GPS
		From:	2013-05-07		
		To:	2013-05-08		

Collar

Azimuth:	225.00°
Dip:	-45.00°
Length:	300.00 m

UTM NAD83-Z17N

East	418,509.582
North	5,338,566.631
Elevation	339.305

Down hole survey

Type	Depth	Azimuth	Dip	Invalid
Collar	0.00	225.00°	-45.00°	No
Reflex EzShot	18.00	225.30°	-45.80°	No
Reflex EzShot	69.00	222.90°	-46.50°	No
Reflex EzShot	120.00	223.90°	-47.10°	No
Reflex EzShot	171.00	223.80°	-47.40°	No
Reflex EzShot	222.00	222.50°	-47.70°	No
Reflex EzShot	273.00	221.10°	-48.10°	No
Reflex EzShot	300.00	223.20°	-48.00°	No

Type	Depth	Azimuth	Dip	Invalid

Description

Hexagonal core barrel and long shell. Rubber plug at 15m; 1 bag cement; casing pulled. Boxes 1-10 in core shack at 580 Shirley St. N. Timmins; Boxes 11-69 at Rogue Iron Ore Corp. outside core storage, Moneta Avenue, Timmins.

Core size: NQ Cemented: Yes Stored: Yes

Description					Assay				
					From	To	Sample number	Length	AU_FIN (g/t)
0.00	7.00	XOVB							
		Overburden							
		6m casing							
7.00	21.90	UUTC			19.00	20.00	31718	1.00	0.0025
		Talc Carbonate			20.00	21.00	31719	1.00	0.0025
		Dark bluish grey grading to strong yellowish to orange to brown tinge due to oxidation of iron carbonate; local blocky oxidized sections; 5-10% beige to yellow carbonate-pale blue talc veining/stringers; weakly to moderately foliated at 40-50 dtca			21.00	21.90	31720	0.90	0.0100
21.90	28.00	UUTC							
		Talc Carbonate							
		Light to medium bluish grey green with local puple tinge and banding; local orange/brown tinge due to oxidation of carbonate along fractures and in blocky sections; moderately to well foliated at 40-50 dtca; 3-5% pale green talc veining/stringers; 10-20% irregular white to grey quartz veining/stockwork; local green tourmaline in wallrock marginal to quartz veining; vague lower contact							
		21.90	28.00	VEI;10;qv;	21.90	23.00	31721	1.10	0.0050
				Vein 10%	23.00	23.40	31723	0.40	0.0060
					23.40	24.20	31724	0.80	0.0025
					24.20	25.00	31725	0.80	0.0060
					25.00	26.00	31726	1.00	0.0260
					26.00	27.00	31728	1.00	0.0350
					27.00	28.00	31729	1.00	0.0350
28.00	28.50	KKCB							
		Carb Rock							
		Brown oxidized carbonate and dark green chlorite/biotite fragments and stringers; well foliated at 30-40 dtca; moderately to strongly oxidized, blocky and ground core; 10% irregular grey quartz-ankerite veining/stringers, some appear to extend from contact vein downhole							
		28.00	28.50	VEI;10;qv;	28.00	28.50	31730	0.50	0.0350
				Vein 10%					
28.50	28.80	VVQV							
		Quartz Vein							
		Suggary mottled grey quartz vein; 1 speck VG at 28.5m; 1 speck VG at 28.6m; upper contact at 35 dtca; lower contact at 40 dtca, extension type grey quartz-carbonate veins continue into unit downhole, but core is blocky and broken and full extent of vein zone is not known; Talc Carbonate-Carb Rock Contact Vein							
		28.50	28.80	VEI;100;qv;	28.50	28.80	31731	0.30	2.0700
				Vein 100%					
28.80	41.80	KBCB							
		Biotite Carb Rock							
		Medium to dark greyish brown with abundant sections of blocky, broken, oxidized and ground core; 28.8-30m: estimate 40% core recovery; 30-33m: estimate 30-40% recovery; 33-36m: estimate 60-80% recovery; 36-39m: estimate 90-95% recovery; see geotech log for measured recovery and RQD; moderately to well foliated at 30-40 dtca; moderate to strong biotite as pervasive to wisps/bands; local weak to moderate fuchsite alteration around veining; 10-40% irregular mottled grey quartz-ankerite veining/stringers/stockwork, generally cross-cuts foliation;							

Description			Assay				
			From	To	Sample number	Length	AU_FIN (g/t)
		local abundant green and brown tourmaline around veining; local bleaching around veining in lower, less oxidized part of unit; spotty trace to 5% pyrite and trace arsenopyrite in wallrock marginal to veining, less commonly in veining					
28.80	41.80	Fuc1;Bio2;;;					
		Fuchsite Weak;Biotisation Moderate;;;					
28.80	41.80	Py0.1;;;;totsul0.1					
		Pyrite0.1;;;;Total Sulfides0.1%					
28.80	41.80	VEI;20;qv;	28.80	30.00	31733	1.20	0.0350
		Vein 20%	30.00	31.30	31734	1.30	0.0350
			31.30	32.55	31735	1.25	0.0350
			32.55	33.20	31736	0.65	0.0350
			33.20	34.00	31737	0.80	0.0350
			34.00	35.00	31738	1.00	0.0350
			35.00	35.35	31739	0.35	0.0350
			35.35	36.00	31740	0.65	0.0350
			36.00	36.90	31741	0.90	0.0350
			36.90	37.60	31742	0.70	0.0350
			37.60	38.30	31743	0.70	0.0350
			38.30	39.20	31744	0.90	0.0350
			39.20	39.85	31746	0.65	0.0350
			39.85	41.00	31747	1.15	0.0350
			41.00	41.80	31748	0.80	0.0350
41.80	54.00	KKCB	41.80	42.80	31749	1.00	0.0025
		Carb Rock	42.80	44.00	31751	1.20	0.0025
		Mottled grey green; moderately to well foliated at 40-50 dtca; 52-53.3m: blocky ground core with local narrow fault gouge; 5-10% squiggly grey quartz-ankerite veining; gradational lower contact	44.00	45.00	31752	1.00	0.0025
			45.00	46.00	31754	1.00	0.0025
			46.00	47.00	31755	1.00	0.0025
			47.00	48.00	31756	1.00	0.0025
			48.00	49.00	31757	1.00	0.0025
			49.00	50.00	31758	1.00	0.0025
			50.00	51.00	31759	1.00	0.0025
			51.00	52.00	31760	1.00	0.0025
			52.00	53.30	31761	1.30	0.0025
			53.30	54.00	31763	0.70	0.0025
54.00	66.10	KUND	54.00	55.00	31764	1.00	0.0025

Description			Assay				
			From	To	Sample number	Length	AU_FIN (g/t)
		Undifferentiated Ultramafic Volcanic	55.00	56.00	31765	1.00	0.0025
		Medium to dark greyish green; moderately to well foliated at 30-40 dtca; 10-40% white carbonate stringers					
66.10	66.80	XXFG					
		Fault Gouge					
		Blocky and broken core with abundant fault gouge; talc-chlorite-rich; komatiite protolith; well foliated at 30-40 dtca					
66.80	90.50	KUND					
		Undifferentiated Ultramafic Volcanic					
		Medium to dark greyish green; talc-chlorite-rich; moderately to well foliated at 30-40 dtca; 10-40% white carbonate stringers; locally harder and grading to chloritic talc carbonate					
90.50	97.50	KCCB					
		Chloritic Carb Rock					
		Medium grey green; moderately foliated at 40-50 dtca; 30-50% carbonate veining/stringers, often oxidized with orange to brown tinge; local slightly vuggy veining					
97.50	122.40	KUND	122.00	122.40	31766	0.40	0.0025
		Undifferentiated Ultramafic Volcanic					
		Medium to dark greyish green; talc-chlorite-rich; irregular contorted foliation; 10-50% white to beige carbonate stringers; locally slightly harder and grading to chloritic talc carbonate					
122.40	132.80	KCCB	122.40	123.00	31767	0.60	0.0120
		Chloritic Carb Rock	123.00	124.00	31768	1.00	0.0025
		Medium grey green; irregular contorted foliation; 30-60% white to beige carbonate veining/stringer stockwork; slightly too hard and carbonate altered for komatiite; moderate sections of blocky and ground core from 123.4-127m	124.00	125.00	31769	1.00	0.0090
			125.00	126.00	31771	1.00	0.0025
			126.00	127.00	31772	1.00	0.0025
			127.00	128.00	31774	1.00	0.0025
			128.00	129.00	31775	1.00	0.0025
			129.00	130.00	31776	1.00	0.0025
			130.00	131.00	31777	1.00	0.0025
			131.00	132.00	31778	1.00	0.0025
			132.00	132.80	31779	0.80	0.0025
132.80	136.50	KCCB					
		Chloritic Carb Rock					
		Mottled grey green to beige to white; intense carbonate vein stockwork with remnant chloritic bands and sections; 20-40% irregular white to grey quartz-ankerite veining, cross-cuts foliation; abundant brown and green tourmaline in wallrock, along vein margins and in veining					
	132.80 136.50	VEI;20;qv;	132.80	133.60	31780	0.80	0.0025
		Vein 20%	133.60	134.65	31781	1.05	0.0025
			134.65	135.60	31783	0.95	0.0025
			135.60	136.50	31785	0.90	0.0025

Description			Assay				
			From	To	Sample number	Length	AU_FIN (g/t)
136.50	145.30	KCCB					
		Chloritic Carb Rock					
		Medium grey green; moderately foliated at 30-40 dtca; weak to moderate pervasive carbonate alteration and 30-60% white to beige carbonate veining/stringer stockwork; 1-10% irregular white quartz-ankerite veining; minor brown and green tourmaline in quartz-ankerite veining					
		136.50 145.30 VEI;2;qv;	136.50	137.00	31786	0.50	0.0025
		Vein 2%	137.00	138.00	31787	1.00	0.0025
			138.00	139.10	31789	1.10	0.0025
			139.10	140.00	31790	0.90	0.0025
			140.00	141.00	31791	1.00	0.0025
			141.00	142.00	31792	1.00	0.0025
			142.00	143.00	31793	1.00	0.0025
			143.00	144.00	31794	1.00	0.0025
			144.00	145.30	31795	1.30	0.0025
145.30	151.25	KUND	145.30	146.00	31796	0.70	0.0025
		Undifferentiated Ultramafic Volcanic	146.00	147.00	31797	1.00	0.0025
		Medium to dark greyish green; talc-chlorite-rich; irregular contorted foliation; 10-50% white to beige carbonate veining/stringers					
151.25	152.40	KTCS					
		Talc Chlorite Schist					
		Dark grey green; very well foliated at 70-80 dtca; sections of blocky ground core and narrow fault gouge; 10-20% carbonate veinig					
152.40	165.00	KUND					
		Undifferentiated Ultramafic Volcanic					
		Dark green; chloritic bands and fragments with beige to whie carbonate banding; not quite altered enough for chloritic carb rock; very well foliated giving a banded appearance, generally at 10-20 dtca, but locally kinked; 1-2% fine to coarse-grained disseminated brown tourmaline crystals; gradational into more massive komatiite downhole					
165.00	171.40	KUND					
		Undifferentiated Ultramafic Volcanic					
		Dark to medium grey green; harder than typical talc-chlorite-rich komatiite; moderately foliated defined by chlorite bands at 10-20 dtca; more massive than unit uphole; 10% beige carbonate-pale bluish grey serpentine veining/stringers; vague lower conact at 70 dtca					
171.40	176.40	KUND					
		Undifferentiated Ultramafic Volcanic					
		Dark grey green talc-chlorite fragments in a beige carbonate-pale bluish grey serpentine matrix/vein stockwork; very well foliated at 70-80 dtca; blocky sections from 173.2m downhole					
176.40	185.00	KUND	184.00	185.00	31798	1.00	0.0025
		Undifferentiated Ultramafic Volcanic					
		Dark grey green; talc-chlorite rich; 10-20% beige carbonate-pale greyish green serpentine veining					
185.00	187.70	KKCB					
		Chloritic Carb Rock					
		Dark grey green talc-chlorite with 30-60% beige carbonate veining/flooding; contorted foliation; 1% fine to coarse-grained disseminated brown					

Description					Assay				
					From	To	Sample number	Length	AU_FIN (g/t)
		tourmaline crystals; trace to minor coarse-grained disseminated pyrite							
	185.00	187.70	Py0.1;;;;totsul0.1		185.00	186.00	31799	1.00	0.0025
			Pyrite0.1;;;;Total Sulfides0.1%		186.00	187.00	31800	1.00	0.0025
					187.00	187.70	31801	0.70	0.0025
187.70	194.10	KUND			187.70	189.00	31802	1.30	0.0025
		Undifferentiated Ultramafic Volcanic							
		Dark grey green; talc-chlorite rich; 5-20% beige carbonate-pale greyish green serpentine veining							
194.10	198.60	KUND							
		Undifferentiated Ultramafic Volcanic							
		Dark grey green talc-chlorite fragments in a beige carbonate-pale bluish grey serpentine matrix/vein stockwork; weakly to moderately foliated at 30-60 dtca							
198.60	211.50	KUND			209.50	210.50	31803	1.00	0.0025
		Undifferentiated Ultramafic Volcanic			210.50	211.50	31804	1.00	0.0025
		Dark grey green chlorite to talc-chlorite matrix with 10-60% beige to white carbonate vein stockwork; minor brown tourmaline in upper part of unit, increases to abundant in lower part, as fine to coarse-grained, disseminated and with carbonate veining							
211.50	219.00	KUND							
		Undifferentiated Ultramafic Volcanic							
		Dark green to brown; harder than unit uphole and more chlorite, more mafic composition looking; brown colour due to weak to moderate biotite alteration and brown tourmaline; 5-20% beige carbonate-pale greyish green serpentine veining/stringers; local white quartz veining at 40-60 dtca, with well devopled chloritic alteration halos; 5-10% fine to coarse-grained disseminated brown tourmaline is distinctive feature of unit; spotty trace to minor as fine to coares-grained euhedral and intergrown with brown tourmaline; possibly a mafic volcanic or mafic dike unit; no good contacts, may be alteration?							
	211.50	219.00	Bio2;;;		211.50	212.00	31806	0.50	0.0025
			Biotisation Moderate;;;		212.00	213.00	31807	1.00	0.0025
					213.00	214.00	31808	1.00	0.0025
					214.00	215.00	31809	1.00	0.0410
					215.00	216.00	31811	1.00	0.0025
					216.00	217.00	31812	1.00	0.0025
					217.00	218.00	31813	1.00	0.0025
					218.00	219.00	31815	1.00	0.0025
219.00	224.50	KUND			219.00	220.00	31816	1.00	0.0025
		Undifferentiated Ultramafic Volcanic							
		Dark green; fine to medium-grained and massive; similar hardness and appearance as unit uphole, almost mafic volcanic/intrusive composition; 5-10% beige carbonate-pale greyish green serpentine veining/stringers/flooding, locally grading to chloritic carb rock; trace to minor fine to coarse-grained disseminated brown tourmaline; gradational lower contact							
224.50	228.50	KUND							
		Undifferentiated Ultramafic Volcanic							

Description			Assay				
			From	To	Sample number	Length	AU_FIN (g/t)
		Dark grey green; talc-chlorite-rich; 10-20% beige carbonate-pale green serpentine veining/stringers; increasing foliation at 60 dtca and blocky core with local fault gouge from 227.5m downhole to lower contact; lower contact at 70 dtca					
228.50	257.70	UUTC					
		Talc Carbonate					
		Dark bluish grey; massive, grades to carbonate-serpentine clots in lower part of unit; 1-2% beige to white carbonate-pale bluish green talc veining/stringers; strongly magnetic; intercalated with komatiite from 256.8m downhole					
257.70	277.30	KUND					
		Undifferentiated Ultramafic Volcanic					
		Dark greyish green; 5-30% beige carbonate-pale greyish green serpentine vein/stringer stockwork; moderately to strongly magnetic; gradational lower contact					
277.30	282.30	KUND					
		Undifferentiated Ultramafic Volcanic					
		Dark bronwnish green; moderate to strong pervasive and wispy biotite; 2-3% calcite stringers; gradational lower contact					
282.30	289.30	KUND	288.00	289.30	31817	1.30	0.0025
		Undifferentiated Ultramafic Volcanic					
		Medium greyish green; massive; 5-10% beige carbonate-pale green serpentine veining/stringers; vague lower contact					
289.30	293.20	LLMD					
		Mafic Dike					
		Dark green to brown; fine-grained chlorite matrix with calcite clots; 30-60% white calcite veining/flooding; local moderate to strong biotite alteration around calcite veining/flooding; strongly magnetic with local grey calcite-magnetite flooding; spotty minor pyrite associated with calcite veining/flooding; vague lower contact at 25 dtca					
289.30	293.20	Bio2;;;					
		Biotisation Moderate;;;					
289.30	293.20	Py0.3;;;;totsul0.3	289.30	290.00	31818	0.70	0.0025
		Pyrite0.3;;;;Total Sulfides0.3%	290.00	291.00	31819	1.00	0.0025
			291.00	292.00	31820	1.00	0.0025
			292.00	293.20	31821	1.20	0.0025
293.20	296.80	KUND	293.20	294.00	31822	0.80	0.0025
		Undifferentiated Ultramafic Volcanic	294.00	295.00	31823	1.00	0.0025
		Dark greyish green; talc-chlorite rich; moderate sections of blocky ground core with minor narrow fault gouge; 20-30% white to beige carbonate and pale green serpentine veining/stringers; local brown and green tourmaline with carbonate veining	295.00	296.00	31824	1.00	0.0025
			296.00	296.80	31825	0.80	0.0025
296.80	300.00	KUND	296.80	298.00	31826	1.20	0.0025
		Undifferentiated Ultramafic Volcanic					
		Dark greyish green; talc-chlorite-rich; 10% pale green serpentine veining/stringers; EOH 300m					
300.00	**End of DDH**						
	Number of samples: 94						
	Number of QAQC samples: 15						
	Total sampled length: 87.50						

Assay

From	To	Sample number	Length	AU_FIN (g/t)	Comments	s_rkcode	s_fucalt	s_bioalt	s_seralt	s_albalt	s_silalt	s_qv	s_py	s_po	s_cpy	s_asp	s_totsul
19.00	20.00	31718	1.00	0.0025		UUTC											
20.00	21.00	31719	1.00	0.0025		UUTC											
21.00	21.90	31720	0.90	0.0100		UUTC											
21.90	23.00	31721	1.10	0.0050		UUTC						5					
23.00	23.40	31723	0.40	0.0060		UUTC											
23.40	24.20	31724	0.80	0.0025		UUTC						30					
24.20	25.00	31725	0.80	0.0060		UUTC											
25.00	26.00	31726	1.00	0.0260		UUTC						10					
26.00	27.00	31728	1.00	0.0350		UUTC											
27.00	28.00	31729	1.00	0.0350		UUTC											
28.00	28.50	31730	0.50	0.0350		KKCB						10					
28.50	28.80	31731	0.30	2.0700	1 speck VG at 28.5m; 1 speck VG at 28.6m; Talc Carbonate-Carb Rock Contact Vein	VVQV						100					
28.80	30.00	31733	1.20	0.0350	blocky ground core; 40% recovery	KBCB	1	2				40	0.1			0.1	0.2
30.00	31.30	31734	1.30	0.0350	blocky ground core; 30-40% recovery	KBCB		2				40					
31.30	32.55	31735	1.25	0.0350	blocky ground core; 30-40% recovery	KBCB		2				30					
32.55	33.20	31736	0.65	0.0350		KBCB		3									
33.20	34.00	31737	0.80	0.0350	blocky ground core; 40-50% recovery	KBCB		3				10	5.0				5.0
34.00	35.00	31738	1.00	0.0350	blocky ground core; 70-80% recovery	KBCB	1	3				20	5.0				5.0
35.00	35.35	31739	0.35	0.0350	all blocky ground core; 60-80% recovery	KBCB		2				40	0.1				0.1
35.35	36.00	31740	0.65	0.0350		KBCB		3				5	0.1				0.1
36.00	36.90	31741	0.90	0.0350	minor sections blocky ground core; 80-90% recovery	KBCB		3									
36.90	37.60	31742	0.70	0.0350		KBCB		3				40					
37.60	38.30	31743	0.70	0.0350		KBCB	1	2				10	0.1				0.1
38.30	39.20	31744	0.90	0.0350	minor sections blocky ground core; 90-95% recovery	KBCB		2				2	0.1				0.1

Assay

From	To	Sample number	Length	AU_FIN (g/t)	Comments	s_rkcode	s_fucalt	s_bioalt	s_seralt	s_albalt	s_silalt	s_qv	s_py	s_po	s_cpy	s_asp	s_totsul
39.20	39.85	31746	0.65	0.0350	strong bleaching around grey quartz veining	KBCB	2	2				10	0.1				0.1
39.85	41.00	31747	1.15	0.0350		KBCB	1	1				5	0.3				0.3
41.00	41.80	31748	0.80	0.0350		KBCB						1					
41.80	42.80	31749	1.00	0.0025		KKCB											
42.80	44.00	31751	1.20	0.0025		KKCB											
44.00	45.00	31752	1.00	0.0025		KKCB											
45.00	46.00	31754	1.00	0.0025		KKCB											
46.00	47.00	31755	1.00	0.0025		KKCB											
47.00	48.00	31756	1.00	0.0025		KKCB											
48.00	49.00	31757	1.00	0.0025		KKCB											
49.00	50.00	31758	1.00	0.0025		KKCB											
50.00	51.00	31759	1.00	0.0025		KKCB											
51.00	52.00	31760	1.00	0.0025		KKCB											
52.00	53.30	31761	1.30	0.0025	blocky ground core	KKCB						5					
53.30	54.00	31763	0.70	0.0025		KKCB											
54.00	55.00	31764	1.00	0.0025		KUND											
55.00	56.00	31765	1.00	0.0025		KUND											
122.00	122.40	31766	0.40	0.0025		KUND											
122.40	123.00	31767	0.60	0.0120		KCCB											
123.00	124.00	31768	1.00	0.0025		KCCB											
124.00	125.00	31769	1.00	0.0090		KCCB											
125.00	126.00	31771	1.00	0.0025		KCCB											
126.00	127.00	31772	1.00	0.0025		KCCB											
127.00	128.00	31774	1.00	0.0025		KCCB											
128.00	129.00	31775	1.00	0.0025		KCCB											
129.00	130.00	31776	1.00	0.0025		KCCB											
130.00	131.00	31777	1.00	0.0025		KCCB											
131.00	132.00	31778	1.00	0.0025		KCCB											
132.00	132.80	31779	0.80	0.0025		KCCB											
132.80	133.60	31780	0.80	0.0025		KCCB						20					
133.60	134.65	31781	1.05	0.0025		KCCB						30					

Assay

From	To	Sample number	Length	AU_FIN (g/t)	Comments	s_rkcode	s_fucalt	s_bioalt	s_seralt	s_albalt	s_silalt	s_qv	s_py	s_po	s_cpy	s_asp	s_totsul
134.65	135.60	31783	0.95	0.0025		KCCB						40					
135.60	136.50	31785	0.90	0.0025		KCCB						15					
136.50	137.00	31786	0.50	0.0025		KCCB											
137.00	138.00	31787	1.00	0.0025		KCCB						2					
138.00	139.10	31789	1.10	0.0025		KCCB						10					
139.10	140.00	31790	0.90	0.0025		KCCB											
140.00	141.00	31791	1.00	0.0025		KCCB											
141.00	142.00	31792	1.00	0.0025		KCCB											
142.00	143.00	31793	1.00	0.0025		KCCB											
143.00	144.00	31794	1.00	0.0025		KCCB						3					
144.00	145.30	31795	1.30	0.0025		KCCB											
145.30	146.00	31796	0.70	0.0025		KUND											
146.00	147.00	31797	1.00	0.0025		KUND											
184.00	185.00	31798	1.00	0.0025		KUND											
185.00	186.00	31799	1.00	0.0025		KCCB							0.3				0.3
186.00	187.00	31800	1.00	0.0025		KCCB							0.1				0.1
187.00	187.70	31801	0.70	0.0025		KCCB							0.1				0.1
187.70	189.00	31802	1.30	0.0025		KUND							0.1				0.1
209.50	210.50	31803	1.00	0.0025		KUND											
210.50	211.50	31804	1.00	0.0025		KUND											
211.50	212.00	31806	0.50	0.0025	abundant brown tourmaline	KUND		1									
212.00	213.00	31807	1.00	0.0025	abundant brown tourmaline	KUND		2									
213.00	214.00	31808	1.00	0.0025	abundant brown tourmaline	KUND		2					0.3				0.3
214.00	215.00	31809	1.00	0.0410	abundant brown tourmaline	KUND		2				10	0.3				0.3
215.00	216.00	31811	1.00	0.0025	abundant brown tourmaline	KUND		2									
216.00	217.00	31812	1.00	0.0025	abundant brown tourmaline	KUND		2									
217.00	218.00	31813	1.00	0.0025	abundant brown tourmaline	KUND		2									
218.00	219.00	31815	1.00	0.0025	abundant brown tourmaline	KUND		1									
219.00	220.00	31816	1.00	0.0025		KUND											
288.00	289.30	31817	1.30	0.0025		KUND											
289.30	290.00	31818	0.70	0.0025		LLMD		2					0.3				0.3
290.00	291.00	31819	1.00	0.0025		LLMD		2									

Assay

From	To	Sample number	Length	AU_FIN (g/t)	Comments	s_rkcode	s_fucalt	s_bioalt	s_seralt	s_albalt	s_silalt	s_qv	s_py	s_po	s_cpy	s_asp	s_totsul
291.00	292.00	31820	1.00	0.0025		LLMD		2									
292.00	293.20	31821	1.20	0.0025		LLMD		2					0.3				0.3
293.20	294.00	31822	0.80	0.0025		KUND											
294.00	295.00	31823	1.00	0.0025		KUND											
295.00	296.00	31824	1.00	0.0025		KUND											
296.00	296.80	31825	0.80	0.0025		KUND											
296.80	298.00	31826	1.20	0.0025		KUND											

Averages - Composites

Zone	From	To	Length	AU_FIN (g/t)
Talc-Carbonate-Carb Rock Contact Vein	28.50	28.80	0.30	2.0700

Magnetism

From	To	Magnetism	Title	Description
7.00	7.01	42.2		
8.00	8.01	13.4		
9.00	9.01	8.99		
10.00	10.01	14		
11.00	11.01	11.9		
12.00	12.01	15.1		
13.00	13.01	8.6		
14.00	14.01	26.9		
15.00	15.01	13.5		
16.00	16.01	16.2		
17.00	17.01	12.9		
18.00	18.01	2.66		
19.00	19.01	2.95		
20.00	20.01	1.12		
21.00	21.01	0.282		
22.00	22.01	0.026		
23.00	23.01	3.66		
24.00	24.01	0.744		
25.00	25.01	1.07		
26.00	26.01	0.71		
27.00	27.01	0.869		
28.00	28.01	0.355		
29.00	29.01			bad grind
30.00	30.01	0.058		
31.00	31.01			bad grind
32.00	32.01			bad grind
33.00	33.01	0.473		
34.00	34.01			bad grind
35.00	35.01			bad grind
36.00	36.01	0		
37.00	37.01	0.937		
38.00	38.01	0.049		
39.00	39.01	0.368		
40.00	40.01	1.47		

Magnetism

From	To	Magnetism	Title	Description
41.00	41.01	0.558		
42.00	42.01	0.581		
43.00	43.01	0.553		
44.00	44.01	0.549		
45.00	45.01	0.548		
46.00	46.01	0.582		
47.00	47.01	0.543		
48.00	48.01	0.458		
49.00	49.01	0.467		
50.00	50.01	0.404		
51.00	51.01	0.424		
52.00	52.01	0.519		
53.00	53.01	0.546		
54.00	54.01	0.509		
55.00	55.01	0.583		
56.00	56.01	0.679		
57.00	57.01	0.597		
58.00	58.01	0.663		
59.00	59.01	0.574		
60.00	60.01	0.248		
61.00	61.01	0.2		
62.00	62.01	0.478		
63.00	63.01	0.508		
64.00	64.01	0.563		
65.00	65.01	0.588		
66.00	66.01	0.533		
67.00	67.01	0.429		
68.00	68.01	0.666		
69.00	69.01	0.613		
70.00	70.01	0.643		
71.00	71.01	0.885		
72.00	72.01	1.69		
73.00	73.01	0.389		
74.00	74.01	0.61		

Magnetism

From	To	Magnetism	Title	Description
75.00	75.01	0.553		
76.00	76.01	0.587		
77.00	77.01	0.648		
78.00	78.01	0.584		
79.00	79.01	0.657		
80.00	80.01	0.963		
81.00	81.01	0.607		
82.00	82.01	0.581		
83.00	83.01	0.608		
84.00	84.01	0.613		
85.00	85.01	0.329		
86.00	86.01	0.558		
87.00	87.01	0.423		
88.00	88.01	0.494		
89.00	89.01	0.532		
90.00	90.01	0.55		
91.00	91.01	0.585		
92.00	92.01	0.635		
93.00	93.01	0.54		
94.00	94.01	0.389		
95.00	95.01	0.959		
96.00	96.01	0.571		
97.00	97.01	0.453		
98.00	98.01	0.369		
99.00	99.01	0.535		
100.00	100.01	0.494		
101.00	101.01	0.502		
102.00	102.01	0.604		
103.00	103.01	0.646		
104.00	104.01	0.575		
105.00	105.01	0.577		
106.00	106.01	0.704		
107.00	107.01	0.724		
108.00	108.01	0.622		

Magnetism

From	To	Magnetism	Title	Description
109.00	109.01	0.632		
110.00	110.01	0.371		
111.00	111.01	0.641		
112.00	112.01	0.666		
113.00	113.01	0.473		
114.00	114.01	0.427		
115.00	115.01	0.692		
116.00	116.01	0.477		
117.00	117.01	0.724		
118.00	118.01	0.655		
119.00	119.01	0.607		
120.00	120.01	0.512		
121.00	121.01	0.578		
122.00	122.01	0.171		
123.00	123.01	0.047		
124.00	124.01	0.518		
125.00	125.01	0.503		
126.00	126.01	0.545		
127.00	127.01	0.667		
128.00	128.01	0.606		
129.00	129.01	0.564		
130.00	130.01	0.605		
131.00	131.01	0.61		
132.00	132.01	0.686		
133.00	133.01	0.05		
134.00	134.01	0.015		
135.00	135.01	0		
136.00	136.01	0.439		
137.00	137.01	0.401		
138.00	138.01	0.687		
139.00	139.01	0.357		
140.00	140.01	0.451		
141.00	141.01	1.68		
142.00	142.01	0.689		

Magnetism

From	To	Magnetism	Title	Description
143.00	143.01	0.707		
144.00	144.01	0.605		
145.00	145.01	0.867		
146.00	146.01	0.545		
147.00	147.01	0.685		
148.00	148.01	0.38		
149.00	149.01	0.631		
150.00	150.01	0.645		
151.00	151.01	0.511		
152.00	152.01	0.508		
153.00	153.01	0.666		
154.00	154.01	0.654		
155.00	155.01	0.668		
156.00	156.01	0.597		
157.00	157.01	0.474		
158.00	158.01	0.721		
159.00	159.01	0.488		
160.00	160.01	0.368		
161.00	161.01	0.391		
162.00	162.01	0.432		
163.00	163.01	0.606		
164.00	164.01	0.608		
165.00	165.01	0.586		
166.00	166.01	0.853		
167.00	167.01	1.16		
168.00	168.01	2.28		
169.00	169.01	1.14		
170.00	170.01	1.19		
171.00	171.01	0.756		
172.00	172.01	0.559		
173.00	173.01	0.301		
174.00	174.01	0.634		
175.00	175.01	0.511		
176.00	176.01	0.502		

Magnetism

From	To	Magnetism	Title	Description
177.00	177.01	0.563		
178.00	178.01	0.678		
179.00	179.01	0.697		
180.00	180.01	0.643		
181.00	181.01	0.604		
182.00	182.01	0.621		
183.00	183.01	0.537		
184.00	184.01	0.738		
185.00	185.01	0.238		
186.00	186.01	0.067		
187.00	187.01	0.501		
188.00	188.01	0.558		
189.00	189.01	0.546		
190.00	190.01	0.682		
191.00	191.01	0.615		
192.00	192.01	1.32		
193.00	193.01	0.964		
194.00	194.01	0.618		
195.00	195.01	0.619		
196.00	196.01	0.748		
197.00	197.01	0.638		
198.00	198.01	0.444		
199.00	199.01	0.178		
200.00	200.01	0.539		
201.00	201.01	0.491		
202.00	202.01	0.607		
203.00	203.01	0.601		
204.00	204.01	0.623		
205.00	205.01	0.676		
206.00	206.01	0.615		
207.00	207.01	0.578		
208.00	208.01	0.627		
209.00	209.01	0.669		
210.00	210.01	0.607		

Magnetism

From	To	Magnetism	Title	Description
211.00	211.01	0.427		
212.00	212.01	0.34		
213.00	213.01	0.519		
214.00	214.01	1.49		
215.00	215.01	0.984		
216.00	216.01	0.499		
217.00	217.01	0.507		
218.00	218.01	0.623		
219.00	219.01	0.575		
220.00	220.01	0.689		
221.00	221.01	0.674		
222.00	222.01	0.614		
223.00	223.01	0.572		
224.00	224.01	0.717		
225.00	225.01	0.077		
226.00	226.01	0.456		
227.00	227.01	0.557		
228.00	228.01	0.783		
229.00	229.01	7.78		
230.00	230.01	15.3		
231.00	231.01	20		
232.00	232.01	6.04		
233.00	233.01	29.5		
234.00	234.01	38.6		
235.00	235.01	41.3		
236.00	236.01	47.9		
237.00	237.01	34.3		
238.00	238.01	49.6		
239.00	239.01	48.6		
240.00	240.01	36.7		
241.00	241.01	35.8		
242.00	242.01	24		
243.00	243.01	37.5		
244.00	244.01	17.7		

Magnetism

From	To	Magnetism	Title	Description
245.00	245.01	35.9		
246.00	246.01	29.8		
247.00	247.01	43.7		
248.00	248.01	56.9		
249.00	249.01	45.6		
250.00	250.01	58.9		
251.00	251.01	60.8		
252.00	252.01	59.4		
253.00	253.01	70.6		
254.00	254.01	45.2		
255.00	255.01	50		
256.00	256.01	59.9		
257.00	257.01	92.1		
258.00	258.01	120		
259.00	259.01	102		
260.00	260.01	64.6		
261.00	261.01	58.9		
262.00	262.01	35.3		
263.00	263.01	64		
264.00	264.01	30.5		
265.00	265.01	16.7		
266.00	266.01	9.44		
267.00	267.01	53.4		
268.00	268.01	4.74		
269.00	269.01	12.1		
270.00	270.01	11.9		
271.00	271.01	8.67		
272.00	272.01	15.1		
273.00	273.01	7.79		
274.00	274.01	9.16		
275.00	275.01	0.939		
276.00	276.01	0.72		
277.00	277.01	0.496		
278.00	278.01	0.63		

Magnetism

From	To	Magnetism	Title	Description
279.00	279.01	0.625		
280.00	280.01	0.599		
281.00	281.01	0.636		
282.00	282.01	0.943		
283.00	283.01	0.672		
284.00	284.01	0.905		
285.00	285.01	0.593		
286.00	286.01	0.896		
287.00	287.01	0.634		
288.00	288.01	0.703		
289.00	289.01	0.609		
290.00	290.01	17.7		
291.00	291.01	9.54		
292.00	292.01	15.3		
293.00	293.01	22.8		
294.00	294.01	0.827		
295.00	295.01	0.535		
296.00	296.01	0.578		
297.00	297.01	0.774		
298.00	298.01	0.686		
299.00	299.01	0.57		
299.99	300.00	0.638		

RQD

From	To	Length	Recovered (%)	RQD (%)	Joints			Weathering	Strength	Description
					Number	Type	Angle			
9.00	12.00	3.00	99.00	97.00						
12.00	15.00	3.00	96.33	56.67						
15.00	18.00	3.00	73.67	44.67						
18.00	21.00	3.00	94.00	85.67						
21.00	24.00	3.00	97.67	40.00						
24.00	27.00	3.00	93.33	50.00						
27.00	30.00	3.00	76.67	53.00						
30.00	33.00	3.00	45.33	22.00						
33.00	36.00	3.00	86.67	9.33						
36.00	39.00	3.00	88.33	60.67						
39.00	42.00	3.00	100.00	95.33						
42.00	45.00	3.00	100.00	97.33						
45.00	48.00	3.00	97.67	97.67						
48.00	51.00	3.00	100.00	95.67						
51.00	54.00	3.00	91.67	63.33						
54.00	57.00	3.00	100.00	95.00						
57.00	60.00	3.00	100.00	97.33						
60.00	63.00	3.00	98.33	94.33						
63.00	66.00	3.00	99.00	88.67						
66.00	69.00	3.00	96.00	66.67						
69.00	72.00	3.00	100.00	99.00						
72.00	75.00	3.00	99.67	96.00						
75.00	78.00	3.00	98.00	93.67						
78.00	81.00	3.00	100.00	100.00						
81.00	84.00	3.00	96.33	83.33						
84.00	87.00	3.00	100.00	98.33						
87.00	90.00	3.00	97.67	89.33						
90.00	93.00	3.00	100.00	91.67						
93.00	96.00	3.00	100.00	64.67						
96.00	99.00	3.00	98.00	96.33						
99.00	102.00	3.00	96.67	74.67						
102.00	105.00	3.00	97.00	87.67						

RQD

From	To	Length	Recovered (%)	RQD (%)	Joints			Weathering	Strength	Description
					Number	Type	Angle			
105.00	108.00	3.00	96.67	85.33						
108.00	111.00	3.00	100.00	85.33						
111.00	114.00	3.00	100.00	96.33						
114.00	117.00	3.00	97.33	97.33						
117.00	120.00	3.00	100.00	79.33						
120.00	123.00	3.00	100.00	93.33						
123.00	126.00	3.00	89.33	38.33						
126.00	129.00	3.00	91.33	69.33						
129.00	132.00	3.00	99.67	98.33						
132.00	135.00	3.00	99.00	95.00						
135.00	138.00	3.00	100.00	95.00						
138.00	141.00	3.00	99.00	97.67						
141.00	144.00	3.00	100.00	71.67						
144.00	147.00	3.00	96.00	89.67						
147.00	150.00	3.00	98.33	98.33						
150.00	153.00	3.00	99.00	89.00						
153.00	156.00	3.00	100.00	100.00						
156.00	159.00	3.00	99.33	90.00						
159.00	162.00	3.00	98.00	98.00						
162.00	165.00	3.00	99.67	99.67						
165.00	168.00	3.00	99.33	99.33						
168.00	171.00	3.00	99.00	99.00						
171.00	174.00	3.00	100.00	77.00						
174.00	177.00	3.00	98.33	55.67						
177.00	180.00	3.00	98.00	66.33						
180.00	183.00	3.00	99.67	60.67						
183.00	186.00	3.00	99.00	99.00						
186.00	189.00	3.00	97.67	76.67						
189.00	192.00	3.00	99.33	97.67						
192.00	195.00	3.00	97.33	83.67						
195.00	198.00	3.00	100.00	100.00						
198.00	201.00	3.00	99.33	99.33						

RQD

From	To	Length	Recovered (%)	RQD (%)	Joints			Weathering	Strength	Description
					Number	Type	Angle			
201.00	204.00	3.00	98.33	98.33						
204.00	207.00	3.00	99.00	96.33						
207.00	210.00	3.00	97.00	89.67						
210.00	213.00	3.00	100.00	90.67						
213.00	216.00	3.00	96.67	87.00						
216.00	219.00	3.00	100.00	93.33						
219.00	222.00	3.00	99.33	96.33						
222.00	225.00	3.00	99.00	99.00						
225.00	228.00	3.00	99.33	79.00						
228.00	231.00	3.00	98.67	97.67						
231.00	234.00	3.00	99.00	99.00						
234.00	237.00	3.00	99.67	93.33						
237.00	240.00	3.00	97.00	94.00						
240.00	243.00	3.00	100.00	97.67						
243.00	246.00	3.00	98.33	98.33						
246.00	249.00	3.00	100.00	96.33						
249.00	252.00	3.00	99.67	96.33						
252.00	255.00	3.00	100.00	100.00						
255.00	258.00	3.00	94.33	94.33						
258.00	261.00	3.00	100.00	100.00						
261.00	264.00	3.00	99.33	96.67						
264.00	267.00	3.00	98.33	96.00						
267.00	270.00	3.00	93.00	76.67						
270.00	273.00	3.00	100.00	100.00						
273.00	276.00	3.00	98.67	98.67						
276.00	279.00	3.00	100.00	94.33						
279.00	282.00	3.00	98.00	98.00						
282.00	285.00	3.00	100.00	97.00						
285.00	288.00	3.00	99.33	99.33						
288.00	291.00	3.00	98.00	95.00						
291.00	294.00	3.00	96.33	86.00						
294.00	297.00	3.00	92.33	56.67						

RQD

From	To	Length	Recovered (%)	RQD (%)	Joints			Weathering	Strength	Description
					Number	Type	Angle			
297.00	300.00	3.00	98.67	98.00						

Rapier Gold Inc.

Pat Pope

DDH:	PG13-110	Claims title:	S63909; S63910	Section:	
		Township:	Reeves Twp	Work place:	Pen Gold North
		Range:		Description date:	2013-06-04
Drilled by:	NPLH	Lot:		Surveyed By:	Mary Stalker; Trimble differential GPS
Described by:	Pat Pope	From:	2013-05-08		
		To:	2013-05-14		

Collar

Azimuth:	180.00°
Dip:	-45.00°
Length:	318.00 m

UTM NAD83-Z17N

East	418,350.035
North	5,338,409.616
Elevation	344.244

Down hole survey

Type	Depth	Azimuth	Dip	Invalid
Collar	0.00	180.00°	-45.00°	No
Reflex EzShot	27.00	180.00°	-44.20°	No
Reflex EzShot	78.00	174.70°	-44.10°	No
Reflex EzShot	180.00	178.50°	-43.50°	No
Reflex EzShot	231.00	177.00°	-42.40°	No
Reflex EzShot	282.00	178.30°	-42.10°	No

Type	Depth	Azimuth	Dip	Invalid

Description

Hexagonal core barrel and long shell. Rubber plug at 25m; 1 bag cement; casing pulled. Boxes 1-25 and 38-72 at Rogue Iron Ore Corp. outside core storage, Moneta Avenue, Timmins; Boxes 26-37 in core shack at 580 Shirley St. N. Timmins.

Core size: NQ Cemented: Yes Stored: Yes

Description			Assay				
			From	To	Sample number	Length	AU_FIN (g/t)
0.00	16.40	XOVB **Overburden** 16m casing					
16.40	43.60	KUND **Undifferentiated Ultramafic Volcanic** Dark bluish grey to green; local vague flow textures, polygonal jointing, spinifex and possibly pillow selvages; moderate sections of blocky, broken and ground core; 3-5% beige carbonate stringers; local pale bluish grey serpentine stringers; strongly magnetic; different colour than komatiite units intersected in holes collared to north and east, possibly more Mg-rich ultramafic composition; 5-10% white calcite-magnetite veining near lower contact; vague lower contact at 70 dtca	40.00	41.00	31827	1.00	0.0025
			41.00	42.00	31829	1.00	0.0025
			42.00	43.00	31830	1.00	0.0025
			43.00	43.60	31831	0.60	0.0025
43.60	45.00	UUTC **Talc Carbonate** Medium to light bluish grey with local beige to light greyish green tinge and orange to brown tinge due to oxidation of carbonate veining; 5-10% beige to orange carbonate stringers/veining; well foliated, contorted with narrow faults; blocky and broken core from 43.8-44.6m; gradational to harder more serpentine-rich unit downhole	43.60	45.00	31832	1.40	0.0025
45.00	61.00	USRP **Serpentinite** Dark bluish grey with local green tinge due to serpentine; local yellow to orange to brown tinge due to oxidation of carbonate, often developed around sections of broken and ground core; massive to locally moderately well foliated at 60-70 dtca; 3-5% beige carbonate-pale green serpentine stringers in upper part of unit; coarse-grained magnetite blebs and bands in lower part of unit; gradational lower contact	45.00	46.00	31834	1.00	0.0025
			46.00	47.00	31835	1.00	0.0025
61.00	101.05	UUTC **Talc Carbonate** Medium to dark bluish grey; local weak to moderate yellow to pale orange to brown tinge due to oxidation of carbonate; 2-5% white to beige-orange carbonate-pale bluish green talc veining/stringers; strongly magnetic; lower contact at 70 dtca	99.00	100.00	31836	1.00	0.0025
			100.00	101.05	31837	1.05	0.0025
101.05	103.55	KUND **Undifferentiated Ultramafic Volcanic** Dark green; no preserved primary textures, massive with 5-10% white carbonate stringers, moderately soft, chlorite +/- talc; minor pyrite as fine to coarse-grained and disseminated; no well defined lower contact	101.05	102.00	31838	0.95	0.0025
			102.00	103.00	31839	1.00	0.0025
			103.00	103.55	31840	0.55	0.0025
103.55	104.35	LLMD **Mafic Dike** Medium grey; fine-grained chlorite-feldspar groundmass; bleached grey due to carbonate?; 10% white quartz-carbonate-fuchsite veining, concentrated near upper and lower contacts; abundant black tourmaline; minor to 1% pyrite and trace chalcopyrite as fine to coarse-grained concentrated near upper and lower contacts; no well defined lower contact; multi-element geochemistry should determine if different rock type than komatiite downhole					
103.55	104.35	Fuc1;;;; **Fuchsite 1;;;;**					
103.55	104.35	Py1;;;Cpy0.1;totsul1.1 **Pyrite1;;;Chalcopyrite0.1;Total Sulfides1.1**					
103.55	104.35	VEI;10%;qv; **Vein 10%**	103.55	104.35	31841	0.80	0.0025

Description			Assay				
			From	To	Sample number	Length	AU_FIN (g/t)
104.35	111.50	KUND	104.35	105.00	31843	0.65	0.0025
		Undifferentiated Ultramafic Volcanic	105.00	106.00	31844	1.00	0.0025
		Dark grey green; 20-40% beige carbonate-pale green serpentine vein/stringers stockwork giving a local fragmental appearance; weakly magnetic	106.00	107.00	31845	1.00	0.0025
111.50	112.50	XXFG					
		Fault Gouge					
		Blocky, broken and ground core; local fault gouge; 10-20% contorted/brecciated carbonate stringers; komatiite protolith					
112.50	116.00	KUND					
		Undifferentiated Ultramafic Volcanic					
		Dark grey green becoming mottled in lower part of unit; 20-60% beige carbonate-pale green serpentine vein/stringers stockwork increasing in intensity in lower part of unit giving a fragmental appearance; non-magnetic					
116.00	116.50	XXFG					
		Fault Gouge					
		Blocky, broken and ground core with fault gouge; komatiite protolith					
116.50	117.80	KUND					
		Undifferentiated Ultramafic Volcanic					
		Dark grey green; 5-10% beige to orange carbonate-pale green serpentine stringers; local blocky broken core and narrow fault gouge at 80 dtca; weakly magnetic; vague lower contact					
117.80	118.10	UUTC					
		Talc Carbonate					
		Pale greyish green; 1-2% fine-grained wispy hematite; blocky broken core; lower contact obscured by broken core					
118.10	118.50	XXFG					
		Fault Gouge					
		Blocky, broken and ground core with fault gouge; 5% beige to orange carbonate stringers; komatiite protolith					
118.50	125.45	KCCB	118.50	119.00	31846	0.50	0.0025
		Chloritic Carb Rock	119.00	120.00	31847	1.00	0.0025
		Mottled grey green; talc-chlorite matrix with white to beige carbonate-pale green serpentine vein stockwork increasing downhole giving a fragmental appearance in lower part of unit; 1% grey to white quartz-ankerite stringers; lower contact at 60 dtca	120.00	121.00	31848	1.00	0.0025
			121.00	122.00	31849	1.00	0.0025
			122.00	123.00	31851	1.00	0.0025
			123.00	124.00	31852	1.00	0.0025
			124.00	125.00	31853	1.00	0.0025
			125.00	125.45	31854	0.45	0.0025
125.45	126.55	LLMD					
		Mafic Dike					
		Medium greyish green; fine-grained intergrowth of feldspar and chlorite; 10% fine to medium-grained disseminated black tourmaline; 1cm grey quartz-ankerite-black tourmaline vein at 60 dtca near upper contact; 126.4-126,55m: dark green and chlorite-black tourmaline-rich near lower contact with 5% pyrite as fine to coarse-grained stringers; sharp lower contact at 60 dtca					

Description	Assay				
	From	To	Sample number	Length	AU_FIN (g/t)
125.45 126.55 Py1;;;;totsul1					
Pyrite1;;;;Total Sulfides1					
125.45 126.55 VEI;1%;qv;	125.45	126.30	31855	0.85	0.0025
Vein 1%	126.30	126.55	31856	0.25	0.0025
126.55 127.00 MUND					
Altered Mafic Volcanic					
Mottled grey green; no preserved primary textures; dark green chlorite-pyrite-arsenopyrite-rich patches surrounded by grey to beige silica-albite?; 5% grey to quartz-ankerite stringer stockwork near lower contact; 5-10% pyrite+arsenopyrite as fine-grained in blebs often in the core of the chlorite patches; trace sphalerite as very fine-grained in patches and stringers; minor black tourmaline; gradational to less altered mafic volcanic downhole; multi-element geochemistry done to determine rock type					
126.55 127.00 ;;;Alb2;Sil2					
;;;Albitisation 2;Silicification 2					
126.55 127.00 Py5;;Asp2;;totsul7					
Pyrite5;;Arsenopyrite2;;Total Sulfides7					
126.55 127.00 VEI;5%;qv;	126.55	127.00	31857	0.45	0.0070
Vein 5%					
127.00 130.50 MUND					
Undifferentiated Mafic Volcanic					
Medium greyish green with local weak beige to purple/pink tinge; vague remnant flow textures, quartz-calcite amygdules and possibly pillow selvages, now accenuated by weak to moderate bleaching, silica and albite alteration?; 5-10% white quartz-calcite stringer stockwork and grey quartz-ankerite stringer stockwork; spotty trace to minor pyrite+ pyrrhotite as fine-grained and stringers concentrated in altered pillow selvages; vague lower contact at 70 dtca					
127.00 130.50 ;;;Alb1;Sil1					
;;;Albitisation 1;Silicification 1					
127.00 130.50 Py0.3;Po0.3;;;totsul0.6					
Pyrite0.3;Pyrrhotite0.3;;;Total Sulfides0.6					
127.00 130.50 VEI;10%;qv;	127.00	128.00	31859	1.00	0.0025
Vein 10%	128.00	129.00	31861	1.00	0.0025
	129.00	130.00	31862	1.00	0.0025
	130.00	130.50	31863	0.50	0.0025
130.50 131.70 KKCB					
Carb Rock					
Mottled medium to light greyish green; moderately foliated at 70-80 dtca; weak fuchsite tinge; 1-2% white and grey quartz-calcite stringers; trace pyrrhotite+arsenopyrite as very fine-grained disseminated and stringers; trace brown tourmaline near upper contact; gradtional to grey altered carb rock downhole					
130.50 131.70 Fuc1;;;;					
Fuchsite 1;;;;					

Description	Assay				
	From	To	Sample number	Length	AU_FIN (g/t)
130.50 131.70 ;Po0.1;Asp0.1;;totsul0.2					
Pyrrhotite0.1;Arsenopyrite0.1;;Total Sulfides0.2					
130.50 131.70 VEI;1%;qv;	130.50	131.00	31864	0.50	0.0025
Vein 1%	131.00	131.70	31865	0.70	0.0025
131.70 132.75 KGCB					
Grey Alteration in Carb Rock					
Dark grey; similar unit as uphole, overprinted by strong pervasive grey colour due to carbon from argillite downhole; 5% grey to white quartz-calcite stringers stockwork; 3-5% pyrrhotite+arsenopyrite as very fine-grained to fine-grained disseminated and stringers; lower contact at 70 dtca; multi-element geochemistry needed to determine rock type					
131.70 132.75 ;Po3;Asp2;;totsul5					
;Pyrrhotite3;Arsenopyrite2;;Total Sulfides5					
131.70 132.75 VEI;5%;qv;	131.70	132.30	31866	0.60	0.0025
Vein 5%	132.30	132.75	31868	0.45	0.0025
132.75 132.90 SARG					
Argillite					
Dark grey; no preserved primary textures; vague dark grey argillite banding/fragments; strongly deformed; and foliated at 70 dtca; 5% white quartz-calcite stringer stockwork; 5-7% pyyrhotite+pyrite+rarsenopyrite as very fine-grained to fine-grained as disrupted bands and disseminated					
132.75 132.90 Py2;Po3;Asp2;;totsul7					
Pyrite2;Pyrrhotite3;Arsenopyrite2;;Total Sulfides7					
132.75 132.90 VEI;5%;qv;	132.75	133.10	31869	0.35	0.0025
Vein 5%					
132.90 135.50 FAGL					
Felsic Agglomerate					
Beige to dark grey; abundant subangular heterolithic volcanic fragments; finer-grained sections with abundant quartz grains; moderately foliated at 60-70 dtca; local bleaching and silicification; local grey colour is due to carbon alteration?; 10-30% grey to mottled grey quartz-ankerite veining, varies from irregular to regular at 30-40 dtca; 5-20% pyrrhotite+pyrite+arsenopyrite, pyrrhotite is dominant sulphide as blebs in breccia, pyrite less dominant as blebs in breccia and in quartz-ankerite veining, arsenopyrite occurs dominantly as stringers and with veining, less commonly with breccia; trace sphalerite with veining					
132.90 135.50 ;;;;Sil1					
;;;;Silicification 1					
132.90 135.50 Py4;Po5;Asp1;;totsul10					
Pyrite4;Pyrrhotite5;Arsenopyrite1;;Total Sulfides10					
132.90 135.50 VEI;20%;qv;	133.10	133.70	31870	0.60	0.0025
Vein 20%	133.70	134.20	31871	0.50	0.0025
	134.20	135.00	31872	0.80	0.0025
	135.00	135.50	31873	0.50	0.0025

Description						Assay				
						From	To	Sample number	Length	AU_FIN (g/t)
135.50	137.30	FAGL								
		Felsic Agglomerate								
		Beige; abundant subangular heterolithic volcanic fragments; local fuchsite tinge to fragments; 3-10% grey quartz-ankerite veining/stringers at 30-60 dtca; 5-10% pyrrhotite+lessor pyrite+minor arsenopyrite as fine-grained in coarse blebs and stringers								
		135.50	137.30	Py3;Po7;Asp0.3;;totsul10.3						
				Pyrite3;Pyrrhotite7;Arsenopyrite0.3;;Total Sulfides10.3						
		135.50	137.30	VEI;10%;qv;		135.50	136.00	31875	0.50	0.0025
				Vein 10%		136.00	136.60	31876	0.60	0.0025
						136.60	137.30	31877	0.70	0.0025
137.30	142.60	FAGL								
		Felsic Agglomerate								
		Beige; abundant subangular heterolithic volcanic fragments; local fuchsite tinge to fragments; 1-2% grey and white quartz-calcite stringers; 5-10% pyrrhotite+lessor pyrite as fine-grained in coarse blebs and stringers								
		137.30	142.60	Py2;Po5;;;totsul7		137.30	138.00	31878	0.70	0.0025
				Pyrite2;Pyrrhotite5;;;Total Sulfides7		138.00	139.00	31879	1.00	0.0025
						139.00	140.00	31881	1.00	0.0025
						140.00	141.00	31882	1.00	0.0050
						141.00	142.00	31883	1.00	0.0025
						142.00	142.60	31884	0.60	0.0025
142.60	143.30	CSIF								
		Massive Sulphide								
		Bronze; semi-massive pyrite+/- pyrrhotite with dark grey sediment/argillite fragments; 30cm of bleached mafic volcanic at 0-10 dtca in center of unit; irregular upper contact at 70-80 dtca; vague lower contact at 80 dtca								
		142.60	143.30	Py60;Po5;;;totsul65		142.60	143.30	31885	0.70	0.0120
				Pyrite60;Pyrrhotite5;;;Total Sulfides65						
143.30	162.00	MPLW								
		Pillowed Mafic Volcanic								
		Medium greyish green; weakly bleached near upper contact due to albite?; pillow selvages with hyaloclastite/pillow fragments in a dark grey argillite/carbon matrix; local grey carbon stringers and pervasive colour; 1-10% white to grey quartz-calcite stringers/vein stockwork; spotty trace to 3% pyrrhotite+lessor pyrite in pillow selavges and carbon stringers								
		143.30	162.00	Py0.1;Po0.3;;;totsul0.4						
				Pyrite0.1;Pyrrhotite0.3;;;Total Sulfides0.4						
		143.30	162.00	VEI;3%;qv;		143.30	144.00	31887	0.70	0.0025
				Vein 3%		144.00	145.00	31888	1.00	0.0025
						145.00	146.00	31890	1.00	0.0025
						146.00	147.00	31891	1.00	0.0060
						147.00	148.00	31892	1.00	0.0025

Description			Assay				
			From	To	Sample number	Length	AU_FIN (g/t)
			148.00	149.00	31893	1.00	0.0025
			149.00	150.00	31894	1.00	0.0025
			150.00	151.00	31896	1.00	0.0025
			151.00	152.00	31897	1.00	0.0025
			152.00	153.00	31898	1.00	0.0025
			153.00	154.00	31899	1.00	0.0025
			154.00	155.00	31900	1.00	0.0025
			155.00	156.00	31901	1.00	0.0025
			156.00	157.00	31902	1.00	0.0025
			157.00	158.00	31904	1.00	0.0025
			158.00	159.00	31905	1.00	0.0025
			159.00	160.00	31906	1.00	0.0025
			160.00	161.00	31907	1.00	0.0025
			161.00	162.00	31908	1.00	0.0025
162.00	171.85	MPLB					
		Mafic Pillow Breccia					
		Medium greyish green with local weak to strong grey tinge due to carbon alteration; mafic flow/pillow fragments in a dark grey argillite matrix; 3-10% white quartz-calcite vein/stringer stockwork; spotty minor to 1% pyrrhotite+pyrite as fine-grained blebs and stringers in argillite matrix; gradational lower contact, increase in argillite/carbon alteration and sulphides					
	162.00 171.85	Py0.3;Po0.5;;;totsul0.8					
		Pyrite0.3;Pyrrhotite0.5;;;Total Sulfides0.8					
	162.00 171.85	VEI;3%;qv;	162.00	163.00	31909	1.00	0.0025
		Vein 3%	163.00	164.00	31910	1.00	0.0025
			164.00	165.00	31911	1.00	0.0025
			165.00	166.00	31912	1.00	0.0025
			166.00	167.00	31913	1.00	0.5900
			167.00	168.00	31914	1.00	0.0080
			168.00	169.00	31915	1.00	0.0025
			169.00	170.00	31916	1.00	0.0025
			170.00	171.20	31918	1.20	0.0050
			171.20	171.85	31920	0.65	0.0090
171.85	177.80	SARG					
		Argillite					
		Black; locally vaguely banded at 30-60 dtca, quite variable and contorted overall; 3-5% white quartz-calcite bands/fragments and stringers, quite contorted and deformed overall as banding; 10-20% pyrrhotite+lessor pyrite as fine to coarse-grained blebs, often deformed and with					

Description							Assay				
							From	To	Sample number	Length	AU_FIN (g/t)
			quartz-calcite, and as stringers; local trace chalcopyrite with pyrrhotite-pyrite blebs								
		171.85		177.80		Py2;Po15;;Cpy0.1;totsul17.1					
						Pyrite2;Pyrrhotite15;;Chalcopyrite0.1;Total Sulfides17.1					
			171.85		177.80	VEI;3%;qv;	171.85	173.00	31921	1.15	0.0400
						Vein 3%	173.00	174.00	31923	1.00	0.0280
							174.00	175.00	31924	1.00	0.0310
							175.00	176.00	31925	1.00	0.0170
							176.00	177.00	31926	1.00	0.0280
							177.00	177.35	31927	0.35	0.0290
							177.35	177.70	31929	0.35	0.0110
							177.70	178.00	31930	0.30	0.0025
177.80	177.95		VVQV								
			Quartz Vein								
			Mottled grey quartz vein; 5% fine to coarse-grained pyrite; 2% fine-grained pyrrhotite; upper contact at 40 dtca; lower contact at 60 dtca								
		177.80		177.95		Py5;Po2;;;totsul7					
						Pyrite5;Pyrrhotite2;;;Total Sulfides7					
			177.80		177.95	VEI;93%;qv;					
						Vein 93%					
177.95	185.20		MUND								
			Undifferentiated Mafic Volcanic								
			Medium greyish green; massive to banded with local argillite bands or possibly pillow selvages; weakly foliated at 30-50 dtca; 3-5% white to grey quartz-calcite veining/stringers; 3-8% pyrite+pyrrhotite near upper contact, diminishes downhole to trace to minor								
		177.95		185.20		Py0.3;Po0.3;;;totsul0.6					
						Pyrite0.3;Pyrrhotite0.3;;;Total Sulfides0.6					
			177.95		185.20	VEI;3%;qv;	178.00	178.30	31932	0.30	0.0025
						Vein 3%	178.30	179.00	31933	0.70	0.0025
							179.00	180.00	31934	1.00	0.0025
							180.00	181.00	31935	1.00	0.0025
							181.00	182.00	31936	1.00	0.0060
							182.00	183.00	31937	1.00	0.0025
							183.00	184.00	31938	1.00	0.0025
							184.00	185.20	31939	1.20	0.0025
185.20	194.50		MMAS				185.20	186.00	31940	0.80	0.0025
			Massive mafic Volcanic								
			Medium greyish green; massive; local carbonate clots; minor carbon stringers; rare white quartz-calcite stringers								
194.50	222.80		MUND								

Description						Assay				
						From	To	Sample number	Length	AU_FIN (g/t)
		Undifferentiated Mafic Volcanic								
		Medium to dark greyish green; massive to banded with local pillow selvages and flow breccia/hyaloclastite with argillite interflow material/carbon stringers; weakly foliated at 40-50 dtca; 2-5% white to grey quartz-calcite veining/stringers; spotty trace to 1% pyrite+pyrrhotite in pillow selvages, argilliceous interflow material an disseminated; local contact at 30 dtca								
		194.50	222.80	VEI;2%;qv;		221.00	222.00	31941	1.00	0.0025
				Vein 2%		222.00	222.80	31942	0.80	0.0025
222.80	231.40	MPLB								
		Mafic Pillow Breccia								
		Medium greyish green mafic flow/pillow fragments in a dark grey argillite matrix; 3-10% irregular white quartz-calcite vein/stringer stockwork; 1-5% pyrite+pyrrhotite as fine to coarse-grained blebs and stringers in argiilite matrix; irregular lower contact								
	222.80	231.40	Py2;Po1;;;totsul3							
			Pyrite2;Pyrrhotite1;;;Total Sulfides3							
		222.80	231.40	VEI;5%;qv;		222.80	224.00	31944	1.20	0.0025
				Vein 5%		224.00	225.00	31945	1.00	0.0025
						225.00	226.00	31946	1.00	0.0025
						226.00	227.00	31947	1.00	0.0025
						227.00	228.00	31949	1.00	0.0025
						228.00	229.00	31950	1.00	0.0060
						229.00	230.00	31951	1.00	0.0120
						230.00	231.00	31953	1.00	0.0150
						231.00	231.40	31954	0.40	0.0120
231.40	232.30	SARG								
		Argillite								
		Dark grey to black; vaguely banded and well foliated at 20 dtca; 10% white quartz-calcite veining/flooding; 10-20% pyrite+pyrrhotite as fine to coarse-grained disseminated and blebs/bands; irregular lower contact								
	231.40	232.30	Py10;Po5;;;totsul15							
			Pyrite10;Pyrrhotite5;;;Total Sulfides15							
		231.40	232.30	VEI;10%;qv;		231.40	232.30	31955	0.90	0.0080
				Vein 10%						
232.30	252.00	MPLW								
		Pillowed Mafic Volcanic								
		Medium to dark greyish green; black argillite pillow selvages; 2-3% white quartz-calcite stringers; spotty trace to minor pyrite+pyrrhotite concentrated in argillite pillow selvages; increase in pervasive grey colour due to carbon alteration, brecciation and sulphides near lower contact; gradational to argillite downhole								
		232.30	252.00	VEI;2%;qv;		232.30	233.00	31956	0.70	0.0025
				Vein 2%		233.00	234.00	31957	1.00	0.0025
						249.00	250.00	31958	1.00	0.0120

Description	Assay				
	From	To	Sample number	Length	AU_FIN (g/t)
	250.00	251.00	31959	1.00	0.0025
	251.00	252.00	31960	1.00	0.0140
252.00 253.10 SARG					
Argillite					
Dark grey to black; vaguely banded and well foliated at 20 dtca; 2-3% white quartz-calcite veining/stringers; 3-5% pyrite as fine to medium-grained disseminated and asbands; lower contact at 20 dtca					
252.00 253.10 Py5;;;;totsul5					
Pyrite5;;;;Total Sulfides5					
252.00 253.10 VEI;2%;qv;	252.00	253.10	31962	1.10	0.0190
Vein 2%					
253.10 254.10 VQCV					
Quartz Carbonate Breccia Vein Zone					
White quartz-carbonate matrix; grey argillite fragments; sericite fragments of unit downhole; 3-5% pyrite+arsenopyrite as fine-grained disseminated; breccia zone; lower contact obscured by broken/ground core					
253.10 254.10 Py3;;Asp2;;totsul5					
Pyrite3;;Arsenopyrite2;;Total Sulfides5					
253.10 254.10 VEI;60%;qv;	253.10	254.10	31963	1.00	0.0130
Vein 60%					
254.10 254.65 SARG					
Argillite					
Dark grey to black; vaguely banded and foliated at 60 dtca; sericite banding as in unit downhole; argillite fragments; trace to minor pyrite+arsenopyrite as very fine-grained to fine-grained and dissmeinated					
254.10 254.65 Py0.1;;Asp0.1;;totsul0.2	254.10	254.65	31965	0.55	0.0025
Pyrite0.1;;Arsenopyrite0.1;;Total Sulfides0.2					
254.65 298.60 SUND					
Undifferentiated Clastic Sediment					
Dark greyish green with yellowish green sericite bands/wisps; vague fine-grained quartz grains; possibly fine-grained sediment, greywacke to siltstone in upper part, grading to thinly banded siltstone and argillite downhole; moderately to well foliated at 60 dtca; cross-cutting fracture cleavage defined by alignment of white quartz-calcite extension gash veins/stringers at 20 dtca in upper part of unit, grades into a well developed second foliation at 20 dtca from approximately 273m downhole; 2-10% white to grey quartz-calcite veining/stringers subparallel to banding and foliation and along second foliation orientation, also as a breccia stockwork; spotty trace to minor pyrite+/- arsenopyrite as fine-grained and disseminated					
254.65 298.60 ;;Ser1;;					
;;Sericitisation 1;;					
254.65 298.60 Py0.3;;Asp0.1;;totsul0.4					
Pyrite0.3;;Arsenopyrite0.1;;Total Sulfides0.4					
254.65 298.60 VEI;2%;qv;	254.65	255.00	31966	0.35	0.0025
Vein 2%	255.00	256.00	31967	1.00	0.0025

Description	Assay				
	From	To	Sample number	Length	AU_FIN (g/t)
	256.00	257.00	31968	1.00	0.0025
	257.00	258.00	31970	1.00	0.0025
	258.00	259.00	31971	1.00	0.0025
	259.00	260.00	31972	1.00	0.0025
	260.00	261.00	31973	1.00	0.0025
	261.00	262.00	31974	1.00	0.0025
	262.00	263.00	31975	1.00	0.0025
	263.00	264.00	31976	1.00	0.0025
	264.00	265.00	31977	1.00	0.0025
	265.00	266.00	31978	1.00	0.0025
	266.00	267.00	31979	1.00	0.0025
	267.00	268.00	31980	1.00	0.0025
	268.00	269.00	31981	1.00	0.0025
	269.00	270.00	31982	1.00	0.0025
	270.00	271.00	31983	1.00	0.0025
	271.00	272.00	31984	1.00	0.0025
	272.00	273.00	31986	1.00	0.0025
	273.00	274.00	31987	1.00	0.0025
	274.00	275.00	31988	1.00	0.0025
	275.00	276.00	31990	1.00	0.0050
	276.00	277.00	31992	1.00	0.0025
	277.00	278.00	31993	1.00	0.0070
	278.00	279.00	31994	1.00	0.0080
	279.00	280.00	31995	1.00	0.0080
	280.00	281.00	31996	1.00	0.0025
	281.00	282.00	31997	1.00	0.0050
	282.00	283.00	31998	1.00	0.0025
	283.00	284.00	31999	1.00	0.0025
	284.00	285.00	32000	1.00	0.0025
	285.00	286.00	32001	1.00	0.0070
	286.00	287.00	32002	1.00	0.0025
	287.00	288.00	32003	1.00	0.0025
	288.00	289.00	32004	1.00	0.0025

Description	Assay				
	From	To	Sample number	Length	AU_FIN (g/t)
	289.00	290.00	32006	1.00	0.0025
	290.00	291.00	32007	1.00	0.0025
	291.00	292.00	32008	1.00	0.0025
	292.00	293.00	32009	1.00	0.0025
	293.00	294.00	32011	1.00	0.0025
	294.00	295.00	32012	1.00	0.0025
	295.00	296.00	32013	1.00	0.0025
	296.00	297.00	32014	1.00	0.0025
	297.00	298.00	32016	1.00	0.0025
	298.00	298.60	32017	0.60	0.0025
298.60 313.20 SUND					
Undifferentiated Clastic Sediment					
Dark greyish green with yellowish green sericite bands/wisps; vaguely thinly banded fine-grained sediment, siltstone and argillite; banding and foliation at 50-60 dtca; cross-cutting fracture cleavage defined by alignment of white quartz-calcite extension gash veins/stringers at 20 dtca with well developed second foliation at 20 dtca; 10-20% white to grey quartz-calcite veining/stringers/flooding subparallel to banding and foliation and along second foliation orientation; spotty trace to 1% pyrite+pyrrhotite, trace arsenopyrite and local trace chalocpyrite as fine-grained, disseminated and as stringers					
298.60 313.20 ;;Ser1;;					
;;Sericitisation 1;;					
298.60 313.20 Py0.3;Po0.3;Asp0.1;;totsul0.7					
Pyrite0.3;Pyrrhotite0.3;Arsenopyrite0.1;;Total Sulfides0.7					
298.60 313.20 VEI;10%;qv;	298.60	299.10	32018	0.50	0.0025
Vein 10%	299.10	300.00	32019	0.90	0.0025
	300.00	301.00	32020	1.00	0.0025
	301.00	302.00	32021	1.00	0.0025
	302.00	303.00	32022	1.00	0.0025
	303.00	304.00	32024	1.00	0.0025
	304.00	305.00	32025	1.00	0.0025
	305.00	306.00	32026	1.00	0.0025
	306.00	306.90	32027	0.90	0.0025
	306.90	308.00	32028	1.10	0.0025
	308.00	309.00	32030	1.00	0.0025
	309.00	310.10	32032	1.10	0.0025
	310.10	311.00	32033	0.90	0.0025
	311.00	312.00	32034	1.00	0.0025

Description	Assay				
	From	To	Sample number	Length	AU_FIN (g/t)
	312.00	313.20	32035	1.20	0.0025
313.20 318.00 SUND **Undifferentiated Clastic Sediment** Dark greyish green with yellowish green sericite bands/wisps; vaguely thinly banded fine-grained sediment, siltstone and argillite; banding and foliation at 50-60 dtca; cross-cutting fracture cleavage defined by alignment of white quartz-calcite extension gash veins/stringers at 20 dtca with well developed second foliation at 20 dtca; 2-5% white to grey quartz-calcite veining/stringers/flooding subparallel to banding and foliation and along second foliation orientation; spotty trace to minor pyrite+pyrrhotite+arsenopyrite as fine-grained, disseminated and as stringers; EOH 318m					
313.20 318.00 ;;Ser1;; **;;Sericitisation 1;;**					
313.20 318.00 Py0.1;Po0.1;Asp0.1;;totsul0.3 **Pyrite0.1;Pyrrhotite0.1;Arsenopyrite0.1;;Total Sulfides0.3**					
313.20 318.00 VEI;3%;qv; **Vein 3%**	313.20	314.00	32036	0.80	0.0025
	314.00	315.00	32037	1.00	0.0025
	315.00	316.00	32038	1.00	0.0025
	316.00	317.00	32039	1.00	0.0025
	317.00	318.00	32040	1.00	0.0025
318.00 **End of DDH** **Number of samples: 181** **Number of QAQC samples: 33** **Total sampled length: 164.50**					

Assay

From	To	Sample number	Length	AU_FIN (g/t)	Comments	s_rkcode	s_fucalt	s_bioalt	s_seralt	s_albalt	s_silalt	s_qv	s_py	s_po	s_cpy	s_asp	s_totsul
40.00	41.00	31827	1.00	0.0025		KUND											
41.00	42.00	31829	1.00	0.0025		KUND											
42.00	43.00	31830	1.00	0.0025		KUND											
43.00	43.60	31831	0.60	0.0025		KUND											
43.60	45.00	31832	1.40	0.0025		UUTC											
45.00	46.00	31834	1.00	0.0025		USRP											
46.00	47.00	31835	1.00	0.0025		USRP											
99.00	100.00	31836	1.00	0.0025		UUTC											
100.00	101.05	31837	1.05	0.0025		UUTC											
101.05	102.00	31838	0.95	0.0025		KUND											
102.00	103.00	31839	1.00	0.0025		KUND											
103.00	103.55	31840	0.55	0.0025		KUND											
103.55	104.35	31841	0.80	0.0025		LLMD	1					10	1.0		0.1		1.1
104.35	105.00	31843	0.65	0.0025		KUND											
105.00	106.00	31844	1.00	0.0025		KUND											
106.00	107.00	31845	1.00	0.0025		KUND											
118.50	119.00	31846	0.50	0.0025		KCCB											
119.00	120.00	31847	1.00	0.0025		KCCB											
120.00	121.00	31848	1.00	0.0025		KCCB											
121.00	122.00	31849	1.00	0.0025		KCCB						1					
122.00	123.00	31851	1.00	0.0025		KCCB											
123.00	124.00	31852	1.00	0.0025		KCCB											
124.00	125.00	31853	1.00	0.0025		KCCB						1			0.1		0.1
125.00	125.45	31854	0.45	0.0025		KCCB											
125.45	126.30	31855	0.85	0.0025		LLMD						1			0.1		0.1
126.30	126.55	31856	0.25	0.0025		LLMD							5.0				5.0
126.55	127.00	31857	0.45	0.0070	trace sphalerite	MUND				2	2	5	5.0			2.0	7.0
127.00	128.00	31859	1.00	0.0025		MUND				1	1	10	0.3	0.3			0.6
128.00	129.00	31861	1.00	0.0025		MUND				1	1	10	0.5	0.5			1.0
129.00	130.00	31862	1.00	0.0025		MUND				1	1	10	0.3	0.3			0.6
130.00	130.50	31863	0.50	0.0025		MUND				1	1	10	0.3	0.3			0.6
130.50	131.00	31864	0.50	0.0025		KKCB	1					1		0.1		0.1	0.2

Assay

From	To	Sample number	Length	AU_FIN (g/t)	Comments	s_rkcode	s_fucalt	s_bioalt	s_seralt	s_albalt	s_silalt	s_qv	s_py	s_po	s_cpy	s_asp	s_totsul
131.00	131.70	31865	0.70	0.0025		KKCB	1					1		0.1		0.1	0.2
131.70	132.30	31866	0.60	0.0025		KGCB						5		3.0		2.0	5.0
132.30	132.75	31868	0.45	0.0025		KGCB						5		3.0		2.0	5.0
132.75	133.10	31869	0.35	0.0025		FAGL							3.0	5.0		0.3	8.3
133.10	133.70	31870	0.60	0.0025		FAGL						5	3.0	5.0		0.3	8.3
133.70	134.20	31871	0.50	0.0025		FAGL					2	3	3.0	2.0		2.0	7.0
134.20	135.00	31872	0.80	0.0025		FAGL						20	10.0	5.0		2.0	17.0
135.00	135.50	31873	0.50	0.0025	trace sphalerite	FAGL						30	5.0	3.0		2.0	10.0
135.50	136.00	31875	0.50	0.0025		FAGL						3	2.0	3.0		0.3	5.3
136.00	136.60	31876	0.60	0.0025		FAGL						10	3.0	7.0		0.3	10.3
136.60	137.30	31877	0.70	0.0025		FAGL						2	2.0	3.0		0.3	5.3
137.30	138.00	31878	0.70	0.0025		FAGL							2.0	5.0		0.3	7.3
138.00	139.00	31879	1.00	0.0025		FAGL						3	2.0	5.0		0.3	7.3
139.00	140.00	31881	1.00	0.0025		FAGL						1	2.0	5.0		0.3	7.3
140.00	141.00	31882	1.00	0.0050		FAGL						1	2.0	5.0		0.3	7.3
141.00	142.00	31883	1.00	0.0025		FAGL							3.0	7.0		0.3	10.3
142.00	142.60	31884	0.60	0.0025		FAGL							2.0	3.0		0.3	5.3
142.60	143.30	31885	0.70	0.0120		CSIF							60.0	5.0			65.0
143.30	144.00	31887	0.70	0.0025		MPLW				1			0.3	2.0			2.3
144.00	145.00	31888	1.00	0.0025		MPLW						2	0.1	0.5			0.6
145.00	146.00	31890	1.00	0.0025		MPLW						3	0.1	0.1			0.2
146.00	147.00	31891	1.00	0.0060		MPLW						3	1.0	2.0			3.0
147.00	148.00	31892	1.00	0.0025		MPLW						1	0.1	0.3			0.4
148.00	149.00	31893	1.00	0.0025		MPLW						2		0.1			0.1
149.00	150.00	31894	1.00	0.0025		MPLW						5		0.3			0.3
150.00	151.00	31896	1.00	0.0025		MPLW						2					
151.00	152.00	31897	1.00	0.0025		MPLW						2		0.1			0.1
152.00	153.00	31898	1.00	0.0025		MPLW						3		0.3			0.3
153.00	154.00	31899	1.00	0.0025		MPLW						3	0.1	0.3			0.4
154.00	155.00	31900	1.00	0.0025		MPLW						5					
155.00	156.00	31901	1.00	0.0025		MPLW						3	0.1	0.3			0.4
156.00	157.00	31902	1.00	0.0025		MPLW						3					

Assay

From	To	Sample number	Length	AU_FIN (g/t)	Comments	s_rkcode	s_fucalt	s_bioalt	s_seralt	s_albalt	s_silalt	s_qv	s_py	s_po	s_cpy	s_asp	s_totsul
157.00	158.00	31904	1.00	0.0025		MPLW						3	0.1	0.1			0.2
158.00	159.00	31905	1.00	0.0025		MPLW						3		0.1			0.1
159.00	160.00	31906	1.00	0.0025		MPLW						10		0.1			0.1
160.00	161.00	31907	1.00	0.0025		MPLW						3	0.1	0.1			0.2
161.00	162.00	31908	1.00	0.0025		MPLW						10	0.1	0.1			0.2
162.00	163.00	31909	1.00	0.0025		MPLB						5	0.3	0.3			0.6
163.00	164.00	31910	1.00	0.0025		MPLB						5		0.1			0.1
164.00	165.00	31911	1.00	0.0025		MPLB						10	0.1	0.5			0.6
165.00	166.00	31912	1.00	0.0025		MPLB						3	0.3	0.5			0.8
166.00	167.00	31913	1.00	0.5900		MPLB						5	0.3	0.3			0.6
167.00	168.00	31914	1.00	0.0080		MPLB						15	0.1	0.1			0.2
168.00	169.00	31915	1.00	0.0025		MPLB						5	0.1	0.1			0.2
169.00	170.00	31916	1.00	0.0025		MPLB						1	0.5	0.5			1.0
170.00	171.20	31918	1.20	0.0050		MPLB						2	2.0	1.0			3.0
171.20	171.85	31920	0.65	0.0090		MPLB						1	3.0	2.0			5.0
171.85	173.00	31921	1.15	0.0400		SARG						5	2.0	15.0	0.1		17.1
173.00	174.00	31923	1.00	0.0280		SARG						5	2.0	15.0	0.1		17.1
174.00	175.00	31924	1.00	0.0310		SARG						3	2.0	10.0			12.0
175.00	176.00	31925	1.00	0.0170		SARG						1	5.0	10.0			15.0
176.00	177.00	31926	1.00	0.0280		SARG						5	2.0	15.0			17.0
177.00	177.35	31927	0.35	0.0290		SARG						2	2.0	10.0			12.0
177.35	177.70	31929	0.35	0.0110		SARG						20	5.0	15.0			20.0
177.70	178.00	31930	0.30	0.0025		VVQV						50	5.0	2.0			7.0
178.00	178.30	31932	0.30	0.0025		MUND						5	5.0	3.0			8.0
178.30	179.00	31933	0.70	0.0025		MUND						5	3.0	1.0			4.0
179.00	180.00	31934	1.00	0.0025		MUND						5	0.3	0.1			0.4
180.00	181.00	31935	1.00	0.0025		MUND						3	0.1	0.1			0.2
181.00	182.00	31936	1.00	0.0060		MUND						5	0.5	0.5			1.0
182.00	183.00	31937	1.00	0.0025		MUND						3	0.3	0.3			0.6
183.00	184.00	31938	1.00	0.0025		MUND						5	0.1	0.1			0.2
184.00	185.20	31939	1.20	0.0025		MUND						5	0.3	0.2			0.5
185.20	186.00	31940	0.80	0.0025		MMAS						1	0.1	0.1			0.2

Assay

From	To	Sample number	Length	AU_FIN (g/t)	Comments	s_rkcode	s_fucalt	s_bioalt	s_seralt	s_albalt	s_silalt	s_qv	s_py	s_po	s_cpy	s_asp	s_totsul
221.00	222.00	31941	1.00	0.0025		MUND						3					
222.00	222.80	31942	0.80	0.0025		MUND						3					
222.80	224.00	31944	1.20	0.0025		MPLB						5	2.0	1.0			3.0
224.00	225.00	31945	1.00	0.0025		MPLB						5	2.0	1.0			3.0
225.00	226.00	31946	1.00	0.0025		MPLB						3	2.0	1.0			3.0
226.00	227.00	31947	1.00	0.0025		MPLB						2	2.0	1.0			3.0
227.00	228.00	31949	1.00	0.0025		MPLB						10	2.0	3.0			5.0
228.00	229.00	31950	1.00	0.0060		MPLB						3	2.0	1.0			3.0
229.00	230.00	31951	1.00	0.0120		MPLB						3	2.0	1.0			3.0
230.00	231.00	31953	1.00	0.0150		MPLB						3	2.0	1.0			3.0
231.00	231.40	31954	0.40	0.0120		MPLB						3	2.0	1.0			3.0
231.40	232.30	31955	0.90	0.0080		SARG						10	10.0	5.0			15.0
232.30	233.00	31956	0.70	0.0025		MPLW						2	0.1	0.1			0.2
233.00	234.00	31957	1.00	0.0025		MPLW						1	0.1	0.1			0.2
249.00	250.00	31958	1.00	0.0120		MPLW						3	0.1				0.1
250.00	251.00	31959	1.00	0.0025		MPLW						10	0.5				0.5
251.00	252.00	31960	1.00	0.0140		MPLW						5	3.0				3.0
252.00	253.10	31962	1.10	0.0190		SARG						2	5.0				5.0
253.10	254.10	31963	1.00	0.0130		VQCV						60	3.0			2.0	5.0
254.10	254.65	31965	0.55	0.0025		SARG							0.1			0.1	0.2
254.65	255.00	31966	0.35	0.0025		SUND			1			2	1.0				1.0
255.00	256.00	31967	1.00	0.0025		SUND			1			3	0.3				0.3
256.00	257.00	31968	1.00	0.0025		SUND			1			5	0.3				0.3
257.00	258.00	31970	1.00	0.0025	2cm grey quartz vein	SUND			1			5	0.3				0.3
258.00	259.00	31971	1.00	0.0025		SUND			1			2	0.3				0.3
259.00	260.00	31972	1.00	0.0025		SUND			1			3	0.1				0.1
260.00	261.00	31973	1.00	0.0025		SUND			1			3	0.1				0.1
261.00	262.00	31974	1.00	0.0025		SUND			1			5	0.3				0.3
262.00	263.00	31975	1.00	0.0025		SUND			1			5	0.3				0.3
263.00	264.00	31976	1.00	0.0025		SUND			1			5	0.3				0.3
264.00	265.00	31977	1.00	0.0025		SUND			1			5	0.3				0.3
265.00	266.00	31978	1.00	0.0025		SUND			1			1	0.1				0.1

Assay

From	To	Sample number	Length	AU_FIN (g/t)	Comments	s_rkcode	s_fucalt	s_bioalt	s_seralt	s_albalt	s_silalt	s_qv	s_py	s_po	s_cpy	s_asp	s_totsul
266.00	267.00	31979	1.00	0.0025		SUND			1			3	0.1				0.1
267.00	268.00	31980	1.00	0.0025		SUND			1			5	0.1				0.1
268.00	269.00	31981	1.00	0.0025		SUND			1			5	0.3				0.3
269.00	270.00	31982	1.00	0.0025		SUND			1			5	0.3				0.3
270.00	271.00	31983	1.00	0.0025		SUND			1			5	0.3			0.1	0.4
271.00	272.00	31984	1.00	0.0025		SUND			1			5	0.3			0.1	0.4
272.00	273.00	31986	1.00	0.0025		SUND			1			5	0.3			0.1	0.4
273.00	274.00	31987	1.00	0.0025		SUND			1			10	0.5			0.1	0.6
274.00	275.00	31988	1.00	0.0025		SUND			1			3	0.3			0.1	0.4
275.00	276.00	31990	1.00	0.0050		SUND			1			5	0.3			0.1	0.4
276.00	277.00	31992	1.00	0.0025		SUND			1			5	0.3			0.1	0.4
277.00	278.00	31993	1.00	0.0070		SUND			1			5	0.3			0.1	0.4
278.00	279.00	31994	1.00	0.0080		SUND			1			3	0.3			0.1	0.4
279.00	280.00	31995	1.00	0.0080		SUND			1			3	0.3			0.1	0.4
280.00	281.00	31996	1.00	0.0025		SUND			1			5	0.3			0.1	0.4
281.00	282.00	31997	1.00	0.0050		SUND			1			10	0.5			0.1	0.6
282.00	283.00	31998	1.00	0.0025		SUND			1			2	0.3			0.1	0.4
283.00	284.00	31999	1.00	0.0025		SUND			1			2	0.3			0.1	0.4
284.00	285.00	32000	1.00	0.0025		SUND			1			3	0.3			0.1	0.4
285.00	286.00	32001	1.00	0.0070		SUND			1			5	0.3			0.1	0.4
286.00	287.00	32002	1.00	0.0025		SUND			1			3	0.3			0.1	0.4
287.00	288.00	32003	1.00	0.0025		SUND			1			10	0.3			0.1	0.4
288.00	289.00	32004	1.00	0.0025		SUND			1			5	0.3			0.1	0.4
289.00	290.00	32006	1.00	0.0025		SUND			1			3	0.5			0.1	0.6
290.00	291.00	32007	1.00	0.0025		SUND			1			5	0.5			0.3	0.8
291.00	292.00	32008	1.00	0.0025		SUND			1			3	0.3			0.1	0.4
292.00	293.00	32009	1.00	0.0025		SUND			1			10	0.3			0.1	0.4
293.00	294.00	32011	1.00	0.0025		SUND			1			5	0.3			0.1	0.4
294.00	295.00	32012	1.00	0.0025		SUND			1			3	0.3			0.1	0.4
295.00	296.00	32013	1.00	0.0025		SUND			1			3	0.3			0.1	0.4
296.00	297.00	32014	1.00	0.0025		SUND			1			3	0.3			0.1	0.4
297.00	298.00	32016	1.00	0.0025		SUND			1			3	0.3			0.1	0.4

Assay

From	To	Sample number	Length	AU_FIN (g/t)	Comments	s_rkcode	s_fucalt	s_bioalt	s_seralt	s_albalt	s_silalt	s_qv	s_py	s_po	s_cpy	s_asp	s_totsul
298.00	298.60	32017	0.60	0.0025		SUND			1			3	0.3			0.1	0.4
298.60	299.10	32018	0.50	0.0025		SUND			1			20	0.3	0.3		0.1	0.7
299.10	300.00	32019	0.90	0.0025		SUND			1			5	0.3	0.3		0.1	0.7
300.00	301.00	32020	1.00	0.0025		SUND			1			3	0.3	0.3		0.1	0.7
301.00	302.00	32021	1.00	0.0025		SUND			1			20	0.3	0.3		0.1	0.7
302.00	303.00	32022	1.00	0.0025		SUND			1			10	0.3	1.0		0.1	1.4
303.00	304.00	32024	1.00	0.0025		SUND			1			2	0.3	0.3		0.1	0.7
304.00	305.00	32025	1.00	0.0025		SUND			1			15	0.3	1.0		0.1	1.4
305.00	306.00	32026	1.00	0.0025		SUND			1			3	0.3	0.3		0.1	0.7
306.00	306.90	32027	0.90	0.0025		SUND			1			3	0.3	0.3		0.1	0.7
306.90	308.00	32028	1.10	0.0025		SUND			1			20	0.3	1.0	0.1	0.1	1.5
308.00	309.00	32030	1.00	0.0025		SUND			1			10	0.3	0.3		0.1	0.7
309.00	310.10	32032	1.10	0.0025		SUND			1			15	0.3	2.0	0.1	0.1	2.5
310.10	311.00	32033	0.90	0.0025		SUND			1			3	0.3	0.3		0.1	0.7
311.00	312.00	32034	1.00	0.0025		SUND			1			10	0.3	0.3		0.1	0.7
312.00	313.20	32035	1.20	0.0025		SUND			1			10	0.3	0.3		0.1	0.7
313.20	314.00	32036	0.80	0.0025		SUND			1			2	0.1	0.1		0.1	0.3
314.00	315.00	32037	1.00	0.0025		SUND			1			3	0.1	0.1		0.1	0.3
315.00	316.00	32038	1.00	0.0025		SUND			1			3	0.1	0.1		0.1	0.3
316.00	317.00	32039	1.00	0.0025		SUND			1			5	0.1	0.1		0.1	0.3
317.00	318.00	32040	1.00	0.0025		SUND			1			3	0.1	0.1		0.1	0.3

Averages - Composites

Zone	From	To	AU_FIN (g/t)

Magnetism

From	To	Magnetism	Title	Description
17.00	17.01	71.6		
18.00	18.01	78.8		
19.00	19.01	78.6		
20.00	20.01	48.8		
21.00	21.01	42.6		
22.00	22.01	158		
23.00	23.01	79.9		
24.00	24.01	132		
25.00	25.01	102		
26.00	26.01	86.3		
27.00	27.01	100		
28.00	28.01	129		
29.00	29.01	50.6		
30.00	30.01	34.1		
31.00	31.01	123		
32.00	32.01	81.1		
33.00	33.01	111		
34.00	34.01	123		
35.00	35.01	171		
36.00	36.01	86.6		
37.00	37.01	165		
38.00	38.01	43.3		
39.00	39.01	91		
40.00	40.01	118		
41.00	41.01	198		
42.00	42.01	207		
43.00	43.01	295		
44.00	44.01	15.5		
45.00	45.01	86.2		
46.00	46.01	39.1		
47.00	47.01	82.8		
48.00	48.01	57.4		
49.00	49.01	29.6		
50.00	50.01	35.1		

Magnetism

From	To	Magnetism	Title	Description
51.00	51.01	34.4		
52.00	52.01	42.7		
53.00	53.01	52.3		
54.00	54.01	31.5		
55.00	55.01	84.7		
56.00	56.01	67.8		
57.00	57.01	47.4		
58.00	58.01	24.7		
59.00	59.01	27		
60.00	60.01	28.4		
61.00	61.01	39		
62.00	62.01	67.6		
63.00	63.01	48.2		
64.00	64.01	35.3		
65.00	65.01	45.2		
66.00	66.01	31.7		
67.00	67.01	42.4		
68.00	68.01	42.8		
69.00	69.01	62.5		
70.00	70.01	21.3		
71.00	71.01	17.4		
72.00	72.01	17.4		
73.00	73.01	21.1		
74.00	74.01	33.2		
75.00	75.01	25.7		
76.00	76.01	36.1		
77.00	77.01	37.6		
78.00	78.01	39.5		
79.00	79.01	28.7		
80.00	80.01	27.4		
81.00	81.01	13.5		
82.00	82.01	10.3		
83.00	83.01	13.1		
84.00	84.01	11.2		

Magnetism

From	To	Magnetism	Title	Description
85.00	85.01	1.32		
86.00	86.01	9.68		
87.00	87.01	35.8		
88.00	88.01	45.1		
89.00	89.01	35.6		
90.00	90.01	44.8		
91.00	91.01	42.3		
92.00	92.01	55.3		
93.00	93.01	53.6		
94.00	94.01	55.3		
95.00	95.01	57.7		
96.00	96.01	63.2		
97.00	97.01	30		
98.00	98.01	47		
99.00	99.01	25.9		
100.00	100.01	33.1		
101.00	101.01	79		
102.00	102.01	3.55		
103.00	103.01	15.3		
104.00	104.01	131		
105.00	105.01	7.25		
106.00	106.01	13.9		
107.00	107.01	1.44		
108.00	108.01	1		
109.00	109.01	21		
110.00	110.01	0.827		
111.00	111.01	0.768		
112.00	112.01	0.366		
113.00	113.01	0.606		
114.00	114.01	0.483		
115.00	115.01	0.552		
116.00	116.01	0.038		
117.00	117.01	0.078		
118.00	118.01	0.019		

Magnetism

From	To	Magnetism	Title	Description
119.00	119.01	0.523		
120.00	120.01	0.586		
121.00	121.01	0.433		
122.00	122.01	0.389		
123.00	123.01	0.608		
124.00	124.01	0.617		
125.00	125.01	0.705		
126.00	126.01	0.607		
127.00	127.01	0.644		
128.00	128.01	0.827		
129.00	129.01	1.11		
130.00	130.01	2.02		
131.00	131.01	0.834		
132.00	132.01	4.86		
133.00	133.01	3.99		
134.00	134.01	1.35		
135.00	135.01	1.4		
136.00	136.01	1.71		
137.00	137.01	9.7		
138.00	138.01	14.5		
139.00	139.01	9.19		
140.00	140.01	5.81		
141.00	141.01	8.83		
142.00	142.01	9.64		
143.00	143.01	2.73		
144.00	144.01	9.84		
145.00	145.01	3.21		
146.00	146.01	4.72		
147.00	147.01	3.97		
148.00	148.01	2.1		
149.00	149.01	1.78		
150.00	150.01	2.36		
151.00	151.01	1.47		
152.00	152.01	3.56		

Magnetism

From	To	Magnetism	Title	Description
153.00	153.01	1.25		
154.00	154.01	0.359		
155.00	155.01	0.071		
156.00	156.01	1.98		
157.00	157.01	0.844		
158.00	158.01	1.87		
159.00	159.01	0.916		
160.00	160.01	2.38		
161.00	161.01	2.69		
162.00	162.01	1.33		
163.00	163.01	0.503		
164.00	164.01	1.22		
165.00	165.01	1.09		
166.00	166.01	1.38		
167.00	167.01	0.808		
168.00	168.01	0.457		
169.00	169.01	0.643		
170.00	170.01	0.707		
171.00	171.01	4.96		
172.00	172.01	16.1		
173.00	173.01	9.9		
174.00	174.01	9.73		
175.00	175.01	2.07		
176.00	176.01	4.38		
177.00	177.01	14.2		
178.00	178.01	7.61		
179.00	179.01	20.3		
180.00	180.01	0.308		
181.00	181.01	0.481		
182.00	182.01	0.939		
183.00	183.01	0.629		
184.00	184.01	0.567		
185.00	185.01	0.78		
186.00	186.01	0.39		

Magnetism

From	To	Magnetism	Title	Description
187.00	187.01	0.365		
188.00	188.01	0.409		
189.00	189.01	0.392		
190.00	190.01	0.534		
191.00	191.01	0.419		
192.00	192.01	0.435		
193.00	193.01	0.326		
194.00	194.01	0.302		
195.00	195.01	0.219		
196.00	196.01	0.418		
197.00	197.01	0.332		
198.00	198.01	0.478		
199.00	199.01	0.337		
200.00	200.01	0.586		
201.00	201.01	0.836		
202.00	202.01	0.48		
203.00	203.01	1		
204.00	204.01	0.475		
205.00	205.01	0.387		
206.00	206.01	0.223		
207.00	207.01	0.353		
208.00	208.01	0.376		
209.00	209.01	0.307		
210.00	210.01	0.297		
211.00	211.01	0.593		
212.00	212.01	0.37		
213.00	213.01	0.455		
214.00	214.01	0.502		
215.00	215.01	0.054		
216.00	216.01	0.472		
217.00	217.01	1.73		
218.00	218.01	0.591		
219.00	219.01	0.23		
220.00	220.01	0.51		

Magnetism

From	To	Magnetism	Title	Description
221.00	221.01	0.302		
222.00	222.01	0.537		
223.00	223.01	0.809		
224.00	224.01	2.91		
225.00	225.01	3.48		
226.00	226.01	0.776		
227.00	227.01	0.519		
228.00	228.01	1.68		
229.00	229.01	3.84		
230.00	230.01	5.3		
231.00	231.01	3.57		
232.00	232.01	4.82		
233.00	233.01	1.03		
234.00	234.01	0.82		
235.00	235.01	0.65		
236.00	236.01	0.475		
237.00	237.01	0.764		
238.00	238.01	0.516		
239.00	239.01	0.413		
240.00	240.01	0.598		
241.00	241.01	0.862		
242.00	242.01	1.23		
243.00	243.01	0.546		
244.00	244.01	0.449		
245.00	245.01	0.124		
246.00	246.01	0.335		
247.00	247.01	0.548		
248.00	248.01	0.438		
249.00	249.01	0.503		
250.00	250.01	0.535		
251.00	251.01	0.606		
252.00	252.01	0.36		
253.00	253.01	0.062		
254.00	254.01	0.06		

Magnetism

From	To	Magnetism	Title	Description
255.00	255.01	0.331		
256.00	256.01	0.316		
257.00	257.01	0.034		
258.00	258.01	0.052		
259.00	259.01	0.036		
260.00	260.01	0.319		
261.00	261.01	0.312		
262.00	262.01	0.046		
263.00	263.01	0.065		
264.00	264.01	0.324		
265.00	265.01	0.352		
266.00	266.01	0.358		
267.00	267.01	0.352		
268.00	268.01	0.43		
269.00	269.01	0.474		
270.00	270.01	0		
271.00	271.01	0.414		
272.00	272.01	0.061		
273.00	273.01	0.468		
274.00	274.01	0.458		
275.00	275.01	0.384		
276.00	276.01	0.493		
277.00	277.01	0.366		
278.00	278.01	0.387		
279.00	279.01	0.488		
280.00	280.01	0.55		
281.00	281.01	0.368		
282.00	282.01	0.482		
283.00	283.01	0.34		
284.00	284.01	0.348		
285.00	285.01	0.359		
286.00	286.01	0.36		
287.00	287.01	0.546		
288.00	288.01	0.436		

Magnetism

From	To	Magnetism	Title	Description
289.00	289.01	0.509		
290.00	290.01	0.519		
291.00	291.01	0.465		
292.00	292.01	0.448		
293.00	293.01	0.459		
294.00	294.01	0.358		
295.00	295.01	0.512		
296.00	296.01	0.775		
297.00	297.01	0.067		
298.00	298.01	0.298		
299.00	299.01	0.517		
300.00	300.01	0.779		
301.00	301.01	2.21		
302.00	302.01	5.71		
303.00	303.01	1.93		
304.00	304.01	3.11		
305.00	305.01	0.974		
306.00	306.01	1.56		
307.00	307.01	0.746		
308.00	308.01	2.02		
309.00	309.01	1.78		
310.00	310.01	4.69		
311.00	311.01	0.547		
312.00	312.01	0.342		
313.00	313.01	0.491		
314.00	314.01	0.504		
315.00	315.01	0.722		
316.00	316.01	0.4		
317.00	317.01	0.918		
317.99	318.00	0.451		

RQD

From	To	Length	Recovered (%)	RQD (%)	Joints			Weathering	Strength	Description
					Number	Type	Angle			
18.00	21.00	3.00	90.00	21.33						
21.00	24.00	3.00	100.00	66.67						
24.00	27.00	3.00	100.00	51.33						
27.00	30.00	3.00	97.67	84.33						
30.00	33.00	3.00	93.67	54.67						
33.00	36.00	3.00	100.00	86.67						
36.00	39.00	3.00	99.00	61.67						
39.00	42.00	3.00	99.67	82.00						
42.00	45.00	3.00	99.67	77.00						
45.00	48.00	3.00	100.00	70.67						
48.00	51.00	3.00	96.00	70.00						
51.00	54.00	3.00	92.67	69.67						
54.00	57.00	3.00	100.00	71.33						
57.00	60.00	3.00	95.00	72.67						
60.00	63.00	3.00	97.00	75.00						
63.00	66.00	3.00	100.00	91.33						
66.00	69.00	3.00	100.00	97.33						
69.00	72.00	3.00	97.67	89.00						
72.00	75.00	3.00	99.67	99.67						
75.00	78.00	3.00	98.67	85.67						
78.00	81.00	3.00	92.33	66.67						
81.00	84.00	3.00	96.67	91.00						
84.00	87.00	3.00	95.67	66.67						
87.00	90.00	3.00	98.33	95.67						
90.00	93.00	3.00	98.33	98.33						
93.00	96.00	3.00	96.33	61.67						
96.00	99.00	3.00	100.00	96.67						
99.00	102.00	3.00	98.00	96.00						
102.00	105.00	3.00	100.00	93.00						
105.00	108.00	3.00	98.33	96.67						
108.00	111.00	3.00	99.67	99.67						
111.00	114.00	3.00	88.33	46.33						

RQD

From	To	Length	Recovered (%)	RQD (%)	Joints			Weathering	Strength	Description
					Number	Type	Angle			
114.00	117.00	3.00	94.00	47.00						
117.00	120.00	3.00	83.33	42.00						
120.00	123.00	3.00	97.33	94.33						
123.00	126.00	3.00	95.33	90.67						
126.00	129.00	3.00	98.33	98.33						
129.00	132.00	3.00	100.00	100.00						
132.00	135.00	3.00	98.00	91.67						
135.00	138.00	3.00	99.33	96.33						
138.00	141.00	3.00	100.00	100.00						
141.00	144.00	3.00	100.00	94.00						
144.00	147.00	3.00	100.00	100.00						
147.00	150.00	3.00	98.33	98.33						
150.00	153.00	3.00	99.67	99.67						
153.00	156.00	3.00	97.33	97.33						
156.00	159.00	3.00	99.33	99.33						
159.00	162.00	3.00	99.33	99.33						
162.00	165.00	3.00	97.67	97.67						
165.00	168.00	3.00	100.00	100.00						
168.00	171.00	3.00	99.00	99.00						
171.00	174.00	3.00	97.00	95.33						
174.00	177.00	3.00	100.00	90.33						
177.00	180.00	3.00	98.00	96.67						
180.00	183.00	3.00	99.33	95.00						
183.00	186.00	3.00	99.00	97.67						
186.00	189.00	3.00	100.00	94.67						
189.00	192.00	3.00	99.00	96.33						
192.00	195.00	3.00	100.00	96.67						
195.00	198.00	3.00	98.33	86.67						
198.00	201.00	3.00	94.00	87.33						
201.00	204.00	3.00	97.33	90.33						
204.00	207.00	3.00	98.67	96.00						
207.00	210.00	3.00	100.00	98.00						

RQD

From	To	Length	Recovered (%)	RQD (%)	Joints			Weathering	Strength	Description
					Number	Type	Angle			
210.00	213.00	3.00	98.33	95.00						
213.00	216.00	3.00	99.00	99.00						
216.00	219.00	3.00	97.00	97.00						
219.00	222.00	3.00	99.33	99.33						
222.00	225.00	3.00	100.00	94.00						
225.00	228.00	3.00	97.00	96.00						
228.00	231.00	3.00	98.67	95.33						
231.00	234.00	3.00	96.33	91.67						
234.00	237.00	3.00	100.00	98.33						
237.00	240.00	3.00	100.00	100.00						
240.00	243.00	3.00	98.67	98.67						
243.00	246.00	3.00	97.33	97.33						
246.00	249.00	3.00	100.00	100.00						
249.00	252.00	3.00	97.33	97.33						
252.00	255.00	3.00	98.33	91.33						
255.00	258.00	3.00	97.67	96.00						
258.00	261.00	3.00	100.00	98.33						
261.00	264.00	3.00	98.33	98.33						
264.00	267.00	3.00	99.33	99.33						
267.00	270.00	3.00	99.00	99.00						
270.00	273.00	3.00	99.33	97.67						
273.00	276.00	3.00	97.33	95.67						
276.00	279.00	3.00	100.00	100.00						
279.00	282.00	3.00	100.00	100.00						
282.00	285.00	3.00	95.67	95.67						
285.00	288.00	3.00	100.00	97.00						
288.00	291.00	3.00	98.67	94.00						
291.00	294.00	3.00	100.00	100.00						
294.00	297.00	3.00	96.33	96.33						
297.00	300.00	3.00	100.00	99.00						
300.00	303.00	3.00	99.00	99.00						
303.00	306.00	3.00	98.00	98.00						

RQD

From	To	Length	Recovered (%)	RQD (%)	Joints			Weathering	Strength	Description
					Number	Type	Angle			
306.00	309.00	3.00	98.33	96.67						
309.00	312.00	3.00	100.00	100.00						
312.00	315.00	3.00	99.33	99.33						
315.00	318.00	3.00	99.33	99.33						

CLASS	rkname	rkcode
Misc. and Structural Codes	Casing	XCAS
Misc. and Structural Codes	Overburden	XOVB
Misc. and Structural Codes	Lost Core	XXLC
Misc. and Structural Codes	Ground Core	XXGC
Misc. and Structural Codes	Not Logged	XXNL
Misc. and Structural Codes	Void	XXVD
Misc. and Structural Codes	Fault Zone	XXFZ
Misc. and Structural Codes	Fault Gouge	XXFG
Misc. and Structural Codes	Mylonite	XMYL
Misc. and Structural Codes	Cataclastite	XCTC
Ultramafic Volcanic Rocks	Undifferentiated Ultramafic Volcanic	KUND
Ultramafic Volcanic Rocks	Massive Ultramafic Volcanic	KMAS
Ultramafic Volcanic Rocks	Spinifex Ultramafic Volcanic	KSPX
Ultramafic Volcanic Rocks	Polyhedral Jointing Ultramafic Volcanic	KPYJ
Ultramafic Volcanic Rocks	Brecciated Ultramafic Volcanic	KBRC
Ultramafic Volcanic Rocks	Carb Rock	KKCB
Ultramafic Volcanic Rocks	Fuchsitic Carb Rock	KFCB
Ultramafic Volcanic Rocks	Chloritic Carb Rock	KCCB
Ultramafic Volcanic Rocks	Biotite Carb Rock	KBCB
Ultramafic Volcanic Rocks	Grey Alteration in Carb Rock	KGCB
Ultramafic Volcanic Rocks	Talc Chlorite Schist	KTCS
Mafic Volcanic Rocks	Undifferentiated Mafic Volcanic	MUND
Mafic Volcanic Rocks	Massive Mafic Volcanic	MMAS
Mafic Volcanic Rocks	Amygdaloidal Mafic Volcanic	MAMG
Mafic Volcanic Rocks	Pillowed Mafic Volcanic	MPLW
Mafic Volcanic Rocks	Pillowed Amygdaloidal Mafic Vocanic	MPAM
Mafic Volcanic Rocks	Pillow Breccia Mafic Volcanic	MPLB
Mafic Volcanic Rocks	Variolitic Mafic Volcanic	MVAR
Mafic Volcanic Rocks	Brecciated Mafic Volcanic	MBRC
Mafic Volcanic Rocks	Mafic Tuff	MTUF
Mafic Volcanic Rocks	Chlorite Clots Mafic Volcanic	MCLC
Mafic Volcanic Rocks	Amphibolite Mafic Volcanic	MAMP
Intermediate Volcanic Rocks	Undifferentiated Intermediate Volcanic	IUND
Intermediate Volcanic Rocks	Massive Intermediate Volcanic	IMAS
Intermediate Volcanic Rocks	Amygdaloidal Intermediate Volcanic	IAMG

CLASS	rkname	rkcode
Intermediate Volcanic Rocks	Pillowed Intermediate Volcanic	IPLW
Intermediate Volcanic Rocks	Pillowed Amygdaloidal Intermediate Volcanic	IPAM
Intermediate Volcanic Rocks	Pillow Breccia Intermediate Volcanic	IPLB
Intermediate Volcanic Rocks	Spherulitic Intermediate Volcanic	ISPH
Intermediate Volcanic Rocks	Brecciated Intermediate Volcanic	IBRC
Intermediate Volcanic Rocks	Intermediate Tuff	ITUF
Intermediate Volcanic Rocks	Intermedaite Agglomerate	IAGL
Intermediate Volcanic Rocks	Intermediate Dacite	IDAC
Felsic Volcanic Rocks	Undifferentiated Felsic Volcanic	FUND
Felsic Volcanic Rocks	Massive Felsic Volcanic	FMAS
Felsic Volcanic Rocks	Spherulitic Felsic Volcanic	FSPH
Felsic Volcanic Rocks	Brecciated Felsic Volcanic	FBRC
Felsic Volcanic Rocks	Felsic Tuff	FTUF
Felsic Volcanic Rocks	Felsic Agglomerate	FAGL
Clastic Sedimentary Rocks	Undifferentiated Clastic Sedimentary	SUND
Clastic Sedimentary Rocks	Greywacke	SGWK
Clastic Sedimentary Rocks	Siltstone	SSST
Clastic Sedimentary Rocks	Argillite	SARG
Clastic Sedimentary Rocks	Graphitic Argillite	SGRA
Clastic Sedimentary Rocks	Greywacke and Argillite Layered	SGWA
Clastic Sedimentary Rocks	Conglomerate	SCON
Chemical Sedimentary Rocks	Undifferentiated Iron Formation	CUIF
Chemical Sedimentary Rocks	Magnetic Iron Formation	CMIF
Chemical Sedimentary Rocks	Graphite Iron Formation	CGIF
Chemical Sedimentary Rocks	Sulphide Iron Formation	CSIF
Chemical Sedimentary Rocks	Carbonate Iron Formation	CCIB
Chemical Sedimentary Rocks	Chert	CCRT
Ultramafic Cumulate Rocks	Undifferentiated Ultramafic Cumulate	UUND
Ultramafic Cumulate Rocks	Dunite	UDUN
Ultramafic Cumulate Rocks	Peridotite	UPER
Ultramafic Cumulate Rocks	Pyroxenite	UPYX
Ultramafic Cumulate Rocks	Talc Carbonate	UUTC
Ultramafic Cumulate Rocks	Chloritic Talc Carbonate	UCTC
Ultramafic Cumulate Rocks	Serpentinite	USRP
Mafic Intrusive Rocks	Undifferentiated Mafic Intrusive	BUND

CLASS	rkname	rkcode
Mafic Intrusive Rocks	Gabbro	BGBR
Mafic Intrusive Rocks	Diorite	BDIO
Early Felsic to Intermediate Intrusive Rocks	Undifferentiated Early Felsic to Intermediate Intrusive	PUND
Early Felsic to Intermediate Intrusive Rocks	Porphyry undifferentiated	PPOR
Early Felsic to Intermediate Intrusive Rocks	Quartz Porphyry	PPQP
Early Felsic to Intermediate Intrusive Rocks	Feldspar Porphyry	PPFP
Early Felsic to Intermediate Intrusive Rocks	Quartz Feldspar Porphyry	PQFP
Late Felsic Intrusive Rocks	Undifferentiated Late Felsic Intrusive	GUND
Late Felsic Intrusive Rocks	Granite	GGRN
Late Felsic Intrusive Rocks	Granodiorite	GGRD
Late Felsic Intrusive Rocks	Aplite	PAPL
Late Felsic Intrusive Rocks	Pegmatite	GPEG
Late Intermediate to Ultramafic Intrusive Rocks	Intermediate Dike	LITM
Late Intermediate to Ultramafic Intrusive Rocks	Mafic Dike	LLMD
Late Intermediate to Ultramafic Intrusive Rocks	Ultramafic Dike	LUMD
Late Intermediate to Ultramafic Intrusive Rocks	Lamprophyre	LLMP
Late Mafic Intrusive Rocks	Diabase	DDDB
Late Mafic Intrusive Rocks	Matachewan Diabase	DMDB
Late Mafic Intrusive Rocks	Abitibi Diabase	DADB
Carbonatite	Undifferentiated	YUND
Carbonatite	Carbonate Rich Dike	YCBI
Carbonatite	Lamproite	YLPT
Veins	Undifferentiated Vein	VUND
Veins	Quartz Vein	VVQV
Veins	Quartz Carbonate Vein	VQCV
Veins	Quartz Fuchsite Vein	VQFV
Veins	Carbonate Vein	VVCV

Sample AssayCode	Description - Actlabs
1A2	Au Fire Assay-AA 30g
1A4-1000	Au Fire Assay-Metallic Screen 1000g
ultratrace 6	Multi-element - 4 acid near TD-ICP/MS (61 elements)
4E-expl	Lithogeochemistry - ICP,INAA,ICP/MS,XRF (53 elements, incl Au)

Sample Alteration Code	Description	Alt-Intensity	
s_fucalt	Fuchsite	1	weak
s_bioalt	Biotite	2	moderate
s_seralt	Sericite	3	strong
s_albalt	Albite		
s_silalt	Silica		

Sample Veining Code	Description
s_qv	Quartz Veining Volume % for Sample Interval

Sample Mineralization Code	Sulphide % Estimated for Sample Interval
s_py	Pyrite
s_po	Pyrrhotite
s_cpy	Chalcopyrite
s_asp	Arsenopyrite
s_totsul	Total Sulphides

Geotechnical Log Header	Description
Recovered (%)	Core recovery in % over 3m drill run length
RQD (%)	RQD in % for 10cm core length over 3m drill run length

Magnetic Susceptibility Log Header	Description
Magnetism	Magnetic susceptibility in k 10(-3) SI units

Appendix IV Certificates of Analysis

Quality Analysis ... *Innovative Technologies*

Date Submitted:	03-Jun-13
Invoice No.:	A13-06149 (i)
Invoice Date:	11-Jun-13
Your Reference:	PENG-20130603-030

Rapier Gold
2270-1055 West Georgia Street
P.O. Box 11144
Vancouver BC V6E 3P3

ATTN: Gary Lustig

CERTIFICATE OF ANALYSIS

2 Pulp samples and 47 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 1A2-Rapier Timmins Au - Fire Assay AA (QOP Fire Assay)
Code Weight Report Received(kg) & Pulp(g) weights

REPORT **A13-06149 (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

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	Received Weight
Unit Symbol	ppb	Kg
Detection Limit	5	
Analysis Method	FA-AA	none
31778	< 5	2.44
31779	< 5	1.97
31780	< 5	1.99
31781	< 5	0.996
31782	< 5	1.02
31783	< 5	2.24
31784	< 5	1.56
31785	< 5	2.02
31786	< 5	1.22
31787	< 5	2.39
31788	1220	0.106
31789	< 5	2.65
31790	< 5	1.97
31791	< 5	2.38
31792	< 5	2.45
31793	< 5	2.34
31794	< 5	2.39
31795	< 5	2.96
31796	< 5	1.38
31797	< 5	2.30
31798	< 5	2.29
31799	< 5	2.31
31800	< 5	2.32
31801	< 5	1.73
31802	< 5	2.76
31803	< 5	2.62
31804	< 5	2.35
31805	3290	0.106
31806	< 5	1.17
31807	< 5	2.43
31808	< 5	2.31
31809	41	2.17
31810	35	
31811	< 5	2.44
31812	< 5	2.41
31813	< 5	2.42
31814	< 5	0.939
31815	< 5	2.43
31816	< 5	2.49
31817	< 5	2.98
31818	< 5	1.58
31819	< 5	2.28
31820	< 5	2.22
31821	< 5	2.42
31822	< 5	1.87
31823	< 5	2.47
31824	< 5	1.84
31825	< 5	2.32
31826	< 5	3.03

Quality Control

Analyte Symbol	Au
Unit Symbol	ppb
Detection Limit	5
Analysis Method	FA-AA

OxD108 Meas	425
OxD108 Cert	414.000
OxD108 Meas	425
OxD108 Cert	414.000
SG66 Meas	1080
SG66 Cert	1090
SG66 Meas	1130
SG66 Cert	1090
31787 Orig	< 5
31787 Dup	< 5
31797 Orig	< 5
31797 Dup	< 5
31807 Orig	< 5
31807 Split	< 5
31807 Orig	< 5
31807 Dup	< 5
31822 Orig	< 5
31822 Dup	< 5
31826 Orig	< 5
31826 Split	< 5
Method Blank	< 5
Method Blank	< 5
Method Blank	< 5
Method Blank	< 5

Quality Analysis ... *Innovative Technologies*

Date Submitted:	03-Jun-13
Invoice No.:	A13-06150 (i)
Invoice Date:	17-Jun-13
Your Reference:	PENG-20130603-029

Rapier Gold
2270-1055 West Georgia Street
P.O. Box 11144
Vancouver BC V6E 3P3

ATTN: Gary Lustig

CERTIFICATE OF ANALYSIS

3 Pulp samples and 57 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT **A13-06150 (i)**

Code 1A2-Rapier Timmins Au - Fire Assay AA (QOP Fire Assay)
Code 1A3-Timmins Au - Fire Assay Gravimetric
Code 1A4-1000 (100mesh)-Timmins Au-Fire Assay-Metallic Screen-1000g
Code UT-1-0.5g Aqua Regia ICP/MS
Code UT-6 Total Digestion ICP & ICP/MS
Code Weight Report Received(kg) & Pulp(g) weights

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:
A representative 1000 gram split is seived at 100 mesh (149 micron) with assays performed on the entire +100 mesh and 2 splits of the -100 mesh fraction. A final assay is calculated based on the weight of each fraction.
Assays are recommended for values >10,000 for Cu and Au. Due to matrix change used in AR-MS analysis, the detection limts for Au has been modified to 5ppb. The AU from AR-MS is only semi-quantitative. For accurate Au data,fire assay is recommended.
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	Au + 100 mesh	Au - 100 mesh (A)	Au - 100 mesh (B)	Total Au	+ 100 mesh	- 100 mesh	Total Weight	Received Weight	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er
Unit Symbol	ppb	g/mt	g/mt	g/mt	g/mt	g	g	g	Kg	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm
Detection Limit	5	0.07	0.07	0.07	0.07					0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1
Analysis Method	FA-AA	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	none	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31718	< 5								1.90															
31719	< 5								2.13															
31720	10								2.11															
31721	5								2.27															
31722	> 5000								0.107															
31723	6								0.800															
31724	< 5								1.88															
31725	6								2.11															
31726	26								1.82															
31727	13								0.000															
31728		< 0.07	< 0.07	< 0.07	< 0.07	30.90	950.00	980.90	2.48	10.2	0.02	19.6	0.41	0.04	0.63	< 0.1	4	2410	808	5.01	< 0.1	20	2140	< 0.1
31729		< 0.07	< 0.07	< 0.07	< 0.07	22.14	960.00	982.14	2.37	8.5	0.02	19.5	0.28	0.03	1.92	< 0.1	< 1	1970	818	4.49	< 0.1	< 10	2020	< 0.1
31730		< 0.07	< 0.07	< 0.07	< 0.07	38.19	552.00	590.19	0.926	44.8	0.40	11.5	2.90	0.41	9.66	0.1	98	1470	1460	6.83	0.5	10	1100	0.4
31731		11.6	1.24	1.41	2.07	30.32	388.00	418.32	0.558	11.5	0.20	4.67	1.72	0.11	3.43	< 0.1	50	839	642	3.38	0.1	20	595	0.2
31732		< 0.07	< 0.07	< 0.07	< 0.07	39.26	754.00	793.26	0.913	0.9	0.01	0.02	0.02	0.02	0.02	< 0.1	< 1	4.7	89	0.74	< 0.1	10	4.5	< 0.1
31733		< 0.07	< 0.07	< 0.07	< 0.07	40.74	947.00	987.74	1.15	28.9	0.35	7.64	2.74	0.54	8.37	0.1	86	1360	1150	5.32	0.3	10	831	0.4
31734		< 0.07	< 0.07	< 0.07	< 0.07	35.68	956.00	991.68	1.32	34.1	0.13	6.11	2.61	0.60	5.33	0.1	77	1120	1030	5.27	0.3	< 10	747	0.3
31735		< 0.07	< 0.07	< 0.07	< 0.07	24.02	472.00	496.02	0.704	56.2	0.31	11.0	3.46	0.91	7.23	< 0.1	114	1600	1340	7.12	0.6	< 10	985	0.5
31736		< 0.07	< 0.07	< 0.07	< 0.07	37.21	947.00	984.21	1.47	47.9	0.25	9.92	2.60	0.81	6.34	< 0.1	82	1390	1320	5.64	1.0	< 10	868	0.3
31737		< 0.07	< 0.07	< 0.07	< 0.07	31.89	558.00	589.89	0.908	42.3	0.38	9.06	2.93	0.65	5.32	< 0.1	99	1510	1520	6.42	0.4	< 10	928	0.3
31738		< 0.07	< 0.07	< 0.07	< 0.07	34.75	956.00	990.75	1.60	33.0	0.83	6.30	3.36	0.39	5.11	< 0.1	106	1700	1450	6.49	0.3	< 10	839	0.3
31739		< 0.07	< 0.07	< 0.07	< 0.07	36.35	645.00	681.35	0.950	43.1	0.21	9.19	2.54	0.34	8.03	0.1	77	1370	1550	5.99	0.4	< 10	743	0.4
31740		< 0.07	< 0.07	< 0.07	< 0.07	36.66	956.00	992.66	1.30	56.1	0.66	11.4	3.59	0.52	3.83	< 0.1	117	1520	1290	6.90	0.3	< 10	950	0.4
31741		< 0.07	< 0.07	< 0.07	< 0.07	37.97	952.00	989.97	1.76	49.9	0.54	12.1	3.39	0.32	4.30	< 0.1	113	1370	1370	7.28	0.3	30	1370	0.4
31742		< 0.07	< 0.07	< 0.07	< 0.07	38.99	943.00	981.99	1.40	28.8	0.50	7.03	3.93	0.14	4.70	< 0.1	118	1320	1190	5.58	0.4	< 10	853	0.4
31743		< 0.07	< 0.07	< 0.07	< 0.07	29.26	959.00	988.26	1.49	31.2	1.96	6.06	4.34	0.17	4.61	< 0.1	148	1800	1350	5.47	0.4	20	1120	0.4
31744		< 0.07	< 0.07	< 0.07	< 0.07	20.71	970.00	990.71	1.71	44.6	1.47	6.11	4.93	0.18	5.32	0.1	166	1840	1750	7.92	0.5	< 10	651	0.3
31745		< 0.07	< 0.07	< 0.07	< 0.07	32.97	932.00	964.97	1.35	24.2	1.75	3.94	7.15	0.40	6.39	0.1	269	114	1600	9.98	2.3	10	102	3.5
31746		1.62	< 0.07	< 0.07	< 0.07	30.30	962.00	992.30	1.47	24.9	1.38	5.92	3.19	0.41	9.54	< 0.1	112	1150	1910	5.63	0.3	10	390	0.4
31747		< 0.07	< 0.07	< 0.07	< 0.07	31.42	960.00	991.42	2.67	29.7	1.61	5.96	4.08	0.08	4.25	0.1	160	2340	1280	7.12	0.9	10	744	0.3
31748		< 0.07	< 0.07	< 0.07	< 0.07	34.07	939.00	973.07	1.79	26.6	0.71	11.5	3.04	0.03	3.59	< 0.1	97	1560	1080	6.32	0.2	20	1140	0.3
31749	< 5								2.29															
31750	1110								0.107															
31751	< 5								2.88															
31752	< 5								0.980															
31753	< 5								1.06															
31754	< 5								2.35															
31755	< 5								2.19															
31756	< 5								2.21															
31757	< 5								2.33															
31758	< 5								2.21															
31759	< 5								2.29															
31760	< 5								2.30															
31761	< 5								2.31															
31762	9																							
31763	< 5								1.74															
31764	< 5								2.25															
31765	< 5								2.39															
31766	< 5								0.934															
31767	12								1.37															
31768	< 5								2.57															

Analyte Symbol	Au	Au + 100 mesh	Au - 100 mesh (A)	Au - 100 mesh (B)	Total Au	+ 100 mesh	- 100 mesh	Total Weight	Received Weight	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er
Unit Symbol	ppb	g/mt	g/mt	g/mt	g/mt	g	g	g	Kg	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm
Detection Limit	5	0.07	0.07	0.07	0.07					0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1
Analysis Method	FA-AA	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	none	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31769	9								1.99															
31770	3000								0.107															
31771	< 5								2.41															
31772	< 5								2.63															
31773	< 5								0.715															
31774	< 5								1.70															
31775	< 5								2.44															
31776	< 5								2.42															
31777	< 5								2.31															

Analyte Symbol	Be	Ho	Ag	Cs	Co	Eu	Bi	Se	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce
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	ppm
Detection Limit	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	0.1	1	0.1	0.1	1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31718																								
31719																								
31720																								
31721																								
31722																								
31723																								
31724																								
31725																								
31726																								
31727																								
31728	0.2	< 0.1	< 0.05	0.25	110	< 0.05	0.05	< 0.1	70.5	1.2	1510	1.2	0.5	48.4	7	< 0.1	0.4	< 0.1	< 1	2.8	< 0.1	10	0.6	1.1
31729	0.2	< 0.1	< 0.05	0.08	94.4	< 0.05	0.03	< 0.1	76.1	1.0	1420	0.4	0.4	182	5	< 0.1	0.3	< 0.1	< 1	3.7	< 0.1	8	0.1	0.3
31730	0.4	0.1	< 0.05	3.19	88.0	0.20	0.03	< 0.1	51.8	6.6	1030	15.8	3.0	342	20	0.3	0.3	< 0.1	< 1	1.9	< 0.1	70	0.8	2.1
31731	0.2	< 0.1	< 0.05	0.68	40.8	0.08	< 0.02	< 0.1	25.2	4.3	479	3.5	1.4	110	7	0.1	0.3	< 0.1	< 1	0.8	< 0.1	22	0.2	0.6
31732	0.1	< 0.1	< 0.05	< 0.05	0.7	< 0.05	< 0.02	< 0.1	1.2	0.3	6.2	0.3	< 0.1	2.0	< 1	< 0.1	0.5	< 0.1	< 1	0.1	< 0.1	3	< 0.1	< 0.1
31733	0.4	0.1	< 0.05	4.10	69.1	0.25	0.03	< 0.1	37.9	6.6	953	19.3	3.4	237	15	0.3	0.3	< 0.1	< 1	1.0	< 0.1	87	0.7	1.8
31734	0.4	< 0.1	< 0.05	5.20	58.6	0.17	< 0.02	< 0.1	39.4	6.0	923	21.5	2.2	108	15	0.2	0.3	< 0.1	< 1	1.1	< 0.1	86	0.7	1.9
31735	0.4	0.1	< 0.05	6.18	78.2	0.28	0.03	< 0.1	66.0	7.6	852	31.6	3.0	133	25	0.4	0.1	< 0.1	< 1	1.0	< 0.1	100	1.3	3.4
31736	0.3	0.1	< 0.05	4.19	64.4	0.23	0.03	< 0.1	62.6	6.0	929	27.1	2.5	117	22	0.6	0.1	< 0.1	< 1	1.8	< 0.1	67	1.0	2.4
31737	0.4	< 0.1	0.07	4.35	70.3	0.18	0.04	< 0.1	67.6	6.5	956	24.1	2.0	104	15	0.3	0.3	< 0.1	< 1	1.5	< 0.1	66	0.7	2.0
31738	0.4	0.2	0.11	3.60	73.3	0.23	0.03	< 0.1	50.3	7.6	797	14.4	2.4	116	16	0.3	0.3	< 0.1	< 1	1.3	< 0.1	65	0.7	1.8
31739	0.5	0.1	< 0.05	2.61	61.9	0.27	0.03	< 0.1	39.5	6.3	844	11.9	2.8	169	17	0.2	0.2	< 0.1	< 1	0.7	< 0.1	52	0.7	1.8
31740	0.5	0.1	< 0.05	3.21	81.8	0.20	0.03	< 0.1	58.9	8.3	1070	17.9	2.8	74.2	18	0.3	< 0.1	< 0.1	< 1	0.5	< 0.1	60	0.7	1.9
31741	0.4	0.1	< 0.05	2.23	95.0	0.17	0.03	< 0.1	61.3	7.9	1510	10.8	2.3	66.8	16	0.3	0.1	< 0.1	< 1	0.9	< 0.1	52	0.5	1.5
31742	0.4	0.1	< 0.05	1.01	69.9	0.20	0.03	< 0.1	36.7	9.5	1030	4.4	3.1	135	16	0.3	0.3	< 0.1	< 1	0.9	< 0.1	35	0.6	1.7
31743	0.3	0.1	< 0.05	1.41	92.3	0.20	0.04	< 0.1	89.3	9.9	1340	5.2	2.4	80.6	20	0.3	0.1	< 0.1	< 1	1.1	< 0.1	52	0.7	1.8
31744	0.4	0.1	< 0.05	3.51	83.9	0.29	0.03	< 0.1	84.4	11.1	711	6.9	2.5	68.8	18	0.5	0.2	< 0.1	< 1	0.1	< 0.1	83	0.8	2.3
31745	0.8	1.2	0.14	1.81	52.5	1.21	0.04	< 0.1	117	16.8	5.4	14.7	28.4	143	81	3.3	0.5	< 0.1	< 1	< 0.1	< 0.1	172	10.0	22.4
31746	0.3	0.1	0.08	1.17	52.5	0.26	< 0.02	< 0.1	57.6	6.6	184	9.6	3.1	118	13	0.3	0.1	< 0.1	< 1	0.4	< 0.1	158	0.7	1.9
31747	0.3	< 0.1	< 0.05	1.05	76.4	0.17	0.02	0.1	63.5	10.9	227	2.2	1.6	67.7	20	0.4	0.9	< 0.1	< 1	0.7	< 0.1	18	0.6	1.8
31748	0.4	0.1	< 0.05	0.12	86.2	0.17	< 0.02	< 0.1	53.2	6.7	760	< 0.2	1.9	50.5	10	0.5	0.1	< 0.1	< 1	1.0	< 0.1	5	0.5	1.4
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Analyte Symbol	Be	Ho	Ag	Cs	Co	Eu	Bi	Se	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce
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	ppm
Detection Limit	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	0.1	1	0.1	0.1	1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS

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Analyte Symbol	Pr	Nd	Sm	Gd	Tb	Dy	Cu	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Au
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	g/tonne
Detection Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.2	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	0.03
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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	FA-GRA
31718																							
31719																							
31720																							
31721																							
31722																							7.09
31723																							
31724																							
31725																							
31726																							
31727																							
31728	0.1	0.5	< 0.1	0.1	< 0.1	0.1	45.4	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.001	< 0.05	7.0	5	0.2	< 0.1	0.0126	0.002	0.06	
31729	< 0.1	0.2	< 0.1	< 0.1	< 0.1	0.1	21.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	0.4	0.002	< 0.05	1.6	4	< 0.1	< 0.1	0.0063	< 0.001	0.06	
31730	0.3	1.7	0.5	0.6	0.1	0.7	14.1	0.1	< 0.1	0.3	< 0.1	< 0.1	3.3	< 0.001	0.19	3.9	21	0.3	< 0.1	0.128	0.005	0.05	
31731	< 0.1	0.5	0.2	0.2	< 0.1	0.3	9.6	0.1	< 0.1	0.2	< 0.1	< 0.1	2.6	< 0.001	< 0.05	2.9	10	< 0.1	< 0.1	0.0725	< 0.001	0.02	
31732	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	5.8	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	0.0010	< 0.001	< 0.01	
31733	0.3	1.5	0.5	0.7	0.1	1.3	68.6	0.2	< 0.1	0.4	< 0.1	< 0.1	4.1	0.002	0.20	4.2	20	0.1	< 0.1	0.132	0.029	0.05	
31734	0.3	1.5	0.5	0.5	< 0.1	0.5	57.1	0.2	< 0.1	0.3	< 0.1	< 0.1	0.4	< 0.001	0.29	2.2	17	0.1	< 0.1	0.123	0.004	0.03	
31735	0.5	2.6	0.8	0.8	0.1	0.7	29.4	0.5	< 0.1	0.4	< 0.1	< 0.1	0.4	< 0.001	0.36	2.4	23	0.3	< 0.1	0.150	0.006	0.04	
31736	0.4	1.8	0.5	0.6	< 0.1	0.6	38.3	0.8	< 0.1	0.3	< 0.1	0.2	0.5	< 0.001	0.28	2.0	17	0.5	< 0.1	0.145	0.008	0.07	
31737	0.3	1.6	0.5	0.5	< 0.1	0.5	133	0.2	< 0.1	0.3	< 0.1	< 0.1	1.5	< 0.001	0.30	3.1	21	0.1	< 0.1	0.153	0.006	0.43	
31738	0.3	1.6	0.5	0.6	< 0.1	0.6	252	0.1	< 0.1	0.3	< 0.1	< 0.1	2.2	< 0.001	0.27	4.2	23	< 0.1	0.1	0.166	0.016	0.97	
31739	0.3	1.6	0.6	0.7	0.1	0.7	5.9	0.2	< 0.1	0.3	< 0.1	< 0.1	1.5	< 0.001	0.14	4.5	19	0.1	< 0.1	0.122	0.002	0.05	
31740	0.3	1.7	0.5	0.6	< 0.1	0.6	28.6	0.3	< 0.1	0.3	< 0.1	< 0.1	0.8	< 0.001	0.23	1.9	25	0.1	< 0.1	0.181	0.007	0.06	
31741	0.3	1.5	0.5	0.5	< 0.1	0.6	13.7	0.2	< 0.1	0.3	< 0.1	< 0.1	1.1	< 0.001	0.14	1.8	23	0.1	0.1	0.143	0.005	0.05	
31742	0.3	1.5	0.5	0.6	0.1	0.7	8.5	0.3	< 0.1	0.4	< 0.1	< 0.1	7.5	< 0.001	0.06	3.5	26	< 0.1	< 0.1	0.144	0.002	0.04	
31743	0.3	1.5	0.5	0.6	< 0.1	0.5	65.6	0.2	< 0.1	0.3	< 0.1	< 0.1	3.1	0.001	0.17	5.1	30	< 0.1	< 0.1	0.151	0.009	0.41	
31744	0.4	2.1	0.7	0.7	0.1	0.6	59.4	0.6	< 0.1	0.4	< 0.1	< 0.1	1.1	0.001	0.14	2.4	34	0.2	< 0.1	0.261	0.010	0.05	
31745	3.0	13.0	3.3	4.6	0.8	5.7	153	0.9	0.5	2.9	0.4	0.2	0.1	0.001	0.12	2.6	41	1.9	0.4	0.488	0.043	0.14	
31746	0.3	1.6	0.6	0.7	0.1	0.7	49.1	0.4	< 0.1	0.3	< 0.1	< 0.1	2.0	< 0.001	0.09	2.8	21	< 0.1	< 0.1	0.154	0.010	0.30	
31747	0.3	1.7	0.5	0.5	< 0.1	0.4	95.1	0.9	< 0.1	0.3	< 0.1	0.1	5.6	0.001	< 0.05	2.1	35	0.2	< 0.1	0.179	0.007	0.92	
31748	0.2	1.3	0.4	0.5	< 0.1	0.5	41.4	0.4	< 0.1	0.3	< 0.1	0.2	1.5	< 0.001	< 0.05	0.9	21	0.1	< 0.1	0.138	0.007	0.05	
31749																							
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Analyte Symbol	Pr	Nd	Sm	Gd	Tb	Dy	Cu	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Au
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	g/tonne
Detection Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.2	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	0.03
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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	FA-GRA
31770																							
31771																							
31772																							
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31775																							
31776																							
31777																							

Quality Control

Analyte Symbol	Au	Total Au	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi
Unit Symbol	ppb	g/mt	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.07	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02
Analysis Method	FA-AA	FA-MeT	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas			9.8	0.05	0.21	2.40	0.06	0.81	2.4	77	19.6	830	23.1	0.3	4150	40.2		1.1		33.3	2.71	7.7	0.64	1440
GXR-1 Cert			8.20	0.0520	0.217	3.52	0.050	0.960	3.30	80.0	12.0	852	23.6	0.960	3900	41.0		1.22		31.0	3.00	8.20	0.690	1380
GXR-4 Meas			13.1	0.56	1.66	6.31	3.00	0.94	< 0.1	84	28.8	166	2.92	1.1		41.7		2.5		3.39	2.62	14.1	1.52	21.6
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		42.0		1.90		4.00	2.80	14.6	1.63	19.0
SDC-1 Meas			43.8	1.77	1.06	8.41	1.59	1.01	< 0.1	72	33.9	848	4.66	1.1		36.5	4.2	3.7	1.5	0.31	3.98	18.1	1.75	0.34
SDC-1 Cert			34.00	1.52	1.02	8.34	2.72	1.00	0.0800	102.00	64.00	880.00	4.82	8.30		38.0	4.10	3.00	1.50	0.0410	4.00	18.0	1.70	2.60
GXR-6 Meas			43.4	0.11	0.63	> 10.0	1.47	0.17	0.1	128	41.1	1010	5.50	2.0		26.2		1.6		0.25	4.36	13.8	0.74	0.25
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		27.0		1.40		1.30	4.20	13.8	0.760	0.290
SAR-M (U.S.G.S.) Meas			36.8	1.36	0.46	6.11	1.31	0.57	5.0	59	64.9	4840	3.17			45.0		3.2		3.10	4.91	10.7		1.83
SAR-M (U.S.G.S.) Cert			27.4	1.140	0.50	6.30	2.94	0.61	5.27	67.20	79.7	5220	2.99			41.50		2.20		3.64	5.15	10.70		1.94
DNC-1a Meas			6.4							147	128					284						58.1	0.65	
DNC-1a Cert			5.20							148.00	270					247						57.0	0.59	
CDN-GS-7B Meas		6.21																						
CDN-GS-7B Cert		6.37																						
CDN-GS-7B Meas		6.51																						
CDN-GS-7B Cert		6.37																						
CDN-GS-7B Meas		6.49																						
CDN-GS-7B Cert		6.37																						
CDN-GS-7B Meas		6.10																						
CDN-GS-7B Cert		6.37																						
OXK94 Meas																								
OXK94 Cert																								
OXL93 Meas																								
OXL93 Cert																								
OxD108 Meas	406																							
OxD108 Cert	414.000																							
OxD108 Meas	403																							
OxD108 Cert	414.000																							
OxD108 Meas	396																							
OxD108 Cert	414.000																							
SBC-1 Meas			200						0.4	212	75.4			3.5		91.6	4.3	4.0	1.5		8.51	23.0	2.16	0.82
SBC-1 Cert			163.0						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70
SG66 Meas	1080																							
SG66 Cert	1090																							
SG66 Meas	1140																							
SG66 Cert	1090																							
SG66 Meas	1070																							
SG66 Cert	1090																							
31727 Orig	13																							
31727 Dup	14																							
31728 Orig			10.2	0.02	19.4	0.41	0.04	0.62	< 0.1	5	2370	801	4.93	< 0.1	20	2110	< 0.1	0.2	< 0.1	< 0.05	0.25	108	< 0.05	0.05
31728 Dup			10.3	0.02	19.8	0.41	0.05	0.65	< 0.1	3	2450	815	5.09	< 0.1	10	2160	< 0.1	0.2	< 0.1	< 0.05	0.24	112	< 0.05	0.05
31758 Orig	< 5																							
31758 Dup	< 5																							
31767 Orig	12																							
31767 Split	< 5																							
31777 Orig	< 5																							
31777 Split	< 5																							
Method Blank	< 5																							
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Method Blank			< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02

Quality Control

Analyte Symbol	Au	Total Au	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi
Unit Symbol	ppb	g/mt	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.07	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02
Analysis Method	FA-AA	FA-MeT	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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		< 0.07																						
Method Blank		< 0.07																						
Method Blank		< 0.07																						
Method Blank		< 0.07																						

Quality Control

Analyte Symbol	Se	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	ppm
Detection Limit	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	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
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas	15.4	825	8.7	433	2.8	29.7	269	19	0.9	16.7	0.8	27	34.5	8.9	776	7.4	14.5		8.0	2.7	4.2	0.8	5.3	1090
GXR-1 Cert	16.6	760	13.8	427	14.0	32.0	275	38.0	0.800	18.0	0.770	54.0	122	13.0	750	7.50	17.0		18.0	2.70	4.20	0.830	4.30	1110
GXR-4 Meas	5.7	79.8	12.0	106	130	14.6	215	50	8.9	304	0.2	7	4.5	0.7	1340	61.8	110		41.2	6.1	5.2	0.6	3.3	6120
GXR-4 Cert	5.60	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		112	19.5	1.4	80.6	35.4	173	44	11.0	< 0.1		2	0.3		684	43.4	91.2		41.4	7.8	8.0	1.2	7.4	33.6
SDC-1 Cert		103.00	21.00	0.220	127.00	40.0	180.00	290.00	21.00	0.250		3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.00
GXR-6 Meas	< 0.1	143	24.7	272	72.5	14.0	37.1	74	1.1	0.8	< 0.1	< 1	1.1	< 0.1	1400	14.1	37.0		13.5	2.7	2.8	0.4	2.9	
GXR-6 Cert	0.940	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	
SAR-M (U.S.G.S.) Meas	0.3	982	13.4	41.7	75.6	36.4	147		27.0	10.4	1.0	3	6.3	0.9	857	61.5	125							322
SAR-M (U.S.G.S.) Cert	0.39	930.0	16.8	38.8	146.0	28.00	151.0		29.90	13.10	1.08	2.76	6.00	0.96	801	57.4	122.00							331
DNC-1a Meas		73.8				18.0	139	37					0.7		114	3.9			5.1					98.2
DNC-1a Cert		70.0				18.0	144.0	38.000					0.96		118	3.6			5.20					100.0
CDN-GS-7B Meas																								
CDN-GS-7B Cert																								
CDN-GS-7B Meas																								
CDN-GS-7B Cert																								
CDN-GS-7B Meas																								
CDN-GS-7B Cert																								
CDN-GS-7B Meas																								
CDN-GS-7B Cert																								
OXK94 Meas																								
OXK94 Cert																								
OXL93 Meas																								
OXL93 Cert																								
OxD108 Meas																								
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OxD108 Meas																								
OxD108 Cert																								
OxD108 Meas																								
OxD108 Cert																								
SBC-1 Meas		222	23.8	29.7	131	35.1	178	127	14.5	4.7		4	1.1		857	53.1	109	13.3	49.9	9.4	9.4	1.3	7.9	31.9
SBC-1 Cert		186.0	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
SG66 Meas																								
SG66 Cert																								
SG66 Meas																								
SG66 Cert																								
SG66 Meas																								
SG66 Cert																								
31727 Orig																								
31727 Dup																								
31728 Orig	< 0.1	68.6	1.2	1500	1.3	0.4	47.6	7	0.1	0.5	< 0.1	< 1	2.8	< 0.1	11	0.6	1.0	0.1	0.4	< 0.1	0.1	< 0.1	0.1	46.7
31728 Dup	< 0.1	72.4	1.3	1520	1.2	0.5	49.2	7	< 0.1	0.2	< 0.1	< 1	2.9	0.2	10	0.7	1.3	0.1	0.5	0.1	0.1	< 0.1	0.1	44.1
31758 Orig																								
31758 Dup																								
31767 Orig																								
31767 Split																								
31777 Orig																								
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Method Blank																								
Method Blank																								
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Method Blank																								
Method Blank																								
Method Blank	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.1	< 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

Quality Control

Analyte Symbol	Se	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	ppm
Detection Limit	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	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
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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

Quality Control

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Au
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	g/tonne
Detection 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	0.03
Analysis Method	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	FA-GRA
GXR-1 Meas		0.4	2.1	0.3	< 0.1	137		0.46	730	2	3.6	34.0		0.058	0.25	
GXR-1 Cert		0.430	1.90	0.280	0.175	164		0.390	730	1.58	2.44	34.9		0.0650	0.257	
GXR-4 Meas		0.2	1.0	0.1	0.5	34.5		3.64	54.7	8	23.2	6.0		0.133	1.75	
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20		0.120	1.77	
SDC-1 Meas		0.6	3.3		0.6	0.4		0.72	26.2	17	13.6	4.1	0.137	0.053	0.07	
SDC-1 Cert		0.65	4.00		1.20	0.800		0.70	25.00	17.00	12.00	3.10	0.606	0.0690	0.0650	
GXR-6 Meas		0.3	1.8	0.3	< 0.1	0.3		2.63		28	6.5			0.034	0.02	
GXR-6 Cert		0.0320	2.40	0.330	0.485	1.90		2.20		27.6	5.30			0.0350	0.0160	
SAR-M (U.S.G.S.) Meas						9.5		3.18	949	10	19.9	4.6	0.252	0.055		
SAR-M (U.S.G.S.) Cert						9.78		2.88	982	7.83	17.2	3.57	2.7	0.070		
DNC-1a Meas			1.9							31						
DNC-1a Cert			2.0							31						
CDN-GS-7B Meas																
CDN-GS-7B Cert																
CDN-GS-7B Meas																
CDN-GS-7B Cert																
CDN-GS-7B Meas																
CDN-GS-7B Cert																
CDN-GS-7B Meas																
CDN-GS-7B Cert																
OXK94 Meas																3.54
OXK94 Cert																3.56
OXL93 Meas																5.62
OXL93 Cert																5.84
OxD108 Meas																
OxD108 Cert																
OxD108 Meas																
OxD108 Cert																
OxD108 Meas																
OxD108 Cert																
SBC-1 Meas		0.6	3.5	0.5	0.9	1.7		1.08	38.9	21	18.7	6.4				
SBC-1 Cert		0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76				
SG66 Meas																
SG66 Cert																
SG66 Meas																
SG66 Cert																
SG66 Meas																
SG66 Cert																
31727 Orig																
31727 Dup																
31728 Orig	0.1	< 0.1	< 0.1	< 0.1	0.1	0.3	< 0.001	< 0.05	7.3	5	0.1	0.1	0.0125	0.002	0.06	
31728 Dup	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	0.002	< 0.05	6.6	5	0.3	< 0.1	0.0126	0.002	0.06	
31758 Orig																
31758 Dup																
31767 Orig																
31767 Split																
31777 Orig																
31777 Split																
Method Blank																
Method Blank																
Method Blank																
Method Blank																
Method Blank																
Method Blank																
Method Blank																< 0.03
Method Blank																< 0.03
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	

Quality Control

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Au
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	g/tonne
Detection 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	0.03
Analysis Method	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	FA-GRA

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Method Blank

Quality Analysis ... *Innovative Technologies*

Date Submitted:	11-Jun-13
Invoice No.:	A13-06470
Invoice Date:	02-Jul-13
Your Reference:	PENG-20130610-031

Rapier Gold
2270-1055 West Georgia Street
P.O. Box 11144
Vancouver BC V6E 3P3

ATTN: Gary Lustig

CERTIFICATE OF ANALYSIS

3 Pulp samples and 57 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT **A13-06470**

Code 1A2-Rapier Timmins Au - Fire Assay AA (QOP Fire Assay)
Code 4E-Expl (11+) INAA(INAAGEO)/Major Elements Fusion ICP(WRA)/Total Digestion ICP(TOTAL)
Code UT-6 Total Digestion ICP & ICP/MS
Code Weight Report Received(kg) & Pulp(g) weights

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
Total includes all elements in % oxide to the left of total. Values above the upper limit should be assayed for most accurate values.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Au	Ag	As	Ba	Be	Bi	Br	Cd	Co	Cr	Cs
Unit Symbol	ppb	%	%	%	%	%	%	%	%	%	%	%	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.01		0.01	5	0.5	2	3	1	2	1	0.5	1	1	0.5
Analysis Method	FA-AA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	INAA	MULT INAA / TD-ICP	INAA	MULT INAA/FUSICP	FUS-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA
31827	< 5	38.09	8.08	13.07	0.15	26.97	2.47	0.02	< 0.01	0.460	0.05	10.14	99.52	< 5	< 0.5	< 2	105	< 1	< 2	< 1	< 0.5	119	2900	< 0.5
31828	1140	70.68	11.70	5.99	0.10	2.01	3.48	2.85	1.10	0.565	0.15	1.75	100.4	1110	1.8	13	1750	1	< 2	< 1	1.2	15	68	< 0.5
31829	< 5	28.38	7.02	11.79	0.24	25.94	7.65	0.01	< 0.01	0.380	0.06	17.30	98.77	< 5	< 0.5	5	243	< 1	< 2	< 1	< 0.5	113	2430	< 0.5
31830	< 5	21.65	9.83	14.66	0.20	25.91	7.53	< 0.01	< 0.01	0.545	0.03	18.61	98.97	< 5	< 0.5	7	178	< 1	< 2	< 1	0.8	129	3410	< 0.5
31831	< 5	21.04	9.71	16.33	0.16	25.58	7.40	< 0.01	< 0.01	0.641	0.02	18.03	98.92	< 5	< 0.5	9	48	< 1	< 2	< 1	< 0.5	131	2980	< 0.5
31832	< 5	36.88	1.13	5.11	0.12	28.45	7.82	0.01	< 0.01	0.036	0.01	19.58	99.16	< 5	< 0.5	13	17	< 1	< 2	< 1	< 0.5	84	1810	< 0.5
31833	< 5	48.79	13.90	14.47	0.21	6.29	9.07	2.15	0.44	1.204	0.12	2.96	99.60	< 5	< 0.5	< 2	144	< 1	2	< 1	< 0.5	59	176	< 0.5
31834	< 5	39.63	0.36	6.29	0.10	34.45	0.74	< 0.01	< 0.01	0.015	< 0.01	17.84	99.45	< 5	< 0.5	12	9	< 1	< 2	< 1	< 0.5	105	2710	< 0.5
31835	< 5	32.72	0.31	6.49	0.11	36.93	0.71	< 0.01	< 0.01	0.012	0.01	21.87	99.16	< 5	< 0.5	17	24	< 1	< 2	< 1	< 0.5	105	2860	< 0.5
31836	< 5	37.83	0.29	5.63	0.07	33.05	2.07	< 0.01	< 0.01	0.012	< 0.01	20.43	99.39	< 5	< 0.5	3	6	< 1	2	< 1	< 0.5	102	2890	< 0.5
31837	< 5	40.00	1.92	6.20	0.11	26.06	7.48	0.01	< 0.01	0.082	0.01	15.89	97.77	< 5	< 0.5	< 2	4	< 1	< 2	< 1	< 0.5	95	2810	< 0.5
31838	< 5	23.85	10.12	12.81	0.22	23.31	8.82	< 0.01	< 0.01	0.508	0.05	18.97	98.66	< 5	< 0.5	2	3	< 1	< 2	< 1	0.9	93	2420	< 0.5
31839	< 5	40.14	7.46	12.73	0.13	24.45	2.54	0.02	0.01	0.403	0.05	9.82	97.76	< 5	< 0.5	5	5	< 1	< 2	< 1	< 0.5	146	2330	< 0.5
31840	< 5	40.68	6.89	10.45	0.15	23.09	4.34	0.41	0.03	0.363	0.03	11.39	97.82	< 5	< 0.5	4	5	< 1	< 2	< 1	< 0.5	101	2150	< 0.5
31841	< 5	33.61	9.64	12.69	0.23	11.43	10.34	3.05	0.08	0.510	0.04	16.44	98.06	< 5	< 0.5	4	8	< 1	< 2	5	< 0.5	80	2360	< 0.5
31842	< 5	32.41	8.70	11.36	0.25	12.24	11.32	2.84	0.09	0.453	0.04	17.88	97.57	< 5	< 0.5	4	9	< 1	< 2	< 1	< 0.5	72	2260	< 0.5
31843	< 5	38.96	6.08	9.42	0.19	20.58	7.91	1.27	0.02	0.321	0.04	15.27	100.1	< 5	< 0.5	< 2	5	< 1	< 2	< 1	< 0.5	85	1930	< 0.5
31844	< 5	39.30	6.36	9.96	0.16	21.32	6.58	0.93	0.02	0.335	0.04	13.96	98.95	< 5	< 0.5	< 2	3	< 1	< 2	< 1	0.9	88	1950	< 0.5
31845	< 5	39.44	6.07	9.72	0.15	21.48	6.32	0.62	0.02	0.318	0.03	13.83	97.98	< 5	< 0.5	< 2	5	< 1	< 2	< 1	< 0.5	87	1900	< 0.5
31846	< 5	39.89	10.06	10.32	0.17	17.64	6.41	2.29	0.03	0.507	0.05	13.59	101.0	< 5	< 0.5	< 2	3	< 1	< 2	< 1	< 0.5	77	1760	< 0.5
31847	< 5																							
31848	< 5																							
31849	< 5																							
31850	1070																							
31851	< 5																							
31852	< 5	38.19	5.46	9.18	0.15	21.29	7.61	0.03	0.02	0.270	0.02	16.15	98.36	< 5	< 0.5	< 2	< 3	< 1	< 2	< 1	0.6	89	1930	< 0.5
31853	< 5	40.13	5.98	9.39	0.15	20.98	7.71	0.02	0.01	0.310	0.03	15.80	100.5	< 5	< 0.5	2	< 3	< 1	< 2	< 1	< 0.5	90	1990	< 0.5
31854	< 5	42.91	6.53	9.84	0.13	20.48	6.01	0.01	< 0.01	0.348	0.03	13.65	99.94	< 5	< 0.5	< 2	< 3	< 1	< 2	< 1	< 0.5	94	2220	< 0.5
31855	< 5	42.19	13.17	10.31	0.18	10.60	6.42	2.98	0.05	0.664	0.16	13.01	99.72	< 5	< 0.5	< 2	4	< 1	< 2	< 1	< 0.5	52	480	< 0.5
31856	< 5	50.34	14.45	18.04	0.06	5.64	0.26	2.55	0.03	0.919	0.10	6.11	98.49	< 5	0.6	6	< 3	< 1	3	4	0.8	37	169	< 0.5
31857	7	57.56	11.15	11.26	0.12	2.71	2.65	4.65	0.08	0.663	0.09	8.47	99.38	< 5	< 0.5	< 2	< 3	< 1	< 2	< 1	4.7	29	51	< 0.5
31858	< 5	99.33	0.07	0.93	< 0.01	0.03	0.03	0.02	< 0.01	< 0.005	< 0.01	-0.07	100.4	< 5	< 0.5	< 2	3	< 1	< 2	3	< 0.5	2	9	< 0.5
31859	< 5	44.04	14.68	10.28	0.22	4.14	9.01	5.60	0.08	1.124	0.11	10.04	99.32	< 5	0.7	3	3	< 1	3	< 1	< 0.5	56	87	< 0.5
31860	< 5	44.12	14.58	10.46	0.22	4.16	9.00	5.63	0.08	1.118	0.12	10.10	99.58	< 5	< 0.5	< 2	3	< 1	< 2	< 1	< 0.5	55	90	< 0.5
31861	< 5	42.35	12.66	10.95	0.21	4.02	9.18	5.51	0.23	0.976	0.10	12.62	98.81	< 5	< 0.5	12	28	< 1	< 2	< 1	< 0.5	58	82	< 0.5
31862	< 5	42.70	13.50	10.04	0.20	4.39	9.04	5.69	0.44	1.021	0.11	12.74	99.88	< 5	< 0.5	12	70	< 1	< 2	< 1	< 0.5	54	78	< 0.5
31863	< 5	45.91	14.34	9.94	0.15	5.03	6.63	5.72	0.04	1.071	0.10	10.44	99.36	< 5	< 0.5	8	4	< 1	< 2	< 1	< 0.5	53	100	< 0.5
31864	< 5	34.14	5.35	8.02	0.22	7.71	18.07	0.60	0.71	0.278	0.03	22.68	97.79	< 5	< 0.5	120	298	< 1	< 2	< 1	0.7	71	1670	< 0.5
31865	< 5	28.76	6.22	8.49	0.35	6.16	21.55	0.68	1.08	0.331	0.03	24.53	98.17	< 5	< 0.5	396	258	< 1	< 2	< 1	0.6	89	2040	< 0.5
31866	< 5	38.17	7.90	8.15	0.25	3.87	19.91	1.82	0.42	0.404	0.04	17.71	98.65	< 5	< 0.5	75	95	< 1	< 2	< 1	< 0.5	69	1340	< 0.5
31867	2850	68.86	12.50	7.09	0.10	2.19	3.63	2.88	1.10	0.634	0.14	1.57	100.7	3080	< 0.5	15	528	1	< 2	< 1	< 0.5	14	86	< 0.5
31868	< 5	55.59	11.90	7.35	0.18	2.51	7.89	5.07	0.28	0.701	0.05	9.22	100.7	< 5	0.5	< 2	40	< 1	< 2	< 1	< 0.5	41	210	< 0.5
31869	< 5	57.35	12.66	6.47	0.10	1.79	4.35	6.39	0.44	0.649	0.15	7.93	98.27	< 5	< 0.5	3	50	< 1	< 2	< 1	< 0.5	27	98	< 0.5
31870	< 5	59.04	14.85	5.68	0.06	1.72	3.57	7.48	0.56	0.737	0.21	6.30	100.2	< 5	< 0.5	< 2	76	< 1	< 2	< 1	< 0.5	20	59	< 0.5
31871	< 5	60.97	15.36	5.60	0.04	1.07	2.34	7.45	0.79	0.469	0.23	5.03	99.36	< 5	< 0.5	13	116	< 1	< 2	< 1	< 0.5	15	38	2.3
31872	< 5																							
31873	< 5																							
31874	< 5																							
31875	< 5																							
31876	< 5																							
31877	< 5	56.62	14.06	7.40	0.07	1.74	3.75	6.40	0.97	0.659	0.18	7.35	99.20	< 5	< 0.5	< 2	73	< 1	< 2	< 1	< 0.5	26	87	< 0.5

Analyte Symbol	Au	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Au	Ag	As	Ba	Be	Bi	Br	Cd	Co	Cr	Cs
Unit Symbol	ppb	%	%	%	%	%	%	%	%	%	%	%	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.01		0.01	5	0.5	2	3	1	2	1	0.5	1	1	0.5
Analysis Method	FA-AA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	INAA	MULT INAA / TD-ICP	INAA	MULT INAA/FUSICP	FUS-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA
31878	< 5	56.56	13.45	8.23	0.07	1.91	4.27	5.65	1.20	0.672	0.20	7.59	99.81	< 5	0.5	< 2	78	< 1	< 2	< 1	< 0.5	28	79	< 0.5
31879	< 5	54.77	13.52	7.04	0.07	1.83	5.96	5.79	1.02	0.708	0.20	8.13	99.05	< 5	< 0.5	< 2	65	< 1	< 2	< 1	< 0.5	24	85	< 0.5
31880	< 5																							
31881	< 5																							
31882	5																							
31883	< 5																							
31884	< 5																							
31885	12																							
31886	< 5																							

Analyte Symbol	Cu	Hf	Hg	Ir	Mo	Ni	Pb	Rb	S	Sb	Sc	Se	Sr	Ta	Th	U	V	W	Y	Zn	Zr	La	Ce	Nd
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.5	1	5	2	1	5	20	0.001	0.2	0.1	3	2	1	0.5	0.5	5	3	1	1	2	0.2	3	5
Analysis Method	TD-ICP	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	FUS-ICP	INAA	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	FUS-ICP	INAA	INAA	INAA
31827	50	< 0.5	< 1	< 5	< 2	1160	< 5	< 20	0.017	0.7	28.2	< 3	34	< 1	< 0.5	< 0.5	179	< 3	8	71	20	0.6	9	< 5
31828	84	4.4	< 1	< 5	9	44	83	< 20	0.111	3.6	13.7	< 3	292	< 1	2.4	< 0.5	123	< 3	16	189	83	11.1	20	14
31829	48	0.7	< 1	< 5	< 2	1260	< 5	< 20	0.025	0.5	25.3	< 3	114	< 1	< 0.5	< 0.5	150	< 3	10	52	19	0.6	11	< 5
31830	18	< 0.5	< 1	< 5	< 2	1050	< 5	< 20	0.022	1.0	35.0	< 3	104	< 1	< 0.5	< 0.5	177	< 3	5	50	26	0.5	11	< 5
31831	19	< 0.5	< 1	< 5	< 2	694	6	< 20	0.017	1.2	37.7	< 3	119	< 1	< 0.5	< 0.5	173	< 3	6	61	24	< 0.2	< 3	< 5
31832	9	< 0.5	< 1	< 5	< 2	1660	< 5	< 20	0.038	3.6	5.6	< 3	114	< 1	< 0.5	< 0.5	38	< 3	2	27	3	0.4	< 3	< 5
31833	146	3.4	< 1	< 5	< 2	82	< 5	< 20	0.104	< 0.2	37.8	< 3	154	< 1	2.0	< 0.5	322	< 3	25	111	91	11.0	25	17
31834	17	< 0.5	< 1	< 5	< 2	2320	< 5	< 20	0.082	2.8	2.6	< 3	11	< 1	< 0.5	< 0.5	30	< 3	< 1	43	2	< 0.2	5	6
31835	13	< 0.5	< 1	< 5	< 2	2390	7	< 20	0.085	2.5	3.0	< 3	8	< 1	< 0.5	< 0.5	18	< 3	< 1	37	3	< 0.2	7	< 5
31836	2	< 0.5	< 1	< 5	< 2	2000	6	< 20	0.008	1.6	2.8	< 3	18	< 1	< 0.5	< 0.5	24	< 3	< 1	27	4	< 0.2	7	< 5
31837	< 1	< 0.5	< 1	< 5	< 2	1670	< 5	< 20	0.021	1.2	6.5	< 3	79	< 1	< 0.5	< 0.5	58	< 3	2	49	7	0.3	11	< 5
31838	83	< 0.5	< 1	< 5	< 2	852	< 5	< 20	0.450	1.9	29.1	< 3	61	< 1	< 0.5	< 0.5	189	< 3	10	61	37	2.3	13	< 5
31839	71	< 0.5	< 1	< 5	< 2	1130	< 5	< 20	1.08	2.2	23.5	< 3	24	< 1	< 0.5	< 0.5	159	< 3	7	65	20	0.5	< 3	< 5
31840	18	< 0.5	< 1	< 5	< 2	1100	< 5	< 20	0.114	2.1	22.3	< 3	40	< 1	< 0.5	< 0.5	141	< 3	7	59	18	0.5	8	< 5
31841	95	< 0.5	< 1	< 5	< 2	551	< 5	< 20	0.535	1.9	25.6	< 3	212	< 1	< 0.5	< 0.5	221	< 3	13	31	28	1.0	10	< 5
31842	168	< 0.5	< 1	< 5	< 2	602	< 5	< 20	0.462	1.7	23.9	< 3	183	< 1	< 0.5	< 0.5	186	< 3	13	33	25	0.8	4	< 5
31843	3	< 0.5	< 1	< 5	< 2	901	< 5	< 20	0.017	1.4	19.0	< 3	70	< 1	< 0.5	< 0.5	122	< 3	7	44	18	0.6	8	< 5
31844	30	< 0.5	< 1	< 5	< 2	1000	< 5	< 20	0.027	1.4	19.6	< 3	58	< 1	< 0.5	< 0.5	134	< 3	7	47	19	0.8	< 3	< 5
31845	32	< 0.5	< 1	< 5	< 2	1080	< 5	< 20	0.021	1.2	18.7	< 3	79	< 1	< 0.5	< 0.5	132	< 3	7	48	18	0.8	< 3	< 5
31846	116	< 0.5	< 1	< 5	< 2	565	< 5	< 20	0.025	1.1	25.0	< 3	57	< 1	< 0.5	< 0.5	174	< 3	11	50	41	2.6	12	< 5
31847																								
31848																								
31849																								
31850																								
31851																								
31852	19	< 0.5	< 1	< 5	< 2	756	< 5	< 20	0.014	0.6	18.6	< 3	65	< 1	< 0.5	< 0.5	120	< 3	6	33	14	0.3	10	< 5
31853	26	< 0.5	< 1	< 5	< 2	1020	< 5	< 20	0.020	0.9	19.0	< 3	58	< 1	< 0.5	< 0.5	132	< 3	9	45	17	1.0	5	< 5
31854	50	< 0.5	< 1	< 5	< 2	1230	< 5	< 20	0.020	0.9	21.5	< 3	43	< 1	< 0.5	< 0.5	142	< 3	7	56	16	0.8	< 3	< 5
31855	65	1.8	< 1	< 5	< 2	270	< 5	20	0.024	0.7	28.7	< 3	76	< 1	2.8	< 0.5	207	< 3	15	76	62	14.2	34	13
31856	108	2.7	< 1	< 5	< 2	111	< 5	< 20	2.83	0.6	29.2	< 3	54	< 1	2.0	< 0.5	247	< 3	18	452	88	8.8	22	13
31857	204	3.9	< 1	< 5	< 2	94	< 5	< 20	3.76	0.7	19.0	< 3	27	< 1	2.3	< 0.5	156	< 3	25	1590	124	8.9	24	6
31858	5	< 0.5	< 1	< 5	< 2	7	< 5	< 20	0.023	< 0.2	0.1	< 3	< 2	< 1	< 0.5	< 0.5	7	< 3	1	8	3	< 0.2	< 3	< 5
31859	102	2.7	< 1	< 5	< 2	85	< 5	< 20	0.564	< 0.2	37.3	< 3	46	< 1	1.1	< 0.5	292	< 3	25	153	81	7.2	19	9
31860	110	3.0	< 1	< 5	< 2	87	< 5	< 20	0.633	0.4	36.5	< 3	46	< 1	< 0.5	< 0.5	289	< 3	25	161	82	7.0	17	8
31861	103	2.3	< 1	< 5	< 2	104	< 5	< 20	1.36	0.9	31.7	< 3	48	< 1	1.6	< 0.5	253	< 3	23	169	72	7.4	19	13
31862	65	4.6	< 1	< 5	< 2	80	< 5	60	0.693	0.6	35.4	< 3	51	< 1	0.9	< 0.5	263	< 3	24	154	75	7.2	16	< 5
31863	65	3.2	< 1	< 5	< 2	93	< 5	< 20	0.473	0.6	36.4	< 3	41	< 1	< 0.5	< 0.5	275	< 3	21	250	81	6.0	16	< 5
31864	46	< 0.5	< 1	< 5	< 2	856	< 5	< 20	0.274	0.6	18.4	< 3	52	< 1	< 0.5	< 0.5	113	< 3	8	60	17	1.6	< 3	< 5
31865	42	< 0.5	< 1	< 5	< 2	923	< 5	< 20	0.215	1.3	21.8	< 3	45	< 1	< 0.5	< 0.5	137	< 3	7	56	19	1.1	3	< 5
31866	53	< 0.5	< 1	< 5	< 2	615	< 5	< 20	0.409	0.9	23.0	< 3	54	< 1	< 0.5	< 0.5	149	< 3	9	48	25	1.7	6	10
31867	65	2.7	< 1	< 5	12	40	16	< 20	0.083	3.9	16.1	< 3	272	< 1	4.8	< 0.5	143	< 3	17	106	85	11.3	25	10
31868	89	1.6	< 1	< 5	< 2	100	< 5	< 20	0.794	0.4	29.6	< 3	36	< 1	< 0.5	< 0.5	210	< 3	13	76	45	3.4	9	< 5
31869	36	3.3	< 1	< 5	< 2	53	< 5	< 20	1.67	0.9	16.2	< 3	33	< 1	2.3	< 0.5	121	< 3	11	54	105	22.9	51	14
31870	31	6.3	< 1	< 5	< 2	37	< 5	< 20	1.65	0.7	12.3	< 3	38	< 1	3.9	< 0.5	109	< 3	13	171	150	31.6	70	28
31871	31	4.1	< 1	< 5	7	36	< 5	< 20	1.76	0.9	7.4	< 3	33	< 1	2.0	< 0.5	65	< 3	8	52	117	16.5	32	19
31872																								
31873																								
31874																								
31875																								
31876																								
31877	35	3.2	< 1	< 5	< 2	43	< 5	< 20	1.81	0.4	12.8	< 3	40	< 1	4.5	< 0.5	110	< 3	11	70	131	26.3	58	21
31878	37	3.7	< 1	< 5	< 2	51	< 5	< 20	1.56	1.1	12.5	< 3	42	< 1	4.6	< 0.5	106	< 3	12	86	136	28.8	60	16

Analyte Symbol	Cu	Hf	Hg	Ir	Mo	Ni	Pb	Rb	S	Sb	Sc	Se	Sr	Ta	Th	U	V	W	Y	Zn	Zr	La	Ce	Nd
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.5	1	5	2	1	5	20	0.001	0.2	0.1	3	2	1	0.5	0.5	5	3	1	1	2	0.2	3	5
Analysis Method	TD-ICP	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	FUS-ICP	INAA	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	FUS-ICP	INAA	INAA	INAA
31879	40	3.2	< 1	< 5	< 2	50	6	< 20	1.09	0.7	13.2	< 3	46	< 1	4.5	< 0.5	115	< 3	13	84	125	30.0	61	26
31880																								
31881																								
31882																								
31883																								
31884																								
31885																								
31886																								

Analyte Symbol	Sm	Eu	Tb	Yb	Lu	Mass	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag
Unit Symbol	ppm	ppm	ppm	ppm	ppm	g	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	0.5	0.1	0.05		0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31827	0.6	< 0.1	< 0.5	1.2	< 0.05	1.038																		
31828	2.3	0.7	< 0.5	1.7	0.07	1.066																		
31829	0.8	< 0.1	< 0.5	1.3	< 0.05	1.053																		
31830	0.5	0.3	< 0.5	0.9	< 0.05	1.046																		
31831	0.4	< 0.1	< 0.5	0.8	< 0.05	1.049																		
31832	0.2	0.1	< 0.5	0.4	< 0.05	1.043																		
31833	2.8	1.0	< 0.5	2.8	0.11	1.086																		
31834	< 0.1	< 0.1	< 0.5	< 0.1	< 0.05	1.005																		
31835	< 0.1	< 0.1	< 0.5	< 0.1	< 0.05	1.015																		
31836	< 0.1	< 0.1	< 0.5	< 0.1	< 0.05	1.008																		
31837	0.2	0.3	< 0.5	0.4	< 0.05	1.017																		
31838	0.9	0.3	< 0.5	1.2	< 0.05	1.001																		
31839	0.5	< 0.1	< 0.5	0.9	< 0.05	1.034																		
31840	0.5	< 0.1	< 0.5	0.8	< 0.05	1.078																		
31841	0.9	0.5	< 0.5	1.1	< 0.05	1.095																		
31842	0.9	0.7	< 0.5	1.3	< 0.05	1.031																		
31843	0.6	0.2	< 0.5	1.1	< 0.05	1.080																		
31844	0.6	0.2	< 0.5	0.8	< 0.05	1.079																		
31845	0.6	0.4	< 0.5	0.7	< 0.05	1.036																		
31846	1.1	< 0.1	< 0.5	1.1	< 0.05	1.034																		
31847																								
31848																								
31849																								
31850																								
31851																								
31852	0.5	< 0.1	< 0.5	0.7	< 0.05	1.015																		
31853	0.5	0.2	< 0.5	0.7	< 0.05	1.051																		
31854	0.6	0.1	< 0.5	0.9	< 0.05	1.074																		
31855	2.8	0.9	< 0.5	2.0	0.13	1.057																		
31856	2.6	0.6	< 0.5	2.2	0.24	1.035																		
31857	3.2	< 0.1	< 0.5	2.5	0.24	1.074																		
31858	< 0.1	< 0.1	< 0.5	< 0.1	< 0.05	1.004																		
31859	2.6	0.8	< 0.5	3.0	0.25	1.084																		
31860	2.7	0.8	< 0.5	2.8	0.25	1.073																		
31861	2.8	0.7	< 0.5	2.8	0.17	1.025																		
31862	2.7	0.8	< 0.5	3.4	0.21	1.015																		
31863	2.3	0.5	< 0.5	2.9	0.12	1.032																		
31864	0.7	0.3	< 0.5	0.9	< 0.05	1.049																		
31865	0.7	0.3	< 0.5	0.8	< 0.05	1.070																		
31866	0.9	0.4	< 0.5	1.3	< 0.05	1.065																		
31867	2.6	0.8	< 0.5	1.9	0.15	1.015																		
31868	1.3	0.4	< 0.5	1.7	0.08	1.060																		
31869	3.1	0.7	< 0.5	1.4	0.05	1.064																		
31870	4.3	0.7	< 0.5	1.5	0.11	1.091																		
31871	2.8	0.9	< 0.5	0.7	< 0.05	1.046																		
31872							7.2	> 3.00	1.10	7.16	1.08	2.44	0.5	77	32.1	465	6.70	2.7	< 10	58.3	0.8	1.0	0.3	0.29
31873							1.8	> 3.00	0.80	5.59	0.29	2.44	0.1	47	28.8	376	3.65	1.9	< 10	28.9	0.7	0.3	0.3	0.14
31874							24.6	1.48	3.47	6.50	0.41	7.34	0.2	180	130	1420	9.40	1.4	< 10	85.1	3.2	1.1	1.1	0.09
31875							3.4	> 3.00	1.12	7.19	0.69	3.23	0.2	111	77.9	531	6.13	3.3	< 10	46.8	1.4	0.9	0.5	0.22
31876							3.4	> 3.00	1.11	7.04	0.70	3.20	0.1	98	50.9	571	6.53	3.0	< 10	40.1	1.2	0.6	0.4	0.17
31877	3.7	0.5	< 0.5	1.7	0.21	1.062																		
31878	4.0	0.9	< 0.5	1.4	0.08	1.071																		

Analyte Symbol	Sm	Eu	Tb	Yb	Lu	Mass	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag
Unit Symbol	ppm	ppm	ppm	ppm	ppm	g	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	0.5	0.1	0.05		0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31879	4.0	0.9	< 0.5	1.3	< 0.05	1.021																		
31880							3.4	> 3.00	1.16	6.64	0.78	4.83	< 0.1	102	58.4	509	5.65	3.0	< 10	52.6	1.2	0.7	0.4	0.15
31881							3.6	> 3.00	1.13	6.20	0.93	4.10	< 0.1	102	51.8	491	4.86	3.0	< 10	43.7	1.2	0.9	0.4	0.16
31882							4.3	> 3.00	0.96	6.07	1.18	3.54	0.1	97	55.5	443	6.72	2.9	< 10	54.8	1.2	0.9	0.4	0.23
31883							5.1	2.65	0.99	5.65	1.33	3.06	0.1	94	48.0	444	6.22	3.0	< 10	48.8	1.1	0.8	0.4	0.15
31884							4.9	> 3.00	0.96	4.76	1.23	2.32	0.2	99	61.6	452	4.07	3.2	< 10	41.1	1.2	0.7	0.4	0.18
31885							6.0	0.86	0.54	2.89	0.86	0.99	0.7	104	33.1	738	24.4	1.5	< 10	180	1.4	0.5	0.5	0.59
31886							< 0.5	0.01	< 0.01	0.02	0.03	0.02	< 0.1	1	11.7	59	0.57	< 0.1	< 10	3.6	< 0.1	0.1	< 0.1	< 0.05

Analyte Symbol	Cs	Co	Eu	Bi	Se	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm
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	ppm
Detection Limit	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31827																								
31828																								
31829																								
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31869																								
31870																								
31871																								
31872	0.56	21.5	0.85	0.14	0.6	263	21.2	17.2	29.3	8.1	35.7	107	3.8	3.7	< 0.1	1	1.3	< 0.1	132	14.9	32.1	3.9	14.6	2.6
31873	0.13	12.5	0.67	0.07	0.2	79.0	10.9	2.1	6.7	7.8	30.9	80	3.2	0.9	< 0.1	< 1	0.6	< 0.1	37	17.7	37.7	4.6	17.1	2.7
31874	1.75	54.0	1.16	0.05	0.7	108	17.5	0.5	16.3	30.5	161	53	0.3	0.2	< 0.1	< 1	< 0.1	< 0.1	174	10.4	22.9	3.0	12.9	3.3
31875	0.37	23.6	1.08	0.09	< 0.1	76.6	18.8	1.0	18.8	12.8	41.1	139	5.3	1.1	< 0.1	1	1.0	0.1	109	26.9	58.5	7.4	26.8	4.2
31876	0.35	19.6	1.05	0.07	0.4	80.1	19.6	0.7	18.0	12.3	39.4	127	5.1	0.5	< 0.1	< 1	0.8	< 0.1	103	25.0	54.5	6.8	25.0	3.9
31877																								
31878																								

Analyte Symbol	Cs	Co	Eu	Bi	Se	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm
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	ppm
Detection Limit	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31879																								
31880	0.38	25.0	1.19	0.08	0.2	84.5	18.4	1.1	23.8	13.0	47.5	132	5.1	1.2	< 0.1	1	0.7	< 0.1	66	30.5	63.8	8.2	29.3	4.5
31881	0.45	19.6	1.08	0.08	< 0.1	79.3	17.9	0.6	27.8	11.4	40.4	129	5.3	0.5	< 0.1	< 1	1.5	< 0.1	82	26.5	56.7	7.1	26.5	4.2
31882	0.74	25.9	1.06	0.23	< 0.1	79.4	16.9	1.5	38.8	10.9	36.3	120	5.0	0.7	< 0.1	1	1.2	< 0.1	137	27.4	58.7	7.4	26.8	4.2
31883	0.87	20.2	1.04	0.10	< 0.1	72.4	17.7	1.3	42.2	11.2	28.3	124	4.9	0.5	< 0.1	< 1	0.8	< 0.1	152	22.0	48.8	6.1	22.6	3.6
31884	0.71	18.5	1.01	0.08	< 0.1	75.8	17.4	1.9	32.0	11.6	33.4	139	6.1	1.3	< 0.1	1	2.0	< 0.1	144	21.2	53.1	6.2	22.7	3.7
31885	0.77	74.2	0.81	0.70	2.8	295	11.0	25.1	28.0	15.9	14.6	55	1.8	3.0	0.1	1	1.4	< 0.1	60	7.5	16.8	2.3	9.9	2.4
31886	< 0.05	0.6	< 0.05	0.02	< 0.1	4.0	0.3	0.7	0.3	< 0.1	1.7	2	< 0.1	0.7	< 0.1	< 1	0.1	< 0.1	3	0.1	0.2	< 0.1	< 0.1	< 0.1

Analyte Symbol	Gd	Tb	Dy	Cu	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Received Weight
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	Kg
Detection Limit	0.1	0.1	0.1	0.2	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	
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	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	none
31827																				2.39
31828																				0.107
31829																				2.45
31830																				2.47
31831																				1.38
31832																				3.59
31833																				1.47
31834																				2.42
31835																				2.37
31836																				2.40
31837																				2.36
31838																				2.38
31839																				2.70
31840																				1.25
31841																				0.942
31842																				0.945
31843																				1.66
31844																				2.50
31845																				2.41
31846																				1.22
31847																				2.42
31848																				2.67
31849																				2.72
31850																				0.108
31851																				2.52
31852																				2.58
31853																				1.92
31854																				0.964
31855																				2.24
31856																				0.549
31857																				1.15
31858																				0.788
31859																				2.24
31860																				0.000
31861																				2.40
31862																				2.43
31863																				1.21
31864																				1.19
31865																				1.76
31866																				1.45
31867																				0.107
31868																				1.10
31869																				0.852
31870																				1.24
31871																				1.24
31872	2.2	0.3	1.6	61.3	0.1	0.1	0.7	0.1	0.2	0.6	< 0.001	0.42	5.2	8	2.8	0.8	0.259	0.055	3.69	1.89
31873	2.1	0.3	1.5	28.8	0.1	0.1	0.6	< 0.1	0.2	0.6	< 0.001	0.10	3.2	7	2.0	0.5	0.247	0.049	1.27	1.21
31874	4.1	0.8	5.0	190	0.4	0.5	2.6	0.4	< 0.1	< 0.1	< 0.001	0.10	2.4	39	1.7	0.4	0.302	0.041	0.13	1.41
31875	3.3	0.4	2.4	37.8	0.1	0.2	1.2	0.2	0.3	0.7	0.001	0.34	4.7	14	3.2	0.8	0.435	0.070	1.19	1.11
31876	3.1	0.4	2.2	48.2	0.1	0.2	0.9	0.2	0.3	0.4	< 0.001	0.31	4.4	11	2.9	0.7	0.378	0.077	2.65	1.43
31877																				1.40

Analyte Symbol	Gd	Tb	Dy	Cu	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Received Weight
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	Kg
Detection Limit	0.1	0.1	0.1	0.2	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	
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	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	none
31878																				1.92
31879																				1.20
31880	3.4	0.4	2.4	38.2	0.2	0.2	1.0	0.2	0.3	0.4	0.009	0.42	5.2	12	3.0	0.7	0.416	0.076	1.10	0.939
31881	3.2	0.4	2.3	32.6	0.1	0.2	1.0	0.2	0.3	0.3	0.001	0.48	4.4	11	2.7	0.7	0.423	0.078	1.26	2.28
31882	3.2	0.4	2.2	48.7	0.1	0.2	1.0	0.1	0.3	0.4	< 0.001	0.72	6.0	10	2.7	0.7	0.375	0.074	2.08	2.41
31883	3.0	0.4	2.1	39.8	0.1	0.2	0.9	0.1	0.3	0.2	0.002	0.84	4.2	12	2.8	0.6	0.391	0.080	3.58	2.32
31884	3.1	0.4	2.2	37.9	0.2	0.2	1.0	0.1	0.3	0.3	< 0.001	0.65	3.7	9	2.5	0.7	0.444	0.086	1.77	1.30
31885	3.3	0.5	2.8	216	0.3	0.2	1.2	0.2	0.4	0.5	0.008	0.58	12.8	14	1.0	0.3	0.194	0.020	15.8	1.69
31886	< 0.1	< 0.1	< 0.1	4.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.004	< 0.05	< 0.5	< 1	< 0.1	< 0.1	0.0017	< 0.001	0.03	0.770

Quality Control

Analyte Symbol	Au	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Au	Ag	Ag	As	Ba	Ba	Be	Bi	Br	Cd	Co
Unit Symbol	ppb	%	%	%	%	%	%	%	%	%	%	%	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.01		0.01	5	0.5	5	2	2	50	1	2	1	0.5	1
Analysis Method	FA-AA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	INAA	TD-ICP	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	INAA	TD-ICP	INAA
GXR-1 Meas															31.1						1390		2.0	
GXR-1 Cert															31.0						1380		3.30	
NIST 694 Meas		11.22	1.92	0.76	0.01	0.34	43.93	0.87	0.56	0.119	30.17													
NIST 694 Cert		11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2													
DNC-1 Meas		46.83	18.43	9.99	0.15	9.88	11.20	1.91	0.23	0.479	0.08							106						
DNC-1 Cert		47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070							118						
GBW 07113 Meas		71.69	12.58	3.20	0.14	0.13	0.56	2.48	5.42	0.278	0.04							502		4				
GBW 07113 Cert		72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500							506		4.00				
GXR-4 Meas															3.3						6		< 0.5	
GXR-4 Cert															4.00						19.0		0.860	
SDC-1 Meas															< 0.5						3		< 0.5	
SDC-1 Cert															0.0410						2.60		0.0800	
GXR-6 Meas															< 0.5						< 2		< 0.5	
GXR-6 Cert															1.30						0.290		1.00	
W-2a Meas		52.80	15.22	10.72	0.17	6.15	10.77	2.24	0.63	1.070	0.14							174		< 1				
W-2a Cert		52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130							182		1.30				
SARM-62 Meas																								
SARM-62 Cert																								
SY-4 Meas		49.45	20.77	6.19	0.11	0.49	7.92	6.98	1.69	0.284	0.13							349		3				
SY-4 Cert		49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131							340		2.6				
BIR-1a Meas		47.97	15.83	11.32	0.17	9.47	13.25	1.82	0.02	0.961	0.03							7		< 1				
BIR-1a Cert		47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021							6		0.58				
AMIS 0129 Meas										22.16														
AMIS 0129 Cert										22.94														
NCS DC19003a Meas										13.29														
NCS DC19003a Cert										12.96														
SAR-M (U.S.G.S.) Meas															4.2						< 2		6.0	
SAR-M (U.S.G.S.) Cert															3.64						1.94		5.27	
DNC-1a Meas																								
DNC-1a Cert																								
OxD108 Meas	398																							
OxD108 Cert	414.000																							
OxD108 Meas	402																							
OxD108 Cert	414.000																							
SBC-1 Meas																					2		< 0.5	
SBC-1 Cert																					0.70		0.40	
SG66 Meas	1060																							
SG66 Cert	1090																							
SG66 Meas	1040																							
SG66 Cert	1090																							
DMMAS 115 Meas														1610			529		1190					24
DMMAS 115 Cert														1720			527		1210					21.0
DMMAS 115 Meas														1750			524		1170					23
DMMAS 115 Cert														1720			527		1210					21.0
31832 Orig															< 0.5						< 2		< 0.5	
31832 Dup															< 0.5						< 2		< 0.5	
31836 Orig	< 5																							
31836 Dup	< 5																							
31837 Orig															< 0.5						< 2		< 0.5	
31837 Dup															< 0.5						< 2		< 0.5	
31841 Orig		33.87	9.62	12.73	0.23	11.52	10.43	3.07	0.08	0.513	0.04	16.44	98.55					8		< 1				
31841 Dup		33.35	9.65	12.65	0.23	11.34	10.25	3.03	0.08	0.508	0.04	16.44	97.56					8		< 1				
31846 Orig	< 5																							
31846 Dup	< 5																							
31856 Orig	< 5																							
31856 Split	< 5																							
31857 Orig	7																							

Quality Control

Analyte Symbol	Au	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Au	Ag	Ag	As	Ba	Ba	Be	Bi	Br	Cd	Co
Unit Symbol	ppb	%	%	%	%	%	%	%	%	%	%	%	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.01		0.01	5	0.5	5	2	2	50	1	2	1	0.5	1
Analysis Method	FA-AA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	INAA	TD-ICP	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	INAA	TD-ICP	INAA
31857 Dup	6																							
31863 Orig		46.28	14.48	10.07	0.15	5.06	6.66	5.80	0.04	1.076	0.10	10.44	100.2					4		< 1				
31863 Dup		45.53	14.21	9.81	0.15	4.99	6.59	5.65	0.04	1.065	0.10	10.44	98.56					4		< 1				
31871 Orig	< 5																							
31871 Dup	< 5																							
31876 Orig	< 5																							
31876 Split	< 5																							
31881 Orig	< 5																							
31881 Dup	< 5																							
31886 Orig	< 5																							
31886 Split	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank															< 0.5						< 2		< 0.5	
Method Blank															< 0.5						< 2		< 0.5	
Method Blank															< 0.5						< 2		< 0.5	
Method Blank														< 5		< 5	< 2		< 50			< 1		< 1

Quality Control

Analyte Symbol	Cr	Cs	Cu	Hf	Hg	Ir	Mo	Ni	Pb	Rb	S	Sb	Sc	Se	Sr	Ta	Th	U	V	W	Y	Zn	Zr	La
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.5	1	0.5	1	5	2	1	5	20	0.001	0.2	0.1	3	2	1	0.5	0.5	5	3	1	1	2	0.2
Analysis Method	INAA	INAA	TD-ICP	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	FUS-ICP	INAA	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	FUS-ICP	INAA
GXR-1 Meas			1160				16	45	706		0.251											726		
GXR-1 Cert			1110				18.0	41.0	730		0.257											760		
NIST 694 Meas																			1664					
NIST 694 Cert																			1740					
DNC-1 Meas															146				161		16		34	
DNC-1 Cert															144.0				148		18.0		38	
GBW 07113 Meas															40				7		44		381	
GBW 07113 Cert															43.0				5.00		43.0		403	
GXR-4 Meas			6470				366	41	50		1.76											70		
GXR-4 Cert			6520				310	42.0	52.0		1.77											73.0		
SDC-1 Meas			32				< 2	38	19		0.068											98		
SDC-1 Cert			30.00				0.250	38.0	25.00		0.0650											103.00		
GXR-6 Meas			69				4	26	89		0.016											123		
GXR-6 Cert			66.0				2.40	27.0	101		0.0160											118		
W-2a Meas															195				274		20		86	
W-2a Cert															190				262		24.0		94.0	
SARM-62 Meas																							459800	
SARM-62 Cert																							476000	
SY-4 Meas															1191				11		117		527	
SY-4 Cert															1191				8.0		119		517	
BIR-1a Meas															110				339		15		14	
BIR-1a Cert															110				310		16		18	
AMIS 0129 Meas																								
AMIS 0129 Cert																								
NCS DC19003a Meas																								
NCS DC19003a Cert																								
SAR-M (U.S.G.S.) Meas			385				11	49	1020													965		
SAR-M (U.S.G.S.) Cert			331				13.10	41.50	982													930.0		
DNC-1a Meas			101					259														57		
DNC-1a Cert			100.0					247														70.0		
OxD108 Meas																								
OxD108 Cert																								
OxD108 Meas																								
OxD108 Cert																								
SBC-1 Meas			33				3	89	32													177		
SBC-1 Cert			31.0				2.40	82.8	35.0													186.0		
SG66 Meas																								
SG66 Cert																								
SG66 Meas																								
SG66 Cert																								
DMMAS 115 Meas	99											4.0	7.2					105						23.6
DMMAS 115 Cert	100											5.50	7.30					101						21.9
DMMAS 115 Meas	102											4.0	7.3					102						22.1
DMMAS 115 Cert	100											5.50	7.30					101						21.9
31832 Orig			7				< 2	1690	< 5		0.039											25		
31832 Dup			11				< 2	1640	< 5		0.037											28		
31836 Orig																								
31836 Dup																								
31837 Orig			2				< 2	1680	21		0.023											51		
31837 Dup			< 1				< 2	1650	< 5		0.020											47		
31841 Orig															212				223		14		28	
31841 Dup															211				218		13		27	
31846 Orig																								
31846 Dup																								
31856 Orig																								
31856 Split																								
31857 Orig																								

Quality Control

Analyte Symbol	Cr	Cs	Cu	Hf	Hg	Ir	Mo	Ni	Pb	Rb	S	Sb	Sc	Se	Sr	Ta	Th	U	V	W	Y	Zn	Zr	La
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.5	1	0.5	1	5	2	1	5	20	0.001	0.2	0.1	3	2	1	0.5	0.5	5	3	1	1	2	0.2
Analysis Method	INAA	INAA	TD-ICP	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	FUS-ICP	INAA	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	FUS-ICP	INAA
31857 Dup																								
31863 Orig															42				277		21		81	
31863 Dup															41				273		21		81	
31871 Orig																								
31871 Dup																								
31876 Orig																								
31876 Split																								
31881 Orig																								
31881 Dup																								
31886 Orig																								
31886 Split																								
Method Blank																								
Method Blank																								
Method Blank																								
Method Blank																								
Method Blank			< 1				< 2	< 1	< 5		0.001											< 1		
Method Blank			2				< 2	< 1	< 5		0.002											< 1		
Method Blank			< 1				< 2	< 1	< 5		< 0.001											< 1		
Method Blank	< 1	< 0.5		< 0.5	< 1	< 5				< 20		< 0.2	< 0.1	< 3		< 1	< 0.5	< 0.5		< 3				< 0.2

Quality Control

Analyte Symbol	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm
Detection Limit	3	5	0.1	0.1	0.5	0.1	0.05		0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas																								
GXR-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
GXR-4 Meas									12.8	0.56	1.80	6.63	3.60	1.17	< 0.1	102	47.5	160	3.17	1.1	80	43.9		2.3
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
SDC-1 Meas									40.8	1.54	1.00	7.90	1.64	1.17	< 0.1	60	56.0	857	4.81	1.0		36.8	3.6	3.3
SDC-1 Cert									34.00	1.52	1.02	8.34	2.72	1.00	0.0800	102.00	64.00	880.00	4.82	8.30		38.0	4.10	3.00
GXR-6 Meas									45.7	0.11	0.66	> 10.0	1.84	0.23	0.1	152	63.2	1010	5.75	1.8	30	27.6		1.6
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
W-2a Meas																								
W-2a Cert																								
SARM-62 Meas																								
SARM-62 Cert																								
SY-4 Meas																								
SY-4 Cert																								
BIR-1a Meas																								
BIR-1a Cert																								
AMIS 0129 Meas																								
AMIS 0129 Cert																								
NCS DC19003a Meas																								
NCS DC19003a Cert																								
SAR-M (U.S.G.S.) Meas									34.7	1.29	0.54	6.37	2.12	0.69	5.1	69	78.6	5220	3.27			47.3		3.2
SAR-M (U.S.G.S.) Cert									27.4	1.140	0.50	6.30	2.94	0.61	5.27	67.20	79.7	5220	2.99			41.50		2.20
DNC-1a Meas									5.5							168	243					295		
DNC-1a Cert									5.20							148.00	270					247		
OxD108 Meas																								
OxD108 Cert																								
OxD108 Meas																								
OxD108 Cert																								
SBC-1 Meas									197						0.3	245	88.9			3.1		95.4	3.7	3.9
SBC-1 Cert									163.0						0.40	220.0	109			3.7		82.8	3.80	3.20
SG66 Meas																								
SG66 Cert																								
SG66 Meas																								
SG66 Cert																								
DMMAS 115 Meas	40		3.5																					
DMMAS 115 Cert	40.0		3.10																					
DMMAS 115 Meas	41		3.4																					
DMMAS 115 Cert	40.0		3.10																					
31832 Orig																								
31832 Dup																								
31836 Orig																								
31836 Dup																								
31837 Orig																								
31837 Dup																								
31841 Orig																								
31841 Dup																								
31846 Orig																								
31846 Dup																								
31856 Orig																								
31856 Split																								
31857 Orig																								

Quality Control

Analyte Symbol	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm
Detection Limit	3	5	0.1	0.1	0.5	0.1	0.05		0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31857 Dup																								
31863 Orig																								
31863 Dup																								
31871 Orig																								
31871 Dup																								
31876 Orig																								
31876 Split																								
31881 Orig																								
31881 Dup																								
31886 Orig																								
31886 Split																								
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	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1
Method Blank																								
Method Blank																								
Method Blank	< 3	< 5	< 0.1	< 0.1	< 0.5	< 0.1	< 0.05	1.000																

Quality Control

Analyte Symbol	Ho	Ag	Cs	Co	Eu	Bi	Se	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr
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	ppm
Detection Limit	0.1	0.05	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	0.1	1	0.1	0.1	1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas																								
GXR-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
GXR-4 Meas		3.33	2.46	16.1	1.38	18.5	5.9	72.8	21.1	116	148	16.0	221	43	9.4	308	0.2	7	4.2	0.9	141	57.3	103	
GXR-4 Cert		4.00	2.80	14.6	1.63	19.0	5.60	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	
SDC-1 Meas	1.3	< 0.05	3.69	20.6	1.47	0.28		106	25.9	0.2	103	37.4	177	46	2.3	< 0.1		< 1	< 0.1		643	40.7	83.4	
SDC-1 Cert	1.50	0.0410	4.00	18.0	1.70	2.60		103.00	21.00	0.220	127.00	40.0	180.00	290.00	21.00	0.250		3.00	0.54		630	42.00	93.00	
GXR-6 Meas		0.15	4.07	15.5	0.63	0.19	0.2	134	36.4	291	88.3	15.2	42.2	81	0.8	0.9	< 0.1	< 1	0.8	< 0.1	1440	13.7	35.8	
GXR-6 Cert		1.30	4.20	13.8	0.760	0.290	0.940	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	
W-2a Meas																								
W-2a Cert																								
SARM-62 Meas																								
SARM-62 Cert																								
SY-4 Meas																								
SY-4 Cert																								
BIR-1a Meas																								
BIR-1a Cert																								
AMIS 0129 Meas																								
AMIS 0129 Cert																								
NCS DC19003a Meas																								
NCS DC19003a Cert																								
SAR-M (U.S.G.S.) Meas		3.13	4.60	12.5		1.72	0.4	936	20.8	38.5	115	39.4	162		5.7	8.9	1.0	2	4.7	0.6	820	56.5	113	
SAR-M (U.S.G.S.) Cert		3.64	5.15	10.70		1.94	0.39	930.0	16.8	38.8	146.0	28.00	151.0		29.90	13.10	1.08	2.76	6.00	0.96	801	57.4	122.00	
DNC-1a Meas				65.1	0.55			67.9				18.6	147	41					0.8		110	3.7		
DNC-1a Cert				57.0	0.59			70.0				18.0	144.0	38.000					0.96		118	3.6		
OxD108 Meas																								
OxD108 Cert																								
OxD108 Meas																								
OxD108 Cert																								
SBC-1 Meas	1.3		7.87	26.5	1.85	0.70		191	30.8	30.4	158	37.7	190	127	15.9	2.9		3	1.0		800	50.9	102	13.0
SBC-1 Cert	1.40		8.2	22.7	1.98	0.70		186.0	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
SG66 Meas																								
SG66 Cert																								
SG66 Meas																								
SG66 Cert																								
DMMAS 115 Meas																								
DMMAS 115 Cert																								
DMMAS 115 Meas																								
DMMAS 115 Cert																								
31832 Orig																								
31832 Dup																								
31836 Orig																								
31836 Dup																								
31837 Orig																								
31837 Dup																								
31841 Orig																								
31841 Dup																								
31846 Orig																								
31846 Dup																								
31856 Orig																								
31856 Split																								
31857 Orig																								

Quality Control

Analyte Symbol	Ho	Ag	Cs	Co	Eu	Bi	Se	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr
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	ppm
Detection Limit	0.1	0.05	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	0.1	1	0.1	0.1	1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31857 Dup																								
31863 Orig																								
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Method Blank	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1
Method Blank																								
Method Blank																								
Method Blank																								

Quality Control

Analyte Symbol	Nd	Sm	Gd	Tb	Dy	Cu	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	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Detection Limit	0.1	0.1	0.1	0.1	0.1	0.2	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
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas																1				0.058	0.25
GXR-1 Cert																1.58				0.0650	0.257
NIST 694 Meas																					
NIST 694 Cert																					
DNC-1 Meas																					
DNC-1 Cert																					
GBW 07113 Meas																					
GBW 07113 Cert																					
GXR-4 Meas	41.0	6.2	4.8	0.5	2.8	6100		0.2	0.9	0.1	0.5	31.1		3.39	50.4	8	17.7	5.4		0.132	1.76
GXR-4 Cert	45.0	6.60	5.25	0.360	2.60	6520		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20		0.120	1.77
SDC-1 Meas	38.4	7.4	6.7	1.0	6.4	33.6		0.5	2.9		< 0.1	< 0.1		0.66	25.3	16	11.7	3.3	0.498	0.059	0.07
SDC-1 Cert	40.00	8.20	7.00	1.20	6.70	30.00		0.65	4.00		1.20	0.800		0.70	25.00	17.00	12.00	3.10	0.606	0.0690	0.0650
GXR-6 Meas	12.8	2.5	2.4	0.4	2.6	76.0		0.3	1.5	0.2	< 0.1	< 0.1		2.41	106	26	5.5	1.5		0.034	0.02
GXR-6 Cert	13.0	2.67	2.97	0.415	2.80	66.0		0.0320	2.40	0.330	0.485	1.90		2.20	101	27.6	5.30	1.54		0.0350	0.0160
W-2a Meas																					
W-2a Cert																					
SARM-62 Meas																					
SARM-62 Cert																					
SY-4 Meas																					
SY-4 Cert																					
BIR-1a Meas																					
BIR-1a Cert																					
AMIS 0129 Meas																					
AMIS 0129 Cert																					
NCS DC19003a Meas																					
NCS DC19003a Cert																					
SAR-M (U.S.G.S.) Meas						382						1.4		2.89	909	9	16.9	4.1	0.347	0.065	
SAR-M (U.S.G.S.) Cert						331						9.78		2.88	982	7.83	17.2	3.57	2.7	0.070	
DNC-1a Meas	4.7					106			1.8							32					
DNC-1a Cert	5.20					100.0			2.0							31					
OxD108 Meas																					
OxD108 Cert																					
OxD108 Meas																					
OxD108 Cert																					
SBC-1 Meas	47.6	9.0	7.9	1.2	6.9	34.8		0.5	3.1	0.4	0.9	1.4		1.02	38.2	21	15.8	5.8			
SBC-1 Cert	49.2	9.6	8.5	1.20	7.10	31.0		0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76			
SG66 Meas																					
SG66 Cert																					
SG66 Meas																					
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DMMAS 115 Meas																					
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Quality Control

Analyte Symbol	Nd	Sm	Gd	Tb	Dy	Cu	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	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Detection Limit	0.1	0.1	0.1	0.1	0.1	0.2	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
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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
31857 Dup																					
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31881 Dup																					
31886 Orig																					
31886 Split																					
Method Blank																					
Method Blank																					
Method Blank																					
Method Blank																					
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 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			0.0008	< 0.001	< 0.01
Method Blank																< 1			< 0.0005	< 0.001	< 0.01
Method Blank																					

Quality Analysis ... *Innovative Technologies*

Date Submitted:	11-Jun-13
Invoice No.:	A13-06472
Invoice Date:	02-Jul-13
Your Reference:	PENG-20130610-032

Rapier Gold
2270-1055 West Georgia Street
P.O. Box 11144
Vancouver BC V6E 3P3

ATTN: Gary Lustig

CERTIFICATE OF ANALYSIS

4 Pulp samples and 56 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT **A13-06472**

Code 1A2-Rapier Timmins Au - Fire Assay AA (QOP Fire Assay)
Code 4E-Expl (11+) INAA(INAAGEO)/Major Elements Fusion ICP(WRA)/Total Digestion ICP(TOTAL)
Code UT-6 Total Digestion ICP & ICP/MS
Code Weight Report Received(kg) & Pulp(g) weights

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
Total includes all elements in % oxide to the left of total. Values above the upper limit should be assayed for most accurate values.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Au	Ag	As	Ba	Be	Bi	Br	Cd	Co	Cr	Cs
Unit Symbol	ppb	%	%	%	%	%	%	%	%	%	%	%	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.01		0.01	5	0.5	2	3	1	2	1	0.5	1	1	0.5
Analysis Method	FA-AA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	INAA	MULT INAA / TD-ICP	INAA	MULT INAA/FUSICP	FUS-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA
31887	< 5																							
31888	< 5																							
31889	2960																							
31890	< 5																							
31891	6																							
31892	< 5	46.31	14.91	11.19	0.21	4.08	9.01	2.92	0.84	1.136	0.11	8.44	99.15	< 5	0.5	10	126	< 1	< 2	< 1	< 0.5	53	82	< 0.5
31893	< 5	49.34	14.79	8.97	0.17	3.21	8.85	3.13	1.09	1.136	0.10	4.69	95.48	< 5	< 0.5	28	157	< 1	< 2	< 1	< 0.5	55	77	< 0.5
31894	< 5	44.43	13.87	8.90	0.19	2.28	12.31	2.91	1.36	1.108	0.10	10.74	98.19	< 5	0.5	19	176	< 1	< 2	< 1	< 0.5	51	52	< 0.5
31895	< 5	45.07	14.47	9.06	0.19	2.43	12.64	2.96	1.34	1.127	0.11	10.83	100.2	< 5	< 0.5	18	172	< 1	< 2	< 1	< 0.5	49	60	< 0.5
31896	< 5	46.74	14.41	10.36	0.21	4.14	8.99	3.30	0.51	1.134	0.11	9.30	99.21	< 5	< 0.5	29	81	< 1	< 2	< 1	< 0.5	53	63	< 0.5
31897	< 5	47.48	14.48	11.56	0.22	4.19	8.16	2.84	0.63	1.121	0.10	7.86	98.65	< 5	< 0.5	25	107	< 1	< 2	< 1	< 0.5	54	90	< 0.5
31898	< 5	46.47	14.39	9.64	0.19	2.23	10.53	3.84	0.91	1.090	0.10	7.85	97.25	< 5	< 0.5	< 2	139	< 1	2	< 1	< 0.5	53	78	< 0.5
31899	< 5																							
31900	< 5																							
31901	< 5																							
31902	< 5																							
31903	1110																							
31904	< 5																							
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31911	< 5																							
31912	< 5																							
31913	590																							
31914	8																							
31915	< 5																							
31916	< 5																							
31917	< 5																							
31918	5																							
31919	6																							
31920	9																							
31921	40																							
31922	52																							
31923	28																							
31924	31																							
31925	17																							
31926	28																							
31927	29																							
31928	2970																							
31929	11																							
31930	< 5																							
31931	< 5																							
31932	< 5																							
31933	< 5																							
31934	< 5																							
31935	< 5																							
31936	6																							
31937	< 5																							

Analyte Symbol	Au	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Au	Ag	As	Ba	Be	Bi	Br	Cd	Co	Cr	Cs
Unit Symbol	ppb	%	%	%	%	%	%	%	%	%	%	%	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.01		0.01	5	0.5	2	3	1	2	1	0.5	1	1	0.5
Analysis Method	FA-AA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	INAA	MULT INAA / TD-ICP	INAA	MULT INAA/FUSICP	FUS-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA
31938	< 5																							
31939	< 5																							
31940	< 5																							
31941	< 5																							
31942	< 5																							
31943	1060																							
31944	< 5																							
31945	< 5																							
31946	< 5																							

Analyte Symbol	Cu	Hf	Hg	Ir	Mo	Ni	Pb	Rb	S	Sb	Sc	Se	Sr	Ta	Th	U	V	W	Y	Zn	Zr	La	Ce	Nd
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.5	1	5	2	1	5	20	0.001	0.2	0.1	3	2	1	0.5	0.5	5	3	1	1	2	0.2	3	5
Analysis Method	TD-ICP	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	FUS-ICP	INAA	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	FUS-ICP	INAA	INAA	INAA
31887																								
31888																								
31889																								
31890																								
31891																								
31892	71	< 0.5	< 1	< 5	< 2	86	< 5	< 20	0.527	0.7	38.7	< 3	55	< 1	< 0.5	< 0.5	296	< 3	24	169	82	7.6	24	11
31893	96	2.7	< 1	< 5	< 2	92	< 5	< 20	0.342	0.4	36.7	< 3	57	< 1	< 0.5	< 0.5	283	< 3	20	129	82	7.1	19	16
31894	123	2.7	< 1	< 5	< 2	85	< 5	< 20	0.351	0.5	37.5	< 3	65	< 1	< 0.5	< 0.5	281	< 3	22	108	79	8.0	16	< 5
31895	109	< 0.5	< 1	< 5	< 2	83	< 5	< 20	0.359	0.5	35.8	< 3	65	< 1	< 0.5	< 0.5	286	< 3	22	108	80	6.5	20	< 5
31896	76	3.2	< 1	< 5	< 2	92	< 5	< 20	0.182	< 0.2	39.0	< 3	53	< 1	< 0.5	< 0.5	295	< 3	22	174	82	7.7	15	< 5
31897	118	2.8	< 1	< 5	< 2	94	< 5	< 20	0.430	0.9	38.0	< 3	48	< 1	< 0.5	< 0.5	294	< 3	24	198	83	7.7	17	< 5
31898	96	< 0.5	< 1	< 5	< 2	88	< 5	< 20	0.773	1.1	35.0	< 3	62	< 1	< 0.5	< 0.5	259	< 3	20	171	80	8.3	21	< 5
31899																								
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Analyte Symbol	Cu	Hf	Hg	Ir	Mo	Ni	Pb	Rb	S	Sb	Sc	Se	Sr	Ta	Th	U	V	W	Y	Zn	Zr	La	Ce	Nd
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.5	1	5	2	1	5	20	0.001	0.2	0.1	3	2	1	0.5	0.5	5	3	1	1	2	0.2	3	5
Analysis Method	TD-ICP	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	FUS-ICP	INAA	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	FUS-ICP	INAA	INAA	INAA

31939
31940
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31946

Analyte Symbol	Sm	Eu	Tb	Yb	Lu	Mass	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag
Unit Symbol	ppm	ppm	ppm	ppm	ppm	g	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	0.5	0.1	0.05		0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31887							26.5	> 3.00	1.49	6.55	1.09	6.61	0.2	192	58.6	971	6.39	1.7	< 10	73.7	1.3	0.7	0.4	0.06
31888							35.1	2.63	1.41	6.46	0.92	6.62	0.2	174	64.6	1000	6.08	1.5	< 10	81.3	1.1	0.6	0.4	< 0.05
31889							18.1	2.10	1.38	6.23	0.89	2.83	0.5	113	61.4	739	4.90	1.1	10	43.0	1.9	1.3	0.7	0.44
31890							53.3	2.23	2.06	5.63	0.73	7.39	0.2	270	83.6	1350	6.56	2.0	< 10	90.6	1.0	0.5	0.3	0.11
31891							48.6	2.40	1.88	6.24	0.59	5.29	0.2	233	74.3	1090	8.99	2.2	< 10	76.3	1.0	0.5	0.4	< 0.05
31892	2.6	< 0.1	< 0.5	2.7	0.24	1.031																		
31893	2.6	1.0	< 0.5	2.5	0.21	1.049																		
31894	2.5	< 0.1	< 0.5	2.1	0.09	1.015																		
31895	2.6	< 0.1	< 0.5	2.6	0.14	1.042																		
31896	2.7	< 0.1	< 0.5	2.6	0.20	1.007																		
31897	2.6	0.9	< 0.5	2.9	0.17	1.029																		
31898	2.7	< 0.1	< 0.5	2.7	0.12	1.065																		
31899																								
31900																								
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31914																								
31915																								
31916							98.1	1.30	3.11	6.34	0.32	6.42	0.3	147	65.5	1120	7.46	1.1	< 10	84.7	0.9	0.5	0.3	< 0.05
31917							24.6	1.56	3.51	6.64	0.39	7.19	0.1	219	108	1440	9.75	1.6	< 10	88.0	3.3	0.7	1.1	< 0.05
31918							71.6	1.71	2.47	6.59	0.70	7.77	1.1	202	60.3	1160	7.69	2.1	< 10	86.7	1.0	0.6	0.3	0.15
31919							71.1	1.68	2.44	6.59	0.78	7.88	1.2	220	65.1	1210	7.97	2.1	< 10	88.8	1.0	0.7	0.3	0.09
31920							38.0	2.19	1.37	6.58	1.25	8.42	1.2	257	67.9	1010	5.72	2.4	< 10	68.4	1.0	0.9	0.3	0.21
31921							15.1	1.66	0.30	4.47	0.72	5.36	8.1	109	46.5	512	9.89	2.3	< 10	217	0.8	0.4	0.3	0.48
31922							14.6	1.58	0.31	4.44	0.74	5.58	8.3	116	47.3	527	9.83	2.2	< 10	221	0.8	0.5	0.3	0.50
31923							12.4	1.91	0.12	4.22	0.57	3.72	12.1	68	56.4	324	5.62	3.2	< 10	236	0.8	0.8	0.3	0.58
31924							5.1	1.20	0.15	2.52	0.28	3.15	4.7	35	23.3	313	3.71	1.6	< 10	128	0.7	0.4	0.2	0.29
31925							24.3	1.38	0.38	4.91	0.77	2.87	1.9	139	46.9	284	6.25	2.4	< 10	126	0.8	0.5	0.2	0.42
31926							28.9	1.56	0.49	5.91	0.91	5.03	3.9	204	63.5	521	9.78	2.8	< 10	172	0.9	0.7	0.3	0.74
31927							4.9	0.88	0.09	2.03	0.24	3.10	5.4	26	28.7	338	5.18	1.2	< 10	156	0.5	0.4	0.2	0.49
31928							18.0	2.04	1.29	5.92	0.84	2.71	0.5	108	63.5	689	4.65	1.1	< 10	41.1	1.9	1.2	0.7	0.40
31929							22.1	2.03	0.15	6.08	1.06	4.68	0.7	116	40.0	439	7.68	1.7	< 10	123	0.9	0.9	0.3	0.48
31930							16.7	1.55	0.99	5.02	1.01	7.44	0.1	192	51.3	842	2.85	1.6	< 10	44.1	1.1	0.6	0.4	0.16
31931							< 0.5	0.01	< 0.01	0.03	0.03	0.09	< 0.1	< 1	10.2	91	0.85	< 0.1	20	1.9	< 0.1	0.1	< 0.1	< 0.05
31932							22.6	2.20	1.38	5.65	0.99	9.62	0.1	233	49.7	1300	5.72	1.7	< 10	106	1.1	0.5	0.4	0.10
31933							80.5	1.84	2.49	7.03	0.54	7.49	< 0.1	258	69.6	1190	8.02	1.7	< 10	146	1.0	0.6	0.3	0.05
31934							72.5	0.96	2.07	5.86	0.44	7.06	< 0.1	187	54.0	1260	5.38	1.4	< 10	79.0	0.9	0.6	0.3	< 0.05
31935							88.2	1.04	2.36	6.85	0.44	8.50	0.1	119	56.2	1340	6.22	0.9	< 10	90.8	1.0	0.5	0.4	< 0.05
31936																								
31937																								
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Analyte Symbol	Sm	Eu	Tb	Yb	Lu	Mass	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag
Unit Symbol	ppm	ppm	ppm	ppm	ppm	g	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	0.5	0.1	0.05		0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS

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Analyte Symbol	Cs	Co	Eu	Bi	Se	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm
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	ppm
Detection Limit	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31887	0.61	42.4	0.95	0.06	< 0.1	144	18.0	4.6	30.2	11.6	46.2	62	1.2	0.2	< 0.1	1	< 0.1	< 0.1	136	10.4	21.9	3.0	13.4	3.3
31888	0.47	52.7	0.87	0.05	< 0.1	142	19.0	8.5	25.1	9.9	48.7	56	1.1	0.1	< 0.1	< 1	< 0.1	< 0.1	133	7.0	16.8	2.5	11.1	3.0
31889	0.95	14.4	0.88	0.32	< 0.1	115	13.1	14.2	28.3	19.4	278	45	2.9	7.7	< 0.1	1	2.5	< 0.1	569	11.2	22.3	3.1	12.1	2.8
31890	0.32	58.2	0.65	0.03	< 0.1	131	19.8	29.7	13.0	7.9	52.5	78	3.9	0.4	< 0.1	1	0.8	< 0.1	115	4.6	11.7	1.7	8.0	2.2
31891	0.30	45.4	1.00	0.08	< 0.1	143	18.4	0.4	16.4	9.1	45.0	87	2.4	0.8	< 0.1	< 1	0.3	< 0.1	109	9.2	21.3	3.0	12.5	3.0
31892																								
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31916	0.32	57.4	0.81	0.07	< 0.1	319	18.3	31.7	11.2	7.4	43.4	41	< 0.1	< 0.1	0.1	< 1	< 0.1	< 0.1	47	6.6	15.9	2.3	10.2	2.6
31917	1.69	55.3	1.18	0.04	0.2	94.0	19.0	1.1	17.5	30.7	156	67	0.3	0.1	< 0.1	< 1	< 0.1	< 0.1	162	10.5	23.4	3.2	13.5	3.5
31918	0.68	51.1	0.92	0.17	0.2	513	18.9	1.1	24.6	8.6	65.2	78	0.8	< 0.1	0.2	4	0.2	< 0.1	90	7.3	17.4	2.5	11.0	2.9
31919	0.72	53.3	0.96	0.18	< 0.1	568	19.9	1.2	26.1	8.4	64.9	78	0.9	0.1	0.2	4	0.3	< 0.1	97	7.5	17.9	2.5	11.1	3.0
31920	1.17	36.1	0.86	0.25	1.6	683	21.1	1.3	44.0	8.6	88.7	92	3.5	0.9	0.2	12	0.6	< 0.1	156	6.9	15.9	2.2	9.9	2.6
31921	0.89	74.4	0.82	1.47	6.0	3870	19.6	2.5	27.4	7.4	74.7	87	2.2	4.2	2.0	9	1.1	0.2	90	9.8	22.5	2.9	11.4	2.4
31922	0.88	75.8	0.80	1.50	5.7	4000	20.0	4.4	27.2	7.5	73.9	87	2.2	5.1	2.0	9	1.5	0.3	92	9.7	22.2	2.9	11.4	2.5
31923	0.87	65.4	0.92	1.07	3.5	5560	22.9	2.6	18.1	7.2	85.7	125	5.0	8.2	3.3	11	4.5	0.3	73	12.8	28.8	3.7	14.1	2.9
31924	0.41	22.2	0.57	0.55	1.6	2110	9.2	2.4	9.9	6.1	40.5	66	3.0	4.8	0.7	4	2.8	< 0.1	34	9.4	20.9	2.6	9.2	1.8
31925	1.10	38.3	0.68	0.97	2.8	956	18.2	3.7	27.8	6.7	70.9	92	3.5	4.1	0.4	9	1.9	0.4	95	9.8	21.6	2.8	10.8	2.3
31926	1.31	54.3	0.76	1.37	5.1	1860	22.5	3.1	34.6	7.8	84.5	103	2.9	2.3	0.9	10	0.4	< 0.1	119	10.7	23.4	3.1	12.4	2.8
31927	0.42	35.8	0.54	1.11	2.7	2330	7.6	1.7	8.1	5.3	36.4	50	2.1	5.8	1.1	3	3.1	0.3	24	10.1	21.3	2.6	9.4	1.6
31928	0.93	13.8	0.84	0.35	0.6	122	12.1	13.1	27.6	18.8	265	46	2.7	7.4	< 0.1	1	2.4	< 0.1	567	10.7	21.5	3.0	12.0	2.8
31929	1.27	42.7	1.03	0.66	4.2	344	20.3	1.5	41.8	8.3	93.8	66	3.2	1.6	0.1	7	1.1	0.2	118	15.5	32.9	4.0	14.7	2.7
31930	1.11	19.9	1.02	0.13	1.0	63.2	14.6	1.5	40.4	11.9	62.1	66	2.7	1.5	< 0.1	6	0.9	< 0.1	109	10.9	23.8	3.2	13.4	3.2
31931	< 0.05	0.7	< 0.05	0.02	< 0.1	13.2	0.3	2.0	0.4	< 0.1	2.1	3	< 0.1	0.3	< 0.1	< 1	0.1	< 0.1	4	< 0.1	0.2	< 0.1	< 0.1	< 0.1
31932	1.02	47.3	0.80	0.21	1.0	69.5	16.3	1.3	37.7	9.9	73.4	67	1.7	0.3	< 0.1	4	0.4	< 0.1	106	4.7	11.0	1.6	7.4	2.1
31933	0.59	59.6	0.80	0.11	< 0.1	147	21.5	7.2	16.2	8.0	65.4	63	0.9	< 0.1	< 0.1	1	0.1	< 0.1	59	4.9	12.7	1.9	8.9	2.4
31934	0.56	45.6	0.67	0.05	< 0.1	102	16.8	37.6	15.4	7.3	62.7	52	1.5	0.2	< 0.1	< 1	0.3	< 0.1	57	4.6	11.5	1.7	7.9	2.1
31935	0.60	59.9	0.75	0.04	< 0.1	133	19.2	45.2	15.4	8.9	69.9	34	0.2	< 0.1	< 0.1	< 1	< 0.1	< 0.1	59	5.0	12.5	1.9	8.6	2.4
31936																								
31937																								
31938																								

Analyte Symbol	Cs	Co	Eu	Bi	Se	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm
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	ppm
Detection Limit	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS

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Analyte Symbol	Gd	Tb	Dy	Cu	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Received Weight
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	Kg
Detection Limit	0.1	0.1	0.1	0.2	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	
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	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	none
31887	3.4	0.5	2.3	76.5	0.3	0.2	1.4	0.2	< 0.1	< 0.1	0.003	0.51	2.5	37	0.7	0.2	0.479	0.038	1.56	1.65
31888	2.9	0.4	2.1	78.4	0.2	0.2	1.3	0.2	< 0.1	< 0.1	0.005	0.40	2.2	36	0.6	0.2	0.395	0.036	0.76	2.34
31889	3.1	0.5	3.2	68.0	0.8	0.3	1.6	0.2	0.1	0.8	0.003	0.29	21.1	17	2.1	1.0	0.384	0.060	0.09	0.107
31890	2.2	0.3	1.7	77.2	0.4	0.2	1.1	0.2	0.2	0.3	< 0.001	0.31	1.9	27	0.5	0.2	0.638	0.037	0.32	2.55
31891	3.0	0.4	1.9	88.9	0.2	0.2	1.2	0.2	< 0.1	< 0.1	< 0.001	0.25	3.5	31	1.0	0.3	0.557	0.040	1.92	2.29
31892																				2.42
31893																				2.29
31894																				2.48
31895																				0.000
31896																				2.44
31897																				2.39
31898																				2.46
31899																				2.36
31900																				2.17
31901																				2.50
31902																				2.56
31903																				0.107
31904																				2.49
31905																				2.35
31906																				2.37
31907																				2.58
31908																				2.40
31909																				2.38
31910																				2.17
31911																				2.38
31912																				2.39
31913																				2.53
31914																				2.33
31915																				2.40
31916	2.5	0.3	1.7	119	0.4	0.2	1.1	0.2	< 0.1	< 0.1	0.002	0.21	4.5	33	0.8	0.2	0.309	0.030	0.27	2.34
31917	4.3	0.8	5.4	154	0.4	0.5	2.7	0.4	< 0.1	< 0.1	0.006	0.10	2.3	40	1.7	0.4	0.471	0.041	0.11	1.80
31918	2.8	0.4	1.9	154	0.3	0.2	1.2	0.2	< 0.1	< 0.1	0.004	0.47	9.4	32	0.8	0.2	0.399	0.035	1.72	1.39
31919	2.8	0.4	1.9	158	0.3	0.2	1.2	0.2	< 0.1	< 0.1	< 0.001	0.51	9.1	33	0.8	0.2	0.448	0.035	1.74	1.34
31920	2.7	0.4	1.9	175	0.6	0.2	1.2	0.2	0.1	0.7	0.001	0.88	11.2	34	1.1	0.3	0.637	0.036	2.30	1.58
31921	2.2	0.3	1.6	434	0.2	0.1	0.9	0.2	< 0.1	0.4	0.003	0.51	30.1	17	1.9	0.6	0.208	0.030	2.90	2.90
31922	2.4	0.3	1.6	449	0.2	0.2	0.9	0.2	< 0.1	0.4	< 0.001	0.55	31.3	16	1.9	0.6	0.212	0.029	3.35	0.000
31923	2.4	0.3	1.6	351	0.2	0.2	1.0	0.2	0.3	0.7	0.015	0.40	24.4	10	2.6	1.0	0.244	0.037	1.93	2.33
31924	1.6	0.2	1.1	148	< 0.1	0.1	0.7	0.1	0.2	0.3	0.003	0.20	12.2	5	2.7	0.8	0.108	0.016	0.97	2.37
31925	2.0	0.3	1.4	156	0.2	0.1	0.9	0.2	0.2	1.1	0.003	0.50	17.1	21	2.3	0.8	0.377	0.032	2.08	2.30
31926	2.6	0.4	1.7	341	0.7	0.2	1.1	0.2	0.1	0.9	0.005	0.66	24.1	28	2.5	0.6	0.433	0.036	2.63	2.45
31927	1.5	0.2	1.0	181	0.1	< 0.1	0.6	0.1	< 0.1	0.3	0.004	0.16	18.0	5	1.9	0.6	0.0806	0.012	1.05	0.837
31928	3.1	0.5	3.2	65.4	0.8	0.3	1.6	0.2	0.1	0.8	0.008	0.29	20.9	18	2.2	1.0	0.399	0.060	0.09	0.109
31929	2.5	0.3	1.7	178	0.2	0.1	0.9	0.2	0.2	1.0	0.007	0.73	14.8	15	1.9	0.4	0.288	0.034	1.98	0.872
31930	3.3	0.4	2.4	57.8	0.4	0.2	1.1	0.2	0.1	1.4	< 0.001	0.70	6.5	26	0.9	0.3	0.469	0.030	0.72	0.770
31931	< 0.1	< 0.1	< 0.1	4.8	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.004	< 0.05	< 0.5	< 1	< 0.1	< 0.1	0.0016	< 0.001	< 0.01	0.839
31932	2.2	0.3	1.9	193	0.7	0.2	1.2	0.2	< 0.1	0.6	0.002	0.72	9.2	30	0.5	0.1	0.563	0.035	1.94	0.670
31933	2.3	0.3	1.7	111	0.4	0.2	1.1	0.2	< 0.1	< 0.1	0.006	0.35	6.6	38	0.5	0.1	0.513	0.036	1.34	1.57
31934	2.1	0.3	1.6	73.6	1.0	0.1	1.0	0.2	< 0.1	0.2	0.006	0.26	3.4	38	0.5	0.1	0.587	0.036	0.20	2.07
31935	2.4	0.4	1.9	101	0.3	0.2	1.1	0.2	< 0.1	< 0.1	< 0.001	0.25	3.0	37	0.5	0.1	0.191	0.033	0.14	2.38
31936																				2.28
31937																				2.44

Analyte Symbol	Gd	Tb	Dy	Cu	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Received Weight
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	Kg
Detection Limit	0.1	0.1	0.1	0.2	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	
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	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	none
31938																				2.41
31939																				2.81
31940																				1.89
31941																				2.44
31942																				1.81
31943																				0.108
31944																				3.15
31945																				2.47
31946																				2.49

Quality Control

Analyte Symbol	Au	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Au	Ag	Ag	As	Ba	Ba	Be	Bi	Br	Cd	Co	Cr	Cs
Unit Symbol	ppb	%	%	%	%	%	%	%	%	%	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.01	5	0.5	5	2	2	50	1	2	1	0.5	1	1	0.5
Analysis Method	FA-AA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	INAA	TD-ICP	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA
GXR-1 Meas													31.1						1390		2.0			
GXR-1 Cert													31.0						1380		3.30			
NIST 694 Meas		11.22	1.92	0.76	0.01	0.34	43.93	0.87	0.56	0.119	30.17													
NIST 694 Cert		11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2													
DNC-1 Meas		46.83	18.43	9.99	0.15	9.88	11.20	1.91	0.23	0.479	0.08					106								
DNC-1 Cert		47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070					118								
GBW 07113 Meas		71.69	12.58	3.20	0.14	0.13	0.56	2.48	5.42	0.278	0.04					502		4						
GBW 07113 Cert		72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500					506		4.00						
GXR-4 Meas													3.3						6		< 0.5			
GXR-4 Cert													4.00						19.0		0.860			
SDC-1 Meas													< 0.5						3		< 0.5			
SDC-1 Cert													0.0410						2.60		0.0800			
GXR-6 Meas													< 0.5						< 2		< 0.5			
GXR-6 Cert													1.30						0.290		1.00			
W-2a Meas		52.80	15.22	10.72	0.17	6.15	10.77	2.24	0.63	1.070	0.14					174		< 1						
W-2a Cert		52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130					182		1.30						
SY-4 Meas		49.45	20.77	6.19	0.11	0.49	7.92	6.98	1.69	0.284	0.13					349		3						
SY-4 Cert		49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131					340		2.6						
BIR-1a Meas		47.97	15.83	11.32	0.17	9.47	13.25	1.82	0.02	0.961	0.03					7		< 1						
BIR-1a Cert		47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021					6		0.58						
SAR-M (U.S.G.S.) Meas													4.2						< 2		6.0			
SAR-M (U.S.G.S.) Cert													3.64						1.94		5.27			
DNC-1a Meas																								
DNC-1a Cert																								
SBC-1 Meas																			2		< 0.5			
SBC-1 Cert																			0.70		0.40			
SG66 Meas	1070																							
SG66 Cert	1090																							
SG66 Meas	1070																							
SG66 Cert	1090																							
DMMAS 115 Meas												1660			533		1240					22	95	
DMMAS 115 Cert												1720			527		1210					21.0	100	
31891 Orig																								
31891 Dup																								
31896 Orig	< 5																							
31896 Dup	< 5																							
31906 Orig	< 5																							
31906 Dup	< 5																							
31916 Orig	< 5																							
31916 Split	< 5																							
31916 Orig																								
31916 Dup																								
31917 Orig	< 5																							
31917 Dup	< 5																							
31931 Orig	< 5																							
31931 Dup	< 5																							
31936 Orig	6																							
31936 Split	< 5																							
31941 Orig	< 5																							
31941 Dup	< 5																							
31946 Orig	< 5																							
31946 Split	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank													< 0.5						< 2		< 0.5			

Quality Control

Analyte Symbol	Au	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Au	Ag	Ag	As	Ba	Ba	Be	Bi	Br	Cd	Co	Cr	Cs
Unit Symbol	ppb	%	%	%	%	%	%	%	%	%	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.01	5	0.5	5	2	2	50	1	2	1	0.5	1	1	0.5
Analysis Method	FA-AA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	INAA	TD-ICP	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA
Method Blank													< 0.5						< 2		< 0.5			
Method Blank													< 0.5						< 2		< 0.5			
Method Blank												< 5		< 5	< 2		< 50			< 1		< 1	< 1	< 0.5

Quality Control

Analyte Symbol	Cu	Hf	Hg	Ir	Mo	Ni	Pb	Rb	S	Sb	Sc	Se	Sr	Ta	Th	U	V	W	Y	Zn	Zr	La	Ce	Nd
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.5	1	5	2	1	5	20	0.001	0.2	0.1	3	2	1	0.5	0.5	5	3	1	1	2	0.2	3	5
Analysis Method	TD-ICP	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	FUS-ICP	INAA	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	FUS-ICP	INAA	INAA	INAA
GXR-1 Meas	1160				16	45	706		0.251											726				
GXR-1 Cert	1110				18.0	41.0	730		0.257											760				
NIST 694 Meas																	1664							
NIST 694 Cert																	1740							
DNC-1 Meas													146				161		16		34			
DNC-1 Cert													144.0				148		18.0		38			
GBW 07113 Meas													40				7		44		381			
GBW 07113 Cert													43.0				5.00		43.0		403			
GXR-4 Meas	6470				366	41	50		1.76											70				
GXR-4 Cert	6520				310	42.0	52.0		1.77											73.0				
SDC-1 Meas	32				< 2	38	19		0.068											98				
SDC-1 Cert	30.00				0.250	38.0	25.00		0.0650											103.00				
GXR-6 Meas	69				4	26	89		0.016											123				
GXR-6 Cert	66.0				2.40	27.0	101		0.0160											118				
W-2a Meas													195				274		20		86			
W-2a Cert													190				262		24.0		94.0			
SY-4 Meas													1191				11		117		527			
SY-4 Cert													1191				8.0		119		517			
BIR-1a Meas													110				339		15		14			
BIR-1a Cert													110				310		16		18			
SAR-M (U.S.G.S.) Meas	385				11	49	1020													965				
SAR-M (U.S.G.S.) Cert	331				13.10	41.50	982													930.0				
DNC-1a Meas	101					259														57				
DNC-1a Cert	100.0					247														70.0				
SBC-1 Meas	33				3	89	32													177				
SBC-1 Cert	31.0				2.40	82.8	35.0													186.0				
SG66 Meas																								
SG66 Cert																								
SG66 Meas																								
SG66 Cert																								
DMMAS 115 Meas										4.0	7.8					105						23.2	41	
DMMAS 115 Cert										5.50	7.30					101						21.9	40.0	
31891 Orig																								
31891 Dup																								
31896 Orig																								
31896 Dup																								
31906 Orig																								
31906 Dup																								
31916 Orig																								
31916 Split																								
31916 Orig																								
31916 Dup																								
31917 Orig																								
31917 Dup																								
31931 Orig																								
31931 Dup																								
31936 Orig																								
31936 Split																								
31941 Orig																								
31941 Dup																								
31946 Orig																								
31946 Split																								
Method Blank																								
Method Blank																								
Method Blank																								
Method Blank																								
Method Blank	< 1				< 2	< 1	< 5		0.001											< 1				

Quality Control

Analyte Symbol	Cu	Hf	Hg	Ir	Mo	Ni	Pb	Rb	S	Sb	Sc	Se	Sr	Ta	Th	U	V	W	Y	Zn	Zr	La	Ce	Nd
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.5	1	5	2	1	5	20	0.001	0.2	0.1	3	2	1	0.5	0.5	5	3	1	1	2	0.2	3	5
Analysis Method	TD-ICP	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	FUS-ICP	INAA	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP	FUS-ICP	INAA	INAA	INAA
Method Blank	2				< 2	< 1	< 5		0.002											< 1				
Method Blank	< 1				< 2	< 1	< 5		< 0.001											< 1				
Method Blank		< 0.5	< 1	< 5				< 20		< 0.2	< 0.1	< 3		< 1	< 0.5	< 0.5		< 3				< 0.2	< 3	< 5

Quality Control

Analyte Symbol	Sm	Eu	Tb	Yb	Lu	Mass	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag
Unit Symbol	ppm	ppm	ppm	ppm	ppm	g	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	0.5	0.1	0.05		0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas																								
GXR-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
GXR-4 Meas							12.8	0.56	1.80	6.63	3.60	1.17	< 0.1	102	47.5	160	3.17	1.1	80	43.9		2.3		3.33
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
SDC-1 Meas							40.8	1.54	1.00	7.90	1.64	1.17	< 0.1	60	56.0	857	4.81	1.0		36.8	3.6	3.3	1.3	< 0.05
SDC-1 Cert							34.00	1.52	1.02	8.34	2.72	1.00	0.0800	102.00	64.00	880.00	4.82	8.30		38.0	4.10	3.00	1.50	0.0410
GXR-6 Meas							45.7	0.11	0.66	> 10.0	1.84	0.23	0.1	152	63.2	1010	5.75	1.8	30	27.6		1.6		0.15
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
W-2a Meas																								
W-2a Cert																								
SY-4 Meas																								
SY-4 Cert																								
BIR-1a Meas																								
BIR-1a Cert																								
SAR-M (U.S.G.S.) Meas							34.7	1.29	0.54	6.37	2.12	0.69	5.1	69	78.6	5220	3.27			47.3		3.2		3.13
SAR-M (U.S.G.S.) Cert							27.4	1.140	0.50	6.30	2.94	0.61	5.27	67.20	79.7	5220	2.99			41.50		2.20		3.64
DNC-1a Meas							5.5							168	243					295				
DNC-1a Cert							5.20							148.00	270					247				
SBC-1 Meas							197						0.3	245	88.9			3.1		95.4	3.7	3.9	1.3	
SBC-1 Cert							163.0						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40	
SG66 Meas																								
SG66 Cert																								
SG66 Meas																								
SG66 Cert																								
DMMAS 115 Meas	3.6																							
DMMAS 115 Cert	3.10																							
31891 Orig							47.6	2.41	1.87	6.30	0.59	5.20	0.2	230	68.3	1050	8.87	2.1	< 10	76.5	1.0	0.4	0.3	0.11
31891 Dup							49.6	2.40	1.90	6.18	0.59	5.38	0.2	235	80.4	1120	9.11	2.3	< 10	76.1	1.0	0.5	0.4	< 0.05
31896 Orig																								
31896 Dup																								
31906 Orig																								
31906 Dup																								
31916 Orig																								
31916 Split																								
31916 Orig							89.8	1.19	2.90	5.84	0.31	5.99	0.2	147	62.6	1040	6.89	1.2	< 10	79.6	0.9	0.5	0.3	0.06
31916 Dup							106	1.41	3.32	6.85	0.34	6.85	0.3	147	68.4	1200	8.04	1.0	< 10	89.8	1.0	0.5	0.3	< 0.05
31917 Orig																								
31917 Dup																								
31931 Orig																								
31931 Dup																								
31936 Orig																								
31936 Split																								
31941 Orig																								
31941 Dup																								
31946 Orig																								
31946 Split																								
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	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05

Quality Control

Analyte Symbol	Sm	Eu	Tb	Yb	Lu	Mass	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag
Unit Symbol	ppm	ppm	ppm	ppm	ppm	g	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	0.5	0.1	0.05		0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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	< 0.1	< 0.1	< 0.5	< 0.1	< 0.05	1.000																		

Quality Control

Analyte Symbol	Cs	Co	Eu	Bi	Se	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm
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	ppm
Detection Limit	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas																								
GXR-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
GXR-4 Meas	2.46	16.1	1.38	18.5	5.9	72.8	21.1	116	148	16.0	221	43	9.4	308	0.2	7	4.2	0.9	141	57.3	103		41.0	6.2
GXR-4 Cert	2.80	14.6	1.63	19.0	5.60	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
SDC-1 Meas	3.69	20.6	1.47	0.28		106	25.9	0.2	103	37.4	177	46	2.3	< 0.1		< 1	< 0.1		643	40.7	83.4		38.4	7.4
SDC-1 Cert	4.00	18.0	1.70	2.60		103.00	21.00	0.220	127.00	40.0	180.00	290.00	21.00	0.250		3.00	0.54		630	42.00	93.00		40.00	8.20
GXR-6 Meas	4.07	15.5	0.63	0.19	0.2	134	36.4	291	88.3	15.2	42.2	81	0.8	0.9	< 0.1	< 1	0.8	< 0.1	1440	13.7	35.8		12.8	2.5
GXR-6 Cert	4.20	13.8	0.760	0.290	0.940	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
W-2a Meas																								
W-2a Cert																								
SY-4 Meas																								
SY-4 Cert																								
BIR-1a Meas																								
BIR-1a Cert																								
SAR-M (U.S.G.S.) Meas	4.60	12.5		1.72	0.4	936	20.8	38.5	115	39.4	162		5.7	8.9	1.0	2	4.7	0.6	820	56.5	113			
SAR-M (U.S.G.S.) Cert	5.15	10.70		1.94	0.39	930.0	16.8	38.8	146.0	28.00	151.0		29.90	13.10	1.08	2.76	6.00	0.96	801	57.4	122.00			
DNC-1a Meas		65.1	0.55			67.9				18.6	147	41					0.8		110	3.7			4.7	
DNC-1a Cert		57.0	0.59			70.0				18.0	144.0	38.000					0.96		118	3.6			5.20	
SBC-1 Meas	7.87	26.5	1.85	0.70		191	30.8	30.4	158	37.7	190	127	15.9	2.9		3	1.0		800	50.9	102	13.0	47.6	9.0
SBC-1 Cert	8.2	22.7	1.98	0.70		186.0	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
SG66 Meas																								
SG66 Cert																								
SG66 Meas																								
SG66 Cert																								
DMMAS 115 Meas																								
DMMAS 115 Cert																								
31891 Orig	0.30	43.7	0.99	0.08	0.2	143	18.1	0.4	16.6	8.9	44.4	86	3.0	0.9	< 0.1	< 1	0.4	< 0.1	107	9.2	21.3	3.0	12.6	3.0
31891 Dup	0.30	47.2	1.01	0.09	< 0.1	144	18.7	0.4	16.2	9.3	45.5	89	1.8	0.6	< 0.1	< 1	0.2	< 0.1	112	9.1	21.3	3.0	12.5	3.0
31896 Orig																								
31896 Dup																								
31906 Orig																								
31906 Dup																								
31916 Orig																								
31916 Split																								
31916 Orig	0.30	53.7	0.76	0.09	< 0.1	300	17.4	31.3	10.4	6.9	40.7	45	0.6	0.2	0.1	< 1	0.3	< 0.1	44	6.2	14.9	2.2	9.6	2.5
31916 Dup	0.34	61.1	0.86	0.06	< 0.1	339	19.3	32.0	12.0	8.0	46.1	37	< 0.1	< 0.1	0.2	< 1	< 0.1	< 0.1	50	7.0	17.0	2.4	10.8	2.8
31917 Orig																								
31917 Dup																								
31931 Orig																								
31931 Dup																								
31936 Orig																								
31936 Split																								
31941 Orig																								
31941 Dup																								
31946 Orig																								
31946 Split																								
Method Blank																								
Method Blank																								
Method Blank																								
Method Blank																								
Method Blank	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Quality Control

Analyte Symbol	Cs	Co	Eu	Bi	Se	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm
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	ppm
Detection Limit	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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

Quality Control

Analyte Symbol	Gd	Tb	Dy	Cu	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	ppm	ppm	ppm	ppm	%	%	%
Detection Limit	0.1	0.1	0.1	0.2	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
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas														1				0.058	0.25
GXR-1 Cert														1.58				0.0650	0.257
NIST 694 Meas																			
NIST 694 Cert																			
DNC-1 Meas																			
DNC-1 Cert																			
GBW 07113 Meas																			
GBW 07113 Cert																			
GXR-4 Meas	4.8	0.5	2.8	6100		0.2	0.9	0.1	0.5	31.1		3.39	50.4	8	17.7	5.4		0.132	1.76
GXR-4 Cert	5.25	0.360	2.60	6520		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20		0.120	1.77
SDC-1 Meas	6.7	1.0	6.4	33.6		0.5	2.9		< 0.1	< 0.1		0.66	25.3	16	11.7	3.3	0.498	0.059	0.07
SDC-1 Cert	7.00	1.20	6.70	30.00		0.65	4.00		1.20	0.800		0.70	25.00	17.00	12.00	3.10	0.606	0.0690	0.0650
GXR-6 Meas	2.4	0.4	2.6	76.0		0.3	1.5	0.2	< 0.1	< 0.1		2.41	106	26	5.5	1.5		0.034	0.02
GXR-6 Cert	2.97	0.415	2.80	66.0		0.0320	2.40	0.330	0.485	1.90		2.20	101	27.6	5.30	1.54		0.0350	0.0160
W-2a Meas																			
W-2a Cert																			
SY-4 Meas																			
SY-4 Cert																			
BIR-1a Meas																			
BIR-1a Cert																			
SAR-M (U.S.G.S.) Meas				382						1.4		2.89	909	9	16.9	4.1	0.347	0.065	
SAR-M (U.S.G.S.) Cert				331						9.78		2.88	982	7.83	17.2	3.57	2.7	0.070	
DNC-1a Meas				106			1.8							32					
DNC-1a Cert				100.0			2.0							31					
SBC-1 Meas	7.9	1.2	6.9	34.8		0.5	3.1	0.4	0.9	1.4		1.02	38.2	21	15.8	5.8			
SBC-1 Cert	8.5	1.20	7.10	31.0		0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76			
SG66 Meas																			
SG66 Cert																			
SG66 Meas																			
SG66 Cert																			
DMMAS 115 Meas																			
DMMAS 115 Cert																			
31891 Orig	2.9	0.4	1.9	89.2	0.2	0.2	1.2	0.2	0.1	0.2	< 0.001	0.25	3.4	31	1.0	0.3	0.572	0.041	2.01
31891 Dup	3.0	0.4	2.0	88.6	0.2	0.2	1.2	0.2	< 0.1	< 0.1	0.001	0.26	3.5	30	1.0	0.3	0.541	0.039	1.82
31896 Orig																			
31896 Dup																			
31906 Orig																			
31906 Dup																			
31916 Orig																			
31916 Split																			
31916 Orig	2.4	0.3	1.7	109	0.5	0.2	1.0	0.2	< 0.1	< 0.1	0.002	0.21	4.4	31	0.8	0.2	0.400	0.030	0.26
31916 Dup	2.7	0.4	1.8	129	0.3	0.2	1.2	0.2	< 0.1	< 0.1	0.001	0.22	4.7	35	0.8	0.2	0.218	0.031	0.27
31917 Orig																			
31917 Dup																			
31931 Orig																			
31931 Dup																			
31936 Orig																			
31936 Split																			
31941 Orig																			
31941 Dup																			
31946 Orig																			
31946 Split																			
Method Blank																			
Method Blank																			
Method Blank																			
Method Blank																			
Method Blank	< 0.1	< 0.1	< 0.1	< 0.2	< 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

Quality Control

Analyte Symbol	Gd	Tb	Dy	Cu	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	ppm	ppm	ppm	ppm	%	%	%
Detection Limit	0.1	0.1	0.1	0.2	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
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	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
Method Blank														< 1			0.0008	< 0.001	< 0.01
Method Blank														< 1			< 0.0005	< 0.001	< 0.01
Method Blank																			

Quality Analysis ... *Innovative Technologies*

Date Submitted:	11-Jun-13
Invoice No.:	A13-06476
Invoice Date:	24-Jun-13
Your Reference:	PENG-20130511-033

Rapier Gold
2270-1055 West Georgia Street
P.O. Box 11144
Vancouver BC V6E 3P3

ATTN: Gary Lustig

CERTIFICATE OF ANALYSIS

3 Pulp samples and 57 Rock samples were submitted for analysis.

The following analytical packages were requested:

Code 1A2-Rapier Timmins Au - Fire Assay AA (QOP Fire Assay)
Code UT-6 Total Digestion ICP & ICP/MS
Code Weight Report Received(kg) & Pulp(g) weights

REPORT **A13-06476**

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 Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	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	ppb	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Analysis Method	FA-AA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31947	< 5																							
31948	< 5																							
31949	< 5																							
31950	6																							
31951	12																							
31952	< 5																							
31953	15	54.8	1.68	2.36	5.09	0.35	4.65	2.1	197	199	1640	7.95	2.6	< 10	97.2	1.0	0.6	0.3	0.17	0.31	49.7	0.82	0.26	1.1
31954	12	56.9	1.58	2.59	5.91	0.11	4.52	1.7	197	171	1710	10.4	2.4	< 10	95.1	0.9	0.2	0.3	0.22	0.16	43.9	0.90	0.41	1.1
31955	8	41.9	0.54	1.89	4.33	0.32	6.08	0.9	108	55.8	1950	9.90	3.5	< 10	58.2	1.6	0.3	0.5	0.27	0.37	30.7	1.48	0.39	1.7
31956	< 5	53.3	2.42	2.18	6.25	0.20	6.71	0.4	144	67.4	1810	6.79	1.5	< 10	104	1.3	0.4	0.4	< 0.05	0.20	54.2	0.82	0.08	0.2
31957	< 5	64.9	2.11	2.79	7.09	0.34	7.01	0.1	159	55.7	2100	7.22	0.9	< 10	98.5	1.2	0.7	0.4	< 0.05	0.36	56.7	0.87	0.05	< 0.1
31958	12	25.8	2.98	2.59	6.31	0.65	6.31	0.6	147	40.9	1370	5.87	0.9	< 10	76.9	1.0	0.6	0.3	0.11	0.69	46.8	0.72	0.07	< 0.1
31959	< 5	40.5	2.11	2.69	6.24	0.75	6.36	< 0.1	224	50.9	1250	7.14	1.7	< 10	83.7	1.0	0.5	0.3	0.05	0.86	49.9	0.85	0.06	< 0.1
31960	14	7.6	2.08	1.80	5.18	1.18	7.67	0.4	201	54.6	1760	6.69	1.6	< 10	75.2	0.8	0.6	0.3	0.10	1.37	44.9	0.62	0.22	0.2
31961	2890	17.7	2.12	1.33	6.30	0.89	2.85	0.5	109	65.1	733	4.83	0.9	< 10	41.7	1.9	1.0	0.7	0.46	0.95	13.9	0.86	0.34	< 0.1
31962	19	2.3	> 3.00	1.74	5.19	1.06	6.73	0.1	188	80.9	1120	5.40	2.6	< 10	81.7	1.0	0.8	0.3	0.25	1.42	39.9	0.66	0.32	1.1
31963	13	6.4	1.31	2.74	2.58	0.50	8.17	0.1	42	24.0	1250	4.32	1.4	20	94.7	1.1	0.8	0.4	0.11	1.05	29.3	1.34	0.27	0.9
31964	< 5	< 0.5	0.01	0.01	0.04	0.04	0.03	< 0.1	1	8.6	71	0.59	0.1	60	3.9	< 0.1	0.1	< 0.1	< 0.05	< 0.05	0.7	< 0.05	0.03	< 0.1
31965	< 5	3.3	1.01	5.51	2.25	0.81	16.3	0.3	78	66.5	2380	3.43	0.4	< 10	76.8	0.7	0.3	0.3	< 0.05	0.38	14.3	0.95	0.04	< 0.1
31966	< 5	14.6	2.05	2.65	4.40	0.72	11.0	0.1	138	101	1360	3.96	0.8	< 10	115	0.7	0.7	0.2	< 0.05	0.81	33.4	0.65	0.05	0.2
31967	< 5	35.0	1.64	1.61	5.84	0.96	5.74	< 0.1	175	136	798	3.53	0.9	< 10	155	0.5	0.4	0.2	< 0.05	1.32	47.7	0.42	0.05	< 0.1
31968	< 5	48.8	1.70	1.63	7.45	1.26	5.39	< 0.1	209	171	715	3.91	1.2	< 10	222	0.6	0.8	0.2	< 0.05	1.79	67.6	0.53	0.05	< 0.1
31969	< 5	48.4	1.68	1.63	7.57	1.26	5.46	< 0.1	212	185	702	3.80	1.2	< 10	215	0.6	0.8	0.2	< 0.05	1.81	64.2	0.53	0.07	0.4
31970	< 5	45.3	1.31	1.55	6.65	1.04	5.56	< 0.1	172	147	740	3.42	1.4	< 10	114	0.7	0.9	0.2	< 0.05	1.60	38.8	0.60	0.03	< 0.1
31971	< 5																							
31972	< 5																							
31973	< 5																							
31974	< 5																							
31975	< 5																							
31976	< 5																							
31977	< 5																							
31978	< 5																							
31979	< 5																							
31980	< 5																							
31981	< 5																							
31982	< 5																							
31983	< 5																							
31984	< 5																							
31985	< 5																							
31986	< 5																							
31987	< 5																							
31988	< 5																							
31989	1080																							
31990	5																							
31991	< 5																							
31992	< 5																							
31993	7																							
31994	8																							
31995	8																							
31996	< 5																							
31997	5																							
31998	< 5																							

Activation Laboratories Ltd. Report: A13-06476

Analyte Symbol	Au	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	ppb	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Analysis Method	FA-AA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31999	< 5																							
32000	< 5																							
32001	7																							
32002	< 5																							
32003	< 5																							
32004	< 5																							
32005	2860																							
32006	< 5																							

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	Ge
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	ppm
Detection Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	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	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
31947																								
31948																								
31949																								
31950																								
31951																								
31952																								
31953	895	19.1	2.6	5.0	7.6	50.5	92	5.6	5.7	0.3	3	1.6	< 0.1	75	8.0	19.4	2.9	12.0	2.9	2.6	0.4	1.8	135	1.2
31954	784	18.6	1.0	1.8	8.4	43.9	82	4.9	7.4	0.3	3	0.7	< 0.1	19	11.1	25.7	3.4	13.8	3.1	2.8	0.4	1.9	176	0.2
31955	445	16.9	5.2	10.9	13.9	48.0	115	8.7	3.8	0.2	2	1.1	< 0.1	58	16.1	38.2	5.1	20.2	4.6	4.2	0.6	3.0	221	0.3
31956	240	18.6	18.0	5.5	10.7	72.5	51	0.7	0.2	0.1	2	< 0.1	< 0.1	35	7.7	18.3	2.5	10.8	2.7	2.8	0.4	2.2	116	0.3
31957	165	20.6	23.2	12.0	9.9	72.5	35	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	66	7.7	17.7	2.5	11.2	2.9	2.9	0.4	2.2	83.5	0.3
31958	292	18.2	25.5	21.8	8.5	74.0	35	0.2	0.2	0.1	1	0.1	< 0.1	166	5.6	13.9	2.0	8.9	2.3	2.0	0.3	1.6	96.4	0.2
31959	145	18.4	17.3	25.2	8.3	50.9	67	1.0	0.4	< 0.1	1	0.2	< 0.1	184	8.2	19.0	2.7	12.1	2.9	2.5	0.3	1.6	105	0.6
31960	186	15.1	3.2	40.3	7.0	79.1	68	1.9	0.7	0.2	3	1.2	< 0.1	240	6.1	14.3	2.0	8.9	2.2	1.9	0.2	1.3	160	0.4
31961	119	14.1	14.2	27.6	19.0	271	34	0.7	4.9	< 0.1	1	1.6	< 0.1	558	10.8	21.6	3.0	12.2	2.8	3.0	0.5	3.2	67.4	0.5
31962	68.7	15.4	6.3	30.8	8.0	87.0	100	4.2	1.6	0.1	5	1.3	0.2	208	7.0	16.7	2.3	9.8	2.3	1.9	0.3	1.5	115	0.2
31963	56.3	6.9	8.3	8.7	11.5	64.0	57	2.3	2.9	0.3	2	1.5	< 0.1	43	11.7	20.2	2.4	9.0	2.3	2.4	0.4	2.2	143	< 0.1
31964	3.3	0.3	1.1	0.6	0.1	1.7	11	< 0.1	0.7	< 0.1	< 1	0.1	< 0.1	7	0.1	0.5	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	4.6	< 0.1
31965	111	5.1	10.4	11.5	7.5	59.4	18	0.7	0.5	0.2	1	0.4	0.1	62	3.8	7.1	1.0	4.3	1.2	1.5	0.2	1.4	25.4	0.1
31966	49.9	9.5	27.9	17.0	6.1	66.1	32	1.1	0.4	< 0.1	1	0.4	< 0.1	96	4.3	9.4	1.3	5.6	1.5	1.4	0.2	1.6	39.9	0.3
31967	47.6	13.3	39.1	28.6	4.5	68.4	34	1.2	0.3	< 0.1	1	0.4	< 0.1	148	2.8	6.6	1.0	4.4	1.2	1.1	0.2	0.9	66.1	0.5
31968	54.7	17.0	50.0	39.1	5.5	91.7	47	1.9	0.6	< 0.1	1	0.3	< 0.1	191	3.6	8.5	1.2	5.4	1.5	1.4	0.2	1.0	92.9	0.6
31969	56.7	16.6	50.2	39.4	5.1	89.7	44	2.0	0.5	< 0.1	2	0.4	< 0.1	197	3.8	9.2	1.3	5.8	1.5	1.3	0.2	1.0	94.5	0.3
31970	47.9	15.2	26.2	34.1	6.1	76.3	51	0.7	0.1	< 0.1	< 1	< 0.1	< 0.1	165	5.4	13.0	1.8	8.2	2.1	1.9	0.3	1.3	79.3	1.0
31971																								
31972																								
31973																								
31974																								
31975																								
31976																								
31977																								
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31996																								
31997																								
31998																								

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	Ge
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	ppm
Detection Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	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	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS

31999
32000
32001
32002
32003
32004
32005
32006

Analyte Symbol	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Received Weight
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	Kg
Detection Limit	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	
Analysis Method	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	none
31947															0.983
31948															1.05
31949															2.47
31950															2.49
31951															2.38
31952															1.75
31953	0.2	1.2	0.2	0.3	0.8	< 0.001	0.16	4.6	23	1.2	0.5	0.397	0.021	0.98	2.45
31954	0.2	1.1	0.2	0.3	1.3	0.004	0.05	5.2	27	1.6	0.5	0.386	0.021	1.62	0.910
31955	0.3	1.8	0.3	0.5	0.5	< 0.001	0.16	4.0	18	3.1	0.8	0.235	0.018	2.51	2.20
31956	0.2	1.3	0.2	< 0.1	< 0.1	< 0.001	0.08	2.7	33	1.0	0.3	0.331	0.033	0.40	1.30
31957	0.2	1.2	0.2	< 0.1	< 0.1	< 0.001	0.16	2.7	39	0.7	0.2	0.191	0.034	0.19	2.29
31958	0.2	1.1	0.2	< 0.1	< 0.1	0.004	0.30	4.0	37	0.8	0.2	0.275	0.036	0.38	2.28
31959	0.2	1.1	0.2	< 0.1	< 0.1	0.004	0.39	3.8	36	0.7	0.3	0.481	0.037	0.66	2.25
31960	0.1	1.0	0.2	< 0.1	1.2	0.007	0.67	7.1	29	0.7	0.2	0.457	0.029	2.91	2.34
31961	0.3	1.5	0.2	< 0.1	< 0.1	0.010	0.29	21.0	17	2.1	0.9	0.282	0.059	0.09	0.107
31962	0.2	1.2	0.2	0.3	3.7	0.010	0.55	7.6	24	1.3	0.4	0.478	0.030	2.02	2.40
31963	0.2	1.0	0.1	0.1	3.7	0.010	0.12	7.1	7	1.8	0.5	0.122	0.040	1.85	2.19
31964	< 0.1	< 0.1	< 0.1	< 0.1	3.0	0.012	< 0.05	< 0.5	< 1	1.9	0.1	0.0067	0.004	< 0.01	0.780
31965	0.1	0.6	< 0.1	< 0.1	2.6	0.010	0.14	9.4	11	0.3	< 0.1	0.155	0.006	0.33	1.12
31966	0.1	0.7	0.1	< 0.1	3.3	0.016	0.21	4.3	23	0.3	< 0.1	0.282	0.012	0.40	0.883
31967	< 0.1	0.6	< 0.1	< 0.1	1.7	0.002	0.37	2.8	27	0.3	< 0.1	0.317	0.014	0.49	2.33
31968	0.1	0.7	0.1	< 0.1	2.6	0.004	0.53	3.5	32	0.4	< 0.1	0.402	0.017	0.62	2.02
31969	0.1	0.7	0.1	0.2	3.1	0.013	0.56	3.8	35	0.4	0.1	0.394	0.018	0.68	0.000
31970	0.1	0.8	0.1	< 0.1	0.1	0.010	0.46	3.6	36	0.8	0.3	0.307	0.025	0.31	2.34
31971															2.30
31972															2.49
31973															2.28
31974															2.40
31975															2.17
31976															2.33
31977															2.30
31978															2.19
31979															2.31
31980															2.38
31981															2.29
31982															2.27
31983															2.30
31984															2.32
31985															2.31
31986															2.36
31987															2.37
31988															2.20
31989															0.106
31990															1.07
31991															1.02
31992															2.29
31993															2.48
31994															2.20
31995															2.31
31996															2.38
31997															2.32

Analyte Symbol	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Received Weight
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	Kg
Detection Limit	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	
Analysis Method	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	none
31998															2.41
31999															2.13
32000															2.37
32001															2.36
32002															2.42
32003															2.53
32004															2.17
32005															0.108
32006															2.22

Quality Control

Analyte Symbol	Au	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	ppb	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Analysis Method	FA-AA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas																								
GXR-1 Cert																								
GXR-4 Meas		12.8	0.56	1.80	6.63	3.60	1.17	< 0.1	102	47.5	160	3.17	1.1	80	43.9		2.3		3.33	2.46	16.1	1.38	18.5	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		40.8	1.54	1.00	7.90	1.64	1.17	< 0.1	60	56.0	857	4.81	1.0		36.8	3.6	3.3	1.3	< 0.05	3.69	20.6	1.47	0.28	
SDC-1 Cert		34.00	1.52	1.02	8.34	2.72	1.00	0.0800	102.00	64.00	880.00	4.82	8.30		38.0	4.10	3.00	1.50	0.0410	4.00	18.0	1.70	2.60	
GXR-6 Meas		45.7	0.11	0.66	> 10.0	1.84	0.23	0.1	152	63.2	1010	5.75	1.8	30	27.6		1.6		0.15	4.07	15.5	0.63	0.19	0.2
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
SAR-M (U.S.G.S.) Meas		34.7	1.29	0.54	6.37	2.12	0.69	5.1	69	78.6	5220	3.27			47.3		3.2		3.13	4.60	12.5		1.72	0.4
SAR-M (U.S.G.S.) Cert		27.4	1.140	0.50	6.30	2.94	0.61	5.27	67.20	79.7	5220	2.99			41.50		2.20		3.64	5.15	10.70		1.94	0.39
DNC-1a Meas		5.5							168	243					295						65.1	0.55		
DNC-1a Cert		5.20							148.00	270					247						57.0	0.59		
OxD108 Meas	406																							
OxD108 Cert	414.000																							
OxD108 Meas	411																							
OxD108 Cert	414.000																							
SBC-1 Meas		197						0.3	245	88.9			3.1		95.4	3.7	3.9	1.3		7.87	26.5	1.85	0.70	
SBC-1 Cert		163.0						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
SG66 Meas	1030																							
SG66 Cert	1090																							
SG66 Meas	1030																							
SG66 Cert	1090																							
31956 Orig	< 5																							
31956 Dup	< 5																							
31962 Orig		2.4	> 3.00	1.81	5.49	1.09	6.85	0.1	191	100	1110	5.42	2.6	< 10	84.0	1.0	0.7	0.3	0.32	1.50	40.8	0.71	0.33	1.3
31962 Dup		2.2	2.92	1.67	4.88	1.03	6.61	0.1	184	61.7	1140	5.37	2.6	30	79.4	1.0	0.8	0.3	0.19	1.33	39.1	0.62	0.31	0.9
31966 Orig	< 5																							
31966 Dup	6																							
31976 Orig	< 5																							
31976 Split	< 5																							
31977 Orig	< 5																							
31977 Dup	< 5																							
31991 Orig	< 5																							
31991 Dup	< 5																							
31996 Orig	< 5																							
31996 Split	< 5																							
32001 Orig	7																							
32001 Dup	6																							
32006 Orig	< 5																							
32006 Split	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank		< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank																								
Method Blank																								

Quality Control

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	Ge
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	ppm
Detection Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	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	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas																								
GXR-1 Cert																								
GXR-4 Meas	72.8	21.1	116	148	16.0	221	43	9.4	308	0.2	7	4.2	0.9	141	57.3	103		41.0	6.2	4.8	0.5	2.8	6100	
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	106	25.9	0.2	103	37.4	177	46	2.3	< 0.1		< 1	< 0.1		643	40.7	83.4		38.4	7.4	6.7	1.0	6.4	33.6	
SDC-1 Cert	103.00	21.00	0.220	127.00	40.0	180.00	290.00	21.00	0.250		3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.00	
GXR-6 Meas	134	36.4	291	88.3	15.2	42.2	81	0.8	0.9	< 0.1	< 1	0.8	< 0.1	1440	13.7	35.8		12.8	2.5	2.4	0.4	2.6	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	
SAR-M (U.S.G.S.) Meas	936	20.8	38.5	115	39.4	162		5.7	8.9	1.0	2	4.7	0.6	820	56.5	113							382	
SAR-M (U.S.G.S.) Cert	930.0	16.8	38.8	146.0	28.00	151.0		29.90	13.10	1.08	2.76	6.00	0.96	801	57.4	122.00							331	
DNC-1a Meas	67.9				18.6	147	41					0.8		110	3.7			4.7					106	
DNC-1a Cert	70.0				18.0	144.0	38.000					0.96		118	3.6			5.20					100.0	
OxD108 Meas																								
OxD108 Cert																								
OxD108 Meas																								
OxD108 Cert																								
SBC-1 Meas	191	30.8	30.4	158	37.7	190	127	15.9	2.9		3	1.0		800	50.9	102	13.0	47.6	9.0	7.9	1.2	6.9	34.8	
SBC-1 Cert	186.0	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	
SG66 Meas																								
SG66 Cert																								
SG66 Meas																								
SG66 Cert																								
31956 Orig																								
31956 Dup																								
31962 Orig	70.6	16.2	6.5	35.4	8.5	90.3	102	4.0	1.5	0.1	5	0.9	0.1	214	7.8	18.2	2.5	10.6	2.4	2.0	0.3	1.5	121	0.3
31962 Dup	66.9	14.7	6.0	26.2	7.5	83.7	97	4.3	1.7	0.1	5	1.7	0.2	202	6.2	15.2	2.1	9.0	2.2	1.8	0.2	1.4	109	0.2
31966 Orig																								
31966 Dup																								
31976 Orig																								
31976 Split																								
31977 Orig																								
31977 Dup																								
31991 Orig																								
31991 Dup																								
31996 Orig																								
31996 Split																								
32001 Orig																								
32001 Dup																								
32006 Orig																								
32006 Split																								
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	< 0.1	< 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	< 0.1
Method Blank																								
Method Blank																								

Quality Control

Analyte Symbol	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	%	%	%
Detection Limit	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
Analysis Method	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-1 Meas									1				0.058	0.25
GXR-1 Cert									1.58				0.0650	0.257
GXR-4 Meas	0.2	0.9	0.1	0.5	31.1		3.39	50.4	8	17.7	5.4		0.132	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		0.120	1.77
SDC-1 Meas	0.5	2.9		< 0.1	< 0.1		0.66	25.3	16	11.7	3.3	0.498	0.059	0.07
SDC-1 Cert	0.65	4.00		1.20	0.800		0.70	25.00	17.00	12.00	3.10	0.606	0.0690	0.0650
GXR-6 Meas	0.3	1.5	0.2	< 0.1	< 0.1		2.41	106	26	5.5	1.5		0.034	0.02
GXR-6 Cert	0.0320	2.40	0.330	0.485	1.90		2.20	101	27.6	5.30	1.54		0.0350	0.0160
SAR-M (U.S.G.S.) Meas					1.4		2.89	909	9	16.9	4.1	0.347	0.065	
SAR-M (U.S.G.S.) Cert					9.78		2.88	982	7.83	17.2	3.57	2.7	0.070	
DNC-1a Meas		1.8							32					
DNC-1a Cert		2.0							31					
OxD108 Meas														
OxD108 Cert														
OxD108 Meas														
OxD108 Cert														
SBC-1 Meas	0.5	3.1	0.4	0.9	1.4		1.02	38.2	21	15.8	5.8			
SBC-1 Cert	0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76			
SG66 Meas														
SG66 Cert														
SG66 Meas														
SG66 Cert														
31956 Orig														
31956 Dup														
31962 Orig	0.2	1.1	0.2	0.2	3.3	0.008	0.56	7.7	26	1.4	0.4	0.483	0.032	2.10
31962 Dup	0.2	1.2	0.2	0.3	4.1	0.012	0.54	7.6	22	1.1	0.4	0.474	0.029	1.95
31966 Orig														
31966 Dup														
31976 Orig														
31976 Split														
31977 Orig														
31977 Dup														
31991 Orig														
31991 Dup														
31996 Orig														
31996 Split														
32001 Orig														
32001 Dup														
32006 Orig														
32006 Split														
Method Blank														
Method Blank														
Method Blank														
Method Blank														
Method Blank	< 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			0.0008	< 0.001	< 0.01
Method Blank									< 1			< 0.0005	< 0.001	< 0.01

Quality Analysis ... *Innovative Technologies*

Date Submitted:	11-Jun-13
Invoice No.:	A13-06477
Invoice Date:	24-Jun-13
Your Reference:	PENG-20130611-034

Rapier Gold
2270-1055 West Georgia Street
P.O. Box 11144
Vancouver BC V6E 3P3

ATTN: Gary Lustig

CERTIFICATE OF ANALYSIS

1 Pulp sample and 33 Rock samples were submitted for analysis.

The following analytical packages were requested:

Code 1A2-Rapier Timmins Au - Fire Assay AA (QOP Fire Assay)
Code UT-6 Total Digestion ICP & ICP/MS
Code Weight Report Received(kg) & Pulp(g) weights

REPORT **A13-06477**

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 Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Activation Laboratories Ltd. Report: A13-06477

Analyte Symbol	Au	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	ppb	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Analysis Method	FA-AA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
32007	< 5																							
32008	< 5																							
32009	< 5																							
32010	< 5																							
32011	< 5																							
32012	< 5																							
32013	< 5																							
32014	< 5																							
32015	< 5																							
32016	< 5																							
32017	< 5																							
32018	< 5																							
32019	< 5																							
32020	< 5																							
32021	< 5																							
32022	< 5																							
32023	1200																							
32024	< 5																							
32025	< 5	65.1	0.67	1.44	5.88	0.29	10.6	0.4	240	45.6	1790	7.43	1.7	< 10	59.0	1.1	0.8	0.4	< 0.05	0.63	42.0	1.14	0.05	0.3
32026	< 5	71.0	0.74	1.53	6.05	0.27	7.89	0.3	198	78.4	1520	7.08	1.6	40	65.2	1.0	0.4	0.3	< 0.05	0.61	45.8	0.96	0.04	< 0.1
32027	< 5	67.0	1.02	1.20	5.24	0.39	6.39	0.4	255	232	1230	6.06	1.6	< 10	119	0.6	0.8	0.2	< 0.05	0.73	54.5	0.58	0.06	0.4
32028	< 5	48.9	0.89	0.94	5.48	0.40	11.6	0.3	196	162	1670	5.06	1.2	< 10	89.4	0.9	0.7	0.3	< 0.05	0.75	43.2	0.87	0.07	0.2
32029	< 5	23.9	1.45	3.36	6.39	0.47	6.57	0.1	191	111	1410	9.24	1.3	< 10	89.3	3.2	0.8	1.1	< 0.05	1.86	52.3	1.11	0.08	0.4
32030	< 5	71.0	1.05	1.64	7.30	0.60	6.40	0.1	206	188	1050	6.05	1.3	< 10	136	0.8	0.9	0.3	< 0.05	1.17	57.9	0.90	0.15	0.3
32031	< 5	65.9	0.99	1.71	6.89	0.58	7.40	0.1	195	163	1230	5.92	1.1	< 10	129	0.8	0.6	0.3	< 0.05	1.16	51.3	0.91	0.05	< 0.1
32032	< 5	61.6	0.95	1.16	6.50	0.59	7.30	< 0.1	162	159	1140	5.16	1.0	< 10	120	0.7	0.7	0.3	< 0.05	1.00	47.8	0.70	0.06	< 0.1
32033	< 5	79.0	1.16	1.66	7.63	0.44	8.20	0.2	206	183	1490	6.16	1.3	< 10	129	0.7	0.6	0.2	< 0.05	0.84	56.6	0.69	0.07	< 0.1
32034	< 5	73.5	1.03	1.62	7.10	0.38	9.85	0.2	197	182	1860	6.08	1.1	< 10	111	0.7	0.6	0.3	< 0.05	0.70	48.4	0.78	0.07	< 0.1
32035	< 5	71.1	1.02	1.69	6.17	0.47	9.87	0.2	169	161	1900	5.82	0.9	< 10	111	0.8	0.6	0.3	< 0.05	0.76	51.7	0.69	0.07	< 0.1
32036	< 5																							
32037	< 5																							
32038	< 5																							
32039	< 5																							
32040	< 5																							

Activation Laboratories Ltd. Report: A13-06477

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	Ge
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	ppm
Detection Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	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	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
32007																								
32008																								
32009																								
32010																								
32011																								
32012																								
32013																								
32014																								
32015																								
32016																								
32017																								
32018																								
32019																								
32020																								
32021																								
32022																								
32023																								
32024																								
32025	194	19.1	3.3	7.3	10.3	85.9	63	0.3	0.3	0.1	< 1	0.1	< 0.1	58	8.2	20.1	2.9	13.0	3.3	3.3	0.5	2.3	42.5	0.6
32026	185	20.1	10.1	6.6	8.8	81.6	60	0.5	0.2	0.1	< 1	< 0.1	< 0.1	55	7.3	17.7	2.6	11.4	3.0	3.1	0.4	2.1	95.7	0.7
32027	181	18.6	16.1	4.4	4.4	102	59	2.9	1.0	0.1	1	0.3	< 0.1	89	2.6	6.4	1.0	4.9	1.4	1.5	0.2	1.1	166	0.5
32028	109	14.6	9.0	9.9	8.9	117	46	1.5	0.7	< 0.1	< 1	0.3	< 0.1	78	4.2	10.5	1.6	7.3	2.1	2.4	0.4	1.9	112	0.1
32029	100	17.9	1.1	18.8	30.0	160	54	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	199	9.9	22.2	3.0	12.9	3.3	4.0	0.7	4.9	161	0.3
32030	103	19.3	20.9	15.7	6.7	116	44	0.5	0.3	0.1	1	0.1	< 0.1	111	5.8	13.9	2.0	9.3	2.4	2.4	0.3	1.6	112	1.0
32031	94.3	17.8	19.4	14.5	7.1	114	42	0.5	0.4	0.1	1	0.1	< 0.1	103	5.4	12.6	1.8	8.2	2.3	2.4	0.3	1.6	108	1.0
32032	69.4	17.2	13.9	15.0	6.6	113	36	0.4	0.2	< 0.1	< 1	0.2	< 0.1	100	3.7	9.3	1.4	6.7	1.9	1.9	0.3	1.4	147	0.7
32033	114	19.9	29.8	11.1	6.4	123	52	0.5	0.6	< 0.1	< 1	0.1	< 0.1	74	4.2	10.4	1.6	7.1	2.1	2.0	0.3	1.4	101	1.1
32034	113	18.2	12.9	9.0	6.6	120	41	0.3	0.1	< 0.1	< 1	0.3	< 0.1	60	4.5	11.2	1.7	7.5	2.2	2.1	0.3	1.4	89.3	0.6
32035	103	17.3	14.6	11.0	7.1	117	36	0.4	0.2	< 0.1	< 1	0.4	< 0.1	72	4.1	10.1	1.5	7.0	2.0	2.1	0.3	1.5	130	0.5
32036																								
32037																								
32038																								
32039																								
32040																								

Analyte Symbol	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S	Received Weight
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	Kg
Detection Limit	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	
Analysis Method	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	none
32007															2.38
32008															2.36
32009															2.38
32010															0.000
32011															2.35
32012															2.32
32013															2.26
32014															2.40
32015															0.728
32016															2.28
32017															1.41
32018															1.21
32019															2.17
32020															2.41
32021															2.18
32022															2.44
32023															0.107
32024															2.36
32025	0.2	1.3	0.2	< 0.1	< 0.1	0.008	0.08	2.8	37	0.8	0.2	0.406	0.047	0.32	2.23
32026	0.2	1.1	0.2	< 0.1	< 0.1	0.016	0.08	2.8	38	0.8	0.2	0.345	0.045	0.23	2.36
32027	0.1	0.7	0.1	0.1	0.4	0.009	0.12	4.5	30	0.3	0.1	0.497	0.024	0.43	2.20
32028	0.1	0.9	0.2	< 0.1	0.1	0.013	0.10	3.2	35	0.4	0.1	0.426	0.021	0.44	2.50
32029	0.5	2.6	0.4	< 0.1	< 0.1	0.014	0.13	2.3	40	1.6	0.6	0.255	0.041	0.12	1.77
32030	0.1	0.9	0.2	< 0.1	< 0.1	0.016	0.17	4.8	43	0.7	0.2	0.415	0.027	0.55	1.12
32031	0.1	0.8	0.2	< 0.1	< 0.1	0.016	0.15	4.3	38	0.5	0.1	0.392	0.024	0.57	1.07
32032	0.1	0.8	0.1	< 0.1	< 0.1	0.012	0.16	3.4	37	0.4	0.2	0.320	0.023	0.42	2.54
32033	0.1	0.8	0.1	< 0.1	< 0.1	0.015	0.10	3.1	39	0.5	0.1	0.348	0.024	0.26	2.26
32034	0.1	0.8	0.2	< 0.1	< 0.1	0.010	0.08	3.0	36	0.4	0.1	0.363	0.023	0.39	2.33
32035	0.1	0.8	0.1	< 0.1	< 0.1	0.004	0.11	2.8	36	0.4	0.1	0.340	0.023	0.42	2.83
32036															1.89
32037															2.25
32038															2.41
32039															2.29
32040															2.31

Quality Control

Analyte Symbol	Au	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	ppb	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Analysis Method	FA-AA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas																								
GXR-1 Cert																								
GXR-4 Meas		12.8	0.56	1.80	6.63	3.60	1.17	< 0.1	102	47.5	160	3.17	1.1	80	43.9		2.3		3.33	2.46	16.1	1.38	18.5	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		40.8	1.54	1.00	7.90	1.64	1.17	< 0.1	60	56.0	857	4.81	1.0		36.8	3.6	3.3	1.3	< 0.05	3.69	20.6	1.47	0.28	
SDC-1 Cert		34.00	1.52	1.02	8.34	2.72	1.00	0.0800	102.00	64.00	880.00	4.82	8.30		38.0	4.10	3.00	1.50	0.0410	4.00	18.0	1.70	2.60	
GXR-6 Meas		45.7	0.11	0.66	> 10.0	1.84	0.23	0.1	152	63.2	1010	5.75	1.8	30	27.6		1.6		0.15	4.07	15.5	0.63	0.19	0.2
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
SAR-M (U.S.G.S.) Meas		34.7	1.29	0.54	6.37	2.12	0.69	5.1	69	78.6	5220	3.27			47.3		3.2		3.13	4.60	12.5		1.72	0.4
SAR-M (U.S.G.S.) Cert		27.4	1.140	0.50	6.30	2.94	0.61	5.27	67.20	79.7	5220	2.99			41.50		2.20		3.64	5.15	10.70		1.94	0.39
DNC-1a Meas		5.5							168	243					295						65.1	0.55		
DNC-1a Cert		5.20							148.00	270					247						57.0	0.59		
OxD108 Meas	423																							
OxD108 Cert	414.000																							
SBC-1 Meas		197						0.3	245	88.9			3.1		95.4	3.7	3.9	1.3		7.87	26.5	1.85	0.70	
SBC-1 Cert		163.0						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
SG66 Meas	1060																							
SG66 Cert	1090																							
32016 Orig	< 5																							
32016 Dup	< 5																							
32026 Orig	< 5																							
32026 Dup	< 5																							
32032 Orig		61.9	0.96	1.18	6.45	0.59	7.27	< 0.1	141	155	1130	5.10	0.9	< 10	119	0.8	0.7	0.3	< 0.05	1.00	48.2	0.70	0.07	0.2
32032 Dup		61.3	0.95	1.14	6.55	0.59	7.34	0.1	184	163	1160	5.23	1.1	< 10	122	0.7	0.7	0.2	< 0.05	1.01	47.4	0.69	0.05	< 0.1
32036 Orig	< 5																							
32036 Split	< 5																							
32036 Orig	< 5																							
32036 Dup	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank		< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank																								
Method Blank																								

Quality Control

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	Ge
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	ppm
Detection Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.1	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	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	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-1 Meas																								
GXR-1 Cert																								
GXR-4 Meas	72.8	21.1	116	148	16.0	221	43	9.4	308	0.2	7	4.2	0.9	141	57.3	103		41.0	6.2	4.8	0.5	2.8	6100	
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	106	25.9	0.2	103	37.4	177	46	2.3	< 0.1		< 1	< 0.1		643	40.7	83.4		38.4	7.4	6.7	1.0	6.4	33.6	
SDC-1 Cert	103.00	21.00	0.220	127.00	40.0	180.00	290.00	21.00	0.250		3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.00	
GXR-6 Meas	134	36.4	291	88.3	15.2	42.2	81	0.8	0.9	< 0.1	< 1	0.8	< 0.1	1440	13.7	35.8		12.8	2.5	2.4	0.4	2.6	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	
SAR-M (U.S.G.S.) Meas	936	20.8	38.5	115	39.4	162		5.7	8.9	1.0	2	4.7	0.6	820	56.5	113							382	
SAR-M (U.S.G.S.) Cert	930.0	16.8	38.8	146.0	28.00	151.0		29.90	13.10	1.08	2.76	6.00	0.96	801	57.4	122.00							331	
DNC-1a Meas	67.9				18.6	147	41					0.8		110	3.7			4.7					106	
DNC-1a Cert	70.0				18.0	144.0	38.000					0.96		118	3.6			5.20					100.0	
OxD108 Meas																								
OxD108 Cert																								
SBC-1 Meas	191	30.8	30.4	158	37.7	190	127	15.9	2.9		3	1.0		800	50.9	102	13.0	47.6	9.0	7.9	1.2	6.9	34.8	
SBC-1 Cert	186.0	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	
SG66 Meas																								
SG66 Cert																								
32016 Orig																								
32016 Dup																								
32026 Orig																								
32026 Dup																								
32032 Orig	69.4	16.8	12.6	14.7	6.7	112	30	0.2	0.2	< 0.1	< 1	0.1	0.1	101	3.7	9.3	1.4	6.7	1.9	1.9	0.3	1.5	143	0.7
32032 Dup	69.5	17.5	15.1	15.4	6.5	114	42	0.5	0.3	< 0.1	1	0.3	< 0.1	99	3.7	9.3	1.4	6.6	1.9	1.9	0.3	1.4	151	0.8
32036 Orig																								
32036 Split																								
32036 Orig																								
32036 Dup																								
Method Blank																								
Method Blank																								
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.1	< 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	< 0.1
Method Blank																								
Method Blank																								

Quality Control

Analyte Symbol	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	%	%	%
Detection Limit	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
Analysis Method	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-1 Meas									1				0.058	0.25
GXR-1 Cert									1.58				0.0650	0.257
GXR-4 Meas	0.2	0.9	0.1	0.5	31.1		3.39	50.4	8	17.7	5.4		0.132	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		0.120	1.77
SDC-1 Meas	0.5	2.9		< 0.1	< 0.1		0.66	25.3	16	11.7	3.3	0.498	0.059	0.07
SDC-1 Cert	0.65	4.00		1.20	0.800		0.70	25.00	17.00	12.00	3.10	0.606	0.0690	0.0650
GXR-6 Meas	0.3	1.5	0.2	< 0.1	< 0.1		2.41	106	26	5.5	1.5		0.034	0.02
GXR-6 Cert	0.0320	2.40	0.330	0.485	1.90		2.20	101	27.6	5.30	1.54		0.0350	0.0160
SAR-M (U.S.G.S.) Meas					1.4		2.89	909	9	16.9	4.1	0.347	0.065	
SAR-M (U.S.G.S.) Cert					9.78		2.88	982	7.83	17.2	3.57	2.7	0.070	
DNC-1a Meas		1.8							32					
DNC-1a Cert		2.0							31					
OxD108 Meas														
OxD108 Cert														
SBC-1 Meas	0.5	3.1	0.4	0.9	1.4		1.02	38.2	21	15.8	5.8			
SBC-1 Cert	0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76			
SG66 Meas														
SG66 Cert														
32016 Orig														
32016 Dup														
32026 Orig														
32026 Dup														
32032 Orig	0.1	0.8	0.1	< 0.1	< 0.1	0.012	0.17	3.4	37	0.4	0.2	0.289	0.023	0.42
32032 Dup	0.1	0.8	0.1	< 0.1	< 0.1	0.011	0.16	3.4	37	0.4	0.2	0.351	0.023	0.42
32036 Orig														
32036 Split														
32036 Orig														
32036 Dup														
Method Blank														
Method Blank														
Method Blank	< 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			0.0008	< 0.001	< 0.01
Method Blank									< 1			< 0.0005	< 0.001	< 0.01