

**Work Report of 2010 Diamond Drilling on the Clay-Howells Project , Clay
and Howells Townships, Porcupine Mining Division, Ontario, Canada**

NTS:

42G16

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Summary

Magnetite and Niobium (Nb) mineralization has been observed in carbonatite of the Clay-Howells Alkalic Rock Complex more than 50 years (Sage, 1988). Shklanka (1968), estimated a non 43-101 compliant resource estimate of 10 million tonnes of Iron Ore for Clay-Howells Carbonatite.

Rare Earth Metals Inc. has focused on searching for economically significant rare earth element (REE) deposits throughout North America with superior existing infrastructure or potential infrastructure for mine development. Rare earth element production comes primarily from China and recent announcements of quota reductions to preserve resources have highlighted the need to seek alternative sources for these elements throughout the rest of the world.

The patent claims covering the main carbonatite deposit were acquired in 2009. Additional claims were staked shortly thereafter to cover the known extent of the Clay-Howells Alkalic Rock Complex.

Encouraging results from a due diligence sampling program on historic drill core from earlier drilling by Mattagami Mines in 1958 led to the construction of a camp 70km north-north east of Kapuskasing, Ontario and Norex Drilling Ltd was contracted to conduct drilling operations.

Drilling activities were conducted during the period January 16th to March 30th, 2010. A total of 5432.5 metres of drill core and 1825 samples were recovered from 18 drill holes.

Significant economic concentrations of niobium, rare earth elements and iron were discovered in all holes including: 0.694% Total Rare Earth Oxide (TREO) over 105.5 metres, with 57.83% Fe₂O₃ and 0.14% Nb₂O₅ in hole CH-13.

Geochemical analysis of the drill core show that the Clay-Howell Magnetite REE deposit is light rare element (LREE) enriched.

Drilling on the Clay-Howells Project has confirmed near surface REE - Nb mineralization over a strike length of 700 metres and to a vertical depth of up to 250 metres from the surface. Mineralization is hosted in a magnetite bearing carbonatite.

1.0 Introduction

1.1 Location, Access and Physiography

The Clay-Howells Property is located in northern Ontario, approximately 70 km north of the community of Kapuskasing (Figure 1). The mining claims and patents can be easily accessed by 4x4 pick-up truck using an all-weather access road from Kapuskasing and an abandoned logging road named CSR-8. CSR-8 was reconditioned to allow year round access to the property. Northern – Western portions of property can also be accessed by boat by traveling down the Kapuskasing River from a boat launch located approximately 25km north of Kapuskasing along the all weather access road. Drilling activities were staged from a camp located at UTM coordinates 4213982E and 5522864N (Zone 17, NAD 83)

Relief over most of the property is gentle to moderate and generally does not exceed 7m – 8m. Bedrock exposure is very poor, with the majority of the outcrop located in the north – northeast portion of the property. Outcrops tend to be low-lying, rounded and separated by wide swaths of swamp or thick forest cover.

1.2 Property Summary and Claim Status

The Clay-Howells Property is owned 100% by Rare Earth Metals Inc. and is comprised of 56 contiguous mining claims and 44 patents (Figure 2). The details of each mining claim are listed in Table 1. Initial staking was conducted in 2009 after the rights to existing patents were secured.

2.0 Previous Work

2.1 Geological Work

Bennett et al. (1967a) completed the first geological work on the property with a reconnaissance mapping program of the Clay-Howells Alkalic Rock Complex. A K-Ar isotopic age of 1010 Ma was obtained by Gittins et al., as well in 1967. A B.Sc. thesis was completed by P. Chamois in 1977 and another isotopic age (Rb/Sr) of 1072 +/- 16 Ma was obtained by Bell and Blenkinsop in 1980.

2.2 Exploration Work

The first recorded exploration work on the property dates back to 1954 with the discovery of an aeromagnetic anomaly by Lundberg Exploration Limited, and 2000 feet of drilling that was completed by a grubstake syndicate of Lundberg Employees (Sage 1988).

Six diamond drill holes, totalling 1124m was drilled by the Hopkins Township Syndicate in 1956. The target of the drilling was an aeromagnetic anomaly in the centre of Hopkins Township. The core was described as monzonite to gabbro with disseminated magnetite (ODM-GSC 1964a).

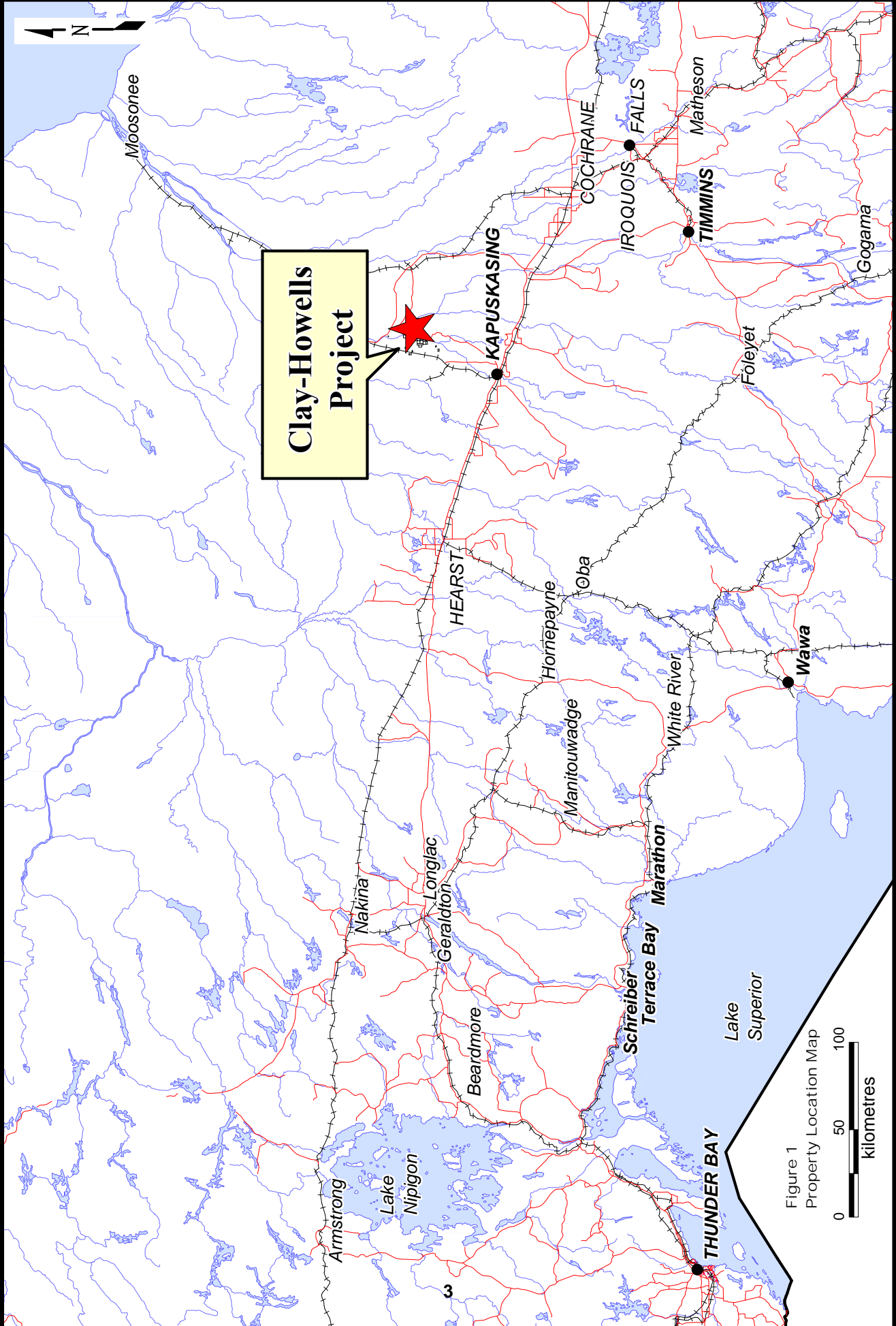
In 1957, the Chibougamau Mining and Smelting Company completed a ground magnetometer survey along with 3 diamond drill holes totalling 579.7m on the Spencer Option, located on the eastern portion of the Clay-Howells Alkalic Rock Complex. Only minor concentrations of magnetite were encountered in these holes (Sage 1988).

A second ground magnetometer survey and a further 936.7m (5 diamond drill holes) was drilled on another claim group located on the southeast portion of the Complex, known as the Bradley Option. Only minor concentrations of carbonate and hornblende, along with syenite, was intersected in these holes (Sage 1988).

A year later, the Mattagami Mining Company Limited, a subsidiary of the Pickands Mather Company, the Steel Company of Canada and Interlake Iron Corporation completed a ground magnetometer survey over the same aeromagnetic anomaly that was originally discovered by the Lundberg Exploration Limited. Upon completion of the survey, 4539m of drilling was conducted that outlined a northeast striking carbonatite body 1050m long and 90m wide (Sage, 1988).

At the same time that the Mattagami Mining Company Limited was outlining the magnetite carbonatite body (1958), Bewabik Minerals Limited completed two diamond drill holes totalling 827.2 m on claim S-78793. Only minor concentrations of magnetite were intersected (Sage 1988).

The most recent exploration work was conducted by Argor Explorations Limited in 1966. One diamond drill hole totalling 153m was completed on an airborne geophysical anomaly on the northwest portion of the complex, near the contact between the syenite and host gneisses. The drill hole intersected disseminated to massive pyrite and pyrrhotite, in association with paragneiss.



**Clay-Howells
Project**

Figure 1
Property Location Map



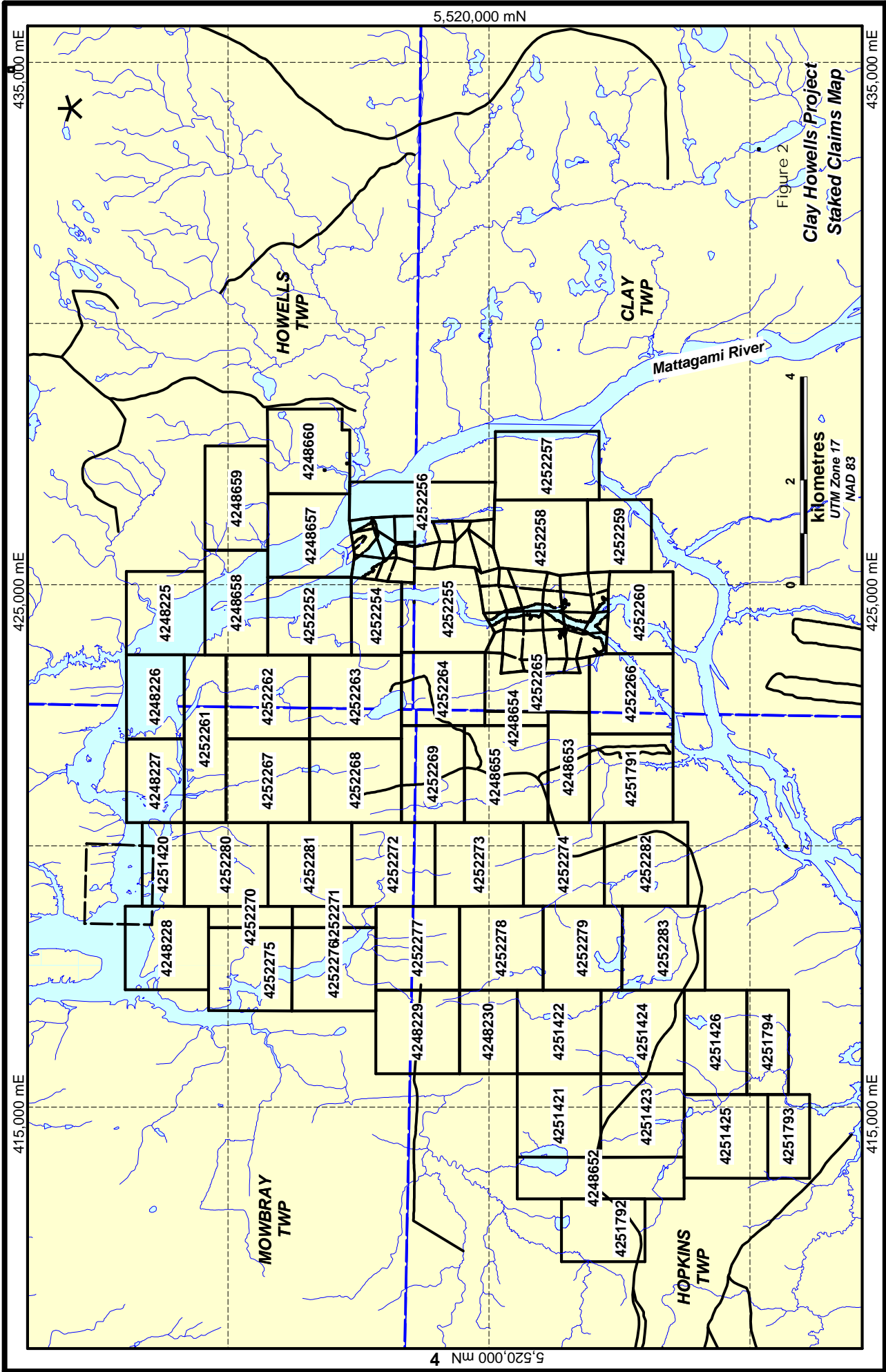


Figure 2
Clay Howells Project
Staked Claims Map

435,000 mE

425,000 mE

415,000 mE

5,520,000 mN

5,520,000 mN

435,000 mE

425,000 mE

415,000 mE

0 2 4
 kilometres
 UTM Zone 17
 NAD 83

HOWELLS
TWP

CLAY
TWP

MOWBRAY
TWP

HOPKINS
TWP

Mattagami River

- 4248228
- 4248227
- 4248226
- 4248225
- 4251420
- 4252270
- 4252275
- 4252276
- 4252271
- 4252272
- 4252277
- 4252278
- 4252279
- 4252283
- 4251421
- 4251422
- 4251423
- 4251424
- 4251425
- 4251793
- 4251794
- 4248652
- 4251792
- 4248653
- 4251791
- 4252266
- 4248654
- 4252265
- 4252260
- 4248655
- 4252269
- 4252264
- 4252263
- 4252268
- 4252267
- 4252262
- 4252261
- 4248658
- 4248659
- 4248660
- 4248657
- 4252252
- 4252254
- 4252255
- 4252256
- 4252257
- 4252258
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- 4251421
- 4251422
- 4251423
- 4251424
- 4251425
- 4251793
- 4251794

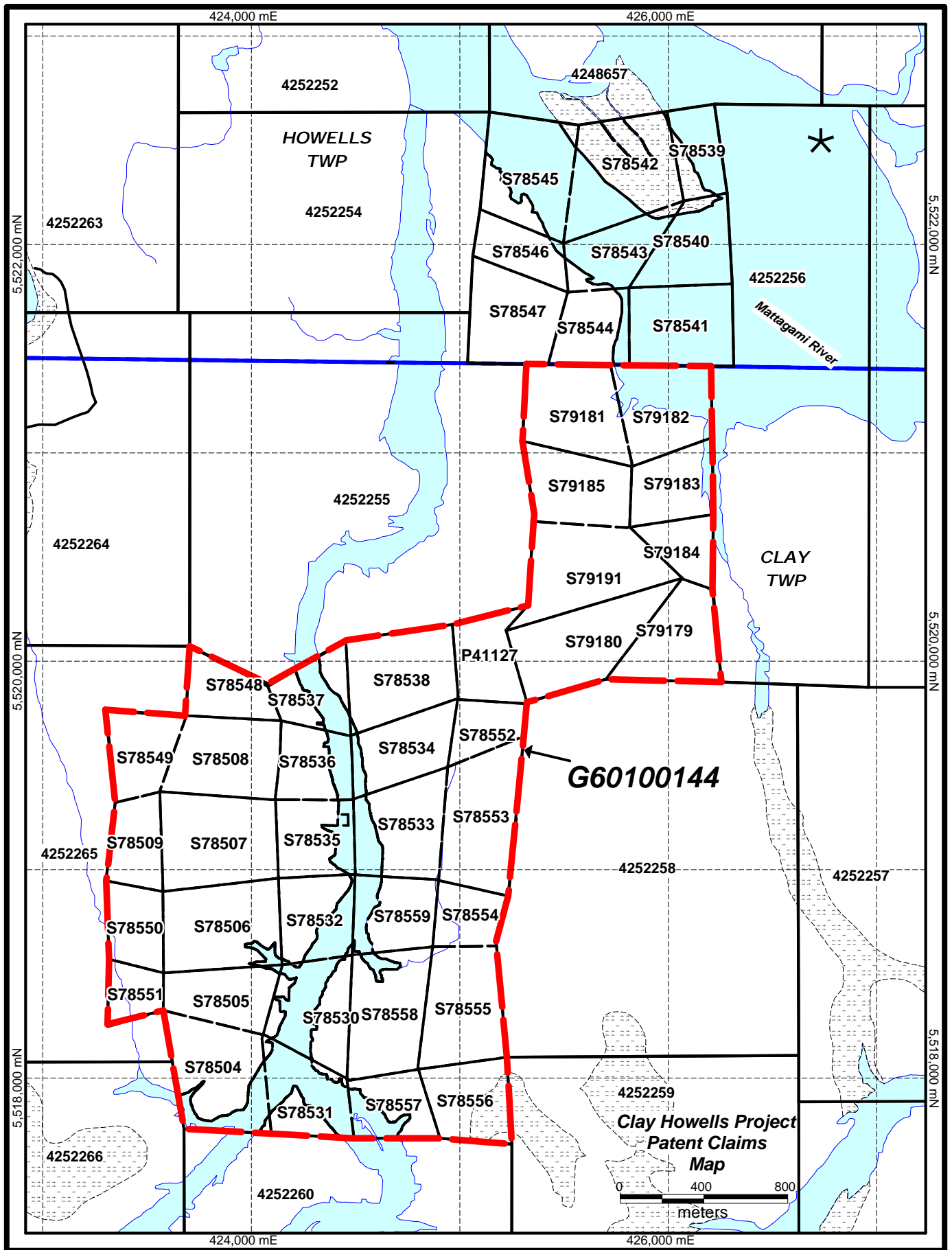


Figure 3

Table 1: List of staked claims.

Claim Number	Recording Date	Claim Due Date	Percent Option	Work Required	Township/Area	Registered
4252257	7-Oct-09	7-Oct-11	100.00%	\$6,000.00	CLAY	Rare Earth Metals Inc.
4252258	7-Oct-09	7-Oct-11	100.00%	\$6,400.00	CLAY	Rare Earth Metals Inc.
4252265	7-Oct-09	7-Oct-11	100.00%	\$6,000.00	CLAY	Rare Earth Metals Inc.
4252252	7-Oct-09	7-Oct-11	100.00%	\$6,400.00	HOWELLS	Rare Earth Metals Inc.
4252254	7-Oct-09	7-Oct-11	100.00%	\$3,200.00	HOWELLS	Rare Earth Metals Inc.
4252255	7-Oct-09	7-Oct-11	100.00%	\$6,400.00	HOWELLS	Rare Earth Metals Inc.
4252256	7-Oct-09	7-Oct-11	100.00%	\$5,600.00	HOWELLS	Rare Earth Metals Inc.
4252262	7-Oct-09	7-Oct-11	100.00%	\$6,400.00	HOWELLS	Rare Earth Metals Inc.
4252263	7-Oct-09	7-Oct-11	100.00%	\$6,400.00	HOWELLS	Rare Earth Metals Inc.
4252264	7-Oct-09	7-Oct-11	100.00%	\$6,400.00	HOWELLS	Rare Earth Metals Inc.
4252259	8-Oct-09	8-Oct-11	100.00%	\$4,800.00	CLAY	Rare Earth Metals Inc.
4252260	8-Oct-09	8-Oct-11	100.00%	\$3,200.00	CLAY	Rare Earth Metals Inc.
4252266	8-Oct-09	8-Oct-11	100.00%	\$4,800.00	CLAY	Rare Earth Metals Inc.
4252273	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4252274	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4252278	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4252279	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4252282	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4252283	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4252261	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	HOWELLS	Rare Earth Metals Inc.
4252267	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	MOWBRAY	Rare Earth Metals Inc.
4252268	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	MOWBRAY	Rare Earth Metals Inc.
4252269	8-Oct-09	8-Oct-11	100.00%	\$6,000.00	MOWBRAY	Rare Earth Metals Inc.
4252270	8-Oct-09	8-Oct-11	100.00%	\$1,600.00	MOWBRAY	Rare Earth Metals Inc.
4252271	8-Oct-09	8-Oct-11	100.00%	\$1,600.00	MOWBRAY	Rare Earth Metals Inc.
4252272	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	MOWBRAY	Rare Earth Metals Inc.
4252275	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	MOWBRAY	Rare Earth Metals Inc.
4252276	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	MOWBRAY	Rare Earth Metals Inc.
4252277	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	MOWBRAY	Rare Earth Metals Inc.
4252280	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	MOWBRAY	Rare Earth Metals Inc.
4252281	8-Oct-09	8-Oct-11	100.00%	\$6,400.00	MOWBRAY	Rare Earth Metals Inc.
4251421	22-Oct-09	22-Oct-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4251422	22-Oct-09	22-Oct-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4251423	22-Oct-09	22-Oct-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4251424	22-Oct-09	22-Oct-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.

4251425	22-Oct-09	22-Oct-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4251426	22-Oct-09	22-Oct-11	100.00%	\$6,000.00	HOPKINS	Rare Earth Metals Inc.
4248652	18-Nov-09	18-Nov-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4248653	18-Nov-09	18-Nov-11	100.00%	\$4,000.00	HOPKINS	Rare Earth Metals Inc.
4248654	18-Nov-09	18-Nov-11	100.00%	\$1,200.00	HOPKINS	Rare Earth Metals Inc.
4248655	18-Nov-09	18-Nov-11	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4248657	19-Jan-10	19-Jan-12	100.00%	\$6,400.00	HOWELLS	Rare Earth Metals Inc.
4248658	19-Jan-10	19-Jan-12	100.00%	\$6,000.00	HOWELLS	Rare Earth Metals Inc.
4251791	22-Feb-10	22-Feb-12	100.00%	\$6,400.00	HOPKINS	Rare Earth Metals Inc.
4251792	22-Feb-10	22-Feb-12	100.00%	\$4,800.00	HOPKINS	Rare Earth Metals Inc.
4251793	22-Feb-10	22-Feb-12	100.00%	\$3,200.00	HOPKINS	Rare Earth Metals Inc.
4251794	22-Feb-10	22-Feb-12	100.00%	\$4,000.00	HOPKINS	Rare Earth Metals Inc.
4248659	22-Feb-10	22-Feb-12	100.00%	\$6,000.00	HOWELLS	Rare Earth Metals Inc.
4248660	22-Feb-10	22-Feb-12	100.00%	\$6,400.00	HOWELLS	Rare Earth Metals Inc.
4251420	11-Jun-10	11-Jun-12	100.00%	\$3,200.00	MOWBRAY	Rare Earth Metals Inc.
4248230	25-Jun-10	25-Jun-12	100.00%	\$4,800.00	HOPKINS	Rare Earth Metals Inc.
4248225	25-Jun-10	25-Jun-12	100.00%	\$6,400.00	HOWELLS	Rare Earth Metals Inc.
4248226	25-Jun-10	25-Jun-12	100.00%	\$4,800.00	HOWELLS	Rare Earth Metals Inc.
4248227	25-Jun-10	25-Jun-12	100.00%	\$4,800.00	MOWBRAY	Rare Earth Metals Inc.
4248228	25-Jun-10	25-Jun-12	100.00%	\$6,400.00	MOWBRAY	Rare Earth Metals Inc.
4248229	25-Jun-10	25-Jun-12	100.00%	\$6,400.00	MOWBRAY	Rare Earth Metals Inc.

Table 2: List of patent claims.

Patent Claim	Township/Area
P41127	CLAY (M-0448)
S78504	CLAY (M-0448)
S78505	CLAY (M-0448)
S78506	CLAY (M-0448)
S78507	CLAY (M-0448)
S78508	CLAY (M-0448)
S78509	CLAY (M-0448)
S78530	CLAY (M-0448)
S78531	CLAY (M-0448)
S78532	CLAY (M-0448)
S78533	CLAY (M-0448)
S78534	CLAY (M-0448)
S78535	CLAY (M-0448)
S78536	CLAY (M-0448)
S78537	CLAY (M-0448)
S78538	CLAY (M-0448)
S78539	HOWELLS (G-0894)
S78540	HOWELLS (G-0894)
S78541	HOWELLS (G-0894)
S78542	HOWELLS (G-0894)
S78543	HOWELLS (G-0894)
S78544	HOWELLS (G-0894)

S78545	HOWELLS (G-0894)
S78546	HOWELLS (G-0894)
S78547	HOWELLS (G-0894)
S78548	CLAY (M-0448)
S78549	CLAY (M-0448)
S78550	CLAY (M-0448)
S78551	CLAY (M-0448)
S78552	CLAY (M-0448)
S78553	CLAY (M-0448)
S78554	CLAY (M-0448)
S78555	CLAY (M-0448)
S78556	CLAY (M-0448)
S78557	CLAY (M-0448)
S78558	CLAY (M-0448)
S78559	CLAY (M-0448)
S79179	CLAY (M-0448)
S79180	CLAY (M-0448)
S79181	CLAY (M-0448)
S79182	CLAY (M-0448)
S79183	CLAY (M-0448)
S79184	CLAY (M-0448)
S79185	CLAY (M-0448)
S79191	CLAY (M-0448)

3.0 Regional Geology

The Clay-Howells property is underlain by rocks of the Clay-Howells Alkalic Rock Complex (Table 3). The Clay-Howells Alkalic Rock Complex is described by Sage, 1988 as a composite mushroom shaped intrusion within the Kapuskasing Sub-Province of the Superior Province of the Canadian Shield. The complex is Late Precambrian (Rb/Sr age of 1072 +/- 16 Ma) in age (Bell and Blenkinsop, 1980).

The Clay-Howells Alkalic Rock Complex is comprised of 2 broad types of silica over-saturated syenitic rocks intruding a sequence of Early Precambrian aged paragneisses and orthogneisses that have been regionally metamorphosed to the upper amphibolite - granulite facies typical of the Kapuskasing Sup-Province (Sage, 1988).

The first type is a coarse grained, grey – green, pyroxene syenite that occupies the centre of the complex and is the most abundant. The second type is a variably textured, red – brown, pyroxene syenite that is located along the margins of the Complex in contact with the host gneisses, and is commonly xenolithic (Sage, 1988).

A dike like magnetite bearing carbonatite intrudes the syenite in the south-east portion of the Complex. The Silico-carbonatite is contains 0 to 50% biotite, 10 to 80% magnetite, 20 to 55% carbonate, 10 to 20% aegirine-augite and approximately 5% apatite (Sage, 1988). Previous

Drilling has indicated a northeast-striking carbonatite body 1050 m long, 90m wide, composed of 10% to 80% magnetite. The body dips 60 degrees northwest and is estimated to contain 10 million tonnes of mineralization (Shklanka 1968).

A group of late dike rocks intrude the Clay-Howells Alkalic Rock Complex. These are observed in the north portion of the Complex along the Kapuskasing and Mattigami Rivers. The dike rocks include an Amphibole Syenite and a Melanocratic Syenite (Sage 1988).

Table 3: Table of Lithological Units of the Clay Howells Alkalic Rock Complex (taken from Sage, 1988)

CENOZOIC
QUATERNARY
Recent and Pleistocene
Stream, lake, and swamp deposits; glacial deposits.
<i>Unconformity</i>
LATE PRECAMBRIAN (PROTEROZOIC)
CLAY-HOWELLS ALKALIC ROCK COMPLEX
Dike Rocks*
Amphibole syenite, generally with trachytoid texture; melanocratic amphibole-pyroxene-oligoclase syenite.
<i>Intrusive Contact</i>
Carbonatite!
Silicocarbonatite (biotite-magnetite-carbonate-aegirine-augite-apatite rock); carbonatite; magnetite-rich rock.
<i>Intrusive A, Gradational Contacts</i>
Syenite Contact Rock
Mafic biotite-amphibole-pyroxene syenite; granoblastic aegirine-augite syenite; fine-grained syenite with dark mafic veins; alkalic granite, probably dikes.
<i>Gradational Contact</i>
Syenitic Rocks
Green, olivine-bearing, biotite-amphibole, pyroxene syenite; brown olivine-bearing, biotite-amphibole (hornblende)-pyroxene syenite; biotite-clinopyroxene-amphibole granite; fine-grained olivine-bearing, biotite-amphibole-pyroxene syenite; inhomogeneous syenite, aplitic fracture fillings; red-brown, amphibole-pyroxene-biotite syenite; biotite gabbro.
<i>Intrusive Contact</i>
MIDDLE PRECAMBRIAN (PROTEROZOIC)
MAFIC INTRUSIVE ROCKS
Diabase; pyroxene-porphyritic diabase; feldspar-porphyritic diabase.
<i>Intrusive Contact</i>
EARLY PRECAMBRIAN (ARCHEAN)
LATE FELSIC INTRUSIVE ROCKS*
Granite to quartz monzonite dikes; granitic pegmatite.
<i>Intrusive Contact</i>
MAFIC INTRUSIVE ROCKS*
Metagabbro; porphyritic metagabbro dike.
<i>Intrusive Contact (?)</i>
FELSIC INTRUSIVE ROCKS*
Trondhjemite to granodiorite (?) dikes.
<i>Intrusive Contact</i>
GNEISSIC ROCKS
Garnet-biotite-clinopyroxene-amphibole-quartz-feldspar paragneiss; biotite-clinopyroxene-quartz-feldspar orthogneiss; amphibolite.
NOTES
*Age relationships difficult to establish.
! These rocks do not outcrop, but were intersected in drillholes of Pickands Mather Company.

4.0 Assessment Work Completed and Results

The following sections will detail the diamond drilling activities completed on the property in between January and March 30, 2010.

There are 15 accepted rare earth elements known as the lanthanides with atomic numbers 57 to 71 and are listed as follows: lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, and lutetium.

Promethium is a synthetic element which does not occur naturally and therefore is not included in the assay report. Yttrium is considered a rare earth since it exhibits similar chemical properties.

It has been industry practice to report rare elements as a percentage oxide. The elements are initially reported from the lab in parts per million. The elements are converted to oxides with the following molecular formulas, La_2O_3 , Ce_2O_3 , Pr_2O_3 , Nd_2O_3 , Sm_2O_3 , Eu_2O_3 , Gd_2O_3 , Tb_2O_3 , Dy_2O_3 , Ho_2O_3 , Er_2O_3 , Tm_2O_3 , Yb_2O_3 , Lu_2O_3 , and Y_2O_3 . Rare earth oxides are reported as total rare earth oxides (TREO) which is a simple addition of the percentages of the above 15 components

Rare earth oxides are further classified as light rare earth oxides (LREO) which includes La_2O_3 , Ce_2O_3 , Pr_2O_3 , Nd_2O_3 and Sm_2O_3 , and heavy rare oxides (HREO) which includes Eu_2O_3 , Gd_2O_3 , Tb_2O_3 , Dy_2O_3 , Ho_2O_3 , Er_2O_3 , Tm_2O_3 , Yb_2O_3 , Lu_2O_3 , and Y_2O_3 .

As a rough measure of the value of an assay, heavy rare earth elements (HREO) are reported as a percentage of total rare earth oxides (TREO). All composite TREO values are reported as length weighted averages.

4.1 Drilling

Diamond drilling activities were conducted on the Clay-Howells Property from January 16, 2010 to March 30th, 2010. Norex Drilling Ltd. was contracted to build a camp on the property as well as conduct the drilling operations. Near the end of the drilling program, Wilderness Helicopters Inc. provided helicopter support.

Drill hole locations were controlled using the local grid that was cut earlier that year. Due to the presence of a very strong magnetic field, a Reflex Alignment Positioning System (APS) was used to record the collar locations and alignment of a drill hole once it was complete. The attitude of the drill hole was tracked using a Reflex Maxibore II system which is not affected by strong magnetic fields. Maxibore surveys were completed by Rare Earth Metals Inc. employees.

Eighteen drill holes were completed within the carbonatite – magnetite zone to test Niobium – Rare Earth Element mineralization at depth (Map 1). A total of 5432.5 metres of core was recovered and 1825 samples were collected. Table 2 contains a summary of the statistics for each hole. The Certificates of Analysis that contain the original lab results for each sample is located in Appendix E.

Table 4: Summary of drill hole statistics.

DDH ID	Easting	Northing	Claim / Patent Numbers	Start Date	End Date	Depth (m)	Angle	Azimuth	Samples Collected
CH-01	424336	5519536	S78536	28-Jan-10	30-Jan-10	311	-45	145	199
CH-02	424307	5519575	S78536	1-Feb-10	4-Feb-10	359	-45	145	181
CH-03	424413	5518884	S78532	5-Feb-10	9-Feb-10	506	-45	325	138
CH-04	424187	5519223	S78535	10-Feb-10	3-Mar-10	170	-45	145	86
CH-05	424187	5519223	S78535	4-Mar-10	6-Mar-10	257	-70	145	99
CH-06	424187	5519223	S78535	6-Mar-10	8-Mar-10	359	-88	145	148
CH-07	424127	5519154	S78507	8-Mar-10	12-Mar-10	350	-45	145	96
CH-08	424268	5519954	S78536	8-Mar-10	12-Mar-10	278	-45	145	93
CH-09	424112	5519159	S78507	12-Mar-10	15-Mar-10	386	-70	145	104
CH-10	424268	5519454	S78536	12-Mar-10	16-Mar-10	350	-70	145	121
CH-11	424006	5519129	S78507	15-Mar-10	17-Mar-10	228	-45	145	68
CH-12	423815	5519052	S78507	16-Mar-10	17-Mar-10	188	-45	145	24
CH-13	424006	5519129	S78507	17-Mar-10	19-Mar-10	350	-70	145	136
CH-14	423815	5519052	S78507	17-Mar-10	19-Mar-10	290	-70	145	57
CH-15	424226	5519340	S78536	20-Mar-10	21-Mar-10	230	-45	145	86
CH-16	423881	5519133	S78507	20-Mar-10	22-Mar-10	228.5	-45	145	56
CH-17	424226	5519340	S78536	21-Mar-10	23-Mar-10	314	-70	145	122
CH-18	423881	5519133	S78507	22-Mar-10	24-Mar-10	278	-70	145	11
<i>UTM Nad 83, Zone 17N</i>						Total	5432.5	Total	1825

One to three holes were drilled on each setup (Cross Sections A – J, Map Pocket). Niobium – Rare Earth Element mineralization was intersected in all holes across a strike length 700m metres. Table 3 contains a summary of the significant mineralized intersections from all holes.

Table 5: Summary of mineralized intersections.

Hole		From (m)	To (m)	Interval (m)	TREO (%)	HREO TREO	Fe2O3(t) (%)	Nb2O5 (%)
CH-01		35.50	178.00	142.5	0.45	11.00%	33.73	0.17
	inc	76.60	82.50	5.9	0.23	18.00%	43.08	1.11
	and	92.00	102.00	10	1.01	10.00%	42.67	0.13
CH-02		127.60	147.00	19.4	0.66	17.00%	27.81	0.22
	inc	129.60	133.80	4.2	1.05	20.00%	45.44	0.47
		216.50	230.40	13.9	1.2	6.00%	48.94	0.09
	inc	216.50	220.40	3.9	2.12	4.00%	46.53	0.06
CH-03		164.00	203.00	39	0.48	8.00%	23	0.17
CH-04		65.00	110.00	45	0.54	10.00%	47.63	0.09
	Inc	105.70	110.00	4.3	1.12	10.00%	26.72	0.08
CH-05		96.30	132.60	36.3	0.42	8.00%	27.65	0.05
	inc	108.80	112.40	3.6	1.35	7.00%	69.36	0.07
	inc	180.50	191.00	10.5	0.89	6.00%	71.59	0.06

		180.50	185.00	4.5	1.41	6.00%	64.87	0.07
		158.00	210.00	52	0.62	9.00%	43.18	0.12
CH-06	inc	169.20	173.50	4.3	1.94	7.00%	40.26	0.17
		239.00	304.50	65.5	0.62	11.00%	40.48	0.14
	inc	250.30	256.30	6	1.03	11.00%	31.56	0.08
CH-07		222.00	232.80	10.8	1.15	8.00%	31.1	0.19
CH-08		79.20	83.00	3.8	0.726	32.00%	34.14	0.06
		97.00	149.50	52.5	0.551	14.00%	28.45	0.16
	inc	97.00	104.50	7.5	0.717	20.00%	31.6	0.11
	inc	116.50	126.10	9.6	0.694	17.00%	39.44	0.25
	inc	137.50	150.00	12	0.789	8.00%	38.72	0.16
		180.00	200.00	20	0.556	7.00%	50.89	0.12
	inc	180.00	185.00	5	0.703	9.00%	41.84	0.11
CH-09		124.50	201.10	76.6	0.69	10.00%	47.2	0.12
	inc	150.80	155.70	4.9	2.45	8.00%	46.21	0.09
		214.80	235.60	20.8	0.6	8.00%	38.6	0.09
	inc	214.80	219.90	5.1	0.87	6.00%	38.39	0.11
CH-10		190.30	277.00	86.2	0.53	9.00%	40.65	0.1
	inc	191.80	199.00	7.5	0.88	13.00%	45.25	0.25
	and	239.50	247.00	7.5	1.01	5.00%	66.48	0.1
CH-11		68.00	113.00	45	0.793	10.00%	53.1	0.17
		68.00	84.90	16.9	1.088	8.00%	65.95	0.14
		104.90	113.80	8.9	1.017	10.00%	52.95	0.15
CH-12		79.60	101.00	21.6	0.869	5.00%	52.31	0.15
	inc	88.60	94.60	6	0.975	5.00%	53.52	0.13
CH-13		102.20	207.50	105.3	0.694	10.00%	57.83	0.14
	inc	102.20	118.50	16.3	0.817	10.00%	45.37	0.14
	and	164.00	203.00	39	0.846	9.00%	59.41	0.13
		279.60	298.00	18.4	0.47	5.00%	53.29	0.06
CH-14		59.30	89.10	29.8	0.605	10.00%	37.97	0.11
	inc	82.60	89.10	6.5	0.879	7.00%	44.91	0.12
	inc	88.60	89.10	0.5	1.789	6.00%	74.33	0.05
		230.00	233.00	3	1.196	6.00%	23.79	0.16
CH-15		156.90	180.20	23.3	0.61	14.00%	49.45	0.3
CH-16		57.00	86.00	29	0.503	11.00%	45.03	0.07
	inc	80.00	86.00	6	0.77	8.00%	79.53	0.08
		150.20	181.30	31.1	0.391	9.00%	28.67	0.09
	inc	176.80	181.30	4.5	0.742	9.00%	44.12	0.19
CH-17		85.00	120.00	35	0.85	8.00%	37.76	0.13
	inc	94.50	101.00	6.5	2.06	6.00%	59.04	0.16
		221.00	248.00	27	0.54	12.00%	30.29	0.19
	inc	221.00	228.50	7.5	1.12	8.00%	40.07	0.09
CH-18		206.70	209.70	3	0.62	9.50%	30.92	0.11
		231.90	234.90	3	1.06	17.00%	68.95	0.23
		249.80	251.50	5	1.15	15.00%	28.87	0.13
		254.00	254.80	0.8	4.44	14.00%	59.03	0.31

The highest TREO values returned were 4.44% over 0.8 metres from hole CH-18 and 2.45% over 4.9 metres from hole CH-09. Both intersections had high Fe₂O₃(T) concentrations of 59.03% and 46.21% respectively.

The concentration of heavy rare earth elements is variable throughout the carbonatite – magnetite zone. As a percentage of the TREO composition, the heavy rare earth oxides range from a low of 5% to a maximum of 32%. The carbonatite - magnetite zone is LREE enriched. Cerium, Lanthanum, Neodymium comprise the majority of the REE composition. Expressed as oxides, the average distribution of each in the mineralized intersections is 44% Ce₂O₃, 25% La₂O₃ and 14% Nd₂O₃. Table 4 lists the REO distribution of the mineralized intersections.

Table 6: REO distribution of mineralized intersections.

Hole		FROM (m)	TO (m)	Interval (m)	La ₂ O ₃ (%)	Ce ₂ O ₃ (%)	Pr ₂ O ₃ (%)	Nd ₂ O ₃ (%)	Sm ₂ O ₃ (%)	Eu ₂ O ₃ (%)	Gd ₂ O ₃ (%)	Tb ₂ O ₃ (%)	Dy ₂ O ₃ (%)	Ho ₂ O ₃ (%)	Er ₂ O ₃ (%)	Tm ₂ O ₃ (%)	Yb ₂ O ₃ (%)	Lu ₂ O ₃ (%)	Y ₂ O ₃ (%)
CH-01		35.50	178.00	142.50	0.11	0.19	0.0208	0.0698	0.0108	0.0030	0.0076	0.0010	0.0052	0.0009	0.0024	0.0003	0.0020	0.0003	0.026
	inc	76.60	82.50	5.90	0.04	0.09	0.0106	0.0378	0.0083	0.0026	0.0073	0.0010	0.0048	0.0008	0.0019	0.0003	0.0015	0.0002	0.019
	and	92.00	102.00	10.00	0.28	0.44	0.0420	0.1290	0.0196	0.0056	0.0159	0.0023	0.0115	0.0020	0.0050	0.0006	0.0039	0.0006	0.059
CH-02		127.60	147.00	19.40	0.14	0.26	0.0282	0.0975	0.0179	0.0056	0.0159	0.0023	0.0119	0.0021	0.0054	0.0008	0.0047	0.0007	0.060
	inc	129.60	133.80	4.20	0.21	0.41	0.0445	0.1560	0.0298	0.0100	0.0288	0.0043	0.0221	0.0038	0.0102	0.0014	0.0091	0.0014	0.12
		156.00	159.00	3.00	0.23	0.37	0.0351	0.1079	0.0152	0.0049	0.0141	0.0020	0.0101	0.0018	0.0044	0.0006	0.0034	0.0005	0.059
		216.50	230.40	13.90	0.36	0.56	0.0489	0.1490	0.0173	0.0039	0.0108	0.0013	0.0064	0.0012	0.0032	0.0005	0.0028	0.0004	0.036
	inc	216.50	220.40	3.90	0.69	1.03	0.0814	0.2251	0.0226	0.0045	0.0135	0.0014	0.0065	0.0012	0.0036	0.0005	0.0033	0.0005	0.040
CH-03		164.00	203.00	39.00	0.11	0.22	0.0223	0.0824	0.0119	0.0029	0.0079	0.0009	0.0044	0.0007	0.0017	0.0002	0.0011	0.0001	0.019
CH-04		65.00	110.00	45.00	0.11	0.22	0.0250	0.0996	0.0191	0.0045	0.0107	0.0012	0.0055	0.0009	0.0025	0.0003	0.0020	0.0003	0.027
	and	105.70	110.00	4.30	0.24	0.50	0.0531	0.1832	0.0278	0.0073	0.0200	0.0025	0.0123	0.0021	0.0054	0.0007	0.0039	0.0006	0.055
CH-05		96.30	132.60	36.30	0.10	0.19	0.0201	0.0727	0.0110	0.0025	0.0062	0.0007	0.0033	0.0006	0.0016	0.0002	0.0013	0.0002	0.017
	inc	108.80	112.40	3.60	0.32	0.62	0.0623	0.2166	0.0327	0.0075	0.0182	0.0020	0.0093	0.0016	0.0043	0.0006	0.0036	0.0005	0.048
	inc	180.50	191.00	10.50	0.22	0.41	0.0399	0.1421	0.0197	0.0045	0.0106	0.0012	0.0055	0.0009	0.0025	0.0003	0.0020	0.0003	0.029
	and	180.50	185.00	4.50	0.38	0.66	0.0576	0.1941	0.0266	0.0060	0.0151	0.0017	0.0082	0.0014	0.0039	0.0005	0.0032	0.0005	0.046
CH-06		158.00	210.00	52.00	0.15	0.28	0.0274	0.0986	0.0140	0.0036	0.0091	0.0012	0.0059	0.0011	0.0028	0.0004	0.0024	0.0003	0.031
	inc	169.20	173.50	4.30	0.50	0.91	0.0797	0.2747	0.0323	0.0069	0.0210	0.0025	0.0129	0.0024	0.0066	0.0009	0.0058	0.0009	0.074
		239.00	304.50	65.50	0.14	0.27	0.0283	0.0999	0.0161	0.0043	0.0114	0.0015	0.0073	0.0013	0.0033	0.0004	0.0025	0.0004	0.035
	inc	250.30	256.30	6.00	0.22	0.46	0.0479	0.1708	0.0278	0.0071	0.0188	0.0025	0.0120	0.0021	0.0054	0.0007	0.0038	0.0005	0.058
CH-07		222.00	232.00	10.80	0.30	0.53	0.0491	0.1650	0.0212	0.0054	0.0145	0.0019	0.0093	0.0016	0.0041	0.0005	0.0031	0.0004	0.046
CH-08		79.20	83.00	3.80	0.12	0.23	0.0233	0.0898	0.0251	0.0098	0.0303	0.0045	0.0233	0.0041	0.0112	0.0016	0.0098	0.0013	0.135
		97.00	149.50	52.50	0.13	0.23	0.0225	0.0790	0.0130	0.0039	0.0111	0.0016	0.0085	0.0015	0.0040	0.0006	0.0033	0.0005	0.044
	inc	97.00	104.50	7.50	0.15	0.28	0.0273	0.0996	0.0195	0.0064	0.0201	0.0030	0.0146	0.0025	0.0067	0.0009	0.0057	0.0008	0.080
	inc	97.00	98.50	1.50	0.30	0.55	0.0518	0.1831	0.0333	0.0103	0.0326	0.0044	0.0200	0.0033	0.0080	0.0010	0.0055	0.0007	0.100
	and	116.50	126.10	9.60	0.14	0.29	0.0286	0.1023	0.0175	0.0054	0.0152	0.0024	0.0129	0.0023	0.0060	0.0008	0.0048	0.0007	0.065
	and	137.50	149.50	12.00	0.22	0.36	0.0313	0.1008	0.0131	0.0035	0.0094	0.0013	0.0065	0.0012	0.0032	0.0005	0.0028	0.0004	0.038
		180.00	200.00	20.00	0.13	0.25	0.0267	0.0889	0.0120	0.0029	0.0071	0.0008	0.0042	0.0008	0.0020	0.0003	0.0017	0.0003	0.021
	inc	180.00	185.00	5.00	0.17	0.31	0.0306	0.1141	0.0174	0.0042	0.0106	0.0013	0.0061	0.0011	0.0028	0.0004	0.0023	0.0003	0.032
CH-		124.50	201.10	76.60	0.17	0.31	0.0295	0.1024	0.0164	0.0044	0.0110	0.0014	0.0067	0.0012	0.0031	0.0004	0.0026	0.0004	0.035

09	inc	150.80	155.70	4.90	0.60	1.16	0.1061	0.3444	0.0449	0.0109	0.0282	0.0037	0.0184	0.0033	0.0091	0.0012	0.0074	0.0011	0.11
		214.80	235.60	20.80	0.13	0.28	0.0294	0.1045	0.0139	0.0034	0.0079	0.0010	0.0049	0.0009	0.0023	0.0003	0.0018	0.0003	0.024
	inc	214.80	219.90	5.10	0.22	0.41	0.0399	0.1352	0.0165	0.0040	0.0093	0.0011	0.0050	0.0008	0.0020	0.0003	0.0016	0.0002	0.024
CH-10		190.30	276.50	86.20	0.13	0.24	0.0242	0.0817	0.0114	0.0029	0.0077	0.0010	0.0049	0.0009	0.0023	0.0003	0.0020	0.0003	0.024
	inc	191.80	199.30	7.50	0.23	0.37	0.0349	0.1095	0.0173	0.0053	0.0161	0.0023	0.0117	0.0020	0.0055	0.0008	0.0050	0.0007	0.062
	and	239.50	247.00	7.50	0.26	0.48	0.0473	0.1549	0.0172	0.0036	0.0089	0.0010	0.0057	0.0011	0.0032	0.0005	0.0027	0.0004	0.026
CH-11		68.00	113.00	45.00	0.18	0.36	0.0378	0.1216	0.0182	0.0048	0.0128	0.0015	0.0074	0.0013	0.0036	0.0005	0.0031	0.0004	0.040
	inc	68.00	84.90	16.90	0.27	0.50	0.0528	0.1576	0.0205	0.0053	0.0150	0.0018	0.0086	0.0015	0.0041	0.0006	0.0034	0.0005	0.045
	and	104.90	113.80	8.90	0.23	0.45	0.0479	0.1527	0.0257	0.0071	0.0193	0.0023	0.0109	0.0019	0.0049	0.0007	0.0040	0.0006	0.055
CH-12		79.60	101.20	21.60	0.24	0.39	0.0424	0.1331	0.0160	0.0037	0.0096	0.0010	0.0046	0.0008	0.0020	0.0003	0.0015	0.0002	0.023
	inc	88.60	94.60	6.00	0.25	0.45	0.0493	0.1598	0.0188	0.0041	0.0106	0.0011	0.0049	0.0008	0.0020	0.0003	0.0015	0.0002	0.023
CH-13		102.20	207.50	105.30	0.16	0.31	0.0324	0.1088	0.0169	0.0045	0.0114	0.0014	0.0069	0.0012	0.0032	0.0004	0.0026	0.0004	0.036
	inc	102.20	118.50	16.30	0.20	0.35	0.0387	0.1282	0.0200	0.0054	0.0138	0.0017	0.0080	0.0014	0.0036	0.0005	0.0029	0.0004	0.043
	and	164.00	203.00	39.00	0.21	0.38	0.0374	0.1206	0.0181	0.0049	0.0131	0.0017	0.0082	0.0015	0.0039	0.0005	0.0031	0.0004	0.043
		279.60	298.00	18.40	0.12	0.23	0.0229	0.0707	0.0076	0.0019	0.0044	0.0005	0.0021	0.0004	0.0010	0.0001	0.0008	0.0001	0.010
CH-14		59.30	89.10	29.80	0.13	0.26	0.0291	0.1043	0.0163	0.0042	0.0104	0.0013	0.0060	0.0011	0.0028	0.0004	0.0023	0.0003	0.032
	inc	82.60	89.10	6.50	0.25	0.40	0.0365	0.1154	0.0157	0.0040	0.0104	0.0012	0.0059	0.0011	0.0028	0.0004	0.0022	0.0003	0.034
	inc	88.60	89.10	0.50	0.55	0.81	0.0679	0.2180	0.0310	0.0070	0.0194	0.0021	0.0100	0.0018	0.0049	0.0007	0.0041	0.0006	0.066
		230.00	233.00	3.00	0.37	0.53	0.0498	0.1440	0.0196	0.0052	0.0148	0.0016	0.0074	0.0012	0.0031	0.0004	0.0023	0.0003	0.040
CH-15		156.90	180.20	23.30	0.13	0.25	0.0250	0.0938	0.0180	0.0059	0.0162	0.0022	0.0101	0.0017	0.0041	0.0005	0.0029	0.0004	0.044
CH-16		57.00	86.00	29.00	0.11	0.21	0.0249	0.0866	0.0136	0.0032	0.0090	0.0012	0.0058	0.0010	0.0028	0.0004	0.0023	0.0003	0.030
	inc	80.00	86.00	6.00	0.17	0.35	0.0391	0.1329	0.0195	0.0046	0.0121	0.0015	0.0069	0.0012	0.0029	0.0004	0.0022	0.0003	0.033
		150.20	181.30	31.10	0.10	0.17	0.0179	0.0603	0.0089	0.0022	0.0060	0.0007	0.0037	0.0007	0.0018	0.0002	0.0015	0.0002	0.020
	inc	176.80	181.30	4.50	0.20	0.33	0.0317	0.1027	0.0135	0.0034	0.0096	0.0013	0.0066	0.0012	0.0033	0.0005	0.0028	0.0004	0.036
CH-17		85.00	120.00	35.00	0.23	0.39	0.0355	0.1183	0.0160	0.0042	0.0110	0.0014	0.0069	0.0012	0.0033	0.0004	0.0026	0.0003	0.039
	inc	94.50	101.00	6.50	0.58	0.97	0.0847	0.2655	0.0312	0.0075	0.0191	0.0023	0.0115	0.0020	0.0057	0.0008	0.0045	0.0006	0.067
		221.00	248.00	27.00	0.17	0.31	0.0314	0.1101	0.0174	0.0050	0.0140	0.0020	0.0097	0.0017	0.0043	0.0006	0.0033	0.0004	0.048
	inc	221.00	228.50	7.50	0.29	0.51	0.0486	0.1595	0.0200	0.0051	0.0137	0.0018	0.0093	0.0017	0.0044	0.0006	0.0034	0.0005	0.047
CH-18		231.90	234.90	3.00	0.27	0.41	0.0374	0.1320	0.0274	0.0096	0.0286	0.0041	0.0200	0.0033	0.0083	0.0011	0.0066	0.0009	0.098
		249.80	251.50	5.00	0.24	0.39	0.0372	0.1504	0.0449	0.0144	0.0364	0.0048	0.0222	0.0035	0.0088	0.0011	0.0068	0.0010	0.10
		254.00	254.80	0.80	1.18	1.85	0.1580	0.5049	0.1061	0.0362	0.1010	0.0145	0.0684	0.0114	0.0277	0.0036	0.0199	0.0028	0.35

4.1.1 *Sample Methodology and Analytical Techniques*

Core samples from the drilling sites were delivered from the drill site daily to Rare Earth Metals Inc. camp. At the company's core shed, drill core samples were taken at geologically significant intervals, typically over one and half meters. Core recovery was approximately 90 – 95%. The designated sample intervals were cut using a diamond saw or manual core splitter. One half of the core was selected for geochemical analysis with the remaining half being placed back into the core box. Care was taken to ensure that neither half of the core represents a bias with respect to the nature and mineral content of the sample. The sample interval and methodology are consistent with industry standards. Drill core samples were packaged in “rice” bags and sealed with a unique security tag number that was recorded. The sealed rice bags were taken from camp to Kapuskasing by Rare Earth Metals Inc. employees and handed to Manitoulin Transport personnel for delivery to Activation Laboratories Ltd.'s (Actlabs) facility in Thunder Bay,

Ontario for sample preparation then forwarded on to Ancaster, Ontario for analysis. Samples were prepared for analysis using a lithium metaborate/tetraborate fusion method. An analytical package including the analysis of major oxides by ICP-OES and a suite of 43 trace elements by ICP-MS was implemented. Niobium was determined by XRF. Accuracy and precision of the results is further tested by Activation Labs through the systematic inclusion of reference samples and duplicate samples. Actlabs is an ISO 17025 (Lab 266) and NELAP (lab E87979) accredited lab for specific registered tests. A breakdown of the elements and oxides measured within the analytical methods employed are as follows:

Fusion ICP OES: SiO₂, Al₂O₃, Fe₂O₃ (T), MnO, MgO, CaO, Na₂O, K₂O, TiO₂, P₂O₅, LOI, Sc, Be, V, Sr, Y, Zr and Ba

Fusion ICP-MS: Cr, Co, Ni, Cu, Zn, Ga, Ge, As, Rb, Mo, Ag, In, Sn, Sb, Cs, , Bi, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, W, Tl, Pb, Th, U.

Fusion XRF: Nb

An additional 113 reject pulps were submitted to ALS Chemex for check analysis. Certificates of Analysis for these samples are locate in Appendix E.

5.0 Conclusions and Recommendations

A total of 18 drill holes, totalling 5432.5m were conducted on the Clay-Howells Property in 2010. Significant rare earth mineralization associated with a magnetite bearing carbonatite was intersected in all holes. The drilling has outlined multiple lenses of near surface magnetite, Rare Earth Element, and Niobium mineralization over a strike length of 700m, and drilled widths of up to 105m.

The magnetite bearing carbonatite remains open along strike to the east-northeast, west and down dip.

Further drilling is recommended to test the extent of the mineralization along these vectors.

References

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- Gittins, J., MacIntyre, R. and York, D.
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1988: Geology of Carbonatite - Alkalic Rock Complexes in Ontario: Clay-Howells Alkalic Rock Complex, District of Cochrane; Ontario Geological Survey, Study 37, 104p.
- Shklanka, R.
1968: Iron Deposits of Ontario; Ontario Department of Mines, Mineral Resources Circular 11, p.110.

Statement of Qualifications

I, Glen T. Penney, do hereby certify that:

I am an employee of Rare Earth Metals Inc., a publicly listed company on the Vancouver Stock Exchange, with a business address of RR#2 3250, West Arthur St., Thunder Bay, Ont., P7C 4V1.

1. I graduated with a B. Sc. (Hons.) degree in Geology from Memorial University of Newfoundland and Labrador in St. John's, NL in 2001.
2. I have worked continuously in the mineral exploration industry since 2005 and have worked in various areas in Newfoundland and Labrador, Manitoba, Ontario and Saskatchewan.
3. I have no direct interests in the mineral licenses referenced in this report.
4. I have a direct interest in Rare Earth Metals Inc. through various stock option issuances.
5. I have authored this report based on involvement with the supervision and compilation of fieldwork on the referenced mineral licenses.

Signed and dated in Newfoundland, this 30th day of September, 2011.



Glen T. Penney

Rare Earth Metals Inc.

Paul E Nielsen, P.Geo
170 Inglewood Cr.
Thunder Bay, Ontario,
Canada, P7C 2E9
Telephone: 807-475-5934
Email: pnielsen@tbaytel.net

I, Paul Nielsen, do hereby certify that:

1. I am an independent geologist doing contract work for Rare Earth Metals Inc., and reside at 170 Inglewood Cr., Thunder Bay, ON.
2. I hold the following academic qualifications:
B.Sc. (Hons) Geology (1974), Lakehead University, Thunder Bay, Ontario, Canada
I am a member of the Association of Professional Geoscientists of Ontario (Member #1130).
I have worked in the mineral exploration industry throughout Canada including New Brunswick, Ontario, Manitoba, British Columbia and the Northwest Territories for more than 30 years as a geologist.
3. I am not aware of any material fact or material changes with respect to the subject matter of this report, the omission of which would make this report misleading.

Dated this 30th Day of September, 2011.

Respectfully Submitted



Paul E. Nielsen, P.Geo.

Appendix A – List of Personnel

Employee/Contractor	Man Days	Activities
Glen Penney <i>St. John's, NL (REM)</i>	50	Drilling Supervisor, Prospecting Supervisor, Core Logging, Data Compilation, Report Writing
Calvin Keats <i>Benton, NL (REM)</i>	30	Drilling Support, Camp Logistics
Paul Nielsen <i>Thunder Bay, ON (Paul Nielsen P.Geo Consulting)</i>	15	GIS Compilation - Support
Reg Felix <i>Bathurst, NB (Felix Geo-Consultants Inc.)</i>	15	Data Compilation, Supervision
Calvin Crocker <i>Benton, NL (REM)</i>	30	Expediting
Robert Chattaway <i>Thunder Bay, ON</i>	21	Core Logging
David Sutherland <i>Kapuskasing, ON</i>	21	Labourer
Kyle Linklater <i>Cochrane, ON</i>	21	Core Splitter
Zach Archibald <i>Cochrane, ON</i>	21	Core Splitter
Emerson Cheechoo <i>Kapuskasing, ON</i>	21	Labourer
Total	245	

Appendix B – List of Contractors

Contractor/Vendor	Location	Services & Products
Activation Laboratories	Ancaster, ON	Sample Analysis
Norex Drilling Ltd.	Timmons, ON	Diamond Drill Contractor
A.S.K Prospecting	Gander, NL	Field Supplies
Super 8 Hotel	Kapuskasing, ON	Accommodations
Wilderness Helicopters	Happy Valley – Goosebay, NL	Helicopter Support
Stares Contracting	Thunder Bay, ON	Camp Logistical and Prospecting Support
Felix Geo-Consultants Inc.	Bathurst, NB	Data Compilation, Supervision
Paul Nielsen, PGeo Consulting	Thunder Bay, ON	GIS support
Porcupine Canvas	Timmins, ON	Camp Materials / Field Supplies
Hussey Geophysics	Timmins, ON	Line-cutting and ground magnetics survey
Manitoulin Transport	Kapuskasing, ON	Cartage Support
Nordic Rentals	Kapuskasing, ON	Equipment Rentals
Air Canada	Toronto, ON.	Air Transportation
Bear Skin Airlines	Timmins ON.	Air Transportation
Knowles Building Centre	Kapuskasing, ON	Camp Materials
A Tremblay Contracting	Kapuskasing, ON	Road Maintenance/Construction
Infosat Communications LP	Calgary, AB	Iridium Sat Phone Usage
Johnson Geophysics	Timmins, ON	Data Compilation

Appendix C – Statement of Expenditures

Cost Item	Total Cost
Labour	\$60,775.00
Assay Lab Analyses	\$177,477.00
Wilderness Helicopters	\$41,445.00

Ground Transportation	\$20,556.00
Equipment Rentals	\$16,975.00
Norex Drilling Contract	\$477,967.00

Food & Accommodations	\$35,465.00
Supplies	\$14,451.00

Total	\$845,111.00

Appendix D – Drill Logs

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-01
Project Clay Howells
Length 313 meters
Started Jan 28 2010
Completed Jan 30 2010
Easting 424336
Northing 5519536
Elevation 196 m

TESTS								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-45.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 of
Reg Felix/ Bob Chattaway
 NQ
 MIF in Carbonitite
 Norex
 Hole collared approx. 85 meters NW from 1958
 ddh section. L104+50E/100+25N

From	To	Description	Sample Number	From	To	Interval							
0.00	32.40	Overburden	414001	32.00	33.00	1.00	see assay certificates for results						
			414002	33.00	34.00	1.00							
32.40	35.50	Syenite	414003	34.00	35.00	1.00							
			414004	35.00	35.50	0.50							
		Grey white to red brown, coarse grained alkaline intrusive/breccia (syenite?) with occasional fine hairline to 1 cm wide fractures at varying degrees to the core axis. Weakly mineralized with 1-2% magnetite.	414005	35.50	36.50	1.00							
			414006	36.50	37.50	1.00							
			414007	37.50	38.50	1.00							
35.50	92.30	Syenite	414008	38.50	39.50	1.00							
			414009	39.50	40.50	1.00							
		Pink to grey green, medium to coarse grained alkaline intrusive/breccia/carbonatite contact zone with varying amounts of magnetite mineralization occurring as massive magnetite bands and as disseminations and blebs	414010	40.50	41.50	1.00							
		38.8-39.7, felsite (monzanite) dyke, pinkish white, weakly magnetic.	414011	41.50	42.50	1.00							
		(35.5 - 48.2) - 10-30% magnetite	414012	42.50	43.50	1.00							
		(50.7 - 52.7)- > 50 % massive magnetite	414013	43.50	44.50	1.00							
		(55 - 57.2) - 10-30 % magnetite	414014	44.50	45.50	1.00							
		(65.6 - 67.5) - 10-30 % magnetite	414015	45.50	46.5	1.00							
		(70 - 70.3) - > 50 % magnetite	414016	46.5	47.50	1.00							
		(73 - 78.5) - 10-30% magnetite	414017	47.50	48.20	0.70							
		(81 -81.5) - >50% massive magnetite	414018	48.20	48.70	0.50							
		(87.3 - 88.8) - >50% massive magnetite	414019	48.70	49.70	1.00							
		89.3-90.0, Diabase dyke, pyroxene phenos	414020	49.70	50.70	1.00							
		90.0-90.5, Carbonatite, amphibolite-rich, magnetic seams	414021	50.70	51.70	1.00							
		90.5-92.3, Diabase dyke	414022	51.70	52.30	0.60							
			414023	52.30	53.30	1.00							
			414024	53.30	54.30	1.00							
92.30	178.00	Carbonatite	414025	54.30	55.00	0.70							
			414026	55.00	56.00	1.00							
		Green and white carbonatite mineralized with varying amounts of magnetite as blebs, fine bands and disseminations as well as local beds of massive magnetite iron formation	414027	56.00	56.70	0.70							
		92.3--94.2, Carbonatite, amphibolite-rich, weakly magnetic.	414028	56.70	57.20	0.50							
		(94.2 - 94.6) - > 50% massive magnetite	414029	57.20	58.20	1.00							
		94.6-95.9, Diabase dyke	414030	58.20	59.20	1.00							
		(95.9 - 101.6) - 30-50% magnetite in carbonatite	414031	59.20	60.20	1.00							
		(101.6 - 122.1) - 5 -10% magnetite as blebs and disseminations in amphibolite-rich carbonatite	414032	60.20	61.20	1.00							
		122.1-122.9, pink felsite dyke	414033	61.20	62.20	1.00							
		(122.9 - 124.2) - 10-30% magnetite in carbonatite	414034	62.20	63.20	1.00							
		124.2-128.1, amphibole-rich carbonatite	414035	63.20	64.20	1.00							
		(128.1 - 147.7) - 10 -30% finely banded magnetite in carbonatite	414036	64.20	64.80	0.60							
		147.7-151.5, carbonatite with amphibolite and carbonatite-magnetite and magnetic seams.	414037	64.80	65.60	0.80							
		151.5-153.1, Diabase dyke with calcite veining	414038	65.60	66.60	1.00							
		(153.1 - 158.5) - > 50% massive magnetite in carbonatite-magnetite	414039	66.60	67.60	1.00							
		with 10-30% in massive bands from 2 cm to 30 cm wide)	414040	67.60	68.60	1.00							
			414041	68.60	69.60	1.00							
			414042	69.60	70.10	0.50							

Rare Earth Metals Inc. DIAMOND DRILL LOG

DDH Number CH-01

Page 2 of)

From	To	Description	Sample Number	From	To	Interval							
92.30	178.00	Carbonatite 158.5-159.7, diabase dyke with magnetic inclusions 159.7-178.0, carbonatite with very high amphibolite content (biotite) and magnetic seams	414043	70.10	70.6	0.50							
			414044	70.6	71.6	1.00							
			414045	71.6	72.6	1.00							
			414046	72.6	73.6	1.00							
			414047	73.6	74.6	1.00							
178.00	181.00	Syenite Medium grained, green colour	414048	74.6	75.6	1.00							
			414049	75.6	76.6	1.00							
			414050	76.6	77.6	1.00							
			414051	77.6	78.60	1.00							
181	209	Diabase dyke fine grained with pyroxene phenos	414052	78.60	79.00	0.40							
			414053	No sample	Lost core								
			414054	80.00	81.00	1.00							
			414055	81.00	82.00	1.00							
			414056	82.00	82.50	0.50							
209.00	247.00	Syenite Medium grained, massive, green and weakly magnetic	414057	82.50	83.00	0.50							
			414058	83.00	84.00	1.00							
			414059	84.00	85.00	1.00							
			414060	85.00	86.00	1.00							
247.00	266.00	Diabase dyke fine grained with pyroxene phenos and some syenite inclusions	414061	86.00	87.00	1.00							
			414062	87.00	88.00	1.00							
			414063	88.00	89.00	1.00							
			414064	89.00	90.00	1.00							
266.00	311.00	Syenite Medium grained, green and massive. EOH Casing left in hole. Hole cemented and capped. Core stored in camp.	414065	90.00	91.00	1.00							
			414066	91.00	92.00	1.00							
			414067	92.00	93.00	1.00							
			414068	93.00	94.00	1.00							
			414069	94.00	94.60	0.60							
			414070	94.60	95.40	0.80							
			414071	95.40	96.00	0.60							
			414072	96.00	97.00	1.00							
			414073	97.00	97.50	0.50							
			414074	97.50	98.50	1.00							
			414075	98.50	99.50	1.00							
			414076	99.50	100.50	1.00							
			414077	100.50	101.00	0.50							
			414078	101.00	102.00	1.00							
			414079	102.00	103.00	1.00							
			414080	103.00	104.00	1.00							
			414081	104.00	105.00	1.00							
			414082	105.00	106.00	1.00							
			414083	106.00	107.00	1.00							
			414084	107.00	108.00	1.00							
			414085	108.00	109.00	1.00							
			414086	109.00	110.00	1.00							
			414087	110.00	111.00	1.00							
			414088	111.00	112.00	1.00							
			414089	112.00	113.00	1.00							
			414090	113.00	114.00	1.00							
			414091	114.00	115.00	1.00							
			414092	115.00	116.00	1.00							

Rare Earth Metals Inc. DIAMOND DRILL LOG

DDH Number CH-01

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From	To	Description	Sample Number	From	To	Interval	Au ppb	Pt ppb	Pd ppb	Co ppm	Cu ppm	Ni ppm
			414093	116.00	117.00	1.00						
			414094	117.00	118.00	1.00						
			414095	118.00	119.00	1.00						
			414096	119.00	120.00	1.00						
			414097	120.00	121.00	1.00						
			414098	121.00	122.00	1.00						
			414099	122.00	123.00	1.00						
			414100	123.00	124.00	1.00						
			414101	124.00	125.00	1.00						
			414102	125.00	126.00	1.00						
			414103	126.00	127.00	1.00						
			414104	127.00	128.00	1.00						
			414105	128.00	129.00	1.00						
			414106	129.00	130.00	1.00						
			414107	130.00	131.00	1.00						
			414108	131.00	132.00	1.00						
			414109	132.00	133.00	1.00						
			414110	133.00	134.00	1.00						
			414111	134.00	135.00	1.00						
			414112	135.00	136.00	1.00						
			414113	136.00	137.00	1.00						
			414114	137.00	138.00	1.00						
			414115	138.00	139.00	1.00						
			414116	139.00	140.00	1.00						
			414117	140.00	141.00	1.00						
			414118	141.00	142.00	1.00						
			414119	142.00	143.00	1.00						
			414120	143.00	144.00	1.00						
			414121	144.00	145.00	1.00						
			414122	145.00	146.00	1.00						
			414123	146.00	147.00	1.00						
			414124	147.00	148.00	1.00						
			414125	148.00	149.00	1.00						
			414126	149.00	150.00	1.00						
			414127	150.00	151.00	1.00						
			414128	151.00	152.00	1.00						
			414129	152.00	153.00	1.00						
			414130	153.00	154.00	1.00						
			414131	154.00	155.00	1.00						
			414132	155.00	156.00	1.00						
			414133	156.00	157.00	1.00						
			414134	157.00	158.00	1.00						
			414135	158.00	159.00	1.00						
			414136	159.00	159.70	0.70						
			414137	159.70	160.50	0.80						
			414138	160.50	161.50	1.00						
			414139	161.50	162.50	1.00						
			414140	162.50	163.50	1.00						
			414141	163.50	164.50	1.00						
			414142	164.50	165.50	1.00						

Rare Earth Metals Inc. DIAMOND DRILL LOG

DDH Number CH-01

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From	To	Description	Sample Number	From	To	Interval	Au ppb	Pt ppb	Pd ppb	Co ppm	Cu ppm	Ni ppm
			414143	165.50	166.50	1.00						
			414144	166.50	167.50	1.00						
			414145	167.50	168.50	1.00						
			414146	168.50	169.50	1.00						
			414147	169.50	170.50	1.00						
			414148	170.50	171.50	1.00						
			414149	171.50	172.00	0.50						
			414150	172.00	173.00	1.00						
			414151	173.00	174.00	1.00						
			414152	174.00	175.00	1.00						
			414153	175.00	176.00	1.00						
			414154	176.00	177.00	1.00						
			414155	177.00	178.00	1.00						
			414156	178.00	179.00	1.00						
			414157	179.00	180.00	1.00						
			414158	180.00	181.00	1.00						
			414159	181.00	182.00	1.00						
			414160	182.00	183.00	1.00						
			414161	183.00	184.00	1.00						
			414162	184.00	185.00	1.00						
			414163	185.00	186.00	1.00						
			414164	186.00	187.00	1.00						
			414165	187.00	188.00	1.00						
			414166	188.00	189.00	1.00						
			414167	189.00	190.00	1.00						
			414168	190.00	191.00	1.00						
			414169	191.00	192.00	1.00						
			414170	192.00	193.00	1.00						
			414171	193.00	194.00	1.00						
			414172	194.00	195.00	1.00						
			414173	195.00	196.00	1.00						
			414174	196.00	197.00	1.00						
			414175	197.00	198.00	1.00						
			414176	198.00	199.00	1.00						
			414177	199.00	200.00	1.00						
			414178	200.00	201.00	1.00						
			414179	201.00	202.00	1.00						
			414180	202.00	203.00	1.00						
			414181	203.00	204.00	1.00						
			414182	204.00	205.00	1.00						
			414183	205.00	206.00	1.00						
			414184	206.00	207.00	1.00						
			414185	207.00	208.00	1.00						
			414186	208.00	209.00	1.00						
			414187	209.00	210.00	1.00						
			414188	210.00	211.00	1.00						
			414189	211.00	212.00	1.00						
			414190	212.00	213.00	1.00						
			414191	223.00	224.00	1.00						
			414192	233.00	234.00	1.00						

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH02
Project Clay Howells
Length 359.0 m
Started 2010-01-31
Completed 2011-02-02
Easting 424307*
Northing 5519575*
Elevation/Zone 191*/ Zone 17U

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-45.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 4
R.T. Chataway
NQ
MIF in Carbonatite
Norex Drilling Services
Grid Loc'n: L104+50E/100+75N

* measurements taken with Garmin 60cxs

From	To	Description	Sample Number	From	To	Interval							
0.00	36.00	Casing											
		Sand, clay and boulders, granitic boulders at bedrock interface.											
36.00	41.10	Syenite	414201	49.00	50.00	1.00	see assay certificates for results						
			414202	50.00	51.00	1.00							
		A variable unit with fine and coarse grained sections. Non-magnetic.	414203	51.00	52.00	1.00							
		36.0-39.1, fine grained, pinkish to green tinge, sheared feldspar crystals on mm-scale.	414204	52.00	53.00	1.00							
		39.1-41.1, coarse grained, brecciated, creamy pink syenite.	414205	53.00	54.00	1.00							
			414206	54.00	55.00	1.00							
41.10	114.80	Syenite	414207	55.00	56.00	1.00							
			414208	56.00	57.00	1.00							
		Fine grained, dark greenish-black colour, weakly magnetic.	414209	57.00	58.00	1.00							
		Numerous syenitic-filled fractures, averaging 1-3 cm but up to 20 cm wide with core angles of 15-45 degrees to CA.	414210	58.00	59.00	1.00							
		Very minor patchy magnetite in bands at 45 degrees to CA.	414211	68.00	69.00	1.00							
		carbonate fractures, mm-scale at 45 degrees to CA.	414212	69.00	70.00	1.00							
			414213	70.00	71.00	1.00							
		51.5-53.0, coarse grained syenite with amphibolite.	414214	71.00	71.50	0.50							
		53.0-58.2, fine grained amphibolite.	414215	71.50	72.50	1.00							
		58.2-60.1, coarse grained syenite with amphibolite patches and minor hematite alteration, earthy, dusty red-brown colour.	414216	80.00	81.00	1.00							
		Trace of purple fluorite crystals.	414217	81.00	82.00	1.00							
		60.1-68.4, amphibolite with coarse grained syenitic mineralization as injections.	414218	82.00	83.00	1.00							
		Weakly magnetic from 66.8-68.0.	414219	83.00	84.00	1.00							
		68.4-71.2, Syenite with variable aphibolite content, strong magnetism in bands at 69.5 (5cm) and 69.7 (2cm) at 70-80 degrees to CA	414220	84.00	85.00	1.00							
		71.2-73.5, Coarse grained syenite.	414221	85.00	86.00	1.00							
		73.5-80.0, Amphibolite, magnetic to 74.5.	414222	86.00	87.00	1.00							
		Light coloured mineral banding at 78.5 at 65 degrees to CA.	414223	87.00	88.00	1.00							
		80.0-81.0, Syenite with minor amphibolite patches interstitial to feldspar grains.	414224	88.00	89.00	1.00							
		81.0-90.6, Amphibolite with minor hematitic alteration.	414225	89.00	90.00	1.00							
		Magnetic banding at 84.8 (10cm) at 65 degrees to CA.	414226	90.00	90.50	0.50							
		Generally non-magnetic, trace of sulphide content, py/po	414227	90.50	91.50	0.50							
		Weak carbonate alteration.	414228	99.00	100.00	1.00							
		90.6-99.5, creamy-pink to greenish colour, pegmatitic, patchy interstal amphibole alteration	414229	100.00	101.00	1.00							
		brecciated, siderite alteration (brown)	414230	101.00	102.00	1.00							
		99.5-104.8, amphibolite-rich, dark greenish-black, non-magnetic, carbonate alteration	414231	102.00	103.00	1.00							
		104.8-106.9, syenite, pegmatitic, brecciated, non-magnetic	414232	103.00	104.00	1.00							
		106.9-108.8, amphibolite-rich, fractures of pegmatitic syenite	414233	104.00	104.80	0.80							
		108.8-114.8, medium grained syenite, mineralogical banding at 30 degrees to CA	414234	104.80	105.80	1.00							
		Some very fine grained, hard sections of syenite.	414235	105.80	106.80	1.00							
		114.1-114.3, magnetite, >50%, banded at 40 degrees to CA.	414236	106.80	107.80	1.00							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH02

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From	To	Description	Sample Number	From	To	Interval						
114.80	136.30	Carbonatite	414237	107.80	108.80	1.00						
		Fine grained to medium grained medium grey colour carbonatite with faint banding of magnetite at 30-40 degrees to CA	414238	108.80	109.80	1.00						
		114.8-118.8, Moderately strong magnetism (30%) throughout unit	414239	109.80	110.80	1.00						
		118.8-122.6, Strongly magnetic, (50%) magnetite, minor syenite inclusions?	414240	110.80	111.80	1.00						
		Very strongly altered, earthy, vuggy.	414241	111.80	112.80	1.00						
		Banding of magnetite at 30 degrees to CA. Some lost core noted, up to 1 meter.	414242	112.80	113.80	1.00						
		122.6-127.6, Grey-white syenite with minor amphiboles as weak banding at 30 degrees to CA.	414243	113.80	114.80	1.00						
		Non-magnetic, well fractured.	414244	114.80	115.80	1.00						
		127.6-130.6, carbonatite with amphibole alteration and magnetite, banding at 45 degrees to CA.	414245	115.80	116.80	1.00						
		130.6-136.3, strongly magnetic (50%) magnetite, very crumbly core, minor carbonatite	414246	116.80	117.80	1.00						
		From 132.6-133.1, earthy, pyrrhotite mineralization, weakly magnetic.	414247	117.80	118.80	1.00						
		From 133.5-133.8, strongly magnetic (50%) magnetite, reddish-brown dolomitic alteration, bedding at 30 degrees to CA	414248	118.80	119.80	1.00						
		From 134.9-136.3, strongly magnetic (50%) magnetite	414249	119.80	120.80	1.00						
			414250	120.80	121.70	0.90						
136.30	143.30	Syenite	414251	121.70	122.60	0.90						
			414252	122.60	123.60	1.00						
		Fine grained, sheared, very hard, schistosity at 60 degrees to CA	414253	123.60	124.60	1.00						
		Lower contact altered to mica	414254	124.60	125.60	1.00						
			414255	125.60	126.60	1.00						
143.30	232.00	Carbonatite	414256	126.60	127.60	1.00						
			414257	127.60	128.60	1.00						
		Highly carbonate-rich, variable textures and disseminated and banded magnetite mineralization.	414258	128.60	129.60	1.00						
		143.3-143.9, 50-80% magnetite with banding at 30-40 degrees to CA (pyrite beds)	414259	129.60	130.60	1.00						
		143.9-159.0, weakly carbonated, amphibolite-rich to 147.0 Xenoliths (1-10cm) of felsic material, monzonite? And strong carbonate alteration below 147.0 gives the core a blotchy appearance.	414260	130.60	131.60	1.00						
			414261	131.60	132.60	1.00						
		Occasional fragments of magnetite at 155.3, 157.1-157.7, 158.1-159.0 that are 50-80% magnetite.	414262	132.60	133.80	1.20						
		159.0-212.6, blotchy carbonated amphibolite with xenoliths of magnetite (1-10cm). Carbonate content to 50%.	414263	133.80	134.90	1.10						
		Weakly to moderately magnetic throughout unit. Magnetite occurs in short sections of carbonatite as patches and as fragments with greater than 50% magnetite.	414264	134.90	135.70	0.80						
			414265	135.70	136.30	0.60						
		212.6-232.0, carbonatite unit with sharp contact at 20 degrees to CA	414266	136.30	137.00	0.70						
		Crystalline magnetite and carbonate mineralization, strongly magnetic.	414267	137.00	137.70	0.70						
		From 214.5-217.2, mainly non-magnetic coarse grained amphibolite-rich carbonatite	414268	137.70	138.50	0.80						
		From 217.2-232.0, banded magnetite-rich carbonatite with 30-50% magnetite, bands at 35-45 degrees to CA	414269	138.50	140.00	1.50						
		Some brecciated amphibolite-rich sections over short lengths at 219.7-220.1, 225.4-226.6, 228.5-230.7, 231.3-232.0.	414270	140.00	141.50	1.50						
			414271	141.50	142.60	1.10						
232.00	301.70	Diabase Dyke	414272	142.60	143.30	0.70						
			414273	143.30	143.90	0.60						
		A fine grained, equigranular, hard light grey-green, weakly magnetic rock	414274	143.90	144.90	1.00						
		Occasional biotite-hornblende-carbonate filled fractures.	414275	144.90	146.00	1.10						
		235.2-237.1, Coarse crystalline carbonate vein	414276	146.00	147.00	1.00						
		245.4-246.6, Banded magnetite (50%), core angles of 50 degrees.	414277	147.00	148.00	1.00						
		246.6-254.8, fine grained syenite, weakly magnetic	414278	148.00	149.00	1.00						
		254.8-257.2, Banded magnetite (50%) at 10-35 degrees to CA	414279	149.00	150.00	1.00						
		257.2-283.5, Dyke, with strong alteration, potassic, reddish-brown colour over top 1.7m.	414280	150.00	151.00	1.00						
		From 272.2-274.0, carbonate vein	414281	151.00	152.00	1.00						
		From 274.0-277.0, syenite dyke, weakly magnetic from magnetite or pyrrhotite	414282	152.00	153.00	1.00						
		From 277.0-283.5, chilled margin, very hard, very fine grained, minor calcite veining	414283	153.00	154.00	1.00						
		283.5-301.7, Syenite, coarse grained to medium grained with some dyke inclusions.	414284	154.00	155.00	1.00						

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH02

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From	To	Description	Sample Number	From	To	Interval							
301.70	359.00	Syenite	414285	155.00	156.00	1.00							
			414286	156.00	157.00	1.00							
		Coarse grained, green, amphibolite-rich with 20-40%	414287	157.00	158.00	1.00							
		318.0-318.5, diabase dyke, chilled lower margin, potassic alteration in syenite for 2 cm. Contact at 50 degrees to CA.	414288	158.00	159.00	1.00							
		318.7-320.5, diabase dyke	414289	159.00	160.10	1.10							
		325.1-325.9, calcite vein with 1cm pyrrhotite band along upper contact at 50 degrees to CA.	414290	160.10	161.00	0.90							
		325.9-340.5, Medium to coarse grained, equigranular, massive syenite with calcite veining. Lack of any foliation.	414291	161.00	161.60	0.60							
		340.5-341.8, diabase dyke, minor syenite	414292	211.60	212.60	1.00							
		341.8-347.5, Medium to coarse grained syenite with calcite veining and potassic alteration associated with diabase.	414293	212.60	213.70	1.10							
		347.5-359.0, Diabase dyke with minor syenite and calcite veining.	414294	213.70	214.50	0.80							
			414295	214.50	215.50	1.00							
	359.00	EOH	414282	152.00	153.00	1.00							
		Casing left in hole.	414296	215.50	216.50	1.00							
		Hole cemented and capped.	414297	216.50	217.40	0.90							
		Core stored at camp.	414298	217.40	218.40	1.00							
			414299	218.40	219.40	1.00							
			414300	219.40	220.40	1.00							
			414301	220.40	221.40	1.00							
			414302	221.40	222.40	1.00							
			414303	222.40	223.40	1.00							
			414304	223.40	224.40	1.00							
			414305	224.40	225.40	1.00							
			414306	225.40	226.40	1.00							
			414307	226.40	227.40	1.00							
			414308	227.40	228.40	1.00							
			414309	228.40	229.40	1.00							
			414310	229.40	230.40	1.00							
			414311	230.40	231.40	1.00							
			414312	231.40	232.40	1.00							
			414313	232.40	233.40	1.00							
			414314	233.40	234.40	1.00							
			414315	244.60	245.40	0.80							
			414316	245.40	246.00	0.60							
			414317	246.00	246.80	0.80							
			414318	246.80	247.80	1.00							
			414319	254.00	254.80	0.80							
			414320	254.80	255.80	1.00							
			414321	255.80	256.40	0.60							
			414322	256.40	257.20	0.80							
			414323	257.20	258.20	1.00							
			414324	269.00	270.00	1.00							
			414325	280.00	281.00	1.00							
			414326	290.00	291.00	1.00							
			414327	301.00	302.00	1.00							
			414328	313.00	314.00	1.00							
			414329	326.00	327.00	1.00							
			414330	337.00	338.00	1.00							
			414331	355.00	356.00	1.00							

RARE EARTH METALS INC. DIAMOND DRILL LOG

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From	To	Description	Sample Number	From	To	Interval							
			414456	161.60	162.60	1.00							
			414457	162.60	163.60	1.00							
			414458	163.60	164.60	1.00							
			414459	164.60	165.60	1.00							
			414460	165.60	166.60	1.00							
			414461	166.60	167.60	1.00							
			414462	167.60	168.60	1.00							
			414463	168.60	169.60	1.00							
			414464	169.60	170.60	1.00							
			414465	170.60	171.60	1.00							
			414466	171.60	172.60	1.00							
			414467	172.60	173.60	1.00							
			414468	173.60	174.60	1.00							
			414469	174.60	175.60	1.00							
			414470	175.60	176.60	1.00							
			414471	176.60	177.60	1.00							
			414472	177.60	178.60	1.00							
			414473	178.60	179.60	1.00							
			414474	179.60	180.60	1.00							
			414475	180.60	181.60	1.00							
			414476	181.60	182.60	1.00							
			414477	182.60	183.60	1.00							
			414478	183.60	184.60	1.00							
			414479	184.60	185.60	1.00							
			414480	185.60	186.60	1.00							
			414481	186.60	187.60	1.00							
			414482	187.60	188.60	1.00							
			414483	188.60	189.60	1.00							
			414484	189.60	190.60	1.00							
			414485	190.60	191.60	1.00							
			414486	191.60	192.60	1.00							
			414487	192.60	193.60	1.00							
			414488	193.60	194.60	1.00							
			414489	194.60	195.60	1.00							
			414490	195.60	196.60	1.00							
			414491	196.60	197.60	1.00							
			414492	197.60	198.60	1.00							
			414493	198.60	199.60	1.00							
			414494	199.60	200.60	1.00							
			414495	200.60	201.60	1.00							
			414496	201.60	202.60	1.00							
			414497	202.60	203.60	1.00							
			414498	203.60	204.60	1.00							
			414499	204.60	205.60	1.00							
			414500	205.60	206.60	1.00							
			414501	206.60	207.60	1.00							
			414502	207.60	208.60	1.00							
			414503	208.60	209.60	1.00							
			414504	209.60	210.60	1.00							
			414505	210.60	211.60	1.00							

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH03
Project Clay Howells
Length 506 m
Started 2010-02-04
Completed 2010-02-09
Easting 424413mE
Northing 5518884mN
Elevation/Zone 203/17U

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	325	-45.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 4
R.T.Chataway
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L101+50E/94+50N

From	To	Description	Sample Number	From	To	Interval							
0.00	50.00	Overburden											
		Sand and clay layers with boulders near bedrock.	414422	59.00	59.70	0.70	see assay certificates for results						
50.00	205.40	Carbonatite	414332	59.70	60.70	1.00							
			414333	60.70	61.70	1.00							
			414334	61.70	62.70	1.00							
		A carbonate rock with strong amphibolite-rich alteration and net textured carbonate. The rock is dark greenish-black with rounded xenoliths of syenite. Generally weakly magnetic except for strongly magnetic seams, 1-5 cm wide at 40 degrees to CA.	414335	62.70	63.40	0.70							
		60.7-63.4, fine grained grey-white carbonate with fine to medium grained magnetite grains along a foliation at 70 degrees to CA.	414336	63.40	64.30	0.90							
		63.4-110.7, a dark greenish-black carbonate with amphibolite alteration and net textured carbonate.	414337	70.20	71.00	0.80							
		Weakly magnetic xenoliths of syenite. Some potassic alteration of feldspars.	414338	71.00	72.00	1.00							
		From 72.3-74.0, a felsite dyke, light grey with minor amphibolites or local country rock xenoliths.	414339	72.00	72.80	0.80							
		From 76.0-83.5, an increase in carbonate content and large, 2 cm syenite fragments with alteration rims.	414340	72.80	73.30	0.50							
		From 82.5-82.8, magnetite seam (50%)	414341	73.30	74.00	0.70							
		From 82.8-110.7, variably textured, fine to coarse grained to pegmatitic, and variable carbonate content from 10-50%.	414342	81.40	82.30	0.90							
		Some pink calcite veining.	414343	82.30	83.00	0.70							
		Magnetite occurs as disseminations and patchy seams throughout	414344	83.00	84.00	1.00							
		Increase in syenite inclusions near lower contact.	414345	155.00	156.00	1.00							
		110.7-125.5, carbonatite with coarse grained reddish-brown amorphous feldspar crystals in a fine grained green matrix.	414346	156.00	157.00	1.00							
		Weakly magnetic	414347	157.00	158.00	1.00							
		A few crystalline calcite veins at 118.0-118.5, 122.2-122.6 and 125.0-125.4.	414348	158.00	159.00	1.00							
		Minor carbonatite-magnetite over short sections at 125.4-125.7, 135.2-135.8 and 136.3-136.6.	414349	159.00	160.00	1.00							
		125.5-142.4, contact zone? Coarse grained syenite, brecciated, carbonate-rich interstitially, reddish-brown alteration of feldspars.	414350	160.00	161.00	1.00							
		Weakly magnetic unit	414351	161.00	162.00	1.00							
		minor veins or inclusions of carbonatite-magnetite, shearing at 45 degrees to CA	414352	162.00	163.00	1.00							
		142.4-162.4, carbonatite, fine grained with amphibolite, 60:40 ratio +/-20%. Banding at 30 degrees to CA.	414353	163.00	164.00	1.00							
		Weakly magnetic, disseminated grains. Brecciated texture with up to 5% xenoliths of syenite.	414354	164.00	165.00	1.00							
		From 147.8-149.1, potassic alteration of coarse grained, brecciated syenite.	414355	165.00	166.00	1.00							
		From 149.1-162.4, carbonatite, xenolithic texture, weakly to non-magnetic, patchy magnetite mineralization.	414356	166.00	167.00	1.00							
		Few veins of magnetic carbonatite.	414357	167.00	168.00	1.00							
		162.4-173.6, carbonatite with magnetite, highly variable textures, fine to coarse grained, moderately to strongly magnetic.	414358	168.00	169.00	1.00							
		Magnetite is disseminated in carbonatite and also occurs as veining and seams.	414359	169.00	170.00	1.00							
		Core angles are variable from 10-45 degrees to CA shown in banding.	414360	170.00	171.00	1.00							
		Brecciated, banded and amphibolite-rich.	414361	171.00	172.00	1.00							
		The following sections are strongly magnetic, 162.4-167.0, 168.4-171.4, 173.0-173.6.	414362	172.00	173.00	1.00							
		173.6-187.2, Carbonatite, amphibolite-rich, short sections of magnetite-rich carbonatite at 182.5-184.2 and at 185.0.	414363	173.00	174.00	1.00							
		Brecciated with minor syenite.	414364	174.00	175.00	1.00							
			414365	175.00	176.00	1.00							
			414366	176.00	177.00	1.00							
			414367	177.00	178.00	1.00							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH03

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From	To	Description	Sample Number	From	To	Interval						
50.00	205.40	Carbonatite (Cont'd)	414368	178.00	179.00	1.00						
		187.2-205.4, Carbonatite with magnetite, moderately strong magnetics. Uper contact at 10 degrees to CA.	414369	179.00	180.00	1.00						
		Fine grained, massive, equigranular, light grey with disseminated magnetite as grains and clusters to 10-20% by volume.	414370	180.00	181.00	1.00						
		Green amphibolite alteration over 0.6 m at contact.	414371	181.00	182.00	1.00						
			414372	182.00	183.00	1.00						
205.40	462.90	Syenite	414373	183.00	184.00	1.00						
			414374	184.00	185.00	1.00						
		Mixed syenite with variable textures and compositions.	414375	185.00	186.00	1.00						
		205.4-223.8, coarse grained, pinkish-grey with amphibolitic alteration, non-magnetic.	414376	186.00	187.00	1.00						
		Well fractured at 30 and 60 degrees to CA	414377	187.00	188.00	1.00						
		223.8-225.5, Solid bands of 80% magnetite at 45 degrees to CA	414378	188.00	189.00	1.00						
		226.3-226.7, mixed magnetite and amphiboles	414379	189.00	190.00	1.00						
		228.4-234.0, Bands of 50-80% magnetite over 0.3-1.0m with weakly magnetic syenite in between with core angles of 35 to CA	414380	190.00	191.00	1.00						
		234.0-242.0, Green and brown syenite with minor 10-40 cm bands of magnetite.	414425	191.00	192.00	1.00						
		242.0-253.5, Coarse grained syenite with amphibolitic alteration patches and bands that are weakly magnetic.	414426	192.00	193.00	1.00						
		Overall, syenite is non-magnetic.	414427	193.00	194.00	1.00						
		253.3-261.0, coarse grained, massive syenite.	414428	194.00	195.00	1.00						
		261.0-266.5, fine grained syenite	414429	195.00	196.00	1.00						
		266.5-293.9, coarse grained, massive syenite, weakly to non-magnetic.	414430	196.00	197.00	1.00						
		293.9-294., fine grained diabase dyke with feldspar phenos, non-magnetic	414431	197.00	198.00	1.00						
			414423	198.00	199.00	1.00						
		346.2-347.0, fine grained syenite	414424	199.00	200.00	1.00						
		348.3-349.4, fine grained syenite	414432	200.00	201.00	1.00						
		350.4-356.3, several 5-50cm calcite veins and fine grained syenite	414433	201.00	202.00	1.00						
		357.0-358.5, brown syenite, brecciated, sheared	414434	202.00	203.00	1.00						
		358.5-365.5, coarse grained massive, green syenite	414435	203.00	203.80	0.80						
		365.3-369.0, several veins of carbonatite-magnetite at 366.4 (0.5m), 367.2 (0.2m) and 368.2 (0.5m).	414436	203.80	204.60	0.80						
		369.0-426.9, coarse grained, massive, green syenite with minor fine grained sections and magnetic amphibolite-rich sections.	414437	204.60	205.40	0.80						
		426.9-428.6, Diabase dyke, feldspar phenos, weakly magnetic.	414438	205.40	206.30	0.90						
		Upper contact at 50 degrees to CA, lower at 50-60 to CA.	414381	221.00	222.00	1.00						
		428.6-462.9, coarse grained, non-magnetic syenite	414382	222.00	223.00	1.00						
			414383	223.00	223.80	8.00						
462.90	467.80	Carbonatite-magnetite	414384	223.80	224.80	1.00						
			414385	224.80	225.80	1.00						
		A strongly magnetic, fine grained grey rock with fine grained, disseminated magnetite to 50%.	414386	225.80	226.80	1.00						
		Faint banding at 60 degrees to CA. Some massive bands of magnetite-rich carbonatite at 466.3, 467.2 and 468.1.	414387	226.80	227.80	1.00						
			414388	227.80	228.80	1.00						
467.80	488.80	Syenite	414389	228.80	229.70	0.90						
			414390	229.70	230.60	0.90						
		Coarse grained, green syenite.	414391	230.60	231.60	1.00						
			414392	231.60	232.60	1.00						
488.80	492.40	Carbonatite-magnetite	414393	232.60	233.20	0.60						
			414394	233.20	233.90	0.70						
		Fine grained with disseminated magnetite to 30% and up to 50% locally in bands at 65 degrees to CA.	414395	233.90	234.90	1.00						
			414396	234.90	236.00	1.10						
			414397	236.00	237.00	1.00						
			414398	237.00	238.00	1.00						
			414399	238.00	239.00	1.00						

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH03

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From	To	Description	Sample Number	From	To	Interval						
492.40	506.00	Syenite	414400	239.00	240.00	1.00						
			414401	240.00	241.00	1.00						
		Fine grained, grey with some potassic alteration along micro fractures. Weakly magnetic.	414402	241.00	242.00	1.00						
			414403	242.00	243.00	1.00						
			414404	365.30	366.30	1.00						
	506.00	EOH. Casing left in hole and cemented and capped.	414405	366.30	367.40	1.10						
			414406	367.40	368.20	0.80						
		Core stored at camp.	414407	368.20	369.00	0.80						
			414408	462.00	462.90	0.90						
			414409	462.90	463.90	1.00						
			414410	463.90	464.90	1.00						
			414411	464.90	465.90	1.00						
			414412	465.90	466.40	0.50						
			414413	466.40	467.10	0.70						
			414414	467.10	467.80	0.70						
			414415	467.80	468.60	0.80						
			414416	488.00	488.80	0.80						
			414417	488.80	489.80	1.00						
			414418	489.80	490.80	1.00						
			414419	490.80	491.50	0.70						
			414420	491.50	492.40	0.90						
			414421	492.40	493.30	0.90						
			414439	140.45	141.45	1.00						
			414440	141.45	142.45	1.00						
			414441	142.45	143.45	1.00						
			414442	143.45	144.45	1.00						
			414443	144.45	145.45	1.00						
			414444	145.45	146.45	1.00						
			414445	146.45	147.80	1.35						
			414446	147.80	149.10	1.30						
			414447	149.10	150.10	1.00						
			414448	150.10	151.10	1.00						
			414449	151.10	152.10	1.00						
			414450	152.10	153.10	1.00						
			414451	153.10	153.80	0.70						
			414452	153.80	155.00	1.20						
			414453	206.30	207.30	1.00						
			414454	207.30	208.20	0.90						
			414455	208.20	209.30	1.10						
			414506	54.00	55.00	1.00						
			414507	55.00	56.00	1.00						
			414508	56.00	57.00	1.00						
			414509	57.00	58.00	1.00						
			414510	58.00	58.50	0.50						
			414511	58.50	59.00	0.50						
			414512	91.30	92.30	1.00						
			414513	92.30	93.30	1.00						
			414514	98.00	99.00	1.00						

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-04
Project Clay Howells
Length 170.00
Started 2010-02-10
Completed 2010-03-04
Easting 424187mE
Northing 5519223mN
Elevation/Zone 200

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-45.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 2
Bob Chataway
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L101+50E/98+50N

From	To	Description	Sample Number	From	To	Interval							
0.00	29.00	Casing Mainly sand and clay with boulders near bedrock.	415520	31.00	32.00	1.00							
			415521	32.00	33.00	1.00							
			415522	No sample Lost Core									
29.00	31.90	Syenite Medium grained, non-magnetic. 170 cps	415523	34.70	35.70	1.00							see assay certificates for results
			415524	35.70	37.20	1.50							
			415525	37.20	39.20	2.00							
31.90	45.50	Carbonatite Carbonate matrix is calcite dominant with local dolomitic sections. Amphibole-biotite porphyroblasts, 25-30% magnetite overall. and up to 50% magnetite locally in seams and clots. CPS avg is 275, maximum is 325 cps.	415526	39.20	40.20	1.00							
		40.7, low angle dolomitic-K-spar vein with minor epidote and pyrite	415527	40.20	41.70	1.50							
		42.0-42.6, strong alteration in fault zone, black to pale green colour, dolomitic.	415528	41.70	43.20	1.50							
			415529	43.20	44.70	1.50							
			415530	44.70	46.20	1.50							
			415531	46.20	47.00	0.80							
45.50	55.00	Syenite Fine grained, non-magnetic except as noted. Interleaved with carbonatite dykes?	415532	47.00	48.50	1.50							
		45.5-46.9, syenite, non-magnetic, 225 cps	415533	48.50	50.00	1.50							
		46.9-47.6, amphibolite-biotite rich, <20% carbonate, non-magnetic, 350 cps	415534	50.00	51.50	1.50							
		47.6-48.5, amphibolite, <10% calcite, weakly magnetic, <10% magnetite	415535	51.50	53.00	1.50							
		48.5-50.9, syenite, fine grained, moderately magnetic <10% magnetite, with coarse grained lower contact over 30 cm.	415536	53.00	54.50	1.50							
		50.9-53.4, amphibolite-biotite rich syenite	415537	54.50	56.00	1.50							
		53.4-55.0, medium grained syenite	415538	56.00	57.50	1.50							
			415539	57.50	59.00	1.50							
			415540	59.00	60.50	1.50							
55.00	71.00	Carbonatite Carbonate matrix with amphibolite-biotite porphyroblasts and syenite fragments	415541	60.50	62.00	1.50							
		55.0-57.7, porphyroblastic, 30% magnetite content	415542	62.00	63.50	1.50							
		57.7-58.4, fine grained syenite	415543	63.50	65.00	1.50							
		58.4-60.0, carbonatite with amphibolite-biotite porphyroblasts	415544	65.00	66.50	1.50							
		60.0-61.3, fine grained syenite	415545	66.50	68.00	1.50							
		61.-71.0, carbonatite with amphibolite-biotite prphyroblasts, some coarse grained biotite and hornblende.	415546	68.00	69.50	1.50							
		65.4-66.0, fine grained and coarse grained syenite	415547	69.50	71.00	1.50							
		66.0-71.0, carbonatite with coarse grained amphibolite-biotite porphyroblasts, weakly magnetic.	415548	71.00	72.50	1.50							
			415549	72.50	73.00	0.50							
			415951	73.00	74.00	1.00							
71.00	135.50	Carbonatite Medium-fine grained, equigranular texture, salt and pepper appearance, with >50% magnetite content. Interleaved with syenite throughout unit. Local intervals with up to 70% magnetite with purple fluorite.	415952	74.00	75.00	1.00							
		A total of 38.5 m of magnetic rich carbonatite over the 64.5 m interval, CPS in massive magnetite ranges from 1800-3000 cps.	415953	75.00	76.00	1.00							
		71.0-78.0, near massive to massive magnetite, >50% with fine to medium grained fluorite defining a fabric at 50 degrees to CA.	415954	76.00	77.00	1.00							
		78.0-78.5, fine grained syenite	415955	77.00	78.00	1.00							
		78.5-81.0, 60-70% massive magnetite	415956	78.00	78.50	0.50							
		81.0-82.7, massive magnetite >70%, with disseminated fine to medium grained fluorite defining a fabric at 30 degrees to CA.	415957	78.50	79.50	1.00							
		82.7-84.3, syenite, fine grained, non-magnetic	415958	79.50	80.50	1.00							
			415959	80.50	81.00	0.50							
			415960	81.00	81.50	0.50							
			415961	81.50	82.00	0.50							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-04

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From	To	Description	Sample Number	From	To	Interval							
71.00	135.50	Carbonatite (Cont'd)	415550	82.00	82.70	0.70							
		84.3-86.5, massive magnetite >70%	415551	82.70	84.10	1.40							
		86.5-87.3, syenite, fine grained, non-magnetic	415552	84.10	85.60	1.50							
		87.3-90.4, massive magnetite >70% with disseminated medium grained fluorite defining fabric at 50 degrees to CA	415553	85.60	87.10	1.50							
		87.3-90.4, massive magnetite >70% with disseminated medium grained fluorite defining fabric at 50 degrees to CA	415554	87.10	88.60	1.50							
		90.4-94.0, syenite, fine grained, lower contact at 50 degrees to CA with chlorite and biotite over 10 cm.	415555	88.60	89.60	1.00							
		94.0-95.0, massive magnetite >70%	415556	89.60	90.50	0.90							
		95.0-96.9, syenite, fine grained, low angle shear zone with potassic alteration	415557	90.50	92.00	1.50							
		96.9-97.9, massive magnetite >70%, syenite inclusions 1-3 cm, lower contact at 45 degrees to CA	415558	93.90	95.00	1.10							
		97.9-101.3, syenite, fine grained, calcite veins at 45 degrees to CA some with amphibolite alteration	415559	96.70	97.90	1.20							
		101.3-107.0, 30-50% magnetite, locally >50% as banding in equigranular dolomitic carbonatite. Banding at 60 degrees to CA	415560	101.00	102.50	1.50							
		107.0-110.4, syenite, medium grained, sharp lower contact	415561	102.50	103.50	1.00							
		110.4-112.1, massive magnetite >70%	415562	104.00	105.50	1.50							
		112.1-124.3, syenite, fine grained with calcite-amphibolite veining with potassic alteration on edge of vein	415563	105.50	107.00	1.50							
		117.5-119.5, amphibolite, medium grained to coarse grained with local sections of near massive magnetite >50%, 3 cm wide	415564	107.00	108.50	1.50							
		119.5-124.3, syenite, fine grained with lower 20 cm contact of amphibolite	415565	108.50	110.00	1.50							
		124.3-135.5, massive magnetite >70%, 1300-1800 cps	415566	110.00	111.00	1.00							
			415567	111.00	112.10	1.10							
135.50	170.00	Syenite	415568	117.50	119.00	1.50							
		Variable textured from fine to coarse grained to pegmatitic over short intervals (inclusions of syenite)	415569	119.00	120.50	1.50							
		135.5-150.0, syenite inclusions, weakly magnetic for fine grained syenite with near massive magnetite in sections	415570	120.50	122.00	1.50							
		150.0-169.0, medium grained, weakly magnetic, no fabric defined, amphibolite content to 20%, greenish-black with minor epidote.	415571	124.50	126.00	1.50							
		Occasional magnetite-rich amphibole clots interstitial to feldspar crystals	415572	126.00	127.50	1.50							
		169.0-170.0, fine grained syenite, non-magnetic, a little epidote alteration along irregular contact.	415573	127.50	129.00	1.50							
			415574	129.00	130.50	1.50							
170.00		EOH	415575	130.50	132.00	1.50							
		Casing left in hole.	415576	132.00	133.50	1.50							
		Core stored at camp on property.	415577	133.50	134.50	1.00							
			415578	134.50	135.40	0.90							
			415579	135.40	136.40	1.00							
			Infill Samples										
			599901	92.00	93.00	1.00							
			599902	93.00	93.90	0.90							
			599903	95.00	96.00	1.00							
			599904	96.00	96.70	0.70							
			599905	97.90	98.90	1.00							
			599906	98.90	99.90	1.00							
			599907	99.90	101.00	1.10							
			599908	112.10	113.60	1.50							
			599909	113.60	115.10	1.50							
			599910	115.10	116.60	1.50							
			599911	116.60	117.50	0.90							
			599912	122.00	122.60	0.60							
			599913	122.60	123.60	1.00							
			599914	123.60	124.50	0.90							
			599915	136.40	137.70	1.30							
			599916	137.70	139.20	1.50							

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-05
Project Clay Howells
Length 257.00
Started 2010-03-04
Completed 2010-03-06
Easting 424187mE
Northing 5519223mN
Elevation/Zone 200

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-70.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 3
 Bob Chataway/Glen Penny
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L101+50E/98+50N

From	To	Description	Sample Number	From	To	Interval							
0.00	21.00	Casing	415580	23.00	24.00	1.00							
			415581	24.00	25.30	1.30	see assay certificates for results						
21.00	42.00	Syenite	415582	26.70	27.40	0.70							
		Syenite is very coarse grained with a phaneritic texture. Contains euhedral amphibole crystals and clots up to 3-5 cm in diameter. Syenite is interleaved with 0.5-2m wide coarse grained amphibole-rich veins. Syenite is has weak to moderate hematite, potassic and local epidote alteration and is non-magnetic. CPS is 180-200 cps. Amphibole-rich veins are coarse grained amphibole, chlorite and biotite with weak hematite oxidation and 10-30% magnetite with some non-magnetic intervals. Amphibole veins comprise 20% of interval.	415583	31.20	32.00	0.80							
		21.0-54.5, probable fault zone with 80% core recovery. Core is very blocky with pebbles and mud seams and missing core.	415584	38.65	39.95	1.30							
		32.0-35.0, 1.1 m of lost core	415585	41.00	42.50	1.50							
		38.7-42.0, Strongly altered, heavily oxidized (dark orange brown with light purplish brown) interval, non-magnetic, CPS is 250-300	415586	43.40	44.00	0.60							
		38.0-41.0, 1m of lost core withb a 30 cm magnetic mud seam at 41.0m	415587	44.00	44.80	0.80							
			415588	46.00	47.50	1.50							
			415589	47.50	48.10	0.60							
			415590	49.80	51.20	1.40							
			415591	52.30	53.60	1.30							
			415592	59.00	60.00	1.00							
42.00	54.70	Fault Zone	415593	64.70	65.50	0.80							
		Dark grey to black amphibolite with 10-30% magnetite content with local intervals to >50%. Moderate fabric at 70 degrees to CA	415594	68.00	68.60	0.60							
		Core condition is very blocky with seams and pebbles. Magnetite-rich intervals are very friable, ptted and poch-marked.	415595	73.50	74.00	0.50							
		44.0-47.1, 1.3 m of lost core	415596	74.00	75.40	1.40							
		50.0-53.0, 0.8 m of lost core	415597	75.40	77.10	1.70							
		53.0-56.0, 1.1 m of lost core	415598	78.90	80.40	1.50							
		Possible alteration/metasomatized contact zone between syenite and carbonatite below.	415599	80.40	81.90	1.50							
			415600	81.90	83.40	1.50							
54.70	78.70	Syenite	415601	83.40	84.90	1.50							
		Light grey, fine grained, non-magnetic competent rock with <5% amphiboles.	415602	84.90	86.40	1.50							
		59.0-60.5, carbonatite, amphibole-biotite rich, dolomitic	415603	86.40	87.90	1.50							
		63.5-70.0, fault zone, less than 50% core recovery in bad ground, friable,	415604	87.90	89.40	1.50							
		64.3-69.0, carbonatite, amphibole-biotite rich, dolomitic	415605	89.40	90.90	1.50							
		72.3-77.1, carbonatite, amphibole-biotite rich, all with sharp contacts with the syenite unit.	415606	90.90	92.40	1.50							
			415607	92.40	93.90	1.50							
78.70	93.60	Carbonatite	415608	96.30	97.80	1.50							
		Coarse grained amphibolite and biotite porphyritic textured carbonatite with 10-30% magnetite and local intervals to >50% near massive magnetite. Syenite fragments, 2%, <5cm in diameter. The carbonatite unit is interleaved with fine grained, weakly to non-magnetic syenite. Carbonatite is intruded into syenite with massive coarse grained amphibolite and biotite and chlorite alteration zones along the contacts	415609	97.80	99.30	1.50							
			415610	99.30	100.00	0.70							
			415611	100.00	101.50	1.50							
			415612	101.50	103.00	1.50							
		83.-85.9, fine grained, non-magnetic magnetite	415613	103.00	104.50	1.50							
		90.0-93.6, mainly amphibolite with less than 10% carbonate and 10-30% magnetite. CPS is 350-400 cps.	415614	104.50	105.70	1.20							
			415615	105.70	106.30	0.60							
93.60	96.30	Syenite	415616	106.30	107.80	1.50							
		Fine to medium grained with weak fabric at 45 degrees to CA.	415617	107.80	108.80	1.00							
			415618	108.80	110.30	1.50							
			415619	110.30	111.30	1.00							
			415620	111.30	112.40	1.10							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-05

Page 2 of 3

From	To	Description	Sample Number	From	To	Interval							
96.30	112.50	Carbonatite	415621	129.70	130.60	0.90							
		Equigranular "salt and pepper" texture, with high magnetite content and interleaved with syenite.	415622	130.60	132.60	2.00							
		96.3-98.4, magnetite >50% with moderate fabric at 45 degrees to CA	415623	132.60	133.60	1.00							
		98.4-98.6, fine grained syenite, brecciate with chlorite-biotite matrix	415624	133.60	135.50	1.90							
		98.6-99.5, massive magnetite >70% with CPS at 160cps. Weak fabric at 90 degrees to CA	415625	135.50	136.90	1.40							
		99.1-99.3, syenite	415626	136.90	138.10	1.20							
		99.5-100.0, Syenite, upper contact at 25 degrees to CA.	415627	138.10	139.60	1.50							
		100.0-104.9, Carbonatite, equigranular, strong fabric at 45-50 degrees to CA	415628	139.60	141.10	1.50							
		102.5-103.0, amphibole-rich syenite	415629	141.10	142.60	1.50							
		104.9-105.6, massive magnetite>70%, with fine to medium grained disseminated fluorite crystals.	415630	142.60	144.10	1.50							
		105.6-106.2, Carbonatite, CPS is 800 cps. Upper contact is 45 degrees to CA.	415631	144.10	145.60	1.50							
		106.2-108.9, Syenite, fine grained, ampibole-rich section	415632	145.60	147.10	1.50							
		107.9-108.9, Amphibolite, very coarse grained hornblende, non-magnetic, > 20% carbonate. Two 5 cm bands of magnetite at 108.0 and 108.2 with >50% magnetite.	415633	147.10	148.60	1.50							
		108.9-109.8, carbonatite, equigranular texture, >50% magnetite. CPS is 600cps	415635	150.10	151.60	1.50							
		109.8-112.5, carbonatite, massive to near massive magnetite >50%. Cps is 530cps.	415636	151.60	153.10	1.50							
			415637	153.10	154.60	1.50							
112.50	130.60	Syenite	415638	154.60	156.10	1.50							
		Light grey colour, medium to coarse grained with very coarse grained amphiboles over top 1.5 m at contact.	415639	156.10	157.60	1.50							
		114.0-130.6, Medium grained, dark grey syenite, mafic content higher.	415640	157.60	159.10	1.50							
			415641	159.10	160.60	1.50							
130.60	163.50	Carbonatite	415642	160.60	162.10	1.50							
		A variable unit as to grain size, textures, inclusions and mineralization.	415643	162.10	163.60	1.50							
		130.6-132.1, massive magnetite >70%, disseminated fluorite, moderate fabric at 45 degrees to CA	415644	163.60	165.10	1.50							
		132.1-135.5, Equigranular texture, disseminated and banded magnetite to >50% and locally up to >70% (4-10 cm bands)	415645	174.80	176.30	1.50							
		135.5-137.0, Amphibolite -rich carbonatite with 10-30% magnetite	415646	176.30	177.80	1.50							
		137.0-143.0, fine to medium grained syenite, weakly magnetic <10%. CPS is 280-317cps.	415647	180.50	182.00	1.50							
		Lower contact at 40 degrees. Potassic alteration common.	415648	182.00	183.50	1.50							
		143.0-145.4, Equigranular "salt and pepper" textured carbonatite with 30-50% magnetite, highest grade at upper contact.	415649	183.50	185.00	1.50							
		145.4-155.0, Amphibolite, very coarse grained, <20% carbonate, 10-30% magnetite with 2-10 cm bands of massive magnetite >70% at 146.0,147.2, 147.6, 149.9, 150.2, 150.6. A 25 cm band of pyrite, 5-10%, at 153.6.	415650	185.00	186.50	1.50							
		Large syenite fragments from 151.0-155.0, CPS is 350cps. Patches of amphibolite-biotite alteration. Some carbonatite-magnetite veins in the syenite.	415651	186.50	188.00	1.50							
			415652	188.00	189.50	1.50							
			415653	189.50	191.00	1.50							
		155.0-158.0, Carbonatite, varitextured from mottled amphibolite rich to "salt and pepper" to amphibolite and biotite porphyritic with rounded to subrounded fragments of syenite, overall >50% magnetite.	415654	191.00	192.00	1.00							
			415655	192.00	193.00	1.00							
		158.0-159.0, mainly carbonatite with near massive magnetite >70%	415656	201.00	202.00	1.00							
		159.0-163.5, Carbonatite, 10-50% magnetite, variable, no alteration at lower sharp contact.	415657	208.50	209.00	0.50							
			599968	112.40	113.90	1.50							
163.50	180.50	Syenite	599969	113.90	115.40	1.50							
		Medium to coarse grained to pegmatitic texture.	599970	115.40	116.90	1.50							
		163.5-169.2, coarse grained syenite with 30-40% mafic content (amphibole and pyroxene and biotite). Potassic or hematite alteration of feldspars.	599971	116.90	118.40	1.50							
			599972	118.40	119.90	1.50							
		169.2-177.0, fine to medium grained syenite, light grey, weakly magnetic, mineral banding at 60 degrees to CA.	599973	119.90	121.40	1.50							
		17.0-178.0, very coarse grained amphibolite with >30% carbonatite and 10% magnetite. CPS is 460cps.	599974	121.40	122.90	1.50							
		178.0-180.5, syenite, fine to medium grained, light grey, weakly magnetic. CPS is 490cps.	599975	122.90	124.40	1.50							
		Sharp lower contact with amphibolite alteration over 20 cm above massive magnetite.	599976	124.40	125.90	1.50							
			599977	125.90	127.40	1.50							
			599978	127.40	128.90	1.50							
			599979	128.90	129.70	0.80							
			599984	93.90	95.40	1.50							

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-06
Project Clay Howells
Length 359.00
Started 2010-03-06
Completed 2010-03-08
Easting 424187mE
Northing 5519223mN
Elevation/Zone 200

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-88.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 3
 Bob Chataway/Glen Penny
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L101+50E/98+50N

From	To	Description	Sample Number	From	To	Interval	see assay certificate for results				
0.00	15.00	Casing	415658	39.70	41.20	1.50					
			415659	41.20	42.20	1.00					
15.00	37.00	Syenite	415660	44.00	45.15	1.15					
		Medium to coarse grained, 10-30% mafic content (amphiboles). Weakly magnetic, magnetite intergrown with mafics.	415661	47.90	48.90	1.00					
		29.0-37.0, core very blocky, poor recovery. CPS is 125-250cps.	415662	50.30	51.80	1.50					
			415663	51.80	53.00	1.20					
37.00	53.00	Amphibolite (carbonatite)??check core	415664	53.00	54.10	1.10					
		Fine to medium grained, 10-30% magnetite. Interleaved with medium to coarse grained syenite.	415665	54.50	56.00	1.50					
		CPS is 180-230cps at the top of the unit and 300-400cps at bottom.	415666	56.00	57.50	1.50					
			415667	57.50	59.00	1.50					
53.00	86.20	Fault Zone (Alteration Zone)	415668	59.00	60.50	1.50					
		The fault zone is very rubbly with approximately 65% core recovery for each sample in the fault. The carbonatite is hardly recognizable as it very altered. 10-30% magnetite content, and some syenite interleaved with the amphibolite rich carbonatite.	415669	60.50	62.50	2.00					
		The fault gouge is a dark green to black colour.	415670	62.50	63.50	1.00					
		53.0-56.0, Competent intervals are dark green, fine to medium grained with hematitic alteration of the porphyroblasts	415671	63.50	65.00	1.50					
		which are reddish-pink. Black intervals are poch marked, pitted and friable, commonly reduced to rubble, thus poor core recovery.	415672	65.00	68.00	3.00					
		56.0-71.0, Competent interval is dark green, grained with minor hematitic alteration. Phenocrysts are chalky white to buff beige.	415673	68.00	71.00	3.00					
		Black, friable amphibolite? comprise 60 % of the interval.	415674	71.00	73.00	2.00					
		71.0-80.0, Breccia, strongly altered with pervasive hematitic alteration and dark orange-red oxidation along cross-cutting	415675	73.00	75.00	2.00					
		network of veinlets. CPS is 275-300cps. Non-magnetic, no metallic minerals detected. Majority of core lost in this interval.	415676	75.00	78.00	3.00					
		80.0-86.2, Back, friable,pitted and poch marked amphibolite? CPS is 340-410cps.	415677	78.00	83.00	5.00					
			415678	83.00	86.00	3.00					
			415679	86.00	87.50	1.50					
86.20	159.80	Carbonatite	415680	87.50	89.00	1.50					
		Medium to coarse grained amphibolite and biotite porphyritic textured unit with 10-30% magnetite interleaved with 0.5-2.0m wide fine grained grey syenite (<5% of interval).	415681	89.00	90.50	1.50					
		86-2-95.0, 10-20% light to medium pink coloured fragments, <1mm to 2cm in diameter, potassic altered syenite?	415682	90.50	92.00	1.50					
		Core has a spotted pinkish hue. Fragments >1 cm commonly sub-rounded with light pale green cores and pink margins and enclose <0.5mm magnetite poikilocrysts.	415683	92.00	93.50	1.50					
		95.0-101.0, 10-20% magnetite, 10-15% of fragments hematized. Syenite intervals from 0.2-0.5m wide display weak hematitic alteration.	415684	93.50	95.00	1.50					
			415685	95.00	96.50	1.50					
		101.0-103.8, Fine grained, light grey syenite	415686	96.50	98.00	1.50					
			415687	98.00	99.50	1.50					
		103.8-159.8, Carbonatite, coarse grained, amphibolite and biotite porphyritic texture, no hematitic alteration.	415708	158.00	159.50	1.50					
		Mafic content up to 50-60%. Gradational lower contact over lower 1.2m. Fragments of syenite, 0.5-2cm across, are sub-rounded and a pale yellow-green colour.	415709	159.50	161.00	1.50					
			415710	161.00	162.50	1.50					
		116.5-117.5, fine grained syenite fragment	415711	162.50	164.00	1.50					
			415712	164.00	165.50	1.50					
		136.3-136.9, fine grained syenite fragment	415713	165.50	167.00	1.50					
			415714	167.00	169.20	1.50					
		145.0-159.8, increase in % of fragments down hole.	415715	169.20	170.70	1.50					
159.80	248.80	Carbonatite	415716	170.70	172.20	1.50					
		An equigranular "salt and pepper" textured unitinterleaved with coarse grained amphibolite rich sections with 20-40% syenite	415717	172.20	173.50	1.30					
		fragments and 30-50% magnetite, locally >50%.	415718	173.50	178.10	1.50					

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-06

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From	To	Description	Sample Number	From	To	Interval						
159.80	248.80	Carbonatite (Cont'd)	415719	179.60	180.90	1.30						
		159.8-166.5, salt and pepper carbonatite, 30-50% magnetite, more massive occurs as bands.	415720	182.60	184.10	1.50						
		Strong fabric at 20 degrees to CA. CPS is 700-100cps.	415721	184.10	185.60	1.50						
		166.5-168.0, Amphibolite-rich section (600cps), 10-30% magnetite as massive clots and bands (1200cps).	415722	185.60	187.10	1.50						
		168.0-170.5, salt and pepper fine grained carbonatite >50% magnetite. Lower contact is more massive.	415723	187.10	188.60	1.50						
		Moderate fabric at 30 degrees to CA. CPS is 750-1000cps.	415724	188.60	190.10	1.50						
		170.5-171.5, Amphibolite rich, (600cps), 10-30% magnetite as clots and bands (800-1159cps).	415725	190.10	191.60	1.50						
		171.5-172.6, salt and pepper carbonatite >50% magnetite, banded, (500-700cps).	415726	191.60	193.10	1.50						
		172.6-178.0, Amphibolite rich (650cps), with syenite fragments (breccia) with 10-20% magnetite as clots and bands.	415727	193.10	194.60	1.50						
		178.0-179.0, salt and pepper carbonatite >50% magnetite.	415728	194.60	196.10	1.50						
		179.0-181.1, massive to near massive magnetite >50% magnetite, fluorite is along a trend at 0 degrees to CA.	415729	196.10	197.60	1.50						
		181.1-182.6, syenite, fine grained, light grey, non-magnetic, contact at 5 degrees to CA.	415730	197.60	199.10	1.50						
		182.6-191.0, salt and pepper carbonatite, 30-50% magnetite as clots and bands from 2 cm to 30 cm locally >70% magnetite.	415731	199.10	200.60	1.50						
		Moderate fabric at 20 degrees to CA. CPS is 800-1500cps.	415732	200.60	202.10	1.50						
		186.0-187.0, near massive magnetite with amphibolite alteration on contacts.	415733	202.10	203.60	1.50						
		191.0-194.4, salt and pepper carbonatite, >50% magnetite. Carbonatite composition varies from dolomite to calcite.	415734	203.60	205.10	1.50						
		191.0-192.5, dolomite rich, magnetite varies from 10-30% to >50% magnetite.	415735	205.10	206.60	1.50						
		194.4-197.6, carbonatite, amphibolite-biotite rich, weakly magnetic, 10-20% magnetite. Contact at 20 degrees to CA.	415736	206.60	208.60	2.00						
		197.6-199.8, salt and pepper carbonatite, minor massive magnetite bands >50% magnetite	415737	208.60	209.10	0.50						
		199.8-201.7, Carbonatite, amphibolite-biotite rich, 10-20% magnetite	415738	209.10	210.60	1.50						
		201.-212.0, Carbonatite, salt and pepper texture, amphibole-biotite rich intervals.	415739	210.60	212.00	1.40						
		212.0-214.4, Amphibole-rich with 5-10 cm sized fragments. 10-20% magnetite as clts and seams 3-10 cm wide.	415740	214.40	215.90	1.50						
		Magnetite content increases down hole to massive magnetite below, (620-700cps).	415741	215.90	217.40	1.50						
		214.4-220.9, Massive to near massive magnetite 50-70% magnetite (650-1250cps).	415742	217.40	218.90	1.50						
		220.9-230.0, carbonatite, salt and pepper texture, 10-30% magnetite, locally to >50% (500-1000cps).	415743	218.90	220.40	1.50						
		230.0-231.5, coarse grained amphibolite rich, 30-50% magnetite decreases to 10-20% near lower contact with syenite (600cps)	415744	220.40	221.90	1.50						
		231.5-239.0, syenite, medium grained, light grey. (350-450cps).	415745	221.90	223.40	1.50						
		239.0-248.8, carbonatite, salt and pepper, 30-50% magnetite with local bands to 50-70% magnetite.	415746	223.40	224.90	1.50						
		241.0-244.0, amphibolite-biotite rich with magnetite	415747	224.90	226.40	1.50						
		244.0-248.0, carbonatite, salt and pepper texture	415748	226.40	227.90	1.50						
		247.6-248.8, dolomite is dominant.	415749	227.90	229.40	1.50						
		Moderate fabric of banding is 40 degrees to CA.	415750	229.40	230.90	1.50						
			415751	239.00	240.50	1.50						
248.80	274.00	Syenite	415752	240.50	242.00	1.50						
		Amphibolite-rich syenite breccia, possible brecciation/alteration of interleaved syenite interval. The earlier amphibole rich intervals may be a more advanced result of the alteration. Matrix is 10-20% carbonate, 2.5-5 cm wide clots of massive magnetite are intergrown with the amphibole and calcite in the breccia matrix. Local space filled areas >50% magnetite.	415753	242.00	243.10	1.10						
		CPS is 1000-2300cps.	415754	243.50	245.00	1.50						
		257.8-260.7, massive magnetite >50%. CPS is 1400cps.	415755	245.00	246.50	1.50						
		260.7-274.0, Amphibole rich syenite breccia is interleaved with 20-30 cm wide salt and pepper carbonatite intervals with 20-30% magnetite. Increase in magnetite content down hole, from 10% to 30-50% at 266.0-274.0m. CPS is 2300cps.	415756	246.50	248.00	1.50						
			415757	248.00	248.80	0.80						
			415758	248.80	250.30	1.50						
			415759	250.30	251.80	1.50						
			415760	251.80	253.30	1.50						
274.00	305.40	Carbonatite	415761	253.30	254.80	1.50						
		Equigranular, salt and pepper texture. Upper contact is coarse grained, gradational with above unit.	415762	254.80	256.30	1.50						
		285.2-286.3, massive magnetite >50%	415763	256.30	257.80	1.50						
		286.3-293.3, salt and pepper texture, 30-50% magnetite, fold nose at 288.0m, 0 degrees to CA. CPS is 550-1100cps.	415764	257.80	259.30	1.50						
		293.3-295.5, amphibole rich syenite breccia, 10-20% magnetite. CPS is 1200-1300cps.	415765	259.30	260.80	1.50						
		295.5-296.4, salt and pepper texture, 30-50% magnetite. CPS is 2300cps.	415766	260.80	262.30	1.50						
			415767	262.30	263.30	1.00						
			415768	269.00	270.50	1.50						

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-06

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From	To	Description	Sample Number	From	To	Interval	see assay certificate for results				
274.00	305.10	Carbonatite (Cont'd)	415769	270.50	272.00	1.50					
		296.4-297.4, massive magnetite >70%. CPS is 2100cps.	415770	272.00	273.50	1.50					
		297.4-303.6, salt and pepper carbonatite, >50% magnetite and locally >70% over 30 cm. CPS s 2100cps.	415771	273.50	275.00	1.50					
		303.6-305.1, salt and pepper carbonatite, >50% magnetite. CPS is 600cps.	415772	275.00	276.50	1.50					
			415773	276.50	278.00	1.50					
305.10	359.00	Syenite	415774	278.00	279.50	1.50					
		A variable unit with alternating and repetitive intervals of syenite, amphibolite alteration and carbonatite and some magnetite.	415775	279.50	281.00	1.50					
		305.1-307.1, amphibolite rich syenite breccia, 10-30% magnetite. CPS is 600cps.	415776	281.00	282.50	1.50					
		307.1-308.5, fine grained syenite, light grey, non-magnetic	415777	282.50	284.00	1.50					
		308.5-312.6, amphibolite rich breccia	415778	284.00	285.50	1.50					
		312.6-316.0, fine grained syenite	415779	285.50	287.00	1.50					
		316.0-316.2, massive magnetite >70% vein	415780	287.00	288.50	1.50					
		316.2-319.0, Amphibolite rich 10% magnetite	415781	288.50	290.00	1.50					
		319.0-320.5, fine grained syenite	415782	290.00	291.50	1.50					
		320.5-322.5, amphibolite rich	415783	291.50	293.00	1.50					
		322.5-325.0, fine grained syenite	415784	293.00	294.50	1.50					
		325.0-328.5, salt and pepper carbonatite vein >50% magnetite. Moderate fabric at 15 degrees to CA. CPS is 450cps.	415785	294.50	296.00	1.50					
		328.5-330.3, Amphibolite rich breccia, 10-30% magnetite, locally >50% magnetite in seams.	415786	296.00	297.50	1.50					
		330.3-333.6, fine grained syenite with 15 cm amphibole vein with magnetite.	415787	297.50	299.00	1.50					
		333.6-336.1 amphibole with 10% magnetite as massive clots.	415788	299.00	300.00	1.00					
		336.1-359.0, fine to medium grained syenite, light grey-green colour, weakly magnetic.	415688	300.00	301.50	1.50					
		Increase in mafic content down hole.	415689	301.50	303.00	1.50					
			415690	303.00	304.50	1.50					
359.00		EOH	415691	304.50	306.00	1.50					
		Casing left in hole.	415692	306.00	307.50	1.50					
		Core stored at camp.	415693	307.50	309.00	1.50					
			415694	309.00	310.50	1.50					
			415695	310.50	312.00	1.50					
			415696	312.00	313.50	1.50					
			415697	313.50	315.00	1.50					
			415698	315.00	316.00	1.00					
			415699	316.00	317.50	1.50					
			415700	317.50	319.00	1.50					
			599917	173.50	175.00	1.50					
			599918	175.00	176.50	1.50					
			599919	176.50	178.10	1.60					
			599920	180.90	181.90	1.00					
			599921	181.90	182.60	0.70					
			599922	212.00	213.00	1.00					
			599923	213.00	214.40	1.40					
			599924	230.90	232.40	1.50					
			599925	232.40	233.90	1.50					
			599926	233.90	235.40	1.50					
			599927	235.40	236.90	1.50					
			599928	236.90	238.40	1.50					
			599929	238.40	239.00	0.60					
			599930	263.30	264.80	1.50					
			599931	264.80	266.30	1.50					
			599932	266.30	267.80	1.50					
			599933	267.80	269.00	1.20					

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-07
Project Clay Howells
Length 350.00
Started 2010-03-08
Completed 2010-03-12
Easting 424127
Northing 5519154
Elevation/Zone 203

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-45.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 of 3
 Bob Chataway/Glen Penny
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L100+50E/98+50N

From	To	Description	Sample Number	From	To	Interval						
0.00	24.00	Casing	415789	71.00	72.00	1.00						
24.00	63.50	Syenite Weakly magnetic, <10%, medium to coarse grained, light to medium grey color. Trace - 1% pyrite. CPS is 99-150cps. Overall interval is very blocky. Increase in mafic content to 25% down hole and coarser grained to 56.2. 48.7-50.1, Light pink hematized zone, poch - marked, weak to moderate fabric @ 45 degrees to CA.	415790 415791 415792 415793 415794	72.90 74.00 75.50 95.00 96.50	74.00 75.50 77.00 96.50 98.00	1.10 1.50 1.50 1.50 1.50	see assay certificates for results					
63.50	68.00	Carbonatite-Amphibole Rich Dark green, amphibole+biotite+chlorite. <10% magnetite, weak to moderate hematite alteration in places. Moderate fabric @ 45-50 degrees to CA. CPS is 218-170cps. Interval is interleaved with weakly hematized and potassically altered syenite, 10 - 15% magnetite.	415795 415796 415797 415798	98.00 99.50 101.00 102.50	99.50 101.00 102.50 104.00	1.50 1.50 1.50 1.50						
68.00	74.00	Fault Zone: Very poor core condition, pebbles - rubble has dark orange - reddish oxidation. 73.0-74.0, fault breccia with light pink-red to dark orange staining. CPS is 250cps. Non-magnetite.	415799 415800 415801 415802	104.00 105.50 107.00 108.00	105.50 107.00 108.00 109.20	1.50 1.50 1.00 1.20						
74.00	97.40	Carbonatite-Amphibole Rich Dark green to black, <10% magnetite to non-magnetic. Syenite fragments throughout interval. 86.0-91.6, strong carbonate alteration, up to 20%. Magnetite increases to 10 - 30% as clots and seams. CPS is 315cps. 91.6-97.4, Syenite fragments, moderately hematized, <10% magnetite content, grades up to 30%, and locally 50% near lower contact with carbonatite. Moderate fabric of stretched amphibole clots at 30 degrees to CA.	415803 415804 415805 415806 415807 415808	109.20 110.30 111.80 113.30 114.40 116.00	110.30 111.80 113.30 114.40 116.00 117.50	1.10 1.50 1.50 1.10 1.60 1.50						
97.40	205.80	Carbonatite Variably textured, magnetite content varies from 10% to 30 - 50% to >50% locally in clots and seams. 97.4-99.7, contact zone with amphibole-rich carbonatite with strong magnetite to 70% and a trace of pyrite. 99.7-105.6, carbonatite, salt and pepper texture with syenite fragments 105.6-109.2, Syenite, medium - coarse grained. <10% magnetite, locally >50% massive magnetite and pyrite in 20cm bands. CPS is 640cps. 109.2-113.3, Salt and pepper textured carbonatite, 30-50% magnetite. Moderate fabric at 60 degrees to CA. CPS is 750-1000cps. 113.3-114.4, Massive magnetite, >70%, cross-cut by 0.5 -1mm wide crystalline calcite veins, <5% by vol. CPS is 1100-1900cps. 114.4-120.5, Syenite with carbonatite veins, 10-15cm wide, interleaved with amphibole rich sections, weakly magnetic locally >50% in 5-10cm bands and veins. CPS is 400-800cps. 120.5-121.5, Massive to near massive magnetite 50 to >70% over 50% of the core and 30% magnetite in carbonatite. 1200 cps. 121.5-133.6, Syenite, medium to coarse grained, weakly magnetic, <10%. CPS is 200cps. 133.6-137.1, "Salt and pepper" equigranular textured carbonatite, 30% except >50% magnetite in local 15-30cm wide bands. 137.1-139.4, amphibole rich syenite 139.4-146.2, Salt and pepper equigranular carbonatite, 30% magnetite. 146.2-147.0, Massive magnetite, >70%. CPS is 700-1200cps. 147.0-157.9, Carbonatite, whitish-grey colour, 10-30% magnetite, 60% carbonate. Faint banding at 65 degrees to CA. 151.4-153.0, Syenite, coarse grained. CPS is 120-150cps. 153.0-157.9, Whitish-grey carbonatite. CPS is 150cps.	415809 415810 415811 415812 415813 415814 415815 415816 415817 415818 415819 415820 415821 415822 415823 415824 415825 415826 415827 415828	117.50 119.00 120.50 121.50 122.50 133.00 134.00 135.50 137.00 138.50 140.00 141.50 143.00 144.50 146.00 147.00 148.50 150.00 151.50 153.50 155.00 156.50 157.80	119.00 120.50 121.50 122.50 134.00 135.50 137.00 138.50 140.00 141.50 143.00 144.50 146.00 147.00 148.50 150.00 151.50 153.50 155.00 156.50 157.80 159.30	1.50 1.50 1.00 1.00 1.00 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.00 1.50 1.50 1.50 1.50 1.30 1.50						

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-07

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From	To	Description	Sample Number	From	To	Interval							
97.40	205.80	Carbonatite (Cont'd)	415830	170.00	171.00	1.00							
		157.9-163.7, Syenite, moderately altered, hematite+chlorite+amphibole. CPS is 150cps.	415831	171.00	172.50	1.50							
		163.7-165.7, Carbonatite, 40% carbonate content, 10-20% magnetite.	415832	172.50	174.00	1.50							
		165.7- 171.0, Amphibole rich syenite, moderately hematized in places.	415833	174.00	175.50	1.50							
		171.0-186.6 white-light grey carbonatite with > 50% carbonate content, 20-30% magnetite, locally up to >50% at 181.6-182.9 and 183.5-184.2. Moderate fabric at 45-50 degrees to CA. CPS is 150-200cps.	415834	175.50	176.50	1.00							
		186.6-190.4, Syenite, fine grained. CPS is 200-400cps.	415835	176.50	178.00	1.50							
		190.4-193.0, Amphibolit syenite breccia, <10% magnetite.	415836	178.00	179.50	1.50							
		193.0-194.0, Massive to near massive magnetite 50-70% magnetite. Banding at 65 degrees to CA.	415837	179.50	181.00	1.50							
		194.0-201.8, Carbonatite, salt and pepper, equigranular textured, >50% carbonate, 10-30% magnetite. Carbonatite is interleaved with amphibole rich syenite, 10-30% magnetite, >50% locally in bands and clots, generally along contacts with syenite fragments (198.8-201.8). CPS is 300cps in carbonatite rich intervals, 450-550cps in magnetite rich intervals. Moderate fabric at 30-35 degrees to CA.	415838	181.00	182.50	1.50							
		201.8-205.8, amphibole rich coarse grained syenite with 10-20cm seams of massive magnetite.	415839	182.50	184.00	1.50							
			415840	184.00	185.50	1.50							
			415841	185.50	186.70	1.20							
			415842	188.50	190.00	1.50							
			415843	190.00	191.50	1.50							
			415844	193.00	194.50	1.50							
205.80	222.00	Syenite-Green syenite	415845	194.50	195.50	1.00							
		Coarse grained to pegmatitic, light grey-green, weakly magnetic <10%. Amphibole rich interval cut by coarse calcite. CPS is 200cps.	415846	195.50	196.20	0.70							
		219.3 - 222.0, amphibole rich interval with 10-30% magnetite with >50% magnetite locally as 10-20cm wide bands. Patchy, moderate hematite alteration. At contact, minor pyrite associated with amphiboles and magnetite. CPS is 300cps.	415847	196.20	197.70	1.50							
			415848	197.70	199.20	1.50							
			415849	199.20	200.70	1.50							
			415850	200.70	202.20	1.50							
222.00	231.30	Carbonatite	415851	202.20	203.70	1.50							
		Equigranular, 30-50% magnetite, locally 50% in bands 10-20cm wide. Moderate to strong fabric at 30-45 degrees to CA. Possible slump features, fold nose at 231.0. Local amphibolite and potassic alteration of syenite fragments.	415852	203.70	204.30	0.60							
			415853	204.30	205.80	1.50							
			415854	219.50	221.00	1.50							
231.30	250.00	Syenite	415855	221.00	222.00	1.00							
		Medium to coarse grained, dark grey colour. Weakly magnetic, <10% magnetite.	415856	222.00	223.50	1.50							
		231.3-233.0, amphibole rich syenite breccia, 10-30% magnetite, >50% in 0.8m wide band at contact wth light grey syenite.	415857	223.50	225.00	1.50							
		246.2-250.0, coarse grained, weak hematization, weak potassic alteration except strong on lower contact. CPS is 180-22cps.	415858	225.00	226.50	1.50							
			415859	226.50	228.00	1.50							
			415860	228.00	229.50	1.50							
250.00	272.10	Carbonatite	415861	229.50	231.00	1.50							
		Equigranular, salt and pepper texture, 30-50% magnetite as 5-30cm wide bands. Interleaved with 1-1.5m intervals of amphibole rich fragments. Core angles vary from 20-40 degrees to CA. CPS is 200-400cps.	415862	231.00	232.80	1.80							
		250.0-252.0, Dolomite and amphibolite alteration at upper contact.	415863	249.80	250.30	0.50							
		257.0-261.0, amphibole rich syenite with some massive magnetite seams.	415864	250.30	251.80	1.50							
		269.0, moderate fabric at 50 degrees to CA. CPS is 250-300cps.	415865	251.80	253.30	1.50							
		272.1, Contact with syenite down hole, 30cm wide massive magnetite band, >70% magnetite.	415866	254.10	255.60	1.50							
			415867	255.60	257.10	1.50							
			415868	257.10	258.60	1.50							
272.00	284.50	Syenite	415869	258.60	259.60	1.00							
		Amphibole rich, 10-30%, locally >50% as massvie band near lower contact. Weak potassic alteration. CPS is 150-200cps.	415870	260.60	262.10	1.50							
		280.0-281.0, magnetite seams in amphibolite.	415871	262.10	263.00	0.90							
			415872	263.60	265.10	1.50							
284.50	288.00	Carbonatite	415873	265.10	266.60	1.50							
		Equigranular, >60% carbonate content, white to light grey in color. 10-20% magnetite content. CPS is 120cps.	415874	266.60	268.10	1.50							
			415875	268.10	269.60	1.50							
			415876	269.60	271.10	1.50							
			415877	271.10	272.10	1.00							
			415878	279.80	281.00	1.20							

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-08
Project Clay Howells
Length 278.00
Started 08-03-2010
Completed 12-03-2010
Easting 424268
Northing 5519954
Elevation/Zone 202

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-45.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 3
Bob Chataway
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L103+50E/100+00N

From	To	Description	Sample Number	From	To	Interval							
0.00	30.00	Casing	415879	77.70	79.20	1.50							
			415880	79.20	80.00	0.80	see assay certificates for results						
30.00	77.90	Syenite	415881	80.00	81.00	1.00							
		Medium to coarse grained to pegmatitic, light grey weakly magnetic. Weak to moderate potassic alteration associated with more pegmatitic rock. Minor hematitic alteration localized to fractures.	415882	81.00	82.00	1.00							
			415883	82.00	83.00	1.00							
			415884	83.50	85.00	1.50							
77.90	118.70	Fault Zone	415885	85.00	86.50	1.50							
		77.9-84.0, a dirty brownish-grey colour, possibly a syenite altered badly. Strongly altered, friable, hematitic alteration with specular hematite crystals in seams and chlorite on fracture surfaces and apple green epidote or malachite.	415886	86.50	88.00	1.50							
		84.0-88.8, brecciated, coarse grained to pegmatitic amphibole rich syenite, very intense alteration of amphiboles to epidote. Specular hematite and magnetite occurs in seams with minor pyrite.	415887	88.00	89.50	1.50							
		88.8-92.0, similar to 77.9-84.0	415888	89.50	91.00	1.50							
		92.0-96.8, brecciated coarse grained to pegmatitic amphibole rich syenite. Minor hematite alteration and specular hematite.	415889	91.00	92.50	1.50							
		96.8-99.0, carbonatite, equigranular with 10-30% magnetite as seams and disseminated. Rock is a dirty brown-beige colour.	415890	92.50	94.00	1.50							
		99.0-102.4, brecciated, coarse to pegmatitic amphibole rich syenite, weakly to non-magnetic, good ore recovery.	415891	94.00	95.50	1.50							
		102.4-118.7, Carbonatite, equigranular salt and pepper, 10% magnetite with specular hematite and hematite alteration along fractures. Core intensely altered and very broken up with poor core recovery, 40-50%. Several 1m intervals of syenite.	415892	95.50	97.00	1.50							
			415893	97.00	98.50	1.50							
			415894	98.50	100.00	1.50							
			415895	100.00	101.50	1.50							
			415896	101.50	103.00	1.50							
118.70	149.50	Carbonatite	415897	103.00	104.50	1.50							
		Equigranular, salt and pepper, to banded with 30-50% magnetite, locally >50% magnetite.	415898	104.50	106.00	1.50							
		119.5-121.1, fine grained syenite, coarse grained on contacts associated with amphibolite alteration and magnetite clots.	415899	106.00	106.50	0.50							
		121.1-126.7, Carbonatite, equigranular, 10-30% disseminated to banded magnetite with local massive magnetite over 30-40 cm at 123.0, 125.0, 125.8 and 126.2.	415900	106.50	108.00	1.50							
		126.7-129.0, fine grained syenite	415901	108.00	110.20	2.20							
		129.0-136.0, coarse grained to pegmatitic syenite, potassic, amphibolite and hematitic alteration.	415902	110.20	111.30	1.10							
		136.0-149.5, Carbonatite, disseminated to massive magnetite, a few syenite inclusions.	415903	111.30	113.50	2.20							
		136.0-137.5, Equigranular, 30% magnetite. Core angles at 30 degrees to CA.	415904	113.50	115.00	1.50							
		137.5-138.5, near massive magnetite >50%.	415905	115.00	116.50	1.50							
		138.5-149.5, Equigranular, 10-30% magnetite, locally >50%, over <20cm bands.	415906	116.50	119.20	2.70							
			415907	120.10	121.60	1.50							
			415908	121.60	123.10	1.50							
149.50	181.40	Syenite	415909	123.10	124.60	1.50							
		A fine grained, grey-green, weakly sheared, brecciated rock with syenite fragments to 5cm, generally 0.5-1cm in diameter.	415910	124.60	126.10	1.50							
		Moderate shear foliation at 50-60 degrees to CA of chlorite-amphibolite alteration. Few amphibolite clots or veins.	415911	126.10	127.60	1.50							
		Upper contact at 70 degrees to CA with 1cm of amphibolite-biotite alteration.	415912	134.50	136.00	1.50							
			415913	136.00	137.50	1.50							
181.40	231.50	Carbonatite	415914	137.50	139.00	1.50							
		Equigranular, variable magnetite content from 10-20% disseminated fine grained to >50% and >70% massive magnetite in bands.	415915	139.00	140.50	1.50							
		181.4-183.5, Carbonatite, fine grained, equigranular, 30-50% magnetite, moderate to strong banding at 70 degrees to CA	415916	140.50	142.00	1.50							
		Locally >50% magnetite at 182.2-182.8 except for 20cm.	415917	142.00	143.50	1.50							
			415918	143.50	145.00	1.50							
			415919	145.00	146.50	1.50							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-08

Page 2 of 3

From	To	Description	Sample Number	From	To	Interval							
181.40	231.50	Carbonatite (Cont'd)	415920	146.50	148.00	1.50							
		183.5-184.6, fine grained syenite with amphibolite along contacts, inclusion?	415921	148.00	149.50	1.50							
		184.6-185.0, Massive magnetite >70%	415922	149.50	151.00	1.50							
		185.0-216.5, Carbonatite, equigranular, 30-50% magnetite, locally to 70% magnetite over 20cm at 189.6 and 190.0.	415923	151.00	152.50	1.50							
		185.0-216.5, Carbonatite, equigranular, 30-50% magnetite, locally to 70% magnetite over 20cm at 189.6 and 190.0.	415924	170.30	171.80	1.50							
		Several short intervals of syenite at 187.4-188.0 (brecciated), 192.8-194.5 (brecciated with intense amphibolite alteration),	415925	171.80	173.30	1.50							
		197.8-199.6, 205.3-209.7, 209.7-210.4 (carbonatite, 40% magnetite), 210.4-211.4. Mineral banding at 60 degrees to CA at 214.	415926	173.30	174.80	1.50							
		211.4-216.5, Carbonatite, 30-50% magnetite, up to >50% at 113.2-113.3, 114.0-114.3 and 116.0-116.5.	415927	174.80	176.30	1.50							
		216.5-218.3, fine grained syenite	415928	176.30	177.80	1.50							
		218.3-219.4, massive magnetite >70%	415929	177.80	179.30	1.50							
		219.4-222.2, fine grained syenite with 10% pegmatitic veining.	415930	179.30	180.80	1.50							
		222.2-223.2, 40 cm of massive magnetite and 20cm of 30% magnetite.	415931	180.80	182.30	1.50							
		223.2-227.7, fine grained syenite with amphibolite intervals	415932	182.30	183.50	1.20							
		227.7-230.1, Carbonatite, 30-50% magnetite, banding at 50 degrees to CA.	415933	183.50	185.00	1.50							
		230.1-231.5, 70% magnetite at lower contact of unit.	415934	185.00	186.50	1.50							
			415935	186.50	188.00	1.50							
231.50	278.00	Syenite	415936	188.00	189.50	1.50							
		Variable grain size from fine to coarse, weakly to non-magnetic, minor amphibolite alteration.	415937	189.50	191.00	1.50							
		231.5-233.4, coarse grained at upper contact	415938	191.00	192.50	1.50							
		233.4-253.7, fine grained, weakly magnetic with finely disseminated magnetite. Fabric at 50 degrees to CA defined by	415939	192.50	194.00	1.50							
		grain size banding, fine to medium and some coarse grained sections.	415940	194.00	195.50	1.50							
		253.7-259.0, coarse grained syenite with interstitial amphibolite (mafics)	415941	195.50	197.00	1.50							
		259.0-260.5, fine grained syenite	415942	197.00	198.50	1.50							
		260.5-278.0, coarse grained syenite, few amphibolite- carbonate-filled fractures at 45 degrees to CA	415943	198.50	200.00	1.50							
			415944	200.00	201.50	1.50							
278.00		EOH	415945	201.50	203.00	1.50							
		Casing left in hole.	415946	203.00	204.50	1.50							
		Core stored at camp.	415947	204.50	206.00	1.50							
			415948	206.00	207.50	1.50							
			415949	207.50	209.00	1.50							
			415950	209.00	210.50	1.50							
			598501	210.50	212.00	1.50							
			598502	212.00	213.50	1.50							
			598503	213.50	215.00	1.50							
			598504	215.00	216.50	1.50							
			598505	216.50	218.00	1.50							
			598506	218.00	219.50	1.50							
			598507	219.50	221.00	1.50							
			598508	221.00	222.50	1.50							
			598509	222.50	224.00	1.50							
			598510	224.00	225.50	1.50							
			598511	225.50	227.00	1.50							
			598512	227.00	228.50	1.50							
			598513	228.50	230.00	1.50							
			598514	230.00	231.50	1.50							
			598515	231.50	232.50	1.00							
			599934	119.20	120.10	1.00							
			599935	127.60	129.10	1.00							
			599936	129.10	130.60	1.00							
			599937	130.60	132.10	1.00							

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-09
Project Clay Howells
Length 386.00
Started 12-03-2010
Completed 15-03-2010
Easting 424112
Northing 5519159
Elevation/Zone 207

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-70.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 3
Bob Chataway
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L100+50E/98+50N

From	To	Description	Sample Number	From	To	Interval							
0.00	18.00	Casing	598516	99.70	100.70	1.00							
			598517	100.70	101.50	0.80	see assay certificates for results						
18.00	96.50	Syenite	598518	101.50	103.00	1.50							
		Variable from fine to medium to coarse grained, light grey syenite. Weakly magnetic, some amphibolite-magnetite clots mainly in coarser grained to pegmatitic textures. Below 67.4 to 96.5 the syenite is mainly fine grained and weakly magnetic.	598519	103.00	104.50	1.50							
		Weak fabric of biotite minerals at 30 degrees to CA.	598520	104.50	105.50	1.00							
			598521	105.50	107.00	1.50							
			598522	124.50	126.00	1.50							
96.50	114.00	Carbonatite	598523	126.00	127.50	1.50							
		Carbonate with 60% amphibolite porphyroblasts and 1-2cm syenite fragments.	598524	127.50	129.00	1.50							
		100.7-105.5, Fault Zone, carbonate is weathered out of amphibolite porphyroblast and syenite, pervasive potassic alteration from 101.7-103.9.	598525	129.00	130.50	1.50							
		105.5-114.0, porphyroblastic textured carbonate with amphibole porphyroblasts	598526	130.50	132.00	1.50							
			598527	132.00	133.50	1.50							
			598528	133.50	135.00	1.50							
114.00	116.60	Fault Zone	598529	135.00	136.50	1.50							
		Fault gouge, rubble and brecciation, core recovery at 50%. Porphyroblastic with hematitic alteration, apple green epidote or malachite? and potassic alteration.	598530	136.50	137.40	0.90							
			598531	137.40	138.00	0.60							
			598532	138.00	139.50	1.50							
116.60	137.40	Carbonatite	598533	139.50	141.00	1.50							
		Low carbonate content, 10-20% with syenite fragments and 60-90% amphibolite-biotite clots as alteration or porphyroblasts.	598534	141.00	141.90	0.90							
		Some coarse grained pegmatitic syenite and fine grained syenite intervals.	598535	141.90	143.40	1.50							
		A few bands of carbonatite at 30 degrees to CA. Weakly to moderately magnetic.	598536	143.40	144.40	1.00							
			598537	144.40	145.20	0.80							
137.40	235.50	Carbonatite	598538	145.20	146.20	1.00							
		Variably textured, equigranular to banded to massive magnetite with syenite intervals.	598539	146.20	147.60	1.40							
		137.4-138.0, Massive magnetite >70% magnetite	598540	147.60	148.50	0.90							
		138.0-141.9, equigranular salt and pepper, 50% magnetite and a 30cm section of massive magnetite >70% at 141.6-141.9 at 50 degrees to CA.	598541	148.50	149.50	1.00							
		141.9-144.4, fine grained syenite	598542	149.50	150.80	1.30							
		144.4-145.2, 0.8m of massive magnetite	598543	150.80	152.20	1.40							
		145.2-147.5, fine grained syenite with massive magnetite >70% at 146.2-146.5 and 147.2-147.6	598544	152.20	153.20	1.00							
		147.5-148.5, fine grained syenite	598545	153.20	154.50	1.30							
		148.5-150.8, carbonatite with 50% magnetite from 148.5-149.5 and massive magnetite from 149.5-50.8.	598546	154.50	155.70	1.20							
		150.8-152.2, fine grained syenite with a low angle amphibolite filled fracture.	598547	155.70	157.20	1.50							
		152.2-154.6, Equigranular carbonatite >50% magnetite over 0.8m and 1.5m of massive magnetite >70%.	598548	157.20	158.90	1.70							
		154.6-155.7, Fine grained syenite with amphibolite along contacts	598549	158.90	160.40	1.50							
		155.7-163.4, Carbonatite, mainly massive to near massive magnetite >70%, faint yellow 'blonde' alteration mineral.	598550	160.40	161.90	1.50							
		156.2-157.7, magnetite at >50% content	598551	161.90	163.40	1.50							
		163.4-166.2, fine grained syenite with 50cm interval of >50% magnetite at 164.3	598552	163.40	164.90	1.50							
		166.2-171.3, Carbonatite, equigranular, 30-50% magnetite, locally >50% magnetite over short intervals.	598553	164.90	166.40	1.50							
		Mineral banding at 40 degrees to CA at 170.0.	598554	166.40	167.90	1.50							
			598555	167.90	169.40	1.50							
			598556	169.40	170.90	1.50							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-09

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From	To	Description	Sample Number	From	To	Interval						
137.40	235.50	Carbonatite (Cont'd)	598557	170.90	172.40	1.50						
		171.3-174.1, Amphibolite rich carbonatite, porphyroblastic, with syenite fragments, weakly magnetic.	598558	172.40	173.90	1.50						
		174.1-178.0, massive magnetite >70%, low angle, 0.5 cm wide carbonate vein with alteration and minor hematite.	598559	173.90	175.40	1.50						
		178.0-181.9, Carbonatite, medium grained, equigranular, 50% magnetite and 50% carbonate	598560	175.40	176.90	1.50						
		181.9-183.0, Carbonatite, massive magnetite, >70% magnetite with faint yeelow, "blonde" alteration	598561	176.90	178.40	1.50						
		183.0-185.0, fine grained syenite, brecciated, amphibole rich	598562	178.40	179.90	1.50						
		185.0-200.6, Carbonatite, equigranular, 30-50% magnetite except for massive magnetite >70% at 185-185.6 and some local	598563	179.90	181.40	1.50						
		bands, 10cm, of near massive magnetite >50% throughout interval. A few meters of amphibolite rich porphyroblastic	598564	181.40	182.90	1.50						
		carbonatite with minor magnetic carbonatite bands (layers).	598565	182.90	184.40	1.50						
		200.6-213.8, Syenite, variable grain size from fine to pegmatitic with aphibolitic contacts over 30-40cm.	598566	184.40	185.90	1.50						
		213.8-219.9, carbonatite, equigranular, 30% magnetite. Fabric is varible from 20 to 60 degrees to CA.	598567	185.90	187.40	1.50						
		219.9-226.2, Syenite, coarse grained to pegmatitic, minor fine grained, with amphibolite alteration throughout.	598568	187.40	188.90	1.50						
		226.2-235.5, Carbonatite, equigranular, to near massive	598569	188.90	190.40	1.50						
		226.2-227.7, 50% magnetite	598570	190.40	191.90	1.50						
		227.7-229.5, 30% magnetite	598571	191.90	193.40	1.50						
		229.5-233.0, 50-70% magnetite	598572	193.40	194.90	1.50						
		233.0-235.0, amphibolite rich with magnetite seams <20cm	598573	194.90	196.40	1.50						
		235.0-235.5, massive magnetite	598574	196.40	197.90	1.50						
		235.5-248.3, syenite, medium grained to coarse grained to pegmatitic, moderate amphibolite alteration in general,	598575	197.90	199.40	1.50						
		stronger at contacts. Some magnetic seams (<10cm), with stronger amphibolite alteration and potassic alteration.	598576	199.40	200.60	1.20						
		248.3-255.2, Carbonatite, massive magnetite >70%. Faint banding 30 degrees to CA.	598577	200.60	201.10	0.50						
		Minor chlorite alteration along banding lineation, very minor yellow "blonde" alteration.	598578	214.80	216.30	1.50						
		255.2-278.3, Syenite, medium to pegmatitic grain size, some fine grained bands of inclusions.	598579	216.30	217.80	1.50						
		Core angles of contacts decrease from 40 to 0 degrees down the interval.	598580	217.80	219.30	1.50						
		278.3-293.1, Syenite, massive, medium grained.	598581	219.30	219.90	0.60						
		293.1-327.2, Syenite, coarse grained with minor fine grained (323.0-324.3).	598582	219.90	221.40	1.50						
		318.5-323.0, pegmatitic with pervasive amphibolite-biotite alteration, 20cm of magnetite-amphibolite at 319.3 and 35cm at 320.6	598583	221.40	222.90	1.50						
		and 35cm at 320.5, both with a reddish-brown crystalline mineral.	598584	222.90	224.40	1.50						
			598585	224.40	226.10	1.70						
327.20	340.60	Carbonatite	598586	226.10	227.60	1.50						
		Equigranular to massive magnetite	598587	227.60	229.10	1.50						
		327.8-328.5, massive magnetite >70% with traces of weak stringers of pyrite.	598588	229.10	230.60	1.50						
		328.5-331.9, Carbonatite, equigranular, magnetite 30-70%, core angles at 50 degrees to CA.	598589	230.60	232.10	1.50						
		331.9-337.6, Massive to near solid magnetite >70%, core angles at 40 degrees to CA.	598590	232.10	233.60	1.50						
		Some yellow-brown alteration and traces of pyrite and a pale grey-green alteration mineral.	598591	233.60	235.10	1.50						
		337.6-340.6, Carbonatite, equigranular, 30-50% magnetite. Core angles at 0-40 degrees to CA over a short interval.	598592	235.10	235.60	0.50						
			598593	248.30	249.80	1.50						
340.60	356.00	Syenite	598594	249.80	251.30	1.50						
		Coarse grained to pegmatitic with intense amphibolite alteration and numerous magnetite seams of <2m at upper contact,	598595	251.30	252.80	1.50						
		341.2-342.7, 343.0-343.5, 345.6-346.8, 347.0-347.1, 348.4-348.7, 350.8-351.4 and 352.0-352.6. These intervals are	598596	252.80	254.50	1.70						
		generally >50 to >70% magnetite. The amphibolite is 50% by volume to coarse grained syenite.	598597	260.60	262.10	1.50						
			598598	262.10	263.80	1.70						
356.00	363.00	Diabase dyke	598599	263.80	265.30	1.50						
		Fine grained, light grey colour, cut by a few narrow carbonatite-magnetite veins.	598600	295.80	297.30	1.50						
			598601	297.30	198.80	1.50						
363.00	366.30	Syenite	598602	327.20	328.70	1.50						
		Coarse grained to pegmatitic syenite	598603	328.70	330.20	1.50						
			598604	330.20	331.70	1.50						
			598605	331.70	333.20	1.50						
			598606	333.20	334.70	1.50						

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-10
Project Clay Howells
Length 350.00
Started 12-03-2010
Completed 16-03-2010
Easting 424268
Northing 5519454
Elevation/Zone 202

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-70.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 3
Bob Chataway
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L103+50E/100+00N

From	To	Description	Sample Number	From	To	Interval							
0.00	20.00	Casing	598620	134.00	135.50	1.50							
			598621	135.50	137.00	1.50	see assay certificates for results						
20.00	134.00	Syenite	598622	137.00	138.50	1.50							
		Medium grained, 30-40% mafics, amphibole and biotite.	598623	138.50	140.00	1.50							
		20.0-74.0, weak potassic alteration in coarser grained interval from 58.0-64.5. Some strong fracturing.	598624	140.00	141.50	1.50							
		74.0-77.0, heavily fractured core, lost core, 30%, fault gouge.	598625	141.50	143.00	1.50							
		83.-86.0, strongly fractured core	598626	143.00	144.50	1.50							
		89.0-94.0, Fault Zone, hematitic alteration on fractures with a green oxide mineral, malachite? or epidote? Pervasive potassic alteration.	598627	144.50	146.00	1.50							
		94.0-121.3, coarse grained syenite, potassic, hematite and epidote alteration in veinlets and throughout the core.	598628	190.30	191.80	1.50							
		121.3-134.0, coarse gained to pegmatitic, brecciated, strong potassic alteration.	598629	191.80	193.30	1.50							
		123.0-134.0, 4 intervals of amphibolite rich syenite with 20-30% magnetite over 10-50cm widths, trace pyrite and chalcopyrite.	598630	193.30	194.80	1.50							
		Strong chlorite alteration and minor hematite alteration.	598631	194.80	196.30	1.50							
			598632	196.30	197.80	1.50							
			598633	197.80	199.30	1.50							
134.00	144.30	Fault Zone	598634	199.30	200.80	1.50							
		Syenite breccia, coarse grained, very intensely altered with hematite and potassic alteration.	598635	212.00	213.50	1.50							
		Good core recovery, core angles at 25 degrees to CA.	598636	213.50	215.00	1.50							
		Calcite-dolomite veining with hematite and epidote common.	598637	215.00	216.50	1.50							
			598638	216.50	217.50	1.00							
144.30	163.90	Syenite	598639	217.50	219.00	1.50							
		Coarse grained to pegmatitic, 10-50% dark green amphibolite clots interstitial to feldspars and pyroxenes. Non-magnetic.	598640	219.00	220.50	1.50							
		144.3-148.1, fine grained syenite with minor coarse grained syenite inclusions. A light pink tinge to rock.	598641	220.50	221.00	0.50							
		148.1-163.9, coarse grained to pegmatitic syenite with coarse grained amphibole clots.	598642	221.00	222.50	1.50							
			598643	222.50	224.00	1.50							
163.90	180.00	Syenite	598644	224.00	225.00	1.00							
		Fine grained, light grey syenite, non-magnetic. Moderate alteration to hematite along carbonate stringers.	598645	225.00	225.90	0.90							
		Moderate fabric, shearing, at 25-35 degrees to CA.	598646	225.90	226.50	0.60							
		167.0-180.0, sheared, brecciated, hematite rims on syenite fragments. Sharp lower contact at 40 degrees to CA.	598647	226.50	228.00	1.50							
			598648	228.00	229.50	1.50							
180.00	199.20	Carbonatite	598649	229.50	231.00	1.50							
		Sheared in a matrix of 20-30% carbonate and 60-70% amphiboles. Syenite fragments, 0.5-2cm diameter, sub-rounded with potassic and hematitic alteration of the feldspars.	598650	231.00	232.50	1.50							
			598651	232.50	234.00	1.50							
		180.0-191.8, Weakly magnetic with locally higher magnetics in seams <2cm. Moderate shear fabric at 30 degrees to CA.	598652	234.00	235.50	1.50							
		Boudinage texture. At upper contact, equigranular carbonatite over 0.7m, 15% magnetite.	598653	235.50	237.00	1.50							
		191.8-199.2, Carbonatite, equigranular salt and pepper 10-30% magnetite, locally 50-70% magnetite in bands.	598654	237.00	238.50	1.50							
		191.8-193.4, equigranular, 20% magnetite	598655	238.50	239.50	1.00							
		193.4-194.9, massive to near massive magnetite >70% magnetite	598656	239.50	241.00	1.50							
		194.9-195.6, fine grained syenite	598657	241.00	242.50	1.50							
		195.6-199.2, equigranular 20-30% magnetite, except 0.8m of syenite at 197.0-197.8.	598658	242.50	244.00	1.50							
			598659	244.00	245.50	1.50							
			598660	245.50	247.00	1.50							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-10

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From	To	Description	Sample Number	From	To	Interval						
199.20	213.80	Syenite	598661	247.00	248.50	1.50						
		Medium grained, porphyritic to porphyroblastic texture with potassic alteration of feldspars, mafic content up to 60% locally.	598662	248.50	250.00	1.50						
		Non-magnetic, weak fabric at 50 degrees to CA. Lower 3m has increased carbonate content.	598663	250.00	251.50	1.50						
			598664	251.50	253.00	1.50						
213.80	233.00	Carbonatite	598665	253.00	254.50	1.50						
		Mainly equigranular with massive magnetite intervals.	598666	254.50	256.00	1.50						
		Moderate fabric at 35 degrees to CA (mineral banding). Contacts have strong amphibolite alteration.	598667	256.00	257.50	1.50						
		213.8-215.4, Equigranular, 30% magnetite	598668	257.00	258.00	1.00						
		215.4-216.1, Near massive magnetite >50%	598669	258.00	259.50	1.50						
		216.1-217.0, equigranular 30% magnetite	598670	259.50	261.20	1.70						
		217.0-217.4, massive magnetite >70% magnetite	598671	261.20	261.70	0.50						
		217.4-221.0, fine grained syenite fragment, light grey, non-magnetic	598672	261.70	263.20	1.50						
		221.0-225.8, massive to near massive magnetite 50-70% except for 0.4m of amphibolite at 224.2-224.6..	598673	263.20	263.70	1.50						
		225.8-229.4, fine grained syenite fragment, light grey, non-magnetic	598674	263.70	264.70	1.00						
		229.4-233.0, equigranular, amphibolite rich, 10-50% magnetite, locally near massive with low core angles, 20 degrees to CA.	598675	264.70	266.20	1.50						
			598676	271.80	273.50	1.70						
233.00	258.00	Carbonatite	598677	273.50	275.00	1.50						
		Massive to near massive, minor syenite intervals included. CPS is 450-1150cps.	598678	275.00	276.50	1.50						
		233.0-239.5, massive magnetite >70%, very minor blonde coloured alteration mineral (238.0-239.0).	598679	276.50	278.00	1.50						
		239.5-251.0, massive to near massive magnetite >70% over 80% of interval with 30-50% over remainder.	598680	278.00	279.50	1.50						
		251.0-251.5, amphibolite rich, non-magnetic	598681	279.50	281.00	1.50						
		251.5-258.0, near massive >50% magnetite in banded equigranular carbonatite. Core angles at 15 degrees to CA.	598682	281.00	282.20	1.20						
			598683	282.20	282.80	0.60						
258.00	282.80	Carbonatite	598684	282.80	284.30	1.50						
		A variable package of carbonatite and syenite units with magnetite in the equigranular carbonatite and as massive bands.	598685	284.30	285.80	1.50						
		258.0-259.5, Fine grained syenite, light grey, non-magnetic.	598686	285.80	287.30	1.50						
		259.5-261.2, Carbonatite, equigranular 50% magnetite	598687	287.30	288.80	1.50						
		261.2-261.7, Syenite, light grey, fine grained	598688	288.80	290.30	1.50						
		261.7-263.2, Carbonatite, near massive magnetite >50% magnetite with 10% lost core in a massive section.	598689	290.30	291.80	1.50						
		263.2-263.7, Syenite, fine grained	598690	291.80	293.30	1.50						
		263.7-266.0, Carbonatite, equigranular, near massive >50% magnetite. Banding at 45 degrees to CA.	598691	293.30	294.80	1.50						
		266.0-271.8, Syenite, fine grained, light grey.	598692	294.80	296.30	1.50						
		271.8-273.5, Carbonatite, equigranular, 30% magnetite with lower 0.3m as massive magnetite >70%, with chlorite alteration.	598693	296.30	297.80	1.50						
		273.5-275.6, Syenite, fine grained, light grey, amphibole-filled fractures. Strong amphibole-magnetite seam over lower 0.3m.	598694	297.80	299.30	1.50						
		275.6-276.5, Carbonatite, equigranular, 20-30% magnetite.	598695	299.30	300.80	1.50						
		276.5-282.2, Syenite, coarse grained to pegmatitic, weakly to non-magnetic except for occasional magnetite seams.	598696	300.80	302.30	1.50						
		A 1.5m fragment of medium grained, porphyritic syenite is sheared (as at 199.2-213.8)	597697	302.30	303.80	1.50						
		282.2-282.8, Carbonatite, equigranular, 20% magnetite.	598698	303.80	305.30	1.50						
			598699	305.30	306.80	1.50						
282.80	305.80	Syenite	598700	306.80	308.30	1.50						
		Fine grained with amphiolite rich sections with magnetite in seams and up to 20cm short intervals of carbonatite, equigranular to massive magnetite sections occurring with increasing frequency down hole.	598701	308.30	309.80	1.50						
		287.0-287.8, carbonatite, equigranular, 20% magnetite.	598702	309.80	311.30	1.50						
		287.0-305.8, Syenite, fine grained with numerous massive magnetite >70%, bands at 289.5-289.7, 292.8-293.4, 294.6-295.1, 297.8-298.0, 299.3-299.8, 300.4-300.6, 301.9-302.3, 302.6-302.8, 303.0-303.4, 304.9-305.3. Most of the intervals have amphibolite rich contacts over 20-30cm.	598703	311.30	312.80	1.50						
			598704	312.80	314.30	1.50						
			598705	314.30	315.80	1.50						
			598706	315.80	317.30	1.50						
			598707	317.30	318.80	1.50						
			598708	318.80	320.30	1.50						
			598709	320.30	321.80	1.50						
			598710	321.80	323.30	1.50						

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-10

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From	To	Description	Sample Number	From	To	Interval							
305.80	307.40	Carbonatite	598711	323.30	324.80	1.50							
		Equigranular to near massive magnetite >50% with a possible slump feature or fold nose at 306.5m.	598712	324.80	326.20	1.40							
		Strong amphibolite alteration with magnetite seams.	598713	326.20	327.70	1.50							
			599940	121.30	122.80	1.50							
307.40	320.30	Syenite	599941	122.80	124.30	1.50							
		Coarse grained with amphibolite and magnetite seams throughout interval. Potassic alteration. Brecciated with variable core angles from 0-30 degrees to CA.	599942	124.30	125.80	1.50							
			599943	125.80	127.30	1.50							
			599944	127.30	130.30	3.00							
320.30	326.20	Carbonatite	599946	130.30	131.80	1.50							
		Near massive to massive magnetite, >70% with 1.5m of equigranular carbonatite at lower contact area with 50% magnetite. Banding core angles at 15 degrees to CA.	599947	131.80	133.30	1.50							
			599948	133.30	134.00	0.70							
			599949	180.00	181.50	1.50							
326.20	350.00	Syenite	599950	181.50	183.00	1.50							
		Fine grained, light grey with minor coarse grained bands of syenite with amphibolite alteration to 338.1.	599951	183.00	184.50	1.50							
		338.1-344.2, Coarse grained syenite	599952	184.50	186.00	1.50							
		344.2-350.0, Fine grained, light grey syenite.	599953	186.00	187.50	1.50							
			599954	187.50	189.00	1.50							
350.00		EOH	599955	189.00	190.30	1.30							
		Casing left in hole.	599956	200.80	202.30	1.50							
		Core stored at camp.	599957	202.30	203.80	1.50							
			599958	203.80	205.30	1.50							
			599959	205.30	206.80	1.50							
			599960	206.80	208.30	1.50							
			599961	208.30	209.80	1.50							
			599962	209.80	210.80	1.00							
			599963	210.80	212.00	1.20							
			599964	266.20	267.70	1.50							
			599965	267.70	269.20	1.50							
			599966	269.20	270.80	1.60							
			599967	270.80	271.80	1.00							

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-11
Project Clay Howells
Length 228.00
Started 15-03-2010
Completed 17-03-2010
Easting 424006
Northing 5519129
Elevation/Zone 203.8

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-45.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** &
Bob Chataway
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L99+50E/98+75N

From	To	Description	Sample Number	From	To	Interval							
0.00	48.00	Casing	598714	65.50	66.60	1.10							
			598715	66.60	68.00	1.40	see assay certificates for results						
48.00	66.60	Syenite-breccia	598716	68.00	69.50	1.50							
		A dark grnn-black, amphibole rich breccia with inclusions of carbonatite and magnetite seams. Feldspars show potassic alteration and hematitic alteration is scattered throughout. The breccia is weak to moderately magnetic with seams of magnetite and the carbonatite has the equivalent magnetism. Several short, <0.5m, inclusions of massive magnetite were noted.	598717	69.50	71.00	1.50							
		The hole is probably close to the fault zone as inclusions of equigranular magnetite were also noted.	598718	71.00	72.50	1.50							
		63.5-66.6, Intense hematitic alteration in equigranular carbonatite.	598719	72.50	73.60	1.10							
			598720	73.60	74.90	1.30							
			598721	74.90	75.90	1.00							
			598722	75.90	77.40	1.50							
66.60		Carbonatite	598723	77.40	78.90	1.50							
		Equigranular, fine grained, salt and pepper texture, magnetite ranges from a low of 10% to locally >70% magnetite.	598724	78.90	80.40	1.50							
		66.6-73.6, Carbonatite, equigranular, 10-20% magnetite with a few bands of >50% magnetite in <20cm bands.	598725	80.40	81.90	1.50							
		Bands at 25 degrees to CA. Several sections of syenite throughout.	598726	81.90	83.40	1.50							
		73.6-74.9, massive magnetite >70%	598727	83.40	84.90	1.50							
		74.9-75.2, equigranular, 20% magnetite	598728	84.90	86.40	1.50							
		75.2-75.4, massive magnetite >70%	598729	86.40	87.90	1.50							
		75.4-75.6, equigranular, 20% magnetite	598730	87.90	89.40	1.50							
		75.6-75.9, massive magnetite >70%, with blonde alteration	598731	89.40	91.00	0.60							
		75.9-79.8, equigranular, 20-70% to >70% magnetite locally in bands at 65 degrees to CA.	598732	91.00	92.40	1.40							
		79.8-80.1, massive magnetite >70%	598733	92.40	93.90	1.50							
		80.1-80.6, syenite, fine grained fragment	598734	93.90	95.40	1.50							
		80.6-82.1, massive magnetite >70%	598735	95.40	96.90	1.50							
		82.1-84.7, equigranular, >50% to locally >70% magnetite	598736	96.90	98.40	1.50							
		84.7-86.0, carbonatite with amphibolite rich clots, 10-20% magnetite at contact.	598737	98.40	99.50	1.10							
		86.0-86.4, massive magnetite >70%	598738	99.50	100.40	0.90							
		90.4-91.8, massive magnetite >70% over 50% of interval, remainder is amphibolite rich with magnetite seams.	598739	100.40	101.90	1.50							
		91.8-93.9, equigranular, 10-30 % magnetite, locally to 50%.	598740	101.90	103.50	1.60							
		93.9-95.0, massive magnetite >70%, moderate amphibolite alteration	598741	103.50	104.90	1.40							
		95.0-101.2, Carbonatite, equigranular, 10-30% magnetite. Rock contains amphibolite rich syenite fragments (0.5-10cm)	598742	104.90	106.30	1.40							
		101.2-106.2, Syenite, coarse grained, amphibolite rich. Some sections with syenite fragments in brecciated carbonatite.	598743	106.30	107.80	1.50							
		Short intervals of massive to near massive magnetite.	598744	107.80	109.20	1.40							
		106.2-115.4, Carbonatite, equigranular, 30-50% magnetite. Brecciated sections with non-magnetic syenite fragments and massive magnetite >70%	598745	109.20	110.80	1.60							
			598746	110.80	112.30	1.50							
			598747	112.30	113.80	1.50							
115.40	137.00	Syenite	598748	113.80	115.30	1.50							
		Medium to coarse grained, 20-40% mafic content, potassic alteration and minor hematitic alteration.	598749	115.30	116.30	1.00							
		Weakly magnetic in coarser grained syenite.	598750	137.00	138.50	1.50							
		130.7-132.6, several dykes of equigranular carbonatite with >50% magnetite and 1.0m of amphibolite rich syenite.	598751	138.50	140.00	1.50							
		132.6-137.0, coarse grained syenite with intense potassic alteration.	598752	140.00	141.50	1.50							
			598753	141.50	143.00	1.50							
			598754	143.00	144.50	1.50							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-11

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From	To	Description	Sample Number	From	To	Interval							
137.00	146.00	Fault Zone	598755	144.50	146.00	1.50							
		Brecciated syenite, intensely weathered, earthy look, intense alteration, poor core recovery, pitted core.	598756	212.90	213.90	1.00							
		Reddish hematitic alteration, limonitic staining.	598757	213.90	214.80	0.90							
			598758	214.80	216.10	1.30							
146.00	163.00	Syenite	598759	216.10	217.60	1.50							
		Brecciated, potassic and hematitic alteration throughout unit. Fine to coarse grained, non-magnetic syenite. Locally weakly magnetic associated with the more mafic core or magnetic seams.	598760	217.60	219.10	1.50							
			598761	219.10	220.90	1.80							
			598762	220.90	222.40	1.50							
163.00	170.00	Fault Zone	598763	223.40	224.00	0.60							
		Brecciated, strongly hematitic, non-magnetic syenite. Intervals of 60% core recovery, overall a weathered, earthy look to core.	598764	224.00	226.00	2.00							
			598765	226.00	228.00	2.00							
170.00	213.90	Syenite	599980	129.70	130.70	1.00							
		170.0-188.0, Medium grained, non-magnetic, potassic alteration present.	599981	130.70	131.70	1.00							
		188.0-213.9, fine grained, light grey, non-magnetic.	599982	131.70	132.60	0.90							
			599983	132.60	133.60	1.00							
213.00	220.90	Carbonatite	599993	48.00	49.50	1.50							
		Equigranular, salt and pepper, 10-30% magnetite, with amphibole rich, coarse grained syenite inclusions (214.6-216.1).	599994	49.50	51.00	1.50							
			599995	51.00	52.50	1.50							
220.90	228.00	Syenite	599996	52.50	54.00	1.50							
		Medium to coarse grained, moderate potassic and hematitic alteration, locally strong amphibolitic alteration.	599997	54.00	55.00	1.00							
		226.1-227.2, equigranular carbonatite, 10% magnetite, contacts rich with amphibolite alteration.	599998	55.00	56.50	1.50							
			599999	56.50	58.00	1.50							
228.00		EOH	600000	58.00	59.50	1.50							
		Casing left in hole.	599851	59.50	61.00	1.50							
		Core stored at camp.	599852	61.00	62.50	1.50							
			599853	62.50	64.00	1.50							
			599854	64.00	65.50	1.50							

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-13
Project Clay Howells
Length 350.00
Started 17-03-2010
Completed 19-03-2010
Easting 424006
Northing 5519129
Elevation/Zone 203.8

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-70.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 3
Bob Chataway
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L99+50E/98+75N

From	To	Description	Sample Number	From	To	Interval							
0.00	33.00	Casing	598790	88.00	89.00	1.00							
			598791	89.00	90.80	1.80	see assay certificates for results						
33.00	45.40	Syenite	598792	90.80	92.30	1.50							
		Coarse grained to pegmatitic, amphibolite clots, weakly magnetic.	598793	92.30	93.70	1.40							
		44.0-45.4, Intense amphibolite alteration at contacts, brecciated.	598794	93.70	95.00	1.30							
			598795	95.00	96.50	1.50							
45.40	89.00	Carbonatite	598796	96.50	98.20	1.70							
		Fine grained matrix, syenite fragments to 20cm, 10-20% magnetite. Fragments exhibit potassic and hematitic alteration.	598797	98.20	99.80	1.60							
		45.4-52.8, Carbonatite, equigranular, 10% magnetite, high carbonate content, 60% with brecciated syenite fragments.	598798	99.80	101.00	1.20							
		52.8-55.1, Syenite brecciate, potassic and amphibolite alteration.	598799	101.00	102.20	1.20							
		55.1-76.7, Carbonatite with syenite fragments, 1-3cm and some to 20cm across.	598800	102.20	103.50	1.30							
		76.7-80.3, Syenite breccia, fragments of senite, carbonatite with strong hematitic and amphibolitic alteration.	598801	103.50	105.00	1.50							
		80.3-84.4, Carbonatite, 10-20% magnetite, with syenite fragments, 1-3cm.	598802	105.00	106.50	1.50							
		84.4-85.3, Syenite breccia.	598803	106.50	108.00	1.50							
		85.3-89.0, Syenite, coarse grained to pegmatitic, intense reddish-brown hematitic alteration.	598804	108.00	109.50	1.50							
			598805	109.50	111.00	1.50							
89.00	207.80	Carbonatite	598806	111.00	112.50	1.50							
		Equigranular, salt and pepper, 10% magnetite to locally 50% in massive bands with magnetic intensity increasing below 96.0m.	598807	112.50	114.00	1.50							
		89.0-90.8, equigranular, 10% magnetite with several massive bands.	598808	114.00	115.50	1.50							
		90.8-91.5, syenite breccia	598809	115.50	117.00	1.50							
		91.5-93.6, equigranular, 10% magnetite	598810	117.00	118.50	1.50							
		93.6-94.3, syenite breccia	598811	118.50	120.00	1.50							
		94.3-95.0, equigranular, 10% magnetite	598812	120.00	121.50	1.50							
		95.0-96.0, syenite breccia	598813	121.50	123.00	1.50							
		96.0-98.1, equigranular to banded, 10-20 % magnetite.	598814	123.00	124.50	1.50							
		98.1-102.2, syenite, coarse grained to pegmatitic, strong amphibolite alteration, minor fine grained syenite.	598815	124.50	126.00	1.50							
		102.2-120.0, carbonatite, porphyroblastic, 10-30% magnetite with massive magnetite band (20cm) at top contact and at the following intervals, 103.5-104.0, 105.0-107.5, 109.5-110.4, all about 70% magnetite.	598816	126.00	127.50	1.50							
		Small syenite fragments with hematitic alteration and pyrite stringers.	598817	127.50	129.00	1.50							
		105.0-106.5, sheared, core angles at 20 degrees to CA, specular hematite and pyrite stringers.	598818	129.00	130.50	1.50							
		120.0-123.8, carbonatite, massive magnetite, >70% magnetite.	598819	130.50	132.00	1.50							
		120.9-121.6, fine grained syenite inclusion	598820	132.00	133.50	1.50							
		123.8-127.4, porphyroblastic, high carbonate content, 10-30% magnetite.	598821	133.50	135.00	1.50							
		127.4-137.0, Massive magnetite, >70% magnetite with banding at 20 degrees to CA.	598822	135.00	136.50	1.50							
		137.0-145.3, Carbonatite, porphyroblastic, 10-30% magnetite, locally >50% magnetite in large inclusions of massive magnetite.	598823	136.50	138.00	1.50							
		145.3-150.5, near massive magnetite, >70% magnetite with amphibolite porphyroblastic carbonatite and syenitic breccia.	598824	138.00	139.50	1.50							
		150.5-154.0, Carbonatite, amphibolitic porphyroblasts, 10-30% magnetite, locally to 50% magnetite.	598825	139.50	141.00	1.50							
		154.0-158.2, Syenite breccia with a 20cm band of massive magnetite at 155.1 and 50% magnetite in equigranular at 155.5-156.5	598826	141.00	142.50	1.50							
		158.2-163.3, Carbonatite, equigranular, 50% magnetite.	598827	142.50	144.00	1.50							
			598828	144.00	145.50	1.50							
			598829	145.50	147.00	1.50							
			598830	147.00	148.50	1.50							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-13

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From	To	Description	Sample Number	From	To	Interval							
89.00	207.80	Carbonatite (Cont'd)	598831	148.50	150.00	1.50							
		163.3-166.8, carbonatite, near massive >50% magnetite	598832	150.00	151.50	1.50							
		166.8-180.3, Carbonatite, equigranular to porphyroblastic (amphibolite) texture (weak). 50% magnetite. Core angles at 45 to CA	598833	151.50	153.00	1.50							
		1760-177.0, fine grained syenite fragment	598834	153.00	154.50	1.50							
		178.2-178.6, fine grained syenite fragment	598835	154.50	156.00	1.50							
		180.3-193.4, carbonatite, equigranular to massive magnetite.	598836	156.00	157.20	1.20							
		191.5-193.4, Intense amphibolite alteration with magnetite.	598837	157.20	158.20	1.00							
		193.4-200.7, carbonatite, magnetite-amphibolite porphyroblasts, mainly magnetite rimming amphibolite clots.	598838	158.20	159.50	1.30							
		200.7-207.8, Carbonatite, near massive to massive magnetite >70% with moderate dark green chloritic alteration.	598839	159.50	161.00	1.50							
		Some equigranular carbonatite >70% magnetite. Core angles at 40 degrees to CA.	598840	161.00	162.50	1.50							
			598841	162.50	164.00	1.50							
207.80	223.90	Syenite	598842	164.00	165.50	1.50							
		Coarse grained, light pink-grey colour, non-magnetic, potassic alteration of feldspar. Minor magnetite-amphibolite vein at 211.0.	598843	165.50	167.00	1.50							
		214.2-214.8, calcite-amphibolite-chlorite-filled fracture with minor pyrite.	598844	167.00	168.50	1.50							
			598845	168.50	170.00	1.50							
223.90	245.40	Fault Zone	598846	170.00	171.50	1.50							
		A dark, dull greenish-black earthy-looking brecciated amphibolite-mica schist. Some massive magnetite inclusions and hematite alteration in places. Possible rock was originally a syenite breccia.	598847	171.50	173.00	1.50							
			598848	173.00	174.50	1.50							
			598849	174.50	176.00	1.50							
245.40	280.60	Syenite	598850	176.00	177.50	1.50							
		Medium grained, steel grey colour, fault zone.	598851	177.50	179.00	1.50							
		255.0-259.0, Oxidized, yellow-brown limonite staining with pale pink syenite.	598852	179.00	180.50	1.50							
		259.0-275.3, pegmatitic syenite with clots of amphibolite alteration.	598853	180.50	182.00	1.50							
		275.3-280.6, Very intense amphibolite alteration, original rock destroyed completely, minor hematitic alteration.	598854	182.00	183.50	1.50							
			598855	183.50	185.00	1.50							
280.60	297.50	Carbonatite	598856	185.00	186.50	1.50							
		Equigranular, salt and pepper, 30-50% magnetite, locally to >50% to 70% magnetite.	598857	186.50	188.00	1.50							
		284.0-285.6, 10% magnetite with carbonate >60%. Core angles at 35 degrees to CA at 296.0m.	598858	188.00	189.50	1.50							
		297.5, 4cm of massive magnetite in contact with amphibolite at contact with syenite.	598859	189.50	191.00	1.50							
			598860	191.00	192.50	1.50							
297.50	319.00	Syenite	598861	192.50	194.00	1.50							
		Very fine grained (chilled margin?) syenite, very hard, glassy, steel grey colour.	598862	194.00	195.50	1.50							
		Some coarse grained syenite and fragments of mineralized carbonatite, both equigranular and massive magnetite bands.	598863	195.50	197.00	1.50							
			598864	197.00	198.50	1.50							
319.00	342.00	Carbonatite	598865	198.50	200.00	1.50							
		Equigranular at top to massive magnetite lower in interval. Inclusions of syenite and intense amphibolite alteration on contacts.	598866	200.00	201.50	1.50							
		319.0-320.5, Massive magnetite >70%	598867	201.50	203.00	1.50							
		320.5-321.5, Equigranular 30% magnetite	598868	203.00	204.50	1.50							
		321.5-322.7, massive magnetite >70%	598869	204.50	206.00	1.50							
		322.7-324.0, Equigranular 50% magnetite	598870	206.00	207.50	1.50							
		324.0-325.5, Amphibolite rich syenite, non-magnetic	598871	207.50	209.00	1.50							
		325.5-327.0, Equigranular 50% magnetite	598872	227.30	228.80	1.50							
		327.0-328.5, Equigranular:amphibolite ratio is 40:60, 20% magnetite	598873	228.80	230.30	1.50							
		328.5-330.0, syenite	598874	230.30	231.20	0.90							
		330.0-331.5, Equigranular: amphibolite ratio is 40:60, 20% magnetite	598875	279.60	280.60	1.00							
		331.5-333.0, equigranular to massive magnetite, >50% , 60cm of amphibolite.	598876	280.60	282.10	1.50							
		333.0-334.5, Massive magnetite >70%	598877	282.10	283.60	1.50							
		334.5-336.0, Massive magnetite >70%	598878	283.60	285.10	1.50							
			598879	285.10	286.60	1.50							
			598880	286.60	288.10	1.50							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-13

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From	To	Description	Sample Number	From	To	Interval						
319.00	342.00	Carbonatite (Cont'd)	598881	288.10	289.60	1.50						
		336.0-337.5, Syenite	598882	289.60	291.10	1.50						
		337.5-339.0, Syenite	598883	291.10	292.60	1.50						
		339.0-340.5, nearly massive magnetite 50%, with amphibolite.	598884	292.60	294.10	1.50						
		340.5-342.0, massive magnetite >70%	598885	294.10	295.60	1.50						
			598886	295.60	296.80	1.20						
			598887	296.80	298.00	1.20						
342.00	350.00	Syenite	598888	298.00	299.00	1.00						
		Coarse grained to pegmatitic, non-magnetic with intense amphibolite alteration.	598889	311.20	312.30	1.10						
			598890	312.30	313.70	1.40						
350.00		EOH	598891	313.70	315.20	1.50						
		Casing left in hole.	598892	315.20	316.10	0.90						
		Core stored at camp.	598893	316.10	317.60	1.50						
			598894	317.60	319.10	1.50						
			598895	319.10	320.50	1.40						
			598896	320.50	321.50	1.00						
			598897	321.50	322.70	1.20						
			598898	322.70	324.00	1.30						
			598899	324.00	325.50	1.50						
			598900	325.50	327.00	1.50						
			598901	327.00	328.50	1.50						
			598902	328.50	330.00	1.50						
			598903	330.00	331.50	1.50						
			598904	331.50	333.00	1.50						
			598905	333.00	334.50	1.50						
			598906	334.50	336.00	1.50						
			598907	336.00	337.50	1.50						
			598908	337.50	339.00	1.50						
			598909	339.00	340.50	1.50						
			598910	340.50	342.00	1.50						
			598911	342.00	343.50	1.50						
			599855	224.00	225.20	1.20						
			599856	225.20	226.70	1.50						
			599857	226.70	227.30	0.60						
			599858	231.20	232.70	1.50						
			599859	232.70	234.20	1.50						
			599860	234.20	235.70	1.50						
			599861	235.70	237.20	1.50						
			599862	237.20	238.70	1.50						
			599863	238.70	240.20	1.50						
			599864	240.20	241.70	1.50						
			599865	241.70	243.20	1.50						
			599866	243.20	244.20	1.00						
			599867	244.20	245.40	1.20						
			599868	245.40	246.90	1.50						

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-14
Project Clay Howells
Length 290.00
Started 17-03-2010
Completed 19-03-2010
Easting 423815
Northing 5519052
Elevation/Zone 204

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-70.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 2
Bob Chataway
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L97+50E/99+25N

From	To	Description	Sample Number	From	To	Interval							
0.00	27.00	Casing	598951	55.00	56.50	1.50							
			598952	56.50	58.00	1.50	see assay certificates for results						
27.00	59.30	Syenite	598953	58.00	59.30	1.30							
		Medium to coarse grained, medium to dark grey colour, non-magnetic with weak potassic alteration.	598954	59.30	60.80	1.50							
		34.0-39.0, strong fracturing, brecciated, fault zone.	598955	60.80	62.30	1.50							
		53.7-59.3, syenite breccia, fragments, amphibolite and hematitic alteration, numerous magnetite seams and narrow massive magnetite bands with overall moderate magnetism.	598956	62.30	63.30	1.00							
			598957	63.30	64.40	1.10							
			598958	64.40	65.90	1.50							
59.30	89.10	Carbonatite	598959	65.90	66.40	0.50							
		Equigranular, salt and pepper, 10-20% magnetite with short massive magnetite intervals and minor amphibolite rich and fine grained syenite inclusions. Fragments of massive magnetite noted in equigranular carbonatite.	598960	66.40	67.90	1.50							
		59.3-71.2, Equigranular carbonatite, 10-20% magnetite with minor inclusions of non-magnetic syenite and amphiboles.	598961	67.90	69.40	1.50							
		71.2-77.3, massive magnetite >70%, with trace of chlorite and trace of pyrite.	598962	69.40	70.90	1.50							
		77.3-79.6, syenite breccia	598963	70.90	72.40	1.50							
		79.6-81.3, massive magnetite >70%	598964	72.40	73.90	1.50							
		81.3-89.1 Equigranular carbonatite, 30-50% magnetite to 85.0m, then 20-30% magnetite to 88.4m and massive magnetite >70% to end (0.6m). Core angles at 45 degrees to CA.	598965	73.90	75.40	1.50							
			598966	75.40	76.90	1.50							
			598967	76.90	77.50	0.60							
			598968	77.50	79.60	2.10							
89.10	134.50	Syenite	598969	79.60	81.10	1.50							
		Medium grained, light grey, non-magnetic.	598970	81.10	82.60	1.50							
		115.2-116.5, low angle pegmatitic vein of pink syenite	598971	82.60	84.10	1.50							
		122.6-123.3, pegmatitic syenite vein	598972	84.10	85.60	1.50							
			598973	85.60	87.10	1.50							
134.50	190.00	Syenite breccia	598974	87.10	88.60	1.50							
		Breccia with large fragments of carbonatite to 0.5m with magnetite, pegmatitic syenite, crystalline carbonate and hematitic alteration of breccia.	598975	88.60	89.10	0.50							
		170.2-174.0, Carbonatite, equigranular, 10-30% magnetite and massive magnetite (30cm) at 173.7.	598976	89.10	90.60	1.50							
		174.0-177.0, syenite breccia, strong hematitic alteration with magnetite.	598977	168.70	170.20	1.50							
		177.0-186.0, syenite breccia, medium grained, narrow amphibolite filled fractures, non-magnetic. Rounded fragments (10cm) of syenite with minor amphibolite alteration.	598978	170.20	171.70	1.50							
		186.0-190.0, Syenite breccia, Intense amphibolite alteration and hematitic and potassic alteration, non-magnetic.	598979	171.70	173.20	1.50							
			598980	173.20	174.70	1.50							
			598981	174.70	176.20	1.50							
			598982	176.20	177.70	1.50							
190.00	286.30	Carbonatite	598983	194.50	196.00	1.50							
		Equigranular, variable carbonate and magnetite content.	598984	196.00	197.50	1.50							
		190.0-219.0, Equigranular, weakly magnetic, <10% magnetite, high carbonate content to 65-75%.	598985	197.50	199.00	1.50							
		219.0-228.0, Equigranular, 10-20% magnetite, very narrow massive magnetite bands throughout. Core angles at 50 deg. to CA	598986	199.00	201.50	1.50							
		228.0-286.3, Equigranular, weakly magnetic, <10% magnetite content but locally to 20%.	598987	201.50	203.00	1.50							
		253.0-271.0, a few inclusions of syenite breccia, 1-2m,	598988	203.00	204.50	1.50							
		281.0-286.3, coarse grained amphibolite rich lower contact area with potassic alteration, brecciation.	598989	204.50	206.00	1.50							
		Core angles are variable, at 245.0m, 30 degrees to CA, at 260.0m, 50 degrees to CA and at 273.0m at 30 degrees to CA.	598990	206.00	207.50	1.50							
			598991	207.50	209.00	1.50							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-14

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From	To	Description	Sample Number	From	To	Interval							
286.30	291.00	Syenite	598992	209.00	210.50	1.50							
		Coarse grained, light grey, non-magnetic.	598993	210.50	212.00	1.50							
			598994	212.00	213.50	1.50							
291.00		EOH	598995	213.50	215.00	1.50							
		Casing left in the hole.	598996	215.00	216.50	1.50							
		Core stored at camp.	598997	216.50	218.00	1.50							
			598998	218.00	219.50	1.50							
			598999	219.50	221.00	1.50							
			599000	221.00	222.50	1.50							
			599001	222.50	224.00	1.50							
			599002	224.00	225.50	1.50							
			599003	225.50	227.00	1.50							
			599004	227.00	228.50	1.50							
			599005	228.50	230.00	1.50							
			599006	230.00	231.50	1.50							
			599007	231.50	233.00	1.50							

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-15
Project Clay Howells
Length 230.00
Started 20-03-2010
Completed 21-03-2010
Easting 424226
Northing 5519340
Elevation/Zone 197

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-45.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 2
Bob Chataway
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L102+50E/99+25N

From	To	Description	Sample Number	From	To	Interval							
0.00	18.00	Casing	599008	58.80	60.30	1.50							
			599009	60.30	61.80	1.50	see assay certificates for results						
18.00	66.40	Syenite	599010	61.80	63.30	1.50							
		Coarse grained, non-magnetic to weakly magnetic where accumulations of amphibolite or magnetic seams are noted.	599011	63.30	64.80	1.50							
		Some very coarse grained to pegmatitic syenite.	599012	64.80	66.30	1.50							
			599013	66.30	67.80	1.50							
66.40	106.00	Fault Zone	599014	67.80	69.30	1.50							
		Fault gouge, blocks of syenite breccia, carbonatite, equigranular and massive magnetite, hematitic and limonitic staining, malachite and azurite staining. The massive magnetite is completely destroyed to sand sized grains.	599015	69.30	70.80	1.50							
		66.4-72.0, mainly rubble	599016	70.80	72.30	1.50							
		72.0-81.0, syenite with good core recovery	599017	72.30	73.80	1.50							
		81.0-87.0, massive magnetite, intensely weathered to sand sized grains.	599018	73.80	75.30	1.50							
		87.0-93.0, syenite and carbonatite, 30% magnetite, fair core recovery.	599019	75.30	76.80	1.50							
		93.0-96.5, rubble	599020	76.80	78.30	1.50							
		96.5-106.0, syenite and carbonatite blocks	599021	78.30	79.80	1.50							
			599022	79.80	81.30	1.50							
			599023	81.30	82.80	1.50							
106.00	116.50	Syenite	599024	82.80	84.30	1.50							
		Sheared, fine grained, dark grey coloured syenite, boudined texture, non-magnetic.	599025	84.30	85.80	1.50							
		Fabric at 50 degrees to CA. Lower contact with carbonatite is near massive magnetite with intense amphibolite alteration (0.6m).	599026	85.80	87.30	1.50							
			599027	87.30	88.80	1.50							
116.50	129.80	Carbonatite	599028	88.80	90.30	1.50							
		Carbonate content decreases down hole from 50% to 30%. Amphibolite clots (mm to cm scale) increase in size down hole and are weakly magnetic, minor syenite fragments (<3cm) are scattered throughout.	599029	90.30	91.80	1.50							
		127.5-128.0, brecciated carbonate zone	599030	91.80	93.30	1.50							
			599031	93.30	94.80	1.50							
			599032	94.80	96.30	1.50							
129.80	151.70	Carbonatite	599033	96.30	97.80	1.50							
		Equigranular and banded magnetite with syenite intervals common.	599034	97.80	99.30	1.50							
		129.8-134.7, massive magnetite >70%, weak fabric at 50 degrees to CA.	599035	99.30	100.80	1.50							
		134.7-143.1, sheared, interbanded massive magnetite, carbonate with amphibolite clots and syenite on a cm to 10cm scale.	599036	100.80	102.30	1.50							
		Lost core (20cm) at 140.0m.	599037	115.30	116.50	1.20							
		143.1-145.3, Equigranular 50% magnetite, banding at 40 degrees to CA.	599038	116.50	118.00	1.50							
		145.3-146.9, Syenite, fine grained, large fragments in a breccia.	599039	118.00	119.50	1.50							
		146.9-147.8, carbonatite, fine grained, very dark greenish-black colour, amphibolite rich with magnetite and chlorite.	599040	119.50	121.00	1.50							
		147.8-151.7, Carbonatite, 20% carbonate, 80% amphibolite content, very minor syenite fragments scattered throughout.	599041	121.00	122.50	1.50							
		Non-magnetic, locally moderate magnetism caused by magnetite in with amphiboles.	599042	122.50	124.00	1.50							
			599043	124.00	125.50	1.50							
			599044	125.50	127.00	1.50							
			599045	127.00	128.50	1.50							
			599046	128.50	129.80	1.30							
			599047	129.80	131.30	1.50							
			599048	131.30	132.80	1.50							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-15

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From	To	Description	Sample Number	From	To	Interval							
151.70	156.90	Syenite breccia	599049	132.80	134.70	1.90							
		Medium grained to coarse grained pink syenite with very coarse grained amphibolite interstitial to fragments.	599050	134.70	136.20	1.50							
		0.5m coarse crystalline carbonate vein at 252.9m and other narrow carbonate veins noted.	599051	136.20	137.70	1.50							
			599052	137.70	139.20	1.50							
156.90	180.20	Carbonatite	599053	139.20	140.70	1.50							
		Porphyroblastic to equigranular texture to massive magnetite.	599054	140.70	142.00	0.30							
		156.9-165.7, porphyroblastic texture, coarse grained amphibolite clots, 10-20% magnetite, includes several 1m fine grained syenite inclusions.	599055	142.00	143.10	1.10							
		165.7-174.9, Equigranular, 30-50% magnetite. Banding at 50 degrees to CA.	599056	143.10	144.20	1.10							
		174.9-180.2, Massive magnetite >70%, minor chlorite stringers.	599057	144.20	145.30	1.10							
			599058	145.30	146.30	1.00							
			599059	146.30	147.80	1.50							
180.20	230.00	Syenite	599060	147.80	149.30	1.50							
		Fine grained, light grey, minor medium grained syenite, weak to non-magnetic, unaltered.	599061	149.30	150.80	1.50							
		Lower 7.0m are coarse grained, non-magnetic and unaltered.	599062	150.80	151.70	0.90							
			599063	151.70	152.60	0.90							
230.00		EOH	599064	152.60	154.10	1.50							
		Casing left in the hole.	599065	154.10	155.60	1.50							
		Core stored at camp.	599066	155.60	156.90	1.30							
			599067	156.90	158.40	1.50							
			599068	158.40	159.90	1.50							
			599069	159.90	161.40	1.50							
			599070	161.40	162.90	1.50							
			599071	162.90	164.40	1.50							
			599072	164.40	165.90	1.50							
			599073	165.90	167.40	1.50							
			599074	167.40	168.90	1.50							
			599075	168.90	170.40	1.50							
			599076	170.40	171.90	1.50							
			599077	171.90	173.40	1.50							
			599078	173.40	174.90	1.50							
			599079	174.90	176.40	1.50							
			599080	176.40	177.90	1.50							
			599081	177.90	179.00	1.10							
			599082	179.00	180.20	1.20							
			599083	180.20	181.20	1.00							
			599869	102.30	103.80	1.50							
			599870	103.80	105.30	1.50							
			599871	105.30	106.20	0.90							
			599872	106.20	107.70	1.50							
			599873	107.70	109.20	1.50							
			599874	109.20	110.70	1.50							
			599875	110.70	112.20	1.50							
			599876	112.20	113.30	1.10							
			599877	113.30	114.30	1.00							
			599878	114.30	115.30	1.00							

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-16
Project Clay Howells
Length 228.50
Started 20-03-2010
Completed 22-03-2010
Easting 423881
Northing 5519133
Elevation/Zone 210

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-45.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 2
Bob Chataway
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L98+50E/99+25N

From	To	Description	Sample Number	From	To	Interval							
0.00	14.50	Casing	599084	56.20	57.50	1.30							
			599085	57.50	59.00	1.50	see assay certificates for results						
14.50	55.50	Syenite	599086	59.00	60.50	1.50							
		Coarse grained to very coarse grained, light grey colour, unaltered, weakly magnetic associated with amphibolite clots.	599087	60.50	62.00	1.50							
		51.3-55.5, fine grained syenite, a few coarse grained aphibolite filled fractures. Brecciated lower contact.	599088	62.00	63.50	1.50							
			599089	63.50	65.00	1.50							
55.50	77.00	Fault Zone	599090	65.00	66.50	1.50							
		Brecciated, lost core, large fragments (1m size) of syenite, syenite breccia, carbonatite, equigranular and massive magnetite.	599091	66.50	68.00	1.50							
		Intense amphibolitic alteration and spotty hemetic and dolomitic alteration. Shearing fabric at 50 degrees to CA.	599092	68.00	69.50	1.50							
			599093	69.50	71.00	1.50							
77.00	86.00	Carbonatite	599094	71.00	72.50	1.50							
		Massive magnetite >70%, with a trace of pyrite, minor chlorite as veinlets and very minor "blonde" alteration.	599095	72.50	74.00	1.50							
		Sharp upper and lower contacts.	599096	74.00	75.50	1.50							
			599097	75.50	77.00	1.50							
86.00	146.80	Syenite	599098	77.00	78.00	1.00							
		Medium to coarse grained, massive, weak potassic alteration.	599099	78.00	79.00	1.00							
			599100	79.00	80.00	1.00							
146.80	153.70	Carbonatite	599101	80.00	81.50	1.50							
		Equigranular with amphibolite rich magnetite seams	599102	81.50	83.00	1.50							
		146.8-149.2, Equigranular 50% magnetite	599103	83.00	84.50	1.50							
		149.2-150.2, Syenite, minor amphibolite	599104	84.50	86.00	1.50							
		150.2-153.7, amphibolite rich magnetite >50% magnetite.	599105	86.00	87.00	1.00							
			599106	145.60	146.70	1.10							
153.70	228.50	Syenite	599107	146.70	147.90	1.20							
		Coarse grained syenite with intense amphibolite rich magnetite to 50% magnetite over <1m intervals scattered over 50% of the unit.	599108	147.90	149.20	1.30							
			599109	149.20	150.20	1.00							
		153.7-158.8, syenite, medium to coarse grained, unaltered.	599110	150.20	151.70	1.50							
		158.8-168.8, mainly amphibolite rich magnetite.	599111	151.70	153.20	1.50							
		168.8-175.3, mainly coarse grained syenite, minor amphibolite alteration	599112	153.20	154.70	1.50							
		175.3-177.0, massive magnetite >70%	599113	154.70	156.20	1.50							
		177.0-177.8, syenite breccia, hematitic stain, chloritic alteration. Shearing at 50 degrees to CA.	599114	156.20	157.70	1.50							
		177.8-179.1, massive magnetite >70%	599115	157.70	158.80	1.10							
		179.1-182.5, syenite, sheared at 65 degrees to CA.	599116	158.80	160.30	1.50							
		182.5-183.5, massive magnetite >70%	599117	160.30	161.80	1.50							
		183.5-192.8, syenite, coarse grained amphibolite and potassic alteration. A few bands of massive magnetite.	599118	161.80	163.30	1.50							
		192.8-193.1, massive magnetite >70%	599119	163.30	164.80	1.50							
		193.1-204.5, Syenite, coarse grained, silicified? Hard and glassy, weakly sheared at 40 degrees to CA.	599120	164.80	166.30	1.50							
		204.5-211.6, Syenite, very coarse grained, potassic alteration.	599121	166.30	167.80	1.50							
			599122	167.80	169.30	1.50							
			599123	169.30	170.80	1.50							
			599124	170.80	172.30	1.50							

**Rare Earth Metals Inc
DIAMOND DRILL LOG**

DDH Number CH-17
Project Clay Howells
Length 314.00
Started 21-03-2010
Completed 23-03-2010
Easting 424226
Northing 5519340
Elevation/Zone 197

TESTS - Reflex Maxibore								
Depth	Azimuth	Dip	Depth	Azimuth	Dip	Depth	Azimuth	Dip
collar	145	-70.00						
See separate file								

Logged By
Claim #(s)
Core Size
Target(s)
Contractor
Comments

Page 1 **of** 3
Bob Chataway
 NQ
 MIF in Carbonatite
 Norex Drilling
 Grid loc'n: L102+50E/99+25N

From	To	Description	Sample Number	From	To	Interval							
0.00	12.00	Casing	599140	87.00	88.50	1.50							
			599141	88.50	90.00	1.50	see assay certificates for results						
12.00	80.00	Syenite	599142	90.00	91.50	1.50							
		Coarse grained, grey-light green colour, weakly magnetic. Some short pegmatitic sections, mainly massive, no fabric.	599143	91.50	93.00	1.50							
		Minor fault zones at 70.0-71.5.	599144	93.00	94.50	1.50							
			599145	94.50	98.00	3.50							
80.00	116.00	Fault Zone	599146	98.00	99.50	1.50							
		80.0-94.5, Well fractured syenite, coarse grained, amphibolite alteration. Intensely brecciated, altered, poor core recovery at	599147	99.50	101.00	1.50							
		90.0-94.5. Bleached syenite.	599148	101.00	104.00	3.00							
		94.5-101.0, strongly altered massive magnetite, poor core recovery.	599149	104.00	107.00	3.00							
		101.0-105.0, brecciated syenite	599150	107.00	111.50	4.50							
		105.0-111.5, strongly altered massive magnetite.	599151	111.50	113.00	1.50							
		111.5-116.0, porphyroblastic carbonatite and massive magnetite	599152	113.00	116.00	3.00							
			599153	116.00	117.50	1.50							
116.00	133.70	Carbonatite	599154	117.50	119.00	1.50							
		Porphyroblastic texture or a sheared equigranular carbonatite, shearing at 20 degrees to CA. 20-40% magnetite as clots.	599155	119.00	120.50	1.50							
		121.1-124.0, pale pink medium grained syenite dyke	599156	120.50	122.00	1.50							
		127.0-128.5, pale pink medium grained syenite dyke	599157	122.00	123.50	1.50							
			599158	123.50	125.00	1.50							
133.70	162.10	Syenite Breccia	599159	125.00	126.50	1.50							
		Fine to medium grained sheared syenite, boudinage texture. Syenite fragments with potassic alteration (mm-cm scale).	599160	126.50	128.00	1.50							
		Hematitic alteration, non-magnetic.	599161	128.00	129.50	1.50							
		143.7-145.2, pale pink medium grained syenite dyke.	599162	129.50	131.00	1.50							
		155.0-155.9, Equigranular carbonatite 30% magnetite	599163	131.00	132.50	1.50							
		155.9-157.6, fine grained syenite	599164	132.50	134.00	1.50							
		157.6-159.0, Equigranular carbonatite 30% magnetite.	599165	134.00	135.50	1.50							
		159.0-162.1, syenite with minor equigranular carbonatite bands.	599166	135.50	137.00	1.50							
			599167	137.00	138.50	1.50							
162.10	277.20	Carbonatite	599168	138.50	140.00	1.50							
		Sheared, equigranular carbonatite with 10-30% magnetite, locally to 50% magnetite, and interleaved syenite breccia with strong amphibolite alteration in the carbonatite. Syenite only magnetic when associated with amphibole-magnetite seams.	599169	140.00	141.50	1.50							
		162.1-175.0, Interleaved carbonatite and syenite	599170	141.50	143.00	1.50							
		175.0-178.8, Amphibolite rich syenite with carbonate veinlets throughout.	599171	143.00	144.50	1.50							
		178.8-188.2, Carbonatite, 30-50% magnetite, locally to >70% magnetite, short <1m intervals of fine grained syenite, with massive magnetite intervals of <0.5m.	599172	144.50	146.00	1.50							
			599173	146.00	147.50	1.50							
		188.2-189.7, fine grained syenite	599174	147.50	149.00	1.50							
			599175	149.00	150.50	1.50							
		189.7-208.1, Equigranular carbonatite, clots of magnetite, 10-20% magnetite.	599176	150.50	152.00	1.50							
		208.1-221.6, Equigranular to banded, no clots as above, magnetite to 50%. Fabric at 213.0m is 20 degrees to CA and at 221.0m is 50 degrees to CA.	599177	152.00	153.50	1.50							
			599178	153.50	155.00	1.50							
			599179	155.00	156.50	1.50							
			599180	156.50	158.00	1.50							

RARE EARTH METALS INC. DIAMOND DRILL LOG

DDH Number CH-17

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From	To	Description	Sample Number	From	To	Interval							
162.10	277.20	Carbonatite (Cont'd)	599181	158.00	159.50	1.50							
		221.6-226.3, Fine grained syenite, fractured with amphibolite infilling around fragments (<10cm).	599182	159.50	161.00	1.50							
		226.3-232.0, Equigranular carbonatite, magnetite to 50%. Core angles at 55 degrees to CA.	599183	161.00	162.50	1.50							
		232.0-233.9, Fine grained syenite	599184	162.50	164.00	1.50							
		233.9-244.0, Equigranular carbonatite and carbonatite with magnetic clots to 50%, locally >50% magnetite.	599185	164.00	165.50	1.50							
		244.0-249.0, Massive magnetite >70%, moderate chloritic alteration and a 30cm section with fluorite (purple) to 10% at 246.5m	599186	165.50	167.00	1.50							
		Strong fracturing over lower 2m.	599187	167.00	168.50	1.50							
		249.0-251.8, fine grained syenite	599188	168.50	170.00	1.50							
		251.8-255.5, massive magnetite to 50-70%	599189	170.00	171.50	1.50							
		255.5-260.5, fine grained syenite	599190	171.50	173.00	1.50							
		260.5-273.9, massive magnetite >70%, possible "blonde" alteration associate with carbonate stringers.	599191	173.00	174.50	1.50							
		273.9-274.7, fine grained syenite	599192	174.50	176.00	1.50							
		274.7-275.3, massive magnetite >70%	599193	176.00	177.50	1.50							
		275.3-276.4, fine grained syenite	599194	177.50	179.00	1.50							
		276.4-277.2, massive magnetite >70%	599195	179.00	180.50	1.50							
			599196	180.50	182.00	1.50							
277.20	290.00	Syenite	599197	182.00	183.50	1.50							
		Fine grained, light grey, very weakly magnetic.	599198	183.50	185.00	1.50							
			599199	185.00	186.50	1.50							
290.00	303.00	Syenite	599200	186.50	188.00	1.50							
		Coarse grained to pegmatitic, moderately amphibolite rich. Minor pyrite and amphibolite stringers, carbonate veins with potassic alteration and amphibolite rimming vein.	599201	188.00	189.50	1.50							
			599202	189.50	191.00	1.50							
			599203	191.00	192.50	1.50							
303.00	314.00	Syenite	599204	192.50	194.00	1.50							
		Fine grained syenite, light grey colour. A coarse grained interval from 311.7-313.0.	599205	194.00	195.50	1.50							
			599206	195.50	197.00	1.50							
314.00		EOH	599207	197.00	198.50	1.50							
		Casing left in the hole.	599208	198.50	200.00	1.50							
		Core stored at camp.	599209	200.00	201.50	1.50							
			599210	201.50	203.00	1.50							
			599211	203.00	204.50	1.50							
			599212	204.50	206.00	1.50							
			599213	206.00	207.50	1.50							
			599214	207.50	209.00	1.50							
			599215	209.00	210.50	1.50							
			599216	210.50	212.00	1.50							
			599217	212.00	213.50	1.50							
			599218	213.50	215.00	1.50							
			599219	215.00	216.50	1.50							
			599220	216.50	218.00	1.50							
			599221	218.00	219.50	1.50							
			599222	219.50	221.00	1.50							
			599223	221.00	222.50	1.50							
			599224	222.50	224.00	1.50							
			599225	224.00	225.50	1.50							
			599226	225.50	227.00	1.50							
			599227	227.00	228.50	1.50							
			599228	228.50	230.00	1.50							
			599229	230.00	231.50	1.50							
			599230	231.50	233.00	1.50							

Appendix E – Drilling Sample Certificates of Analysis



Date Submitted: 21-May-10
Invoice No.: A10-2419
Invoice Date: 15-Jun-10
Your Reference: Clay Howells (RA-20)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

127 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-REE-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-2419**

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

Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

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



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Analyte Symbol	Nb2O5	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599856	0.027	45.23	11.07	11.82	0.909	4.39	14.54	1.57	4.09	0.574	1.71	3.32	99.22	11	22	67	< 20	8	< 20	50	350	30	3	7
599857	0.028	36.17	11.16	14.95	0.998	5.36	20.36	0.54	2.85	1.009	1.55	3.48	98.43	14	18	141	40	14	20	10	520	27	2	7
599858	0.063	35.36	9.50	16.02	1.022	5.06	23.82	0.18	2.34	0.987	1.94	2.81	99.05	15	29	148	60	18	30	110	780	27	3	6
599859	0.065	32.25	9.22	16.39	1.013	5.97	19.99	0.18	3.92	1.046	2.31	7.06	99.34	15	12	153	30	17	30	20	790	28	3	7
599860	0.073	44.07	11.78	7.65	0.672	3.88	13.90	1.98	5.54	0.226	1.22	8.20	99.12	7	26	27	< 20	4	< 20	30	280	27	2	9
599861	0.177	35.56	9.95	14.78	1.049	5.61	22.49	0.53	2.57	1.057	2.04	2.62	98.25	12	24	115	40	16	30	50	760	27	3	8
599862	0.149	33.54	9.05	17.53	1.037	4.86	23.59	0.14	2.47	0.997	2.07	1.81	97.10	16	25	118	40	17	30	70	870	26	3	7
599863	0.077	40.29	11.14	14.19	0.962	3.67	16.98	1.85	3.53	0.719	1.50	3.06	97.89	11	48	80	30	11	< 20	10	760	35	3	14
599864	0.228	32.95	9.47	16.86	1.034	5.46	22.86	0.12	2.69	0.972	2.23	2.15	96.80	15	25	104	60	16	20	20	960	28	3	9
599865	0.058	33.26	9.32	18.22	1.067	4.10	23.41	0.19	2.27	0.937	1.80	2.24	96.82	16	14	132	70	11	30	30	660	28	3	8
599866	0.038	30.28	8.33	26.02	1.222	3.32	22.33	0.28	1.70	1.071	2.31	1.79	98.66	19	7	161	20	13	20	20	480	31	3	9
599867	0.019	37.79	8.10	18.29	1.004	4.66	21.17	0.94	1.39	0.665	2.86	1.79	98.66	19	14	89	< 20	10	< 20	20	310	31	3	9
599868	0.035	55.87	12.81	9.29	0.478	1.52	7.69	4.71	4.71	0.445	0.51	2.06	100.1	10	10	29	< 20	2	< 20	< 10	180	27	2	< 5
599869	0.055	45.56	14.56	13.16	1.124	3.04	9.90	0.34	7.25	0.696	0.84	1.93	98.40	8	21	48	40	9	< 20	20	360	23	2	< 5
599870	0.073	66.27	12.49	6.23	0.477	1.17	3.28	2.70	5.47	0.229	0.27	1.10	99.68	5	13	15	< 20	3	< 20	< 10	150	32	2	< 5
599871	0.131	76.09	11.77	2.59	0.057	0.25	0.25	4.46	4.25	0.066	0.03	0.59	100.4	4	11	< 5	< 20	< 1	< 20	< 10	100	35	2	< 5
599872	0.087	45.14	13.44	14.24	1.525	2.98	11.28	0.73	6.38	0.645	0.97	1.32	98.67	8	29	45	50	9	< 20	10	560	26	2	6
599873	0.057	40.63	12.08	11.23	0.999	2.65	14.78	0.40	6.64	0.578	0.75	6.43	97.17	6	20	36	30	7	< 20	20	400	20	2	< 5
599874	0.076	41.58	12.44	17.70	1.570	2.98	10.78	0.58	5.95	0.644	0.90	2.07	97.20	8	24	51	40	9	< 20	20	560	26	3	7
599875	0.055	46.55	14.35	11.89	0.901	3.20	10.61	0.56	6.95	0.682	0.74	1.92	98.36	7	19	44	40	9	< 20	< 10	380	22	2	< 5
599876	0.053	47.89	14.37	11.92	0.840	2.49	10.50	0.87	6.97	0.689	0.63	1.14	98.32	8	18	51	60	9	< 20	40	340	21	2	< 5
599877	0.044	47.67	13.83	11.02	1.172	2.56	11.30	0.99	6.32	0.522	0.71	1.79	97.88	6	23	31	30	5	< 20	< 10	390	26	2	< 5
599878	0.103	41.68	11.91	17.66	1.448	3.56	9.71	1.12	5.57	0.482	0.83	3.36	97.33	9	24	40	40	8	20	10	710	31	3	7

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Analyte Symbol	Rb	Sr	Y	Zr	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	2	2	2	4	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599856	151	2396	139	822	2	2.1	< 0.2	11	< 0.5	4.1	4154	< 0.4	831	1520	158	570	77.4	17.1	42.9	5.5	29.2	5.6	15.9	2.19
599857	206	1893	144	628	< 2	2.3	< 0.2	10	< 0.5	8.8	4910	< 0.4	672	1170	127	492	77.7	19.0	45.7	6.1	31.2	5.5	14.7	1.96
599858	151	1507	200	620	< 2	2.4	< 0.2	10	< 0.5	5.1	4583	< 0.4	876	1550	165	642	104	24.9	61.2	8.2	43.3	8.1	22.6	3.06
599859	247	1363	183	497	< 2	1.7	< 0.2	10	< 0.5	10.2	7298	< 0.4	1060	1820	189	706	104	24.7	60.2	7.8	41.0	7.6	21.3	2.87
599860	278	2361	138	260	3	1.3	< 0.2	5	0.7	8.2	4605	< 0.4	766	1400	144	519	73.1	16.1	43.2	5.8	29.9	5.4	15.5	2.00
599861	169	1907	214	530	< 2	2.1	< 0.2	8	< 0.5	7.0	5757	< 0.4	1050	1780	182	678	104	25.2	62.0	8.5	45.8	8.4	23.4	3.20
599862	151	2084	154	550	< 2	2.1	< 0.2	7	< 0.5	4.0	6400	< 0.4	917	1590	168	627	93.7	22.6	53.8	6.8	35.4	6.5	16.9	2.28
599863	252	1746	183	1153	< 2	4.2	< 0.2	29	1.3	12.5	5046	< 0.4	842	1500	158	580	88.7	20.8	52.2	7.2	38.9	7.5	21.3	3.07
599864	176	2052	179	471	< 2	2.0	< 0.2	8	< 0.5	5.4	7526	0.7	1080	1860	192	716	106	25.6	60.9	7.7	41.1	7.3	19.8	2.72
599865	137	1419	211	705	2	2.7	< 0.2	14	< 0.5	4.9	4351	< 0.4	832	1450	156	619	105	26.6	65.5	9.1	47.7	8.7	24.0	3.31
599866	69	1733	232	849	2	3.1	< 0.2	15	< 0.5	1.8	2573	< 0.4	987	1720	184	705	115	28.3	70.5	9.8	52.0	9.6	26.1	3.56
599867	62	2013	150	929	3	2.1	< 0.2	12	< 0.5	2.2	639	0.6	1160	2020	206	731	94.4	20.1	50.1	6.6	35.0	6.7	18.4	2.54
599868	155	1038	85	736	5	2.7	< 0.2	15	< 0.5	2.8	1375	< 0.4	303	545	60.8	230	37.5	7.49	23.1	3.4	18.9	3.7	10.7	1.58
599869	236	3897	181	476	4	1.9	< 0.2	11	< 0.5	3.8	4958	0.8	732	1180	116	398	55.4	15.2	37.3	5.8	34.7	6.9	18.8	2.64
599870	335	915	124	334	3	1.2	< 0.2	10	< 0.5	2.3	2247	< 0.4	319	575	61.7	223	36.1	8.68	24.3	4.0	23.5	4.5	13.1	1.96
599871	368	80	38	274	< 2	1.0	< 0.2	11	< 0.5	1.7	203	< 0.4	109	226	25.0	88.5	15.3	1.48	8.3	1.3	8.2	1.7	5.2	0.90
599872	209	3234	170	470	3	1.7	< 0.2	15	< 0.5	4.8	6936	< 0.4	1120	1880	181	607	75.7	19.0	44.9	6.2	33.7	6.4	17.9	2.45
599873	260	4987	122	409	6	1.7	< 0.2	11	0.5	5.3	5513	0.4	804	1290	122	410	50.8	12.7	30.6	4.4	23.9	4.6	13.3	1.83
599874	215	3403	233	505	6	2.0	< 0.2	18	< 0.5	7.2	6641	< 0.4	1320	2130	204	684	88.0	22.5	54.8	7.9	46.2	9.0	25.7	3.58
599875	239	4890	80	449	2	1.7	< 0.2	9	< 0.5	5.4	4311	< 0.4	666	1070	102	339	41.4	10.2	23.6	3.2	17.0	3.2	8.7	1.18
599876	225	7118	71	453	4	1.9	< 0.2	9	< 0.5	3.5	4223	0.5	576	925	88.8	292	36.0	8.64	20.5	2.9	15.4	2.9	8.2	1.13
599877	218	4233	126	406	5	1.5	< 0.2	10	< 0.5	3.4	3651	< 0.4	949	1560	148	495	61.6	14.9	36.4	4.9	26.4	4.8	13.6	1.86
599878	196	3398	144	602	14	2.4	< 0.2	17	0.6	4.7	3913	< 0.4	1120	1880	185	641	84.4	19.7	47.3	6.3	32.8	6.0	16.4	2.19

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599901	13.0	2.17	11.7	11.7	2	0.8	91	25.5	4.5
599902	30.7	5.06	21.2	18.2	3	1.2	79	139	6.5
599903	28.6	4.73	27.8	21.5	13	0.7	43	310	13.3
599904	58.3	8.85	38.1	24.9	8	0.6	68	1330	22.2
599905	5.5	0.99	7.6	5.4	2	0.5	33	21.4	1.3
599906	5.2	0.94	7.5	4.5	2	0.4	33	20.6	1.4
599907	6.6	1.13	6.3	5.8	2	0.4	33	17.5	1.3
599908	16.6	2.48	13.5	11.6	2	0.6	30	299	5.2
599909	5.8	1.08	9.8	5.3	2	0.5	15	21.2	0.8
599910	5.8	0.98	8.2	6.0	3	0.5	33	19.6	1.8
599911	7.5	1.39	22.4	8.0	1	0.4	21	36.7	2.4
599912	9.7	1.53	13.1	11.5	2	0.4	36	169	2.4
599913	4.6	0.83	8.3	3.1	< 1	0.4	17	14.9	0.8
599914	6.0	1.13	9.9	7.4	1	0.4	20	61.3	3.4
599915	9.5	1.47	10.8	12.2	< 1	0.3	8	227	4.0
599916	5.7	1.05	9.1	6.0	2	0.4	23	37.9	2.8
599917	18.1	2.95	16.3	104	1	0.9	41	157	18.4
599918	35.5	5.44	5.8	124	2	0.9	70	365	46.7
599919	42.1	6.53	8.0	57.8	< 1	0.6	64	383	20.0
599920	11.7	1.99	21.8	12.1	3	1.1	37	43.3	5.8
599921	23.8	3.52	10.9	8.1	2	0.8	79	244	5.4
599922	15.9	2.47	15.3	18.7	1	0.9	45	240	4.4
599923	12.5	2.14	21.2	25.4	< 1	0.8	41	100	3.0
599924	13.1	2.08	19.1	19.6	3	0.5	112	125	3.7
599925	6.9	1.12	12.7	7.3	2	0.3	40	78.7	3.1
599926	5.2	0.90	7.9	6.4	2	0.3	23	20.4	1.5
599927	4.6	0.81	5.1	5.6	3	0.3	29	16.6	1.2
599928	5.0	0.85	4.8	5.0	12	0.3	36	24.6	1.3
599929	23.8	3.79	10.5	12.9	7	0.3	66	266	6.0
599930	16.0	2.73	23.6	15.2	2	0.8	71	125	5.8
599931	12.5	2.42	21.1	15.4	2	0.2	28	129	3.4
599932	10.3	2.11	24.8	11.1	< 1	0.2	17	42.6	0.7
599933	15.3	2.93	22.8	8.4	< 1	0.2	21	168	2.3
599934	13.9	2.05	13.2	6.9	4	0.4	26	129	7.3
599935	7.7	1.28	9.9	10.1	5	0.7	46	46.8	6.8
599936	5.5	0.89	5.6	6.9	3	0.6	42	29.1	5.1
599937	10.8	1.94	16.0	17.7	4	0.6	39	55.6	9.8
599938	9.3	1.48	11.4	24.1	4	0.7	67	74.4	15.6
599939	9.6	1.51	9.9	10.6	3	0.5	46	73.1	8.0
599940	12.0	2.04	22.1	12.1	2	0.5	32	92.1	9.9
599941	12.5	2.16	12.3	11.7	2	0.4	25	77.9	9.9
599942	22.6	3.36	13.6	13.3	3	0.3	19	243	19.1
599943	9.0	1.47	9.4	6.9	3	0.5	31	76.8	5.8
599944	17.0	2.66	13.1	12.7	2	0.4	30	151	7.1
599946	7.9	1.25	10.0	11.6	3	0.9	40	82.2	6.7
599947	7.4	1.18	9.4	14.0	4	0.7	45	60.9	14.4
599948	9.5	1.55	14.3	15.0	3	0.5	30	63.6	12.4
599949	58.6	8.40	14.5	8.6	2	1.8	263	591	68.2
599950	19.4	2.86	8.9	15.7	1	0.9	66	254	12.7
599951	23.3	3.45	11.1	15.9	1	0.9	108	360	11.4
599952	18.3	2.71	10.7	16.6	< 1	0.7	59	247	10.0
599953	14.7	2.26	10.5	15.3	1	0.7	122	211	10.5

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599954	14.4	2.18	10.2	17.2	< 1	0.6	62	227	8.9
599955	16.7	2.47	11.8	15.9	< 1	0.8	104	260	6.9
599956	7.5	1.18	8.5	17.0	2	1.1	83	73.9	7.4
599957	7.8	1.19	8.3	16.4	3	1.0	83	82.2	10.3
599958	9.9	1.56	13.2	18.8	2	1.1	82	131	10.0
599959	6.9	1.05	8.1	16.4	2	0.8	77	71.7	7.5
599960	8.0	1.18	9.0	16.1	4	0.8	68	95.7	9.4
599961	9.4	1.43	8.4	14.4	1	0.9	72	91.4	7.8
599962	9.6	1.43	8.3	15.5	2	1.1	72	117	9.3
599963	15.6	2.31	9.0	15.7	1	0.9	90	225	10.9
599964	72.1	10.8	12.9	6.6	1	1.1	73	155	4.9
599965	29.8	4.64	16.6	10.0	3	1.0	65	94.6	6.9
599966	41.2	6.00	15.8	9.8	3	0.9	65	309	12.9
599967	93.7	12.8	11.3	5.0	1	1.2	74	663	19.9
599968	10.7	2.06	23.0	24.6	2	0.7	32	30.8	1.9
599969	6.9	1.19	11.6	7.3	1	0.4	25	20.8	2.0
599970	33.5	4.91	15.1	6.0	2	0.6	34	136	7.4
599971	7.9	1.35	16.9	8.7	3	0.4	28	49.9	4.9
599972	6.5	1.12	13.9	9.1	2	0.4	37	34.3	3.7
599973	6.8	1.18	16.1	6.7	2	0.4	33	32.3	2.8
599974	6.2	1.04	12.3	6.3	2	0.3	24	23.5	2.5
599975	7.5	1.24	13.0	7.6	3	0.4	32	42.2	3.4
599976	6.6	1.13	13.7	7.2	2	0.4	29	30.8	2.7
599977	6.8	1.18	13.8	6.8	2	0.3	25	25.9	3.0
599978	6.9	1.23	16.1	5.7	2	0.4	27	45.9	3.6
599979	11.6	1.93	9.6	8.0	3	0.6	64	50.7	4.4
599980	15.1	2.62	15.0	12.3	1	0.5	51	139	9.9
599981	39.5	5.43	10.9	2.8	1	< 0.1	19	301	4.8
599982	18.4	2.50	6.4	2.6	< 1	0.2	10	266	2.6
599983	6.0	1.00	11.0	7.4	1	0.5	32	28.8	3.5
599984	8.0	1.41	8.0	4.8	< 1	0.6	37	15.0	1.8
599985	8.5	1.37	14.1	5.7	2	0.6	45	89.1	4.8
599986	10.9	1.65	20.4	306	2	1.2	91	54.3	96.5
599987	13.8	1.95	15.9	177	2	0.9	71	100	67.2
599988	20.6	3.01	9.4	70.1	2	0.7	95	243	31.4
599989	10.2	1.62	10.4	76.6	2	0.7	76	62.2	23.4
599990	7.0	1.16	10.4	10.5	1	0.5	61	67.2	5.2
599991	9.9	1.53	16.0	8.0	2	0.4	39	143	5.0
599992	11.3	1.84	7.3	11.4	2	0.4	42	145	5.7
599993	27.1	4.04	17.2	21.2	2	0.5	26	335	13.9
599994	47.2	7.00	13.1	13.7	2	0.4	26	418	13.6
599995	39.7	5.85	15.7	15.4	2	0.7	37	197	7.5
599996	27.0	3.82	11.0	21.5	2	1.3	36	306	14.4
599997	20.2	2.81	9.6	23.4	2	1.5	32	329	15.8
599998	34.1	4.86	9.9	28.8	2	1.0	37	325	19.5
599999	23.2	3.42	25.7	18.1	2	0.7	47	205	15.2
600000	28.7	4.39	19.0	9.9	1	0.4	33	204	9.9
599851	8.6	1.35	12.4	7.8	2	1.0	50	127	8.4
599852	60.5	9.17	15.7	23.1	2	1.8	31	87.5	9.1
599853	11.8	1.76	10.2	26.9	2	1.8	42	150	10.7
599854	11.2	1.75	13.4	26.0	2	1.0	30	151	8.8
599855	6.4	0.96	7.2	11.2	1	0.2	17	375	3.9

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599856	13.3	1.97	10.9	8.4	1	0.4	25	201	5.6
599857	11.7	1.72	10.5	10.2	1	0.4	10	159	4.8
599858	18.4	2.68	12.6	13.0	1	0.4	8	182	7.5
599859	17.3	2.50	9.2	15.3	3	0.6	7	178	7.8
599860	12.0	1.68	5.6	16.7	4	0.6	21	191	7.4
599861	18.8	2.64	9.4	29.4	< 1	0.4	17	146	12.8
599862	13.5	1.96	9.4	35.7	< 1	0.4	15	141	9.9
599863	19.4	2.82	31.6	19.2	2	0.7	50	255	8.9
599864	16.2	2.36	7.4	55.4	3	0.4	41	167	13.4
599865	19.8	2.90	13.5	17.1	2	0.4	36	183	6.5
599866	21.7	3.19	17.6	12.2	< 1	0.2	12	172	5.9
599867	15.3	2.26	9.5	9.9	1	0.1	23	185	6.3
599868	10.7	1.74	19.9	19.5	3	0.4	22	74.5	6.9
599869	16.3	2.35	9.6	18.1	2	0.8	35	90.5	11.6
599870	12.7	1.96	11.3	32.6	3	0.6	22	69.4	17.2
599871	6.9	1.19	12.2	69.1	4	0.5	28	39.0	36.2
599872	14.3	2.09	9.8	18.8	2	0.9	64	151	16.7
599873	10.9	1.58	8.9	15.9	3	1.1	83	93.7	10.3
599874	21.4	3.04	9.9	17.3	3	0.8	57	173	16.8
599875	7.2	1.09	8.8	18.7	2	0.6	74	82.5	9.5
599876	7.0	1.04	9.5	18.4	2	0.6	85	72.8	9.4
599877	11.0	1.62	8.7	15.2	3	0.6	61	113	12.8
599878	12.8	1.89	12.1	18.6	4	0.8	76	161	18.2

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Quality Control

Analyte Symbol	Nb2O5	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas																	740	204	2520	5940	110	10		8	
WMG-1 Cert																	770	200	2700	5900	110	10.3		7.00	
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas		11.35	1.88	0.74	0.014	0.35	43.84	0.89	0.55	0.116	30.06					1678									
NIST 694 Cert		11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740									
DNC-1 Meas		47.78	18.66	9.91	0.148	10.22	11.28	1.92	0.23	0.491	0.07			31		159		270	56	250	100	70			
DNC-1 Cert		47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148.0		270.0	57.0	247	100.0	70.0			
GBW 07113 Meas		71.78	12.63	3.34	0.159	0.15	0.59	2.48	5.44	0.282	0.04			5	4	< 5									
GBW 07113 Cert		72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00									
MICA-FE Meas	0.040																								
MICA-FE Cert	0.039																								
GXR-2 Meas																	40	9	20	80	520	32		21	
GXR-2 Cert																	36.0	8.60	21.0	76.0	530	37.0		25.0	
NIST 1633b Meas		48.84	27.71	10.91	0.019	0.78	2.13	0.26	2.29	1.282	0.53			41		306									
NIST 1633b Cert		49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296									
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas	0.015																								
BE-N Cert	0.015																								
AC-E Meas	0.016																								
AC-E Cert	0.016																								
OKA-1 Meas	0.540																								
OKA-1 Cert	0.529																								
W-2a Meas		52.45	15.04	10.56	0.166	6.29	10.75	2.18	0.62	1.049	0.14			35	< 1	277	90	42	70	110	80	17	2	< 5	
W-2a Cert		52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20	
SY-4 Meas		50.28	21.10	6.20	0.108	0.51	7.96	6.96	1.67	0.295	0.15			1	3	< 5									
SY-4 Cert		49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0									
CTA-AC-1 Meas																			< 1		60	40			
CTA-AC-1 Cert																			2.72		54.0	38.0			
BIR-1a Meas		47.84	15.57	11.16	0.171	9.57	13.19	1.79	0.02	0.968	0.05			44	< 1	336	370	52	170	130	70	15	2	< 5	
BIR-1a Cert		47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50	0.440	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
VS-N Meas	0.101																								
VS-N Cert	0.10																								
NCS DC86302 Meas		75.45	15.33	0.59	0.037	0.06	0.61	4.65	4.08	0.012	0.02				1347										
NCS DC86302 Cert		73.99	14.86	0.593	0.036	0.069	0.584	4.67	3.89	0.016	0.013				1315										
NCS DC70014 Meas																		26	80	2600	7400	25			
NCS DC70014 Cert																		26.2	70.9	2600.00	7400.00	25.2			
IGS 40 Meas																									
IGS 40 Cert																									
NCS DC70009 (GBW07241) Meas																		40	4	< 20	950	100	16	11	71
NCS DC70009 (GBW07241) Cert																		30	3.7	2.8	960.000	100.000	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																			19		170				
OREAS 100a (Fusion) Cert																			18.1		169				
OREAS 101a (Fusion) Meas																			50		430				
OREAS 101a (Fusion) Cert																			48.8		434				
JR-1 Meas																		< 20	2	< 20	< 10	< 30	16	3	15
JR-1 Cert																		2.83	0.83	1.67	2.68	30.6	16.1	1.88	16.3
NCS DC86318 Meas																									
NCS DC86318 Cert																									
SX18-01 Meas	0.688																								

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Quality Control																								
Analyte Symbol	Nb2O5	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
SX18-01 Cert	0.695																							
FER-1 Meas		17.07	0.53	76.43	0.221	0.26	3.29	< 0.01	< 0.01	0.022	2.44													
FER-1 Cert		16.95	0.52	75.86	0.22	0.30	3.29	0.03	0.02	0.03	2.39													
599909 Orig		58.21	14.62	6.79	0.449	1.07	3.98	5.24	6.35	0.244	0.21	2.17	99.34	4	12	< 5	< 20	1	< 20	10	230	32	1	< 5
599909 Dup		57.80	14.35	6.76	0.450	1.08	3.97	4.95	5.99	0.242	0.23	2.17	97.99	4	11	< 5	< 20	1	< 20	10	220	31	1	< 5
599926 Orig		60.37	16.39	6.82	0.240	0.42	2.87	5.80	6.25	0.647	0.13	0.50	100.5	11	3	< 5	< 20	2	< 20	< 10	130	24	2	< 5
599926 Dup		60.49	16.02	6.93	0.245	0.43	2.97	5.57	5.96	0.654	0.13	0.50	99.89	11	3	< 5	< 20	2	< 20	< 10	120	23	2	< 5
599930 Orig	0.049																							
599930 Dup	0.048																							
599943 Orig		56.27	13.54	11.88	0.489	0.66	5.51	3.72	7.20	0.226	0.37	0.79	100.7	8	9	19	< 20	2	< 20	< 10	220	27	2	< 5
599943 Dup		56.34	13.23	11.99	0.492	0.66	5.63	3.64	7.01	0.225	0.37	0.79	100.4	8	9	17	< 20	2	< 20	< 10	230	27	2	< 5
599959 Orig		47.66	15.10	11.54	0.629	2.36	9.71	2.16	6.91	0.734	0.64	2.00	99.44	7	18	51	50	11	< 20	10	330	22	1	< 5
599959 Dup		47.55	14.98	11.53	0.630	2.35	9.78	2.13	6.82	0.731	0.63	2.00	99.12	7	18	50	50	11	< 20	10	320	22	1	< 5
599960 Orig	0.051																							
599960 Dup	0.051																							
599976 Orig		61.94	15.41	5.40	0.219	0.30	2.28	5.65	5.41	0.588	0.07	0.65	97.91	5	4	< 5	< 20	1	< 20	< 10	130	27	1	< 5
599976 Dup		61.60	15.55	5.39	0.220	0.30	2.26	5.66	5.38	0.581	0.06	0.65	97.65	5	4	< 5	< 20	1	< 20	< 10	130	27	1	< 5
599989 Orig	0.173																							
599989 Dup	0.172																							
599990 Orig	0.061	55.04	13.75	9.68	0.776	1.39	7.02	3.63	5.67	0.400	0.52	0.72	98.58	8	21	13	< 20	1	< 20	< 10	350	29	2	< 5
599990 Split	0.061	55.03	13.54	9.51	0.780	1.41	6.94	3.65	5.66	0.407	0.50	0.78	98.22	8	20	14	< 20	< 1	< 20	< 10	340	29	2	< 5
600000 Orig	0.070	32.59	5.81	20.61	1.709	0.69	23.32	0.91	2.58	0.168	1.11	9.04	98.53	8	20	16	< 20	< 1	< 20	< 10	720	27	4	< 5
600000 Split	0.069	33.14	5.77	20.33	1.723	0.69	23.59	0.93	2.63	0.170	1.12	8.99	99.07	9	20	18	< 20	< 1	< 20	10	700	26	3	< 5
599851 Orig		52.46	12.37	12.16	0.848	0.60	8.55	1.48	8.27	0.256	0.96	0.99	98.94	6	15	11	< 20	1	< 20	< 10	470	35	3	< 5
599851 Dup		52.77	12.13	12.27	0.855	0.59	8.59	1.49	8.35	0.252	0.97	0.99	99.25	6	15	14	< 20	1	< 20	< 10	470	35	3	< 5
599858 Orig	0.063																							
599858 Dup	0.062																							
599868 Orig		56.15	12.47	9.18	0.480	1.53	7.66	4.67	4.67	0.437	0.51	2.06	99.82	10	10	30	< 20	2	< 20	< 10	180	27	2	< 5
599868 Dup		55.59	13.15	9.39	0.476	1.52	7.72	4.75	4.75	0.452	0.52	2.06	100.4	10	10	27	< 20	2	< 20	< 10	180	27	2	< 5
599870 Orig	0.073	66.27	12.49	6.23	0.477	1.17	3.28	2.70	5.47	0.229	0.27	1.10	99.68	5	13	15	< 20	3	< 20	< 10	150	32	2	< 5
599870 Split	0.072	66.49	12.14	6.11	0.478	1.16	3.20	2.70	5.46	0.233	0.31	1.09	99.38	5	12	14	< 20	3	< 20	< 10	140	31	2	< 5
Method Blank Method	< 0.003																							
Blank																								

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Quality Control																								
Analyte Symbol	Rb	Sr	Y	Zr	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	2	2	2	4	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas					< 2	2.3		3		< 0.5			8.9	17.0		9.9	2.4	0.75		0.4	2.5	0.5		0.23
WMG-1 Cert					1.40	2.70		2.20		0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200
DH-1a Meas																								
DH-1a Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas		146	16	37							108		3.8			4.9		0.58						
DNC-1 Cert		144.0	18.0	38							118		3.6			5.20		0.59						
GBW 07113 Meas		41	45	365							501													
GBW 07113 Cert		43.0	43.0	403							506													
MICA-FE Meas																								
MICA-FE Cert																								
GXR-2 Meas	77				< 2	16.0	< 0.2	13	41.3	5.3		< 0.4	25.5	50.4		19.7	3.7		3.0	0.5	2.8		0.27	
GXR-2 Cert	78.0				2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50		3.30	0.480	3.30		0.300	
NIST 1633b Meas		1017									703													
NIST 1633b Cert		1040									709													
OKA-2 Meas																								
OKA-2 Cert																								
BE-N Meas																								
BE-N Cert																								
AC-E Meas																								
AC-E Cert																								
OKA-1 Meas																								
OKA-1 Cert																								
W-2a Meas	20	191	19	88	< 2	< 0.5				0.9	171	< 0.4	11.3	22.8		13.0	3.3	1.08		0.6	3.8	0.8	2.1	0.35
W-2a Cert	21.0	190	24.0	94.0	0.600	0.0460				0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380
SY-4 Meas		1214	119	539							361													
SY-4 Cert		1191	119	517							340													
CTA-AC-1 Meas													2230	3330		1150	169	46.1	132	15.4				
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9				
BIR-1a Meas	< 2	105	14	18	< 2	< 0.5				< 0.5	9	< 0.4			0.44	2.5	1.1	0.51	1.8	0.4	2.6	0.6	1.6	0.28
BIR-1a Cert	0.250	108	16.0	16.0	0.500	0.0360				0.00500	7.00	0.0200			0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260
NCS DC86312 Meas														180		1550		222	34.1	183	35.6	96.1	14.3	
NCS DC86312 Cert														190.000		1600.000		225.0	34.6	183.00	35.70	96.2	15.1	
VS-N Meas																								
VS-N Cert																								
NCS DC86302 Meas																								
NCS DC86302 Cert																								
NCS DC70014 Meas					270	17.5			180		80.3	46.1	83.2	9.90	36.9	7.7	1.64	7.0	1.1	6.2	1.3	3.4	0.53	
NCS DC70014 Cert					270.000	16.7			180.000		80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	
IGS 40 Meas													21200	32500	2730	8310								
IGS 40 Cert													20720.00	32247	2730	8320								
NCS DC70009 (GBW07241) Meas	500				2.0	1.3	1700	3.3	42.2		25.7	60.4	8.00	31.9	12.2	0.11	14.2	3.2	20.5	4.3	12.5	2.33		
NCS DC70009 (GBW07241) Cert	500.00				1.8	1.3	1701	3.1	41		23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2		
OREAS 100a (Fusion) Meas					23						269	472	48.3	156	25.2	3.78	21.7	3.8	23.7	5.1	15.0	2.50		
OREAS 100a (Fusion) Cert					24.1						260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31		
OREAS 101a (Fusion) Meas					20						818	1390	132	400	51.1	8.19	38.1	5.7	32.6	6.8	19.7	3.06		
OREAS 101a (Fusion) Cert					21.9						816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90		
JR-1 Meas	255				3	< 0.5	< 0.2	3	2.4	20.8		0.5	21.0	47.2	6.22	24.3	5.9	0.31	5.6	1.0	6.3	1.4	4.0	0.72
JR-1 Cert	257				3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67
NCS DC86318 Meas													1950	425		3360	1750	18.4	2120	466	3100	553	1640	267
NCS DC86318 Cert													1960	430		3430	1720	18.91	2095	470	3220	560	1750	270
SX18-01 Meas																								

Activation Laboratories Ltd. Report: A10-2419

Quality Control																									
Analyte Symbol	Rb	Sr	Y	Zr	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	2	2	2	4	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-01 Cert																									
FER-1 Meas		103									1073														
FER-1 Cert		90									1000														
599909 Orig	187	1070	40	365	82	1.7	< 0.2	7	1.2	1.8	3962	< 0.4	221	388	40.9	147	22.4	4.27	13.8	1.9	9.5	1.8	5.1	0.81	
599909 Dup	185	1068	40	339	81	1.6	< 0.2	6	1.1	1.8	3957	< 0.4	214	376	39.4	143	22.2	4.07	13.6	1.8	9.4	1.7	5.0	0.78	
599926 Orig	109	1015	39	362	14	1.6	< 0.2	1	1.2	0.5	2982	< 0.4	139	250	26.6	101	16.5	4.75	11.3	1.6	9.0	1.7	4.9	0.75	
599926 Dup	108	998	40	349	14	1.5	< 0.2	< 1	1.1	0.5	2980	< 0.4	139	249	26.7	100	16.5	4.80	11.2	1.6	9.0	1.7	4.9	0.72	
599930 Orig																									
599930 Dup																									
599943 Orig	211	1426	81	329	7	1.5	< 0.2	7	1.1	1.7	2075	< 0.4	392	659	67.0	236	36.3	6.91	25.4	3.6	18.3	3.4	9.6	1.38	
599943 Dup	209	1399	81	330	6	1.4	< 0.2	7	1.2	1.7	2050	< 0.4	398	665	67.7	239	36.9	6.97	25.4	3.5	18.2	3.3	9.5	1.38	
599959 Orig	208	5871	75	414	4	2.2	< 0.2	8	1.4	5.8	4206	< 0.4	510	760	79.6	260	34.3	8.41	21.7	3.0	16.7	3.0	8.0	1.11	
599959 Dup	209	5879	75	413	4	2.2	< 0.2	8	1.4	5.7	4186	< 0.4	505	753	78.7	261	34.3	8.45	21.6	3.1	16.7	2.9	7.9	1.10	
599960 Orig																									
599960 Dup																									
599976 Orig	130	805	49	561	11	3.1	< 0.2	1	1.1	0.6	1802	< 0.4	226	337	38.8	135	20.7	3.20	13.1	2.0	11.3	2.1	5.9	0.92	
599976 Dup	130	804	49	545	11	2.9	< 0.2	1	1.1	0.6	1815	< 0.4	220	334	37.7	133	20.6	3.16	13.0	1.9	11.0	2.0	5.9	0.90	
599989 Orig																									
599989 Dup																									
599990 Orig	171	3684	61	415	5	1.6	< 0.2	8	< 0.5	2.2	9678	< 0.4	367	643	67.8	244	35.8	7.60	21.1	2.9	14.9	2.7	7.3	1.04	
599990 Split	167	3610	60	409	5	1.6	< 0.2	7	< 0.5	2.2	9617	< 0.4	394	697	72.0	258	37.2	7.80	21.1	2.8	14.6	2.6	7.4	1.03	
600000 Orig	100	1277	268	793	4	3.0	< 0.2	19	< 0.5	1.8	1770	< 0.4	558	1140	141	573	106	28.1	72.2	10.8	61.4	11.5	31.9	4.45	
600000 Split	98	1306	274	781	4	3.1	< 0.2	19	< 0.5	1.8	1760	< 0.4	579	1190	145	582	106	28.5	73.3	11.0	62.2	11.7	32.1	4.50	
599851 Orig	308	1306	93	459	5	1.8	< 0.2	12	< 0.5	5.0	4279	< 0.4	458	936	104	396	61.2	13.5	36.1	4.7	24.1	4.3	11.2	1.46	
599851 Dup	305	1245	92	462	6	1.7	< 0.2	13	< 0.5	5.0	4301	< 0.4	450	914	102	389	59.6	13.2	34.7	4.6	23.3	4.1	10.8	1.40	
599858 Orig																									
599858 Dup																									
599868 Orig	155	1015	83	733	5	2.7	< 0.2	15	< 0.5	2.8	1369	< 0.4	300	542	60.5	229	37.8	7.51	23.0	3.4	18.9	3.7	10.8	1.60	
599868 Dup	154	1062	87	739	5	2.6	< 0.2	14	< 0.5	2.9	1381	< 0.4	306	548	61.1	231	37.3	7.46	23.2	3.3	18.8	3.7	10.7	1.56	
599870 Orig	335	915	124	334	3	1.2	< 0.2	10	< 0.5	2.3	2247	< 0.4	319	575	61.7	223	36.1	8.68	24.3	4.0	23.5	4.5	13.1	1.96	
599870 Split	329	896	130	350	3	1.2	< 0.2	10	< 0.5	2.3	2215	< 0.4	318	576	61.7	218	35.1	8.51	24.5	3.9	23.2	4.5	13.0	1.92	
Method Blank Method																									
Blank																									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	1.4	0.19	1.5	0.3	2		16	1.3	0.8
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650
DH-1a Meas								901	
DH-1a Cert								910	
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas	2.0								
DNC-1 Cert	2.0								
GBW 07113 Meas									
GBW 07113 Cert									
MICA-FE Meas									
MICA-FE Cert									
GXR-2 Meas	1.7	0.25		0.7	2		660	8.0	2.8
GXR-2 Cert	2.04	0.270		0.900	1.90		690	8.80	2.90
NIST 1633b Meas									
NIST 1633b Cert									
OKA-2 Meas								29000	
OKA-2 Cert								28900	
BE-N Meas									
BE-N Cert									
AC-E Meas									
AC-E Cert									
OKA-1 Meas									
OKA-1 Cert									
W-2a Meas	2.1	0.30	2.4	0.5		< 0.1	9	2.4	0.5
W-2a Cert	2.10	0.330	2.60	0.500		0.200	9.30	2.40	0.530
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	11.2	1.14	1.7	2.5				23.0	4.3
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4
BIR-1a Meas	1.7	0.25	0.7	< 0.1		< 0.1	< 5	< 0.1	< 0.1
BIR-1a Cert	1.65	0.260	0.600	0.0400		0.0100	3.00	0.0300	0.0100
NCS DC86312 Meas	87.2	12.0						24.7	
NCS DC86312 Cert	87.79	11.96						23.6	
VS-N Meas									
VS-N Cert									
NCS DC86302 Meas									
NCS DC86302 Cert									
NCS DC70014 Meas	3.3	0.49					27200		
NCS DC70014 Cert	3.3	0.50					27200.00		
IGS 40 Meas									
IGS 40 Cert									
NCS DC70009 (GBW07241) Meas	16.0	2.23			2320	2.0		28.4	
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8		28.3	
OREAS 100a (Fusion) Meas	15.9	2.25						51.9	140
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135
OREAS 101a (Fusion) Meas	18.9	2.59						35.1	420
OREAS 101a (Fusion) Cert	17.5	2.66						36.6	422
JR-1 Meas	4.8	0.70	4.8	1.9		1.3	20	26.4	9.3
JR-1 Cert	4.55	0.71	4.51	1.86		1.56	19.3	26.7	8.88
NCS DC86318 Meas	1850	245							
NCS DC86318 Cert	1840	260.0							
SX18-01 Meas									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

SX18-01 Cert									
FER-1 Meas									
FER-1 Cert									
599909 Orig	5.9	1.09	9.9	5.3	2	0.5	14	21.5	0.8
599909 Dup	5.8	1.06	9.7	5.2	2	0.5	16	20.9	0.8
599926 Orig	5.2	0.91	8.0	6.3	2	0.3	23	20.3	1.5
599926 Dup	5.1	0.90	7.8	6.4	2	0.3	23	20.4	1.4
599930 Orig									
599930 Dup									
599943 Orig	8.9	1.49	9.4	6.9	3	0.5	31	76.6	5.7
599943 Dup	9.0	1.45	9.4	7.0	3	0.5	32	77.1	5.8
599959 Orig	6.9	1.04	8.1	16.4	2	0.8	77	71.3	7.5
599959 Dup	6.9	1.06	8.2	16.4	2	0.8	76	72.2	7.5
599960 Orig									
599960 Dup									
599976 Orig	6.6	1.12	13.9	7.2	2	0.4	29	31.5	2.8
599976 Dup	6.5	1.14	13.5	7.2	2	0.4	29	30.1	2.7
599989 Orig									
599989 Dup									
599990 Orig	7.0	1.16	10.4	10.5	1	0.5	61	67.2	5.2
599990 Split	6.8	1.13	10.1	9.9	< 1	0.5	61	67.4	5.1
600000 Orig	28.7	4.39	19.0	9.9	1	0.4	33	204	9.9
600000 Split	28.2	4.28	18.1	9.4	1	0.4	35	198	9.3
599851 Orig	8.7	1.37	12.6	8.0	2	1.0	51	129	8.4
599851 Dup	8.6	1.32	12.1	7.7	1	1.0	49	126	8.3
599858 Orig									
599858 Dup									
599868 Orig	10.8	1.74	19.8	19.5	3	0.4	22	73.9	6.9
599868 Dup	10.6	1.75	20.0	19.6	3	0.3	22	75.1	6.9
599870 Orig	12.7	1.96	11.3	32.6	3	0.6	22	69.4	17.2
599870 Split	12.5	1.94	10.7	31.9	3	0.6	21	67.7	16.9
Method Blank Method									
Blank									



Date Submitted: 29-Mar-10
Invoice No.: A10-1440
Invoice Date: 14-Apr-10
Your Reference: CLAY HOWELLS-RA-19

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

11 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1440**

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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Report: A10-1440

Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599262	0.075	0.070	37.51	11.54	19.87	1.039	6.42	12.20	1.07	4.28	0.883	1.07	2.89	98.78	19	31	112	220	18	120	< 10	600	36	2
599263	0.086	0.098	33.82	11.12	28.23	1.157	6.30	11.57	0.79	3.41	0.808	0.86	0.99	99.05	20	32	147	180	20	90	50	620	47	2
599264	0.078	0.077	13.51	4.55	67.75	1.903	3.26	4.78	0.26	1.08	0.399	0.47	-1.02	96.93	18	13	178	< 20	16	20	40	2430	75	3
599265	0.377	0.181	10.29	3.55	70.14	2.460	4.11	1.44	0.20	1.44	0.682	0.30	-0.51	94.11	27	7	217	< 20	14	< 20	30	6680	124	5
599266	0.019	0.032	61.32	15.68	5.62	0.399	0.74	4.02	4.84	6.21	0.249	0.09	0.68	99.84	7	10	7	< 20	1	< 20	< 10	280	29	2
599267	0.017	0.040	61.59	16.02	4.57	0.216	0.55	3.03	5.27	6.00	0.318	0.09	0.82	98.48	6	5	< 5	< 20	< 1	< 20	< 10	140	26	2
599268	0.184	0.175	17.19	5.14	64.75	2.318	1.82	2.91	1.04	1.70	0.322	0.23	-0.15	97.27	26	13	232	< 20	10	< 20	< 10	4230	71	5
599269	0.039	0.087	53.88	14.17	10.66	0.714	1.64	6.76	3.82	5.25	0.626	0.28	1.16	98.96	14	14	16	< 20	3	< 20	< 10	500	27	2
599270	0.037	0.122	53.04	12.53	9.92	0.961	2.06	9.12	2.87	5.43	0.310	0.25	1.27	97.77	11	29	12	< 20	2	< 20	< 10	520	30	2
599271	0.314	0.193	17.35	4.18	59.03	2.112	2.43	2.65	0.88	1.81	0.414	0.96	0.30	92.12	31	9	205	< 20	9	< 20	< 10	5720	146	11
599272	0.030	0.110	57.33	13.17	9.86	0.756	0.98	7.13	3.78	5.74	0.375	0.19	0.55	99.87	9	21	16	< 20	< 1	< 20	< 10	420	31	2

Activation Laboratories Ltd. Report: A10-1440

Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599262	< 5	160	2477	128	3	1.8	< 0.2	23	0.7	8.3	16610	< 0.4	552	1010	107	382	54.9	14.3	39.4	5.3	26.5	4.8	12.9	1.81
599263	< 5	84	2334	123	5	2.6	< 0.2	27	< 0.5	3.7	11870	< 0.4	554	976	103	359	51.7	14.2	36.4	5.0	24.8	4.4	11.7	1.67
599264	6	37	900	413	7	2.3	< 0.2	79	< 0.5	1.3	5240	< 0.4	1170	1870	183	644	130	44.2	131	19.5	93.5	15.0	37.7	5.07
599265	11	88	631	1127	13	5.8	< 0.2	170	< 0.5	4.2	10220	4.0	3450	5190	457	1620	343	121	365	52.4	255	41.9	108	14.4
599266	< 5	162	1250	54	9	1.1	< 0.2	6	< 0.5	1.7	4389	< 0.4	213	330	33.9	119	19.2	5.67	15.5	2.2	10.9	1.9	5.4	0.84
599267	< 5	161	1169	43	9	1.2	< 0.2	4	< 0.5	1.1	2969	< 0.4	160	276	28.0	101	15.7	3.98	11.3	1.6	8.7	1.5	4.4	0.69
599268	12	58	1088	799	9	4.4	0.2	306	0.6	1.4	5749	2.7	2070	3320	318	1290	387	124	316	42.0	193	30.3	76.6	10.0
599269	< 5	136	2031	85	18	2.3	< 0.2	19	< 0.5	2.2	6995	< 0.4	289	506	54.2	198	33.0	9.91	24.3	3.4	17.4	3.1	8.6	1.26
599270	< 5	179	3197	88	5	2.9	< 0.2	20	< 0.5	3.6	10810	< 0.4	359	653	70.1	251	38.7	10.4	27.3	3.8	18.7	3.4	9.3	1.43
599271	31	72	1232	2731	8	5.3	< 0.2	155	0.9	1.8	6938	3.9	10100	15800	1350	4330	915	313	876	126	596	99.7	242	31.4
599272	< 5	182	2919	138	3	2.6	< 0.2	13	< 0.5	1.9	8111	< 0.4	499	870	88.0	303	51.1	14.3	41.7	5.9	28.8	5.0	13.9	2.11

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599262	11.5	1.81	11.3	21.4	1	0.6	19	208	6.7
599263	10.7	1.69	12.6	22.9	< 1	0.5	19	235	6.6
599264	30.2	4.32	14.7	6.6	< 1	0.4	22	1090	8.2
599265	85.8	11.9	44.1	11.4	1	1.1	566	3550	16.2
599266	6.1	0.98	6.4	4.7	2	0.5	57	83.2	2.2
599267	4.8	0.75	7.1	4.4	2	0.4	37	34.3	1.9
599268	59.7	8.38	30.3	6.4	2	0.5	1060	4970	10.9
599269	8.5	1.37	14.8	7.2	2	0.4	71	144	2.4
599270	10.0	1.62	21.0	9.0	2	0.5	69	156	5.4
599271	175	24.6	44.4	9.4	2	0.4	1990	5780	12.7
599272	14.0	2.14	19.1	10.2	1	0.5	46	230	4.8

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Quality Control																									
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5	2	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas																800	213	2690	6160	120	10			9	
WMG-1 Cert																770	200	2700	5900	110	10.3			7.00	
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas			11.28	1.87	0.75	0.012	0.34	42.61	0.87	0.52	0.117	30.18			1673										
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2			1740										
DNC-1 Meas			46.35	18.34	9.87	0.146	10.05	11.39	1.90	0.21	0.476	0.07	31		153	270	58	250	100	70					
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070	31		148.0	270.0	57.0	247	100.0	70.0					
GBW 07113 Meas			72.81	12.76	3.22	0.139	0.15	0.62	2.56	5.53	0.281	0.03	5	4	13										
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500	5.00	4.00	5.00										
GXR-2 Meas																30	9	< 20	80	550	35			24	75
GXR-2 Cert																36.0	8.60	21.0	76.0	530	37.0			25.0	78.0
NIST 1633b Meas			48.74	28.38	11.32	0.018	0.79	2.19	0.27	2.26	1.302	0.55	40		305										
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530	41.0		296										
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas	0.016	0.036																							
BE-N Cert	0.015	0.035																							
AC-E Meas	0.016	0.110																							
AC-E Cert	0.016	0.105																							
OKA-1 Meas	0.545																								
OKA-1 Cert	0.529																								
W-2a Meas			52.09	15.27	10.81	0.165	6.32	11.08	2.21	0.60	1.090	0.14	35	< 1	280	90	45	70	110	80	18	2	< 5	19	
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130	36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20	21.0	
SY-4 Meas			49.53	20.78	6.28	0.108	0.52	8.21	6.92	1.66	0.291	0.14	1	3	< 5										
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131	1.1	2.6	8.0										
CTA-AC-1 Meas																		< 1	60	30					
CTA-AC-1 Cert																		2.72	54.0	38.0					
BIR-1a Meas			48.29	15.53	11.30	0.175	9.61	13.63	1.82	0.02	0.950	0.03	44	< 1	344	370	52	160	120	70	15	2	< 5	< 2	
BIR-1a Cert			47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500	44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50	0.440	0.250	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas		0.009																							
ZW-C Cert		0.011																							
VS-N Meas	0.101	0.090																							
VS-N Cert	0.10	0.095																							
NCS DC70014 Meas																	25	70	2610	7400	25				
NCS DC70014 Cert																26.2	70.9	2600.00	7400.00	25.2					
IGS 40 Meas																									
IGS 40 Cert																									
NCS DC70009 (GBW07241) Meas																30	3	< 20	940	100	17	11	70	509	
NCS DC70009 (GBW07241) Cert																30	3.7	2.8	960.000	100.000	16.5	11.2	69.9	500.00	
OREAS 100a (Fusion) Meas																	17		170						
OREAS 100a (Fusion) Cert																	18.1		169						
OREAS 101a (Fusion) Meas																	49		420						
OREAS 101a (Fusion) Cert																	48.8		434						
JR-1 Meas																< 20	< 1	< 20	< 10	< 30	17	3	18	243	
JR-1 Cert																2.83	0.83	1.67	2.68	30.6	16.1	1.88	16.3	257	
SX18-01 Meas	0.692	0.096																							
SX18-01 Cert	0.695	0.093																							
SX18-04 Meas	1.341	0.159																							
SX18-04 Cert	1.32	0.146																							
SX18-05 Meas	0.985	0.223																							

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Quality Control																								
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5	2
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
SX18-05 Cert	0.973	0.218																						
SARM 3 Meas		1.554																						
SARM 3 Cert		1.49																						
599270 Orig																< 20	2	< 20	< 10	520	29	2	< 5	177
599270 Dup																< 20	2	< 20	< 10	520	30	2	< 5	181
Method Blank Method	< 0.003	< 0.003																						
Blank																								

Quality Control																									
Analyte Symbol	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
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	ppm
Detection Limit	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04	
Analysis Method	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas			< 2	2.4		3	2.9	< 0.5			8.8	18.4		10.1	2.5	0.76		0.4	2.5	0.5		0.21	1.4	0.20	
WMG-1 Cert			1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	1.30	0.210	
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas		17					1.0		103		3.8			4.7		0.57							1.9		
DNC-1 Cert	144.0	18.0					0.96		118		3.6			5.20		0.59							2.0		
GBW 07113 Meas	41	45							497																
GBW 07113 Cert	43.0	43.0							506																
GXR-2 Meas			< 2	16.5	< 0.2	2	48.9	5.3		< 0.4	26.7	51.0		20.0	3.7		3.0	0.5	2.8			0.27	1.7	0.26	
GXR-2 Cert			2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50		3.30	0.480	3.30			0.300	2.04	0.270	
NIST 1633b Meas	1022								731																
NIST 1633b Cert	1040								709																
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	195	21	< 2	< 0.5			1.1	0.9	169	< 0.4	11.1	24.4		13.2	3.4	1.11		0.7	3.9	0.8	2.2	0.34	2.1	0.31	
W-2a Cert	190	24.0	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	2.10	0.330	
SY-4 Meas	1202	119							338																
SY-4 Cert	1191	119							340																
CTA-AC-1 Meas											2320	3320		1120	165	44.9		126	14.8				10.8	1.10	
CTA-AC-1 Cert											2176	3326		1087	162	46.7		124	13.9				11.4	1.08	
BIR-1a Meas	110	15	< 2	< 0.5		< 1	0.5	< 0.5	10	< 0.4	0.7	2.1	0.38	2.4	1.1	0.52	1.8	0.4	2.6	0.6	1.6	0.27	1.7	0.25	
BIR-1a Cert	108	16.0	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	1.65	0.260	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas			270	17.2			180			80.3	47.0	86.4	10.1	38.4	7.9	1.65	7.2	1.2	6.5	1.3	3.4	0.54	3.4	0.49	
NCS DC70014 Cert			270.000	16.7			180.000			80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	3.3	0.50	
IGS 40 Meas											21200	32900		2700	7690										
IGS 40 Cert											20720.00	32247	2730.000	8320.000											
NCS DC70009 (GBW07241) Meas				2.1	1.3	1740	3.6	43.9			24.8	59.2	7.76	32.3	12.8	0.12	14.9	3.4	21.5	4.5	13.4	2.44	16.6	2.35	
NCS DC70009 (GBW07241) Cert				1.8	1.3	1700.00	3.1	41			23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	14.9	2.4	
OREAS 100a (Fusion) Meas			23								272	464	45.6	149	24.1	3.65	20.6	3.7	22.8	4.9	14.3	2.37	15.1	2.13	
OREAS 100a (Fusion) Cert			24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	14.9	2.26	
OREAS 101a (Fusion) Meas			21								858	1410	128	394	50.5	8.02	36.2	5.5	32.0	6.6	19.0	2.94	18.3	2.51	
OREAS 101a (Fusion) Cert			21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	17.5	2.66	
JR-1 Meas			3	< 0.5	< 0.2	3	1.4	20.9			0.6	21.6	48.1	5.99	23.9	5.9	0.29	5.5	1.0	6.3	1.3	4.0	0.70	4.7	0.70
JR-1 Cert			3.25	0.031	0.028	2.86	1.19	20.8			0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	4.55	0.71
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									

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Quality Control																								
Analyte Symbol	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
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	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04
Analysis Method	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

SX18-05 Cert

SARM 3 Meas

SARM 3 Cert

599270 Orig

599270 Dup

Method Blank Method

Blank

5	2.9	< 0.2	20	< 0.5	3.6	< 0.4	358	652	70.5	252	39.0	10.4	27.6	3.8	18.8	3.4	9.4	1.43	10.2	1.64
5	2.9	< 0.2	20	< 0.5	3.6	< 0.4	360	653	69.8	251	38.4	10.3	27.1	3.8	18.5	3.4	9.3	1.43	9.9	1.60

Quality Control							
Analyte Symbol	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	1.6	0.3	< 1		17	1.4	0.8
WMG-1 Cert	1.30	0.500	1.30		15.0	1.10	0.650
DH-1a Meas						915	2600
DH-1a Cert						910	2630
NIST 694 Meas							
NIST 694 Cert							
DNC-1 Meas							
DNC-1 Cert							
GBW 07113 Meas							
GBW 07113 Cert							
GXR-2 Meas	6.3	0.7	1	0.7	629	8.4	2.9
GXR-2 Cert	8.30	0.900	1.90	1.03	690	8.80	2.90
NIST 1633b Meas							
NIST 1633b Cert							
OKA-2 Meas						26300	
OKA-2 Cert						28900	
BE-N Meas							
BE-N Cert							
AC-E Meas							
AC-E Cert							
OKA-1 Meas							
OKA-1 Cert							
W-2a Meas	2.6	0.4	< 1	< 0.1	8	2.3	0.5
W-2a Cert	2.60	0.500	0.300	0.200	9.30	2.40	0.530
SY-4 Meas							
SY-4 Cert							
CTA-AC-1 Meas	1.7	2.5				23.5	4.2
CTA-AC-1 Cert	1.13	2.65				21.8	4.4
BIR-1a Meas	0.7	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1
BIR-1a Cert	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100
NCS DC86312 Meas						25.5	
NCS DC86312 Cert						23.6	
ZW-C Meas							
ZW-C Cert							
VS-N Meas							
VS-N Cert							
NCS DC70014 Meas					27200		
NCS DC70014 Cert					27200.00		
IGS 40 Meas							
IGS 40 Cert							
NCS DC70009 (GBW07241) Meas			2340	2.1		28.6	
NCS DC70009 (GBW07241) Cert			2200.00	1.8		28.3	
OREAS 100a (Fusion) Meas						50.5	135
OREAS 100a (Fusion) Cert						51.6	135
OREAS 101a (Fusion) Meas						35.7	422
OREAS 101a (Fusion) Cert						36.6	422
JR-1 Meas	5.2	1.6	3	1.3	19	26.7	9.0
JR-1 Cert	4.51	1.86	1.59	1.56	19.3	26.7	8.88
SX18-01 Meas							
SX18-01 Cert							
SX18-04 Meas							
SX18-04 Cert							
SX18-05 Meas							

Quality Control							
Analyte Symbol	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

SX18-05 Cert
 SARM 3 Meas
 SARM 3 Cert
 599270 Orig 21.0 9.0 2 0.5 69 158 5.3
 599270 Dup 20.9 9.0 2 0.5 69 154 5.4
 Method Blank Method
 Blank



Date Submitted: 29-Mar-10
Invoice No.: A10-1434
Invoice Date: 14-Apr-10
Your Reference: Clay Howells (RA-18)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

122 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1434**

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

Notes:

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

CERTIFIED BY :

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written in a cursive style with some loops and is positioned above a horizontal line.

Emmanuel Esemé , Ph.D.
Quality Control



ACTIVATION LABORATORIES LTD.

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Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599140	0.029	0.079	58.30	14.45	7.93	0.418	0.63	3.69	4.01	6.42	0.217	0.29	1.55	97.90	5	13	20	< 20	3	< 20	10	190	30	2
599141	0.226	0.112	28.57	7.10	37.47	0.948	3.48	4.45	0.56	1.64	0.235	2.64	11.46	98.56	6	14	37	< 20	10	< 20	30	120	47	6
599142	0.148	0.053	42.65	9.79	25.89	0.779	1.35	1.29	2.32	4.08	0.290	0.62	9.91	98.96	7	9	25	< 20	12	< 20	10	130	35	3
599143	0.066	0.174	37.53	6.36	30.09	0.793	2.89	2.10	0.57	2.43	0.344	1.26	13.25	97.62	10	8	33	< 20	7	< 20	< 10	50	38	3
599144	0.100	0.031	35.49	2.03	43.00	1.278	0.98	2.30	0.03	0.39	0.099	0.95	12.76	99.30	7	11	23	< 20	7	< 20	10	160	23	4
599145	0.166	0.062	14.46	5.11	64.38	3.383	1.22	2.43	0.12	1.04	0.192	1.46	2.71	96.51	14	10	57	< 20	14	< 20	10	1040	69	9
599146	0.125	0.099	27.78	2.72	48.47	1.897	0.62	4.02	0.03	0.59	0.156	3.24	7.28	96.79	17	27	125	100	9	< 20	20	1020	74	10
599147	0.172	0.088	21.39	2.71	57.13	1.866	0.61	3.56	0.02	0.60	0.220	2.87	6.36	97.34	16	21	96	80	10	20	10	960	55	8
599148	0.166	0.137	29.60	5.49	44.89	0.983	1.21	5.04	0.17	1.95	0.811	2.47	6.35	98.97	14	10	130	140	9	40	< 10	600	53	5
599149	0.093	0.111	29.75	7.43	35.17	2.100	3.13	5.90	0.20	1.77	0.518	2.25	10.30	98.52	14	11	93	170	15	80	10	160	46	5
599150	0.179	0.052	26.88	4.81	44.10	1.886	3.88	5.50	0.05	1.63	0.446	2.96	5.98	98.13	13	13	75	190	20	80	10	780	34	4
599151	0.119	0.038	12.32	3.16	33.70	1.785	3.82	22.48	0.04	1.53	0.361	1.70	15.77	96.67	11	12	61	170	10	70	20	930	25	3
599152	0.130	0.035	16.85	4.86	34.58	1.746	3.46	19.67	0.05	1.98	0.371	2.50	12.50	98.56	9	11	51	100	10	40	10	700	26	3
599153	0.138	0.031	12.19	3.40	27.93	1.583	3.58	26.10	0.03	1.45	0.212	1.60	18.72	96.80	7	13	34	70	5	30	10	750	22	3
599154	0.124	0.064	12.56	3.57	32.54	1.921	2.23	25.45	0.09	1.16	0.337	1.68	14.80	96.34	9	13	53	90	8	40	10	940	28	3
599155	0.125	0.038	10.94	3.17	37.52	2.048	3.34	22.07	0.04	1.33	0.332	1.58	13.56	95.94	10	13	53	130	11	50	10	1100	25	3
599156	0.065	0.023	41.06	7.53	21.07	1.139	1.86	12.50	1.69	3.53	0.191	1.02	7.70	99.29	7	8	28	60	7	30	< 10	620	28	2
599157	0.003	< 0.003	73.13	13.09	1.65	0.046	0.31	0.76	3.75	6.66	0.013	0.03	1.09	100.5	< 1	3	< 5	< 20	< 1	< 20	< 10	< 30	31	1
599158	0.061	0.038	35.77	8.15	23.18	1.387	2.40	14.65	1.21	3.43	0.307	1.03	7.45	98.95	7	13	41	60	6	20	10	690	30	3
599159	0.127	0.042	11.17	3.07	31.79	1.843	2.95	25.35	0.18	1.45	0.300	1.80	16.56	96.46	9	13	47	90	8	40	10	870	23	3
599160	0.045	0.019	51.57	11.03	12.52	0.717	1.56	8.68	2.43	5.80	0.124	0.66	5.18	100.3	4	8	16	30	3	< 20	10	360	30	2
599161	0.027	0.054	54.61	16.96	6.60	0.351	1.96	3.21	1.00	10.50	0.143	0.20	2.39	97.93	2	11	5	< 20	3	< 20	< 10	170	27	1
599162	0.103	0.060	17.76	4.19	31.16	1.848	3.34	22.87	0.23	1.59	0.358	1.37	12.18	96.92	10	27	67	110	11	60	20	1010	26	3
599163	0.113	0.058	13.89	3.89	29.02	2.004	3.85	23.52	0.10	2.24	0.300	1.37	15.56	95.76	9	22	45	130	9	60	10	950	26	3
599164	0.078	0.099	36.48	9.57	25.53	1.760	2.65	13.33	1.51	3.27	0.477	0.86	3.06	98.49	9	34	51	70	11	30	20	850	33	3
599165	0.068	0.088	47.48	14.01	13.72	1.110	2.24	8.69	2.00	6.28	0.646	0.75	1.00	97.92	8	26	38	30	9	< 20	10	570	24	2
599166	0.095	0.121	44.91	11.36	19.80	1.361	2.78	8.94	1.18	6.05	0.537	0.62	0.78	98.31	13	24	34	< 20	7	< 20	< 10	840	23	2
599167	0.102	0.104	43.86	13.10	17.33	1.479	2.74	8.93	1.21	6.19	0.626	0.67	0.97	97.11	9	27	40	30	9	< 20	10	770	25	2
599168	0.068	0.089	47.34	14.53	12.95	0.979	2.71	10.06	0.81	7.07	0.697	0.80	1.45	99.40	6	23	39	30	9	< 20	< 10	380	21	2
599169	0.066	0.085	49.39	15.05	12.57	0.842	2.56	6.02	1.16	8.66	0.759	0.84	1.55	99.39	6	19	42	30	10	< 20	10	390	23	2
599170	0.065	0.079	46.20	14.65	13.56	1.067	2.30	9.04	1.20	7.16	0.707	0.82	1.46	98.17	7	20	39	30	9	< 20	10	520	26	2
599171	0.040	0.068	51.90	14.91	10.20	0.890	1.72	6.37	1.90	8.06	0.409	0.45	1.81	98.63	5	36	22	< 20	7	< 20	20	570	35	2
599172	0.043	0.096	54.38	15.65	8.31	0.600	1.72	5.90	2.36	7.90	0.481	0.44	1.36	99.10	5	26	24	20	6	< 20	< 10	290	30	2
599173	0.057	0.099	48.88	14.64	11.60	0.829	2.65	9.54	0.97	7.08	0.662	0.82	0.94	98.61	6	21	35	30	9	30	20	350	24	2
599174	0.061	0.084	46.91	13.87	13.27	1.166	2.68	10.23	1.02	6.51	0.569	0.75	1.64	98.60	7	23	38	30	10	< 20	10	570	29	2
599175	0.054	0.075	49.18	14.91	11.51	0.933	2.76	9.31	1.04	7.12	0.622	0.65	1.33	99.39	7	23	41	30	9	< 20	10	370	26	2
599176	0.022	0.028	65.19	13.84	5.26	0.308	1.40	3.56	2.89	6.17	0.297	0.24	0.84	100.0	3	13	18	< 20	4	< 20	< 10	140	29	1
599177	0.060	0.070	50.41	14.05	12.29	0.902	2.54	9.56	1.84	5.64	0.591	0.69	1.04	99.55	7	19	43	40	9	< 20	< 10	420	27	2
599178	0.061	0.071	49.85	14.85	11.79	0.985	2.70	8.83	1.50	7.03	0.504	0.59	1.24	99.86	6	25	34	30	7	< 20	< 10	400	29	2
599179	0.090	0.045	29.84	7.82	22.25	1.360	2.20	16.45	1.85	3.58	0.266	1.08	10.59	97.27	7	15	26	50	5	30	< 10	680	32	3
599180	0.036	0.035	51.42	12.68	11.41	0.535	1.00	7.56	4.38	5.25	0.309	0.40	4.34	99.27	4	6	10	30	1	< 20	< 10	290	30	1
599181	0.114	0.078	27.71	5.50	18.14	1.197	2.25	21.96	1.60	2.16	0.151	1.27	16.02	97.96	4	13	17	50	2	20	< 10	600	28	3
599182	0.061	0.076	60.79	9.92	11.33	0.569	0.64	4.67	3.83	3.40	0.078	0.39	3.46	99.07	3	8	6	< 20	1	< 20	< 10	430	35	2
599183	0.072	0.080	31.82	11.64	30.21	1.282	1.91	8.79	0.99	4.44	0.406	0.68	3.62	95.80	7	25	46	30	9	< 20	20	780	42	4
599184	0.067	0.077	34.14	10.22	15.89	0.938	4.15	17.98	0.83	3.57	1.259	1.22	7.42	97.62	11	15	114	90	21	50	30	360	23	2
599185	0.081	0.056	22.44	6.63	22.06	1.063	3.40	22.99	0.60	2.24	0.831	1.46	13.55	97.27	9	10	79	60	14	40	30	450	21	2
599186	0.101	0.058	23.44	6.80	26.43	1.618	3.31	19.08	0.51	2.72	0.670	1.41	10.61	96.61	10	12	66	70	13	30	20	720	24	3
599187	0.085	0.056	23.53	7.31	21.09	1.171	4.44	21.80	0.57	2.58	1.386	1.29	12.38	97.55	12	14	121	70	22	40	50	570	17	2
599188	0.090	0.059	35.92	10.22	18.67	1.143	4.25	17.39	1.31	2.79	1.018	0.88	5.89	99.49	12	16	100	120	19	40	60	600	22	2
599189	0.082	0.059	36.27	10.77	18.39	1.176	3.65	16.74	1.09	3.10	0.963	1.01	5.25	98.40	11	18	96	90	17	40	30	490	23	2
599190	0.183	0.055	19.10	5.55	34.57	1.965	2.51	18.62	0.44	2.18	0.451	1.19	9.93	96.50	9	9	46	40	10	20	30	1160	18	2
599191	0.130	0.068	27.65	8.14	36.64	2.45																		

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Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599244	0.192	0.048	2.46	0.78	70.02	3.138	1.84	11.93	0.03	0.18	0.082	0.13	7.27	97.86	17	3	81	< 20	8	< 20	< 10	3270	30	3
599245	0.482	0.064	16.52	5.76	60.35	2.623	4.93	1.92	0.20	2.94	0.209	0.06	-0.22	95.27	16	20	123	< 20	10	< 20	< 10	2990	68	2
599246	0.098	0.180	47.79	13.04	20.35	0.819	1.16	2.53	3.27	5.95	0.413	0.04	0.76	96.12	7	22	25	< 20	4	< 20	10	740	37	< 1
599247	0.030	0.075	61.60	15.04	6.78	0.296	0.46	3.26	6.64	4.37	0.317	0.08	1.66	100.5	1	14	< 5	< 20	< 1	< 20	< 10	180	38	< 1
599248	0.043	0.108	58.86	13.81	9.05	0.431	0.43	3.64	5.83	4.42	0.329	0.22	0.93	97.94	2	24	< 5	< 20	< 1	< 20	< 10	280	36	1
599249	0.226	0.093	26.97	6.64	50.27	2.421	2.76	4.34	1.28	2.60	0.281	0.07	-0.42	97.22	33	31	112	< 20	8	< 20	< 10	2670	65	2
599250	0.560	0.119	14.07	4.31	69.25	2.076	1.92	3.57	0.63	1.01	0.555	0.04	-0.76	96.67	38	12	144	< 20	11	< 20	10	2960	102	2
599251	0.843	0.182	15.91	3.69	69.74	1.831	1.38	4.36	1.02	0.70	0.608	0.12	-0.90	98.45	38	5	139	< 20	12	< 20	10	2660	98	1
599252	0.633	0.282	11.94	3.37	75.13	1.762	1.09	3.24	0.75	0.52	0.570	0.04	-1.07	97.35	29	6	140	< 20	13	< 20	10	2820	93	2
599253	0.514	0.417	9.90	2.92	79.80	1.817	1.31	2.52	0.52	0.56	0.471	0.03	-1.17	98.68	24	6	146	< 20	11	< 20	< 10	2840	97	1
599254	0.291	0.074	12.08	2.08	80.35	1.691	0.97	2.95	0.80	0.59	0.320	0.10	-1.74	100.2	22	7	87	< 20	11	< 20	< 10	2700	56	1
599255	0.277	0.070	9.86	1.72	81.17	1.681	0.85	2.70	0.62	0.45	0.265	0.10	-1.87	97.54	22	4	86	< 20	11	< 20	< 10	2670	45	< 1
599256	0.306	0.084	11.21	2.21	78.98	1.701	0.94	3.08	0.82	0.55	0.257	0.40	-1.76	98.39	20	6	91	< 20	10	< 20	< 10	2600	34	1
599257	0.121	0.041	6.36	1.53	85.54	1.986	0.61	2.96	0.48	0.34	0.115	1.17	-1.91	99.19	11	4	68	40	12	< 20	< 10	2550	23	2
599258	0.108	0.047	26.02	10.32	42.80	1.333	2.97	3.02	0.86	4.12	0.545	1.06	0.93	94.00	13	7	37	< 20	7	< 20	< 10	1440	36	2
599259	0.104	0.071	41.39	13.57	22.87	0.939	1.80	4.99	2.17	5.75	0.616	0.76	1.69	96.53	14	16	16	< 20	3	< 20	< 10	790	32	1
599260	0.105	0.083	32.64	7.03	45.37	1.664	1.76	6.17	2.20	2.38	0.461	0.19	-0.48	99.38	15	28	45	< 20	7	< 20	20	1510	25	2
599261	0.021	0.041	57.41	13.01	11.70	0.782	0.74	5.17	4.93	4.86	0.406	0.12	0.30	99.43	14	13	6	< 20	2	< 20	< 10	550	23	2

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Table with columns for Analyte Symbol, Unit Symbol, Detection Limit, Analysis Method, and 25 elements (As to Tm) with their respective concentrations and detection limits.

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Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599244	5	8	7521	257	4	1.0	< 0.2	37	< 0.5	< 0.5	2269	1.2	1190	2650	320	1030	153	40.7	108	12.3	56.6	9.8	25.7	3.39
599245	< 5	139	459	235	6	2.1	< 0.2	81	< 0.5	4.2	13580	1.0	494	997	106	382	68.6	23.7	72.4	10.9	52.4	8.5	21.2	2.79
599246	< 5	186	2138	84	193	6.0	< 0.2	30	< 0.5	2.8	16470	< 0.4	194	331	33.6	121	21.1	4.92	20.0	3.2	16.7	3.0	8.5	1.29
599247	< 5	90	1821	48	390	2.4	< 0.2	6	< 0.5	< 0.5	3552	< 0.4	242	365	35.8	127	19.2	3.26	14.3	1.9	9.8	1.8	5.1	0.82
599248	< 5	108	2149	111	313	3.3	< 0.2	8	< 0.5	< 0.5	4802	< 0.4	395	591	58.5	206	31.6	6.29	26.6	3.9	20.2	3.7	10.3	1.57
599249	< 5	102	927	525	22	3.0	< 0.2	69	< 0.5	1.5	8559	0.6	1020	2100	217	770	141	48.5	158	24.2	119	19.8	49.4	6.53
599250	< 5	55	595	238	3	3.7	< 0.2	147	4.4	1.6	3516	0.5	332	637	65.9	232	46.3	17.5	61.8	9.9	49.8	8.3	21.3	2.95
599251	< 5	35	516	97	5	5.3	< 0.2	170	< 0.5	1.3	1023	< 0.4	142	303	32.6	120	25.1	7.93	30.9	4.6	21.4	3.3	8.4	1.25
599252	< 5	31	331	83	5	8.4	< 0.2	189	< 0.5	1.2	706	< 0.4	102	220	23.2	83.8	18.5	6.21	24.2	3.7	17.5	2.8	7.2	1.06
599253	< 5	35	245	80	3	13.3	< 0.2	208	< 0.5	1.2	1388	< 0.4	112	247	25.4	88.1	17.8	5.94	21.1	3.4	16.4	2.6	6.8	0.96
599254	< 5	32	311	57	7	2.4	< 0.2	95	< 0.5	0.5	500	< 0.4	102	217	23.7	88.4	16.2	4.80	16.7	2.5	12.7	2.2	5.9	0.89
599255	< 5	20	261	39	8	2.2	< 0.2	103	< 0.5	< 0.5	298	< 0.4	75.6	166	18.5	69.6	13.4	3.76	12.8	1.8	9.1	1.6	4.4	0.67
599256	< 5	26	379	79	9	2.4	< 0.2	83	< 0.5	< 0.5	492	< 0.4	172	372	42.3	166	33.1	9.21	30.1	4.2	19.3	3.2	8.1	1.12
599257	5	18	616	240	38	1.4	< 0.2	50	< 0.5	< 0.5	294	0.9	742	1530	172	680	121	32.7	97.8	12.5	57.7	9.6	23.5	2.83
599258	6	171	3370	260	11	1.6	< 0.2	32	< 0.5	5.2	32070	1.0	1120	2220	236	890	152	41.1	114	14.3	65.3	10.7	26.5	3.20
599259	< 5	207	3836	104	7	2.2	< 0.2	21	< 0.5	5.6	19020	< 0.4	308	623	70.3	268	46.9	13.0	39.2	5.2	24.5	4.1	10.4	1.35
599260	< 5	85	1392	81	5	3.0	< 0.2	32	< 0.5	1.0	2479	< 0.4	254	506	55.5	212	37.2	9.81	28.8	3.9	19.1	3.3	8.9	1.29
599261	< 5	140	2066	33	< 2	1.5	< 0.2	8	< 0.5	1.5	4290	< 0.4	94.7	204	23.5	92.8	16.0	4.22	11.7	1.6	7.8	1.4	4.2	0.70

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599140	7.7	1.15	14.9	8.5	3	0.7	42	82.7	6.9
599141	24.2	3.15	11.3	9.0	5	0.2	21	429	17.4
599142	10.3	1.34	10.1	6.8	4	0.5	20	200	10.0
599143	23.5	3.08	28.8	10.9	7	0.3	18	249	12.8
599144	17.3	2.34	4.3	11.1	10	0.2	11	260	7.8
599145	41.2	5.28	8.0	9.3	4	0.5	40	598	17.9
599146	39.4	4.91	6.0	5.0	8	0.2	43	782	63.8
599147	36.7	4.84	6.1	5.8	29	0.2	48	610	41.5
599148	31.4	4.07	15.7	12.7	5	0.4	26	564	24.6
599149	25.8	3.46	14.6	10.2	5	0.3	27	594	28.2
599150	22.5	3.08	7.8	6.4	3	0.4	51	452	17.1
599151	17.7	2.44	5.1	5.4	< 1	0.3	67	318	9.0
599152	16.6	2.28	4.3	5.1	< 1	0.4	61	302	10.0
599153	13.8	1.87	3.8	4.3	< 1	0.4	68	247	9.9
599154	17.7	2.46	5.2	3.6	< 1	0.4	76	363	14.9
599155	17.8	2.51	4.8	3.6	< 1	0.4	52	387	7.7
599156	9.8	1.31	3.0	5.4	< 1	0.3	19	208	4.2
599157	1.0	0.15	0.7	0.3	< 1	0.4	< 5	4.7	0.4
599158	26.4	3.64	5.4	6.1	< 1	0.3	53	180	5.5
599159	15.7	2.02	3.8	2.4	< 1	0.2	79	285	7.4
599160	8.5	1.21	2.9	3.8	< 1	0.4	24	116	2.7
599161	4.1	0.57	4.9	10.8	< 1	0.8	49	38.7	3.0
599162	16.3	2.13	7.9	3.6	< 1	0.4	89	284	9.8
599163	15.9	2.05	5.0	3.1	< 1	0.8	103	292	13.5
599164	16.9	2.22	13.4	16.4	2	0.8	87	302	20.7
599165	9.7	1.42	10.8	16.3	2	0.7	73	105	11.6
599166	10.7	1.57	20.5	20.1	2	0.7	64	55.8	9.7
599167	8.5	1.24	14.6	21.1	3	0.9	82	84.6	14.4
599168	7.3	1.03	9.6	20.8	2	0.6	63	84.3	12.9
599169	7.5	1.06	9.8	20.7	4	1.0	87	97.4	12.1
599170	10.0	1.43	9.5	20.6	3	1.3	92	118	16.1
599171	9.2	1.29	9.6	12.4	4	1.3	114	111	16.5
599172	5.6	0.82	13.6	13.5	4	1.0	64	76.8	8.5
599173	9.1	1.28	12.3	17.2	4	0.7	84	105	11.7
599174	12.3	1.78	10.3	15.6	1	0.7	97	174	20.6
599175	7.7	1.08	10.1	16.1	1	0.6	66	83.2	8.5
599176	3.1	0.45	4.6	6.8	< 1	0.5	27	35.5	3.6
599177	7.4	1.03	8.9	14.3	2	0.6	36	90.6	6.4
599178	7.0	1.01	8.5	16.3	2	0.6	67	106	7.1
599179	14.4	2.04	6.1	6.0	1	0.5	101	276	16.0
599180	6.0	0.89	4.8	3.0	2	0.4	42	81.1	2.3
599181	12.8	1.83	10.9	11.1	1	0.5	79	186	12.0
599182	8.4	1.19	11.8	14.1	1	0.7	37	123	8.5
599183	27.2	3.89	9.8	14.2	2	0.8	126	334	11.6
599184	7.3	1.03	6.6	13.7	1	0.7	49	94.5	5.6
599185	9.4	1.30	4.6	6.3	1	0.4	52	141	5.0
599186	10.4	1.47	4.9	7.0	< 1	0.4	69	155	7.8
599187	12.6	1.80	4.9	4.1	2	0.6	94	192	5.2
599188	10.5	1.57	5.9	17.9	5	0.7	69	121	6.5
599189	10.0	1.49	5.7	13.5	1	0.5	52	148	6.8
599190	13.0	1.92	4.7	10.0	3	0.4	76	259	14.6
599191	20.7	2.97	6.1	10.2	3	0.5	76	388	9.4

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599192	22.7	3.23	8.5	13.4	4	0.6	53	378	9.8
599193	16.1	2.51	11.5	17.4	3	0.7	84	150	4.5
599194	38.8	5.52	10.4	20.8	1	0.7	98	246	10.7
599195	57.3	7.95	21.0	7.7	5	0.5	62	1590	24.6
599196	27.5	4.04	8.0	8.2	< 1	0.4	90	650	8.4
599197	20.0	2.72	6.3	6.2	< 1	0.4	84	499	8.6
599198	12.9	1.85	4.7	6.1	< 1	0.4	56	266	6.6
599199	12.6	1.77	4.3	6.0	< 1	0.3	51	504	6.7
599200	14.7	2.14	5.5	7.8	2	0.5	60	300	8.0
599201	16.1	2.45	16.2	8.3	3	0.5	55	235	6.3
599202	9.9	1.41	5.0	4.0	< 1	0.2	63	520	6.7
599203	15.3	2.19	7.3	10.2	< 1	0.6	71	299	9.1
599204	12.0	1.72	8.9	10.6	< 1	0.6	75	229	10.4
599205	14.5	2.11	8.5	11.9	2	0.6	83	228	5.7
599206	7.1	1.14	11.8	5.5	3	0.5	46	42.8	3.4
599207	23.3	3.27	15.5	6.4	2	0.3	88	465	9.6
599208	12.8	1.89	8.6	6.8	< 1	0.5	72	329	9.3
599209	13.8	1.97	7.1	10.4	6	0.6	68	256	10.2
599210	14.1	2.04	10.4	9.8	< 1	0.6	85	272	10.2
599211	19.6	2.79	6.5	8.8	< 1	0.6	82	415	9.8
599212	20.8	2.94	9.0	6.6	< 1	0.6	100	455	7.6
599213	22.0	3.08	5.7	4.9	< 1	0.5	86	449	6.7
599214	16.1	2.35	3.7	1.4	< 1	0.4	72	385	4.9
599215	2.6	0.38	1.9	0.9	< 1	< 0.1	41	250	2.1
599216	1.5	0.23	3.2	0.2	< 1	< 0.1	32	124	1.2
599217	2.4	0.36	2.5	0.2	< 1	< 0.1	44	72.5	0.6
599218	3.1	0.47	4.1	0.8	< 1	< 0.1	25	175	2.6
599219	3.6	0.55	4.2	0.8	< 1	< 0.1	20	262	3.5
599220	1.8	0.25	1.7	0.5	< 1	< 0.1	33	336	3.2
599221	6.3	0.93	3.5	0.4	< 1	< 0.1	27	123	1.0
599222	5.5	0.74	2.6	0.3	< 1	0.1	83	148	1.3
599223	29.8	4.10	7.0	2.8	< 1	0.1	52	519	10.7
599224	41.6	5.68	27.4	11.3	3	0.8	94	601	17.9
599225	29.5	4.21	24.6	12.2	3	0.8	67	338	11.4
599226	26.0	3.62	17.6	4.3	1	0.3	36	349	9.6
599227	24.4	3.37	10.1	1.5	2	0.4	65	512	10.5
599228	23.1	3.11	8.7	2.1	< 1	0.2	114	309	5.8
599229	22.6	2.98	17.3	4.9	< 1	0.1	87	431	5.4
599230	16.4	2.30	16.7	8.0	4	0.4	66	269	4.9
599231	14.6	2.06	13.1	5.5	2	0.5	49	331	4.1
599232	20.7	2.85	16.1	4.2	< 1	0.4	85	720	3.6
599233	15.9	2.09	9.4	2.2	< 1	0.3	196	446	2.6
599234	23.0	3.08	7.2	0.7	< 1	< 0.1	262	677	3.3
599235	20.8	2.69	9.0	1.0	< 1	0.2	181	978	3.7
599236	43.8	5.93	9.5	6.3	< 1	0.3	140	927	8.2
599237	31.0	4.09	9.6	13.6	< 1	0.8	108	531	11.8
599238	27.8	3.60	15.2	12.2	< 1	0.6	158	1050	8.1
599239	49.5	6.39	21.4	8.7	< 1	0.1	190	1760	9.9
599240	56.8	7.31	27.6	9.9	1	< 0.1	195	1660	6.1
599241	8.6	1.49	24.3	16.0	3	0.5	31	65.2	6.7
599242	11.4	2.14	26.7	24.1	3	0.6	62	74.2	13.3
599243	12.8	1.79	12.4	9.5	2	0.7	95	311	6.2

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599244	19.8	2.72	7.4	1.8	< 1	< 0.1	189	861	4.7
599245	16.1	2.23	17.0	29.6	< 1	0.5	49	752	18.2
599246	8.8	1.36	28.8	19.5	2	1.5	46	78.6	9.6
599247	5.9	0.95	13.5	7.2	2	0.4	14	34.9	3.4
599248	10.9	1.77	17.9	10.2	4	0.4	15	66.0	4.9
599249	37.7	5.12	20.0	12.4	2	< 0.1	32	915	9.6
599250	17.7	2.50	26.6	20.4	< 1	< 0.1	27	585	12.7
599251	8.5	1.35	38.8	43.7	< 1	< 0.1	29	576	29.3
599252	7.1	1.13	50.6	31.4	< 1	< 0.1	19	505	18.0
599253	6.1	0.89	62.2	23.4	< 1	0.2	18	879	15.0
599254	6.3	1.02	17.2	11.2	< 1	< 0.1	18	260	10.5
599255	5.0	0.87	15.9	8.7	< 1	< 0.1	15	214	7.4
599256	7.3	1.11	16.8	8.1	< 1	< 0.1	15	498	9.6
599257	15.1	1.96	8.7	5.2	2	< 0.1	12	1070	6.3
599258	17.5	2.25	9.1	7.5	3	1.3	48	711	6.3
599259	8.0	1.15	12.0	14.2	2	0.9	60	196	6.6
599260	8.7	1.39	14.4	11.1	1	0.3	20	251	3.4
599261	5.4	0.96	7.9	4.4	< 1	0.4	22	46.9	1.8

Quality Control																											
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge			
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1			
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS			
WMG-1 Meas																			780	210	2620	6100	120	10			
WMG-1 Cert																			770	200	2700	5900	110	10.3			
DH-1a Meas																											
DH-1a Cert																											
NIST 694 Meas			11.65	1.92	0.76	0.013	0.35	43.25	0.92	0.56	0.119	30.19					1685										
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740										
DNC-1 Meas			46.95	18.08	9.91	0.145	10.17	11.42	1.94	0.22	0.479	0.07			31		155			270	58	250	100	70			
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148.0	270.0	57.0	247	100.0	70.0					
GBW 07113 Meas			72.26	12.98	3.20	0.140	0.15	0.60	2.51	5.46	0.287	0.05			6	4	11										
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00										
GXR-2 Meas																		30	9	< 20	80	560	35				
GXR-2 Cert																		36.0	8.60	21.0	76.0	530	37.0				
NIST 1633b Meas			48.98	28.37	11.10	0.018	0.79	2.17	0.28	2.29	1.309	0.53			40		302										
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296										
OKA-2 Meas																											
OKA-2 Cert																											
BE-N Meas	0.015	0.036																									
BE-N Cert	0.015	0.035																									
AC-E Meas	0.015	0.109																									
AC-E Cert	0.016	0.105																									
W-2a Meas			52.14	15.18	10.74	0.165	6.25	10.93	2.20	0.61	1.066	0.15			35	< 1	278	80	43	70	110	80	17	2			
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00			
SY-4 Meas			48.99	20.60	6.30	0.107	0.51	8.01	6.90	1.66	0.293	0.13			1	3	5										
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0										
CTA-AC-1 Meas																				< 1	60	30					
CTA-AC-1 Cert																				2.72	54.0	38.0					
BIR-1a Meas			47.90	15.79	11.38	0.175	9.57	13.35	1.82	0.02	0.954	0.03			43	< 1	337	370	53	160	130	80	15	2			
BIR-1a Cert			47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50			
NCS DC86312 Meas																											
NCS DC86312 Cert																											
ZW-C Meas		0.009																									
ZW-C Cert		0.011																									
VS-N Meas	0.100	0.096																									
VS-N Cert	0.10	0.095																									
NCS DC70014 Meas																				25	60	2570	7350	25			
NCS DC70014 Cert																				26.2	70.9	2600.00	7400.00	25.2			
IGS 40 Meas																											
IGS 40 Cert																											
NCS DC86316 Meas		4.675																									
NCS DC86316 Cert		4.68																									
NCS DC70009 (GBW07241) Meas																			30	3	< 20	990	100	17	11		
NCS DC70009 (GBW07241) Cert																			30	3.7	2.8	960.000	100.000	16.5	11.2		
OREAS 100a (Fusion) Meas																					17	170					
OREAS 100a (Fusion) Cert																					18.1	169					
OREAS 101a (Fusion) Meas																					49	440					
OREAS 101a (Fusion) Cert																					48.8	434					
JR-1 Meas																			< 20	< 1	< 20	< 10	< 30	16	3		
JR-1 Cert																			2.83	0.83	1.67	2.68	30.6	16.1	1.88		
SX18-01 Meas	0.692	0.098																									
SX18-01 Cert	0.695	0.093																									
SX18-04 Meas	1.336	0.152																									
SX18-04 Cert	1.32	0.146																									
SX18-05 Meas	0.989	0.220																									

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Quality Control																									
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-05 Cert	0.973	0.218																							
SARM 3 Meas		1.562																							
SARM 3 Cert		1.49																							
599154 Orig	0.123	0.064	12.53	3.55	32.31	1.907	2.22	25.67	0.09	1.16	0.327	1.67	14.80	96.22	9	13	53	90	8	40	20	950	28	3	
599154 Dup	0.125	0.064	12.60	3.59	32.77	1.934	2.24	25.23	0.09	1.17	0.347	1.68	14.80	96.45	9	13	54	90	9	40	10	930	28	3	
599171 Orig	0.040	0.068	51.97	14.90	10.19	0.889	1.72	6.37	1.90	8.05	0.403	0.46	1.81	98.66	5	36	22	< 20	7	< 20	20	570	35	2	
599171 Dup	0.040	0.069	51.84	14.93	10.21	0.890	1.72	6.36	1.89	8.06	0.416	0.45	1.81	98.60	5	36	23	< 20	7	< 20	20	570	35	2	
599189 Orig	0.082	0.059	36.27	10.77	18.39	1.176	3.65	16.74	1.09	3.10	0.963	1.01	5.25	98.40	11	18	96	90	17	40	30	490	23	2	
599189 Split	0.081	0.058	36.50	10.60	18.35	1.150	3.56	17.22	1.10	3.06	1.006	1.01	5.80	99.36	11	18	98	100	17	70	40	450	22	2	
599201 Orig	0.038	0.110	46.19	10.48	19.36	1.289	1.66	8.04	3.07	4.49	0.238	0.45	1.78	97.06	4	23	7	< 20	3	< 20	< 10	760	28	1	
599201 Dup	0.038	0.110	46.06	10.72	19.52	1.300	1.64	8.01	3.09	4.51	0.243	0.43	1.78	97.31	4	23	7	< 20	3	< 20	< 10	740	29	1	
599218 Orig	0.164	0.033	4.96	1.24	63.51	3.810	2.67	11.68	0.19	0.35	0.040	0.14	9.46	98.06	8	2	18	< 20	7	< 20	< 10	950	9	< 1	
599218 Dup	0.164	0.034	4.97	1.24	63.38	3.792	2.68	11.63	0.19	0.35	0.040	0.13	9.46	97.85	7	2	19	< 20	6	< 20	< 10	940	9	< 1	
599248 Orig	0.044	0.108	58.41	13.94	9.17	0.438	0.43	3.63	5.84	4.41	0.332	0.19	0.93	97.72	2	24	< 5	< 20	< 1	< 20	< 10	270	36	1	
599248 Dup	0.043	0.107	59.31	13.68	8.92	0.424	0.44	3.64	5.82	4.42	0.326	0.24	0.93	98.16	3	24	< 5	< 20	< 1	< 20	< 10	280	36	1	
Method Blank Method	< 0.003	< 0.003																							
Blank																									

Activation Laboratories Ltd. Report: A10-1434 rev 2

Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas	9				< 2	2.3		2	2.9	< 0.5			9.0	18.6		9.7	2.4	0.72		0.4	2.4	0.5		0.21	
WMG-1 Cert	7.00				1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas			142	16							106		3.9			4.8		0.56							
DNC-1 Cert			144.0	18.0					0.96		118		3.6			5.20		0.59							
GBW 07113 Meas			42	46							490														
GBW 07113 Cert			43.0	43.0							506														
GXR-2 Meas	24	77			< 2	16.6	< 0.2	2	46.6	5.4		< 0.4	27.1	52.6		19.8	3.6		3.0	0.5	2.7			0.27	
GXR-2 Cert	25.0	78.0			2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50		3.30	0.480	3.30			0.300	
NIST 1633b Meas											744														
NIST 1633b Cert											709														
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
W-2a Meas	< 5	19	193	20	< 2	< 0.5			1.1	0.9	170	< 0.4	11.0	24.0		12.4	3.1	1.03		0.6	3.6	0.8	2.1	0.32	
W-2a Cert	1.20	21.0	190	24.0	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	
SY-4 Meas			1197	119							341														
SY-4 Cert			1191	119							340														
CTA-AC-1 Meas													2270	3300		1110	163	44.3	127	14.5					
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9					
BIR-1a Meas	< 5	< 2	113	14	< 2	< 0.5		< 1	0.5	< 0.5	10	< 0.4	0.8	2.1	0.38	2.4	1.1	0.52	1.8	0.4	2.5	0.6	1.6	0.26	
BIR-1a Cert	0.440	0.250	108	16.0	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas					270	17.1			180		80.3	47.0	86.7	9.81	37.2	7.7	1.64	7.1	1.1	6.2	1.2	3.4	0.53		
NCS DC70014 Cert					270.000	16.7		180.000		80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57			
IGS 40 Meas											20700	32200	2810	8220											
IGS 40 Cert											20720.00	32247	2730.000	8320.000											
NCS DC86316 Meas																									
NCS DC86316 Cert																									
NCS DC70009 (GBW07241) Meas	70	500				2.0	1.3	1690	3.7	44.4			25.9	62.6	7.91	32.1	12.7	0.12	15.0	3.4	21.3	4.5	13.3	2.44	
NCS DC70009 (GBW07241) Cert	69.9	500.00				1.8	1.3	1700.00	3.1	41			23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	
OREAS 100a (Fusion) Meas					23								265	456	44.9	145	23.4	3.54	20.2	3.5	21.6	4.7	13.9	2.30	
OREAS 100a (Fusion) Cert					24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	
OREAS 101a (Fusion) Meas					21								854	1410	129	392	49.9	7.99	36.8	5.5	31.3	6.5	19.0	2.95	
OREAS 101a (Fusion) Cert					21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	
JR-1 Meas	17	248			3	< 0.5	< 0.2	3	1.3	20.8		0.6	21.8	49.3	5.93	23.5	5.8	0.28	5.4	1.0	6.1	1.3	3.9	0.68	
JR-1 Cert	16.3	257			3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									

Activation Laboratories Ltd. Report: A10-1434 rev 2

Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	

SX18-05 Cert																									
SARM 3 Meas																									
SARM 3 Cert																									
599154 Orig	10	40	3240	245	2	1.5	< 0.2	16	< 0.5	1.2	5771	0.6	1180	2070	196	701	107	30.6	77.3	10.0	50.1	8.8	22.7	3.00	
599154 Dup	10	39	3245	248	2	1.4	< 0.2	15	< 0.5	1.2	5750	0.6	1170	2070	196	702	107	30.7	78.1	10.0	49.3	8.7	22.5	3.02	
599171 Orig	7	440	1728	114	10	1.6	< 0.2	15	1.0	6.6	2671	< 0.4	562	955	87.9	299	41.5	11.2	27.4	3.8	20.7	3.9	10.7	1.56	
599171 Dup	9	435	1741	114	9	1.5	< 0.2	14	0.5	6.6	2681	< 0.4	557	927	86.5	295	41.1	11.0	27.5	3.7	20.1	3.8	10.6	1.53	
599189 Orig	< 5	88	6264	127	4	1.2	< 0.2	11	< 0.5	2.7	4332	< 0.4	666	1130	110	381	55.1	15.1	38.9	5.2	25.7	4.5	12.1	1.61	
599189 Split	< 5	96	6873	127	4	1.6	< 0.2	11	< 0.5	2.8	4456	< 0.4	719	1210	116	410	59.1	16.5	44.4	5.6	27.5	4.8	12.8	1.69	
599201 Orig	< 5	112	4077	179	33	2.6	< 0.2	9	0.6	1.1	8209	< 0.4	981	1650	165	577	80.1	18.1	47.6	6.2	32.5	5.9	16.5	2.47	
599201 Dup	< 5	112	4128	179	34	2.8	< 0.2	10	0.6	1.1	8222	< 0.4	1010	1690	169	593	83.1	18.7	49.2	6.4	33.0	6.1	17.2	2.50	
599218 Orig	< 5	19	3262	31	15	0.9	< 0.2	11	< 0.5	< 0.5	311	< 0.4	117	231	23.4	80.3	11.7	4.03	8.7	1.2	6.4	1.2	3.3	0.47	
599218 Dup	< 5	19	3220	31	14	1.0	< 0.2	10	< 0.5	< 0.5	347	< 0.4	117	232	23.5	80.5	11.8	4.00	8.7	1.3	6.5	1.2	3.3	0.48	
599248 Orig	< 5	108	2142	112	314	3.2	< 0.2	8	< 0.5	< 0.5	4787	< 0.4	397	592	58.5	206	31.7	6.28	26.7	3.9	20.4	3.7	10.3	1.58	
599248 Dup	< 5	109	2156	109	313	3.4	< 0.2	8	< 0.5	< 0.5	4817	< 0.4	394	591	58.5	206	31.5	6.30	26.5	3.8	20.1	3.7	10.3	1.57	

Method Blank Method
Blank

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	1.3	0.19	1.6	0.3	1		17	1.3	0.8
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650
DH-1a Meas								926	2560
DH-1a Cert								910	2630
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas	1.9								
DNC-1 Cert	2.0								
GBW 07113 Meas									
GBW 07113 Cert									
GXR-2 Meas	1.7	0.25	6.2	0.7	1	0.7	655	8.4	3.0
GXR-2 Cert	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90
NIST 1633b Meas									
NIST 1633b Cert									
OKA-2 Meas								29800	
OKA-2 Cert								28900	
BE-N Meas									
BE-N Cert									
AC-E Meas									
AC-E Cert									
W-2a Meas	2.0	0.28	2.6	0.5	< 1	< 0.1	8	2.2	0.5
W-2a Cert	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	10.7	1.06	1.6	2.6				23.3	4.3
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4
BIR-1a Meas	1.6	0.24	0.6	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1
BIR-1a Cert	1.65	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100
NCS DC86312 Meas								26.3	
NCS DC86312 Cert								23.6	
ZW-C Meas									
ZW-C Cert									
VS-N Meas									
VS-N Cert									
NCS DC70014 Meas	3.3	0.47					27000		
NCS DC70014 Cert	3.3	0.50					27200.00		
IGS 40 Meas									
IGS 40 Cert									
NCS DC86316 Meas									
NCS DC86316 Cert									
NCS DC70009 (GBW07241) Meas	16.7	2.31			2320	2.1	62	28.9	
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8	81.2	28.3	
OREAS 100a (Fusion) Meas	14.8	2.04						50.2	137
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135
OREAS 101a (Fusion) Meas	18.3	2.47						35.9	419
OREAS 101a (Fusion) Cert	17.5	2.66						36.6	422
JR-1 Meas	4.6	0.67	5.1	1.7	3	1.2	20	26.3	9.2
JR-1 Cert	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88
SX18-01 Meas									
SX18-01 Cert									
SX18-04 Meas									
SX18-04 Cert									
SX18-05 Meas									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

SX18-05 Cert									
SARM 3 Meas									
SARM 3 Cert									
599154 Orig	17.7	2.47	5.3	4.2	< 1	0.4	76	364	14.9
599154 Dup	17.8	2.46	5.2	2.9	< 1	0.4	76	363	14.9
599171 Orig	9.4	1.32	9.9	12.9	4	1.3	117	113	16.6
599171 Dup	9.1	1.25	9.4	11.9	3	1.3	112	109	16.3
599189 Orig	10.0	1.49	5.7	13.5	1	0.5	52	148	6.8
599189 Split	10.2	1.52	6.1	13.9	2	0.5	48	143	6.8
599201 Orig	15.9	2.42	15.9	8.4	3	0.5	54	232	6.3
599201 Dup	16.3	2.48	16.5	8.3	3	0.5	56	237	6.4
599218 Orig	3.1	0.47	4.0	0.7	< 1	< 0.1	26	175	2.6
599218 Dup	3.0	0.46	4.1	0.9	< 1	< 0.1	25	174	2.6
599248 Orig	10.9	1.79	17.8	10.1	4	0.4	14	66.5	4.8
599248 Dup	11.0	1.75	18.1	10.3	4	0.4	15	65.5	4.9
Method Blank Method									
Blank									



Date Submitted: 29-Mar-10
Invoice No.: A10-1433 (i)
Invoice Date: 09-Aug-10
Your Reference: Clay Howells (RA-15)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

58 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT	A10-1433 (i)	Code 8-Nb2O5 - XRF Option XRF Code 8-REE-Rare Earth Element Pkg Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2) Code Specific Gravity Pulp
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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control



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	Spec Grav
Unit Symbol	-
Detection Limit	0.01
Analysis Method	GRAV

598953	3.57
598960	3.52

Quality Control

Analyte Symbol Spec Grav

Unit Symbol -

Detection Limit 0.01

Analysis Method GRAV

Method Blank Method < 0.01
Blank



Date Submitted: 29-Mar-10
Invoice No.: A10-1433
Invoice Date: 15-Apr-10
Your Reference: Clay Howells (RA-15)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

58 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1433**

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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

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+1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



Activation Laboratories Ltd. Report: A10-1433

Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599003	0.249	0.039	3.53	1.70	23.65	1.415	1.18	35.25	0.04	0.60	0.009	2.75	26.10	96.23	3	2	6	< 20	< 1	< 20	< 10	350	16	2
599004	0.034	0.028	6.35	1.31	56.09	2.930	1.90	16.40	0.36	0.37	0.016	0.28	11.73	97.74	8	< 1	7	< 20	6	< 20	< 10	1020	10	< 1
599005	0.103	0.029	2.31	0.93	19.19	1.113	1.16	39.29	0.03	0.38	0.044	1.75	29.71	95.91	5	< 1	7	< 20	< 1	< 20	< 10	200	13	2
599006	0.130	0.028	4.00	1.68	24.78	1.449	2.10	33.08	0.03	0.68	0.033	2.86	23.50	94.20	6	< 1	8	< 20	< 1	< 20	< 10	400	23	3
599007	0.185	0.039	1.24	0.48	22.79	1.255	0.82	37.86	0.04	0.07	0.022	2.93	27.40	94.91	4	< 1	< 5	< 20	< 1	< 20	< 10	180	23	3

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Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599003	7	34	11170	188	16	< 0.5	< 0.2	7	< 0.5	1.2	2028	< 0.4	1470	2350	243	760	114	32.9	90.7	10.8	48.9	7.8	18.0	2.03
599004	< 5	31	7689	42	11	< 0.5	< 0.2	14	< 0.5	< 0.5	267	< 0.4	246	460	46.7	163	26.4	9.47	18.6	2.3	10.8	1.8	4.4	0.57
599005	< 5	27	10600	272	< 2	< 0.5	< 0.2	42	< 0.5	0.7	1454	< 0.4	865	1560	186	639	116	34.7	88.4	10.7	50.9	8.6	22.2	2.87
599006	9	36	8728	359	5	< 0.5	< 0.2	35	< 0.5	0.9	2870	< 0.4	2700	4210	417	1260	184	51.2	143	15.7	73.7	12.4	30.9	4.04
599007	8	5	13090	265	16	< 0.5	< 0.2	15	< 0.5	< 0.5	796	< 0.4	3660	4900	435	1210	154	39.0	114	12.1	55.1	9.3	23.2	3.01

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598951	27.3	3.94	24.8	20.1	1	0.5	18	53.7	9.2
598952	48.3	6.81	29.9	14.7	2	0.3	16	59.6	5.2
598953	12.2	1.79	21.8	19.4	< 1	0.5	13	98.4	4.3
598954	15.1	2.02	3.5	3.3	< 1	< 0.1	84	260	14.0
598955	19.5	2.80	2.2	< 0.1	< 1	< 0.1	105	599	26.5
598956	21.3	3.05	3.9	2.9	< 1	0.3	100	401	20.1
598957	13.9	2.03	4.7	27.8	< 1	1.2	64	117	28.6
598958	15.1	2.06	8.5	10.5	< 1	0.5	87	208	16.1
598959	20.9	2.85	3.8	4.1	< 1	0.2	73	432	24.6
598960	17.0	2.56	6.7	8.0	< 1	0.1	44	369	19.4
598961	21.8	3.15	2.6	0.9	1	0.1	89	543	18.3
598962	22.6	3.13	3.2	2.0	< 1	0.2	355	483	19.4
598963	49.1	7.13	15.3	14.0	< 1	0.4	46	1200	13.6
598964	38.7	5.47	14.1	8.2	< 1	0.8	44	1220	8.3
598965	15.4	2.27	7.2	14.7	< 1	1.0	16	711	7.8
598966	25.1	3.65	8.7	5.9	< 1	0.4	21	1140	10.0
598967	13.0	1.89	4.5	3.9	< 1	0.4	19	1190	6.5
598968	6.7	0.99	4.6	107	2	1.7	39	129	30.1
598969	9.0	1.27	6.9	8.1	< 1	0.2	13	484	10.7
598970	18.2	2.62	6.7	4.2	< 1	0.2	52	580	7.7
598971	14.3	2.02	1.6	1.0	< 1	0.3	114	400	5.5
598972	10.6	1.46	1.6	0.4	< 1	0.2	139	477	8.5
598973	23.4	3.27	1.6	0.3	< 1	< 0.1	89	416	2.1
598974	24.7	3.42	2.7	0.2	< 1	0.1	64	556	2.3
598975	35.7	5.01	6.1	3.6	< 1	0.3	19	943	13.9
598976	3.6	0.64	4.0	2.2	< 1	0.3	15	24.8	1.0
598977	7.5	1.00	2.9	9.5	1	0.6	35	195	4.9
598978	10.3	1.28	1.1	0.3	< 1	< 0.1	69	202	8.0
598979	9.6	1.15	1.1	1.7	< 1	< 0.1	54	617	14.3
598980	7.3	0.93	2.2	17.7	< 1	0.4	16	456	6.1
598981	6.0	0.80	4.4	30.5	< 1	0.2	19	199	7.2
598982	4.4	0.61	5.0	24.4	< 1	1.1	25	148	11.5
598983	5.6	0.79	9.9	141	2	1.3	63	91.0	63.3
598984	23.3	3.00	4.2	122	2	0.8	72	139	71.2
598985	8.3	1.16	3.9	156	2	0.6	110	220	149
598986	12.1	1.54	1.6	2.0	< 1	< 0.1	37	210	10.4
598987	8.5	1.06	1.0	0.4	< 1	< 0.1	37	119	5.2
598988	9.2	1.21	0.9	0.6	< 1	< 0.1	54	148	7.4
598989	7.9	0.97	0.8	1.4	< 1	< 0.1	64	185	10.1
598990	11.5	1.50	1.2	3.7	< 1	0.2	39	151	9.9
598991	11.6	1.54	4.0	2.9	< 1	< 0.1	33	183	12.8
598992	12.5	1.74	1.1	0.4	< 1	< 0.1	38	220	1.2
598993	21.7	3.09	1.7	1.8	< 1	< 0.1	34	300	2.7
598994	11.1	1.48	1.3	1.3	< 1	< 0.1	39	156	5.7
598995	13.5	1.76	1.6	0.9	< 1	< 0.1	46	153	5.0
598996	11.6	1.46	1.4	10.6	< 1	< 0.1	42	143	11.3
598997	17.1	2.39	1.8	9.5	< 1	< 0.1	115	354	5.8
598998	14.4	1.95	1.5	1.1	< 1	< 0.1	52	172	1.6
598999	12.2	1.60	1.4	0.1	< 1	< 0.1	74	127	1.2
599000	15.3	2.13	1.6	0.5	< 1	< 0.1	63	246	1.9
599001	14.7	1.91	1.6	1.5	< 1	< 0.1	125	353	11.7
599002	9.7	1.21	3.2	2.7	< 1	0.1	39	85.9	11.5

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
599003	10.2	1.32	1.9	11.1	< 1	0.3	51	162	11.0
599004	3.4	0.49	1.3	1.6	< 1	< 0.1	27	210	4.0
599005	16.1	2.12	1.5	3.3	< 1	0.1	109	184	6.4
599006	24.0	3.25	1.8	3.6	< 1	0.2	58	256	8.2
599007	16.7	2.21	1.2	2.0	< 1	< 0.1	33	112	7.1

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Quality Control																										
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge		
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1		
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS		
WGMG-1 Meas																					810	213	2730	6040	110	11
WGMG-1 Cert																			770	200	2700	5900	110	10.3		
DH-1a Meas																										
DH-1a Cert																										
NIST 694 Meas			11.41	1.85	0.75	0.013	0.35	42.34	0.88	0.54	0.114	30.11					1657									
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740									
DNC-1 Meas			47.97	18.80	10.30	0.149	10.27	11.71	1.94	0.22	0.491	0.07			31		164		260	56	250	100	70			
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148.0		270.0	57.0	247	100.0	70.0			
GBW 07113 Meas			72.78	12.95	3.21	0.142	0.15	0.62	2.51	5.49	0.280	0.06			6	4	6									
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00									
MICA-FE Meas		0.113																								
MICA-FE Cert		0.108																								
GXR-2 Meas																			30	9	< 20	80	550	34		
GXR-2 Cert																		36.0	8.60	21.0	76.0	530	37.0			
NIST 1633b Meas			48.42	27.84	10.66	0.018	0.76	2.19	0.28	2.29	1.268	0.56			41		309									
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296									
BE-N Meas		0.036																								
BE-N Cert		0.035																								
BE-N Meas	0.016																									
BE-N Cert	0.015																									
AC-E Meas		0.112																								
AC-E Cert		0.105																								
AC-E Meas	0.015																									
AC-E Cert	0.016																									
W-2a Meas			52.35	15.19	10.91	0.165	6.37	11.12	2.21	0.62	1.074	0.14			35	< 1	282	90	44	70	110	80	18	2		
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00		
SY-4 Meas			49.55	20.79	6.38	0.109	0.52	8.14	6.92	1.66	0.289	0.13			1	3	5									
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0									
CTA-AC-1 Meas																				< 1		60	30			
CTA-AC-1 Cert																				2.72		54.0	38.0			
BIR-1a Meas			48.07	15.50	11.38	0.170	9.76	13.61	1.82	0.02	0.971	0.01			43	< 1	345	380	54	170	130	80	15	2		
BIR-1a Cert			47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50		
NCS DC86312 Meas																										
NCS DC86312 Cert																										
ZW-C Meas		0.009																								
ZW-C Cert		0.011																								
VS-N Meas		0.088																								
VS-N Cert		0.095																								
VS-N Meas	0.100																									
VS-N Cert	0.10																									
NCS DC70014 Meas																				26	70	2590	7400	25		
NCS DC70014 Cert																			26.2	70.9	2600.00	7400.00	25.2			
IGS 40 Meas			16.77	2.24		0.409	3.94	17.21	0.17	1.29	0.160	0.55														
IGS 40 Cert			16.59	2.10		0.40	4.02	16.99	0.12	1.28	0.185	0.54														
NCS DC70009 (GBW07241) Meas																			30	3	< 20	980	100	17	11	
NCS DC70009 (GBW07241) Cert																			30	3.7	2.8	960.000	100.000	16.5	11.2	
OREAS 100a (Fusion) Meas																				18		170				
OREAS 100a (Fusion) Cert																				18.1		169				
OREAS 101a (Fusion) Meas																				49		430				
OREAS 101a (Fusion) Cert																				48.8		434				
JR-1 Meas																			< 20	< 1	< 20	< 10	< 30	16	3	
JR-1 Cert																			2.83	0.83	1.67	2.68	30.6	16.1	1.88	
SX18-01 Meas		0.096																								

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Quality Control																											
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge			
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1			
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS			
SX18-01 Cert		0.093																									
SX18-01 Meas	0.693																										
SX18-01 Cert	0.695																										
SX18-04 Meas		0.161																									
SX18-04 Cert		0.146																									
SX18-04 Meas	1.343																										
SX18-04 Cert	1.32																										
SX18-05 Meas		0.227																									
SX18-05 Cert		0.218																									
SX18-05 Meas	0.990																										
SX18-05 Cert	0.973																										
SARM 3 Meas		1.552																									
SARM 3 Cert		1.49																									
FER-3 Meas			52.66	0.08	44.25	0.079	1.00	0.80	0.03	< 0.01	0.003	0.09															
FER-3 Cert			53.61	0.09	44.50	0.08	1.02	0.84	0.03	0.03	0.01	0.07															
598959 Orig			9.53	2.89	17.30	1.294	1.08	36.02	0.31	0.77	0.028	2.03	22.74	93.99	6	4	< 5										
598959 Dup			9.48	2.88	17.13	1.287	1.06	36.12	0.32	0.78	0.028	2.00	22.74	93.82	6	4	< 5										
598964 Orig			8.79	3.29	56.12	2.021	1.12	15.46	0.16	0.41	0.110	0.80	5.53	93.81	12	7	26										
598964 Dup			8.81	3.30	56.10	2.024	1.13	15.54	0.16	0.41	0.111	0.75	5.53	93.87	12	7	24										
598965 Orig			28.31	10.01	41.61	1.698	2.24	7.25	0.37	4.62	0.143	1.06	1.11	98.42	14	14	35	< 20	8	< 20	< 10	1470	78	4			
598965 Dup			28.58	9.79	41.88	1.708	2.24	7.28	0.37	4.63	0.139	1.08	1.11	98.79	15	14	35	< 20	8	< 20	< 10	1430	76	4			
598980 Orig	0.074	0.018																									
598980 Split	0.074	0.017	19.30	8.30	55.94	2.199	1.82	7.76	0.24	2.65	0.022	0.08	0.40	98.74	3	6	14										
598980 Orig	0.074	0.018																									
598980 Dup	0.074	0.017																									
598982 Orig			37.63	14.54	25.38	1.067	1.81	8.04	0.81	6.89	0.152	0.84	1.53	98.67	3	14	26	< 20	3	< 20	< 10	640	28	2			
598982 Dup			37.43	14.43	25.27	1.062	1.81	8.00	0.80	6.90	0.150	0.81	1.53	98.19	2	14	25	< 20	3	< 20	< 10	650	28	2			
598997 Orig			1.49	0.58	32.98	1.394	0.95	32.11	0.05	0.14	0.050	1.91	23.43	95.08	5	< 1	16										
598997 Dup			1.44	0.57	32.88	1.386	0.93	31.67	0.05	0.13	0.052	1.87	23.43	94.41	5	< 1	17										
599000 Orig	0.223	0.064																< 20	< 1	< 20	< 10	640	17	2			
599000 Split	0.222	0.062	0.75	0.28	41.03	2.050	1.14	26.77	0.03	0.03	0.031	3.18	18.37	93.66	5	< 1	27	< 20	< 1	< 20	< 10	620	17	2			
599000 Split																		< 20	< 1	< 20	< 10	620	17	2			
599007 Orig	0.185	0.039																									
599007 Split	0.184	0.039																									
599007 Orig			1.24	0.47	22.45	1.250	0.81	38.13	0.04	0.07	0.021	2.96	27.40	94.86	4	< 1	< 5										
599007 Dup			1.24	0.48	23.14	1.260	0.83	37.59	0.04	0.07	0.023	2.89	27.40	94.96	4	< 1	5										
Method Blank Method Blank																		< 20	< 1	< 20	< 10	< 30	< 1	< 1			
Method Blank Method Blank		< 0.003																									
Method Blank Method Blank	< 0.003																										

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas	9				< 2	2.2		2	2.8	< 0.5			9.1	18.4		10.4	2.6	0.77		0.4	2.5	0.5		0.22	
WMG-1 Cert	7.00				1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas			145	16					0.9		110		3.6			4.8		0.58							
DNC-1 Cert			144.0	18.0					0.96		118		3.6			5.20		0.59							
GBW 07113 Meas			43	47							506														
GBW 07113 Cert			43.0	43.0							506														
MICA-FE Meas																									
MICA-FE Cert																									
GXR-2 Meas					< 2	16.5	< 0.2	2	46.6	5.4		< 0.4	25.9	52.1		20.4	3.8		3.2	0.5	2.8			0.27	
GXR-2 Cert	25.0	78.0			2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50		3.30	0.480	3.30			0.300	
NIST 1633b Meas			1026								704														
NIST 1633b Cert			1040								709														
BE-N Meas																									
BE-N Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
AC-E Meas																									
AC-E Cert																									
W-2a Meas	< 5	19	195	19	< 2	< 0.5			1.2	0.9	175	< 0.4	11.5	24.4		13.6	3.4	1.13		0.7	3.9	0.8	2.1	0.33	
W-2a Cert	1.20	21.0	190	24.0	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	
SY-4 Meas			1200	119							354														
SY-4 Cert			1191	119							340														
CTA-AC-1 Meas													2040	3140		1100	161	44.3	127	14.6					
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9					
BIR-1a Meas	< 5	< 2	109	15	< 2	< 0.5		< 1	0.6	< 0.5	10	< 0.4	0.7	2.1	0.42	2.4	1.1	0.54	1.8	0.4	2.6	0.6	1.6	0.27	
BIR-1a Cert	0.440	0.250	108	16.0	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas					270	17.1			180			80.3	47.4	83.9	10.5	37.6	7.8	1.63	7.2	1.1	6.3	1.3	3.4	0.53	
NCS DC70014 Cert					270.000	16.7			180.000			80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	
IGS 40 Meas			33790										20200	31200	2630										
IGS 40 Cert			34645										20720.00	32247	2730.000										
NCS DC70009 (GBW07241) Meas	70	509				2.1	1.3	1700	3.5	44.3			24.3	61.3	8.63	33.0	13.2	0.12	15.3	3.4	21.8	4.6	13.3	2.46	
NCS DC70009 (GBW07241) Cert	69.9	500.00				1.8	1.3	1700.00	3.1	41			23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	
OREAS 100a (Fusion) Meas					23								262	471	50.3	153	24.8	3.71	21.1	3.7	22.9	4.9	14.4	2.38	
OREAS 100a (Fusion) Cert					24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	
OREAS 101a (Fusion) Meas					20								840	1420	140	401	51.5	8.14	37.4	5.6	31.8	6.6	19.1	2.95	
OREAS 101a (Fusion) Cert					21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	
JR-1 Meas	18	243			3	< 0.5	< 0.2	3	1.4	20.8		0.6	20.9	49.3	6.56	23.9	6.0	0.30	5.6	1.0	6.2	1.3	3.9	0.69	
JR-1 Cert	16.3	257			3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	
SX18-01 Meas																									

Activation Laboratories Ltd. Report: A10-1433

Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-01 Cert																									
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
SARM 3 Meas																									
SARM 3 Cert																									
FER-3 Meas																									
FER-3 Cert																									
598959 Orig																									
598959 Dup																									
598964 Orig																									
598964 Dup																									
598965 Orig	10	179	1157	195	5	2.3	< 0.2	67	< 0.5	4.2	6995	0.5	646	1620	197	828	140	32.5	73.2	8.6	40.5	6.9	18.0	2.50	
598965 Dup	10	172	1209	196	5	2.1	< 0.2	64	< 0.5	4.1	7043	0.5	662	1640	199	832	139	32.5	74.4	8.7	40.6	7.0	18.4	2.50	
598980 Orig																									
598980 Split																									
598980 Orig																									
598980 Dup																									
598982 Orig	< 5	177	3129	65	7	1.3	< 0.2	6	< 0.5	4.9	4579	< 0.4	190	381	48.8	214	37.7	9.61	23.0	2.9	13.9	2.5	6.2	0.79	
598982 Dup	< 5	183	3137	66	7	1.3	< 0.2	6	< 0.5	4.9	4552	< 0.4	178	361	46.1	205	36.3	9.20	21.9	2.8	13.7	2.4	6.0	0.77	
598997 Orig																									
598997 Dup																									
599000 Orig	7	< 2			3	< 0.5	< 0.2	17	< 0.5	< 0.5		< 0.4	1680	2970	296	927	123	32.5	84.2	9.1	43.4	7.6	20.2	2.63	
599000 Split	7	< 2	19090	196	3	< 0.5	< 0.2	17	< 0.5	< 0.5	990	< 0.4	1670	2910	295	931	123	31.9	83.6	9.0	43.2	7.3	19.4	2.57	
599000 Split	7	< 2			3	< 0.5	< 0.2	17	< 0.5	< 0.5		< 0.4	1670	2910	295	931	123	31.9	83.6	9.0	43.2	7.3	19.4	2.57	
599007 Orig																									
599007 Split																									
599007 Orig																									
599007 Dup																									
Method Blank Method	< 5	< 2			< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5		< 0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	
Blank																									
Method Blank Method																									
Blank																									
Method Blank Method																									
Blank																									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	1.3	0.19	1.6	0.3	< 1		18	1.4	0.8
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650
DH-1a Meas								912	
DH-1a Cert								910	
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas	1.9								
DNC-1 Cert	2.0								
GBW 07113 Meas									
GBW 07113 Cert									
MICA-FE Meas									
MICA-FE Cert									
GXR-2 Meas	1.8	0.26	6.0	0.8	< 1	0.7	687	8.3	2.9
GXR-2 Cert	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90
NIST 1633b Meas									
NIST 1633b Cert									
BE-N Meas									
BE-N Cert									
BE-N Meas									
BE-N Cert									
AC-E Meas									
AC-E Cert									
AC-E Meas									
AC-E Cert									
W-2a Meas	2.1	0.29	2.6	0.5	< 1	< 0.1	9	2.3	0.5
W-2a Cert	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	10.6	1.07	1.8	2.6				23.1	4.3
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4
BIR-1a Meas	1.6	0.24	0.6	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1
BIR-1a Cert	1.65	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100
NCS DC86312 Meas								25.8	
NCS DC86312 Cert								23.6	
ZW-C Meas									
ZW-C Cert									
VS-N Meas									
VS-N Cert									
VS-N Meas									
VS-N Cert									
NCS DC70014 Meas	3.4	0.49					27200		
NCS DC70014 Cert	3.3	0.50					27200.00		
IGS 40 Meas									
IGS 40 Cert									
NCS DC70009 (GBW07241) Meas	16.7	2.35			2340	2.1	65	28.7	
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8	81.2	28.3	
OREAS 100a (Fusion) Meas	15.0	2.12						50.7	142
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135
OREAS 101a (Fusion) Meas	18.3	2.48						35.5	420
OREAS 101a (Fusion) Cert	17.5	2.66						36.6	422
JR-1 Meas	4.7	0.68	5.0	1.8	2	1.2	21	26.7	9.4
JR-1 Cert	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88
SX18-01 Meas									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

SX18-01 Cert									
SX18-01 Meas									
SX18-01 Cert									
SX18-04 Meas									
SX18-04 Cert									
SX18-04 Meas									
SX18-04 Cert									
SX18-05 Meas									
SX18-05 Cert									
SX18-05 Meas									
SX18-05 Cert									
SARM 3 Meas									
SARM 3 Cert									
FER-3 Meas									
FER-3 Cert									
598959 Orig									
598959 Dup									
598964 Orig									
598964 Dup									
598965 Orig	15.3	2.27	7.2	14.6	< 1	1.0	16	706	7.8
598965 Dup	15.6	2.28	7.2	14.7	< 1	1.0	16	716	7.9
598980 Orig									
598980 Split									
598980 Orig									
598980 Dup									
598982 Orig	4.4	0.63	5.1	24.9	< 1	1.1	26	150	11.6
598982 Dup	4.3	0.60	4.9	23.8	< 1	1.1	25	146	11.3
598997 Orig									
598997 Dup									
599000 Orig	15.3	2.13	1.6	0.5	< 1	< 0.1	63	246	1.9
599000 Split	15.1	2.11	1.6	0.5	< 1	< 0.1	61	243	1.9
599000 Split	15.1	2.11	1.6	0.5	< 1	< 0.1	61	243	1.9
599007 Orig									
599007 Split									
599007 Orig									
599007 Dup									
Method Blank Method	< 0.1	< 0.04	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1
Blank									
Method Blank Method									
Blank									
Method Blank Method									
Blank									



Date Submitted: 29-Mar-10
Invoice No.: A10-1432
Invoice Date: 15-Apr-10
Your Reference: Clay Howells (RA-14)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

123 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1432**

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

Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control



ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Report: A10-1432

Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598894	0.048	0.150	57.93	14.42	7.90	0.505	0.87	5.09	4.95	5.19	0.324	0.29	0.63	98.08	6	11	< 5	20	< 1	< 20	< 10	230	31	2
598895	0.039	0.017	4.81	2.09	84.10	3.564	2.49	1.08	0.14	0.26	0.027	0.30	-1.95	96.91	12	4	32	< 20	11	< 20	< 10	2010	22	2
598896	0.051	0.033	1.84	0.85	68.56	3.096	1.86	12.92	0.10	0.07	0.034	1.24	7.03	97.59	11	1	42	< 20	8	< 20	< 10	2020	10	2
598897	0.033	0.005	2.95	2.02	86.60	3.680	3.10	0.70	0.06	0.19	0.019	0.17	-1.73	97.77	9	< 1	45	< 20	15	< 20	< 10	2100	22	3
598898	0.032	0.020	4.24	1.74	77.19	3.889	2.57	5.38	0.20	0.19	0.026	0.11	2.10	97.64	7	2	31	< 20	9	< 20	< 10	1500	11	< 1
598899	0.113	0.133	44.02	9.52	18.89	1.567	2.63	12.16	2.58	3.36	0.270	1.13	1.41	97.52	10	26	6	< 20	2	< 20	< 10	690	26	3
598900	0.042	0.017	1.07	0.34	84.42	3.136	1.99	5.72	0.03	0.02	0.032	0.08	1.60	98.43	5	< 1	42	< 20	15	< 20	< 10	3090	6	< 1
598901	0.150	0.091	27.86	5.85	39.58	2.138	2.07	12.52	1.67	1.61	0.203	0.79	3.22	97.50	8	20	18	< 20	5	< 20	< 10	1200	23	2
598902	0.073	0.089	45.26	8.97	26.43	1.388	1.00	8.06	2.80	3.38	0.295	0.97	0.66	99.21	7	13	14	< 20	3	< 20	< 10	560	30	2
598903	0.170	0.156	22.18	4.77	33.17	2.073	1.49	21.81	0.96	0.78	0.250	3.86	6.19	97.54	6	18	17	< 20	< 1	< 20	< 10	710	39	4
598904	0.107	0.105	19.01	4.68	45.86	2.654	1.73	16.06	0.78	0.66	0.118	3.27	2.65	97.46	6	20	27	< 20	5	< 20	< 10	1240	37	4
598905	0.097	0.027	4.94	1.49	86.25	2.983	0.73	2.96	0.26	0.08	0.239	0.95	-2.35	98.53	6	2	48	< 20	10	< 20	< 10	1950	33	2
598906	0.086	0.051	13.40	3.10	72.05	2.885	0.88	4.35	0.83	0.85	0.333	1.07	-1.76	97.99	7	6	42	< 20	9	< 20	< 10	1750	34	3
598907	0.123	0.103	52.81	12.43	13.79	0.885	0.95	7.26	3.80	5.24	0.242	0.34	0.60	98.34	7	14	< 5	< 20	1	< 20	< 10	390	26	2
598908	0.050	0.094	48.58	10.29	22.22	1.223	0.91	7.77	3.49	4.18	0.277	0.22	-0.07	99.08	7	13	6	< 20	2	< 20	< 10	510	26	2
598909	0.117	0.084	19.60	4.05	64.19	2.480	1.18	5.29	1.23	1.01	0.326	0.10	-1.61	97.84	6	8	21	< 20	8	< 20	< 10	1460	22	1
598910	0.113	0.062	13.09	2.62	73.75	2.603	0.87	4.13	0.85	0.65	0.408	0.34	-1.59	97.72	8	6	45	< 20	10	< 20	120	1770	30	2
598911	0.101	0.171	52.20	10.94	12.77	1.093	1.41	9.85	3.31	4.83	0.240	0.53	0.74	97.91	10	14	< 5	< 20	1	< 20	10	450	25	2

Activation Laboratories Ltd. Report: A10-1432

Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598894	< 5	203	2318	66	4	3.9	< 0.2	10	< 0.5	2.3	2339	< 0.4	228	418	46.4	154	23.0	4.23	15.1	2.2	12.4	2.5	7.3	1.19
598895	< 5	25	384	98	32	0.8	< 0.2	4	< 0.5	0.9	3013	0.4	1080	2450	279	894	90.6	18.2	45.8	4.9	23.2	4.2	11.6	1.64
598896	< 5	10	7883	99	81	0.8	< 0.2	3	< 0.5	0.6	1408	1.3	403	927	111	393	51.3	13.6	27.7	3.5	18.6	3.6	10.7	1.56
598897	9	29	585	85	77	0.5	< 0.2	5	< 0.5	1.4	628	1.0	807	2160	252	883	90.7	15.0	36.9	4.2	20.9	3.8	10.2	1.41
598898	< 5	12	3950	20	63	0.7	< 0.2	5	< 0.5	< 0.5	1186	0.7	187	383	38.6	116	13.0	4.35	8.2	1.0	5.1	1.0	2.7	0.41
598899	6	157	2843	137	5	3.3	< 0.2	17	< 0.5	3.2	7963	< 0.4	604	1200	133	441	64.8	15.0	41.0	5.4	28.1	5.0	13.9	2.01
598900	< 5	4	3895	11	8	0.7	0.2	12	< 0.5	< 0.5	210	0.8	121	240	25.1	80.1	8.1	2.19	4.1	0.5	2.6	0.5	1.3	0.18
598901	6	103	2922	181	5	2.4	< 0.2	19	< 0.5	3.5	2780	< 0.4	746	1350	141	448	59.9	14.7	40.3	6.3	36.2	7.2	20.6	3.04
598902	6	225	2656	146	4	2.2	< 0.2	22	< 0.5	2.7	3011	< 0.4	456	869	94.3	318	49.6	12.2	35.5	5.4	28.7	5.4	14.2	1.99
598903	17	40	5611	489	5	2.8	< 0.2	13	< 0.5	1.2	1793	< 0.4	1630	3080	325	1160	172	44.6	122	17.6	94.6	17.4	48.2	6.70
598904	18	45	3909	391	9	3.5	< 0.2	17	< 0.5	1.2	1332	< 0.4	1370	2630	268	935	132	35.5	94.7	13.1	69.5	12.8	35.8	5.10
598905	5	6	548	66	10	2.2	< 0.2	24	< 0.5	< 0.5	60	< 0.4	779	1550	164	504	58.1	12.3	36.8	4.1	18.7	3.0	7.6	0.94
598906	8	38	1051	111	6	2.0	< 0.2	28	< 0.5	0.8	790	< 0.4	1170	2260	217	700	76.9	16.7	41.6	5.1	25.3	4.4	11.8	1.58
598907	< 5	236	2918	43	5	2.8	< 0.2	10	< 0.5	3.4	3941	< 0.4	181	338	37.8	123	17.8	3.91	10.7	1.6	8.5	1.6	4.9	0.81
598908	< 5	183	2796	45	6	2.4	< 0.2	12	< 0.5	2.3	3105	< 0.4	168	308	34.1	114	16.4	3.30	10.4	1.5	8.2	1.6	5.0	0.87
598909	< 5	46	1102	33	12	2.3	< 0.2	27	< 0.5	0.9	902	< 0.4	179	342	37.6	117	14.9	3.24	9.3	1.3	7.2	1.4	4.0	0.62
598910	< 5	32	720	66	10	2.3	< 0.2	36	< 0.5	1.0	543	< 0.4	415	877	96.8	299	34.4	7.01	21.4	3.1	16.1	2.8	7.6	1.07
598911	< 5	226	3149	57	4	4.6	< 0.2	13	0.6	2.9	4645	< 0.4	223	434	49.1	165	23.4	4.98	14.6	2.1	11.1	2.1	6.1	1.00

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598790	5.7	0.79	7.6	16.0	4	0.8	46	93.2	16.8
598791	30.6	4.39	16.3	9.2	< 1	0.3	124	672	22.9
598792	23.5	3.41	15.5	11.7	< 1	0.4	167	290	13.8
598793	35.4	5.09	18.0	12.2	< 1	0.5	218	433	13.1
598794	49.3	7.05	8.2	11.1	< 1	0.6	115	236	9.6
598795	26.9	3.86	5.0	11.0	1	0.7	70	218	9.4
598796	42.5	6.09	7.9	3.8	< 1	< 0.1	145	496	19.3
598797	13.4	2.03	13.7	13.1	3	0.6	28	300	11.5
598798	15.5	2.49	19.8	15.1	2	0.6	27	285	10.1
598799	11.6	2.12	18.7	9.4	2	0.6	32	131	2.5
598800	27.5	3.95	5.2	0.9	< 1	0.2	85	845	14.4
598801	33.1	4.54	4.3	3.1	< 1	0.2	143	1060	7.0
598802	34.4	4.97	8.7	26.1	< 1	1.0	38	926	33.2
598803	19.2	2.74	6.9	21.4	< 1	0.6	55	548	14.5
598804	21.7	3.42	11.8	41.7	2	0.6	33	496	20.3
598805	32.7	4.78	10.0	28.0	< 1	0.4	62	776	29.1
598806	31.0	4.58	5.9	13.4	< 1	0.2	63	864	14.0
598807	21.6	2.94	3.4	6.7	< 1	0.4	106	539	6.6
598808	14.5	2.05	3.2	9.1	< 1	0.4	153	348	11.1
598809	21.4	3.05	3.3	8.0	< 1	0.5	115	468	8.9
598810	27.8	4.01	3.5	7.9	< 1	0.5	85	547	7.2
598811	18.2	2.55	5.0	9.2	< 1	0.6	89	381	11.3
598812	8.9	1.25	3.2	4.7	1	0.4	28	469	3.9
598813	8.3	1.14	1.8	0.8	< 1	0.4	32	535	2.4
598814	13.7	1.89	2.2	4.3	< 1	0.2	36	538	3.3
598815	29.8	4.21	5.7	1.2	< 1	0.1	120	526	3.7
598816	12.7	1.68	9.1	0.4	< 1	< 0.1	101	775	3.1
598817	16.8	2.30	6.1	0.7	< 1	0.2	91	901	4.6
598818	13.8	1.86	4.0	0.1	< 1	0.2	146	715	3.9
598819	13.3	1.95	2.9	4.7	< 1	0.3	49	470	3.6
598820	16.6	2.34	6.8	2.1	< 1	0.1	24	502	4.3
598821	19.2	2.59	3.8	3.1	< 1	0.2	40	1460	5.7
598822	13.0	1.90	3.0	4.1	< 1	0.2	40	968	2.5
598823	24.2	3.41	4.4	14.3	< 1	< 0.1	26	771	10.9
598824	24.9	3.57	4.3	15.1	< 1	0.1	41	588	9.2
598825	27.3	4.13	8.1	11.2	< 1	0.2	18	582	9.3
598826	26.8	4.06	5.4	16.8	< 1	0.1	31	541	10.6
598827	31.0	4.43	5.8	9.6	< 1	0.3	35	574	7.4
598828	29.6	4.33	4.0	7.0	< 1	0.2	35	702	8.8
598829	26.5	3.95	6.0	34.9	< 1	0.7	19	897	11.8
598830	26.3	3.84	4.7	23.7	< 1	0.5	17	862	9.5
598831	22.2	3.42	3.2	22.3	< 1	0.4	22	909	11.4
598832	23.9	3.75	8.7	28.1	< 1	0.3	37	618	19.2
598833	26.5	4.05	7.7	15.0	< 1	0.3	27	964	6.6
598834	20.6	3.19	15.9	35.9	< 1	0.3	36	428	19.8
598835	21.1	3.31	8.3	38.2	< 1	0.8	28	676	17.1
598836	12.8	1.97	2.5	64.2	< 1	0.7	51	437	11.6
598837	32.5	5.02	3.6	145	2	1.2	46	286	46.4
598838	13.0	1.77	1.6	5.9	< 1	0.2	18	601	3.9
598839	4.0	0.58	1.1	2.3	< 1	< 0.1	27	433	1.7
598840	4.1	0.60	2.2	0.4	< 1	< 0.1	42	470	1.0
598841	17.6	2.62	2.5	10.8	< 1	0.3	33	497	13.5

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598842	23.9	3.42	4.1	3.1	< 1	0.4	34	492	5.0
598843	21.3	3.07	4.6	2.0	< 1	0.4	63	536	6.2
598844	27.0	3.90	9.2	0.8	< 1	0.2	54	485	4.6
598845	26.5	3.73	7.4	2.0	< 1	0.1	36	665	6.7
598846	26.5	3.71	5.6	1.0	< 1	0.1	41	580	4.0
598847	27.7	3.97	5.5	1.3	< 1	0.2	52	594	4.5
598848	30.9	4.42	7.2	1.8	< 1	0.3	56	578	4.6
598849	21.0	3.03	4.9	1.7	< 1	< 0.1	50	478	1.7
598850	23.2	3.41	20.7	8.9	< 1	0.9	76	342	7.0
598851	22.2	3.20	12.0	2.5	< 1	0.6	33	575	5.3
598852	26.9	3.76	4.4	2.5	< 1	0.3	34	493	4.1
598853	31.2	4.31	4.8	1.1	< 1	< 0.1	154	628	5.4
598854	36.5	5.14	5.6	1.7	< 1	< 0.1	83	715	6.8
598855	35.3	4.86	6.2	1.8	< 1	< 0.1	43	818	6.8
598856	33.7	4.75	5.7	2.5	< 1	0.1	50	792	5.3
598857	13.2	1.74	9.3	5.4	< 1	0.3	83	943	5.1
598858	40.7	5.63	27.1	12.0	1	0.5	42	1460	15.2
598859	25.9	3.34	23.1	7.9	< 1	0.2	22	2430	10.7
598860	39.7	5.34	20.2	10.5	< 1	0.4	35	1250	13.1
598861	28.7	3.98	14.9	9.8	< 1	0.6	42	909	13.7
598862	28.0	3.83	8.2	9.3	< 1	0.4	55	1040	10.2
598863	25.4	3.52	5.5	6.1	< 1	0.2	49	770	7.6
598864	25.4	3.50	4.8	5.3	< 1	0.3	53	915	8.3
598865	26.3	3.59	6.8	2.9	< 1	0.2	67	1100	5.3
598866	11.6	1.65	10.3	2.1	< 1	0.2	65	429	4.8
598867	22.7	3.13	10.0	3.6	< 1	0.2	107	819	9.1
598868	20.1	2.83	6.1	9.0	< 1	0.3	34	1070	16.1
598869	17.2	2.45	4.7	3.2	< 1	0.2	78	1100	10.0
598870	25.1	3.43	6.9	1.0	< 1	0.4	48	1490	6.0
598871	8.8	1.40	11.9	8.2	< 1	0.5	46	297	4.8
598872	11.2	1.61	8.8	15.1	1	0.5	6	168	7.1
598873	13.1	1.86	10.0	16.0	1	0.5	7	158	9.5
598874	12.2	1.76	14.5	14.5	< 1	0.3	9	178	7.8
598875	14.8	2.10	18.6	49.1	< 1	0.5	29	332	28.0
598876	9.2	1.31	1.3	< 0.1	< 1	< 0.1	84	183	1.0
598877	2.4	0.37	0.4	0.2	< 1	< 0.1	20	165	1.4
598878	7.2	1.03	2.2	0.1	< 1	< 0.1	< 5	137	1.1
598879	5.6	0.79	1.2	0.8	< 1	< 0.1	25	142	1.1
598880	5.3	0.78	1.3	1.4	< 1	< 0.1	30	160	1.4
598881	5.9	0.88	1.6	0.3	< 1	< 0.1	25	144	1.5
598882	5.8	0.87	1.0	0.2	< 1	< 0.1	35	115	1.1
598883	1.8	0.28	2.1	3.2	< 1	< 0.1	12	129	4.0
598884	3.8	0.56	0.7	0.2	< 1	< 0.1	20	129	1.0
598885	7.0	1.05	1.0	0.2	< 1	< 0.1	26	270	1.6
598886	10.4	1.43	1.2	< 0.1	< 1	< 0.1	37	127	1.6
598887	12.9	1.87	5.6	2.0	< 1	0.2	39	74.6	4.5
598888	5.4	0.91	10.0	6.2	< 1	0.4	24	17.8	2.2
598889	13.2	1.84	8.5	1.9	< 1	< 0.1	15	339	3.9
598890	9.9	1.69	44.1	27.9	< 1	0.4	31	80.4	18.1
598891	36.3	5.29	13.7	7.0	< 1	< 0.1	46	404	8.4
598892	36.3	5.51	27.1	13.3	2	0.3	38	109	6.9
598893	6.7	1.08	18.0	10.2	1	0.5	55	56.1	5.8

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598894	8.6	1.42	23.6	12.9	< 1	0.4	32	93.5	5.5
598895	9.8	1.41	3.2	2.1	< 1	0.3	9	559	1.4
598896	9.9	1.45	2.9	0.6	< 1	< 0.1	43	462	1.2
598897	8.4	1.19	2.6	0.7	< 1	0.1	9	629	1.0
598898	2.7	0.44	2.8	1.8	< 1	< 0.1	21	307	1.3
598899	13.0	2.12	20.7	20.6	1	0.3	35	182	11.3
598900	1.0	0.14	1.3	0.7	< 1	< 0.1	71	554	0.8
598901	20.0	2.99	13.4	5.0	1	0.3	35	184	4.2
598902	12.2	1.81	16.4	10.0	< 1	0.5	40	102	5.5
598903	40.0	5.56	15.1	5.9	< 1	0.1	38	210	12.6
598904	30.5	4.23	13.8	2.5	< 1	0.1	37	258	4.5
598905	4.9	0.66	4.8	1.7	< 1	< 0.1	7	243	3.1
598906	9.5	1.39	8.7	3.2	< 1	0.1	12	226	3.9
598907	6.6	1.21	17.1	27.4	2	0.5	49	83.2	21.3
598908	7.1	1.28	15.3	8.5	1	0.4	36	57.6	4.3
598909	4.4	0.76	16.3	6.9	< 1	< 0.1	13	136	5.2
598910	6.7	1.01	11.9	4.0	< 1	0.1	12	207	3.9
598911	7.9	1.44	23.8	20.9	< 1	0.4	33	72.8	10.2

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Quality Control																											
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge			
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1			
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS			
WMG-1 Meas																		790	212	2700	6180	120	10				
WMG-1 Cert																		770	200	2700	5900	110	10.3				
DH-1a Meas																											
DH-1a Cert																											
NIST 694 Meas			11.53	1.87	0.75	0.014	0.36	42.71	0.88	0.54	0.115	30.13					1668										
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740										
DNC-1 Meas			47.42	18.68	10.05	0.149	10.27	11.56	1.93	0.22	0.495	0.07			31		159		270	57	250	100	70				
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148.0		270.0	57.0	247	100.0	70.0				
GBW 07113 Meas			72.48	12.87	3.18	0.141	0.15	0.62	2.51	5.45	0.281	0.04			5	4	< 5										
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00										
GXR-2 Meas																		30	9	< 20	80	580	35				
GXR-2 Cert																		36.0	8.60	21.0	76.0	530	37.0				
NIST 1633b Meas			49.59	28.49	10.78	0.019	0.81	2.24	0.28	2.34	1.304	0.56			41		311										
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296										
OKA-2 Meas																											
OKA-2 Cert																											
BE-N Meas	0.016	0.036																									
BE-N Cert	0.015	0.035																									
AC-E Meas	0.016	0.110																									
AC-E Cert	0.016	0.105																									
MA-N (Depleted) Meas																											
MA-N (Depleted) Cert																											
OKA-1 Meas	0.545																										
OKA-1 Cert	0.529																										
W-2a Meas			52.18	15.30	10.79	0.168	6.50	11.04	2.24	0.61	1.079	0.14			35	< 1	279	90	43	70	110	80	17	2			
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00			
SY-4 Meas			49.47	20.23	6.39	0.107	0.52	8.08	6.89	1.64	0.285	0.12			2	3	< 5										
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0										
CTA-AC-1 Meas																											
CTA-AC-1 Cert																											
BIR-1a Meas			47.92	15.49	11.01	0.172	9.73	13.49	1.83	0.02	0.949	0.02			43	< 1	340	380	54	170	130	80	15	2			
BIR-1a Cert			47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50			
NCS DC86312 Meas																											
NCS DC86312 Cert																											
ZW-C Meas																											
ZW-C Cert																											
VS-N Meas	0.101	0.090																									
VS-N Cert	0.10	0.095																									
NCS DC70014 Meas																				25	70	2580	7400	25			
NCS DC70014 Cert																				26.2	70.9	2600.00	7400.00	25.2			
IGS 40 Meas																											
IGS 40 Cert																											
NCS DC86316 Meas			4.664																								
NCS DC86316 Cert			4.68																								
NCS DC70009 (GBW07241) Meas																				30	3	< 20	1000	100	17	11	
NCS DC70009 (GBW07241) Cert																				30	3.7	2.8	960.000	100.000	16.5	11.2	
OREAS 100a (Fusion) Meas																					17		180				
OREAS 100a (Fusion) Cert																					18.1		169				
OREAS 101a (Fusion) Meas																					48		440				
OREAS 101a (Fusion) Cert																					48.8		434				
JR-1 Meas																					< 20	< 1	< 20	< 10	< 30	16	3
JR-1 Cert																					2.83	0.83	1.67	2.68	30.6	16.1	1.88
SX18-01 Meas	0.692	0.096																									

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Quality Control																									
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-01 Cert	0.695	0.093																							
SX18-04 Meas	1.341	0.159																							
SX18-04 Cert	1.32	0.146																							
SX18-05 Meas	0.985	0.223																							
SX18-05 Cert	0.973	0.218																							
SARM 3 Meas		1.554																							
SARM 3 Cert		1.49																							
FER-3 Meas			53.85	0.08	43.93	0.082	0.98	0.82	0.01	0.01	0.003	0.08													
FER-3 Cert			53.61	0.09	44.50	0.08	1.02	0.84	0.03	0.03	0.01	0.07													
598804 Orig			37.98	11.60	22.87	1.763	2.80	12.56	0.52	5.04	0.076	1.65	3.34	100.2	16	16	11	< 20	2	< 20	< 10	940	58	4	
598804 Dup			37.51	11.58	22.55	1.737	2.76	12.42	0.52	5.00	0.076	1.62	3.34	99.11	16	16	11	< 20	2	< 20	< 10	910	56	4	
598815 Orig			1.87	1.09	55.23	3.405	1.16	19.32	0.02	0.19	0.052	1.31	12.14	95.79	14	< 1	20								
598815 Dup			1.84	1.08	55.46	3.421	1.16	19.37	0.02	0.19	0.052	1.32	12.14	96.05	14	< 1	21								
598816 Orig			0.50	0.49	71.78	3.983	0.61	12.24	0.03	0.02	0.043	0.88	6.21	96.78	15	< 1	28								
598816 Dup			0.51	0.49	72.05	4.004	0.61	12.22	0.03	0.02	0.043	0.89	6.21	97.08	15	< 1	27								
598819 Orig	0.071	0.019																							
598819 Split	0.070	0.019	3.00	2.04	83.84	3.762	1.76	3.84	0.04	0.35	0.043	0.10	0.26	99.02	12	4	19	< 20	10	< 20	< 10	3050	26	4	
598819 Orig	0.071	0.019																							
598819 Dup	0.070	0.019																							
598821 Orig			1.79	1.69	88.27	3.467	1.03	1.35	0.03	0.08	0.105	0.17	-1.51	96.47	13	2	25	< 20	12	< 20	< 10	4280	33	5	
598821 Dup			1.84	1.67	88.82	3.469	1.05	1.35	0.03	0.08	0.104	0.15	-1.51	97.06	13	2	23	< 20	13	< 20	< 10	4290	34	5	
598828 Orig			4.13	1.58	39.10	2.216	0.87	27.48	0.02	0.34	0.073	3.88	15.49	95.16	12	< 1	15								
598828 Dup			4.03	1.60	39.72	2.188	0.85	26.91	0.02	0.33	0.075	3.97	15.49	95.18	12	< 1	16								
598839 Orig	0.043	0.015																							
598839 Split	0.043	0.016	1.38	0.32	84.07	3.238	1.19	6.06	0.03	0.06	0.013	0.09	2.33	98.77	7	< 1	15	< 20	10	< 20	10	2760	8	< 1	
598848 Orig	0.087	0.054																							
598848 Dup	0.088	0.055																							
598849 Orig	0.092	0.050	4.34	0.73	64.94	3.442	1.74	12.96	0.07	0.15	0.094	0.49	7.36	96.32	11	5	30	< 20	7	< 20	10	2440	21	2	
598849 Split	0.093	0.051	4.23	0.70	65.46	3.314	1.70	12.85	0.07	0.14	0.090	0.48	7.19	96.22	11	5	31	< 20	6	< 20	< 10	2320	20	2	
598851 Orig			15.30	4.02	52.41	2.696	2.27	10.81	0.30	1.77	0.103	0.86	4.53	95.07	9	8	20	< 20	6	< 20	< 10	2200	34	4	
598851 Dup			15.28	4.03	52.30	2.701	2.26	10.82	0.30	1.76	0.104	0.82	4.53	94.89	9	8	20	< 20	5	< 20	< 10	2150	34	4	
598868 Orig			15.64	6.57	59.48	2.730	3.77	5.61	0.46	1.44	0.099	0.71	-0.46	96.05	10	12	62	< 20	11	< 20	< 10	3220	49	3	
598868 Dup			16.30	6.75	59.85	2.805	4.01	5.90	0.49	1.51	0.101	0.73	-0.46	97.99	12	13	65	< 20	11	< 20	< 10	3100	48	3	
598877 Orig	0.028	0.006																							
598877 Dup	0.028	0.007																							
598879 Orig	0.032	0.026																							
598879 Split	0.032	0.025	1.50	0.31	55.95	3.112	4.46	16.32	0.07	0.04	0.019	1.23	13.56	96.58	3	< 1	8	< 20	5	< 20	< 10	1030	13	2	
598879 Split			1.50	0.31	55.95	3.112	4.46	16.32	0.07	0.04	0.019	1.23	13.56	96.58	3	< 1	8	< 20	5	< 20	< 10	1030	13	2	
598898 Orig																		< 20	9	< 20	< 10	1480	10	< 1	
598898 Dup																		< 20	10	< 20	< 10	1520	11	< 1	
598906 Orig	0.085	0.051																							
598906 Dup	0.086	0.051																							
598909 Orig	0.117	0.084																							
598909 Split	0.116	0.086	19.67	4.03	65.43	2.453	1.08	5.20	1.20	0.99	0.311	0.11	-1.60	98.86	5	7	19	< 20	8	< 20	< 10	1460	22	1	
Method Blank Method Blank																		< 20	< 1	< 20	< 10	< 30	< 1	< 1	
Method Blank Method Blank	< 0.003	< 0.003																							

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas	9				< 2	2.4		3	3.2	< 0.5			9.1	19.0		9.8	2.4	0.74		0.4	2.4	0.5	0.21		
WMG-1 Cert	7.00				1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500	0.200		
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas			145	16					0.9		109		3.7			4.7		0.56							
DNC-1 Cert			144.0	18.0					0.96		118		3.6			5.20		0.59							
GBW 07113 Meas			42	47							499														
GBW 07113 Cert			43.0	43.0							506														
GXR-2 Meas	24	78			< 2	16.5	< 0.2	2	46.1	5.4		< 0.4	25.3	50.9		19.4	3.5		3.0	0.5	2.7		0.26		
GXR-2 Cert	25.0	78.0			2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50		3.30	0.480	3.30		0.300		
NIST 1633b Meas			1045								715														
NIST 1633b Cert			1040								709														
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
MA-N (Depleted) Meas																									
MA-N (Depleted) Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	< 5	19	194	22	< 2	< 0.5			1.3	0.9	175	< 0.4	11.3	24.6		12.6	3.2	1.06		0.6	3.7	0.8	2.1	0.33	
W-2a Cert	1.20	21.0	190	24.0	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	
SY-4 Meas			1183	119							350														
SY-4 Cert			1191	119							340														
CTA-AC-1 Meas													2130	3230		1110	163	44.5	125	14.5					
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9					
BIR-1a Meas	< 5	< 2	108	14	< 2	< 0.5		< 1	0.6	< 0.5	10	< 0.4	0.7	2.1	0.37	2.3	1.1	0.50	1.8	0.4	2.5	0.6	1.6	0.26	
BIR-1a Cert	0.440	0.250	108	16.0	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas					270	17.2			180			80.3	46.4	89.9	10.2	38.9	8.0	1.72	7.3	1.2	6.4	1.3	3.5	0.55	
NCS DC70014 Cert					270.000	16.7			180.000			80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	
IGS 40 Meas													20700	32200	2450	7110									
IGS 40 Cert													20720.00	32247	2730.000	8320.000									
NCS DC86316 Meas																									
NCS DC86316 Cert																									
NCS DC70009 (GBW07241) Meas	70	503				2.0	1.3	1700	3.6	44.5			24.5	61.4	7.86	32.5	12.8	0.12	14.9	3.4	21.4	4.5	13.3	2.44	
NCS DC70009 (GBW07241) Cert	69.9	500.00				1.8	1.3	1700.00	3.1	41			23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	
OREAS 100a (Fusion) Meas					23								254	451	44.9	147	23.5	3.53	20.0	3.6	22.0	4.8	14.1	2.33	
OREAS 100a (Fusion) Cert					24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	
OREAS 101a (Fusion) Meas					21								785	1350	125	387	49.5	7.90	35.4	5.3	30.8	6.3	18.5	2.89	
OREAS 101a (Fusion) Cert					21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	
JR-1 Meas	17	250			3	< 0.5	< 0.2	3	1.4	20.8		0.6	20.5	48.2	5.79	23.1	5.7	0.28	5.4	1.0	6.1	1.3	3.9	0.68	
JR-1 Cert	16.3	257			3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	
SX18-01 Meas																									

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
SARM 3 Meas																									
SARM 3 Cert																									
FER-3 Meas				34																					
FER-3 Cert				31																					
598804 Orig	10	207	1620	264	6	2.6	< 0.2	35	< 0.5	6.6	3770	< 0.4	934	1770	181	653	115	30.7	76.7	10.1	50.3	9.0	24.1	3.40	
598804 Dup	9	200	1610	262	6	2.4	< 0.2	34	< 0.5	6.3	3716	< 0.4	933	1760	181	653	112	30.3	76.7	10.2	51.0	9.0	23.5	3.36	
598815 Orig			9031	290							2608														
598815 Dup			9123	300							2590														
598816 Orig			5882	126							217														
598816 Dup			5881	124							234														
598819 Orig																									
598819 Split	9	27	2467	160	7	0.8	< 0.2	14	< 0.5	0.7	4439	1.2	1090	2540	278	953	112	25.8	59.5	6.7	33.7	5.9	16.0	2.24	
598819 Orig																									
598819 Dup																									
598821 Orig	12	8	186	231	5	1.2	< 0.2	26	< 0.5	< 0.5	591	1.7	1150	2860	300	1110	166	42.6	102	12.3	58.2	9.9	25.1	3.31	
598821 Dup	12	8	180	229	5	1.2	< 0.2	27	< 0.5	< 0.5	607	1.5	1170	2880	304	1120	166	43.2	105	12.4	58.4	9.9	24.8	3.31	
598828 Orig			3152	376							1281														
598828 Dup			3129	371							1257														
598839 Orig																									
598839 Split	< 5	7	2919	40	70	0.6	< 0.2	8	< 0.5	< 0.5	252	0.4	237	590	67.6	218	28.2	6.35	13.8	1.5	7.4	1.4	4.1	0.59	
598848 Orig																									
598848 Dup																									
598849 Orig	18	15	7143	231	20	1.9	< 0.2	79	< 0.5	1.1	1120	2.0	1890	3370	331	974	129	32.1	79.1	9.5	48.2	8.6	23.9	3.38	
598849 Split	16	14	6967	226	19	1.7	< 0.2	75	< 0.5	1.0	1119	2.2	1770	3150	310	917	121	30.0	76.0	8.9	45.2	8.1	22.6	3.23	
598851 Orig	11	97	6222	276	16	2.6	< 0.2	53	< 0.5	2.4	9411	0.8	1520	2880	278	948	125	31.1	81.1	10.1	51.9	9.6	26.6	3.65	
598851 Dup	11	98	6315	277	15	2.6	< 0.2	50	< 0.5	2.4	9411	0.9	1610	3080	303	1020	134	33.5	87.6	11.1	56.8	10.4	28.2	3.84	
598868 Orig	11	64	1344	265	6	1.5	< 0.2	17	< 0.5	2.8	8613	1.2	1450	2620	243	857	139	36.7	91.3	11.1	53.0	9.5	25.8	3.54	
598868 Dup	11	64	1370	273	6	1.4	< 0.2	17	< 0.5	2.7	8976	1.1	1360	2470	235	832	133	35.7	88.4	10.8	53.0	9.5	25.3	3.41	
598877 Orig																									
598877 Dup																									
598879 Orig																									
598879 Split	< 5	5	8437	66	27	< 0.5	< 0.2	3	< 0.5	< 0.5	833	< 0.4	1030	2060	210	628	65.1	16.8	37.2	3.7	16.2	2.7	7.1	0.97	
598879 Split	< 5	5	8437	66	27	< 0.5	< 0.2	3	< 0.5	< 0.5	833	< 0.4	1030	2060	210	628	65.1	16.8	37.2	3.7	16.2	2.7	7.1	0.97	
598898 Orig	< 5	12			61	0.6	< 0.2	5	< 0.5	< 0.5		0.8	187	385	39.0	117	13.1	4.39	8.3	1.0	5.2	1.0	2.8	0.42	
598898 Dup	< 5	13			64	0.7	< 0.2	5	< 0.5	0.5		0.7	186	382	38.1	115	12.9	4.31	8.2	1.0	5.0	0.9	2.7	0.40	
598906 Orig																									
598906 Dup																									
598909 Orig																									
598909 Split	< 5	44	1065	33	12	2.2	< 0.2	26	< 0.5	0.8	866	< 0.4	183	347	37.8	118	14.3	3.14	9.2	1.3	7.2	1.4	3.9	0.63	
Method Blank Method	< 5	< 2			< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5		< 0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	
Blank																									
Method Blank Method																									
Blank																									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	1.3	0.19	1.6	0.3	1		17	1.4	0.9
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650
DH-1a Meas								914	2690
DH-1a Cert								910	2630
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas	1.9								
DNC-1 Cert	2.0								
GBW 07113 Meas									
GBW 07113 Cert									
GXR-2 Meas	1.7	0.25	6.1	0.7	1	0.7	632	8.3	3.0
GXR-2 Cert	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90
NIST 1633b Meas									
NIST 1633b Cert									
OKA-2 Meas								26900	
OKA-2 Cert								28900	
BE-N Meas									
BE-N Cert									
AC-E Meas									
AC-E Cert									
MA-N (Depleted) Meas									
MA-N (Depleted) Cert									
OKA-1 Meas									
OKA-1 Cert									
W-2a Meas	2.0	0.30	2.6	0.5	< 1	< 0.1	9	2.3	0.6
W-2a Cert	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	10.7	1.08	1.6	2.6				23.2	4.4
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4
BIR-1a Meas	1.6	0.24	0.6	0.9	< 1	< 0.1	< 5	< 0.1	< 0.1
BIR-1a Cert	1.65	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100
NCS DC86312 Meas								26.0	
NCS DC86312 Cert								23.6	
ZW-C Meas									
ZW-C Cert									
VS-N Meas									
VS-N Cert									
NCS DC70014 Meas	3.4	0.50					27200		
NCS DC70014 Cert	3.3	0.50					27200.00		
IGS 40 Meas									
IGS 40 Cert									
NCS DC86316 Meas									
NCS DC86316 Cert									
NCS DC70009 (GBW07241) Meas	16.7	2.36			2330	2.1	62	29.1	
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8	81.2	28.3	
OREAS 100a (Fusion) Meas	14.8	2.10						50.7	142
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135
OREAS 101a (Fusion) Meas	17.7	2.45						35.2	420
OREAS 101a (Fusion) Cert	17.5	2.66						36.6	422
JR-1 Meas	4.6	0.68	5.1	1.7	3	1.2	19	26.4	9.4
JR-1 Cert	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88
SX18-01 Meas									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

SX18-01 Cert									
SX18-04 Meas									
SX18-04 Cert									
SX18-05 Meas									
SX18-05 Cert									
SARM 3 Meas									
SARM 3 Cert									
FER-3 Meas									
FER-3 Cert									
598804 Orig	21.9	3.43	11.9	41.7	2	0.6	33	495	20.3
598804 Dup	21.5	3.42	11.7	41.8	2	0.6	33	496	20.2
598815 Orig									
598815 Dup									
598816 Orig									
598816 Dup									
598819 Orig									
598819 Split	13.2	1.87	2.9	1.8	< 1	0.3	46	489	4.0
598819 Orig									
598819 Dup									
598821 Orig	19.2	2.58	3.8	2.3	< 1	0.2	40	1460	5.7
598821 Dup	19.2	2.59	3.8	4.0	< 1	0.2	40	1460	5.7
598828 Orig									
598828 Dup									
598839 Orig									
598839 Split	3.7	0.54	1.1	2.3	< 1	< 0.1	27	391	1.6
598848 Orig									
598848 Dup									
598849 Orig	21.0	3.03	4.9	1.7	< 1	< 0.1	50	478	1.7
598849 Split	19.7	2.93	4.6	1.9	< 1	< 0.1	51	470	1.6
598851 Orig	21.4	3.08	11.5	2.8	< 1	0.5	31	548	5.0
598851 Dup	23.0	3.32	12.6	2.2	< 1	0.6	34	601	5.5
598868 Orig	20.5	2.88	6.3	8.9	< 1	0.3	35	1110	16.5
598868 Dup	19.7	2.77	5.8	9.1	< 1	0.3	32	1020	15.7
598877 Orig									
598877 Dup									
598879 Orig									
598879 Split	5.8	0.85	1.1	0.7	< 1	< 0.1	23	144	1.1
598879 Split	5.8	0.85	1.1	0.7	< 1	< 0.1	23	144	1.1
598898 Orig	2.7	0.44	2.8	1.9	< 1	< 0.1	22	310	1.4
598898 Dup	2.6	0.43	2.7	1.6	< 1	< 0.1	20	304	1.2
598906 Orig									
598906 Dup									
598909 Orig									
598909 Split	4.5	0.76	16.2	7.5	< 1	< 0.1	13	135	5.0
Method Blank Method	< 0.1	< 0.04	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1
Blank									
Method Blank Method									
Blank									



Date Submitted: 26-Mar-10
Invoice No.: A10-1431 (i)
Invoice Date: 09-Aug-10
Your Reference: Clay Howells (RA-13)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

24 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT	A10-1431 (i)	Code 8-Nb2O5 - XRF Option XRF Code 8-REE-Rare Earth Element Pkg Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2) Code Specific Gravity Pulp
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This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control



ACTIVATION LABORATORIES LTD.

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	Spec Grav
Unit Symbol	-
Detection Limit	0.01
Analysis Method	GRAV

598778 4.08

Quality Control

Analyte Symbol Spec Grav

Unit Symbol -

Detection Limit 0.01

Analysis Method GRAV

Method Blank Method < 0.01
Blank



Date Submitted: 26-Mar-10
Invoice No.: A10-1431
Invoice Date: 14-Apr-10
Your Reference: Clay Howells (RA-13)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

24 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1431**

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

Notes:

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

CERTIFIED BY :

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written in a cursive style with some overlapping loops.

Emmanuel Esemé , Ph.D.
Quality Control



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

Activation Laboratories Ltd. Report: A10-1431

Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598766	0.027	0.052	58.95	15.00	6.78	0.481	0.65	5.63	4.03	6.78	0.291	0.22	0.94	99.76	5	10	< 5	< 20	< 1	< 20	< 10	220	25	2
598767	0.102	0.036	5.52	1.38	35.92	1.720	1.14	29.03	0.22	0.19	0.153	2.66	18.40	96.32	5	2	11	< 20	< 1	< 20	< 10	530	25	3
598768	0.092	0.032	1.15	0.34	42.57	2.163	1.39	26.96	0.05	0.03	0.026	1.35	20.09	96.13	4	< 1	6	< 20	< 1	< 20	< 10	450	19	3
598769	0.114	0.038	1.26	0.26	33.62	2.049	0.99	32.70	0.05	0.02	0.034	2.02	23.74	96.74	5	< 1	6	< 20	< 1	< 20	< 10	350	17	3
598770	0.425	0.031	1.28	0.44	57.50	2.566	1.63	19.13	0.04	0.01	0.027	4.22	9.79	96.61	3	< 1	32	< 20	3	< 20	< 10	1120	19	3
598771	0.333	0.037	2.62	1.11	45.20	2.526	1.57	24.14	0.10	0.14	0.098	7.62	10.35	95.48	4	2	25	< 20	2	< 20	< 10	970	25	4
598772	0.266	0.032	1.16	0.49	34.39	2.413	1.15	31.94	0.04	0.01	0.027	6.00	18.91	96.52	6	< 1	14	< 20	< 1	< 20	< 10	680	20	3
598773	0.211	0.038	1.29	0.49	33.68	2.384	1.16	31.99	0.04	0.02	0.022	7.04	18.22	96.34	5	< 1	18	< 20	< 1	< 20	< 10	740	18	4
598774	0.185	0.042	1.24	0.48	46.33	2.831	1.55	24.01	0.04	0.01	0.016	3.95	14.35	94.80	6	7	13	< 20	< 1	< 20	< 10	1080	28	4
598775	0.052	0.040	0.76	0.27	60.42	3.328	1.81	17.73	0.06	0.02	0.007	1.97	11.05	97.44	6	< 1	11	< 20	4	< 20	< 10	1300	17	3
598776	0.052	0.035	1.58	0.71	73.65	3.187	2.90	8.20	0.05	0.02	0.010	1.12	4.09	95.52	7	< 1	20	< 20	9	< 20	< 10	2130	29	6
598777	0.138	0.028	0.52	0.16	78.22	3.465	2.67	8.73	0.03	< 0.01	0.022	0.80	4.63	99.24	9	< 1	25	< 20	9	< 20	< 10	1790	12	2
598778	0.063	0.031	1.21	0.33	69.13	3.053	2.06	13.36	0.03	0.02	0.013	1.50	7.77	98.47	5	< 1	16	< 20	7	< 20	< 10	1980	16	3
598779	0.063	0.037	1.01	0.45	63.58	3.317	1.95	14.29	0.03	< 0.01	0.011	2.53	8.07	95.24	6	< 1	14	< 20	6	< 20	< 10	1560	24	4
598780	0.055	0.053	0.84	0.32	63.02	3.465	2.14	15.12	0.04	< 0.01	0.005	2.46	9.24	96.65	6	< 1	10	< 20	6	< 20	< 10	1460	20	3
598781	0.113	0.041	3.20	0.76	50.52	2.809	1.41	20.76	0.14	0.17	0.017	4.23	11.81	95.83	7	3	8	< 20	2	< 20	< 10	1000	22	3
598782	0.025	0.037	68.75	13.49	2.85	0.137	0.82	0.74	4.75	5.62	0.040	0.05	1.25	98.49	< 1	6	< 5	< 20	< 1	< 20	< 10	110	32	2
598783	0.144	0.032	1.08	0.29	63.61	3.285	1.16	16.23	0.03	< 0.01	0.034	1.00	10.47	97.20	12	< 1	31	< 20	4	< 20	< 10	1340	15	3
598784	0.162	0.031	0.74	0.21	66.00	3.866	0.76	15.40	0.03	< 0.01	0.043	0.48	9.72	97.27	17	< 1	40	< 20	4	< 20	< 10	1110	10	2
598785	0.083	0.016	2.56	0.74	17.73	1.389	0.68	41.26	0.04	0.18	0.010	1.24	31.24	97.07	2	1	< 5	< 20	< 1	< 20	< 10	210	14	2
598786	0.053	0.015	27.94	9.13	13.26	0.874	1.58	25.38	0.38	3.98	0.036	0.85	15.07	98.48	2	10	< 5	< 20	< 1	< 20	10	280	16	2
598787	0.077	0.422	42.39	14.54	14.88	0.753	1.74	10.55	0.33	7.63	0.067	0.90	3.85	97.64	3	14	11	< 20	2	< 20	20	380	20	2
598788	0.041	0.020	16.78	5.78	13.78	0.809	1.24	33.94	0.20	2.37	0.031	0.89	23.19	99.01	2	6	< 5	< 20	< 1	< 20	< 10	180	18	3
598789	0.031	0.026	43.07	14.00	12.29	1.231	1.12	19.68	0.63	4.47	0.081	0.48	3.01	100.1	2	10	8	< 20	< 1	< 20	10	210	23	2

Activation Laboratories Ltd. Report: A10-1431

Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598766	< 5	254	2447	45	5	1.4	< 0.2	7	< 0.5	4.7	3655	< 0.4	199	370	40.4	140	21.4	4.70	13.5	1.9	9.6	1.8	5.1	0.80
598767	11	9	7088	238	3	0.6	< 0.2	13	< 0.5	< 0.5	2617	< 0.4	1500	2690	273	1010	151	38.5	102	11.7	53.7	8.8	21.3	2.60
598768	8	3	10700	188	4	< 0.5	< 0.2	18	< 0.5	< 0.5	3528	< 0.4	2080	3490	371	1080	130	31.7	85.9	8.9	42.2	7.0	16.5	2.06
598769	7	< 2	14340	182	23	< 0.5	< 0.2	13	< 0.5	< 0.5	3426	< 0.4	2320	3260	319	903	110	28.9	79.3	8.7	41.1	7.0	17.5	2.24
598770	9	< 2	9752	200	17	< 0.5	< 0.2	27	< 0.5	< 0.5	2451	< 0.4	1590	2720	319	1070	144	33.5	84.0	9.4	43.8	7.7	19.8	2.46
598771	13	15	9593	335	14	0.6	< 0.2	29	< 0.5	0.8	3639	< 0.4	2040	3450	401	1350	190	46.3	123	14.3	70.6	12.5	31.7	4.04
598772	10	< 2	10730	317	11	< 0.5	< 0.2	26	< 0.5	< 0.5	4302	0.5	1730	2950	333	1060	148	38.3	103	12.9	66.0	12.0	31.9	4.14
598773	12	< 2	10440	302	9	< 0.5	< 0.2	72	< 0.5	< 0.5	4768	0.4	1430	2700	333	1150	173	45.3	116	14.5	70.6	11.9	29.7	3.62
598774	15	< 2	12930	207	10	< 0.5	< 0.2	52	< 0.5	< 0.5	4633	0.7	2230	3900	377	1350	173	39.0	98.6	10.4	47.2	7.9	19.3	2.42
598775	6	2	14730	91	13	< 0.5	< 0.2	11	< 0.5	< 0.5	3506	0.8	1980	3210	334	951	94.6	22.4	56.2	5.0	22.6	3.7	9.3	1.26
598776	12	3	11340	136	22	< 0.5	< 0.2	18	< 0.5	< 0.5	2966	0.5	2900	5490	640	2030	206	34.8	97.6	7.3	30.7	5.0	13.2	1.85
598777	< 5	< 2	9824	51	32	< 0.5	< 0.2	20	< 0.5	< 0.5	1491	0.5	1030	1790	203	587	57.6	14.0	30.2	2.6	11.6	2.0	5.6	0.89
598778	6	< 2	11150	85	20	< 0.5	< 0.2	13	< 0.5	< 0.5	3442	0.5	1400	2470	293	945	109	24.1	52.1	4.5	18.1	3.1	8.7	1.30
598779	9	< 2	12800	111	19	< 0.5	< 0.2	11	< 0.5	< 0.5	2885	0.5	3150	4800	498	1470	145	27.5	77.3	5.9	24.8	4.2	11.8	1.76
598780	6	< 2	16630	70	29	< 0.5	< 0.2	12	< 0.5	< 0.5	3658	0.6	3040	4010	372	1020	96.8	21.4	56.1	4.2	17.3	2.9	8.3	1.18
598781	8	8	13490	160	27	< 0.5	< 0.2	10	< 0.5	< 0.5	4255	< 0.4	2460	3740	377	1090	124	30.4	78.5	7.7	34.1	6.1	16.3	2.25
598782	< 5	365	245	40	5	1.2	< 0.2	5	< 0.5	1.0	372	< 0.4	65.0	116	12.6	42.8	8.7	0.69	7.3	1.2	6.8	1.3	3.8	0.59
598783	< 5	< 2	8615	83	41	0.6	< 0.2	50	< 0.5	< 0.5	2134	< 0.4	1160	1830	207	649	81.0	19.5	45.2	4.3	19.3	3.3	8.9	1.26
598784	< 5	< 2	5405	43	78	1.2	< 0.2	22	< 0.5	< 0.5	439	0.9	608	989	94.1	261	29.1	7.77	19.7	2.3	11.8	2.1	5.7	0.80
598785	6	10	5791	127	5	< 0.5	< 0.2	4	< 0.5	< 0.5	1043	< 0.4	582	1330	151	609	104	28.2	66.4	7.7	34.2	5.3	12.6	1.50
598786	< 5	114	3534	92	3	< 0.5	< 0.2	3	< 0.5	2.6	1755	< 0.4	443	886	107	405	67.7	17.6	39.6	4.7	21.6	3.6	8.6	1.03
598787	< 5	174	2554	136	7	9.6	< 0.2	9	< 0.5	2.6	4166	< 0.4	268	517	62.3	249	52.1	15.3	40.7	5.8	29.4	5.3	14.5	2.04
598788	7	77	5975	134	4	< 0.5	< 0.2	2	< 0.5	1.0	785	< 0.4	502	1120	133	590	136	37.3	84.4	9.4	37.2	5.4	12.1	1.40
598789	< 5	144	2101	253	13	0.8	< 0.2	8	< 0.5	6.0	3818	< 0.4	314	555	66.9	290	79.9	25.6	72.7	9.9	49.5	8.3	20.9	2.72

Activation Laboratories Ltd. Report: A10-1431

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598766	5.7	0.92	8.8	9.8	2	0.7	36	55.5	6.2	
598767	14.0	1.80	3.6	2.8	< 1	< 0.1	44	345	8.2	
598768	11.0	1.46	1.5	1.2	< 1	< 0.1	61	310	2.2	
598769	12.3	1.59	1.1	0.8	< 1	< 0.1	92	211	3.5	
598770	13.1	1.68	1.5	0.3	< 1	< 0.1	70	373	0.9	
598771	21.1	2.63	2.7	1.0	< 1	0.1	60	328	1.1	
598772	22.4	2.87	1.8	0.3	< 1	< 0.1	84	147	1.0	
598773	19.2	2.43	2.0	0.4	< 1	< 0.1	121	157	0.8	
598774	13.6	1.73	1.5	0.1	< 1	< 0.1	167	273	0.8	
598775	7.5	0.98	0.7	0.2	< 1	< 0.1	123	268	1.1	
598776	11.6	1.70	1.1	0.4	< 1	< 0.1	89	609	1.5	
598777	5.9	0.91	0.7	0.1	< 1	< 0.1	60	407	1.4	
598778	8.5	1.25	0.7	0.5	< 1	< 0.1	69	581	0.7	
598779	11.4	1.63	0.8	0.2	< 1	< 0.1	51	395	0.5	
598780	7.5	1.10	0.9	< 0.1	< 1	< 0.1	65	345	1.2	
598781	13.4	1.91	1.7	0.6	< 1	< 0.1	64	247	1.2	
598782	4.0	0.61	9.3	12.1	2	0.7	9	42.4	8.1	
598783	8.0	1.20	2.1	0.4	< 1	< 0.1	70	360	1.2	
598784	4.9	0.75	3.7	0.4	< 1	< 0.1	58	396	1.4	
598785	8.0	1.01	1.3	0.5	< 1	< 0.1	25	97.1	2.7	
598786	5.7	0.78	1.1	10.8	1	0.2	22	135	4.6	
598787	12.3	1.80	36.3	12.3	2	0.5	26	140	13.0	
598788	7.6	0.96	1.5	3.8	< 1	0.2	29	195	3.1	
598789	15.6	2.20	3.4	9.9	3	0.5	30	68.1	4.4	

Activation Laboratories Ltd. Report: A10-1431

Quality Control																									
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Sr	Y	Ba	LOI	Total	Cr	Co	Ni	Cu	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	2	2	3		0.01	20	1	20	10	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas																					820	216	2770	6250	
WMG-1 Cert																					770	200	2700	5900	
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas			11.65	1.92	0.76	0.013	0.35	43.25	0.92	0.56	0.119	30.19			1685										
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2			1740										
DNC-1 Meas			46.95	18.08	9.91	0.145	10.17	11.42	1.94	0.22	0.479	0.07			155	142	16	106			270	57	250	100	
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070	31		148.0	144.0	18.0	118			270.0	57.0	247	100.0	
GBW 07113 Meas			72.26	12.98	3.20	0.140	0.15	0.60	2.51	5.46	0.287	0.05	6	4	11	42	46	490							
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500	5.00	4.00	5.00	43.0	43.0	506							
GXR-2 Meas																					30	9	< 20	80	
GXR-2 Cert																					36.0	8.60	21.0	76.0	
NIST 1633b Meas			48.98	28.37	11.10	0.018	0.79	2.17	0.28	2.29	1.309	0.53	40		302	1026		744							
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530	41.0		296	1040		709							
BE-N Meas	0.016	0.036																							
BE-N Cert	0.015	0.035																							
AC-E Meas	0.016	0.110																							
AC-E Cert	0.016	0.105																							
OKA-1 Meas	0.545																								
OKA-1 Cert	0.529																								
W-2a Meas			52.14	15.18	10.74	0.165	6.25	10.93	2.20	0.61	1.066	0.15	35	< 1	278	193	20	170			90	44	70	120	
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130	36.0	1.30	262	190	24.0	182			92.0	43.0	70.0	110	
SY-4 Meas			48.99	20.60	6.30	0.107	0.51	8.01	6.90	1.66	0.293	0.13	1	3	5	1197	119	341							
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131	1.1	2.6	8.0	1191	119	340							
CTA-AC-1 Meas																						< 1		60	
CTA-AC-1 Cert																						2.72		54.0	
BIR-1a Meas			47.90	15.79	11.38	0.175	9.57	13.35	1.82	0.02	0.954	0.03	43	< 1	337	113	14	10			370	52	160	130	
BIR-1a Cert			47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500	44.0	0.580	313	108	16.0	7.00			382	51.4	166	126	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas		0.009																							
ZW-C Cert		0.011																							
VS-N Meas	0.101	0.090																							
VS-N Cert	0.10	0.095																							
NCS DC70014 Meas																						25	60	2590	
NCS DC70014 Cert																						26.2	70.9	2600.00	
IGS 40 Meas																									
IGS 40 Cert																									
NCS DC86316 Meas		4.664																							
NCS DC86316 Cert		4.68																							
NCS DC70009 (GBW07241) Meas																					30	3	< 20	980	
NCS DC70009 (GBW07241) Cert																					30	3.7	2.8	960.000	
OREAS 100a (Fusion) Meas																						18		180	
OREAS 100a (Fusion) Cert																						18.1		169	
OREAS 101a (Fusion) Meas																						50		440	
OREAS 101a (Fusion) Cert																						48.8		434	
JR-1 Meas																					< 20	< 1	< 20	< 10	
JR-1 Cert																					2.83	0.83	1.67	2.68	
SX18-01 Meas	0.692	0.096																							
SX18-01 Cert	0.695	0.093																							
SX18-04 Meas	1.341	0.159																							
SX18-04 Cert	1.32	0.146																							
SX18-05 Meas	0.985	0.223																							

Activation Laboratories Ltd. Report: A10-1431

Quality Control																								
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Sr	Y	Ba	LOI	Total	Cr	Co	Ni	Cu
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	2	2	3		0.01	20	1	20	10
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS
SX18-05 Cert	0.973	0.218																						
SARM 3 Meas		1.554																						
SARM 3 Cert		1.49																						
598780 Orig			0.84	0.32	63.43	3.482	2.16	15.14	0.04	< 0.01	0.005	2.46	6	< 1	11	16680	69	3660	9.24	97.11	< 20	5	< 20	< 10
598780 Dup			0.83	0.31	62.61	3.448	2.13	15.10	0.04	< 0.01	0.005	2.47	6	< 1	9	16580	71	3655	9.24	96.18	< 20	6	< 20	< 10
Method Blank Method	< 0.003	< 0.003																						
Blank																								

Activation Laboratories Ltd. Report: A10-1431

Quality Control																									
Analyte Symbol	Zn	Ga	Ge	As	Rb	Nb	Mo	Ag	In	Sn	Sb	Cs	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	
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	30	1	1	5	2	1	2	0.5	0.2	1	0.5	0.5	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas	120	10		9			< 2	2.4		2	3.0	< 0.5		8.7	18.1		10.1	2.5	0.77		0.4	2.5	0.5		
WMG-1 Cert	110	10.3		7.00			1.40	2.70		2.20	1.80	0.480		8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas	70											1.0		3.7			4.9		0.58						
DNC-1 Cert	70.0										0.96			3.6			5.20		0.59						
GBW 07113 Meas																									
GBW 07113 Cert																									
GXR-2 Meas	550	34		24	76		< 2	16.6	< 0.2	2	45.9	5.3	< 0.4	25.4	53.2		19.8	3.6		3.0	0.5	2.8			
GXR-2 Cert	530	37.0		25.0	78.0		2.10	17.0	0.252	1.70	49.0	5.20	0.690	25.6	51.4		19.0	3.50		3.30	0.480	3.30			
NIST 1633b Meas																									
NIST 1633b Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	80	17	2	< 5	19		< 2	< 0.5			1.2	0.9	< 0.4	10.7	23.5		13.1	3.3	1.12		0.7	3.9	0.8	2.2	
W-2a Cert	80.0	17.0	1.00	1.20	21.0		0.600	0.0460			0.790	0.990	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	
SY-4 Meas																									
SY-4 Cert																									
CTA-AC-1 Meas	30													2080	3310		1090	160	43.9	125	14.4				
CTA-AC-1 Cert	38.0													2176	3326		1087	162	46.7	124	13.9				
BIR-1a Meas	70	15	2	< 5	< 2		< 2	< 0.5		< 1	0.6	< 0.5	< 0.4	0.7	2.1	0.37	2.3	1.1	0.51	1.9	0.4	2.5	0.6	1.6	
BIR-1a Cert	71.0	16.0	1.50	0.440	0.250		0.500	0.0360		0.650	0.580	0.00500	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas	7400	25					270	17.1			180		80.3	43.3	87.6	9.97	37.4	7.7	1.63	7.0	1.1	6.3	1.2	3.4	
NCS DC70014 Cert	7400.00	25.2					270.000	16.7			180.000		80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	
IGS 40 Meas														21000	32700	2950	8150								
IGS 40 Cert														20720.00	32247	2730.000	8320.000								
NCS DC86316 Meas																									
NCS DC86316 Cert																									
NCS DC70009 (GBW07241) Meas	110	16	11	70	504			2.1	1.3	1700	3.5	43.6		23.7	62.0	7.89	32.0	12.6	0.12	15.3	3.5	21.4	4.5	13.1	
NCS DC70009 (GBW07241) Cert	100.000	16.5	11.2	69.9	500.00			1.8	1.3	1700.00	3.1	41		23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	
OREAS 100a (Fusion) Meas							23							252	469	45.8	148	24.1	3.63	20.9	3.7	22.5	4.8	14.1	
OREAS 100a (Fusion) Cert							24.1							260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	
OREAS 101a (Fusion) Meas							21							783	1440	130	396	50.6	8.09	36.6	5.5	31.6	6.5	19.0	
OREAS 101a (Fusion) Cert							21.9							816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	
JR-1 Meas	< 30	16	3	17	249		3	< 0.5	< 0.2	3	1.4	20.8	0.6	20.4	50.2	6.00	23.6	5.9	0.29	5.7	1.1	6.2	1.3	3.9	
JR-1 Cert	30.6	16.1	1.88	16.3	257		3.25	0.031	0.028	2.86	1.19	20.8	0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									

Activation Laboratories Ltd. Report: A10-1431

Quality Control																									
Analyte Symbol	Zn	Ga	Ge	As	Rb	Nb	Mo	Ag	In	Sn	Sb	Cs	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	
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	30	1	1	5	2	1	2	0.5	0.2	1	0.5	0.5	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	

SX18-05 Cert

SARM 3 Meas

SARM 3 Cert

598780 Orig	1450	20	3	6	< 2	362	29	< 0.5	< 0.2	12	< 0.5	< 0.5	0.6	3030	3970	369	1000	95.8	21.3	55.4	4.1	17.2	2.9	8.2
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598780 Dup	1460	21	3	6	< 2	351	29	< 0.5	< 0.2	12	< 0.5	< 0.5	0.6	3050	4040	375	1030	97.8	21.6	56.7	4.2	17.3	2.9	8.3
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Method Blank Method

Blank

Quality Control										
Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	0.21	1.3	0.19	1.6	0.3	1		17	1.4	0.8
WMG-1 Cert	0.200	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650
DH-1a Meas									917	2640
DH-1a Cert									910	2630
NIST 694 Meas										
NIST 694 Cert										
DNC-1 Meas		1.9								
DNC-1 Cert		2.0								
GBW 07113 Meas										
GBW 07113 Cert										
GXR-2 Meas	0.27	1.7	0.25	5.8	0.7	1	0.7	633	8.3	2.9
GXR-2 Cert	0.300	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90
NIST 1633b Meas										
NIST 1633b Cert										
BE-N Meas										
BE-N Cert										
AC-E Meas										
AC-E Cert										
OKA-1 Meas										
OKA-1 Cert										
W-2a Meas	0.34	2.1	0.29	2.5	0.4	< 1	< 0.1	8	2.2	0.5
W-2a Cert	0.380	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530
SY-4 Meas										
SY-4 Cert										
CTA-AC-1 Meas		10.5	1.06	1.7	2.4				23.0	4.2
CTA-AC-1 Cert		11.4	1.08	1.13	2.65				21.8	4.4
BIR-1a Meas	0.25	1.6	0.24	0.6	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1
BIR-1a Cert	0.260	1.65	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100
NCS DC86312 Meas									26.3	
NCS DC86312 Cert									23.6	
ZW-C Meas										
ZW-C Cert										
VS-N Meas										
VS-N Cert										
NCS DC70014 Meas	0.53	3.3	0.48					27200		
NCS DC70014 Cert	0.57	3.3	0.50					27200.00		
IGS 40 Meas										
IGS 40 Cert										
NCS DC86316 Meas										
NCS DC86316 Cert										
NCS DC70009 (GBW07241) Meas	2.42	16.5	2.32			2340	2.1		28.6	
NCS DC70009 (GBW07241) Cert	2.2	14.9	2.4			2200.00	1.8		28.3	
OREAS 100a (Fusion) Meas	2.32	14.9	2.10						50.5	138
OREAS 100a (Fusion) Cert	2.31	14.9	2.26						51.6	135
OREAS 101a (Fusion) Meas	2.94	18.3	2.50						35.7	421
OREAS 101a (Fusion) Cert	2.90	17.5	2.66						36.6	422
JR-1 Meas	0.69	4.7	0.69	5.0	1.6	3	1.2	19	26.6	9.3
JR-1 Cert	0.67	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88
SX18-01 Meas										
SX18-01 Cert										
SX18-04 Meas										
SX18-04 Cert										
SX18-05 Meas										

Quality Control										
Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

SX18-05 Cert										
SARM 3 Meas										
SARM 3 Cert										
598780 Orig	1.18	7.5	1.09	0.8	< 0.1	< 1	< 0.1	65	344	1.2
598780 Dup	1.19	7.5	1.11	0.9	< 0.1	< 1	< 0.1	65	345	1.2
Method Blank Method										
Blank										



Date Submitted: 26-Mar-10
Invoice No.: A10-1430
Invoice Date: 14-Apr-10
Your Reference: Clay Howells (RA-12)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

53 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1430**

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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598714	67.8	9.25	10.1	20.7	3	1.1	41	233	18.3
598715	27.0	3.58	9.3	12.7	< 1	0.8	56	493	22.3
598716	25.5	3.36	9.1	1.4	< 1	0.2	110	434	11.7
598717	39.9	5.23	6.4	1.7	< 1	< 0.1	105	498	12.0
598718	29.2	3.85	7.0	2.7	< 1	< 0.1	161	430	14.1
598719	88.4	12.2	23.5	7.2	2	0.3	38	691	25.5
598720	25.0	3.22	6.1	5.6	< 1	< 0.1	31	652	17.7
598721	33.2	4.29	4.8	1.9	< 1	< 0.1	181	521	19.5
598722	28.2	3.60	4.2	2.1	< 1	< 0.1	112	790	8.4
598723	16.6	2.17	3.4	3.4	< 1	0.1	58	538	6.6
598724	24.6	3.94	5.9	6.4	< 1	0.3	45	557	6.5
598725	18.5	2.82	5.3	8.3	< 1	0.3	56	497	6.5
598726	20.5	3.18	3.0	2.0	< 1	0.2	135	734	5.0
598727	20.9	3.29	5.3	3.4	< 1	0.3	84	735	6.3
598728	19.3	3.01	4.5	6.1	< 1	0.4	51	408	10.1
598729	13.8	2.25	17.2	45.4	2	0.9	66	228	18.7
598730	11.0	1.79	24.9	117	1	1.2	49	164	39.4
598731	11.4	1.88	11.9	58.6	2	0.8	32	308	17.7
598732	19.1	3.03	4.0	7.0	< 1	0.2	37	671	7.8
598733	25.0	3.63	2.5	8.5	< 1	0.1	102	586	7.0
598734	22.2	3.22	3.6	10.2	< 1	0.3	23	808	14.5
598735	31.8	4.67	5.2	21.1	< 1	0.3	45	546	14.6
598736	23.8	3.41	4.8	18.1	7	0.4	32	518	14.3
598737	27.2	3.96	4.8	13.0	< 1	0.4	31	626	13.4
598738	33.7	5.07	11.7	124	3	0.7	61	267	55.2
598739	37.4	5.64	4.8	33.7	< 1	0.6	68	473	34.9
598740	17.3	2.57	10.5	40.0	< 1	0.3	24	510	21.4
598741	4.6	0.70	9.4	9.2	< 1	0.2	15	182	7.6
598742	33.7	4.81	5.6	65.0	< 1	0.8	38	422	34.8
598743	24.5	3.41	7.2	9.2	< 1	0.4	41	505	6.0
598744	28.5	4.01	10.3	3.7	< 1	0.2	38	876	7.9
598745	33.2	5.25	25.6	15.2	3	0.9	108	84.2	7.8
598746	66.7	8.79	27.4	6.5	< 1	0.3	376	3020	16.3
598747	21.9	3.08	6.7	1.5	< 1	< 0.1	84	1050	3.0
598748	17.8	2.54	9.5	2.9	< 1	0.3	164	1040	4.0
598749	5.5	0.86	10.3	5.8	2	0.4	20	45.0	2.6
598750	4.7	0.71	6.7	9.6	4	0.6	25	38.0	6.4
598751	5.8	0.92	9.8	7.4	6	0.5	29	35.5	6.3
598752	5.8	0.90	11.3	10.5	6	0.6	42	48.3	4.0
598753	10.8	1.59	10.1	18.7	2	0.6	49	94.4	2.8
598754	17.2	2.40	17.5	34.3	3	0.6	53	63.3	6.3
598755	11.4	1.65	15.5	81.2	4	0.8	58	146	33.3
598756	36.1	5.04	17.3	6.2	2	0.2	14	41.1	3.6
598757	16.2	1.93	8.7	3.5	< 1	0.1	10	112	3.8
598758	8.6	1.31	15.1	11.3	1	0.5	17	53.7	6.2
598759	10.9	1.41	2.9	0.3	< 1	< 0.1	18	269	0.9
598760	11.9	1.52	3.6	0.8	< 1	< 0.1	14	111	1.4
598761	11.2	1.47	5.9	4.3	< 1	0.2	18	178	4.1
598762	8.3	1.24	14.4	8.7	1	0.3	23	159	7.5
598763	4.7	0.74	9.8	4.9	2	0.3	20	16.2	2.5
598764	5.4	0.83	8.9	5.5	2	0.4	29	26.2	2.6
598765	38.1	5.39	15.9	1.7	1	< 0.1	54	161	1.5

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Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas																		800	213	2690	6160	120	10		
WMG-1 Cert																		770	200	2700	5900	110	10.3		
NIST 694 Meas			11.28	1.87	0.75	0.012	0.34	42.61	0.87	0.52	0.117	30.18					1673								
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas			46.35	18.34	9.87	0.146	10.05	11.39	1.90	0.21	0.476	0.07			31		153	270	58	250	100	70			
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148.0	270.0	57.0	247	100.0	70.0			
GBW 07113 Meas			72.81	12.76	3.22	0.139	0.15	0.62	2.56	5.53	0.281	0.03			5	4	13								
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
GXR-2 Meas																		30	9	< 20	80	550	35		
GXR-2 Cert																		36.0	8.60	21.0	76.0	530	37.0		
NIST 1633b Meas			48.74	28.38	11.32	0.018	0.79	2.19	0.27	2.26	1.302	0.55			40		305								
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296								
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas			0.036																						
BE-N Cert			0.035																						
BE-N Meas	0.016																								
BE-N Cert	0.015																								
AC-E Meas			0.110																						
AC-E Cert			0.105																						
AC-E Meas	0.016																								
AC-E Cert	0.016																								
OKA-1 Meas	0.545																								
OKA-1 Cert	0.529																								
W-2a Meas			52.09	15.27	10.81	0.165	6.32	11.08	2.21	0.60	1.090	0.14			35	< 1	280	90	45	70	110	80	18	2	
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	
SY-4 Meas			49.53	20.78	6.28	0.108	0.52	8.21	6.92	1.66	0.291	0.14			1	3	< 5								
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																				< 1		60	30		
CTA-AC-1 Cert																				2.72		54.0	38.0		
BIR-1a Meas			48.29	15.53	11.30	0.175	9.61	13.63	1.82	0.02	0.950	0.03			44	< 1	344	370	52	160	120	70	15	2	
BIR-1a Cert			47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas			0.009																						
ZW-C Cert			0.011																						
VS-N Meas			0.090																						
VS-N Cert			0.095																						
VS-N Meas	0.101																								
VS-N Cert	0.10																								
NCS DC70014 Meas																				25	70	2610	7400	25	
NCS DC70014 Cert																				26.2	70.9	2600.00	7400.00	25.2	
IGS 40 Meas																									
IGS 40 Cert																									
NCS DC86316 Meas			4.664																						
NCS DC86316 Cert			4.68																						
NCS DC70009 (GBW07241) Meas																			30	3	< 20	940	100	17	11
NCS DC70009 (GBW07241) Cert																			30	3.7	2.8	960.000	100.000	16.5	11.2
OREAS 100a (Fusion) Meas																				17		170			
OREAS 100a (Fusion) Cert																				18.1		169			
OREAS 101a (Fusion) Meas																				49		420			
OREAS 101a (Fusion) Cert																				48.8		434			
JR-1 Meas																			< 20	< 1	< 20	< 10	< 30	17	3

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Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
JR-1 Cert																		2.83	0.83	1.67	2.68	30.6	16.1	1.88	
SX18-01 Meas		0.096																							
SX18-01 Cert		0.093																							
SX18-01 Meas	0.692																								
SX18-01 Cert	0.695																								
SX18-04 Meas		0.159																							
SX18-04 Cert		0.146																							
SX18-04 Meas	1.341																								
SX18-04 Cert	1.32																								
SX18-05 Meas		0.223																							
SX18-05 Cert		0.218																							
SX18-05 Meas	0.985																								
SX18-05 Cert	0.973																								
SARM 3 Meas		1.554																							
SARM 3 Cert		1.49																							
598728 Orig			9.83	3.63	49.77	2.505	1.58	18.77	0.04	0.94	0.061	1.34	9.88	98.33	10	12	18	< 20	4	< 20	< 10	1520	28	3	
598728 Dup			9.72	3.60	48.61	2.460	1.56	18.70	0.04	0.93	0.060	1.32	9.88	96.88	10	12	17	< 20	3	< 20	< 10	1480	28	3	
598743 Orig	0.100	0.053																							
598743 Dup	0.101	0.055																							
598763 Orig	0.019	0.066	60.23	15.59	6.64	0.255	0.76	3.55	5.34	6.03	0.469	0.15	0.78	99.79	8	6	7	< 20	< 1	< 20	< 10	120	28	2	
598763 Split	0.020	0.065	59.30	15.47	6.85	0.262	0.76	3.65	5.17	5.84	0.464	0.14	0.84	98.74	8	6	6	< 20	< 1	< 20	< 10	120	27	2	
Method Blank Method		< 0.003																							
Blank																									
Method Blank Method	< 0.003																								
Blank																									

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas	9				< 2	2.4		3	2.9	< 0.5			8.8	18.4		10.1	2.5	0.76		0.4	2.5	0.5		0.21	
WMG-1 Cert	7.00				1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas			142	17					1.0		103		3.8			4.7		0.57							
DNC-1 Cert			144.0	18.0					0.96		118		3.6			5.20		0.59							
GBW 07113 Meas			41	45							497														
GBW 07113 Cert			43.0	43.0							506														
GXR-2 Meas	24	75			< 2	16.5	< 0.2	2	48.9	5.3		< 0.4	26.7	51.0		20.0	3.7		3.0	0.5	2.8			0.27	
GXR-2 Cert	25.0	78.0			2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50		3.30	0.480	3.30			0.300	
NIST 1633b Meas				1022																					
NIST 1633b Cert				1040																					
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas																									
BE-N Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
AC-E Meas																									
AC-E Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	< 5	19	195	21	< 2	< 0.5			1.1	0.9	169	< 0.4	11.1	24.4		13.2	3.4	1.11		0.7	3.9	0.8	2.2	0.34	
W-2a Cert	1.20	21.0	190	24.0	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	
SY-4 Meas			1202	119							338														
SY-4 Cert			1191	119							340														
CTA-AC-1 Meas													2320	3320		1120	165	44.9	126	14.8					
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9					
BIR-1a Meas	< 5	< 2	110	15	< 2	< 0.5		< 1	0.5	< 0.5	10	< 0.4	0.7	2.1	0.38	2.4	1.1	0.52	1.8	0.4	2.6	0.6	1.6	0.27	
BIR-1a Cert	0.440	0.250	108	16.0	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas					270	17.2			180			80.3	47.0	86.4	10.1	38.4	7.9	1.65	7.2	1.2	6.5	1.3	3.4	0.54	
NCS DC70014 Cert					270.000	16.7			180.000			80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	
IGS 40 Meas													21200	32900	2700	7690									
IGS 40 Cert													20720.00	32247	2730.000	8320.000									
NCS DC86316 Meas																									
NCS DC86316 Cert																									
NCS DC70009 (GBW07241) Meas	70	509				2.1	1.3	1740	3.6	43.9			24.8	59.2	7.76	32.3	12.8	0.12	14.9	3.4	21.5	4.5	13.4	2.44	
NCS DC70009 (GBW07241) Cert	69.9	500.00				1.8	1.3	1700.00	3.1	41			23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	
OREAS 100a (Fusion) Meas					23								272	464	45.6	149	24.1	3.65	20.6	3.7	22.8	4.9	14.3	2.37	
OREAS 100a (Fusion) Cert					24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	
OREAS 101a (Fusion) Meas					21								858	1410	128	394	50.5	8.02	36.2	5.5	32.0	6.6	19.0	2.94	
OREAS 101a (Fusion) Cert					21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	
JR-1 Meas	18	243			3	< 0.5	< 0.2	3	1.4	20.9		0.6	21.6	48.1	5.99	23.9	5.9	0.29	5.5	1.0	6.3	1.3	4.0	0.70	

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Quality Control																								
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
JR-1 Cert	16.3	257			3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67
SX18-01 Meas																								
SX18-01 Cert																								
SX18-01 Meas																								
SX18-01 Cert																								
SX18-04 Meas																								
SX18-04 Cert																								
SX18-04 Meas																								
SX18-04 Cert																								
SX18-05 Meas																								
SX18-05 Cert																								
SX18-05 Meas																								
SX18-05 Cert																								
SARM 3 Meas																								
SARM 3 Cert																								
598728 Orig	6	36	5831	238	4	1.1	< 0.2	22	< 0.5	1.1	2635	0.5	1240	2250	218	773	120	32.9	84.7	10.8	52.5	9.2	23.8	3.25
598728 Dup	6	35	5956	237	4	1.1	< 0.2	20	< 0.5	1.1	2594	0.5	1230	2250	217	776	119	33.0	85.9	10.6	52.3	9.2	23.8	3.20
598743 Orig																								
598743 Dup																								
598763 Orig	< 5	139	1031	40	7	1.7	< 0.2	2	< 0.5	0.9	1625	< 0.4	187	306	33.2	110	16.4	2.90	10.8	1.5	8.2	1.6	4.6	0.68
598763 Split	< 5	136	1064	42	8	1.7	< 0.2	2	< 0.5	0.9	1611	< 0.4	196	318	33.9	113	17.1	2.97	11.4	1.6	8.6	1.6	4.7	0.72
Method Blank Method																								
Blank																								
Method Blank Method																								
Blank																								

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	1.4	0.20	1.6	0.3	< 1		17	1.4	0.8
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas	1.9								
DNC-1 Cert	2.0								
GBW 07113 Meas									
GBW 07113 Cert									
GXR-2 Meas	1.7	0.26	6.3	0.7	1	0.7	629	8.4	2.9
GXR-2 Cert	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90
NIST 1633b Meas									
NIST 1633b Cert									
OKA-2 Meas								26300	
OKA-2 Cert								28900	
BE-N Meas									
BE-N Cert									
BE-N Meas									
BE-N Cert									
AC-E Meas									
AC-E Cert									
AC-E Meas									
AC-E Cert									
OKA-1 Meas									
OKA-1 Cert									
W-2a Meas	2.1	0.31	2.6	0.4	< 1	< 0.1	8	2.3	0.5
W-2a Cert	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	10.8	1.10	1.7	2.5				23.5	4.2
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4
BIR-1a Meas	1.7	0.25	0.7	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1
BIR-1a Cert	1.65	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100
NCS DC86312 Meas								25.5	
NCS DC86312 Cert								23.6	
ZW-C Meas									
ZW-C Cert									
VS-N Meas									
VS-N Cert									
VS-N Meas									
VS-N Cert									
NCS DC70014 Meas	3.4	0.49					27200		
NCS DC70014 Cert	3.3	0.50					27200.00		
IGS 40 Meas									
IGS 40 Cert									
NCS DC86316 Meas									
NCS DC86316 Cert									
NCS DC70009 (GBW07241) Meas	16.6	2.35			2340	2.1		28.6	
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8		28.3	
OREAS 100a (Fusion) Meas	15.1	2.13						50.5	135
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135
OREAS 101a (Fusion) Meas	18.3	2.51						35.7	422
OREAS 101a (Fusion) Cert	17.5	2.66						36.6	422
JR-1 Meas	4.7	0.70	5.2	1.6	3	1.3	19	26.7	9.0

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
JR-1 Cert	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88
SX18-01 Meas									
SX18-01 Cert									
SX18-01 Meas									
SX18-01 Cert									
SX18-04 Meas									
SX18-04 Cert									
SX18-04 Meas									
SX18-04 Cert									
SX18-05 Meas									
SX18-05 Cert									
SX18-05 Meas									
SX18-05 Cert									
SARM 3 Meas									
SARM 3 Cert									
598728 Orig	19.3	3.10	4.6	7.6	< 1	0.4	51	408	10.2
598728 Dup	19.3	2.93	4.4	4.6	< 1	0.4	51	407	10.0
598743 Orig									
598743 Dup									
598763 Orig	4.7	0.74	9.8	4.9	2	0.3	20	16.2	2.5
598763 Split	5.0	0.79	9.7	5.1	1	0.3	20	16.4	2.6
Method Blank Method									
Blank									
Method Blank Method									
Blank									



Date Submitted: 26-Mar-10
Invoice No.: A10-1341
Invoice Date: 15-Apr-10
Your Reference: Clay Howells (RA-11)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

94 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1341**

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

Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Report: A10-1341

Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598672	0.033	0.031	9.46	3.17	70.98	3.295	3.38	3.50	0.10	1.17	0.094	0.57	1.08	96.80	9	8	45	< 20	10	< 20	< 10	2130	45	8
598673	< 0.003	0.176	40.95	9.74	10.13	2.461	5.70	12.02	0.59	1.88	0.104	0.82	1.87	86.26	9	90	< 5	< 20	< 1	< 20	< 10	490	85	10
598674	0.021	0.022	3.98	1.92	71.21	3.148	2.77	7.75	0.02	0.39	0.028	0.36	4.04	95.61	9	6	40	< 20	10	< 20	< 10	2030	18	3
598675	0.085	0.019	7.15	1.89	65.42	2.956	1.43	10.97	0.38	0.62	0.109	1.04	5.16	97.12	6	4	34	< 20	8	< 20	< 10	2170	14	2
598676	0.245	0.049	1.56	0.69	50.25	2.576	1.02	23.74	0.02	0.06	0.149	3.40	13.01	96.49	6	2	60	< 20	3	< 20	10	1070	25	2
598677	0.115	0.059	39.00	10.88	27.27	1.320	2.89	6.77	2.60	3.65	0.555	0.66	1.20	96.78	16	34	18	< 20	5	< 20	< 10	820	39	3
598678	0.210	0.082	16.04	4.38	35.86	1.855	2.36	20.89	0.77	1.09	0.302	1.99	10.22	95.74	13	18	34	< 20	2	< 20	< 10	1180	34	3
598679	0.264	0.198	38.88	10.68	21.94	1.916	4.40	10.75	1.14	4.60	0.170	0.39	2.18	97.04	19	37	48	20	7	< 20	10	1100	54	2
598680	0.202	0.145	48.74	13.91	15.85	0.829	2.57	4.92	0.38	9.90	0.433	0.16	1.71	99.41	12	38	169	120	10	50	20	870	117	2
598681	0.186	0.207	42.70	12.96	18.70	1.589	2.94	7.87	1.19	6.14	0.146	0.25	1.88	96.36	10	32	39	< 20	4	< 20	< 10	970	79	2
598682	0.285	0.196	34.25	9.48	26.30	1.883	3.73	11.78	2.67	2.52	0.276	0.12	4.42	97.44	18	28	55	30	5	< 20	< 10	1340	54	2
598683	0.227	0.075	16.96	4.68	25.06	1.906	1.90	24.12	0.46	2.54	0.144	0.48	17.23	95.48	11	15	50	< 20	< 1	< 20	< 10	1170	45	2
598684	0.137	0.108	44.42	10.56	23.51	1.566	1.98	7.70	2.58	4.31	0.348	0.22	0.89	98.09	10	47	47	< 20	3	< 20	< 10	1000	52	2
598685	0.027	0.055	54.69	13.02	12.93	0.636	0.84	3.76	4.89	5.00	0.369	0.11	1.02	97.26	4	20	7	< 20	< 1	< 20	< 10	380	32	2
598686	0.117	0.197	45.45	10.05	18.64	1.525	2.11	11.33	2.70	3.82	0.523	0.41	2.55	99.10	9	52	36	< 20	5	< 20	10	820	29	2
598687	0.121	0.054	37.42	9.13	20.24	1.083	1.17	13.04	2.77	3.60	0.405	0.08	8.31	97.27	6	20	42	< 20	2	< 20	< 10	860	47	2
598688	0.090	0.075	42.45	11.27	29.08	1.304	1.62	4.59	3.27	4.02	0.383	0.16	0.90	99.04	12	18	50	< 20	5	< 20	< 10	1430	39	2
598689	0.065	0.060	51.59	15.14	13.54	0.671	0.97	3.81	3.96	6.05	0.670	0.18	1.09	97.67	13	21	23	< 20	2	< 20	< 10	520	35	1
598690	0.178	0.104	30.64	8.54	41.32	2.153	3.43	4.88	0.40	5.25	0.187	0.18	1.36	98.34	15	29	96	30	9	< 20	10	1970	51	2
598691	0.125	0.089	28.15	8.91	46.67	1.669	1.84	3.06	0.53	4.94	0.222	0.05	0.17	96.20	7	23	56	< 20	7	< 20	< 10	1500	35	3
598692	0.084	0.036	35.10	9.47	35.66	1.493	1.97	5.11	0.40	6.85	0.133	0.52	1.42	98.12	12	24	75	40	8	< 20	20	1470	63	2
598693	0.144	0.122	44.18	13.20	17.86	1.175	3.21	6.82	1.57	7.00	0.533	0.16	2.94	98.65	19	35	67	100	10	30	20	920	47	2
598694	0.076	0.115	42.92	15.03	19.74	0.917	1.74	2.34	1.61	7.64	0.408	0.09	2.17	94.61	10	21	17	< 20	5	< 20	< 10	870	35	2
598695	0.057	0.062	26.38	8.05	49.99	1.748	2.54	2.24	1.81	2.80	0.264	0.09	0.58	96.49	11	20	41	< 20	9	< 20	< 10	1950	33	3
598696	0.140	0.123	25.86	8.40	51.44	1.935	2.00	3.09	1.46	3.07	0.194	0.20	0.47	98.12	10	19	54	< 20	8	< 20	< 10	2270	36	3
598697	0.344	0.148	18.06	4.75	55.15	2.586	3.12	8.11	0.55	1.70	0.316	0.18	1.49	96.02	24	31	95	< 20	9	< 20	< 10	2610	53	2
598698	0.292	0.116	14.04	4.24	64.34	1.969	2.16	5.14	0.43	1.86	0.296	0.13	1.90	96.50	19	12	103	< 20	11	< 20	< 10	2720	55	2
598699	0.111	0.060	20.57	6.53	44.94	2.017	3.32	12.14	0.78	2.01	0.130	0.32	4.90	97.66	18	19	96	< 20	8	< 20	< 10	1450	61	2
598700	0.179	0.118	27.44	7.92	34.03	2.131	4.12	11.81	0.57	3.97	0.156	0.82	5.16	98.12	19	25	63	< 20	8	< 20	< 10	1460	63	2
598701	0.245	0.021	36.46	11.33	25.42	1.223	2.63	7.45	0.23	7.64	0.082	1.63	2.71	96.82	10	11	62	< 20	6	< 20	< 10	950	87	2
598702	0.101	0.071	35.10	9.92	31.97	1.413	2.50	8.72	1.32	4.21	0.217	2.08	1.01	98.44	14	18	66	< 20	7	< 20	10	1100	76	3
598703	0.313	0.077	24.77	7.05	46.16	1.870	2.71	7.52	0.92	3.47	0.186	2.71	0.44	97.80	16	11	77	< 20	9	< 20	20	1780	67	3
598704	0.062	0.105	48.38	14.45	15.50	0.708	2.02	6.56	4.52	4.68	0.376	0.23	1.48	98.90	11	13	38	< 20	7	< 20	10	450	38	1
598705	0.021	0.095	56.54	12.92	10.28	0.596	1.49	6.54	4.66	4.98	0.384	0.18	1.25	99.81	13	10	20	< 20	4	< 20	< 10	260	23	2
598706	0.030	0.107	56.93	13.87	9.62	0.532	1.52	6.08	4.87	4.96	0.441	0.19	1.27	100.3	10	9	26	30	5	< 20	< 10	250	25	2
598707	0.023	0.068	56.32	13.43	8.65	0.568	1.18	6.57	3.78	6.19	0.241	0.33	1.38	98.65	8	11	11	< 20	2	< 20	< 10	220	24	2
598708	0.033	0.087	47.67	10.82	17.90	0.917	1.53	8.81	3.77	4.10	0.482	0.50	2.28	98.78	12	14	18	< 20	4	< 20	10	410	23	2
598709	0.117	0.030	9.03	3.21	67.62	4.105	2.59	6.99	0.43	0.32	0.157	0.93	1.06	96.45	16	6	52	< 20	9	< 20	< 10	1760	69	10
598710	0.070	0.007	1.38	1.35	81.24	3.216	0.92	7.42	0.06	0.10	0.140	0.56	2.46	98.85	10	2	61	< 20	10	< 20	< 10	1790	16	1
598711	0.091	0.008	4.66	2.71	84.03	3.643	2.08	2.82	0.11	0.42	0.115	0.33	-0.98	99.94	11	5	68	< 20	11	< 20	< 10	2060	28	3
598712	0.108	0.018	1.21	0.49	64.09	3.396	1.04	15.86	0.06	0.02	0.048	1.23	9.34	96.78	16	1	37	< 20	6	< 20	< 10	1070	7	< 1
598713	0.023	0.059	57.66	14.05	10.71	0.498	0.48	4.09	4.61	5.92	0.593	0.14	0.45	99.22	16	9	< 5	< 20	< 1	< 20	20	410	25	2

Activation Laboratories Ltd. Report: A10-1341

Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598672	19	64	3123	466	48	1.7	< 0.2	21	< 0.5	1.7	12760	4.7	3510	6530	587	2220	337	75.8	189	19.8	92.5	16.1	43.8	6.19
598673	27	41	11850	914	2	5.4	< 0.2	6	< 0.5	0.7	60000	0.6	12100	18500	1710	5150	643	142	329	31.7	148	25.9	72.8	10.8
598674	8	23	8013	122	108	1.1	< 0.2	32	< 0.5	< 0.5	10820	1.3	1170	2520	250	910	142	36.1	80.2	8.1	34.7	5.6	14.5	1.91
598675	5	18	7400	94	188	1.2	< 0.2	58	< 0.5	< 0.5	3498	1.2	600	1440	153	603	97.8	23.9	51.5	5.4	24.1	4.0	10.3	1.44
598676	5	4	7621	171	71	1.8	< 0.2	23	< 0.5	< 0.5	1613	< 0.4	605	1570	168	651	93.4	25.6	66.7	9.6	48.7	8.5	22.1	2.86
598677	7	113	2248	399	126	2.4	< 0.2	22	< 0.5	1.9	9430	< 0.4	1650	3020	293	963	141	42.3	123	16.0	78.1	13.6	35.0	4.65
598678	8	26	5824	460	20	3.0	< 0.2	32	< 0.5	0.7	3142	< 0.4	1510	3150	338	1220	190	55.6	160	22.0	107	18.7	46.5	5.90
598679	< 5	170	2567	183	10	6.3	< 0.2	32	< 0.5	6.3	7997	< 0.4	667	1280	138	481	77.0	21.7	59.8	8.3	40.6	7.1	18.2	2.49
598680	< 5	322	1684	126	5	4.6	< 0.2	38	< 0.5	3.2	9058	0.5	155	316	37.3	140	35.3	13.8	40.7	5.7	28.0	4.7	12.0	1.69
598681	< 5	204	3101	109	6	6.5	< 0.2	37	< 0.5	6.1	23770	< 0.4	355	732	82.9	290	47.2	13.9	36.6	5.3	25.9	4.5	11.6	1.60
598682	< 5	74	2348	84	15	6.4	< 0.2	46	< 0.5	5.1	4286	< 0.4	288	534	63.1	226	38.2	10.2	27.5	3.9	19.3	3.4	9.1	1.34
598683	< 5	81	7385	343	6	2.4	< 0.2	21	< 0.5	1.7	8099	0.5	758	1640	190	719	123	37.9	108	15.8	81.0	13.6	34.2	4.62
598684	< 5	115	2172	162	52	3.6	< 0.2	28	< 0.5	1.5	10160	< 0.4	734	1320	138	462	68.5	17.9	51.5	7.4	36.7	6.4	16.8	2.38
598685	< 5	150	1287	113	65	2.2	< 0.2	6	< 0.5	1.2	5185	< 0.4	513	1010	106	349	46.4	11.0	34.0	4.6	23.2	4.2	11.5	1.68
598686	< 5	129	3088	160	31	6.2	< 0.2	21	< 0.5	1.9	9338	0.6	536	1030	112	393	64.4	17.2	49.7	6.8	33.9	6.1	16.5	2.43
598687	< 5	109	4158	137	72	2.0	< 0.2	25	< 0.5	1.0	3784	< 0.4	424	789	83.3	292	52.5	16.0	45.3	6.3	30.3	5.3	14.0	1.96
598688	< 5	114	1615	137	65	3.2	< 0.2	36	< 0.5	1.4	6654	1.1	618	1090	110	370	60.1	16.0	43.6	5.7	28.5	5.2	13.8	1.94
598689	< 5	183	2112	118	35	2.1	< 0.2	15	< 0.5	2.1	10480	< 0.4	420	753	76.4	256	44.2	12.8	36.4	5.1	25.6	4.7	12.4	1.77
598690	< 5	157	1984	115	15	3.5	< 0.2	30	< 0.5	2.9	12830	2.9	492	989	113	443	85.0	20.3	47.0	5.6	27.2	4.7	12.6	1.77
598691	7	146	3386	109	23	2.7	< 0.2	21	< 0.5	1.8	21370	1.5	665	1470	203	1030	226	46.4	86.7	7.0	26.5	4.0	10.1	1.43
598692	< 5	162	2101	170	31	1.4	< 0.2	23	< 0.5	1.7	10230	1.2	673	1300	138	490	80.2	21.0	53.7	7.3	37.7	6.8	17.9	2.41
598693	< 5	148	2830	105	15	3.7	< 0.2	23	< 0.5	1.5	11660	0.6	419	752	81.3	301	51.9	12.9	31.4	4.3	22.0	4.0	11.1	1.63
598694	< 5	199	3419	118	21	3.3	< 0.2	16	< 0.5	4.5	22080	0.6	577	1150	137	565	104	22.7	48.8	5.3	24.8	4.4	11.8	1.69
598695	7	100	1883	175	17	2.1	< 0.2	15	< 0.5	2.5	12400	0.8	1130	2370	270	1040	164	36.5	80.9	8.6	40.0	6.8	17.8	2.39
598696	7	117	2815	283	18	3.5	< 0.2	26	< 0.5	2.5	10220	0.8	1360	2680	289	1070	170	41.1	103	13.5	66.5	11.5	29.3	3.86
598697	< 5	57	2741	273	13	4.2	< 0.2	53	< 0.5	1.6	5488	1.2	703	1530	169	615	107	31.6	85.4	12.1	59.4	10.1	26.1	3.54
598698	6	88	594	203	7	4.1	< 0.2	92	< 0.5	4.1	4396	0.5	465	1030	113	396	74.3	24.9	73.3	10.0	47.5	7.5	17.4	2.17
598699	< 5	66	4081	127	6	2.2	< 0.2	34	< 0.5	2.5	3506	1.2	445	850	91.5	332	61.2	17.1	44.1	5.9	29.0	4.9	12.7	1.75
598700	< 5	105	4238	270	5	3.2	< 0.2	33	< 0.5	1.9	6581	2.2	806	1510	160	576	109	31.3	82.5	12.0	60.6	10.3	26.7	3.67
598701	< 5	154	3342	233	6	0.9	< 0.2	32	< 0.5	1.3	15320	1.8	694	1230	126	445	82.4	23.3	58.7	8.2	43.3	7.9	21.6	3.06
598702	6	134	2358	266	5	2.4	< 0.2	33	< 0.5	3.9	13760	0.4	955	1860	196	696	118	30.7	85.6	11.9	58.5	10.0	25.6	3.36
598703	9	141	2246	448	2	3.0	< 0.2	37	< 0.5	3.8	6878	4.1	1160	2080	216	806	171	48.7	125	17.6	88.8	15.5	43.1	6.15
598704	< 5	239	2057	48	3	3.2	< 0.2	16	< 0.5	11.2	3018	< 0.4	126	239	26.9	99.1	18.9	5.21	14.0	2.1	10.7	1.9	5.3	0.82
598705	< 5	145	1229	34	3	2.4	< 0.2	7	< 0.5	2.9	1795	< 0.4	101	198	22.3	81.1	13.3	2.85	9.1	1.3	6.7	1.3	3.8	0.66
598706	< 5	166	1407	37	7	2.9	< 0.2	7	< 0.5	4.1	2403	< 0.4	127	239	26.2	94.2	14.8	2.97	10.4	1.4	7.4	1.4	4.2	0.70
598707	< 5	236	2769	50	2	2.0	< 0.2	10	< 0.5	4.6	5549	< 0.4	216	400	43.3	149	22.1	4.76	14.8	2.0	10.3	1.9	5.5	0.88
598708	< 5	176	2405	50	6	2.5	< 0.2	13	< 0.5	4.3	3585	< 0.4	237	450	49.6	170	24.8	5.78	15.8	2.1	10.7	2.0	5.6	0.89
598709	27	20	2942	818	54	1.8	< 0.2	19	< 0.5	1.2	1285	1.1	4320	9190	935	3030	380	81.0	264	40.0	210	37.2	96.8	12.1
598710	< 5	7	3592	88	55	0.7	< 0.2	22	< 0.5	< 0.5	439	0.6	421	878	96.7	343	48.8	13.0	33.4	4.5	21.7	3.6	9.0	1.09
598711	6	22	1166	182	32	0.8	< 0.2	23	< 0.5	0.8	1200	< 0.4	788	1940	200	751	105	24.8	74.9	10.2	49.3	8.2	20.8	2.58
598712	< 5	< 2	7449	128	51	0.8	< 0.2	11	< 0.5	< 0.5	452	0.5	447	861	98.9	352	49.3	16.2	35.9	5.9	32.7	6.0	14.9	1.85
598713	< 5	172	1420	38	3	7.1	< 0.2	6	< 0.5	2.5	2645	0.8	108	214	24.6	90.6	15.2	3.93	11.2	1.6	8.2	1.5	4.5	0.73

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598620	16.6	2.55	19.4	8.6	23	0.4	25	165	11.4
598621	16.4	2.48	17.2	13.9	3	1.1	18	125	12.4
598622	14.5	2.05	8.6	11.6	3	0.9	19	203	13.2
598623	36.4	4.78	4.5	7.0	5	0.3	35	791	37.8
598624	27.1	3.77	5.9	23.2	2	0.6	26	326	18.3
598625	9.8	1.42	13.2	22.9	2	2.3	31	122	10.3
598626	13.2	1.92	20.2	23.3	2	1.0	36	183	15.2
598627	4.6	0.75	11.8	8.8	< 1	1.0	39	31.5	5.5
598628	12.9	1.90	11.7	15.2	< 1	0.6	84	210	8.8
598629	73.7	10.6	15.4	2.6	< 1	0.4	498	1070	25.1
598630	97.1	14.1	46.0	19.7	< 1	0.7	185	2620	26.5
598631	20.4	2.99	8.3	4.5	< 1	0.4	156	268	8.3
598632	11.8	1.76	7.7	7.1	1	0.5	60	182	7.5
598633	14.6	2.07	4.1	< 0.1	< 1	0.3	108	287	15.2
598634	8.3	1.21	8.6	13.9	1	1.1	101	95.3	9.7
598635	10.3	1.52	7.9	14.7	1	0.8	113	122	9.2
598636	22.2	3.19	8.0	1.5	< 1	0.7	153	415	12.5
598637	15.3	2.22	7.3	2.2	< 1	0.5	94	215	10.5
598638	35.6	4.83	11.2	5.4	< 1	0.3	88	1050	40.3
598639	11.2	1.83	14.2	9.4	< 1	0.7	95	58.1	6.1
598640	13.3	2.25	12.2	6.5	< 1	0.9	68	113	6.6
598641	14.9	2.50	20.9	12.6	1	0.8	50	103	9.1
598642	18.4	2.60	6.3	0.6	< 1	0.5	149	682	16.3
598643	24.9	3.32	10.4	6.9	< 1	0.3	100	525	16.3
598644	20.4	2.82	6.9	7.1	< 1	0.8	78	582	23.4
598645	16.5	2.39	6.7	2.8	< 1	0.1	114	374	11.9
598646	13.7	2.24	10.6	5.6	< 1	0.6	30	101	6.1
598647	33.9	4.72	10.4	5.3	< 1	0.6	42	417	16.0
598648	25.1	3.69	13.9	10.7	1	0.7	60	173	13.1
598649	27.4	3.66	6.9	5.4	< 1	0.1	45	614	20.4
598650	27.0	3.96	13.5	139	< 1	1.0	109	278	58.1
598651	12.2	1.73	7.6	8.2	< 1	0.5	28	350	10.4
598652	12.3	1.73	5.1	6.9	< 1	0.4	18	850	8.8
598653	13.1	1.82	3.2	0.1	< 1	0.1	53	1400	12.8
598654	11.8	1.69	2.9	< 0.1	< 1	< 0.1	111	1110	12.1
598655	14.5	2.01	2.6	2.0	< 1	< 0.1	27	1090	21.4
598656	6.9	1.04	1.0	< 0.1	< 1	< 0.1	42	204	9.9
598657	8.9	1.33	1.6	< 0.1	< 1	< 0.1	131	731	17.4
598658	23.0	3.60	4.0	1.7	< 1	0.3	144	526	23.2
598659	25.9	3.53	4.4	1.1	< 1	0.3	184	655	19.2
598660	52.0	6.81	3.4	< 0.1	< 1	0.2	150	439	29.3
598661	9.8	1.39	1.7	< 0.1	< 1	< 0.1	71	328	13.2
598662	19.9	2.88	2.9	0.1	< 1	< 0.1	121	509	13.7
598663	23.2	3.31	2.8	0.2	< 1	0.6	83	689	9.3
598664	29.0	4.06	3.1	0.8	< 1	0.1	71	690	9.2
598665	7.3	1.04	1.5	< 0.1	< 1	0.1	64	686	9.7
598666	7.5	1.21	1.3	0.3	< 1	< 0.1	32	458	5.2
598667	5.3	0.77	1.2	0.1	< 1	< 0.1	24	599	4.7
598668	6.6	1.08	2.9	6.6	< 1	0.2	123	489	4.1
598669	9.7	1.61	11.8	9.4	< 1	0.9	37	54.4	3.4
598670	10.6	1.65	2.3	1.4	1	0.1	105	367	4.1
598671	18.1	2.91	18.0	8.7	2	0.7	48	117	5.5

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598672	38.1	5.60	6.8	4.4	< 1	0.9	39	1130	9.2
598673	71.1	10.7	30.1	14.3	< 1	1.6	147	195	11.4
598674	11.7	1.71	3.6	1.3	< 1	0.5	63	942	1.6
598675	8.9	1.36	4.5	1.4	< 1	0.2	45	550	2.5
598676	16.3	2.18	8.6	4.0	< 1	0.1	64	224	2.5
598677	27.3	3.79	14.2	13.3	5	0.6	72	272	5.7
598678	33.1	4.52	15.2	5.7	4	0.2	71	757	9.5
598679	15.6	2.41	28.0	64.2	1	0.8	57	240	18.8
598680	10.5	1.68	25.5	15.3	< 1	1.5	53	303	6.8
598681	10.3	1.68	33.0	33.2	< 1	1.0	52	157	6.7
598682	9.3	1.60	29.6	28.5	1	0.4	26	46.7	3.2
598683	27.2	3.77	11.0	9.1	< 1	0.6	88	448	10.7
598684	15.3	2.41	21.1	16.4	1	0.5	36	283	6.2
598685	11.1	1.76	12.0	3.9	1	0.5	15	104	2.6
598686	16.5	2.66	30.7	22.6	1	0.5	69	246	12.6
598687	12.4	1.92	11.2	8.2	< 1	0.5	44	190	4.4
598688	12.4	1.90	14.9	11.5	< 1	0.6	72	358	4.4
598689	11.0	1.61	12.3	17.4	< 1	0.9	71	222	7.5
598690	10.8	1.58	13.7	30.5	< 1	0.9	96	525	7.8
598691	9.4	1.43	13.2	16.9	2	1.2	185	1360	13.9
598692	14.2	2.00	6.6	10.1	< 1	1.1	38	580	6.7
598693	10.5	1.69	18.2	26.2	< 1	1.1	76	175	7.8
598694	10.5	1.65	16.6	21.2	5	1.8	95	482	9.0
598695	14.2	1.98	9.8	8.9	2	0.9	56	1080	6.1
598696	22.4	3.02	19.1	16.6	3	0.8	68	1120	15.1
598697	20.9	2.96	21.0	5.4	< 1	0.6	97	838	9.0
598698	12.7	1.73	20.5	6.3	< 1	0.7	220	712	8.2
598699	11.3	1.75	9.9	4.8	< 1	0.6	103	442	3.0
598700	21.9	3.14	18.8	10.2	< 1	0.8	119	647	6.9
598701	18.2	2.56	3.8	51.3	< 1	1.2	51	358	18.8
598702	19.4	2.66	12.2	9.3	< 1	0.7	22	597	7.0
598703	37.2	5.16	13.1	13.0	< 1	0.8	300	1080	12.8
598704	5.9	1.00	15.7	6.0	< 1	0.8	31	98.2	3.4
598705	5.4	0.99	14.0	4.5	1	0.4	19	21.1	2.5
598706	5.5	1.00	14.9	6.6	< 1	0.4	23	29.8	3.9
598707	6.4	1.13	10.9	7.2	< 1	0.5	31	44.3	3.8
598708	6.6	1.14	13.6	5.9	2	0.4	27	53.3	3.1
598709	65.3	8.56	7.5	1.8	< 1	0.2	40	476	4.8
598710	5.9	0.77	1.5	1.3	< 1	< 0.1	40	310	1.9
598711	13.7	1.77	3.0	2.7	< 1	0.2	16	593	2.5
598712	10.1	1.34	1.7	0.5	< 1	< 0.1	57	157	0.8
598713	5.3	0.92	9.1	5.7	2	0.7	66	21.2	2.5

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Quality Control																									
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas																		820	216	2770	6250	120	10		
WMG-1 Cert																		770	200	2700	5900	110	10.3		
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas			11.28	1.87	0.75	0.012	0.34	42.61	0.87	0.52	0.117	30.18					1673								
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas			46.35	18.34	9.87	0.146	10.05	11.39	1.90	0.21	0.476	0.07			31		153			250	100	70			
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148.0	270.0	57.0	247	100.0	70.0			
GBW 07113 Meas			72.81	12.76	3.22	0.139	0.15	0.62	2.56	5.53	0.281	0.03			5	4	13								
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
GXR-2 Meas																		30	9	< 20	80	550	34		
GXR-2 Cert																		36.0	8.60	21.0	76.0	530	37.0		
NIST 1633b Meas			48.74	28.38	11.32	0.018	0.79	2.19	0.27	2.26	1.302	0.55			40		305								
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296								
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas	0.015	0.036																							
BE-N Cert	0.015	0.035																							
AC-E Meas	0.015	0.109																							
AC-E Cert	0.016	0.105																							
OKA-1 Meas	0.546																								
OKA-1 Cert	0.529																								
W-2a Meas			52.09	15.27	10.81	0.165	6.32	11.08	2.21	0.60	1.090	0.14			35	< 1	280	90	44	70	120	80	17	2	
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	
SY-4 Meas			49.53	20.78	6.28	0.108	0.52	8.21	6.92	1.66	0.291	0.14			1	3	< 5								
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																				< 1	60	30			
CTA-AC-1 Cert																				2.72	54.0	38.0			
BIR-1a Meas			48.29	15.53	11.30	0.175	9.61	13.63	1.82	0.02	0.950	0.03			44	< 1	344	370	52	160	130	70	15	2	
BIR-1a Cert			47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas		0.011																							
ZW-C Cert		0.011																							
VS-N Meas	0.101	0.097																							
VS-N Cert	0.10	0.095																							
NCS DC70014 Meas																			25	60	2590	7400	25		
NCS DC70014 Cert																			26.2	70.9	2600.00	7400.00	25.2		
IGS 40 Meas																									
IGS 40 Cert																									
NCS DC86316 Meas		4.675																							
NCS DC86316 Cert		4.68																							
NCS DC70009 (GBW07241) Meas																		30	3	< 20	980	110	16	11	
NCS DC70009 (GBW07241) Cert																		30	3.7	2.8	960.000	100.000	16.5	11.2	
OREAS 100a (Fusion) Meas																			18		180				
OREAS 100a (Fusion) Cert																				18.1	169				
OREAS 101a (Fusion) Meas																				50	440				
OREAS 101a (Fusion) Cert																				48.8	434				
JR-1 Meas																		< 20	< 1	< 20	< 10	< 30	16	3	
JR-1 Cert																		2.83	0.83	1.67	2.68	30.6	16.1	1.88	
SX18-01 Meas	0.690	0.100																							
SX18-01 Cert	0.695	0.093																							
SX18-04 Meas	1.335	0.154																							

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Quality Control																										
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge		
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1		
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS		
SX18-04 Cert	1.32	0.146																								
SX18-05 Meas	0.987	0.221																								
SX18-05 Cert	0.973	0.218																								
SARM 3 Meas		1.562																								
SARM 3 Cert		1.49																								
FER-3 Meas			53.85	0.08	43.93	0.082	0.98	0.82	0.01	0.01	0.003	0.08														
FER-3 Cert			53.61	0.09	44.50	0.08	1.02	0.84	0.03	0.03	0.01	0.07														
598634 Orig																		40	12	20	20	350	24	1		
598634 Dup																		40	12	20	20	350	23	1		
598638 Orig			5.36	1.88	71.07	2.968	1.57	9.34	0.12	0.57	0.169	0.69	3.94	97.68	11	2	39	< 20	8	< 20	< 10	2420	33	4		
598638 Dup			5.27	1.85	70.12	2.939	1.54	9.24	0.12	0.56	0.170	0.69	3.94	96.43	11	2	37	< 20	8	< 20	< 10	2440	33	4		
598649 Orig	0.228	0.050																	< 20	8	< 20	< 10	2550	43	3	
598649 Split	0.228	0.050	8.09	2.57	66.06	2.366	2.05	9.37	0.25	0.31	0.249	1.59	3.49	96.40	13	12	38	< 20	8	< 20	< 10	2690	42	3		
598649 Orig	0.228	0.051																								
598649 Dup	0.228	0.050																								
598649 Split																		< 20	8	< 20	< 10	2690	42	3		
598651 Orig			14.34	4.89	64.24	2.902	3.16	4.10	0.13	2.01	0.125	0.40	0.17	96.47	15	13	35	< 20	10	< 20	< 10	2510	40	1		
598651 Dup			14.67	5.01	65.10	3.013	3.27	4.20	0.13	2.07	0.127	0.44	0.17	98.21	15	13	36	< 20	10	< 20	< 10	2580	42	1		
598669 Orig	0.040	0.069	52.13	12.51	13.43	1.109	2.46	6.53	3.28	5.45	0.512	0.15	1.11	98.66	10	22	< 5	< 20	1	< 20	< 10	550	27	1		
598669 Split	0.039	0.072	51.16	12.55	13.01	1.108	2.40	6.49	3.13	5.36	0.510	0.12	1.01	96.84	10	22	6	< 20	< 1	< 20	< 10	620	26	1		
598678 Orig	0.211	0.082																								
598678 Dup	0.209	0.081																								
598679 Orig	0.264	0.198	38.88	10.68	21.94	1.916	4.40	10.75	1.14	4.60	0.170	0.39	2.18	97.04	19	37	48	20	7	< 20	10	1100	54	2		
598679 Split	0.263	0.196	39.21	11.02	22.15	1.960	4.34	10.80	1.14	4.65	0.176	0.37	2.15	97.97	20	37	47	20	6	< 20	10	1200	55	2		
598681 Orig			42.67	12.89	18.67	1.583	2.93	7.86	1.19	6.12	0.147	0.25	1.88	96.19	10	32	38	< 20	4	< 20	< 10	980	78	2		
598681 Dup			42.73	13.02	18.73	1.594	2.95	7.87	1.19	6.16	0.146	0.26	1.88	96.54	10	32	39	< 20	4	< 20	< 10	970	79	2		
598698 Orig			13.98	4.25	64.23	1.954	2.14	5.12	0.43	1.84	0.298	0.13	1.90	96.28	19	12	102	< 20	11	< 20	< 10	2760	55	2		
598698 Dup			14.11	4.22	64.45	1.985	2.17	5.16	0.43	1.87	0.294	0.13	1.90	96.72	20	12	104	< 20	11	< 20	< 10	2680	55	2		
598707 Orig	0.023	0.067																								
598707 Dup	0.022	0.070																								
598709 Orig	0.117	0.030																								
598709 Split	0.118	0.030	8.99	3.20	66.38	4.070	2.54	6.98	0.42	0.31	0.159	0.88	1.05	94.99	17	6	37	< 20	9	< 20	< 10	1900	56	8		
Method Blank Method	< 0.003	< 0.003																								
Blank																										

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas	9				< 2	2.4		2	3.0	< 0.5			8.7	18.1		10.1	2.5	0.77		0.4	2.5	0.5		0.21	
WMG-1 Cert	7.00				1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas			142	17							103		3.7			4.9		0.58							
DNC-1 Cert			144.0	18.0					0.96		118		3.6			5.20		0.59							
GBW 07113 Meas			41	45							497														
GBW 07113 Cert			43.0	43.0							506														
GXR-2 Meas	24	76			< 2	16.6	< 0.2	2	45.9	5.3		< 0.4	25.4	53.2		19.8	3.6		3.0	0.5	2.8			0.27	
GXR-2 Cert	25.0	78.0			2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50		3.30	0.480	3.30			0.300	
NIST 1633b Meas				1022							731														
NIST 1633b Cert				1040							709														
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	< 5	19	195	21	< 2	< 0.5			1.2	0.9	169	< 0.4	10.7	23.5		13.1	3.3	1.12		0.7	3.9	0.8	2.2	0.34	
W-2a Cert	1.20	21.0	190	24.0	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	
SY-4 Meas			1202	119							338														
SY-4 Cert			1191	119							340														
CTA-AC-1 Meas													2080	3310		1090	160	43.9	125	14.4					
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9					
BIR-1a Meas	< 5	< 2	110	15	< 2	< 0.5		< 1	0.6	< 0.5	10	< 0.4	0.7	2.1	0.37	2.3	1.1	0.51	1.9	0.4	2.5	0.6	1.6	0.25	
BIR-1a Cert	0.440	0.250	108	16.0	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas					270	17.1			180		80.3	43.3	87.6	9.97	37.4	7.7	1.63	7.0	1.1	6.3	1.2	3.4	0.53		
NCS DC70014 Cert					270.000	16.7			180.000		80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57		
IGS 40 Meas													20700	32300	2910	8140									
IGS 40 Cert													20720.00	32247	2730.000	8320.000									
NCS DC86316 Meas																									
NCS DC86316 Cert																									
NCS DC70009 (GBW07241) Meas	70	504				2.1	1.3	1700	3.5	43.6			23.7	62.0	7.89	32.0	12.6	0.12	15.3	3.5	21.4	4.5	13.1	2.42	
NCS DC70009 (GBW07241) Cert	69.9	500.00				1.8	1.3	1700.00	3.1	41			23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	
OREAS 100a (Fusion) Meas					23								252	469	45.8	148	24.1	3.63	20.9	3.7	22.5	4.8	14.1	2.32	
OREAS 100a (Fusion) Cert					24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	
OREAS 101a (Fusion) Meas					21								783	1440	130	396	50.6	8.09	36.6	5.5	31.6	6.5	19.0	2.94	
OREAS 101a (Fusion) Cert					21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	
JR-1 Meas	17	249			3	< 0.5	< 0.2	3	1.4	20.8		0.6	20.4	50.2	6.00	23.6	5.9	0.29	5.7	1.1	6.2	1.3	3.9	0.69	
JR-1 Cert	16.3	257			3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
SARM 3 Meas																									
SARM 3 Cert																									
FER-3 Meas																									
FER-3 Cert																									
598634 Orig	< 5	205			3	2.3	< 0.2	9	< 0.5	4.0		< 0.4	748	1070	98.8	302	37.6	10.2	27.8	3.6	18.6	3.5	9.8	1.38	
598634 Dup	< 5	206			3	2.3	< 0.2	9	0.5	4.0		< 0.4	739	1050	98.2	300	38.1	10.1	27.7	3.5	18.4	3.4	9.7	1.37	
598638 Orig	8	32	4132	507	64	3.2	< 0.2	66	< 0.5	1.4	2237	1.0	1960	3660	365	1120	179	56.4	167	22.4	110	18.9	47.5	6.19	
598638 Dup	8	32	4041	500	63	3.2	< 0.2	64	< 0.5	1.4	2193	1.0	1880	3580	357	1090	175	55.1	166	21.8	106	18.4	46.5	6.10	
598649 Orig	7	11			53	2.3	< 0.2	24	< 0.5	< 0.5		0.7	1340	2820	304	1070	167	45.3	131	17.7	85.1	14.8	38.1	4.90	
598649 Split	9	12	2122	390	54	1.9	< 0.2	30	< 0.5	0.7	838	0.7	1370	2870	311	1100	171	46.0	128	17.8	88.3	15.1	38.8	5.03	
598649 Orig																									
598649 Dup																									
598649 Split	9	12			54	1.9	< 0.2	30	< 0.5	0.7		0.7	1370	2870	311	1100	171	46.0	128	17.8	88.3	15.1	38.8	5.03	
598651 Orig	< 5	138	1340	132	47	1.8	< 0.2	29	< 0.5	4.2	7609	0.5	486	1060	121	419	65.6	17.9	50.5	6.9	33.8	5.9	15.1	2.00	
598651 Dup	< 5	142	1406	139	48	1.9	< 0.2	30	< 0.5	4.4	7793	0.5	515	1130	126	438	68.8	18.6	52.6	7.2	35.4	6.1	16.0	2.10	
598669 Orig	< 5	178	2669	84	10	2.3	< 0.2	6	< 0.5	4.0	13120	< 0.4	473	827	85.1	285	40.6	9.68	25.3	3.3	16.9	3.1	9.0	1.39	
598669 Split	< 5	181	2785	87	9	1.9	< 0.2	7	< 0.5	4.0	13050	< 0.4	495	816	85.9	282	40.4	9.36	23.8	3.2	16.7	3.1	8.9	1.36	
598678 Orig																									
598678 Dup																									
598679 Orig	< 5	170	2567	183	10	6.3	< 0.2	32	< 0.5	6.3	7997	< 0.4	667	1280	138	481	77.0	21.7	59.8	8.3	40.6	7.1	18.2	2.49	
598679 Split	< 5	173	2659	182	10	5.1	< 0.2	33	< 0.5	6.3	7955	< 0.4	644	1290	137	475	76.9	21.6	58.1	8.2	40.2	7.0	17.9	2.43	
598681 Orig	< 5	203	3096	111	6	6.4	< 0.2	37	< 0.5	6.1	23690	< 0.4	353	726	82.0	286	46.7	13.8	36.4	5.2	25.6	4.4	11.4	1.58	
598681 Dup	< 5	205	3105	107	6	6.5	< 0.2	37	< 0.5	6.0	23840	< 0.4	356	738	83.8	293	47.7	14.0	36.9	5.3	26.1	4.5	11.7	1.61	
598698 Orig	6	88	605	202	7	3.9	< 0.2	93	< 0.5	4.1	4372	0.5	473	1040	114	399	74.3	25.0	73.5	10.1	47.6	7.6	17.5	2.18	
598698 Dup	6	88	583	204	7	4.2	< 0.2	92	< 0.5	4.0	4420	0.5	457	1020	112	393	74.3	24.7	73.0	9.9	47.3	7.4	17.4	2.16	
598707 Orig																									
598707 Dup																									
598709 Orig																									
598709 Split	21	20	2901	827	53	1.8	< 0.2	18	< 0.5	1.3	1234	1.0	4380	9230	986	3130	393	82.1	246	38.8	208	36.5	94.5	11.9	
Method Blank Method																									
Blank																									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	1.3	0.19	1.6	0.3	1		17	1.4	0.8
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650
DH-1a Meas								877	2550
DH-1a Cert								910	2630
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas	1.9								
DNC-1 Cert	2.0								
GBW 07113 Meas									
GBW 07113 Cert									
GXR-2 Meas	1.7	0.25	5.8	0.7	1	0.7	633	8.3	2.9
GXR-2 Cert	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90
NIST 1633b Meas									
NIST 1633b Cert									
OKA-2 Meas								30000	
OKA-2 Cert								28900	
BE-N Meas									
BE-N Cert									
AC-E Meas									
AC-E Cert									
OKA-1 Meas									
OKA-1 Cert									
W-2a Meas	2.1	0.29	2.5	0.4	< 1	< 0.1	8	2.2	0.5
W-2a Cert	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	10.5	1.06	1.7	2.4				23.0	4.2
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4
BIR-1a Meas	1.6	0.24	0.6	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1
BIR-1a Cert	1.65	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100
NCS DC86312 Meas									26.3
NCS DC86312 Cert									23.6
ZW-C Meas									
ZW-C Cert									
VS-N Meas									
VS-N Cert									
NCS DC70014 Meas	3.3	0.48					27200		
NCS DC70014 Cert	3.3	0.50					27200.00		
IGS 40 Meas									
IGS 40 Cert									
NCS DC86316 Meas									
NCS DC86316 Cert									
NCS DC70009 (GBW07241) Meas	16.5	2.32			2340	2.1	61	28.6	
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8	81.2	28.3	
OREAS 100a (Fusion) Meas	14.9	2.10						50.5	138
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135
OREAS 101a (Fusion) Meas	18.3	2.50						35.7	421
OREAS 101a (Fusion) Cert	17.5	2.66						36.6	422
JR-1 Meas	4.7	0.69	5.0	1.6	3	1.2	19	26.6	9.3
JR-1 Cert	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88
SX18-01 Meas									
SX18-01 Cert									
SX18-04 Meas									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

SX18-04 Cert									
SX18-05 Meas									
SX18-05 Cert									
SARM 3 Meas									
SARM 3 Cert									
FER-3 Meas									
FER-3 Cert									
598634 Orig	8.4	1.22	8.6	14.0	1	1.1	102	95.3	9.7
598634 Dup	8.3	1.19	8.6	13.8	1	1.0	101	95.3	9.6
598638 Orig	36.0	4.89	11.4	5.3	< 1	0.3	88	1070	41.0
598638 Dup	35.1	4.77	11.0	5.6	< 1	0.3	87	1040	39.6
598649 Orig	27.4	3.66	6.9	5.4	< 1	0.1	45	614	20.4
598649 Split	28.2	3.67	7.4	9.4	< 1	0.1	45	643	21.1
598649 Orig									
598649 Dup									
598649 Split	28.2	3.67	7.4	9.4	< 1	0.1	45	643	21.1
598651 Orig	11.8	1.68	7.4	6.7	< 1	0.5	28	343	10.2
598651 Dup	12.5	1.78	7.7	9.6	< 1	0.5	29	357	10.6
598669 Orig	9.7	1.61	11.8	9.4	< 1	0.9	37	54.4	3.4
598669 Split	9.5	1.62	11.8	9.7	< 1	0.9	40	57.7	3.6
598678 Orig									
598678 Dup									
598679 Orig	15.6	2.41	28.0	64.2	1	0.8	57	240	18.8
598679 Split	15.0	2.35	26.8	64.0	1	0.9	58	247	19.6
598681 Orig	10.2	1.65	32.4	32.8	< 1	1.0	51	156	6.7
598681 Dup	10.5	1.71	33.5	33.7	< 1	1.0	52	158	6.8
598698 Orig	12.6	1.73	20.6	6.1	< 1	0.7	220	714	8.2
598698 Dup	12.7	1.73	20.4	6.5	< 1	0.7	219	710	8.2
598707 Orig									
598707 Dup									
598709 Orig									
598709 Split	63.5	8.21	6.3	0.7	< 1	0.2	40	468	4.8
Method Blank Method									
Blank									



Date Submitted: 26-Mar-10
Invoice No.: A10-1340
Invoice Date: 08-Apr-10
Your Reference: Clay Howells (RA-10)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

1 Pulp sample and 104 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1340**

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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or
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Activation Laboratories Ltd. Report: A10-1340

Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
SANDBLANK-598531	< 0.003	< 0.003	59.99	22.47	1.08	0.021	0.10	0.45	9.93	4.96	0.008	0.03	0.82	99.85	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	25	< 1

Activation Laboratories Ltd. Report: A10-1340

Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
SANDBLANK-598531	< 5	65	50	4	< 2	< 0.5	< 0.2	< 1	< 0.5	0.8	30	< 0.4	3.0	5.9	0.70	2.7	0.6	0.26	0.5	0.1	0.7	0.2	0.6	0.10

Activation Laboratories Ltd. Report: A10-1340

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598516	8.1	1.22	5.5	10.8	< 1	0.4	54	128	9.1
598517	13.1	1.93	6.3	16.0	4	0.5	60	198	16.7
598518	8.9	1.39	8.6	4.7	10	0.7	8	63.5	7.5
598519	12.5	1.88	7.0	12.3	18	0.4	13	126	9.5
598520	14.6	2.14	17.6	21.6	3	0.7	46	147	16.4
598521	17.0	2.49	9.2	10.9	< 1	1.0	36	262	21.6
598522	19.0	2.87	22.8	22.4	2	0.8	55	278	15.3
598523	18.1	2.77	28.4	21.1	1	0.8	41	211	13.2
598524	15.9	2.57	24.9	23.6	< 1	0.7	31	161	10.3
598525	22.9	3.53	20.2	22.0	1	0.7	45	385	14.6
598526	13.8	2.09	6.6	10.9	< 1	0.6	57	228	10.6
598527	16.6	2.57	15.1	16.5	1	0.7	56	250	12.4
598528	10.6	1.88	10.5	13.6	1	0.5	30	107	4.2
598529	17.4	2.67	8.2	10.5	< 1	0.9	61	294	10.8
598530	11.7	2.03	40.5	29.9	2	0.8	39	84.2	11.3
598531	1.2	0.17	3.9	10.4	< 1	0.3	128	197	2.1
598532	9.8	1.52	1.7	< 0.1	< 1	< 0.1	85	468	4.9
598533	41.1	5.71	9.1	0.3	< 1	< 0.1	159	1820	5.5
598534	44.6	6.25	8.7	1.0	< 1	0.1	63	1450	4.0
598535	23.3	4.04	35.9	20.9	4	0.3	90	117	10.6
598536	32.3	5.29	27.9	14.6	1	0.8	74	317	5.8
598537	24.5	3.59	2.6	0.4	< 1	0.2	12	1210	4.3
598538	12.3	2.16	25.4	7.7	2	0.4	19	72.0	4.7
598539	17.2	2.74	12.5	11.1	1	1.0	76	321	4.3
598540	47.5	7.49	14.8	11.0	2	1.2	296	114	5.4
598541	15.6	2.37	2.3	< 0.1	< 1	< 0.1	170	890	0.8
598542	22.1	3.25	2.8	0.2	< 1	< 0.1	23	948	2.8
598543	101	14.8	16.9	14.1	2	1.6	154	1080	36.8
598544	15.4	2.24	4.4	< 0.1	< 1	0.2	66	490	5.0
598545	34.8	5.06	6.3	1.9	< 1	0.2	24	696	11.4
598546	98.2	14.7	22.4	21.7	4	1.2	220	334	17.8
598547	21.5	3.06	6.8	2.2	< 1	< 0.1	47	764	2.2
598548	8.9	1.32	2.3	0.2	< 1	< 0.1	22	596	1.1
598549	19.1	2.80	4.3	8.5	< 1	< 0.1	10	1430	6.8
598550	17.8	2.62	3.1	6.6	5	0.2	20	2120	4.4
598551	24.5	3.60	4.1	1.4	< 1	0.2	92	2130	3.9
598552	13.9	2.24	8.7	44.1	< 1	1.1	23	249	8.1
598553	8.0	1.57	19.8	21.0	2	0.9	37	43.7	5.0
598554	15.2	2.23	4.4	3.5	2	0.5	29	415	8.3
598555	18.2	2.78	6.6	10.6	< 1	0.8	32	721	15.0
598556	16.1	2.37	3.0	0.7	< 1	0.2	44	683	3.6
598557	15.0	2.32	6.9	6.7	< 1	1.1	73	413	9.8
598558	26.5	4.07	8.6	16.9	< 1	1.4	59	309	9.9
598559	12.2	1.84	3.0	0.6	< 1	0.2	66	533	4.1
598560	2.9	0.42	3.6	< 0.1	< 1	< 0.1	82	606	4.2
598561	15.9	2.34	6.9	1.8	< 1	0.7	163	1060	6.7
598562	19.6	2.89	6.9	10.8	< 1	0.8	54	492	6.8
598563	19.5	3.02	6.7	4.5	< 1	1.2	50	466	8.3
598564	17.4	2.68	6.4	1.0	< 1	1.0	33	696	5.3
598565	36.1	5.47	9.1	16.2	< 1	1.2	55	436	12.8
598566	39.1	5.66	16.6	3.6	< 1	0.2	126	1640	5.4
598567	38.9	5.78	20.3	0.9	< 1	0.8	207	2180	3.3

Activation Laboratories Ltd. Report: A10-1340

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
598568	56.6	8.48	19.9	0.4	< 1	0.8	124	1890	5.9
598569	11.0	1.59	5.8	0.2	< 1	0.1	51	481	2.2
598570	6.0	0.85	1.9	0.1	< 1	< 0.1	52	216	1.4
598571	8.4	1.14	2.5	< 0.1	< 1	< 0.1	84	200	0.7
598572	10.4	1.46	2.8	0.1	< 1	< 0.1	135	313	1.2
598573	18.5	2.70	5.1	1.4	< 1	0.2	80	454	4.1
598574	7.2	0.99	2.2	< 0.1	< 1	< 0.1	47	89.0	0.9
598575	6.2	0.92	2.8	< 0.1	< 1	< 0.1	76	200	1.6
598576	43.0	6.34	4.9	6.3	< 1	0.1	82	385	13.8
598577	92.2	13.4	5.7	3.2	< 1	0.2	108	1020	25.4
598578	14.8	2.11	1.4	< 0.1	< 1	< 0.1	50	93.2	1.4
598579	13.3	1.87	2.7	0.2	< 1	< 0.1	52	72.7	2.3
598580	14.3	2.31	1.5	< 0.1	< 1	< 0.1	46	268	0.8
598581	11.5	1.73	1.2	0.1	< 1	< 0.1	59	164	0.8
598582	13.9	2.07	13.3	8.3	3	0.4	31	172	4.6
598583	8.2	1.46	14.1	9.1	2	0.5	48	54.1	5.1
598584	6.9	1.26	14.4	8.8	2	0.5	61	45.7	4.7
598585	15.0	2.19	9.4	5.5	2	0.4	37	263	4.1
598586	11.0	1.64	1.3	0.1	< 1	< 0.1	91	600	1.5
598587	16.3	2.34	1.2	< 0.1	< 1	< 0.1	180	716	1.3
598588	13.2	1.91	1.9	< 0.1	< 1	0.1	102	932	1.3
598589	22.9	3.21	3.8	0.4	< 1	0.9	52	756	4.1
598590	30.0	4.13	2.7	< 0.1	< 1	0.4	57	1030	2.9
598591	26.6	3.87	4.3	1.2	1	1.0	92	787	6.3
598592	13.4	1.92	7.1	2.9	< 1	0.3	19	746	5.7
598593	11.7	1.68	2.2	0.6	< 1	0.4	15	1580	2.0
598594	9.0	1.31	3.5	1.6	< 1	< 0.1	88	961	2.5
598595	8.6	1.23	0.9	< 0.1	< 1	0.2	232	1430	0.9
598596	4.0	0.59	1.4	0.1	< 1	0.1	62	1250	1.3
598597	13.5	1.96	8.8	1.4	< 1	0.2	28	271	2.7
598598	15.0	2.16	5.2	3.3	< 1	0.2	68	184	12.1
598599	9.9	1.53	9.2	3.9	< 1	0.2	27	109	2.7
598600	6.8	1.11	14.4	2.7	< 1	0.1	13	171	2.3
598601	19.4	2.63	19.0	6.0	< 1	0.2	18	271	5.2
598602	21.5	2.96	4.6	1.3	< 1	0.2	51	169	5.1
598603	9.8	1.38	2.4	0.2	< 1	< 0.1	73	47.1	1.3
598604	7.2	1.06	1.9	< 0.1	< 1	< 0.1	58	38.6	0.8
598605	6.1	0.87	2.4	0.2	< 1	< 0.1	20	64.5	0.3
598606	11.6	1.66	7.7	0.7	< 1	< 0.1	8	176	1.5
598607	9.0	1.34	10.8	2.1	< 1	< 0.1	10	129	3.1
598608	9.1	1.37	4.8	0.3	< 1	< 0.1	34	97.7	2.2
598609	5.0	0.74	1.2	< 0.1	< 1	< 0.1	60	23.0	0.3
598610	3.3	0.51	1.0	< 0.1	< 1	< 0.1	37	12.1	0.2
598611	7.3	1.05	5.8	0.4	< 1	0.1	14	1070	2.3
598612	7.7	1.31	12.6	3.4	< 1	0.3	19	236	2.0
598613	13.8	2.08	10.5	3.7	< 1	0.1	15	324	4.1
598614	12.2	1.71	9.6	1.1	2	< 0.1	17	801	3.2
598615	7.8	1.27	10.8	3.0	< 1	0.2	24	549	2.7
598616	8.7	1.46	16.1	5.8	2	< 0.1	17	105	2.4
598617	13.6	2.04	20.2	8.3	< 1	0.2	23	92.3	3.4
598618	7.0	1.05	14.8	7.7	< 1	0.1	13	158	2.8
598619	5.3	0.94	10.5	6.6	2	0.5	37	31.0	4.3

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
SANDBLANK-598531	0.7	0.13	1.2	< 0.1	< 1	0.6	5	1.2	0.3

Activation Laboratories Ltd. Report: A10-1340

Quality Control																									
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-04 Cert	1.32	0.146																							
SX18-05 Meas	0.988	0.220																							
SX18-05 Cert	0.973	0.218																							
SARM 3 Meas		1.562																							
SARM 3 Cert		1.49																							
598534 Orig			4.40	1.59	79.41	3.658	1.11	4.92	0.11	0.15	0.126	0.10	0.98	96.54	19	1	42	< 20	9	< 20	< 10	3530	29	4	
598534 Dup			4.40	1.60	79.94	3.674	1.12	4.90	0.11	0.15	0.126	0.09	0.98	97.08	19	1	41	< 20	9	< 20	< 10	3630	29	4	
598545 Orig	0.164	0.041																							
598545 Split	0.165	0.038																< 20	10	< 20	< 10	2340	22	4	
598545 Orig	0.165	0.041																							
598545 Dup	0.164	0.040																							
598551 Orig			4.64	1.71	88.14	2.128	1.17	0.95	0.05	0.39	0.189	0.04	-1.95	97.46	13	4	54	< 20	14	< 20	< 10	3540	33	4	
598551 Dup			4.66	1.71	88.60	2.120	1.16	0.98	0.06	0.40	0.183	0.05	-1.95	97.97	13	4	56	< 20	14	< 20	< 10	3700	35	4	
598565 Orig	0.139	0.060	21.64	7.06	36.47	2.541	6.34	10.75	0.13	3.06	0.126	1.25	4.79	94.16	30	46	45	< 20	5	< 20	< 10	1930	45	3	
598565 Split	0.138	0.062	21.40	6.82	36.43	2.553	6.31	10.74	0.13	2.99	0.125	1.28	5.01	93.79	28	46	43	< 20	4	< 20	< 10	1720	43	3	
598574 Orig	0.235	0.029																							
598574 Dup	0.236	0.028																							
598575 Orig	0.099	0.061	0.74	0.36	53.23	3.436	1.16	21.14	0.02	< 0.01	0.023	3.06	12.77	95.94	10	< 1	35	< 20	5	< 20	< 10	860	18	1	
598575 Split	0.097	0.059	0.70	0.34	55.61	3.479	1.12	20.74	0.02	< 0.01	0.023	3.07	12.30	97.41	10	< 1	33	< 20	5	< 20	< 10	850	18	1	
598581 Orig			1.18	0.35	50.85	2.412	1.00	23.78	0.07	0.03	0.044	3.37	13.36	96.45	6	< 1	27	< 20	2	< 20	< 10	1280	17	3	
598581 Dup			1.18	0.35	50.16	2.399	1.00	23.74	0.07	0.03	0.043	3.35	13.36	95.67	6	< 1	30	< 20	3	< 20	< 10	1250	17	3	
598598 Orig			10.49	2.90	36.23	2.194	2.17	24.88	0.32	0.84	0.175	2.69	14.68	97.58	6	6	23	< 20	< 1	< 20	< 10	670	24	2	
598598 Dup			10.53	2.93	36.04	2.184	2.17	24.88	0.32	0.85	0.176	2.74	14.68	97.51	6	6	25	< 20	< 1	< 20	< 10	670	24	2	
598603 Orig	0.234	0.031																							
598603 Dup	0.235	0.032																							
598605 Orig	0.176	0.031	0.59	0.10	71.02	4.628	0.95	14.00	0.02	< 0.01	0.037	3.10	5.10	99.53	7	< 1	17	< 20	6	< 20	< 10	760	9	< 1	
598605 Split	0.175	0.031	0.82	0.21	71.93	4.733	0.97	13.78	< 0.01	< 0.01	0.041	3.17	4.97	100.6	7	< 1	20	< 20	6	< 20	< 10	800	9	< 1	
598615 Orig	0.081	0.072	28.39	6.32	47.51	1.694	1.29	8.50	1.78	2.10	0.590	0.95	0.67	99.79	9	11	41	< 20	6	< 20	< 10	1020	28	2	
598615 Split	0.081	0.072	27.96	6.14	48.21	1.701	1.27	8.38	1.70	2.08	0.605	0.96	0.70	99.70	9	11	40	< 20	6	< 20	< 10	1020	29	2	
Method Blank Method	< 0.003	< 0.003																							
Blank																									

Activation Laboratories Ltd. Report: A10-1340

Quality Control

Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas	9				< 2	2.4		3	2.8	< 0.5			8.9	18.5		9.8	2.4	0.74		0.4	2.4	0.5		0.21	
WMG-1 Cert	7.00				1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas			142	16					0.9		107		3.6			4.7		0.56							
DNC-1 Cert			144.0	18.0					0.96		118		3.6			5.20		0.59							
GBW 07113 Meas			41	46							504														
GBW 07113 Cert			43.0	43.0							506														
GXR-2 Meas	24	75			< 2	16.3	< 0.2	2	46.7	5.4		< 0.4	25.3	49.4		19.2	3.6	0.71	2.9	0.5	2.7			0.27	
GXR-2 Cert	25.0	78.0			2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50	0.810	3.30	0.480	3.30			0.300	
NIST 1633b Meas				1027									702												
NIST 1633b Cert				1040									709												
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	< 5	19	194	19	< 2	< 0.5			1.0	0.9	177	< 0.4	10.8	23.8		12.6	3.2	1.05		0.6	3.6	0.8	2.1	0.32	
W-2a Cert	1.20	21.0	190	24.0	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	
SY-4 Meas				1196									358												
SY-4 Cert				1191									340												
CTA-AC-1 Meas													2250	3310		1100	162	43.8	123	14.5					
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9					
BIR-1a Meas	< 5	< 2	112	13	< 2	< 0.5		< 1	0.7	< 0.5	10	< 0.4	0.7	2.0	0.37	2.4	1.1	0.51	1.8	0.4	2.5	0.6	1.6	0.27	
BIR-1a Cert	0.440	0.250	108	16.0	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas					270	17.4			180			80.3	47.3	88.4	9.94	38.2	7.8	1.67	7.2	1.2	6.4	1.3	3.4	0.54	
NCS DC70014 Cert					270.000	16.7			180.000			80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	
IGS 40 Meas													21100		2820	8070									
IGS 40 Cert													20720.00		2730.000	8320.000									
NCS DC86316 Meas																									
NCS DC86316 Cert																									
NCS DC70009 (GBW07241) Meas	70	508				2.0	1.3	1980	3.4	44.4			24.3	59.4	7.55	31.7	12.6	0.11	14.4	3.3	21.0	4.4	13.2	2.40	
NCS DC70009 (GBW07241) Cert	69.9	500.00				1.8	1.3	1700.00	3.1	41			23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	
OREAS 100a (Fusion) Meas						23							267	467	44.5	147	23.7	3.56	20.2	3.6	22.0	4.7	14.0	2.33	
OREAS 100a (Fusion) Cert						24.1							260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	
OREAS 101a (Fusion) Meas						21							860	1440	127	393	50.0	7.97	36.6	5.5	31.4	6.5	18.9	2.94	
OREAS 101a (Fusion) Cert						21.9							816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	
JR-1 Meas	17	244				3	< 0.5	< 0.2	4	1.3	20.8		20.5	46.6	5.66	22.7	5.6	0.28	5.3	1.0	5.9	1.3	3.8	0.68	
JR-1 Cert	16.3	257				3.25	0.031	0.028	2.86	1.19	20.8		19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									

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Quality Control																										
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge		
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1		
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS		
WMG-1 Meas																		780	213	2730	6360	120	10			
WMG-1 Cert																		770	200	2700	5900	110	10.3			
DH-1a Meas																										
DH-1a Cert																										
NIST 694 Meas			11.24	1.89	0.75	0.012	0.33	42.60	0.91	0.55	0.118	30.15					1678									
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740									
DNC-1 Meas			46.49	18.46	9.96	0.145	9.92	11.41	1.90	0.22	0.488	0.07			31		155		57	250	90	70				
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148.0	270.0	57.0	247	100.0	70.0				
GBW 07113 Meas			72.70	12.90	3.21	0.140	0.14	0.61	2.48	5.46	0.284	0.05			6	4	11									
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00									
GXR-2 Meas																		30	9	< 20	80	540	35			
GXR-2 Cert																		36.0	8.60	21.0	76.0	530	37.0			
NIST 1633b Meas			48.01	27.86	10.98	0.018	0.77	2.18	0.29	2.25	1.281	0.55			40		301									
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296									
OKA-2 Meas																										
OKA-2 Cert																										
BE-N Meas	0.015	0.037																								
BE-N Cert	0.015	0.035																								
AC-E Meas	0.015	0.110																								
AC-E Cert	0.016	0.105																								
OKA-1 Meas	0.544																									
OKA-1 Cert	0.529																									
W-2a Meas			52.30	15.27	10.61	0.165	6.21	11.07	2.20	0.62	1.043	0.14			35	< 1	279	80	43	70	110	80	17	2		
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00		
SY-4 Meas			50.08	20.66	6.33	0.108	0.51	8.22	6.97	1.71	0.289	0.13			2	3	< 5									
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0									
CTA-AC-1 Meas																				< 1	60	30				
CTA-AC-1 Cert																				2.72	54.0	38.0				
BIR-1a Meas			48.29	15.88	11.66	0.176	9.67	13.64	1.80	0.02	1.004	0.05			44	< 1	343	380	53	170	130	70	16	2		
BIR-1a Cert			47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50		
NCS DC86312 Meas																										
NCS DC86312 Cert																										
ZW-C Meas		0.011																								
ZW-C Cert		0.011																								
VS-N Meas	0.101	0.097																								
VS-N Cert	0.10	0.095																								
NCS DC70014 Meas																				25	70	2610	7400	25		
NCS DC70014 Cert																				26.2	70.9	2600.00	7400.00	25.2		
IGS 40 Meas																										
IGS 40 Cert																										
NCS DC86316 Meas		4.675																								
NCS DC86316 Cert		4.68																								
NCS DC70009 (GBW07241) Meas																			30	3	< 20	930	100	17	11	
NCS DC70009 (GBW07241) Cert																			30	3.7	2.8	960.000	100.000	16.5	11.2	
OREAS 100a (Fusion) Meas																				17		170				
OREAS 100a (Fusion) Cert																					18.1		169			
OREAS 101a (Fusion) Meas																					49		420			
OREAS 101a (Fusion) Cert																					48.8		434			
JR-1 Meas																				< 20	< 1	< 20	< 10	< 30	17	3
JR-1 Cert																				2.83	0.83	1.67	2.68	30.6	16.1	1.88
SX18-01 Meas	0.691	0.101																								
SX18-01 Cert	0.695	0.093																								
SX18-04 Meas	1.339	0.156																								

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
SARM 3 Meas																									
SARM 3 Cert																									
598534 Orig	15	14	2663	535	34	1.3	< 0.2	76	< 0.5	< 0.5	1740	1.5	1760	3480	341	1230	207	60.6	179	25.2	129	22.5	57.5	7.69	
598534 Dup	15	14	2647	532	35	1.4	< 0.2	79	< 0.5	< 0.5	1793	1.5	1710	3430	335	1190	201	57.4	168	24.7	127	22.1	56.8	7.54	
598545 Orig																									
598545 Split	9	24			25	1.7	< 0.2	32	< 0.5	0.8		1.2	2020	4180	424	1520	211	49.9	148	18.2	90.3	15.8	41.2	5.71	
598545 Orig																									
598545 Dup																									
598551 Orig	9	24	118	220	19	1.2	< 0.2	139	< 0.5	0.7	1450	0.8	249	937	175	1080	259	54.8	108	12.0	58.0	10.3	29.2	4.07	
598551 Dup	9	26	115	225	19	1.2	< 0.2	148	< 0.5	0.8	1458	0.8	240	927	177	1090	255	54.8	101	11.6	58.2	10.6	29.3	3.96	
598565 Orig	8	147	5003	477	39	1.1	< 0.2	28	< 0.5	4.2	26630	1.6	2160	3720	312	1050	179	54.9	142	19.1	93.7	16.7	43.9	5.85	
598565 Split	7	147	4812	459	37	1.6	< 0.2	26	< 0.5	4.2	26450	1.8	2070	3620	340	1110	189	57.5	150	19.7	95.2	16.7	42.5	5.76	
598574 Orig																									
598574 Dup																									
598575 Orig	< 5	< 2	13960	61	110	1.4	< 0.2	5	< 0.5	< 0.5	479	0.7	977	2060	202	621	60.6	16.0	30.4	3.7	17.2	2.9	7.6	1.04	
598575 Split	< 5	< 2	13900	58	111	1.4	< 0.2	5	< 0.5	< 0.5	487	0.7	966	2030	201	622	60.9	15.8	30.2	3.6	17.2	3.0	7.8	1.04	
598581 Orig	8	3	12270	146	13	1.8	< 0.2	5	< 0.5	< 0.5	956	0.4	1380	2990	315	1090	127	29.4	66.6	7.3	34.6	5.7	14.7	1.94	
598581 Dup	8	3	12330	148	12	1.7	< 0.2	5	< 0.5	< 0.5	959	0.5	1380	2970	312	1070	126	29.3	67.6	7.3	34.3	5.6	14.4	1.91	
598598 Orig	6	35	9733	196	8	1.3	< 0.2	9	< 0.5	1.6	4893	0.6	1340	2420	241	834	113	28.9	72.0	9.1	45.1	7.7	19.5	2.56	
598598 Dup	6	37	9804	197	8	1.3	< 0.2	10	< 0.5	1.6	4901	0.7	1370	2470	248	855	116	29.6	74.3	9.3	45.9	8.0	19.9	2.60	
598603 Orig																									
598603 Dup																									
598605 Orig	< 5	< 2	3621	56	41	1.1	< 0.2	6	< 0.5	< 0.5	428	< 0.4	421	737	71.1	216	22.9	5.85	16.3	2.6	15.0	2.8	7.5	1.00	
598605 Split	< 5	< 2	3654	56	43	0.6	< 0.2	8	< 0.5	< 0.5	463	< 0.4	426	744	72.6	223	23.5	6.02	16.4	2.6	15.2	2.9	7.7	1.01	
598615 Orig	6	74	2373	87	9	1.9	< 0.2	15	< 0.5	2.1	2091	< 0.4	518	1160	156	687	98.8	19.4	43.4	4.7	21.7	3.6	9.3	1.24	
598615 Split	5	73	2337	86	9	1.8	< 0.2	15	< 0.5	2.1	1989	< 0.4	517	1150	154	680	99.1	19.2	43.0	4.5	21.8	3.6	9.2	1.23	
Method Blank Method																									
Blank																									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	1.3	0.19	1.6	0.3	< 1		16	1.4	0.8
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650
DH-1a Meas								889	2510
DH-1a Cert								910	2630
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas	1.9								
DNC-1 Cert	2.0								
GBW 07113 Meas									
GBW 07113 Cert									
GXR-2 Meas	1.7	0.25	6.2	0.7	1	0.7	607	8.3	2.8
GXR-2 Cert	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90
NIST 1633b Meas									
NIST 1633b Cert									
OKA-2 Meas								28000	
OKA-2 Cert								28900	
BE-N Meas									
BE-N Cert									
AC-E Meas									
AC-E Cert									
OKA-1 Meas									
OKA-1 Cert									
W-2a Meas	2.0	0.28	2.6	0.5	< 1	< 0.1	8	2.3	0.5
W-2a Cert	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	10.7	1.09	1.6	2.7				23.3	4.2
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4
BIR-1a Meas	1.7	0.25	0.7	0.5	< 1	< 0.1	< 5	< 0.1	< 0.1
BIR-1a Cert	1.65	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100
NCS DC86312 Meas									26.1
NCS DC86312 Cert									23.6
ZW-C Meas									
ZW-C Cert									
VS-N Meas									
VS-N Cert									
NCS DC70014 Meas	3.4	0.49					27200		
NCS DC70014 Cert	3.3	0.50					27200.00		
IGS 40 Meas									
IGS 40 Cert									
NCS DC86316 Meas									
NCS DC86316 Cert									
NCS DC70009 (GBW07241) Meas	16.3	2.29			2330	2.1	59	28.4	
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8	81.2	28.3	
OREAS 100a (Fusion) Meas	14.8	2.09						50.6	134
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135
OREAS 101a (Fusion) Meas	18.3	2.50					67	36.1	422
OREAS 101a (Fusion) Cert	17.5	2.66					19	36.6	422
JR-1 Meas	4.6	0.69	5.1	1.8	3	1.2	19	26.1	8.8
JR-1 Cert	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88
SX18-01 Meas									
SX18-01 Cert									
SX18-04 Meas									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

SX18-04 Cert									
SX18-05 Meas									
SX18-05 Cert									
SARM 3 Meas									
SARM 3 Cert									
598534 Orig	45.2	6.34	8.7	0.7	< 1	0.1	64	1450	4.0
598534 Dup	43.9	6.17	8.6	1.2	< 1	0.1	62	1450	4.0
598545 Orig									
598545 Split	33.7	4.85	6.3	8.8	< 1	0.2	24	627	10.5
598545 Orig									
598545 Dup									
598551 Orig	24.8	3.65	4.1	1.1	< 1	0.2	94	2160	3.8
598551 Dup	24.3	3.55	4.1	1.7	< 1	0.2	90	2100	3.9
598565 Orig	36.1	5.47	9.1	16.2	< 1	1.2	55	436	12.8
598565 Split	35.1	5.26	8.8	8.5	< 1	1.2	56	391	12.1
598574 Orig									
598574 Dup									
598575 Orig	6.2	0.92	2.8	< 0.1	< 1	< 0.1	76	200	1.6
598575 Split	6.1	0.89	2.8	0.2	< 1	< 0.1	75	189	1.5
598581 Orig	11.5	1.74	1.2	0.2	< 1	< 0.1	59	166	0.8
598581 Dup	11.4	1.73	1.2	0.1	< 1	< 0.1	59	161	0.8
598598 Orig	14.9	2.13	5.1	2.7	< 1	0.2	68	182	11.9
598598 Dup	15.0	2.19	5.4	3.9	< 1	0.2	68	186	12.4
598603 Orig									
598603 Dup									
598605 Orig	6.1	0.87	2.4	0.2	< 1	< 0.1	20	64.5	0.3
598605 Split	6.1	0.89	2.9	0.5	1	< 0.1	20	67.8	0.4
598615 Orig	7.8	1.27	10.8	3.0	< 1	0.2	24	549	2.7
598615 Split	7.8	1.26	10.9	3.0	1	0.2	23	545	2.7
Method Blank Method									
Blank									



Date Submitted: 25-Mar-10
Invoice No.: A10-1335
Invoice Date: 15-Apr-10
Your Reference: Clay Howells (RA-9)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

87 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1335**

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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control



ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Report: A10-1335

Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415931	0.122	0.047	20.85	6.73	39.01	2.189	2.51	14.46	0.35	2.92	0.346	0.91	7.33	97.60	10	14	39	40	8	20	< 10	1430	28	2
415932	0.145	0.050	12.42	3.80	68.87	2.727	2.28	3.18	0.32	1.52	0.279	0.19	0.08	95.66	12	10	36	< 20	11	< 20	< 10	3340	32	4
415933	0.095	0.087	34.82	8.24	38.50	1.906	2.32	5.47	1.94	3.30	0.212	0.21	0.73	97.64	7	25	11	< 20	5	< 20	< 10	1530	37	4
415934	0.188	0.005	0.88	0.28	69.06	3.789	3.35	10.10	0.03	0.02	0.052	0.36	9.04	96.97	9	< 1	13	< 20	8	< 20	< 10	1810	15	1
415935	0.176	0.039	7.79	2.51	51.31	3.030	2.47	14.88	0.06	1.17	0.052	1.65	10.50	95.42	12	5	15	< 20	5	< 20	< 10	1770	24	2
415936	0.258	0.030	2.00	0.91	71.48	2.949	1.63	9.73	0.02	0.13	0.069	1.08	4.58	94.58	12	< 1	21	< 20	8	< 20	< 10	3110	16	2
415937	0.134	0.014	2.81	1.51	68.44	2.547	1.37	12.65	0.01	0.25	0.051	1.38	6.62	97.63	15	3	18	< 20	7	< 20	< 10	3020	17	2
415938	0.056	0.007	2.00	0.83	66.24	3.253	1.17	14.06	0.02	0.10	0.033	1.19	7.84	96.73	10	< 1	13	< 20	7	< 20	< 10	2460	13	2
415939	0.089	0.074	35.93	8.00	30.53	1.942	2.91	8.63	2.60	3.19	0.520	0.42	3.04	97.71	9	22	5	< 20	4	< 20	< 10	1220	24	2
415940	0.038	0.031	9.18	2.23	60.90	3.244	2.13	11.26	0.55	0.66	0.128	0.94	5.96	97.18	10	6	12	< 20	7	< 20	< 10	1920	20	2
415941	0.034	0.036	0.60	0.27	67.46	3.422	1.36	13.37	0.03	0.02	0.028	0.53	8.58	95.66	9	< 1	14	< 20	7	< 20	< 10	3360	7	< 1
415942	0.104	0.064	26.85	6.12	33.30	2.319	1.96	14.90	1.47	2.20	0.162	1.54	7.04	97.86	5	31	12	< 20	3	< 20	< 10	900	30	3
415943	0.100	0.116	39.63	8.52	20.31	1.717	2.06	13.49	2.21	3.09	0.291	0.98	4.98	97.27	3	49	8	< 20	< 1	< 20	< 10	480	32	3
415944	0.253	0.026	1.64	0.40	36.91	2.211	1.17	30.62	0.03	0.07	0.080	3.78	19.67	96.58	4	1	47	< 20	< 1	< 20	< 10	830	22	2
415945	0.263	0.035	1.12	0.39	42.39	2.632	1.47	27.52	0.02	0.06	0.078	3.90	17.75	97.33	5	7	44	< 20	< 1	< 20	< 10	630	20	1
415946	0.268	0.056	0.66	0.23	47.62	2.461	1.00	25.18	0.04	< 0.01	0.150	3.00	16.53	96.87	8	< 1	47	< 20	1	< 20	< 10	850	19	1
415947	0.190	0.096	23.59	5.20	45.51	1.507	2.06	11.64	0.85	2.45	0.310	0.98	3.75	97.86	19	12	79	< 20	10	< 20	20	1090	41	1
415948	0.157	0.109	38.14	10.94	21.55	1.175	2.05	9.81	1.56	5.61	0.347	0.69	5.04	96.90	13	25	59	< 20	4	< 20	10	980	57	2
415949	0.099	0.074	42.45	11.98	21.10	0.818	0.81	8.56	3.16	4.72	0.513	0.38	4.30	98.79	15	17	38	< 20	2	< 20	< 10	870	42	2
415950	0.103	0.057	30.01	8.13	38.12	1.540	1.47	8.60	1.57	3.89	0.320	0.15	4.20	98.00	13	15	44	< 20	5	< 20	< 10	1050	36	2
598501	0.114	0.060	28.56	7.13	38.96	2.081	1.46	9.72	2.19	3.00	0.202	0.18	5.86	99.33	9	11	40	< 20	4	< 20	< 10	1010	25	1
598502	0.135	0.037	6.57	2.33	59.12	2.825	2.79	12.64	0.04	1.08	0.198	0.33	8.32	96.23	13	9	83	< 20	7	< 20	< 10	2320	33	2
598503	0.070	0.037	4.19	1.15	59.59	2.840	2.26	15.70	0.03	0.58	0.029	0.56	10.66	97.60	10	5	48	< 20	7	< 20	< 10	1990	22	3
598504	0.102	0.042	3.35	0.62	71.93	2.820	1.74	11.61	0.04	0.13	0.039	0.59	6.48	99.33	13	3	60	< 20	8	< 20	< 10	2070	15	2
598505	0.033	0.053	51.56	12.61	17.57	0.704	1.42	3.98	4.83	4.20	0.269	0.09	0.56	97.80	5	16	15	< 20	2	< 20	< 10	540	31	2
598506	0.212	0.085	14.97	3.17	69.45	1.568	1.38	5.15	0.78	0.79	0.251	0.48	-1.05	96.93	20	10	92	< 20	12	< 20	< 10	1660	31	3
598507	0.048	0.090	50.03	12.69	15.06	0.843	1.58	8.15	3.12	4.88	0.427	0.23	1.57	98.56	12	21	12	< 20	2	< 20	< 10	480	30	2
598508	0.224	0.144	40.81	9.75	32.47	0.987	1.05	5.70	2.94	3.84	0.547	0.11	0.42	98.62	16	11	75	< 20	5	< 20	< 10	990	54	2
598509	0.114	0.119	42.38	11.21	25.42	1.086	1.73	10.01	3.17	2.92	0.773	0.15	1.56	100.4	21	13	40	< 20	4	< 20	10	620	49	2
598510	0.072	0.068	54.35	14.42	10.59	0.631	1.07	6.69	4.05	5.55	0.478	0.13	1.87	99.82	12	9	6	< 20	2	< 20	< 10	300	26	2
598511	0.123	0.047	32.70	7.48	45.96	1.108	0.85	5.65	2.44	2.56	0.900	0.17	-0.20	99.62	10	7	51	< 20	6	< 20	< 10	760	25	1
598512	0.085	0.032	21.33	3.64	38.77	2.663	1.49	17.52	1.04	1.18	0.151	0.75	8.46	96.99	10	12	24	< 20	3	< 20	< 10	870	15	2
598513	0.127	0.007	0.91	0.28	50.05	3.509	1.65	22.25	0.03	< 0.01	0.032	1.25	16.00	95.96	13	< 1	33	< 20	2	< 20	< 10	880	11	2
598514	0.114	< 0.003	3.47	2.07	80.84	4.324	2.68	3.10	0.04	0.03	0.215	0.31	-0.23	96.86	14	4	71	< 20	13	< 20	30	2010	31	3
598515	0.038	0.057	50.56	11.61	17.55	1.020	1.32	7.42	3.57	4.44	0.292	0.55	0.88	99.20	14	19	12	< 20	2	< 20	20	570	27	2

Activation Laboratories Ltd. Report: A10-1335

Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415931	6	81	7497	230	19	1.3	< 0.2	30	< 0.5	2.1	5449	0.9	1230	2120	195	662	96.4	27.6	72.9	9.5	46.6	8.1	21.3	2.89
415932	10	59	1172	371	28	1.7	< 0.2	60	< 0.5	2.5	7280	1.7	1510	3040	310	1200	213	55.0	142	18.3	87.3	15.0	38.3	5.10
415933	14	100	2676	263	9	2.4	< 0.2	22	0.8	2.3	12760	1.1	2190	3680	383	1490	213	45.5	106	11.5	52.9	9.4	26.0	3.57
415934	< 5	< 2	4841	59	68	0.6	< 0.2	14	< 0.5	< 0.5	1030	1.1	1330	2470	254	676	63.5	15.7	36.5	3.8	17.9	3.1	8.3	1.17
415935	6	45	5331	183	44	1.4	< 0.2	17	< 0.5	1.6	7159	2.2	1170	2450	299	998	142	32.1	74.4	8.2	41.0	7.7	22.0	3.30
415936	6	10	4767	174	56	1.7	< 0.2	15	< 0.5	< 0.5	1209	4.8	425	1280	184	707	101	24.1	55.7	7.6	42.1	7.9	22.5	3.14
415937	< 5	17	4800	175	69	1.2	< 0.2	16	< 0.5	0.8	3689	2.4	647	1560	215	764	117	27.5	64.2	8.1	43.6	8.3	22.7	3.02
415938	< 5	6	5587	117	179	1.0	< 0.2	20	< 0.5	0.5	2032	1.9	975	1910	218	672	82.3	19.8	45.5	4.7	23.8	4.3	12.4	1.89
415939	6	142	2878	98	20	2.1	< 0.2	15	< 0.5	6.1	6036	0.5	598	1110	109	377	54.0	12.9	34.5	4.1	20.1	3.7	10.3	1.57
415940	15	23	7660	116	65	1.4	< 0.2	14	< 0.5	0.5	3761	0.8	1710	3210	319	844	86.6	20.3	57.2	5.7	28.0	5.1	14.6	2.10
415941	< 5	< 2	11690	23	83	0.9	< 0.2	66	< 0.5	< 0.5	1723	3.9	395	837	88.3	258	33.8	14.3	19.0	1.8	8.1	1.3	3.6	0.50
415942	7	80	6588	203	80	1.9	< 0.2	12	< 0.5	0.8	10940	0.6	1620	2870	267	880	110	26.8	71.4	9.2	45.5	8.2	21.6	2.90
415943	6	103	5578	175	84	2.5	< 0.2	10	< 0.5	0.8	12580	< 0.4	1460	2380	219	728	93.3	22.2	60.6	7.4	36.2	6.6	18.0	2.52
415944	< 5	4	6708	215	35	1.1	< 0.2	10	< 0.5	< 0.5	1635	< 0.4	968	1910	233	775	116	31.7	83.4	12.0	63.0	11.3	30.4	4.09
415945	< 5	4	9935	121	61	1.3	< 0.2	16	< 0.5	< 0.5	1616	0.4	694	1480	186	627	93.3	26.2	61.5	7.5	35.5	6.0	15.5	2.05
415946	< 5	< 2	9301	160	59	1.8	< 0.2	24	< 0.5	< 0.5	649	< 0.4	576	1280	162	537	81.9	25.2	64.6	9.1	44.5	7.5	18.5	2.33
415947	< 5	112	2263	78	24	2.8	< 0.2	29	< 0.5	4.0	2484	< 0.4	253	539	59.5	223	35.5	9.65	26.4	3.6	18.2	3.2	8.4	1.15
415948	< 5	196	3640	218	7	2.9	< 0.2	26	< 0.5	6.7	8224	< 0.4	561	1130	120	444	76.7	24.3	68.2	9.4	46.0	7.9	20.4	2.71
415949	< 5	89	3260	208	13	2.2	< 0.2	26	< 0.5	0.7	5848	0.9	591	1160	120	428	73.9	22.0	61.9	8.3	40.5	7.2	18.9	2.61
415950	6	71	3967	154	11	1.7	< 0.2	23	< 0.5	1.6	8491	< 0.4	849	1540	146	487	74.1	20.2	54.1	7.1	35.5	6.2	16.3	2.22
598501	< 5	73	6923	154	24	2.0	< 0.2	11	< 0.5	1.2	5117	1.0	922	1520	157	453	62.5	16.0	49.9	7.0	36.5	6.7	17.7	2.49
598502	< 5	44	6714	249	30	1.2	< 0.2	26	< 0.5	0.7	5397	1.1	646	1360	173	621	118	33.5	88.9	12.6	62.3	10.5	26.7	3.59
598503	6	29	8070	272	10	1.4	< 0.2	19	< 0.5	0.5	3110	3.3	1070	2610	349	1220	192	48.5	121	13.8	64.0	11.0	28.7	3.79
598504	< 5	10	7109	134	3	1.3	< 0.2	17	< 0.5	< 0.5	943	1.2	865	1640	190	620	93.8	24.2	61.3	6.8	31.7	5.4	13.8	1.87
598505	< 5	120	1482	73	8	1.6	< 0.2	10	< 0.5	2.2	4930	< 0.4	279	692	80.8	305	44.2	10.9	28.0	3.4	16.1	2.9	8.0	1.23
598506	6	26	816	217	15	2.4	< 0.2	52	< 0.5	0.6	1702	0.6	573	1360	154	571	96.8	26.7	81.1	11.1	54.5	9.1	24.0	3.17
598507	< 5	173	2827	55	3	2.4	< 0.2	14	< 0.5	4.9	9152	< 0.4	139	294	32.9	119	20.5	6.12	16.9	2.4	12.4	2.3	6.5	1.06
598508	< 5	122	1429	243	27	3.6	< 0.2	74	< 0.5	2.8	2972	0.8	308	602	63.0	225	58.5	24.0	79.1	11.7	53.4	8.1	20.2	2.79
598509	< 5	96	1849	44	11	4.8	< 0.2	21	< 0.5	3.4	1729	< 0.4	143	275	29.4	107	17.4	4.43	12.9	1.8	9.1	1.7	5.1	0.87
598510	< 5	186	1733	34	6	2.0	< 0.2	9	< 0.5	3.6	2561	< 0.4	142	256	26.8	93.6	14.2	3.60	10.0	1.4	7.0	1.3	3.9	0.66
598511	< 5	87	1877	39	32	1.5	< 0.2	32	< 0.5	1.8	1994	< 0.4	145	271	28.1	99.3	15.3	4.06	11.4	1.5	7.8	1.4	4.2	0.70
598512	< 5	49	6904	135	60	1.0	< 0.2	24	< 0.5	0.9	3969	< 0.4	529	1030	109	395	57.4	17.6	44.0	5.8	28.1	4.8	12.3	1.75
598513	< 5	< 2	10150	180	119	0.7	< 0.2	22	< 0.5	< 0.5	2233	0.7	470	1080	121	468	69.8	26.9	53.4	8.0	41.2	7.1	18.3	2.40
598514	8	3	1393	313	120	0.9	< 0.2	22	< 0.5	< 0.5	825	0.6	787	1980	233	893	129	24.1	111	18.8	98.0	15.6	37.9	4.47
598515	< 5	160	2410	75	14	2.1	< 0.2	13	< 0.5	1.7	4553	< 0.4	360	694	74.2	268	39.4	10.0	26.6	3.5	17.3	3.1	8.4	1.19

Activation Laboratories Ltd. Report: A10-1335

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415879	51.3	6.91	22.6	10.0	2	0.2	14	1830	11.1
415880	61.2	8.30	29.8	13.2	2	0.3	14	1320	9.7
415881	73.8	9.99	9.2	3.4	2	0.2	14	1410	13.3
415882	97.6	13.0	9.4	2.7	1	0.1	19	921	12.3
415883	108	14.7	30.7	13.0	2	0.3	24	566	13.9
415884	18.3	2.72	19.5	8.6	3	0.3	25	2430	13.8
415885	103	13.8	9.0	8.2	5	0.3	27	609	12.2
415886	13.4	2.49	47.4	70.2	1	0.5	47	201	48.2
415887	56.7	7.66	5.0	9.6	2	0.4	46	573	14.1
415888	82.6	11.0	10.8	7.5	2	0.1	19	466	14.5
415889	42.6	5.92	37.5	27.2	3	0.2	31	399	27.1
415890	15.5	2.05	3.3	10.9	1	0.4	30	318	12.1
415891	4.6	0.81	6.6	4.9	1	0.6	33	29.7	3.6
415892	10.5	1.75	9.4	7.0	1	0.4	27	174	6.1
415893	48.4	6.25	12.6	7.5	< 1	< 0.1	28	1280	31.3
415894	39.1	5.39	7.7	17.4	1	0.2	36	568	20.6
415895	9.1	1.48	16.3	12.8	1	0.6	43	92.0	10.1
415896	81.1	11.7	5.7	8.5	2	0.2	31	469	15.8
415897	71.6	10.1	15.8	3.9	< 1	0.1	26	775	16.7
415898	19.0	2.83	6.6	15.2	3	0.3	22	217	10.5
415899	17.6	2.22	2.7	1.0	< 1	0.1	13	445	4.9
415900	15.7	2.06	4.1	10.5	1	0.4	8	230	11.1
415901	43.5	6.07	4.6	1.9	< 1	0.2	17	425	11.6
415902	3.1	0.50	4.7	1.0	1	0.6	20	12.9	1.1
415903	39.5	5.27	3.7	4.6	6	0.2	24	362	12.9
415904	13.7	2.00	9.5	7.5	5	0.4	17	97.5	6.3
415905	25.8	3.41	6.3	3.1	4	0.3	37	247	12.4
415906	43.3	5.62	7.3	2.8	< 1	0.3	70	474	19.3
415907	38.6	5.22	11.5	5.8	< 1	0.2	64	838	24.5
415908	49.6	7.20	4.6	1.2	< 1	0.2	705	940	34.3
415909	54.3	7.58	5.2	0.9	< 1	0.1	472	1020	26.6
415910	47.0	6.45	13.6	3.4	< 1	0.4	86	1340	16.0
415911	28.7	3.88	19.9	14.3	8	0.9	220	1250	16.4
415912	17.1	2.60	17.8	30.9	3	0.6	106	229	32.2
415913	60.6	8.69	8.8	3.9	< 1	0.2	249	987	35.6
415914	90.5	13.0	17.4	29.5	< 1	0.3	112	1680	38.7
415915	12.9	1.83	4.0	1.0	< 1	0.3	58	335	6.5
415916	5.7	0.87	2.4	9.8	3	0.6	16	74.6	5.3
415917	10.7	1.57	3.3	0.5	< 1	0.5	64	152	5.5
415918	17.4	2.57	3.9	2.4	< 1	0.2	77	228	10.6
415919	19.0	2.81	2.7	0.4	< 1	0.1	64	258	8.4
415920	14.1	2.15	2.0	0.9	< 1	0.1	49	234	5.2
415921	25.8	3.71	3.4	5.2	2	0.3	94	311	13.4
415922	11.5	1.71	10.8	15.3	6	0.5	49	148	10.7
415923	8.4	1.20	8.7	14.2	1	0.8	56	113	8.7
415924	9.8	1.38	22.7	21.3	3	0.9	149	83.9	12.1
415925	6.2	0.91	8.8	13.0	< 1	0.7	74	73.1	6.8
415926	10.6	1.58	10.3	14.5	2	0.8	84	154	14.4
415927	10.4	1.49	8.6	14.1	3	0.9	75	133	9.1
415928	11.0	1.59	8.9	14.2	4	0.8	106	122	9.4
415929	6.5	0.96	7.8	13.1	4	0.8	96	71.5	7.0
415930	6.4	0.94	7.7	12.7	< 1	0.8	109	72.7	4.6

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415931	17.3	2.60	6.9	2.9	< 1	0.5	107	440	9.9
415932	29.5	3.96	9.3	0.8	< 1	0.6	80	1370	16.8
415933	21.9	3.35	15.5	7.5	< 1	0.5	39	663	11.7
415934	7.1	0.99	1.7	1.6	< 1	< 0.1	72	357	16.8
415935	21.2	3.10	5.0	33.7	< 1	0.3	410	643	28.5
415936	18.9	2.68	3.7	2.2	< 1	< 0.1	67	538	10.6
415937	17.3	2.32	2.6	1.3	< 1	0.1	36	654	9.3
415938	12.1	1.81	1.9	1.2	< 1	0.1	69	582	6.5
415939	10.9	1.88	13.0	11.9	< 1	0.8	34	110	2.9
415940	13.3	1.97	4.8	3.9	< 1	0.2	78	295	5.8
415941	3.2	0.50	1.3	0.6	< 1	< 0.1	89	536	2.5
415942	17.3	2.43	12.1	2.3	< 1	0.5	64	183	4.7
415943	15.4	2.32	16.9	8.9	2	0.6	77	85.6	6.5
415944	23.7	3.06	5.4	1.0	< 1	< 0.1	160	137	1.4
415945	11.5	1.56	4.4	1.2	< 1	< 0.1	126	126	2.7
415946	12.9	1.77	9.0	1.7	< 1	< 0.1	91	223	1.9
415947	7.0	1.08	14.6	8.6	< 1	0.4	19	192	3.6
415948	15.8	2.26	16.3	21.0	< 1	1.0	55	310	8.5
415949	15.9	2.25	15.9	10.9	2	0.8	77	349	5.1
415950	13.4	1.93	11.5	8.4	3	0.7	84	358	3.5
598501	15.5	2.17	13.1	5.9	< 1	0.3	163	273	3.7
598502	20.1	2.62	7.6	5.6	< 1	0.5	135	735	4.0
598503	22.3	3.04	5.0	2.1	< 1	0.3	214	694	2.5
598504	11.2	1.58	6.1	2.7	< 1	< 0.1	63	677	2.2
598505	9.0	1.60	10.9	4.6	< 1	0.3	13	282	3.1
598506	17.7	2.44	14.6	6.9	< 1	0.1	17	1360	7.7
598507	8.7	1.64	17.2	7.9	< 1	0.5	23	65.3	3.3
598508	17.2	2.62	26.1	18.7	< 1	0.4	30	650	5.3
598509	7.2	1.35	22.1	13.2	< 1	0.4	19	79.7	3.4
598510	5.2	0.95	12.9	10.2	< 1	0.4	25	38.2	4.5
598511	5.1	0.90	9.7	8.1	< 1	0.3	30	175	2.5
598512	11.6	1.88	5.6	0.8	< 1	0.2	72	134	1.7
598513	13.9	1.96	1.6	< 0.1	< 1	< 0.1	116	264	0.7
598514	23.4	2.95	2.6	1.1	< 1	0.1	36	405	1.1
598515	7.7	1.27	13.3	7.7	1	0.5	41	123	3.6

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Quality Control

Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas																		780	213	2730	6360	120	10	
WMG-1 Cert																		770	200	2700	5900	110	10.3	
DH-1a Meas																								
DH-1a Cert																								
NIST 694 Meas			11.24	1.89	0.75	0.012	0.33	42.60	0.91	0.55	0.118	30.15					1678							
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740							
DNC-1 Meas			46.49	18.46	9.96	0.145	9.92	11.41	1.90	0.22	0.488	0.07			31		155			250	90	70		
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148.0	270.0	57.0	247	100.0	70.0		
GBW 07113 Meas			72.70	12.90	3.21	0.140	0.14	0.61	2.48	5.46	0.284	0.05			6	4	11							
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00							
MICA-FE Meas		0.110																						
MICA-FE Cert		0.108																						
GXR-2 Meas																		30	9	< 20	80	540	35	
GXR-2 Cert																		36.0	8.60	21.0	76.0	530	37.0	
NIST 1633b Meas			48.01	27.86	10.98	0.018	0.77	2.18	0.29	2.25	1.281	0.55			40		301							
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296							
OKA-2 Meas																								
OKA-2 Cert																								
AC-E Meas	0.015	0.110																						
AC-E Cert	0.016	0.105																						
OKA-1 Meas	0.541																							
OKA-1 Cert	0.529																							
W-2a Meas			52.30	15.27	10.61	0.165	6.21	11.07	2.20	0.62	1.043	0.14			35	< 1	279	80	43	70	110	80	17	2
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00
SY-4 Meas			50.08	20.66	6.33	0.108	0.51	8.22	6.97	1.71	0.289	0.13			2	3	< 5							
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0							
CTA-AC-1 Meas																						60	30	
CTA-AC-1 Cert																						54.0	38.0	
BIR-1a Meas			48.29	15.88	11.66	0.176	9.67	13.64	1.80	0.02	1.004	0.05			44	< 1	343	380	53	170	130	70	16	2
BIR-1a Cert			47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50
NCS DC86312 Meas																								
NCS DC86312 Cert																								
ZW-C Meas		0.011																						
ZW-C Cert		0.011																						
VS-N Meas	0.101	0.097																						
VS-N Cert	0.10	0.095																						
NCS DC70014 Meas																				25	70	2610	7400	25
NCS DC70014 Cert																				26.2	70.9	2600.00	7400.00	25.2
IGS 40 Meas																								
IGS 40 Cert																								
NCS DC86316 Meas		4.679																						
NCS DC86316 Cert		4.68																						
NCS DC70009 (GBW07241) Meas																		30	3	< 20	930	100	17	11
NCS DC70009 (GBW07241) Cert																		30	3.7	2.8	960.000	100.000	16.5	11.2
OREAS 100a (Fusion) Meas																				17		170		
OREAS 100a (Fusion) Cert																				18.1		169		
OREAS 101a (Fusion) Meas																				49		420		
OREAS 101a (Fusion) Cert																				48.8		434		
JR-1 Meas																		< 20	< 1	< 20	< 10	< 30	17	3
JR-1 Cert																		2.83	0.83	1.67	2.68	30.6	16.1	1.88
SX18-01 Meas	0.691	0.103																						
SX18-01 Cert	0.695	0.093																						
SX18-04 Meas	1.336	0.146																						

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Quality Control																										
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge		
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1		
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS		
SX18-04 Cert	1.32	0.146																								
SX18-05 Meas	0.987	0.208																								
SX18-05 Cert	0.973	0.218																								
SARM 3 Meas		1.522	51.52	13.54	10.11	0.728	0.24	3.21	8.02	5.25	0.497						90									
SARM 3 Cert		1.49	52.40	13.64	9.91	0.77	0.28	3.22	8.37	5.51	0.48						81									
FER-3 Meas			53.85	0.08	43.93	0.082	0.98	0.82	0.01	0.01	0.003	0.08														
FER-3 Cert			53.61	0.09	44.50	0.08	1.02	0.84	0.03	0.03	0.01	0.07														
415893 Orig			20.61	4.99	42.52	1.396	0.81	18.24	0.40	0.39	0.845	4.87	1.92	96.99	10	3	161	< 20	4	< 20	< 10	660	48	5		
415893 Dup			20.57	5.00	42.70	1.391	0.80	18.19	0.40	0.38	0.833	4.80	1.92	96.97	10	3	158	< 20	3	< 20	< 10	670	47	5		
415908 Orig	0.317	0.031																								
415908 Split	0.317	0.031	4.63	1.34	58.61	2.773	2.70	14.24	0.13	0.39	0.157	1.01	10.19	96.17	23	9	28	< 20	6	< 20	< 10	2910	30	3		
415908 Orig	0.319	0.031																								
415908 Dup	0.316	0.031																								
415908 Split																		< 20	6	< 20	< 10	2930	35	3		
415908 Split																		< 20	6	< 20	< 10	2930	35	3		
415910 Orig			16.26	4.33	51.71	1.582	3.54	8.49	0.73	1.66	0.445	2.01	5.70	96.47	21	7	58	< 20	7	< 20	< 10	2880	55	3		
415910 Dup			16.22	4.38	52.04	1.575	3.55	8.48	0.73	1.67	0.443	2.03	5.70	96.83	21	7	58	< 20	6	< 20	< 10	2890	54	3		
415928 Orig	0.058	0.055	45.89	14.36	13.87	1.154	3.05	9.35	1.51	5.90	0.727	0.66	1.47	97.94	9	22	47	30	12	20	20	510	24	2		
415928 Split	0.060	0.054	45.37	13.95	13.53	1.157	2.96	9.28	1.48	5.84	0.699	0.66	1.42	96.36	9	21	48	30	12	30	20	510	24	2		
415937 Orig	0.135	0.015																								
415937 Dup	0.133	0.013																								
415938 Orig	0.056	0.007																< 20	7	< 20	< 10	2460	13	2		
415938 Split	0.056	0.007																< 20	7	< 20	< 10	2550	12	2		
415938 Orig																		< 20	7	< 20	< 10	2460	13	2		
415938 Split																		< 20	7	< 20	< 10	2550	12	2		
415940 Orig			9.18	2.24	60.97	3.244	2.13	11.26	0.54	0.66	0.128	0.93	5.96	97.25	10	6	12	< 20	7	< 20	< 10	1950	20	2		
415940 Dup			9.18	2.22	60.82	3.245	2.13	11.27	0.55	0.66	0.127	0.94	5.96	97.11	10	6	11	< 20	6	< 20	< 10	1890	20	2		
415940 Orig																		< 20	7	< 20	< 10	1950	20	2		
415940 Dup																		< 20	6	< 20	< 10	1890	20	2		
598507 Orig			50.35	12.84	15.15	0.849	1.60	8.20	3.13	4.91	0.435	0.22	1.57	99.26	12	21	12	< 20	2	< 20	< 10	490	30	2		
598507 Dup			49.70	12.54	14.97	0.838	1.56	8.09	3.10	4.84	0.419	0.23	1.57	97.86	12	21	12	< 20	2	< 20	< 10	480	30	2		
Method Blank Method	< 0.003	< 0.003																								
Blank																										

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Quality Control																								
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	9				< 2	2.4		3	2.8	< 0.5			8.9	18.5		9.8	2.4	0.74		0.4	2.4	0.5		0.21
WMG-1 Cert	7.00				1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200
DH-1a Meas																								
DH-1a Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas			142	16					0.9		107		3.6			4.7		0.56						
DNC-1 Cert			144.0	18.0					0.96		118		3.6			5.20		0.59						
GBW 07113 Meas			41	46							504													
GBW 07113 Cert			43.0	43.0							506													
MICA-FE Meas																								
MICA-FE Cert																								
GXR-2 Meas	24	75			< 2	16.3	< 0.2	2	46.7	5.4		< 0.4	25.3	49.4		19.2	3.6	0.71	2.9	0.5	2.7			0.27
GXR-2 Cert	25.0	78.0			2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50	0.810	3.30	0.480	3.30			0.300
NIST 1633b Meas			1027								702													
NIST 1633b Cert			1040								709													
OKA-2 Meas																								
OKA-2 Cert																								
AC-E Meas																								
AC-E Cert																								
OKA-1 Meas																								
OKA-1 Cert																								
W-2a Meas	< 5	19	194	19	< 2	< 0.5			1.0	0.9	177	< 0.4	10.8	23.8		12.6	3.2	1.05		0.6	3.6	0.8	2.1	0.32
W-2a Cert	1.20	21.0	190	24.0	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380
SY-4 Meas			1196	119							358													
SY-4 Cert			1191	119							340													
CTA-AC-1 Meas													2250	3310		1100	162	43.8	123	14.5				
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9				
BIR-1a Meas	< 5	< 2	112	13	< 2	< 0.5		< 1	0.7	< 0.5	10	< 0.4	0.7	2.0	0.37	2.4	1.1	0.51	1.8	0.4	2.5	0.6	1.6	0.27
BIR-1a Cert	0.440	0.250	108	16.0	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260
NCS DC86312 Meas																								
NCS DC86312 Cert																								
ZW-C Meas																								
ZW-C Cert																								
VS-N Meas																								
VS-N Cert																								
NCS DC70014 Meas					270	17.4			180		80.3	47.3	88.4	9.94	38.2	7.8	1.67	7.2	1.2	6.4	1.3	3.4	0.54	
NCS DC70014 Cert					270.000	16.7			180.000		80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	
IGS 40 Meas													21100	32900	2820	8070								
IGS 40 Cert													20720.00	32247	2730.000	8320.000								
NCS DC86316 Meas																								
NCS DC86316 Cert																								
NCS DC70009 (GBW07241) Meas	70	508			2.0	1.3	1980	3.4	44.4				24.3	59.4	7.55	31.7	12.6	0.11	14.4	3.3	21.0	4.4	13.2	2.40
NCS DC70009 (GBW07241) Cert	69.9	500.00			1.8	1.3	1700.00	3.1	41				23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2
OREAS 100a (Fusion) Meas					23								267	467	44.5	147	23.7	3.56	20.2	3.6	22.0	4.7	14.0	2.33
OREAS 100a (Fusion) Cert					24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31
OREAS 101a (Fusion) Meas					21								860	1440	127	393	50.0	7.97	36.6	5.5	31.4	6.5	18.9	2.94
OREAS 101a (Fusion) Cert					21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90
JR-1 Meas	17	244			3	< 0.5	< 0.2	4	1.3	20.8			20.5	46.6	5.66	22.7	5.6	0.28	5.3	1.0	5.9	1.3	3.8	0.68
JR-1 Cert	16.3	257			3.25	0.031	0.028	2.86	1.19	20.8			19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67
SX18-01 Meas																								
SX18-01 Cert																								
SX18-04 Meas																								

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Quality Control																								
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
SX18-04 Cert																								
SX18-05 Meas																								
SX18-05 Cert																								
SARM 3 Meas					18						456													
SARM 3 Cert					22						450													
FER-3 Meas																								
FER-3 Cert					34																			
415893 Orig	16	17	649	795	10	1.6	< 0.2	30	< 0.5	0.6	183	< 0.4	2600	4730	448	1590	290	89.7	283	38.2	175	29.0	70.5	8.92
415893 Dup	15	17	625	781	9	2.0	< 0.2	34	< 0.5	0.6	146	< 0.4	2540	4670	437	1550	284	88.7	283	37.7	173	28.7	69.6	8.97
415908 Orig	7	21			9	1.0	< 0.2	37	0.7	< 0.5		1.2	1820	3640	340	1120	174	47.8	125	18.4	99.9	19.3	54.0	7.93
415908 Split	6	22	3269	441	9	1.5	< 0.2	39	< 0.5	< 0.5	3564	1.2	1930	3750	400	1180	182	50.0	140	19.7	109	21.1	58.7	8.65
415908 Orig																								
415908 Dup																								
415908 Split	6	22			9	1.5	< 0.2	39	< 0.5	< 0.5		1.2	1930	3750	400	1180	182	50.0	140	19.7	109	21.1	58.7	8.65
415908 Split	6	22			9	1.5	< 0.2	39	< 0.5	< 0.5		1.2	1930	3750	400	1180	182	50.0	140	19.7	109	21.1	58.7	8.65
415910 Orig	6	65	727	586	7	2.0	< 0.2	78	< 0.5	1.5	2588	0.8	931	2010	205	779	156	49.7	160	26.0	138	22.9	58.9	8.12
415910 Dup	6	63	728	581	7	2.0	< 0.2	67	< 0.5	1.5	2547	0.8	943	2030	207	788	159	50.6	163	26.4	139	23.4	60.3	8.24
415928 Orig	7	170	5306	129	22	1.5	< 0.2	10	< 0.5	3.5	5344	< 0.4	1060	1680	146	474	59.2	15.6	40.3	5.1	25.6	4.6	12.5	1.77
415928 Split	7	164	5279	130	21	1.5	< 0.2	10	< 0.5	3.4	5267	< 0.4	1020	1630	149	480	59.6	15.5	39.8	5.2	25.2	4.6	12.4	1.71
415937 Orig																								
415937 Dup																								
415938 Orig	< 5	6			179	1.0	< 0.2	20	< 0.5	0.5		1.9	975	1910	218	672	82.3	19.8	45.5	4.7	23.8	4.3	12.4	1.89
415938 Split	6	7			185	0.9	< 0.2	17	< 0.5	0.6		2.0	949	1870	194	673	81.9	19.8	42.8	4.7	22.3	4.1	11.5	1.75
415938 Orig	< 5	6			179	1.0	< 0.2	20	< 0.5	0.5		1.9	975	1910	218	672	82.3	19.8	45.5	4.7	23.8	4.3	12.4	1.89
415938 Split	6	7			185	0.9	< 0.2	17	< 0.5	0.6		2.0	949	1870	194	673	81.9	19.8	42.8	4.7	22.3	4.1	11.5	1.75
415940 Orig	17	24	7683	115	64	1.3	< 0.2	14	< 0.5	0.5	3768	0.9	1700	3210	319	843	86.8	20.4	57.3	5.7	27.9	5.1	14.4	2.09
415940 Dup	13	23	7637	116	65	1.4	< 0.2	14	< 0.5	0.5	3754	0.8	1710	3220	319	844	86.5	20.3	57.0	5.7	28.1	5.1	14.7	2.11
415940 Orig	17	24			64	1.3	< 0.2	14	< 0.5	0.5		0.9	1700	3210	319	843	86.8	20.4	57.3	5.7	27.9	5.1	14.4	2.09
415940 Dup	13	23			65	1.4	< 0.2	14	< 0.5	0.5		0.8	1710	3220	319	844	86.5	20.3	57.0	5.7	28.1	5.1	14.7	2.11
598507 Orig	< 5	174	2829	56	3	2.5	< 0.2	14	< 0.5	4.9	9262	< 0.4	140	297	33.4	121	20.8	6.19	17.1	2.5	12.5	2.3	6.6	1.08
598507 Dup	< 5	172	2824	53	3	2.3	< 0.2	14	< 0.5	4.9	9042	< 0.4	138	292	32.3	117	20.3	6.06	16.8	2.4	12.2	2.3	6.5	1.05
Method Blank Method																								
Blank																								

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	1.3	0.19	1.6	0.3	< 1		16	1.4	0.8
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650
DH-1a Meas								889	2510
DH-1a Cert								910	2630
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas	1.9								
DNC-1 Cert	2.0								
GBW 07113 Meas									
GBW 07113 Cert									
MICA-FE Meas									
MICA-FE Cert									
GXR-2 Meas	1.7	0.25	6.2	0.7	1	0.7	607	8.3	2.8
GXR-2 Cert	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90
NIST 1633b Meas									
NIST 1633b Cert									
OKA-2 Meas								28000	
OKA-2 Cert								28900	
AC-E Meas									
AC-E Cert									
OKA-1 Meas									
OKA-1 Cert									
W-2a Meas	2.0	0.28	2.6	0.5	< 1	< 0.1	8	2.3	0.5
W-2a Cert	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	10.7	1.09	1.6	2.7				23.3	4.2
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4
BIR-1a Meas	1.7	0.25	0.7	0.5	< 1	< 0.1	< 5	< 0.1	< 0.1
BIR-1a Cert	1.65	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100
NCS DC86312 Meas									26.1
NCS DC86312 Cert									23.6
ZW-C Meas									
ZW-C Cert									
VS-N Meas									
VS-N Cert									
NCS DC70014 Meas	3.4	0.49					27200		
NCS DC70014 Cert	3.3	0.50					27200.00		
IGS 40 Meas									
IGS 40 Cert									
NCS DC86316 Meas									
NCS DC86316 Cert									
NCS DC70009 (GBW07241) Meas	16.3	2.29			2330	2.1	59	28.4	
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8	81.2	28.3	
OREAS 100a (Fusion) Meas	14.8	2.09						50.6	134
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135
OREAS 101a (Fusion) Meas	18.3	2.50						36.1	422
OREAS 101a (Fusion) Cert	17.5	2.66						36.6	422
JR-1 Meas	4.6	0.69	5.1	1.8	3	1.2	19	26.1	8.8
JR-1 Cert	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88
SX18-01 Meas									
SX18-01 Cert									
SX18-04 Meas									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

SX18-04 Cert									
SX18-05 Meas									
SX18-05 Cert									
SARM 3 Meas									
SARM 3 Cert									
FER-3 Meas									
FER-3 Cert									
415893 Orig	48.5	6.30	11.2	6.9	< 1	< 0.1	29	1300	31.9
415893 Dup	48.3	6.20	13.9	8.1	< 1	< 0.1	27	1270	30.7
415908 Orig	49.6	7.20	4.6	1.2	< 1	0.2	705	940	34.3
415908 Split	54.3	7.82	5.2	3.8	< 1	0.2	809	860	37.1
415908 Orig									
415908 Dup									
415908 Split	54.3	7.82	5.2	3.8	< 1	0.2	809	860	37.1
415908 Split	54.3	7.82	5.2	3.8	< 1	0.2	809	860	37.1
415910 Orig	46.7	6.42	13.4	3.6	< 1	0.4	97	1330	15.9
415910 Dup	47.4	6.49	13.8	3.3	< 1	0.4	75	1350	16.1
415928 Orig	11.0	1.59	8.9	14.2	4	0.8	106	122	9.4
415928 Split	10.4	1.53	8.5	14.0	3	0.7	100	118	9.2
415937 Orig									
415937 Dup									
415938 Orig	12.1	1.81	1.9	1.2	< 1	0.1	69	582	6.5
415938 Split	11.1	1.67	1.8	0.2	< 1	0.2	61	616	5.9
415938 Orig	12.1	1.81	1.9	1.2	< 1	0.1	69	582	6.5
415938 Split	11.1	1.67	1.8	0.2	< 1	0.2	61	616	5.9
415940 Orig	13.3	1.97	4.8	3.9	< 1	0.2	78	297	5.8
415940 Dup	13.3	1.96	4.7	3.9	< 1	0.2	78	293	5.8
415940 Orig	13.3	1.97	4.8	3.9	< 1	0.2	78	297	5.8
415940 Dup	13.3	1.96	4.7	3.9	< 1	0.2	78	293	5.8
598507 Orig	8.6	1.65	17.5	8.1	< 1	0.5	23	66.2	3.4
598507 Dup	8.7	1.62	16.8	7.8	< 1	0.5	22	64.4	3.2
Method Blank Method									
Blank									



Date Submitted: 23-Mar-10
Invoice No.: A10-1269
Invoice Date: 14-Apr-10
Your Reference: Clay Howells (RA-8)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

96 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1269**

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

Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Report: A10-1269

Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415835	0.260	0.038	0.79	0.39	29.15	2.081	1.11	34.13	0.03	0.04	0.022	3.12	24.64	95.49	3	< 1	9	< 20	< 1	< 20	< 10	300	14	1
415836	0.127	0.041	0.08	0.17	41.29	2.710	1.52	27.91	0.03	< 0.01	0.011	2.11	19.79	95.63	4	< 1	14	< 20	1	< 20	< 10	730	12	2
415837	0.160	0.048	0.40	0.18	25.18	1.982	1.08	35.77	0.03	0.02	0.008	2.43	27.67	94.75	4	< 1	< 5	< 20	< 1	< 20	< 10	240	15	2
415838	0.157	0.042	0.95	0.40	41.78	2.704	1.66	26.65	0.08	0.03	0.010	2.23	18.59	95.08	4	< 1	9	< 20	1	< 20	< 10	800	13	2
415839	0.104	0.040	0.57	0.12	34.94	2.474	1.41	31.51	0.03	< 0.01	0.006	3.36	22.23	96.66	4	< 1	< 5	< 20	< 1	< 20	< 10	630	11	1
415840	0.071	0.038	< 0.01	0.13	41.64	2.628	1.71	27.76	0.03	< 0.01	0.007	1.92	19.99	95.81	5	< 1	10	< 20	2	< 20	< 10	780	9	1
415841	0.146	0.039	0.64	0.22	29.06	2.297	1.09	34.28	0.04	0.01	0.013	4.07	24.11	95.83	4	< 1	7	< 20	< 1	< 20	< 10	280	12	1
415842	0.255	0.050	1.02	0.44	38.80	2.594	0.94	29.30	0.06	0.04	0.029	0.88	22.30	96.41	4	4	40	< 20	< 1	< 20	< 10	610	14	1
415843	0.143	0.140	30.51	6.51	38.38	2.633	2.67	11.84	1.16	1.96	0.163	0.72	1.86	98.41	8	41	52	< 20	3	< 20	< 10	850	26	2
415844	0.080	0.058	12.68	3.94	61.93	2.178	1.37	9.13	0.61	1.06	0.476	1.19	2.47	97.03	7	8	58	< 20	5	< 20	< 10	1190	42	2
415845	0.082	0.068	20.77	4.90	36.73	1.823	1.89	16.56	0.91	1.71	0.178	4.40	4.64	94.50	13	9	31	< 20	4	< 20	10	750	52	7
415846	0.067	0.112	45.31	10.81	18.39	1.463	1.84	11.49	2.06	4.46	0.303	1.04	1.08	98.23	9	17	12	30	2	< 20	< 10	380	27	2
415847	0.121	0.034	1.41	0.54	23.54	1.946	0.70	37.67	0.07	0.10	0.026	2.21	27.59	95.79	3	< 1	< 5	< 20	< 1	< 20	< 10	270	18	3
415848	0.153	0.034	0.61	0.28	29.73	2.348	0.85	34.56	0.04	0.02	0.017	3.66	23.32	95.45	3	< 1	5	< 20	< 1	< 20	< 10	360	17	3
415849	0.104	0.104	22.86	6.34	19.15	2.281	2.76	27.63	1.00	0.63	0.067	1.86	13.30	97.88	6	18	5	< 20	< 1	< 20	30	340	22	3
415850	0.122	0.067	16.91	4.83	30.22	1.788	0.95	24.51	1.11	1.51	0.173	2.30	14.70	99.01	4	5	10	< 20	< 1	< 20	< 10	370	25	3
415851	0.124	0.119	29.54	7.61	43.11	1.970	1.05	10.70	1.43	2.08	0.370	1.28	-0.04	99.10	5	8	35	< 20	3	< 20	< 10	560	26	2
415852	0.025	0.061	49.42	10.65	18.69	0.918	0.96	8.86	3.20	4.81	0.509	1.00	0.76	99.78	8	8	11	< 20	2	< 20	< 10	290	22	2
415853	0.090	0.044	17.65	5.47	66.19	2.651	1.26	4.18	1.16	1.43	0.515	0.91	-1.32	100.1	7	6	40	< 20	7	< 20	< 10	880	23	1
415854	0.058	0.111	26.05	5.84	37.68	1.021	1.25	16.21	1.79	1.59	0.821	2.72	4.68	99.66	8	12	39	< 20	3	< 20	< 10	560	26	2
415855	0.109	0.143	25.53	5.71	39.80	1.715	1.68	16.24	1.47	0.81	0.392	4.92	1.84	100.1	9	23	28	< 20	3	< 20	< 10	750	32	3
415856	0.177	0.040	0.86	0.42	56.66	3.482	1.22	20.68	0.05	0.03	0.052	3.87	10.15	97.47	8	1	32	< 20	5	< 20	< 10	1010	24	2
415857	0.215	0.048	0.49	0.24	52.68	3.295	1.04	22.73	0.01	< 0.01	0.041	4.90	11.93	97.37	13	2	38	< 20	3	< 20	< 10	1590	24	1
415858	0.221	0.034	0.66	0.38	33.69	2.689	0.92	32.54	0.02	0.04	0.028	3.37	21.50	95.84	9	8	26	< 20	< 1	< 20	< 10	490	24	3
415859	0.227	0.060	1.47	0.44	43.82	2.926	1.07	26.27	0.07	0.05	0.038	4.23	15.16	95.56	11	10	36	< 20	1	< 20	< 10	780	27	3
415860	0.153	0.032	1.08	1.03	49.87	3.303	1.15	23.03	0.03	0.07	0.185	2.26	13.92	95.93	9	34	46	< 20	3	< 20	< 10	840	25	3
415861	0.193	0.028	1.23	0.70	52.54	2.791	0.74	22.98	0.04	0.02	0.056	6.38	8.96	96.44	7	2	36	< 20	2	< 20	< 10	590	31	4
415862	0.143	0.104	26.09	6.51	46.60	2.116	1.43	8.65	1.92	1.83	0.300	2.85	0.51	98.82	12	25	52	< 20	3	< 20	< 10	680	68	7
415863	0.047	0.118	53.72	17.22	6.30	0.274	1.08	5.29	3.34	6.62	0.141	1.19	4.81	99.99	3	18	6	< 20	1	< 20	< 10	80	47	2
415864	0.058	0.043	10.61	2.79	28.94	1.828	7.09	21.61	0.69	1.01	0.028	5.27	18.71	98.58	2	5	7	< 20	< 1	< 20	< 10	180	15	2
415865	0.047	0.101	38.35	9.30	23.19	1.196	2.29	13.99	2.14	2.76	0.632	2.85	2.09	98.79	8	19	18	< 20	1	< 20	< 10	310	30	3
415866	0.166	0.051	1.19	0.41	27.25	2.103	0.98	36.18	0.10	0.04	0.029	6.83	21.26	96.37	2	< 1	15	< 20	< 1	< 20	< 10	250	12	2
415867	0.043	0.035	0.96	0.47	27.78	1.901	0.79	36.03	0.10	0.05	0.038	6.56	21.05	95.71	5	1	< 5	< 20	< 1	< 20	< 10	320	13	2
415868	0.030	0.060	39.79	9.80	24.29	0.926	1.09	12.02	2.84	3.60	0.451	4.11	0.91	99.83	8	11	13	< 20	1	< 20	< 10	400	26	3
415869	0.038	0.091	31.37	6.55	29.05	1.359	1.56	19.46	1.87	1.42	0.616	6.45	0.83	100.5	5	21	16	< 20	< 1	< 20	< 10	480	29	3
415870	0.245	0.057	7.82	2.10	32.13	1.869	1.08	30.37	0.36	0.23	0.168	3.97	16.79	96.89	3	3	37	< 20	< 1	< 20	< 10	390	23	3
415871	0.113	0.036	22.03	5.97	34.20	2.326	1.32	17.39	1.50	2.55	0.088	2.69	8.94	99.00	4	4	10	< 20	1	< 20	< 10	300	18	1
415872	0.171	0.050	5.64	1.35	32.07	1.503	1.10	32.64	0.17	0.13	0.150	3.39	19.65	97.78	3	5	35	< 20	< 1	< 20	< 10	250	13	2
415873	0.222	0.025	1.05	0.20	35.35	2.361	5.32	26.85	0.05	0.01	0.032	3.70	21.73	96.65	4	1	23	< 20	< 1	< 20	< 10	300	12	2
415874	0.325	0.019	1.67	0.24	41.39	2.382	8.17	19.78	0.05	0.02	0.041	4.35	19.21	97.30	5	6	32	< 20	1	< 20	< 10	350	17	2
415875	0.277	0.057	10.38	2.03	31.38	1.825	8.80	21.86	0.13	0.36	0.067	5.14	15.22	97.19	7	27	29	< 20	14	20	20	330	24	2
415876	0.238	0.035	3.34	0.61	33.97	2.072	6.31	26.22	0.06	0.06	0.042	6.09	18.58	97.33	5	13	34	< 20	< 1	< 20	< 10	300	19	2
415877	0.108	0.017	3.07	2.37	57.57	1.931	1.47	17.68	0.15	0.16	0.324	3.40	9.17	97.29	2	2	40	< 20	5	< 20	< 10	620	26	1
415878	0.067	0.044	20.16	6.20	57.43	1.735	1.06	9.14	1.28	1.30	0.697	1.56	0.04	100.6	5	8	27	< 20	6	< 20	< 10	740	27	2

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Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415702	< 5	11	2225	178	13	1.7	< 0.2	12	< 0.5	< 0.5	837	< 0.4	612	1170	125	432	68.8	18.6	48.0	6.7	35.5	6.6	17.8	2.51
415703	< 5	89	1974	106	6	3.0	< 0.2	18	< 0.5	3.9	8150	< 0.4	405	787	88.0	310	49.4	12.7	34.8	4.8	23.7	4.2	11.4	1.64
415704	5	124	2894	92	5	2.6	< 0.2	18	< 0.5	3.8	17660	< 0.4	372	758	82.7	295	46.5	11.4	32.1	4.4	21.3	3.7	10.0	1.38
415705	6	125	1806	101	7	2.2	< 0.2	10	< 0.5	2.7	6060	< 0.4	451	844	91.6	317	48.4	12.8	33.2	4.4	21.9	3.9	10.4	1.39
415706	15	107	2035	372	4	1.8	< 0.2	15	< 0.5	2.0	5902	< 0.4	1420	2840	304	1060	164	43.2	116	16.0	80.4	14.5	37.9	5.03
415707	< 5	172	1052	39	5	1.5	< 0.2	5	< 0.5	3.7	4314	< 0.4	158	282	28.4	98.9	15.4	5.97	10.8	1.5	8.0	1.5	4.3	0.65
415789	11	210	1558	135	3	2.7	< 0.2	24	< 0.5	5.7	2746	< 0.4	904	1450	138	430	55.1	12.5	36.3	4.9	25.8	4.9	13.9	2.01
415790	< 5	150	389	68	< 2	1.1	< 0.2	5	2.0	2.4	808	< 0.4	238	421	41.6	141	22.0	5.57	15.6	2.3	12.8	2.5	7.3	1.14
415791	7	87	3607	123	3	1.9	< 0.2	15	< 0.5	2.2	3795	< 0.4	896	1430	139	447	61.1	15.8	38.2	4.8	24.1	4.3	11.8	1.70
415792	8	91	3943	133	4	1.9	< 0.2	13	< 0.5	3.0	3422	< 0.4	825	1330	129	415	56.9	15.2	38.2	4.9	25.1	4.6	12.8	1.83
415793	6	92	1256	184	7	4.2	< 0.2	19	< 0.5	2.8	958	< 0.4	726	1460	162	574	91.1	22.7	62.2	8.3	41.3	7.2	19.2	2.67
415794	< 5	108	799	91	27	3.4	< 0.2	35	< 0.5	2.0	1162	< 0.4	389	713	76.9	269	42.1	10.2	28.1	3.8	19.4	3.5	9.5	1.37
415795	< 5	33	640	64	31	2.1	< 0.2	42	< 0.5	1.0	230	< 0.4	268	556	61.1	220	33.6	8.24	22.4	3.0	14.6	2.6	6.9	0.95
415796	< 5	22	1658	232	28	2.3	< 0.2	30	< 0.5	0.7	1070	0.6	1150	2170	224	776	118	29.4	77.3	9.5	46.9	8.4	22.7	3.13
415797	10	64	2606	296	28	1.7	< 0.2	21	< 0.5	1.6	6064	0.6	1150	1960	232	827	130	35.2	87.2	11.5	57.2	10.4	28.8	4.15
415798	< 5	44	2716	281	15	1.4	< 0.2	22	< 0.5	1.1	3334	0.7	1210	2130	217	751	116	32.3	82.8	10.7	53.3	9.7	26.3	3.69
415799	8	65	2625	349	22	2.4	< 0.2	33	< 0.5	1.4	2175	0.5	1050	2030	211	724	127	38.6	102	14.7	75.9	13.8	38.1	5.52
415800	< 5	173	2698	89	34	2.8	< 0.2	10	< 0.5	2.1	3330	< 0.4	415	775	82.8	280	42.8	10.5	28.4	3.8	19.4	3.5	9.8	1.41
415801	6	75	1661	154	11	3.1	< 0.2	43	< 0.5	4.0	1665	< 0.4	556	1150	131	461	75.7	20.3	56.1	7.7	38.0	6.6	17.6	2.50
415802	< 5	139	889	73	9	3.5	< 0.2	3	< 0.5	1.0	1273	< 0.4	305	522	50.3	162	24.2	4.22	18.2	2.8	15.0	2.7	7.8	1.15
415803	< 5	3	5899	67	59	1.0	< 0.2	35	< 0.5	< 0.5	235	2.1	196	473	54.3	193	32.0	11.8	25.7	3.8	19.3	3.4	8.9	1.24
415804	< 5	17	7289	195	33	0.9	< 0.2	42	< 0.5	0.9	1634	1.2	670	1480	162	586	105	28.8	69.7	8.3	39.1	6.9	18.3	2.53
415805	< 5	14	5927	475	27	1.1	< 0.2	56	< 0.5	< 0.5	1967	2.2	758	1550	169	645	148	43.2	116	16.0	81.3	14.8	38.8	5.59
415806	12	42	365	199	46	2.5	< 0.2	135	< 0.5	1.6	2208	0.8	272	819	170	1090	296	61.7	121	11.6	48.8	7.8	19.9	2.72
415807	24	371	1735	38	10	2.2	< 0.2	53	< 0.5	14.5	12800	1.7	166	324	36.2	144	26.5	5.89	13.6	1.6	7.9	1.5	3.9	0.57
415808	5	202	1166	105	26	1.8	< 0.2	33	< 0.5	3.8	5175	0.6	503	1080	127	478	78.2	17.4	37.9	4.0	19.4	3.5	10.0	1.43
415809	6	287	2083	93	14	2.2	< 0.2	16	< 0.5	7.1	10210	0.6	492	891	94.6	321	46.5	11.1	29.1	3.8	18.9	3.4	9.8	1.49
415810	< 5	108	777	73	13	2.9	< 0.2	34	< 0.5	7.6	5407	< 0.4	450	809	84.8	289	39.7	9.01	23.5	2.8	14.3	2.6	7.6	1.10
415811	< 5	33	3918	80	116	1.7	< 0.2	62	< 0.5	3.3	513	4.7	239	500	53.0	193	41.1	12.3	29.2	3.8	18.8	3.4	8.7	1.17
415812	< 5	160	770	67	15	2.8	< 0.2	5	< 0.5	4.0	1708	< 0.4	337	568	55.8	186	28.3	5.04	18.5	2.6	13.3	2.5	7.1	1.07
415813	< 5	< 2	11080	170	100	0.6	< 0.2	37	< 0.5	< 0.5	717	1.6	535	1340	153	568	90.6	26.3	61.0	8.1	40.4	7.0	18.2	2.33
415814	< 5	3	9368	326	79	0.9	< 0.2	70	< 0.5	< 0.5	526	3.0	1130	2560	266	931	147	38.4	103	13.2	66.0	11.9	32.1	4.38
415815	< 5	< 2	11300	225	62	0.7	< 0.2	32	< 0.5	< 0.5	1790	0.7	893	2050	222	776	110	30.5	75.2	9.8	48.7	8.5	21.6	2.81
415816	< 5	135	6627	208	9	2.1	< 0.2	24	< 0.5	6.2	25390	< 0.4	1170	2010	194	637	88.0	23.5	64.9	8.7	43.0	7.6	20.1	2.76
415817	< 5	78	5997	145	45	1.5	< 0.2	15	< 0.5	2.3	11170	< 0.4	753	1420	144	488	68.9	18.9	45.5	5.7	28.4	5.0	13.4	1.84
415818	< 5	< 2	4890	56	159	1.9	< 0.2	49	< 0.5	< 0.5	316	1.0	398	990	106	356	48.5	13.0	29.8	3.2	15.1	2.6	7.1	0.93
415819	< 5	70	4352	146	32	3.7	< 0.2	82	< 0.5	2.1	7218	< 0.4	381	856	96.4	347	83.5	28.1	72.1	8.6	37.3	6.1	15.1	1.97
415820	< 5	18	7154	88	71	1.4	< 0.2	14	< 0.5	0.8	2049	< 0.4	423	971	107	375	53.7	15.3	36.6	4.6	21.7	3.8	9.8	1.28
415821	< 5	< 2	9559	157	14	0.9	< 0.2	12	< 0.5	< 0.5	923	< 0.4	785	1730	187	659	91.1	24.1	60.2	7.6	37.6	6.6	17.4	2.28
415822	5	31	2244	364	11	1.7	< 0.2	11	< 0.5	1.2	7435	1.0	2610	4190	374	1200	173	43.9	116	13.1	63.8	11.3	30.7	4.29
415823	< 5	23	11900	153	< 2	< 0.5	< 0.2	2	< 0.5	0.6	3918	< 0.4	859	1530	157	563	86.7	23.3	59.2	7.0	32.5	5.4	13.5	1.65
415824	< 5	30	11490	162	2	< 0.5	< 0.2	2	< 0.5	0.8	3373	< 0.4	629	1210	133	504	83.7	23.5	59.4	7.5	35.6	6.0	14.6	1.71
415825	< 5	11	10060	122	3	< 0.5	< 0.2	2	< 0.5	< 0.5	1677	< 0.4	531	1150	134	531	87.7	23.8	58.2	6.7	30.7	4.9	11.4	1.29
415826	29	72	8422	122	3	0.6	< 0.2	2	< 0.5	1.1	4982	< 0.4	516	1030	122	484	78.9	21.6	52.9	6.8	31.4	5.0	12.3	1.39
415827	294	13	10890	125	7	< 0.5	< 0.2	2	< 0.5	0.5	2675	< 0.4	622	1250	143	560	90.7	25.0	60.1	6.9	30.6	4.8	11.6	1.32
415828	< 5	6	11660	163	3	< 0.5	< 0.2	< 1	< 0.5	< 0.5	1291	< 0.4	819	1610	174	655	101	27.4	68.5	8.1	37.4	6.1	14.9	1.75
415829	< 5	129	2282	75	4	2.1	< 0.2	8	< 0.5	3.7	2666	< 0.4	212	373	39.7	158	32.5	9.09	24.3	3.4	16.4	2.9	7.2	0.89
415830	< 5	232	4115	43	6	0.9	< 0.2	3	< 0.5	2.7	8922	< 0.4	268	403	39.2	137	20.0	5.49	13.6	1.7	8.4	1.5	3.7	0.47
415831	8	7	11220	150	4	< 0.5	< 0.2	1	< 0.5	< 0.5	1708	< 0.4	762	1610	181	715	110	29.5	68.6	8.2	37.7	6.1	14.1	1.67
415832	< 5	3	12010	167	18	< 0.5	< 0.2	13	< 0.5	< 0.5	1372	< 0.4	989	1950	208	778	120	32.7	80.5	9.3	41.6	6.6	15.3	1.67
415833	< 5	4	14060	166	7	< 0.5	< 0.2	3	< 0.5	< 0.5	1761	< 0.4	1040	2250	246	910	131	36.8	82.6	9.2	41.3	6.6	15.0	1.66
415834	6	< 2	13070	191	4	< 0.5	< 0.2	2																

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Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415835	6	< 2	12170	215	7	< 0.5	< 0.2	5	< 0.5	< 0.5	2694	< 0.4	1180	2530	274	1020	151	39.0	94.2	10.9	50.5	8.1	19.1	2.29
415836	5	< 2	12900	130	15	0.5	< 0.2	3	< 0.5	< 0.5	2170	< 0.4	980	2020	213	767	103	28.5	61.9	7.1	32.5	5.3	12.5	1.53
415837	7	< 2	14300	203	13	< 0.5	< 0.2	3	< 0.5	< 0.5	3354	< 0.4	1900	3520	348	1210	165	41.5	103	11.0	49.2	7.8	18.2	2.22
415838	6	< 2	15020	116	19	0.7	< 0.2	2	< 0.5	< 0.5	2473	< 0.4	1060	2200	228	785	96.5	27.0	56.4	6.3	29.2	4.7	11.3	1.41
415839	< 5	< 2	14170	138	17	< 0.5	< 0.2	2	< 0.5	< 0.5	2816	< 0.4	1040	2220	232	821	111	32.1	68.2	7.2	33.0	5.3	12.6	1.59
415840	< 5	< 2	13850	99	31	< 0.5	< 0.2	3	< 0.5	< 0.5	2482	< 0.4	638	1430	158	578	74.3	23.7	42.3	4.6	21.8	3.7	9.5	1.28
415841	5	< 2	12060	191	10	0.5	< 0.2	4	< 0.5	< 0.5	1681	< 0.4	1220	2380	247	894	133	36.1	86.4	9.8	45.4	7.4	17.8	2.10
415842	< 5	< 2	8988	180	7	1.0	< 0.2	8	< 0.5	< 0.5	2721	< 0.4	788	1670	176	645	99.0	27.9	72.1	9.5	45.4	7.7	18.4	2.22
415843	< 5	80	3944	196	5	2.8	< 0.2	21	< 0.5	1.8	9463	0.5	785	1560	160	566	89.2	23.6	65.3	9.0	45.4	8.0	21.7	3.19
415844	6	51	3160	176	4	1.1	< 0.2	22	< 0.5	1.0	3553	< 0.4	958	1930	204	734	101	25.9	70.5	9.0	42.4	7.0	17.5	2.21
415845	21	73	5633	663	3	1.6	< 0.2	10	< 0.5	1.6	4852	0.4	3820	7460	741	2540	327	82.5	229	28.6	138	23.4	60.0	7.83
415846	< 5	181	3603	209	5	2.0	< 0.2	10	< 0.5	3.7	5605	< 0.4	834	1580	163	578	85.3	20.8	59.0	8.0	41.2	7.3	20.2	2.86
415847	9	8	10270	214	3	< 0.5	< 0.2	2	< 0.5	< 0.5	1795	< 0.4	1360	2800	302	1200	181	48.3	112	13.1	58.7	9.1	21.3	2.44
415848	11	< 2	12250	224	21	< 0.5	< 0.2	2	< 0.5	< 0.5	1986	< 0.4	1330	2740	293	1150	176	46.2	108	12.7	57.8	9.1	21.9	2.53
415849	9	20	7248	325	10	1.6	< 0.2	7	< 0.5	0.8	1615	< 0.4	1310	2480	254	953	149	40.4	104	13.6	67.5	11.8	30.3	4.10
415850	9	57	8011	196	3	0.8	< 0.2	6	< 0.5	1.9	1973	< 0.4	1370	2740	286	1080	152	38.5	92.5	10.8	49.9	8.0	19.4	2.30
415851	< 5	74	2171	169	3	1.9	< 0.2	16	< 0.5	2.1	2037	< 0.4	703	1340	137	487	69.8	18.0	50.4	7.0	36.2	6.5	17.7	2.49
415852	< 5	152	2808	57	4	1.0	< 0.2	8	< 0.5	1.8	2745	< 0.4	289	576	61.3	221	31.4	6.58	20.7	2.6	13.3	2.3	6.5	0.95
415853	< 5	46	1058	110	15	1.1	< 0.2	15	< 0.5	1.2	867	< 0.4	648	1190	116	398	52.7	13.0	35.0	4.5	22.5	3.9	10.3	1.36
415854	< 5	69	3273	69	< 2	2.2	< 0.2	21	< 0.5	3.3	1429	< 0.4	295	611	67.2	247	37.0	8.71	24.5	3.1	15.1	2.7	7.2	1.01
415855	12	66	2739	229	4	1.2	< 0.2	10	< 0.5	4.3	393	< 0.4	876	1740	187	703	110	28.1	76.9	10.3	51.8	8.9	22.7	2.99
415856	5	3	7217	192	21	0.7	< 0.2	5	< 0.5	< 0.5	1121	0.7	980	2020	208	740	102	27.7	68.1	9.2	46.4	8.0	21.2	2.79
415857	< 5	< 2	7478	220	25	1.2	< 0.2	7	< 0.5	< 0.5	1261	1.4	1040	2130	230	846	130	32.7	87.4	10.9	53.5	9.4	24.6	3.30
415858	8	< 2	6274	264	29	0.5	< 0.2	4	< 0.5	< 0.5	2951	< 0.4	1780	3330	331	1230	173	45.4	110	14.0	65.4	10.7	26.2	3.23
415859	8	8	12410	249	88	1.8	< 0.2	5	< 0.5	< 0.5	2301	0.5	2140	3640	334	1120	144	36.4	93.1	11.8	58.4	9.9	25.2	3.17
415860	7	6	6196	276	21	0.7	< 0.2	8	< 0.5	< 0.5	2740	< 0.4	1470	2950	300	1110	156	41.8	105	13.8	66.9	11.3	28.0	3.46
415861	13	3	2810	415	7	0.6	< 0.2	11	< 0.5	< 0.5	608	< 0.4	2410	4600	457	1660	235	61.6	152	18.9	90.6	15.3	39.3	4.94
415862	23	72	1567	845	9	1.9	< 0.2	23	< 0.5	2.5	1660	0.5	6970	11500	969	2900	313	76.8	240	32.3	167	29.9	80.2	10.9
415863	< 5	450	1400	91	< 2	3.2	< 0.2	24	< 0.5	7.9	1476	< 0.4	242	522	59.2	198	33.6	7.64	25.2	3.6	19.1	3.5	9.5	1.38
415864	< 5	77	2067	133	< 2	0.6	< 0.2	9	< 0.5	1.1	376	< 0.4	547	1280	155	625	98.3	26.2	61.4	7.5	34.7	5.5	12.9	1.52
415865	7	125	2134	225	< 2	1.1	< 0.2	15	< 0.5	3.2	3144	< 0.4	831	1600	167	620	96.8	24.7	67.5	9.2	46.9	8.3	21.5	2.96
415866	7	4	10560	217	< 2	0.5	< 0.2	6	< 0.5	< 0.5	761	< 0.4	769	1850	219	911	156	42.4	96.7	11.6	54.5	8.9	20.6	2.31
415867	8	< 2	10860	235	< 2	< 0.5	< 0.2	6	< 0.5	< 0.5	1112	< 0.4	853	2040	246	1040	199	54.5	122	13.7	58.9	9.2	21.5	2.54
415868	7	99	3556	211	3	0.8	< 0.2	12	< 0.5	2.1	1853	< 0.4	840	1860	208	801	132	32.7	87.1	11.1	53.4	8.7	20.8	2.48
415869	11	44	2748	296	2	1.0	< 0.2	15	< 0.5	2.1	775	< 0.4	1210	2680	291	1130	181	45.0	122	15.3	72.3	11.7	27.6	3.44
415870	14	7	7862	283	3	0.7	< 0.2	9	< 0.5	0.5	1614	< 0.4	1240	2500	261	999	153	39.8	103	13.5	66.7	11.3	28.7	3.66
415871	< 5	68	7180	126	6	< 0.5	< 0.2	5	< 0.5	0.7	1683	< 0.4	643	1230	128	465	64.5	17.3	41.5	5.6	29.2	5.1	13.2	1.65
415872	6	4	7880	240	3	0.5	< 0.2	19	< 0.5	< 0.5	1442	< 0.4	690	1490	170	684	123	33.2	79.7	10.0	48.5	8.3	21.3	2.72
415873	< 5	< 2	5462	175	3	< 0.5	< 0.2	7	< 0.5	< 0.5	1185	< 0.4	776	1690	185	710	112	31.0	71.4	9.0	42.8	7.0	17.1	2.12
415874	< 5	< 2	1604	192	5	0.7	< 0.2	7	< 0.5	< 0.5	514	< 0.4	859	1870	204	778	116	32.2	76.9	9.8	49.0	8.3	21.0	2.64
415875	14	30	2192	277	5	3.0	< 0.2	11	0.8	1.2	1131	0.6	1160	2400	253	948	140	37.8	95.1	13.0	64.8	11.2	28.4	3.70
415876	7	3	5195	246	2	0.7	< 0.2	9	< 0.5	< 0.5	1663	< 0.4	1020	2230	245	969	153	41.9	98.2	12.4	58.3	9.5	22.9	2.85
415877	6	5	4479	135	5	< 0.5	< 0.2	12	< 0.5	< 0.5	405	< 0.4	880	1780	206	766	116	28.4	64.6	7.9	35.9	5.7	13.2	1.47
415878	< 5	44	1637	108	6	0.9	< 0.2	12	< 0.5	1.3	631	< 0.4	436	845	96.9	359	57.8	14.1	35.5	5.0	24.6	4.3	10.7	1.34

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415702	14.8	1.97	4.3	0.6	< 1	0.2	17	328	2.9	
415703	10.9	1.74	14.4	8.0	1	0.3	23	170	2.4	
415704	8.7	1.33	11.4	11.1	1	0.4	31	155	2.0	
415705	8.5	1.26	11.1	8.8	1	0.4	44	170	3.9	
415706	28.8	3.79	9.5	5.2	2	0.3	27	526	7.2	
415707	4.1	0.57	8.2	4.9	3	0.4	31	32.1	2.5	
415789	12.3	1.78	14.9	27.1	3	0.4	42	165	21.3	
415790	7.5	1.12	4.7	7.2	7	0.4	16	85.0	5.8	
415791	10.7	1.60	7.7	21.3	2	0.4	64	182	24.3	
415792	11.7	1.72	7.8	21.0	2	0.4	64	193	30.0	
415793	16.7	2.45	15.7	18.4	2	0.5	25	361	15.2	
415794	8.8	1.37	13.0	22.2	2	0.4	28	139	6.1	
415795	5.7	0.82	6.5	14.4	< 1	0.2	12	169	5.7	
415796	19.3	2.78	6.6	12.6	< 1	0.3	32	582	12.4	
415797	26.5	3.98	5.2	6.4	< 1	0.5	105	519	12.3	
415798	23.0	3.36	4.4	11.9	< 1	0.3	90	471	11.4	
415799	34.5	4.98	8.0	7.8	< 1	0.3	114	652	11.9	
415800	9.1	1.40	13.9	7.5	2	0.5	42	216	6.0	
415801	16.1	2.34	11.9	13.8	2	0.4	30	364	3.6	
415802	7.3	1.09	16.7	3.8	3	0.4	47	47.2	2.9	
415803	7.4	1.12	3.6	0.6	< 1	< 0.1	106	748	2.8	
415804	15.7	2.33	2.8	1.7	< 1	< 0.1	62	597	3.0	
415805	35.7	5.41	3.9	6.2	< 1	0.1	72	630	3.8	
415806	16.9	2.50	3.4	0.5	< 1	0.5	440	1910	3.3	
415807	3.5	0.51	8.7	76.1	3	1.3	36	162	25.1	
415808	9.1	1.39	5.0	31.0	< 1	1.0	24	409	12.7	
415809	9.8	1.54	8.4	56.1	1	1.1	37	145	20.3	
415810	7.4	1.14	9.6	28.3	1	0.5	16	119	7.6	
415811	6.9	1.01	3.1	2.5	< 1	0.2	83	993	6.1	
415812	7.1	1.12	15.0	7.8	3	0.5	18	92.2	6.3	
415813	13.6	1.85	2.0	0.2	< 1	< 0.1	51	374	3.6	
415814	25.9	3.67	2.6	0.2	< 1	< 0.1	44	336	2.7	
415815	15.7	2.18	2.0	0.3	< 1	< 0.1	51	292	1.5	
415816	16.4	2.29	8.9	30.3	< 1	1.3	52	296	12.1	
415817	10.8	1.47	5.1	9.2	< 1	0.6	45	258	7.4	
415818	5.0	0.65	7.6	6.2	< 1	< 0.1	45	341	1.8	
415819	11.1	1.52	15.9	3.3	< 1	0.3	73	1130	2.7	
415820	7.2	0.91	3.6	1.0	< 1	< 0.1	46	160	1.1	
415821	12.4	1.58	3.2	0.3	< 1	< 0.1	70	174	1.7	
415822	24.0	3.12	5.8	2.3	< 1	0.3	33	943	4.8	
415823	8.7	1.09	1.9	1.3	< 1	0.2	43	21.1	2.7	
415824	8.5	0.97	1.9	1.9	< 1	0.2	31	16.6	2.7	
415825	5.9	0.66	0.8	2.5	< 1	< 0.1	27	19.1	1.9	
415826	6.7	0.77	2.0	0.4	< 1	0.4	28	23.1	3.1	
415827	6.1	0.68	0.7	1.3	< 1	0.1	28	16.9	1.3	
415828	8.4	0.96	1.4	1.1	< 1	< 0.1	29	35.8	2.1	
415829	4.8	0.61	8.4	37.7	1	0.3	15	22.8	9.1	
415830	2.5	0.32	6.0	34.8	2	1.1	31	21.8	16.3	
415831	8.7	1.11	1.3	0.8	< 1	< 0.1	47	40.4	5.9	
415832	8.5	1.09	1.2	0.8	< 1	< 0.1	39	63.7	3.0	
415833	8.8	1.02	1.2	< 0.1	< 1	< 0.1	38	79.4	0.5	
415834	8.9	1.00	1.0	< 0.1	< 1	< 0.1	41	53.6	0.2	

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415835	11.8	1.39	2.1	< 0.1	1	< 0.1	51	61.2	0.7	
415836	8.4	1.07	0.8	< 0.1	< 1	< 0.1	54	113	0.8	
415837	11.7	1.39	1.1	< 0.1	< 1	< 0.1	67	89.0	0.4	
415838	7.8	1.03	0.8	< 0.1	< 1	< 0.1	56	101	0.5	
415839	8.5	1.04	1.0	< 0.1	< 1	< 0.1	56	86.4	0.4	
415840	7.7	1.08	0.6	< 0.1	< 1	< 0.1	44	152	1.0	
415841	11.9	1.54	1.4	0.1	< 1	< 0.1	53	109	0.7	
415842	12.0	1.59	4.9	0.3	< 1	< 0.1	84	195	1.4	
415843	19.6	2.77	23.4	7.0	< 1	0.3	63	447	6.2	
415844	12.6	1.74	9.3	1.8	< 1	0.2	40	412	3.7	
415845	45.1	5.80	9.2	1.8	< 1	0.3	48	610	4.0	
415846	17.1	2.35	17.3	9.6	< 1	0.4	56	170	6.5	
415847	11.7	1.29	1.5	< 0.1	< 1	< 0.1	78	96.6	1.8	
415848	12.7	1.46	1.1	0.4	< 1	< 0.1	63	128	3.1	
415849	24.1	3.13	12.7	1.7	< 1	< 0.1	56	166	5.2	
415850	11.7	1.38	7.1	0.8	< 1	0.1	40	141	6.2	
415851	14.8	2.01	18.1	6.5	< 1	0.2	16	147	6.8	
415852	6.3	1.03	9.9	3.5	< 1	0.4	21	42.5	1.9	
415853	8.0	1.14	8.6	2.8	< 1	0.1	10	88.9	2.9	
415854	6.5	1.05	17.7	6.0	< 1	0.2	23	61.2	5.6	
415855	17.1	2.25	7.5	3.7	< 1	0.2	29	271	8.7	
415856	15.9	2.12	4.2	0.1	< 1	< 0.1	117	266	0.9	
415857	19.0	2.49	5.2	< 0.1	< 1	< 0.1	181	447	0.5	
415858	17.7	2.37	3.0	0.1	< 1	< 0.1	144	136	0.9	
415859	17.8	2.39	5.4	0.6	< 1	< 0.1	112	229	2.0	
415860	18.6	2.43	4.2	0.3	< 1	0.3	84	305	1.9	
415861	26.3	3.18	4.0	0.4	< 1	< 0.1	39	347	2.6	
415862	64.7	8.88	19.2	4.6	1	0.3	39	334	9.8	
415863	8.4	1.18	27.3	22.5	< 1	0.8	12	93.0	15.1	
415864	7.3	0.88	7.8	0.9	< 1	0.2	5	60.6	3.7	
415865	17.1	2.36	9.7	6.4	< 1	0.3	15	123	5.6	
415866	11.2	1.29	2.8	< 0.1	< 1	< 0.1	36	122	0.8	
415867	13.5	1.78	1.4	< 0.1	< 1	< 0.1	48	371	0.4	
415868	13.2	1.72	7.1	3.3	< 1	0.3	36	252	3.0	
415869	18.7	2.49	7.1	4.3	< 1	0.2	24	260	4.9	
415870	20.3	2.69	5.9	0.5	< 1	< 0.1	67	94.1	4.2	
415871	8.9	1.19	3.4	1.1	< 1	0.2	58	48.7	2.3	
415872	15.1	2.02	4.4	1.1	< 1	< 0.1	26	177	4.7	
415873	11.3	1.49	1.9	0.5	< 1	< 0.1	37	99.3	3.9	
415874	14.4	1.89	2.6	0.4	< 1	< 0.1	26	76.3	1.5	
415875	20.2	2.63	8.0	3.4	2	0.1	47	137	12.0	
415876	15.3	1.95	3.6	< 0.1	< 1	< 0.1	30	122	1.1	
415877	6.7	0.76	2.1	2.1	< 1	< 0.1	11	145	2.2	
415878	7.5	1.03	11.9	4.5	< 1	0.2	12	93.7	2.1	

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Quality Control																										
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge		
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1		
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS		
WMG-1 Meas																		760	206	2520	5840	110	10			
WMG-1 Cert																		770	200	2700	5900	110	10.3			
DH-1a Meas																										
DH-1a Cert																										
NIST 694 Meas			11.44	1.91	0.75	0.013	0.34	42.81	0.91	0.55	0.117	30.16					1679									
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740									
DNC-1 Meas																		280	59	260	100	70				
DNC-1 Cert																		270.0	57.0	247	100.0	70.0				
GBW 07113 Meas			69.97	12.51	3.10	0.138	0.15	0.61	2.46	5.37	0.273	0.05			5	4	< 5									
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00									
GXR-2 Meas																		30	9	< 20	80	540	35			
GXR-2 Cert																		36.0	8.60	21.0	76.0	530	37.0			
NIST 1633b Meas			49.27	28.98	11.40	0.019	0.77	2.22	0.28	2.32	1.306	0.56			40		307									
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296									
BE-N Meas	0.015	0.037																								
BE-N Cert	0.015	0.035																								
AC-E Meas	0.015	0.099																								
AC-E Cert	0.016	0.105																								
OKA-1 Meas	0.525																									
OKA-1 Cert	0.529																									
W-2a Meas			51.77	15.42	10.70	0.169	6.26	11.05	2.26	0.63	1.064	0.16			36	< 1	282	80	43	70	110	80	17	2		
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00		
SY-4 Meas			49.92	20.28	6.22	0.108	0.51	8.19	7.00	1.69	0.286	0.12			2	3	6									
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0									
CTA-AC-1 Meas																										
CTA-AC-1 Cert																										
BIR-1a Meas			48.22	15.63	11.39	0.174	9.63	13.53	1.83	0.02	0.947	0.04			43	< 1	340									
BIR-1a Cert			47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313									
NCS DC86312 Meas																										
NCS DC86312 Cert																										
ZW-C Meas		0.008																								
ZW-C Cert		0.011																								
VS-N Meas	0.101	0.091																								
VS-N Cert	0.10	0.095																								
NCS DC70014 Meas																				25	70	2610	7400	25		
NCS DC70014 Cert																				26.2	70.9	2600.00	7400.00	25.2		
IGS 40 Meas																										
IGS 40 Cert																										
NCS DC86316 Meas		4.515																								
NCS DC86316 Cert		4.68																								
NCS DC70009 (GBW07241) Meas																		30	3	< 20	940	100	17	11		
NCS DC70009 (GBW07241) Cert																		30	3.7	2.8	960.000	100.000	16.5	11.2		
OREAS 100a (Fusion) Meas																				17		170				
OREAS 100a (Fusion) Cert																				18.1		169				
OREAS 101a (Fusion) Meas																					48		430			
OREAS 101a (Fusion) Cert																					48.8		434			
JR-1 Meas																		< 20	< 1	< 20	< 10	< 30	16	3		
JR-1 Cert																		2.83	0.83	1.67	2.68	30.6	16.1	1.88		
SX18-01 Meas	0.692	0.088																								
SX18-01 Cert	0.695	0.093																								
SX18-04 Meas	1.356	0.153																								
SX18-04 Cert	1.32	0.146																								
SX18-05 Meas	0.995	0.216																								

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Quality Control																										
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge		
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1		
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS		
SX18-05 Cert	0.973	0.218																								
SARM 3 Meas		1.514																								
SARM 3 Cert		1.49																								
415797 Orig			14.67	5.32	33.84	2.145	1.12	23.89	0.10	1.71	0.090	2.31	11.28	96.48	9	15	27	< 20	< 1	< 20	10	1040	30	4		
415797 Dup			14.91	5.32	34.08	2.156	1.12	23.99	0.10	1.73	0.088	2.32	11.28	97.09	9	16	27	< 20	< 1	< 20	10	1040	30	4		
415812 Orig	0.035	0.085																< 20	< 1	< 20	< 10	140	30	2		
415812 Split	0.034	0.084	60.85	15.41	6.69	0.354	0.96	2.56	5.49	6.06	0.267	0.11	1.82	100.6	6	7	< 5	< 20	1	< 20	< 10	140	29	2		
415812 Orig	0.034	0.086																< 20	1	< 20	< 10	140	29	2		
415812 Dup	0.035	0.084																								
415814 Orig																		< 20	1	< 20	< 10	1120	13	2		
415814 Dup																		< 20	1	< 20	< 10	1110	13	2		
415814 Orig																		< 20	1	< 20	< 10	1120	13	2		
415814 Dup																		< 20	1	< 20	< 10	1110	13	2		
415832 Orig	0.137	0.040																< 20	< 1	< 20	< 10	220	11	1		
415832 Split	0.140	0.037	0.54	0.30	28.21	2.007	1.00	35.56	0.04	0.06	0.018	3.69	24.55	95.97	2	< 1	6	< 20	< 1	< 20	< 10	220	8	1		
415841 Orig	0.146	0.039																								
415841 Dup	0.145	0.039																								
415842 Orig	0.255	0.050																< 20	< 1	< 20	< 10	610	14	1		
415842 Split	0.253	0.049	0.79	0.44	39.55	2.651	0.93	29.12	0.06	0.04	0.030	0.76	21.89	96.24	5	3	45	< 20	1	< 20	< 10	610	9	< 1		
415844 Orig			12.73	3.93	61.95	2.181	1.37	9.14	0.61	1.06	0.472	1.20	2.47	97.13	7	8	58	< 20	5	< 20	< 10	1200	42	2		
415844 Dup			12.63	3.95	61.91	2.174	1.36	9.11	0.61	1.06	0.480	1.19	2.47	96.94	7	8	58	< 20	5	< 20	< 10	1190	41	2		
415861 Orig			1.19	0.68	52.75	2.813	0.73	22.83	0.04	0.02	0.056	6.33	8.96	96.40	7	2	36	< 20	2	< 20	< 10	590	31	4		
415861 Dup			1.28	0.71	52.34	2.770	0.74	23.13	0.05	0.02	0.057	6.43	8.96	96.48	7	2	36	< 20	2	< 20	< 10	580	31	4		
415870 Orig	0.244	0.056																								
415870 Dup	0.245	0.057																								
415872 Orig	0.171	0.050	5.64	1.35	32.07	1.503	1.10	32.64	0.17	0.13	0.150	3.39	19.65	97.78	3	5	35	< 20	< 1	< 20	< 10	250	13	2		
415872 Split	0.172	0.049	5.51	1.34	32.41	1.521	1.08	31.96	0.17	0.13	0.152	3.23	19.50	97.00	3	5	35	< 20	< 1	< 20	< 10	270	11	2		
Method Blank Method	< 0.003	< 0.003																								
Blank																										

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas	9				< 2	2.2		2	3.3	< 0.5			8.9	18.5		9.7	2.4	0.73		0.4	2.4	0.5		0.21	
WMG-1 Cert	7.00				1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	
DH-1a Meas																									
DH-1a Cert																									
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas									1.2				5.0					0.60							
DNC-1 Cert									0.96				3.6				5.20	0.59							
GBW 07113 Meas			41	45							490														
GBW 07113 Cert			43.0	43.0							506														
GXR-2 Meas	24	76			< 2	16.4	< 0.2	2	47.9	5.4		< 0.4	27.5	53.6		19.8	3.6	0.74	3.0	0.5	2.7			0.26	
GXR-2 Cert	25.0	78.0			2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50	0.810	3.30	0.480	3.30			0.300	
NIST 1633b Meas			1050								713														
NIST 1633b Cert			1040								709														
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	< 5	19	201	21	< 2	< 0.5			1.5	0.9	178	< 0.4	11.3	24.6		12.7	3.3	1.07		0.6	3.7	0.8	2.1	0.33	
W-2a Cert	1.20	21.0	190	24.0	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	
SY-4 Meas			1173	119							356														
SY-4 Cert			1191	119							340														
CTA-AC-1 Meas													2260	3320		1100	161	44.0	121	14.4					
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9					
BIR-1a Meas			110	14																					
BIR-1a Cert			108	16.0																					
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas					270	17.3			180			80.3	48.0	89.6	10.0	38.0	7.8	1.65	7.0	1.1	6.2	1.2	3.4	0.52	
NCS DC70014 Cert					270.000	16.7			180.000			80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	
IGS 40 Meas													20700	32200	2670	7580									
IGS 40 Cert													20720.00	32247	2730.000	8320.000									
NCS DC86316 Meas																									
NCS DC86316 Cert																									
NCS DC70009 (GBW07241) Meas	70	508				1.9	1.3	1700	3.8	44.0			26.1	63.4	7.97	32.1	12.6	0.12	14.8	3.3	21.3	4.4	13.3	2.40	
NCS DC70009 (GBW07241) Cert	69.9	500.00				1.8	1.3	1700.00	3.1	41			23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	
OREAS 100a (Fusion) Meas					23								275	469	45.8	147	23.6	3.53	19.8	3.6	21.9	4.8	14.2	2.30	
OREAS 100a (Fusion) Cert					24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	
OREAS 101a (Fusion) Meas					20								842	1420	130	390	49.9	7.97	35.3	5.4	31.1	6.4	18.8	2.89	
OREAS 101a (Fusion) Cert					21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	
JR-1 Meas	17	244			3	< 0.5	< 0.2	3	1.6	20.8		0.6	21.8	49.8	5.95	23.3	5.7	0.29	5.4	1.0	6.0	1.3	3.9	0.68	
JR-1 Cert	16.3	257			3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-05 Cert																									
SARM 3 Meas																									
SARM 3 Cert																									
415797 Orig	10	64	2624	297	28	1.7	< 0.2	21	< 0.5	1.6	6019	0.6	1130	1930	229	817	129	34.8	86.0	11.4	56.2	10.2	28.3	4.12	
415797 Dup	10	64	2589	295	28	1.7	< 0.2	21	< 0.5	1.6	6110	0.6	1170	1980	235	837	132	35.6	88.4	11.6	58.2	10.6	29.3	4.18	
415812 Orig	< 5	160			15	2.8	< 0.2	5	< 0.5	4.0		< 0.4	337	568	55.8	186	28.3	5.04	18.5	2.6	13.3	2.5	7.1	1.07	
415812 Split	< 5	155	775	65	15	1.4	< 0.2	6	< 0.5	4.1	1736	< 0.4	328	545	56.1	185	28.4	5.17	17.2	2.5	13.4	2.6	7.2	1.08	
415812 Orig																									
415812 Dup																									
415814 Orig	< 5	3			79	1.0	< 0.2	71	< 0.5	< 0.5		2.8	1120	2530	264	929	147	38.3	102	13.1	65.6	11.9	31.8	4.35	
415814 Dup	< 5	3			79	0.9	< 0.2	70	< 0.5	< 0.5		3.3	1150	2590	267	933	148	38.5	104	13.3	66.4	11.9	32.4	4.42	
415814 Orig	< 5	3			79	1.0	< 0.2	71	< 0.5	< 0.5		2.8	1120	2530	264	929	147	38.3	102	13.1	65.6	11.9	31.8	4.35	
415814 Dup	< 5	3			79	0.9	< 0.2	70	< 0.5	< 0.5		3.3	1150	2590	267	933	148	38.5	104	13.3	66.4	11.9	32.4	4.42	
415832 Orig	< 5	3			18	< 0.5	< 0.2	13	< 0.5	< 0.5		< 0.4	989	1950	208	778	120	32.7	80.5	9.3	41.6	6.6	15.3	1.67	
415832 Split	< 5	4	12290	171	19	< 0.5	< 0.2	13	< 0.5	< 0.5	1412	< 0.4	909	1860	214	801	125	34.2	72.0	9.6	45.0	7.1	16.3	1.83	
415841 Orig																									
415841 Dup																									
415842 Orig	< 5	< 2			7	1.0	< 0.2	8	< 0.5	< 0.5		< 0.4	788	1670	176	645	99.0	27.9	72.1	9.5	45.4	7.7	18.4	2.22	
415842 Split	< 5	< 2	9092	182	8	0.6	< 0.2	9	< 0.5	< 0.5	2745	< 0.4	746	1600	180	657	101	28.6	66.0	9.4	47.4	7.9	19.3	2.40	
415844 Orig	6	51	3144	175	4	1.1	< 0.2	22	< 0.5	1.0	3574	< 0.4	966	1950	204	734	102	26.1	71.5	9.1	42.4	7.0	17.5	2.23	
415844 Dup	5	50	3176	176	4	1.1	< 0.2	23	< 0.5	1.0	3531	< 0.4	949	1910	204	733	101	25.6	69.6	8.8	42.4	7.0	17.4	2.19	
415861 Orig	13	3	2744	412	7	0.6	< 0.2	12	< 0.5	< 0.5	619	< 0.4	2380	4550	452	1650	231	61.0	151	18.8	89.9	15.1	38.9	4.89	
415861 Dup	13	3	2877	418	7	0.5	< 0.2	11	< 0.5	< 0.5	598	< 0.4	2430	4650	463	1680	239	62.2	154	19.0	91.3	15.5	39.7	4.99	
415870 Orig																									
415870 Dup																									
415872 Orig	6	4	7880	240	3	0.5	< 0.2	19	< 0.5	< 0.5	1442	< 0.4	690	1490	170	684	123	33.2	79.7	10.0	48.5	8.3	21.3	2.72	
415872 Split	5	4	8008	231	4	< 0.5	< 0.2	24	< 0.5	< 0.5	1422	< 0.4	689	1470	178	706	129	34.3	77.3	10.2	50.1	8.6	22.3	2.83	
Method Blank Method																									
Blank																									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	1.3	0.19	1.6	0.3	1		17	1.4	0.8
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650
DH-1a Meas								914	2620
DH-1a Cert								910	2630
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas	2.0								
DNC-1 Cert	2.0								
GBW 07113 Meas									
GBW 07113 Cert									
GXR-2 Meas	1.7	0.25	6.1	0.7	2	0.7	658	8.3	2.9
GXR-2 Cert	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90
NIST 1633b Meas									
NIST 1633b Cert									
BE-N Meas									
BE-N Cert									
AC-E Meas									
AC-E Cert									
OKA-1 Meas									
OKA-1 Cert									
W-2a Meas	2.0	0.29	2.6	0.5	< 1	< 0.1	9	2.3	0.5
W-2a Cert	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	10.5	1.05	1.5	2.7				23.2	4.3
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4
BIR-1a Meas									
BIR-1a Cert									
NCS DC86312 Meas								26.2	
NCS DC86312 Cert								23.6	
ZW-C Meas									
ZW-C Cert									
VS-N Meas									
VS-N Cert									
NCS DC70014 Meas	3.3	0.47					27200		
NCS DC70014 Cert	3.3	0.50					27200.00		
IGS 40 Meas									
IGS 40 Cert									
NCS DC86316 Meas									
NCS DC86316 Cert									
NCS DC70009 (GBW07241) Meas	16.4	2.31			2330	2.1	63	29.0	
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8	81.2	28.3	
OREAS 100a (Fusion) Meas	14.6	2.07						50.6	138
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135
OREAS 101a (Fusion) Meas	17.9	2.46						35.5	421
OREAS 101a (Fusion) Cert	17.5	2.66						36.6	422
JR-1 Meas	4.6	0.67	5.1	1.7	3	1.2	20	26.3	9.2
JR-1 Cert	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88
SX18-01 Meas									
SX18-01 Cert									
SX18-04 Meas									
SX18-04 Cert									
SX18-05 Meas									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

SX18-05 Cert									
SARM 3 Meas									
SARM 3 Cert									
415797 Orig	26.1	3.93	5.1	6.3	< 1	0.5	102	515	12.1
415797 Dup	26.8	4.04	5.4	6.5	2	0.5	108	523	12.5
415812 Orig	7.1	1.12	15.0	7.8	3	0.5	18	92.2	6.3
415812 Split	7.2	1.15	16.3	8.3	3	0.5	19	96.8	7.0
415812 Orig									
415812 Dup									
415814 Orig	25.7	3.65	2.6	0.3	< 1	< 0.1	44	334	2.7
415814 Dup	26.2	3.70	2.6	0.2	< 1	< 0.1	44	337	2.7
415814 Orig	25.7	3.65	2.6	0.3	< 1	< 0.1	44	334	2.7
415814 Dup	26.2	3.70	2.6	0.2	< 1	< 0.1	44	337	2.7
415832 Orig	8.5	1.09	1.2	0.8	< 1	< 0.1	39	63.7	3.0
415832 Split	9.1	1.17	1.0	0.4	< 1	< 0.1	40	65.7	3.3
415841 Orig									
415841 Dup									
415842 Orig	12.0	1.59	4.9	0.3	< 1	< 0.1	84	195	1.4
415842 Split	12.7	1.63	5.1	0.2	< 1	< 0.1	90	209	1.6
415844 Orig	12.8	1.78	9.3	1.8	< 1	0.2	40	413	3.6
415844 Dup	12.4	1.70	9.3	1.8	< 1	0.2	39	410	3.7
415861 Orig	26.1	3.17	4.0	0.5	< 1	< 0.1	40	346	2.5
415861 Dup	26.6	3.20	4.0	0.4	< 1	< 0.1	39	348	2.6
415870 Orig									
415870 Dup									
415872 Orig	15.1	2.02	4.4	1.1	< 1	< 0.1	26	177	4.7
415872 Split	15.8	2.14	4.8	1.5	< 1	< 0.1	29	184	5.0
Method Blank Method									
Blank									



Date Submitted: 17-Mar-10
Invoice No.: A10-1194
Invoice Date: 15-Apr-10
Your Reference: Clay Howells (RA-7)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

125 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1194**

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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control

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Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415768	0.047	0.110	42.56	6.94	14.55	1.671	3.91	18.76	1.86	2.46	0.156	2.86	3.34	99.08	19	29	8	< 20	4	< 20	20	660	25	3
415769	0.021	0.090	44.09	8.64	11.16	1.387	3.16	17.38	1.84	3.96	0.137	2.56	4.90	99.23	15	25	5	< 20	< 1	< 20	< 10	480	24	2
415770	0.015	0.094	45.61	8.89	11.00	1.360	3.17	16.44	1.43	4.48	0.140	2.94	2.73	98.18	16	27	< 5	< 20	2	< 20	< 10	480	28	3
415771	0.181	0.080	17.13	4.11	26.80	1.916	2.76	24.10	0.28	1.92	0.152	4.48	11.91	95.56	12	12	46	< 20	3	< 20	10	1130	34	2
415772	0.270	0.120	9.68	3.14	29.27	1.756	2.37	26.59	0.02	1.60	0.204	3.26	16.80	94.68	13	4	90	30	4	< 20	< 10	1560	35	2
415773	0.228	0.073	9.55	3.08	44.30	2.459	2.42	19.03	0.01	1.45	0.076	2.43	10.73	95.54	12	3	75	< 20	6	< 20	< 10	1770	32	1
415774	0.314	0.074	2.76	0.82	34.96	2.394	1.01	29.71	0.03	0.26	0.059	3.48	20.10	95.57	9	< 1	50	< 20	< 1	< 20	< 10	1170	18	< 1
415775	0.315	0.059	2.28	0.66	45.16	2.902	1.03	25.64	0.02	0.10	0.057	2.45	16.29	96.58	10	< 1	51	< 20	2	< 20	< 10	1580	15	< 1
415776	0.196	0.062	4.85	1.51	41.55	2.694	1.98	24.74	0.04	0.68	0.055	3.61	14.25	95.96	10	< 1	43	< 20	2	< 20	< 10	1270	24	1
415777	0.255	0.082	11.31	3.91	25.75	1.852	3.49	25.72	0.09	2.20	0.121	3.61	16.64	94.68	11	2	53	< 20	5	< 20	< 10	1290	37	1
415778	0.183	0.067	3.17	1.15	52.56	2.364	1.29	20.02	0.04	0.29	0.089	4.57	9.78	95.34	10	< 1	56	< 20	6	< 20	< 10	1570	21	2
415779	0.113	0.057	7.45	1.93	65.44	2.542	1.51	12.15	0.12	0.19	0.137	1.65	3.69	96.81	13	6	79	< 20	8	< 20	< 10	1690	21	1
415780	0.162	0.067	7.06	2.12	54.84	2.878	2.12	16.33	0.05	0.88	0.106	2.09	8.76	97.23	14	2	78	< 20	8	< 20	10	2070	25	1
415781	0.210	0.084	10.62	2.80	42.47	2.760	2.15	20.04	0.08	1.43	0.082	1.93	11.87	96.22	12	4	63	< 20	5	< 20	< 10	1490	31	1
415782	0.149	0.072	11.88	3.47	42.65	2.836	3.43	16.88	0.07	1.93	0.243	1.46	10.13	94.98	13	4	72	< 20	8	< 20	< 10	1680	32	2
415783	0.207	0.051	21.41	6.79	42.54	2.161	3.16	9.90	0.13	3.64	0.150	0.14	5.80	95.80	14	10	88	< 20	7	< 20	< 10	2500	56	2
415784	0.154	0.054	35.86	10.25	27.18	1.982	3.39	8.43	0.35	5.65	0.081	0.34	3.09	96.60	15	19	43	< 20	6	< 20	< 10	2020	53	1
415785	0.206	0.073	17.01	5.13	49.04	2.377	2.71	11.97	0.18	1.94	0.148	0.74	4.61	95.84	19	9	85	< 20	7	< 20	< 10	2740	56	2
415786	0.171	0.052	10.23	3.89	63.53	2.169	2.05	8.32	0.11	1.38	0.073	0.37	3.56	95.69	22	5	64	< 20	8	< 20	< 10	2890	49	1
415787	0.148	0.037	2.68	1.27	71.76	2.909	1.62	9.70	0.03	0.17	0.058	0.38	5.22	95.79	19	5	58	< 20	9	< 20	< 10	3320	22	2
415788	0.127	0.032	3.33	1.63	74.83	3.672	2.05	7.09	0.03	0.18	0.049	0.67	2.34	95.86	18	5	67	< 20	12	< 20	< 10	2850	26	2

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Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415658	10	275	1039	180	5	3.9	< 0.2	26	3.5	9.5	990	< 0.4	883	1580	164	541	79.3	17.7	56.6	7.6	37.6	6.7	18.1	2.50
415659	12	344	961	156	6	3.3	< 0.2	26	6.7	11.4	960	< 0.4	953	1690	174	569	80.1	18.2	54.2	6.8	32.2	5.5	14.7	2.06
415660	6	449	1130	103	4	4.8	< 0.2	28	3.5	6.4	1196	< 0.4	521	907	96.1	318	46.4	11.0	31.2	4.1	20.4	3.7	10.3	1.50
415661	6	104	851	119	3	5.1	< 0.2	30	5.5	2.8	1038	< 0.4	603	1090	119	401	59.4	13.6	40.1	5.3	25.5	4.5	12.0	1.68
415662	15	164	886	290	10	3.2	< 0.2	23	3.5	8.7	277	< 0.4	1360	2460	254	841	120	31.9	86.4	11.6	58.1	10.5	28.1	3.86
415663	11	320	1054	240	8	3.4	< 0.2	19	3.8	10.1	590	< 0.4	1020	1830	189	630	91.5	24.9	68.7	9.5	48.2	8.9	23.8	3.30
415664	11	185	1026	170	4	2.7	< 0.2	19	3.5	4.4	848	< 0.4	1230	2120	212	690	93.7	24.8	63.6	7.7	36.3	6.1	15.7	2.09
415665	9	233	864	115	5	3.4	< 0.2	21	4.1	6.1	676	< 0.4	878	1560	160	520	69.9	18.0	45.7	5.5	25.8	4.4	11.2	1.52
415666	9	202	586	136	4	2.3	< 0.2	22	4.3	6.5	3369	< 0.4	1070	1790	181	576	75.9	18.9	50.5	6.2	29.4	5.1	13.1	1.76
415667	12	111	563	156	4	2.3	< 0.2	25	3.8	5.5	1982	0.5	1090	1890	193	627	87.1	22.6	59.1	7.2	33.5	5.8	15.0	1.99
415668	13	234	897	141	5	2.5	< 0.2	29	3.5	7.0	653	< 0.4	1130	1980	202	652	85.5	20.9	55.0	6.6	30.7	5.2	13.5	1.83
415669	19	146	1135	344	3	2.9	< 0.2	30	3.4	2.5	2363	1.1	1630	2760	274	901	134	37.6	101	13.3	66.2	12.1	33.8	4.95
415670	17	68	613	305	4	2.9	< 0.2	28	3.9	3.1	1051	0.7	1850	3180	320	1040	146	39.8	104	12.9	61.8	10.9	29.7	3.95
415671	19	76	1257	359	3	2.4	< 0.2	29	3.5	1.8	4211	1.2	2050	3400	338	1110	161	45.3	119	14.7	71.2	12.9	34.2	4.76
415672	12	136	862	149	4	2.7	< 0.2	16	3.5	4.1	6013	1.8	904	1510	154	511	74.6	20.4	53.4	6.8	33.0	5.8	15.5	2.05
415673	13	153	974	170	5	2.7	< 0.2	16	3.5	3.2	6621	0.6	972	1650	173	577	84.2	23.2	60.7	7.7	37.7	6.8	17.8	2.32
415674	9	100	582	168	4	1.7	< 0.2	12	4.1	8.9	1581	< 0.4	615	1020	107	358	55.5	15.2	42.0	5.8	31.3	5.9	16.6	2.38
415675	9	103	473	146	3	1.5	< 0.2	9	4.0	7.9	4109	< 0.4	596	986	107	357	54.3	14.9	40.8	5.4	28.6	5.5	15.2	2.15
415676	11	109	635	168	3	2.0	< 0.2	12	3.8	5.2	4658	< 0.4	788	1340	142	473	71.8	20.1	53.1	6.9	33.8	6.1	16.4	2.24
415677	17	109	713	269	4	2.3	< 0.2	22	3.9	3.8	3869	1.0	1880	3090	310	993	129	33.7	87.4	11.0	54.4	9.8	27.4	3.77
415678	12	123	974	187	5	2.5	< 0.2	18	4.7	1.9	3075	0.7	1030	1750	184	607	90.1	25.3	66.0	8.6	41.0	7.3	18.8	2.51
415679	12	150	2690	159	4	2.3	< 0.2	15	3.5	2.9	2598	< 0.4	740	1240	131	431	65.1	18.1	48.4	6.5	32.6	5.9	15.9	2.21
415680	13	64	6863	171	< 2	2.5	< 0.2	14	3.7	2.0	2406	1.4	757	1320	143	482	75.0	21.4	56.1	7.6	36.9	6.6	17.0	2.31
415681	13	38	5921	229	< 2	3.0	< 0.2	16	3.6	2.0	2068	1.8	1050	1860	203	680	103	28.7	74.1	9.9	49.1	8.8	23.1	3.08
415682	12	99	3727	233	< 2	3.0	< 0.2	18	3.4	1.1	2215	0.9	1170	2070	224	752	113	30.8	78.4	10.3	50.8	9.0	23.9	3.19
415683	11	148	3276	162	4	2.5	< 0.2	16	3.7	2.6	1826	0.4	803	1370	148	490	73.3	20.1	52.5	7.0	34.0	6.1	16.1	2.21
415684	7	205	2576	99	3	1.7	< 0.2	11	3.7	2.2	2058	< 0.4	570	947	102	336	49.5	12.8	34.9	4.6	22.4	3.9	10.2	1.38
415685	11	96	2595	177	3	2.1	< 0.2	15	3.6	1.4	5021	< 0.4	872	1470	158	525	79.9	22.5	58.8	7.9	39.2	6.9	18.2	2.41
415686	12	267	2918	163	< 2	2.8	< 0.2	18	3.7	5.3	12380	0.5	824	1420	155	508	72.2	18.4	50.7	6.8	34.8	6.4	17.3	2.44
415687	9	45	6883	155	< 2	1.8	< 0.2	13	3.7	3.7	4145	0.5	802	1350	146	490	73.6	20.9	54.0	7.1	34.3	6.0	15.7	2.08
415688	11	35	4677	229	3	2.2	< 0.2	19	3.2	0.8	6600	2.2	1510	3190	374	1320	197	47.9	111	12.4	56.9	9.7	25.5	3.41
415689	10	15	4237	549	3	3.6	< 0.2	56	2.6	< 0.5	3041	1.6	1690	3230	356	1210	237	76.0	209	29.0	138	23.3	59.0	7.70
415690	11	83	5247	511	4	2.2	< 0.2	39	3.2	1.9	9659	0.8	1450	2780	315	1090	223	73.3	199	26.2	120	20.2	49.4	6.36
415691	5	100	4484	102	4	3.2	< 0.2	20	3.5	3.3	2246	< 0.4	466	928	114	404	63.8	16.4	41.7	5.2	24.3	4.2	11.6	1.67
415692	5	97	1593	94	8	4.3	< 0.2	31	3.3	4.4	1300	< 0.4	374	758	93.5	335	52.9	12.5	35.9	4.7	22.5	4.0	10.9	1.59
415693	< 5	222	2472	111	5	2.4	< 0.2	10	3.5	4.8	14570	< 0.4	498	852	96.7	326	51.8	13.0	38.1	4.9	23.6	4.2	11.3	1.58
415694	7	205	3199	116	6	2.2	< 0.2	15	3.4	7.3	24870	< 0.4	452	856	102	350	56.5	14.5	40.8	5.4	26.1	4.5	11.7	1.59
415695	< 5	142	3392	92	15	2.1	< 0.2	12	3.1	4.9	3341	< 0.4	493	851	97.8	329	47.5	11.4	31.1	3.9	19.3	3.4	9.0	1.29
415696	< 5	124	1581	78	6	2.8	< 0.2	13	3.2	4.9	1397	< 0.4	414	793	97.0	336	50.2	11.1	31.9	4.0	18.6	3.2	8.4	1.19
415697	< 5	129	811	33	8	1.9	< 0.2	2	3.3	0.7	1055	< 0.4	183	326	35.0	116	17.0	2.45	11.7	1.6	7.6	1.4	4.0	0.62
415698	< 5	131	1939	42	6	1.4	< 0.2	3	3.3	1.2	3083	< 0.4	184	332	36.4	124	18.9	4.32	13.1	1.8	9.1	1.7	4.8	0.69
415699	5	114	2992	102	6	2.8	< 0.2	13	4.7	2.0	4084	< 0.4	559	1010	118	403	58.3	14.6	38.4	4.8	22.7	4.0	10.6	1.51
415700	8	88	2292	168	5	2.2	< 0.2	17	3.4	4.1	3956	< 0.4	863	1730	205	700	103	26.1	68.3	8.5	39.2	6.5	16.6	2.24
415701	< 5	145	2805	56	18	1.5	< 0.2	6	3.3	1.2	7174	< 0.4	324	615	69.9	233	29.8	5.50	19.3	2.5	12.5	2.3	6.7	1.00
415708	7	73	9250	226	15	1.1	< 0.2	13	< 0.5	0.9	6500	< 0.4	1140	1900	192	650	100	29.4	75.2	9.8	48.2	8.4	21.3	2.81
415709	9	27	7953	282	19	1.0	< 0.2	26	2.9	0.5	3947	0.9	943	1940	239	872	156	41.9	104	13.5	64.4	11.2	29.2	3.94
415710	15	7	6794	374	16	0.9	< 0.2	21	3.3	< 0.5	705	0.6	1300	2880	366	1340	224	58.3	143	17.4	80.7	14.0	38.1	5.06
415711	8	23	5551	287	15	< 0.5	< 0.2	18	< 0.5	0.5	3629	< 0.4	844	1900	223	841	148	41.6	101	12.9	64.5	11.4	30.5	4.06
415712	12	5	8738	430	15	1.0	< 0.2	31	< 0.5	< 0.5	1737	1.9	1150	2170	234	993	221	60.5	140	17.7	85.1	15.1	40.7	5.61
415713	8	44	5707	345	14	1.5	< 0.2	28	< 0.5	0.9	3771	0.7	1050	2250	254	906	175	46.6	121	15.0	73.5	13.4	36.4	5.03
415714	15	38	6530	349	11	0.8	< 0.2	39	< 0.5	0.6	3133	1.1	1080	2350	257	1020	177	45.9	112	14.2	70.8	13.1	36.3	5.12
415715	15	19	5209	448	33	1.3	< 0.2	55	< 0.5	< 0.5	2664	3.1	1290	2700	288	1110	191	49.1	129	17.4	89.1	16.6	45.5	6.40

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Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415768	6	70	2525	386	3	3.8	< 0.2	13	< 0.5	3.2	1979	< 0.4	1430	3070	335	1220	199	49.8	142	17.7	85.8	14.7	38.2	4.93
415769	< 5	144	3414	318	3	2.6	< 0.2	9	< 0.5	5.9	6765	< 0.4	1210	2580	280	1000	162	40.6	115	14.5	69.7	11.9	30.9	3.98
415770	7	163	3778	476	3	2.6	< 0.2	9	< 0.5	6.1	8499	< 0.4	1920	3940	412	1460	235	58.3	164	20.8	99.7	17.3	43.8	5.67
415771	7	78	7706	473	11	2.0	< 0.2	15	< 0.5	3.4	4774	1.2	2070	4030	402	1400	222	59.0	161	20.6	99.8	17.4	44.4	5.77
415772	< 5	40	10630	366	8	3.1	< 0.2	16	< 0.5	< 0.5	6350	1.7	1870	3500	338	1120	162	43.9	115	15.5	79.2	14.1	36.2	4.77
415773	< 5	38	7866	267	14	2.5	< 0.2	13	< 0.5	< 0.5	5230	1.3	977	1790	177	629	106	30.3	81.8	11.4	56.5	10.1	25.6	3.35
415774	< 5	7	12350	272	20	1.4	< 0.2	9	< 0.5	< 0.5	2157	0.9	831	1740	184	654	107	31.2	82.9	11.8	59.4	10.2	26.5	3.43
415775	< 5	4	7968	196	11	1.7	< 0.2	9	< 0.5	< 0.5	1087	1.2	413	1050	126	486	84.0	25.2	69.3	9.9	49.9	8.5	20.1	2.48
415776	< 5	21	10440	286	14	1.6	< 0.2	9	< 0.5	< 0.5	3492	1.4	1190	2300	236	826	128	35.2	94.3	12.7	62.9	10.8	28.2	3.60
415777	< 5	61	10920	298	10	2.1	< 0.2	12	< 0.5	0.9	9861	3.9	1340	2420	236	806	131	36.5	95.4	13.0	65.5	11.7	30.0	3.97
415778	< 5	11	8704	332	16	1.8	< 0.2	18	< 0.5	< 0.5	1946	2.0	1620	3260	322	1100	164	43.6	117	15.0	73.8	13.0	32.8	4.22
415779	< 5	9	4918	195	18	1.6	< 0.2	19	< 0.5	< 0.5	901	1.0	964	1900	191	654	104	27.3	72.7	8.9	43.5	7.6	19.7	2.49
415780	< 5	27	8100	233	19	1.8	< 0.2	19	< 0.5	< 0.5	3513	1.7	1370	2530	247	827	126	33.3	87.1	11.1	55.0	9.7	25.5	3.31
415781	< 5	36	9475	281	7	1.9	< 0.2	12	< 0.5	< 0.5	3798	1.6	1280	2380	232	790	123	33.6	88.8	12.2	62.6	11.3	29.0	3.74
415782	< 5	55	9303	315	8	1.6	< 0.2	14	< 0.5	< 0.5	7607	1.6	1690	3160	305	1000	151	41.0	108	14.5	72.7	12.8	32.1	4.11
415783	< 5	85	4535	295	8	1.3	< 0.2	27	< 0.5	< 0.5	11530	3.6	1060	2080	217	800	168	47.8	117	14.3	66.1	11.1	29.3	3.87
415784	< 5	218	2601	256	4	1.5	< 0.2	14	< 0.5	6.8	8090	2.4	817	1580	163	586	113	31.8	84.1	11.0	55.4	9.8	25.3	3.48
415785	< 5	50	4348	420	5	2.2	< 0.2	27	< 0.5	1.1	5715	1.9	1060	2180	237	884	178	51.8	135	18.9	94.6	16.7	45.2	6.24
415786	< 5	53	3956	344	9	1.7	< 0.2	17	< 0.5	1.7	6003	1.5	846	1820	204	800	143	38.3	104	18.2	105	19.8	53.4	7.11
415787	< 5	8	5180	303	6	1.4	< 0.2	15	< 0.5	< 0.5	3423	1.6	1240	2610	274	998	173	45.7	121	16.9	86.7	15.7	40.9	5.35
415788	< 5	9	3892	332	2	1.2	< 0.2	21	< 0.5	< 0.5	3156	2.1	1560	3250	347	1320	240	60.6	146	17.0	79.7	13.7	35.0	4.59

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415658	15.1	2.23	27.4	21.8	11	0.7	51	268	16.6	
415659	12.7	1.95	20.1	23.3	11	0.8	45	264	15.3	
415660	10.0	1.60	28.9	27.5	10	0.7	44	141	11.6	
415661	11.1	1.79	32.4	23.2	10	0.3	37	160	12.5	
415662	22.7	3.27	12.3	16.4	12	0.7	38	388	17.0	
415663	19.6	2.82	14.7	19.1	12	0.8	48	257	14.8	
415664	12.4	1.80	9.7	13.6	10	0.6	40	278	13.4	
415665	9.6	1.54	16.6	20.7	11	0.7	30	235	11.8	
415666	10.8	1.70	10.2	18.1	10	0.6	24	260	14.5	
415667	11.8	1.83	9.4	10.1	10	0.5	16	350	14.1	
415668	11.0	1.72	12.5	18.3	12	0.7	23	324	16.7	
415669	31.6	4.86	15.3	48.2	9	0.5	44	491	30.3	
415670	24.1	3.69	10.3	13.0	10	0.4	36	546	29.4	
415671	29.8	4.62	9.1	8.8	9	0.4	49	573	19.2	
415672	12.3	1.87	10.0	29.3	10	0.4	28	230	14.8	
415673	13.9	2.12	10.2	27.0	10	0.4	30	260	17.1	
415674	15.4	2.39	6.6	12.5	16	0.4	20	191	11.4	
415675	13.9	2.17	6.2	15.1	16	0.4	19	165	11.1	
415676	13.4	2.07	8.0	18.0	15	0.4	17	246	12.0	
415677	22.8	3.37	9.0	24.5	13	0.4	24	366	24.4	
415678	14.8	2.17	9.5	24.2	9	0.3	42	290	18.2	
415679	13.4	1.98	10.6	22.5	10	0.5	30	217	16.6	
415680	13.8	2.05	9.2	18.6	8	0.6	64	253	16.0	
415681	18.1	2.61	9.5	16.4	8	0.5	61	322	27.6	
415682	19.1	2.74	10.2	18.4	8	0.6	66	321	28.7	
415683	13.2	1.95	9.3	20.2	11	0.9	45	217	14.2	
415684	8.2	1.22	6.5	13.3	10	0.8	27	153	7.5	
415685	14.5	2.12	8.6	15.1	9	0.7	31	255	14.4	
415686	15.0	2.22	17.7	27.9	10	1.1	28	204	17.8	
415687	12.3	1.82	7.5	14.7	8	0.4	30	227	12.6	
415688	19.7	2.82	8.9	1.5	8	0.6	248	1040	5.1	
415689	45.3	6.39	18.9	8.5	7	0.3	148	1570	13.1	
415690	36.3	5.07	11.2	13.4	8	0.6	115	1080	11.0	
415691	11.2	1.98	19.5	16.4	9	0.3	29	282	11.7	
415692	11.0	1.90	28.4	22.9	10	0.4	24	118	8.0	
415693	10.1	1.68	11.7	21.1	9	0.7	38	130	11.4	
415694	10.2	1.69	12.1	30.6	10	0.6	46	183	18.4	
415695	8.1	1.33	12.2	12.8	9	0.4	45	98.5	6.1	
415696	7.6	1.28	13.8	7.6	8	0.4	17	141	3.2	
415697	4.5	0.78	9.1	4.0	9	0.4	16	15.5	1.4	
415698	4.7	0.79	8.0	6.5	9	0.4	28	24.1	2.3	
415699	9.7	1.60	13.4	13.8	9	0.5	39	164	4.9	
415700	13.3	1.98	10.9	20.8	9	0.3	36	273	7.9	
415701	6.9	1.17	8.5	5.8	9	0.4	15	47.5	2.3	
415708	16.3	2.35	4.6	3.1	< 1	0.4	111	291	7.5	
415709	23.2	3.37	2.9	5.3	8	0.2	96	555	9.0	
415710	30.8	4.48	3.1	2.9	9	0.1	71	483	8.0	
415711	24.7	3.69	2.3	2.3	< 1	< 0.1	67	411	4.3	
415712	34.7	5.19	3.6	1.8	< 1	< 0.1	169	826	5.9	
415713	32.0	4.96	5.4	5.3	< 1	0.2	83	717	11.1	
415714	31.8	4.66	3.5	5.1	< 1	0.1	94	870	11.2	
415715	39.7	5.74	5.3	7.2	1	< 0.1	78	712	9.4	

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415716	82.7	12.6	19.9	24.3	3	1.0	140	578	21.6	
415717	27.2	4.21	6.1	71.0	2	0.7	68	290	25.6	
415718	29.4	4.27	3.0	4.6	< 1	< 0.1	92	522	6.8	
415719	12.1	1.73	3.8	4.3	1	< 0.1	18	676	4.6	
415720	29.3	4.24	3.5	5.7	2	0.2	81	845	7.5	
415721	19.0	2.78	2.7	4.9	2	< 0.1	79	936	8.2	
415722	35.0	5.04	5.0	14.7	2	< 0.1	46	857	12.8	
415723	25.0	3.58	11.2	10.7	< 1	0.4	94	609	9.2	
415724	25.1	3.63	4.5	5.4	1	0.3	90	1140	7.6	
415725	3.9	0.56	1.1	0.8	< 1	< 0.1	77	629	2.8	
415726	4.0	0.59	1.9	2.1	2	< 0.1	30	859	3.8	
415727	13.3	1.92	3.3	3.8	< 1	0.2	134	925	5.1	
415728	20.6	2.98	5.8	2.7	1	0.5	109	410	6.2	
415729	18.5	2.73	5.9	7.8	1	0.5	158	516	6.6	
415730	2.8	0.39	1.4	0.9	< 1	< 0.1	101	647	2.9	
415731	23.6	3.52	5.0	3.0	< 1	0.4	106	460	5.8	
415732	10.6	1.55	5.1	8.7	2	0.2	75	574	6.2	
415733	3.9	0.54	1.4	< 0.1	< 1	< 0.1	119	593	2.7	
415734	26.2	3.89	6.8	8.1	< 1	0.4	111	665	6.3	
415735	25.1	3.84	6.8	8.3	1	0.6	102	396	8.4	
415736	21.2	3.14	6.1	8.1	< 1	0.4	91	652	7.9	
415737	30.7	4.47	6.6	11.3	1	0.6	133	505	7.6	
415738	26.9	3.86	6.8	8.9	< 1	0.5	144	691	8.3	
415739	10.1	1.54	8.2	10.2	1	0.2	83	508	5.2	
415740	4.2	0.78	11.1	23.8	1	0.2	15	77.6	0.7	
415741	7.7	1.21	9.2	11.4	1	0.2	22	745	4.2	
415742	0.8	0.14	2.9	2.2	< 1	< 0.1	24	957	3.9	
415743	6.8	1.05	6.8	14.1	< 1	< 0.1	22	503	4.2	
415744	12.9	1.80	6.7	15.5	< 1	0.3	45	468	5.8	
415745	13.6	1.91	5.5	7.5	1	0.3	100	687	5.0	
415746	17.4	2.57	6.2	7.6	< 1	0.5	130	678	6.4	
415747	13.3	1.93	5.0	7.3	< 1	0.3	95	661	5.4	
415748	17.1	2.47	9.1	9.7	1	0.5	95	510	5.9	
415749	11.5	1.79	14.8	14.7	2	0.6	49	245	3.0	
415750	12.6	1.88	12.5	16.3	2	0.5	37	417	5.8	
415751	18.0	2.64	5.9	8.8	1	0.5	92	656	6.5	
415752	18.1	2.61	5.4	7.4	< 1	0.4	103	644	6.5	
415753	26.3	3.90	6.2	9.9	< 1	0.8	120	485	8.4	
415754	14.1	2.16	4.3	6.4	< 1	0.3	83	685	4.6	
415755	19.5	2.85	4.1	5.5	< 1	0.4	154	727	4.7	
415756	2.0	0.28	1.1	0.5	< 1	< 0.1	86	673	2.0	
415757	3.0	0.44	1.3	1.7	1	< 0.1	108	624	1.9	
415758	18.3	2.80	13.6	10.7	2	0.7	50	629	8.8	
415759	26.0	3.53	14.7	10.6	2	0.3	37	1090	16.7	
415760	20.2	3.15	15.7	13.3	2	0.3	28	685	10.5	
415761	17.7	2.81	16.3	13.9	< 1	0.4	33	455	8.5	
415762	69.6	9.22	18.3	9.2	2	0.6	73	3370	56.5	
415763	17.1	2.86	19.7	12.7	< 1	0.3	32	459	8.0	
415764	20.5	2.85	9.9	14.1	< 1	0.2	24	897	14.2	
415765	24.6	3.25	9.0	13.8	< 1	< 0.1	25	1390	18.6	
415766	14.0	2.08	17.2	20.5	< 1	0.6	65	339	17.0	
415767	13.9	2.18	20.2	12.8	< 1	0.7	95	275	6.2	

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415768	28.0	3.95	17.3	5.9	< 1	0.4	28	1210	14.8	
415769	23.3	3.38	12.9	3.6	< 1	0.4	35	915	12.1	
415770	32.3	4.51	12.0	2.8	< 1	0.6	47	1350	20.1	
415771	32.2	4.42	9.6	5.2	< 1	0.7	96	1070	20.1	
415772	27.1	3.81	14.9	17.9	< 1	0.5	113	509	22.6	
415773	19.5	2.78	9.7	6.7	< 1	0.4	93	444	10.4	
415774	19.9	2.83	7.0	6.2	< 1	< 0.1	193	385	11.6	
415775	13.2	1.82	6.0	0.6	< 1	< 0.1	97	381	2.6	
415776	20.9	2.91	5.9	2.2	< 1	0.3	105	422	3.7	
415777	22.5	3.25	8.5	23.3	< 1	0.8	152	398	28.2	
415778	23.8	3.30	7.3	2.8	< 1	0.2	94	616	5.2	
415779	14.5	2.12	7.0	5.2	< 1	0.1	47	595	5.1	
415780	19.0	2.71	6.7	7.5	2	0.3	80	636	12.4	
415781	21.7	3.18	9.4	13.5	< 1	0.3	83	495	16.7	
415782	23.8	3.34	7.8	5.0	< 1	0.5	108	580	7.4	
415783	23.5	3.42	5.2	22.4	< 1	0.8	112	1060	18.1	
415784	21.3	3.32	6.7	25.9	< 1	0.9	62	681	20.6	
415785	39.0	5.85	9.0	18.3	< 1	0.5	374	1050	17.5	
415786	42.3	5.89	7.0	4.7	< 1	0.5	446	1170	8.1	
415787	31.2	4.41	4.7	1.9	< 1	0.3	434	1230	5.5	
415788	26.9	3.77	3.8	1.9	< 1	0.2	306	1670	6.6	

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Quality Control																									
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas																		760	209	2620	5970	110	10		
WMG-1 Cert																		770	200	2700	5900	110	10.3		
DH-1a Meas																									
DH-1a Cert																									
TAN-1 Meas																									
TAN-1 Cert																									
NIST 694 Meas			11.51	1.92	0.75	0.014	0.34	42.71	0.94	0.55	0.118	30.14					1679								
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas			47.52	18.64	9.90	0.146	10.32	11.57	1.92	0.22	0.495	0.05			31		161	270	58	260	100	70			
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148.0	270.0	57.0	247	100.0	70.0			
GBW 07113 Meas			71.23	12.79	3.18	0.138	0.14	0.60	2.43	5.40	0.285	0.04			6	4	< 5								
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
GXR-2 Meas																		40	9	< 20	80	520	34		
GXR-2 Cert																		36.0	8.60	21.0	76.0	530	37.0		
NIST 1633b Meas			48.37	27.79	10.76	0.019	0.77	2.17	0.27	2.30	1.279	0.54			41		303								
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296								
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas	0.013	0.037																							
BE-N Cert	0.015	0.035																							
AC-E Meas	0.014	0.111																							
AC-E Cert	0.016	0.105																							
NOD-A-1 Meas																		30	2840		1070	570			
NOD-A-1 Cert																		4.00	3110		1110	587			
OKA-1 Meas	0.520																								
OKA-1 Cert	0.529																								
W-2a Meas			52.40	15.37	10.95	0.167	6.32	11.08	2.22	0.63	1.080	0.15			35	< 1	282	90	43	70	110	80	17	2	
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	
SY-4 Meas			50.32	20.51	6.45	0.109	0.52	8.21	7.01	1.69	0.289	0.13			1	3	6								
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																				< 1		60	40		
CTA-AC-1 Cert																				2.72		54.0	38.0		
BIR-1a Meas			47.94	15.58	11.16	0.172	9.59	13.52	1.87	0.02	0.973	0.02			43	< 1	339	370	52	160	130	70	15	2	
BIR-1a Cert			47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas		0.008																							
ZW-C Cert		0.011																							
VS-N Meas	0.095	0.099																							
VS-N Cert	0.10	0.095																							
NCS DC70014 Meas																			26	70	2630	7400	26		
NCS DC70014 Cert																			26.2	70.9	2600.00	7400.00	25.2		
IGS 40 Meas																									
IGS 40 Cert																									
NCS DC86316 Meas		4.701																							
NCS DC86316 Cert		4.68																							
NCS DC70009 (GBW07241) Meas																		30	3	< 20	890	100	16	11	
NCS DC70009 (GBW07241) Cert																		30	3.7	2.8	960.000	100.000	16.5	11.2	
OREAS 100a (Fusion) Meas																				18		170			
OREAS 100a (Fusion) Cert																				18.1		169			
OREAS 101a (Fusion) Meas																				49		420			
OREAS 101a (Fusion) Cert																				48.8		434			
JR-1 Meas																		< 20	< 1	< 20	< 10	< 30	16	3	

Activation Laboratories Ltd. Report: A10-1194

Quality Control																									
Analyte Symbol	Nb2O5	ZrO2	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.003	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
JR-1 Cert																		2.83	0.83	1.67	2.68	30.6	16.1	1.88	
SX18-01 Meas	0.693	0.093																							
SX18-01 Cert	0.695	0.093																							
SX18-04 Meas	1.350	0.156																							
SX18-04 Cert	1.32	0.146																							
SX18-05 Meas	0.998	0.215																							
SX18-05 Cert	0.973	0.218																							
SARM 3 Meas																					10	420			
SARM 3 Cert																					13	395			
415672 Orig			31.05	9.38	30.65	1.586	5.29	9.24	0.17	4.01	0.908	1.68	3.39	97.37	18	25	116	210	24	120	40	650	28	3	
415672 Dup			31.33	9.46	30.85	1.599	5.31	9.31	0.17	4.05	0.909	1.72	3.39	98.09	16	25	119	210	23	120	40	640	28	3	
415687 Orig	0.115	0.082																	140	14	80	20	470	24	3
415687 Split	0.115	0.081	22.98	6.71	22.70	1.267	4.12	21.71	0.86	2.36	0.539	1.50	12.35	97.10	10	21	72	120	13	70	20	450	19	2	
415687 Orig	0.114	0.081																							
415687 Dup	0.115	0.082																							
415687 Split			22.98	6.71	22.70	1.267	4.12	21.71	0.86	2.36	0.539	1.50	12.35	97.10	10	21	72	120	13	70	20	450	19	2	
415689 Orig																		< 20	13	< 20	< 10	3540	43	4	
415689 Dup																		< 20	12	< 20	< 10	3540	43	4	
415713 Orig	0.162	0.050																< 20	2	< 20	< 10	1420	25	3	
415713 Split	0.164	0.048																< 20	2	< 20	< 10	1410	26	3	
415722 Orig	0.162	0.037																							
415722 Dup	0.161	0.036																							
415723 Orig	0.237	0.088																							
415723 Split	0.239	0.090																							
415725 Orig																		< 20	9	< 20	< 10	1960	7	< 1	
415725 Dup																		< 20	9	< 20	< 10	1940	7	< 1	
415742 Orig			1.86	1.04	93.07	2.064	1.02	0.89	0.06	0.19	0.109	0.05	-1.35	99.01	10	2	54	< 20	14	< 20	< 10	2950	13	< 1	
415742 Dup			2.05	1.03	92.52	2.066	1.03	0.88	0.05	0.19	0.102	0.05	-1.35	98.62	12	1	45	< 20	14	< 20	< 10	2960	14	< 1	
415751 Orig	0.116	0.053																							
415751 Dup	0.116	0.054																							
415753 Orig	0.140	0.069																							
415753 Split	0.138	0.067																							
415763 Orig	0.073	0.113																< 20	5	< 20	< 10	1110	27	2	
415763 Split	0.072	0.113																< 20	5	< 20	< 10	1090	27	2	
415780 Orig	0.163	0.067																							
415780 Dup	0.162	0.066																							
415783 Orig	0.207	0.051																							
415783 Split	0.210	0.049																							
Method Blank Method	< 0.003	< 0.003																							
Blank																									

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas	9				< 2	2.4		3	3.1	< 0.5			9.4	19.6		9.9	2.4	0.74		0.4	2.5	0.5		0.21	
WMG-1 Cert	7.00				1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	
DH-1a Meas																									
DH-1a Cert																									
TAN-1 Meas		2550							12.2	743			5.9												
TAN-1 Cert		2700							19.0	830			3.50												
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas			144	16					2.3		105		5.1			5.4		0.61							
DNC-1 Cert			144.0	18.0					0.96		118		3.6			5.20		0.59							
GBW 07113 Meas			41	46							484														
GBW 07113 Cert			43.0	43.0							506														
GXR-2 Meas	24	75			< 2	16.5	< 0.2	2	48.9	5.4		< 0.4	27.4	52.7		19.6	3.6		3.0	0.5	2.8			0.27	
GXR-2 Cert	25.0	78.0			2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50		3.30	0.480	3.30			0.300	
NIST 1633b Meas			1035								688														
NIST 1633b Cert			1040								709														
OKA-2 Meas													52800	129000	14500	54500	8900	2200	4610	451	1500	153		16.4	
OKA-2 Cert													47700	114000	14900	57400	8620	2250	5030	51.0	1480	175		18.0	
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
NOD-A-1 Meas																									
NOD-A-1 Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	< 5	19	198	20	< 2	< 0.5			1.2	0.9	172	< 0.4	11.6	25.3		12.8	3.3	1.07		0.6	3.8	0.8	2.1	0.33	
W-2a Cert	1.20	21.0	190	24.0	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	
SY-4 Meas			1194	119							346														
SY-4 Cert			1191	119							340														
CTA-AC-1 Meas													2270	3310		1120	164	45.0	129	14.9					
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9					
BIR-1a Meas	< 5	< 2	116	13	< 2	< 0.5		< 1	1.9	< 0.5	13	< 0.4	1.4	3.1	0.48	2.8	1.1	0.53	1.9	0.4	2.5	0.6	1.6	0.27	
BIR-1a Cert	0.440	0.250	108	16.0	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas					270	17.2			180			80.3	48.1	89.6	10.1	38.0	7.9	1.67	7.2	1.1	6.3	1.3	3.4	0.54	
NCS DC70014 Cert					270.000	16.7			180.000			80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	
IGS 40 Meas													20500	32000	2910	8020									
IGS 40 Cert													20720.00	32247	2730.000	8320.000									
NCS DC86316 Meas																									
NCS DC86316 Cert																									
NCS DC70009 (GBW07241) Meas	70	508				2.0	1.3	1700	4.8	44.0			26.1	62.4	7.93	32.2	12.6	0.13	14.8	3.4	21.3	4.5	13.2	2.45	
NCS DC70009 (GBW07241) Cert	69.9	500.00				1.8	1.3	1700.00	3.1	41			23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	
OREAS 100a (Fusion) Meas					24								280	475	45.7	147	23.5	3.56	20.6	3.6	22.3	4.8	14.0	2.35	
OREAS 100a (Fusion) Cert					24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	
OREAS 101a (Fusion) Meas					21								821	1340	129	391	50.0	7.97	36.8	5.5	31.5	6.6	19.1	2.96	
OREAS 101a (Fusion) Cert					21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	
JR-1 Meas	17	244			3	< 0.5	< 0.2	3	2.7	20.8		0.5	21.7	49.0	5.90	23.0	5.7	0.29	5.4	1.0	6.1	1.3	3.9	0.68	

Activation Laboratories Ltd. Report: A10-1194

Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	5	2	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
JR-1 Cert	16.3	257			3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
SARM 3 Meas		200														50.3		1.18							
SARM 3 Cert		190														48		1.2							
415672 Orig	11	135	873	149	4	2.8	< 0.2	16	3.5	4.1	5956	1.8	906	1510	155	513	74.7	20.4	53.1	6.8	33.1	5.8	15.7	2.07	
415672 Dup	12	136	852	149	4	2.7	< 0.2	17	3.6	4.1	6070	1.9	901	1510	154	510	74.5	20.5	53.6	6.9	33.0	5.8	15.3	2.02	
415687 Orig	9	45			< 2	1.8	< 0.2	13	3.7	3.7		0.5	802	1350	146	490	73.6	20.9	54.0	7.1	34.3	6.0	15.7	2.08	
415687 Split	6	44	6966	152	< 2	1.2	< 0.2	13	< 0.5	3.6	4179	< 0.4	816	1370	133	449	68.4	19.5	48.4	6.5	32.4	5.8	15.2	2.06	
415687 Orig																									
415687 Dup																									
415687 Split	6	44	6966	152	< 2	1.2	< 0.2	13	< 0.5	3.6	4179	< 0.4	816	1370	133	449	68.4	19.5	48.4	6.5	32.4	5.8	15.2	2.06	
415689 Orig	11	15			3	3.6	< 0.2	55	2.8	< 0.5		1.6	1660	3190	352	1200	234	75.6	206	28.8	137	23.1	58.7	7.64	
415689 Dup	10	15			3	3.6	< 0.2	56	2.4	< 0.5		1.7	1720	3280	360	1220	240	76.3	211	29.3	139	23.5	59.4	7.77	
415713 Orig	8	44			14	1.5	< 0.2	28	< 0.5	0.9		0.7	1050	2250	254	906	175	46.6	121	15.0	73.5	13.4	36.4	5.03	
415713 Split	8	44			14	1.4	< 0.2	27	< 0.5	0.9		0.7	1060	2270	252	889	170	46.2	119	14.7	74.2	13.2	36.2	4.97	
415722 Orig																									
415722 Dup																									
415723 Orig																									
415723 Split																									
415725 Orig	< 5	< 2			52	< 0.5	< 0.2	10	< 0.5	< 0.5		0.5	213	516	58.3	200	29.2	14.9	18.6	2.4	11.8	2.0	5.0	0.65	
415725 Dup	< 5	< 2			52	0.5	< 0.2	10	< 0.5	< 0.5		0.8	215	523	58.9	200	29.5	14.7	19.3	2.4	12.1	2.0	5.1	0.66	
415742 Orig	< 5	24	104	13	177	1.1	< 0.2	59	< 0.5	0.8	447	0.5	35.8	73.8	6.92	26.3	4.0	1.00	2.5	0.3	1.7	0.3	0.9	0.12	
415742 Dup	< 5	24	103	11	177	1.0	< 0.2	58	< 0.5	0.9	433	0.6	36.4	74.9	7.08	26.5	3.9	1.00	2.5	0.3	1.7	0.3	0.9	0.12	
415751 Orig																									
415751 Dup																									
415753 Orig																									
415753 Split																									
415763 Orig	< 5	86			5	2.0	< 0.2	27	< 0.5	2.5		< 0.4	756	1550	167	600	95.8	25.0	65.7	8.7	42.4	7.6	20.0	2.75	
415763 Split	< 5	88			5	2.0	< 0.2	26	< 0.5	2.5		< 0.4	785	1580	169	610	97.4	25.2	65.0	8.7	43.3	7.7	20.2	2.80	
415780 Orig																									
415780 Dup																									
415783 Orig																									
415783 Split																									
Method Blank Method																									
Blank																									

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas	1.4	0.19	1.6		1		18	1.4	0.8
WMG-1 Cert	1.30	0.210	1.30		1.30		15.0	1.10	0.650
DH-1a Meas								907	2290
DH-1a Cert								910	2630
TAN-1 Meas			23.5					4.8	23.5
TAN-1 Cert			22.0					4.60	23.8
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas	2.0								
DNC-1 Cert	2.0								
GBW 07113 Meas									
GBW 07113 Cert									
GXR-2 Meas	1.7	0.26	5.9		4	0.7	682	8.3	2.9
GXR-2 Cert	2.04	0.270	8.30		1.90	1.03	690	8.80	2.90
NIST 1633b Meas									
NIST 1633b Cert									
OKA-2 Meas	94.4	11.0						27400	
OKA-2 Cert	97.0	11.0						28900	
BE-N Meas									
BE-N Cert									
AC-E Meas									
AC-E Cert									
NOD-A-1 Meas							898		
NOD-A-1 Cert							846		
OKA-1 Meas									
OKA-1 Cert									
W-2a Meas	2.1	0.29	2.6		< 1	< 0.1	9	2.2	0.5
W-2a Cert	2.10	0.330	2.60		0.300	0.200	9.30	2.40	0.530
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	10.9	1.11	1.7					23.6	4.3
CTA-AC-1 Cert	11.4	1.08	1.13					21.8	4.4
BIR-1a Meas	1.7	0.25	0.7		3	< 0.1	< 5	0.2	< 0.1
BIR-1a Cert	1.65	0.260	0.600		0.0700	0.0100	3.00	0.0300	0.0100
NCS DC86312 Meas								26.0	
NCS DC86312 Cert								23.6	
ZW-C Meas									
ZW-C Cert									
VS-N Meas									
VS-N Cert									
NCS DC70014 Meas	3.4	0.49					27200		
NCS DC70014 Cert	3.3	0.50					27200.00		
IGS 40 Meas									
IGS 40 Cert									
NCS DC86316 Meas									
NCS DC86316 Cert									
NCS DC70009 (GBW07241) Meas	16.9	2.37			2330	2.1	64	28.5	
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8	81.2	28.3	
OREAS 100a (Fusion) Meas	15.1	2.12						50.4	137
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135
OREAS 101a (Fusion) Meas	18.5	2.51						35.8	421
OREAS 101a (Fusion) Cert	17.5	2.66						36.6	422
JR-1 Meas	4.6	0.69	5.0		6	1.2	21	26.5	9.1

Quality Control									
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
JR-1 Cert	4.55	0.71	4.51		1.59	1.56	19.3	26.7	8.88
SX18-01 Meas									
SX18-01 Cert									
SX18-04 Meas									
SX18-04 Cert									
SX18-05 Meas									
SX18-05 Cert									
SARM 3 Meas							56	65.8	18.6
SARM 3 Cert							43	66	14
415672 Orig	12.3	1.88	10.1		9	0.4	28	231	15.0
415672 Dup	12.2	1.85	9.9		10	0.4	28	230	14.7
415687 Orig	12.3	1.82	7.5	14.7	8	0.4	30	227	12.6
415687 Split	12.0	1.82	8.1	11.8	< 1	0.4	29	218	14.1
415687 Orig									
415687 Dup									
415687 Split	12.0	1.82	8.1	11.8	< 1	0.4	29	218	14.1
415689 Orig	44.8	6.31	18.6		8	0.3	147	1540	12.9
415689 Dup	45.7	6.47	19.3		7	0.3	149	1600	13.3
415713 Orig	32.0	4.96	5.4	5.3	< 1	0.2	83	717	11.1
415713 Split	31.3	4.79	5.3	4.2	< 1	0.2	84	704	10.6
415722 Orig									
415722 Dup									
415723 Orig									
415723 Split									
415725 Orig	4.0	0.56	1.1		< 1	< 0.1	78	636	2.8
415725 Dup	3.9	0.56	1.1		< 1	< 0.1	75	621	2.7
415742 Orig	0.8	0.14	2.8		< 1	< 0.1	23	952	3.9
415742 Dup	0.8	0.14	2.9		< 1	< 0.1	24	962	3.9
415751 Orig									
415751 Dup									
415753 Orig									
415753 Split									
415763 Orig	17.1	2.86	19.7	12.7	< 1	0.3	32	459	8.0
415763 Split	17.4	2.90	19.7	12.2	< 1	0.3	32	475	8.1
415780 Orig									
415780 Dup									
415783 Orig									
415783 Split									
Method Blank Method									
Blank									



Date Submitted: 15-Mar-10
Invoice No.: A10-1135
Invoice Date: 26-Mar-10
Your Reference: Clay Howells (RA-6)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

79 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT	A10-1135	Code 8-Nb2O5 - XRF Option XRF
		Code 8-Rare Earth Element Pkg Major Elements Fusion
		ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)
		Code 8-XRF Assay Package Fusion-XRF

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Notes:

Total includes all elements in % oxide to the left of total.
Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control



ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Report: A10-1135 rev 1

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1	5	2
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415632	38.98	7.84	24.18	2.120	5.11	10.98	0.97	3.82	0.246	1.00	1.25	96.50	13	56	24	< 20	3	< 20	< 10	1190	54	5	11	175
415633	34.75	5.08	31.50	2.555	5.69	13.19	0.93	1.74	0.218	0.26	1.94	97.85	27	45	44	< 20	6	< 20	10	1520	44	3	7	92
415634	35.74	5.50	29.75	2.404	5.26	14.60	1.28	1.42	0.195	0.29	2.10	98.54	26	41	29	< 20	4	< 20	10	1320	33	2	< 5	52
415635	32.70	9.15	31.56	2.112	4.88	8.92	0.97	3.92	0.205	0.62	2.44	97.48	17	23	45	< 20	9	< 20	30	1480	79	3	7	188
415636	42.45	11.95	17.95	1.796	5.04	8.92	0.76	6.14	0.136	0.20	1.96	97.30	16	28	19	< 20	4	< 20	< 10	1100	62	2	< 5	244
415637	29.80	7.95	37.66	1.775	3.03	8.30	0.59	4.56	0.188	1.42	2.41	97.69	14	20	65	< 20	6	< 20	< 10	1350	69	4	8	198
415638	26.92	8.10	20.05	1.136	2.92	18.71	0.20	5.42	0.607	1.64	11.59	97.29	10	27	77	50	9	30	20	450	35	2	7	177
415639	35.33	10.87	23.65	1.870	5.03	10.55	1.32	4.23	0.728	1.07	3.12	97.77	18	24	75	60	13	20	30	1120	41	3	7	202
415640	14.73	3.02	63.17	2.074	1.84	6.57	0.78	1.19	0.049	0.74	2.83	96.98	17	9	51	< 20	7	< 20	< 10	1710	32	4	10	111
415641	13.02	4.09	45.11	2.274	4.00	15.71	0.24	1.71	0.083	0.54	9.53	96.31	19	12	72	< 20	6	< 20	< 10	1730	58	4	8	77
415642	18.50	5.92	28.42	1.778	3.41	20.12	0.39	3.13	0.577	1.31	12.75	96.31	15	23	83	50	10	30	50	970	38	4	9	95
415643	19.88	6.47	30.84	1.838	2.97	17.39	0.60	2.99	0.521	1.55	10.53	95.59	12	14	65	40	8	20	20	870	41	4	10	86
415644	48.94	14.86	9.38	0.875	1.66	9.52	1.25	7.75	0.104	0.69	2.12	97.15	2	15	< 5	< 20	< 1	< 20	< 10	270	39	2	< 5	211
415645	47.03	11.92	14.59	1.394	3.12	9.74	2.39	4.84	0.348	0.80	1.32	97.49	10	33	9	< 20	2	< 20	< 10	640	32	3	6	181
415646	41.70	10.44	19.53	1.928	3.83	12.31	2.17	3.16	0.367	0.68	1.89	98.01	13	40	13	< 20	3	< 20	< 10	900	33	3	6	100
415647	1.66	0.84	84.35	2.878	0.55	5.46	0.03	< 0.01	0.115	1.74	-0.54	97.08	11	2	68	< 20	13	< 20	10	2110	44	6	19	4
415648	20.65	4.52	51.33	2.266	2.82	9.56	0.88	1.58	0.165	1.46	2.36	97.59	10	16	24	< 20	7	< 20	< 10	1840	31	4	9	70
415649	14.59	4.51	58.93	2.674	5.03	5.37	0.40	1.83	0.100	0.95	1.84	96.23	13	4	19	< 20	9	< 20	< 10	1900	64	9	23	85
415650	3.27	1.63	70.03	3.036	1.90	10.11	0.04	0.38	0.147	1.34	4.69	96.57	14	3	37	< 20	9	< 20	< 10	2040	22	4	10	21
415651	1.96	0.94	75.33	3.785	2.51	7.90	0.02	0.08	0.026	0.52	3.98	97.05	9	< 1	32	< 20	10	< 20	< 10	2080	14	2	< 5	7
415652	2.11	1.11	74.34	3.523	2.34	7.77	0.02	0.12	0.038	0.45	4.33	96.16	11	< 1	40	< 20	12	< 20	< 10	2390	23	4	9	8
415653	2.91	1.53	86.85	3.345	2.21	1.57	0.02	0.33	0.029	0.06	-1.12	97.74	11	3	42	< 20	15	< 20	< 10	3510	23	4	9	18
415654	1.09	0.54	81.36	3.717	1.71	6.17	0.02	0.01	0.134	0.26	2.53	97.53	14	< 1	32	< 20	12	< 20	< 10	3080	10	2	< 5	< 2
415655	8.29	1.82	66.75	3.152	2.89	8.89	0.26	0.41	0.075	0.16	3.86	96.56	10	10	28	< 20	9	< 20	< 10	2030	20	3	5	17
415656	36.22	9.38	37.89	1.553	1.47	4.16	2.73	3.44	0.254	0.11	0.26	97.46	9	11	25	< 20	7	< 20	10	1190	24	2	< 5	101
415657	47.10	10.19	18.72	1.259	1.91	9.98	3.09	3.72	0.490	0.57	1.00	98.04	11	25	17	< 20	2	< 20	< 10	550	28	3	< 5	114

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Analyte Symbol	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
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	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04
Analysis Method	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415632	2167	373	8	3.7	< 0.2	28	< 0.5	4.5	13200	0.5	2230	4090	377	1230	167	42.2	119	16.0	80.1	14.2	37.4	5.14	31.2	4.89
415633	1417	243	14	3.5	< 0.2	43	< 0.5	3.0	4898	0.5	1290	2290	203	624	84.4	23.6	69.1	9.7	49.2	8.7	23.1	3.35	22.0	3.72
415634	1740	106	8	3.3	< 0.2	40	< 0.5	3.0	2456	< 0.4	412	845	85.3	299	49.2	13.1	34.6	4.8	23.8	4.2	11.5	1.73	12.4	2.34
415635	1679	226	9	4.6	< 0.2	41	< 0.5	6.9	8298	< 0.4	837	1770	186	651	110	29.5	78.8	10.5	50.1	8.7	22.7	3.07	18.9	2.99
415636	2120	111	5	5.1	< 0.2	32	< 0.5	7.7	16020	< 0.4	344	690	69.0	243	46.3	13.8	37.2	5.0	23.7	4.0	10.9	1.64	11.6	2.05
415637	2524	431	6	3.0	< 0.2	67	0.6	3.4	9811	0.7	1120	2120	205	692	131	41.1	115	16.4	81.9	14.0	37.2	5.06	31.8	4.72
415638	6876	147	< 2	1.9	< 0.2	18	< 0.5	4.4	8079	< 0.4	774	1330	131	453	71.2	19.3	50.0	6.2	29.7	5.1	13.7	1.85	11.2	1.74
415639	2176	205	6	2.4	< 0.2	31	< 0.5	8.7	6233	< 0.4	784	1630	168	587	97.0	25.0	69.2	9.2	44.8	7.8	20.5	2.71	16.8	2.66
415640	2194	295	19	1.6	< 0.2	23	< 0.5	1.2	602	0.4	1280	2780	275	908	129	34.7	97.4	12.9	63.7	11.2	29.9	3.96	23.7	3.48
415641	6689	307	10	2.3	< 0.2	44	< 0.5	1.7	5656	0.9	1250	2540	252	851	130	36.2	93.6	12.2	61.1	10.8	28.9	4.17	25.5	3.80
415642	7912	277	4	1.1	< 0.2	19	< 0.5	2.5	7235	1.2	1260	2490	251	868	127	33.4	84.4	11.4	57.3	10.0	26.7	3.61	21.6	3.23
415643	8476	306	5	1.7	< 0.2	14	< 0.5	3.0	10540	0.7	1670	2930	266	858	119	32.3	86.9	11.6	59.3	10.5	28.7	4.00	24.3	3.68
415644	5574	208	4	9.5	< 0.2	8	< 0.5	3.6	15490	< 0.4	591	1030	99.3	333	51.6	13.5	39.1	5.8	30.9	6.1	17.6	2.72	19.1	3.08
415645	3405	134	5	2.3	< 0.2	14	< 0.5	5.2	13150	< 0.4	721	1330	133	451	66.4	16.0	45.1	5.9	28.6	5.0	12.8	1.75	11.3	1.94
415646	2784	139	6	3.7	< 0.2	24	< 0.5	2.9	7030	< 0.4	609	1200	125	430	67.4	16.8	47.5	6.4	31.3	5.4	14.3	2.05	13.4	2.29
415647	3043	410	32	1.8	< 0.2	39	< 0.5	< 0.5	742	1.3	3600	5750	499	1610	219	55.2	144	17.2	82.2	14.3	38.1	5.07	30.0	4.35
415648	3921	242	21	3.0	< 0.2	24	< 0.5	1.7	7553	0.8	1580	2880	270	885	124	29.0	77.9	9.4	47.6	8.5	23.0	3.20	19.6	2.94
415649	3344	436	74	1.1	< 0.2	15	< 0.5	2.3	13970	2.6	4550	8330	707	2500	346	71.0	170	17.5	84.5	15.0	41.0	5.59	33.7	4.93
415650	4476	227	56	0.9	< 0.2	60	< 0.5	0.8	2746	2.7	920	2080	239	968	151	33.3	79.2	9.7	48.1	8.2	21.1	2.75	16.0	2.22
415651	6332	95	18	0.7	< 0.2	41	< 0.5	< 0.5	1690	3.1	666	1390	150	541	70.0	17.0	36.3	4.9	24.6	4.2	10.0	1.27	7.2	0.99
415652	8836	99	22	0.6	< 0.2	55	< 0.5	< 0.5	4000	2.7	996	2450	270	979	133	33.1	64.3	5.7	23.7	3.6	8.6	1.11	6.6	0.91
415653	957	112	46	1.1	< 0.2	85	< 0.5	0.9	3423	6.7	619	1850	255	1050	144	31.5	69.0	6.6	25.3	3.8	8.6	1.13	6.9	1.01
415654	3977	73	40	0.8	< 0.2	106	< 0.5	< 0.5	524	3.4	312	671	73.6	279	45.5	14.4	35.8	4.2	18.1	2.9	6.8	0.89	5.5	0.86
415655	6324	109	161	1.0	< 0.2	24	< 0.5	< 0.5	2721	0.9	872	1780	172	569	77.9	21.4	50.0	5.8	26.3	4.2	10.0	1.30	7.8	1.17
415656	2251	45	13	1.9	< 0.2	23	< 0.5	1.1	5118	0.6	355	770	78.0	266	38.1	7.99	21.3	2.4	11.3	1.9	5.1	0.74	4.8	0.83
415657	2614	79	6	2.7	< 0.2	14	< 0.5	2.2	3921	< 0.4	420	818	79.8	278	41.3	8.85	27.8	3.6	17.8	3.1	8.6	1.29	9.0	1.65

Analyte Symbol	Hf	Ta	W	Ti	Pb	Th	U	ZrO2	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
415580	22.3	8.2	3	0.3	60	123	5.7	0.122	0.031
415581	15.3	8.8	2	< 0.1	23	168	7.3	0.108	0.039
415582	23.9	12.7	3	0.2	36	235	11.1	0.145	0.050
415583	20.0	13.8	4	0.2	36	305	11.0	0.133	0.087
415584	13.8	12.4	10	0.2	29	208	19.6	0.105	0.100
415585	20.0	19.2	3	0.6	26	268	14.3	0.156	0.064
415586	17.8	13.5	3	0.3	25	321	16.7	0.176	0.042
415587	14.4	19.6	3	0.3	30	260	14.6	0.128	0.083
415588	11.6	3.0	2	0.5	104	465	26.8	0.180	0.099
415589	11.6	10.0	3	0.3	89	295	20.4	0.167	0.109
415590	7.7	9.3	3	0.4	34	195	12.1	0.063	0.095
415591	11.0	17.8	2	0.6	47	219	14.8	0.081	0.125
415592	18.2	19.9	3	0.4	43	343	25.8	0.142	0.134
415593	13.0	15.5	2	0.7	92	301	17.0	0.092	0.127
415594	9.6	18.6	1	0.6	28	213	19.8	0.079	0.141
415595	11.4	22.4	< 1	0.7	84	221	23.9	0.090	0.131
415596	13.2	18.9	1	0.7	70	267	17.0	0.097	0.127
415597	11.5	16.6	3	0.4	58	172	9.7	0.085	0.080
415598	7.3	7.7	< 1	0.5	92	209	13.8	0.083	0.107
415599	11.5	17.1	2	0.6	70	206	13.2	0.085	0.096
415600	9.4	12.9	< 1	0.9	114	270	21.5	0.083	0.123
415601	14.0	12.6	4	0.4	30	82.6	8.7	0.083	0.046
415602	12.6	16.3	2	0.7	77	142	15.5	0.089	0.072
415603	10.3	19.9	1	0.9	55	220	18.0	0.083	0.119
415604	22.6	29.0	3	0.7	90	156	9.1	0.127	0.134
415605	23.1	26.0	2	0.2	30	67.1	4.5	0.157	0.185
415606	20.7	24.5	3	0.3	54	99.3	4.9	0.143	0.159
415607	14.7	20.3	2	0.3	31	118	4.4	0.107	0.126
415608	7.2	3.5	2	0.3	156	791	11.8	0.059	0.098
415609	5.6	5.0	1	0.3	47	916	6.7	0.043	0.079
415610	12.4	9.1	2	0.2	87	648	9.4	0.088	0.099
415611	4.4	0.3	< 1	< 0.1	163	620	5.6	0.059	0.089
415612	9.1	2.6	< 1	0.2	82	578	7.8	0.076	0.142
415613	3.2	3.8	< 1	< 0.1	47	694	6.1	0.040	0.146
415614	2.7	2.1	1	0.2	28	1060	4.3	0.027	0.051
415615	2.6	0.9	< 1	< 0.1	56	470	4.4	0.046	0.087
415616	18.9	17.8	2	0.6	21	153	8.7	0.115	0.048
415617	17.6	29.1	1	0.8	31	232	4.5	0.112	0.187
415618	2.9	6.8	< 1	1.0	38	789	5.1	0.028	0.055
415619	4.3	4.4	< 1	0.6	53	1060	12.2	0.039	0.074
415620	3.1	1.4	< 1	< 0.1	16	387	2.8	0.015	0.084
415621	12.1	8.6	3	0.7	92	230	6.5	0.082	0.038
415622	2.5	0.1	< 1	0.2	26	1040	3.2	0.018	0.056
415623	2.3	< 0.1	< 1	< 0.1	54	633	2.2	0.027	0.087
415624	5.0	0.2	< 1	< 0.1	45	853	2.6	0.037	0.108
415625	12.8	15.1	2	0.6	57	377	13.2	0.083	0.108
415626	9.8	6.7	3	0.5	45	76.0	3.7	0.061	0.029
415627	12.7	9.2	3	0.7	53	127	5.0	0.075	0.045
415628	11.0	7.1	3	0.4	28	73.4	4.0	0.068	0.024
415629	11.7	8.8	3	0.6	37	55.0	4.9	0.068	0.025
415630	17.0	37.2	1	0.4	95	313	24.8	0.155	0.255
415631	21.0	17.5	2	0.3	66	294	13.0	0.167	0.363

Analyte Symbol	Hf	Ta	W	Ti	Pb	Th	U	ZrO2	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
415632	25.0	13.0	2	0.8	46	377	9.5	0.136	0.098
415633	23.9	15.0	2	0.5	27	217	2.8	0.118	0.104
415634	24.0	16.2	2	0.3	25	166	2.6	0.121	0.112
415635	22.6	40.4	2	0.8	36	658	12.7	0.147	0.193
415636	29.7	23.8	1	1.0	41	198	7.0	0.203	0.137
415637	23.7	36.1	1	1.0	74	633	27.1	0.113	0.182
415638	8.4	85.5	1	1.3	80	218	21.8	0.090	0.211
415639	13.9	26.0	2	0.8	37	290	8.0	0.094	0.223
415640	8.6	6.0	2	0.4	54	626	8.0	0.051	0.120
415641	12.3	12.8	< 1	0.5	103	619	7.3	0.097	0.264
415642	5.0	8.5	< 1	0.9	85	468	5.5	0.052	0.172
415643	8.6	10.9	2	0.7	83	334	8.5	0.081	0.135
415644	36.8	150	2	0.7	100	68.1	47.2	0.382	0.329
415645	15.0	14.0	3	0.6	65	202	6.1	0.098	0.104
415646	22.7	19.7	2	0.3	43	206	5.3	0.146	0.169
415647	4.1	1.7	1	< 0.1	31	1510	4.5	0.030	0.097
415648	12.9	5.9	2	0.5	59	595	3.4	0.079	0.052
415649	4.8	3.2	< 1	0.7	56	664	1.9	0.031	0.063
415650	2.8	2.4	< 1	0.2	42	1050	2.3	0.022	0.099
415651	1.6	0.3	< 1	< 0.1	98	670	1.1	0.020	0.051
415652	1.4	0.5	< 1	< 0.1	143	1310	1.6	0.029	0.025
415653	1.7	0.6	< 1	0.1	33	1510	1.2	0.006	0.062
415654	1.5	1.1	< 1	< 0.1	56	762	1.4	0.018	0.182
415655	3.5	2.1	< 1	< 0.1	65	680	1.8	0.031	0.026
415656	6.7	3.5	1	0.4	50	353	1.2	0.045	0.056
415657	15.9	8.1	2	0.4	38	80.6	2.1	0.095	0.066

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Quality Control																								
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas																770	211	2660	5960	100	10			9
WMG-1 Cert																770	200	2700	5900	110	10.3			7.00
NIST 694 Meas	11.35	1.94	0.75	0.013	0.36	43.94	0.92	0.58	0.118	30.18					1689									
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740									
DNC-1 Meas	47.17	18.73	9.74	0.146	10.14	11.26	1.90	0.23	0.490	0.07			31	153	270	58	260	100	60					
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31	148.0	270.0	57.0	247	100.0	70.0					
GBW 07113 Meas	71.30	12.65	3.20	0.144	0.14	0.55	2.44	5.37	0.275	0.04			5	4	< 5									
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00									
GXR-2 Meas																30	8	< 20	80	510	34		24	76
GXR-2 Cert																36.0	8.60	21.0	76.0	530	37.0		25.0	78.0
NIST 1633b Meas	48.57	27.81	11.05	0.019	0.78	2.08	0.28	2.28	1.287	0.53			40		302									
NIST 1633b Cert	49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296									
OKA-2 Meas																								
OKA-2 Cert																								
BE-N Meas																								
BE-N Cert																								
BE-N Meas																								
BE-N Cert																								
AC-E Meas																								
AC-E Cert																								
AC-E Meas																								
AC-E Cert																								
OKA-1 Meas																								
OKA-1 Cert																								
W-2a Meas	52.73	15.42	10.55	0.166	6.25	10.79	2.19	0.64	1.066	0.14			35	< 1	273	80	43	60	110	70	17	2	< 5	19
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20	21.0
SY-4 Meas	50.29	20.64	6.17	0.106	0.52	7.85	7.03	1.71	0.285	0.13			< 1	3	< 5									
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0									
CTA-AC-1 Meas																		< 1	60	30				
CTA-AC-1 Cert																		2.72	54.0	38.0				
BIR-1a Meas	48.08	15.74	11.17	0.172	9.68	13.25	1.79	0.02	0.963	0.02			44	< 1	338	370	52	160	120	70	15	2	< 5	< 2
BIR-1a Cert	47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50	0.440	0.250
NCS DC86312 Meas																								
NCS DC86312 Cert																								
ZW-C Meas																								
ZW-C Cert																								
VS-N Meas																								
VS-N Cert																								
VS-N Meas																								
VS-N Cert																								
NCS DC70014 Meas																	26	70	2640	7400	26			
NCS DC70014 Cert																26.2	70.9	2600.00	7400.00	25.2				
IGS 40 Meas																								
IGS 40 Cert																								
NCS DC86316 Meas																								
NCS DC86316 Cert																								
NCS DC70009 (GBW07241) Meas																30	3	< 20	850	90	16	11	70	505
NCS DC70009 (GBW07241) Cert																30	3.7	2.8	960.000	100.000	16.5	11.2	69.9	500.00
OREAS 100a (Fusion) Meas																	17		160					
OREAS 100a (Fusion) Cert																	18.1		169					
OREAS 101a (Fusion) Meas																	49		420					
OREAS 101a (Fusion) Cert																	48.8		434					
JR-1 Meas																< 20	< 1	< 20	< 10	< 30	16	3	17	248

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Quality Control																									
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
JR-1 Cert																2.83	0.83	1.67	2.68	30.6	16.1	1.88	16.3	257	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
415594 Orig	26.48	7.85	28.68	1.607	6.53	8.76	0.52	4.08	0.508	1.40	11.79	98.19	12	16	65	110	15	60	10	530	27	2	< 5	158	
415594 Dup	26.54	7.84	28.65	1.605	6.57	8.84	0.52	4.11	0.515	1.44	11.79	98.42	11	16	66	110	15	60	10	530	26	2	5	160	
415609 Orig	14.36	4.54	61.12	2.467	1.57	7.10	0.64	1.64	0.062	0.72	3.17	97.40	11	6	13	< 20	8	< 20	< 10	1830	27	3	10	63	
415609 Split	14.30	4.50	61.46	2.452	1.56	7.23	0.62	1.61	0.062	0.74	3.42	97.96	11	6	19	< 20	8	< 20	< 10	1860	31	4	12	67	
415609 Orig																									
415609 Dup																									
415609 Split	14.30	4.50	61.46	2.452	1.56	7.23	0.62	1.61	0.062	0.74	3.42	97.96	11	6	19	< 20	8	< 20	< 10	1860	31	4	12	67	
415611 Orig	6.63	1.57	48.53	2.963	1.82	19.12	0.22	0.51	0.038	1.87	12.16	95.43	13	3	12	< 20	2	< 20	< 10	1320	28	4	11	25	
415611 Dup	6.74	1.60	48.91	2.980	1.83	19.23	0.22	0.52	0.039	1.88	12.16	96.12	14	3	16	< 20	2	< 20	< 10	1330	29	4	11	25	
415629 Orig	58.98	15.15	7.23	0.475	1.44	3.49	4.66	6.34	0.470	0.27	0.78	99.28	10	14	< 5	< 20	1	< 20	< 10	230	29	2	< 5	169	
415629 Split	58.39	14.87	7.28	0.486	1.49	3.59	4.54	6.25	0.460	0.27	0.90	98.50	10	14	< 5	< 20	1	< 20	< 10	250	30	2	< 5	168	
415638 Orig																									
415638 Dup																									
415639 Orig	35.33	10.87	23.65	1.870	5.03	10.55	1.32	4.23	0.728	1.07	3.12	97.77	18	24	75	60	13	20	30	1120	41	3	7	202	
415639 Split	35.03	10.79	23.30	1.847	5.05	10.38	1.34	4.22	0.723	1.04	3.20	96.92	18	25	72	60	13	20	30	1120	42	3	7	201	
415641 Orig	13.00	4.08	45.25	2.283	4.01	15.79	0.24	1.70	0.083	0.54	9.53	96.49	19	12	70	< 20	6	< 20	< 10	1750	58	4	8	78	
415641 Dup	13.04	4.11	44.97	2.264	4.00	15.63	0.24	1.73	0.083	0.53	9.53	96.12	19	12	73	< 20	6	< 20	< 10	1710	57	4	8	76	
Method Blank Method																									
Blank																									
Method Blank Method																									
Blank																									

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Quality Control																									
Analyte Symbol	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
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	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04	
Analysis Method	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas			< 2	2.3		3	3.1	< 0.5			9.2	19.3		10.0	2.5	0.75		0.4	2.4	0.5		0.21	1.3	0.19	
WMG-1 Cert			1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	1.30	0.210	
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas	143	16					1.3		140		5.4			5.7		0.60							2.0		
DNC-1 Cert	144.0	18.0					0.96		118		3.6			5.20		0.59							2.0		
GBW 07113 Meas	40	45							493																
GBW 07113 Cert	43.0	43.0							506																
GXR-2 Meas			< 2	16.3	< 0.2	2	47.3	5.3		< 0.4	28.4	54.9		19.5	3.6	0.59	3.0	0.5	2.7			0.25	1.7	0.25	
GXR-2 Cert			2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50	0.810	3.30	0.480	3.30			0.300	2.04	0.270	
NIST 1633b Meas	1041								716																
NIST 1633b Cert	1040								709																
OKA-2 Meas											51100	125000	15600	59100	9310	2390	4880	494	1570	152	373	14.1	96.2	11.7	
OKA-2 Cert											47700	114000	14900	57400	8620	2250	5030	51.0	1480	175	525	18.0	97.0	11.0	
BE-N Meas																									
BE-N Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
AC-E Meas																									
AC-E Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	193	20	< 2	< 0.5			1.3	0.9	175	< 0.4	11.5	25.1		12.8	3.3	1.08		0.6	3.8	0.8	2.1	0.33	2.1	0.29	
W-2a Cert	190	24.0	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	2.10	0.330	
SY-4 Meas	1194	119							353																
SY-4 Cert	1191	119							340																
CTA-AC-1 Meas											2250	3310		1110	163	44.3	127	14.6					10.6	1.08	
CTA-AC-1 Cert											2176	3326		1087	162	46.7	124	13.9					11.4	1.08	
BIR-1a Meas	109	14	< 2	< 0.5		< 1	0.8	< 0.5	12	< 0.4	1.4	3.2	0.48	2.7	1.2	0.52	1.8	0.4	2.5	0.6	1.6	0.26	1.6	0.23	
BIR-1a Cert	108	16.0	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	1.65	0.260	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas			270	17.4			180			80.3	50.4	94.3	10.2	38.4	7.9	1.66	7.2	1.1	6.3	1.3	3.4	0.53	3.3	0.48	
NCS DC70014 Cert			270.000	16.7			180.000			80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	3.3	0.50	
IGS 40 Meas											21300	2750	7930												
IGS 40 Cert											20720.00	2730.000	8320.000												
NCS DC86316 Meas																									
NCS DC86316 Cert																									
NCS DC70009 (GBW07241) Meas				1.7	1.3	1970	3.6	43.0		26.8	64.7	7.79	31.8	12.4	0.12	14.6	3.3	21.0	4.4	12.9	2.38	16.3	2.33		
NCS DC70009 (GBW07241) Cert				1.8	1.3	1700.00	3.1	41		23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	14.9	2.4		
OREAS 100a (Fusion) Meas			23								291	497	45.1	146	23.6	3.53	20.5	3.6	22.1	4.8	14.0	2.31	14.7	2.10	
OREAS 100a (Fusion) Cert			24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	14.9	2.26	
OREAS 101a (Fusion) Meas			21								888	1430	129	393	49.9	7.99	37.1	5.5	31.6	6.5	18.9	2.95	18.1	2.51	
OREAS 101a (Fusion) Cert			21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	17.5	2.66	
JR-1 Meas			3	< 0.5	< 0.2	4	1.6	20.8		0.5	23.1	52.4	5.93	23.4	5.8	0.29	5.6	1.0	6.1	1.3	3.9	0.68	4.6	0.68	

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Quality Control																									
Analyte Symbol	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
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	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04	
Analysis Method	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
JR-1 Cert			3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	4.55	0.71	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
415594 Orig	930	172	5	2.0	< 0.2	13	< 0.5	3.8	3762	< 0.4	845	1400	144	488	71.7	19.6	53.4	7.1	34.6	6.2	16.6	2.28	14.0	2.15	
415594 Dup	931	173	4	2.0	< 0.2	13	< 0.5	3.8	3771	< 0.4	849	1410	146	488	72.0	19.7	53.4	7.0	35.0	6.3	16.5	2.24	13.9	2.12	
415609 Orig	2725	194	44	1.2	< 0.2	19	< 0.5	1.9	7877	0.7	869	1910	233	933	154	35.2	80.9	8.8	41.1	7.2	19.7	2.72	16.7	2.53	
415609 Split	2715	195	43	1.3	< 0.2	21	< 0.5	2.0	7947	0.7	870	2090	245	974	163	36.7	83.8	9.1	43.3	7.5	20.3	2.83	17.8	2.66	
415609 Orig																									
415609 Dup																									
415609 Split	2715	195	43	1.3	< 0.2	21	< 0.5	2.0	7947	0.7	870	2090	245	974	163	36.7	83.8	9.1	43.3	7.5	20.3	2.83	17.8	2.66	
415611 Orig	11400	309	21	0.9	< 0.2	12	< 0.5	0.6	4579	0.6	2350	3980	382	1270	189	47.7	117	13.1	62.5	11.3	30.9	4.35	26.5	4.05	
415611 Dup	11530	311	21	1.0	< 0.2	12	< 0.5	0.6	4600	0.6	2400	4050	386	1280	191	47.8	119	13.3	63.2	11.4	31.4	4.34	26.8	4.08	
415629 Orig	1837	83	5	1.7	< 0.2	4	< 0.5	4.1	7496	< 0.4	758	1070	90.3	271	33.5	7.38	23.0	3.0	15.5	2.9	8.2	1.21	8.0	1.37	
415629 Split	1871	84	5	1.8	< 0.2	4	< 0.5	4.0	7506	< 0.4	752	1050	88.7	265	32.9	7.27	23.6	3.0	15.3	2.8	8.0	1.16	7.8	1.36	
415638 Orig																									
415638 Dup																									
415639 Orig	2176	205	6	2.4	< 0.2	31	< 0.5	8.7	6233	< 0.4	784	1630	168	587	97.0	25.0	69.2	9.2	44.8	7.8	20.5	2.71	16.8	2.66	
415639 Split	2179	205	6	2.4	< 0.2	30	< 0.5	8.8	6215	< 0.4	802	1640	169	591	97.3	25.3	70.3	9.3	45.1	7.9	20.5	2.77	16.9	2.67	
415641 Orig	6671	306	10	2.4	< 0.2	44	< 0.5	1.7	5629	0.9	1260	2580	255	858	131	36.7	95.0	12.3	61.6	11.0	29.3	4.22	25.9	3.82	
415641 Dup	6707	308	10	2.3	< 0.2	43	< 0.5	1.7	5682	0.9	1230	2490	248	843	128	35.7	92.2	12.1	60.5	10.7	28.5	4.13	25.1	3.78	
Method Blank Method																									
Blank																									
Method Blank Method																									
Blank																									

Quality Control									
Analyte Symbol	Hf	Ta	W	Tl	Pb	Th	U	ZrO2	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
WMG-1 Meas	1.6	0.3	1		17	1.4	0.8		
WMG-1 Cert	1.30	0.500	1.30		15.0	1.10	0.650		
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas									
DNC-1 Cert									
GBW 07113 Meas									
GBW 07113 Cert									
GXR-2 Meas	6.0	0.7	1	0.7	654	8.2	2.8		
GXR-2 Cert	8.30	0.900	1.90	1.03	690	8.80	2.90		
NIST 1633b Meas									
NIST 1633b Cert									
OKA-2 Meas						26600			
OKA-2 Cert						28900			
BE-N Meas								0.037	
BE-N Cert								0.035	
BE-N Meas									0.013
BE-N Cert									0.015
AC-E Meas								0.111	
AC-E Cert								0.105	
AC-E Meas									0.016
AC-E Cert									0.016
OKA-1 Meas									0.520
OKA-1 Cert									0.529
W-2a Meas	2.6	0.5	< 1	< 0.1	8	2.2	0.5		
W-2a Cert	2.60	0.500	0.300	0.200	9.30	2.40	0.530		
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	1.7	2.5				23.2	4.2		
CTA-AC-1 Cert	1.13	2.65				21.8	4.4		
BIR-1a Meas	0.6	< 0.1	< 1	< 0.1	< 5	0.2	< 0.1		
BIR-1a Cert	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100		
NCS DC86312 Meas						26.3			
NCS DC86312 Cert						23.6			
ZW-C Meas								0.007	
ZW-C Cert								0.011	
VS-N Meas								0.099	
VS-N Cert								0.095	
VS-N Meas									0.095
VS-N Cert									0.10
NCS DC70014 Meas					27200				
NCS DC70014 Cert					27200.00				
IGS 40 Meas									
IGS 40 Cert									
NCS DC86316 Meas								4.707	
NCS DC86316 Cert								4.68	
NCS DC70009 (GBW07241) Meas			2330	2.1	61	28.2			
NCS DC70009 (GBW07241) Cert			2200.00	1.8	81.2	28.3			
OREAS 100a (Fusion) Meas						50.5	137		
OREAS 100a (Fusion) Cert						51.6	135		
OREAS 101a (Fusion) Meas						35.8	421		
OREAS 101a (Fusion) Cert						36.6	422		
JR-1 Meas	5.0	1.7	3	1.3	20	26.7	9.1		

Quality Control									
Analyte Symbol	Hf	Ta	W	Tl	Pb	Th	U	ZrO2	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
JR-1 Cert	4.51	1.86	1.59	1.56	19.3	26.7	8.88		
SX18-01 Meas								0.088	
SX18-01 Cert								0.093	
SX18-01 Meas									0.694
SX18-01 Cert									0.695
SX18-04 Meas								0.157	
SX18-04 Cert								0.146	
SX18-04 Meas									1.344
SX18-04 Cert									1.32
SX18-05 Meas								0.214	
SX18-05 Cert								0.218	
SX18-05 Meas									1.003
SX18-05 Cert									0.973
415594 Orig	9.6	18.0	2	0.7	28	213	19.6		
415594 Dup	9.5	19.2	1	0.6	28	214	20.1		
415609 Orig	5.6	5.0	1	0.3	47	916	6.7	0.043	0.079
415609 Split	5.8	5.1	1	0.4	48	959	7.0	0.042	0.078
415609 Orig								0.044	0.079
415609 Dup								0.043	0.078
415609 Split	5.8	5.1	1	0.4	48	959	7.0		
415611 Orig	4.3	0.2	< 1	< 0.1	161	621	5.6		
415611 Dup	4.5	0.3	< 1	< 0.1	165	620	5.6		
415629 Orig	11.7	8.8	3	0.6	37	55.0	4.9	0.068	0.025
415629 Split	11.9	8.1	2	0.5	36	53.0	4.8	0.067	0.024
415638 Orig								0.090	0.210
415638 Dup								0.090	0.211
415639 Orig	13.9	26.0	2	0.8	37	290	8.0	0.094	0.223
415639 Split	13.6	25.6	10	0.8	38	284	7.8	0.094	0.223
415641 Orig	12.5	13.9	< 1	0.5	105	628	7.4		
415641 Dup	12.1	11.7	< 1	0.5	101	611	7.1		
Method Blank Method Blank								< 0.003	
Method Blank Method Blank									< 0.003



Date Submitted: 11-Mar-10
Invoice No.: A10-1082 (i)
Invoice Date: 30-Jul-10
Your Reference: Clay Howells (RA-5)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

71 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT	A10-1082 (i)	Code 8-Nb2O5 - XRF Option XRF Code 8-REE-Rare Earth Element Pkg Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2) Code Specific Gravity Pulp
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This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control



ACTIVATION LABORATORIES LTD.

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	Spec Grav
Unit Symbol	-
Detection Limit	0.01
Analysis Method	GRAV

415951	4.82
415526	3.25
415536	2.98
415551	2.89

Quality Control

Analyte Symbol	Spec Grav
Unit Symbol	-
Detection Limit	0.01
Analysis Method	GRAV

415951 Orig	4.83
415951 Dup	4.82
Method Blank Method Blank	< 0.01



Date Submitted: 11-Mar-10
Invoice No.: A10-1082 (i)
Invoice Date: 26-Mar-10
Your Reference: Clay Howells (RA-5)

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

71 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-1082 (i)**

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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

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+1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



Activation Laboratories Ltd. Report: A10-1082 (i)

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1	5	2
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415562	0.82	0.38	60.21	3.362	1.92	17.09	0.02	0.01	0.119	1.09	11.67	96.70	11	< 1	43	< 20	5	< 20	< 10	1620	13	2	< 5	< 2
415563	2.72	0.81	50.24	2.855	1.82	21.77	0.03	0.36	0.095	1.20	15.13	97.02	8	2	29	< 20	3	< 20	< 10	1000	15	2	< 5	18
415564	37.02	9.10	22.02	1.569	6.36	9.73	1.41	3.77	0.440	1.90	1.35	94.69	12	27	21	< 20	3	< 20	< 10	810	57	8	23	123
415565	45.50	11.49	11.05	1.281	6.08	8.86	2.11	5.25	0.411	1.79	2.02	95.84	12	23	8	< 20	2	< 20	< 10	620	55	8	22	145
415566	11.10	3.13	77.75	1.575	1.61	2.95	0.76	0.82	0.656	0.49	-1.34	99.50	6	6	77	< 20	8	< 20	< 10	1550	40	2	< 5	40
415567	8.87	1.98	75.07	1.654	2.17	4.41	0.30	0.53	0.370	1.15	0.60	97.10	12	9	83	< 20	12	< 20	10	2320	36	3	6	35
415568	23.64	7.10	52.02	1.409	2.98	5.23	1.63	1.59	0.389	0.41	1.66	98.06	14	10	62	< 20	8	< 20	< 10	1470	40	2	< 5	64
415569	43.97	11.36	21.30	0.929	3.42	7.02	2.94	4.26	0.371	0.26	3.26	99.10	15	14	41	20	4	< 20	< 10	620	27	2	< 5	153
415570	36.27	6.61	24.81	1.344	2.31	15.76	2.12	2.42	0.268	0.92	5.60	98.43	18	16	20	< 20	4	< 20	< 10	630	21	2	< 5	74
415571	1.44	1.28	94.18	1.498	0.43	1.57	0.06	0.08	0.349	0.69	-2.42	99.15	6	< 1	76	< 20	10	< 20	< 10	1830	23	2	< 5	7
415572	1.67	1.53	93.77	1.551	0.44	1.27	0.07	0.09	0.435	0.37	-2.37	98.82	9	< 1	80	< 20	11	< 20	< 10	2020	22	2	< 5	5
415573	2.08	1.60	90.93	1.585	0.54	2.30	0.09	0.14	0.541	1.33	-2.46	98.66	6	< 1	77	< 20	10	< 20	< 10	1710	23	2	< 5	9
415574	2.00	1.25	91.63	2.185	1.02	1.11	0.05	0.11	0.064	0.50	-2.60	97.31	9	< 1	38	< 20	12	< 20	< 10	2130	11	1	< 5	12
415575	2.18	1.27	94.75	1.218	0.52	0.87	0.10	0.15	0.370	0.02	-2.42	99.02	5	< 1	60	< 20	12	< 20	< 10	1780	16	1	< 5	20
415576	2.20	1.49	93.48	1.561	0.67	0.77	0.07	0.19	0.196	0.09	-2.39	98.32	5	< 1	52	< 20	12	< 20	< 10	2040	13	1	< 5	21
415577	2.40	0.98	93.40	1.529	0.48	1.40	0.09	0.03	0.457	0.11	-2.32	98.55	5	1	61	< 20	10	< 20	< 10	1490	15	1	< 5	4
415578	2.77	1.56	90.22	1.912	0.69	1.01	0.13	0.16	0.438	0.20	-2.00	97.09	11	1	61	< 20	12	< 20	< 10	2400	41	4	11	12
415579	47.15	12.83	15.04	1.087	2.45	12.48	3.26	2.81	0.260	0.70	2.48	100.5	10	16	8	< 20	2	< 20	< 10	390	24	2	< 5	96

Activation Laboratories Ltd. Report: A10-1082 (i)

Analyte Symbol	Sr	Y	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
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	2	2	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04
Analysis Method	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
415562	7833	65	93	2.2	< 0.2	44	1.1	< 0.5	1182	0.6	328	690	84.8	283	43.5	16.0	29.3	3.8	18.5	3.2	8.1	1.06	6.3	0.90
415563	7435	125	92	0.9	< 0.2	11	< 0.5	< 0.5	2469	< 0.4	725	1440	150	501	71.1	19.3	49.1	6.3	31.1	5.5	14.4	1.94	11.5	1.65
415564	2517	564	21	1.7	< 0.2	11	0.6	3.9	15830	0.5	2620	5370	582	2050	316	81.5	227	28.4	139	24.0	61.5	7.65	43.1	6.21
415565	2620	576	15	1.8	< 0.2	7	< 0.5	4.4	14860	0.6	2720	5590	589	2020	310	82.3	227	29.3	142	24.1	60.9	7.86	45.3	6.61
415566	366	67	87	1.7	< 0.2	38	< 0.5	3.2	984	< 0.4	417	755	87.3	289	44.9	11.4	31.1	3.9	18.7	3.1	8.0	1.02	5.9	0.90
415567	458	161	37	4.9	< 0.2	47	< 0.5	1.9	1315	0.4	481	975	116	393	75.2	23.2	64.2	8.2	38.4	6.3	16.0	2.05	11.7	1.69
415568	521	46	9	3.3	< 0.2	37	< 0.5	3.7	2251	< 0.4	215	412	44.1	147	23.2	6.01	17.6	2.4	11.5	2.0	5.3	0.79	5.4	1.00
415569	1831	42	6	2.0	< 0.2	27	< 0.5	5.6	3027	< 0.4	211	371	37.2	131	19.8	4.37	13.3	1.8	9.1	1.7	4.8	0.74	5.7	1.11
415570	2676	81	8	3.1	< 0.2	16	0.5	2.1	2912	< 0.4	400	702	82.3	275	42.1	10.3	28.4	3.7	18.7	3.4	9.1	1.33	9.3	1.71
415571	213	54	128	1.0	< 0.2	32	< 0.5	0.5	186	0.8	277	631	84.4	321	62.8	12.4	33.2	3.6	16.0	2.6	6.5	0.81	4.5	0.60
415572	149	44	85	0.8	< 0.2	35	< 0.5	< 0.5	111	2.6	224	494	65.5	244	46.1	9.61	26.8	3.1	14.3	2.4	6.0	0.72	3.6	0.45
415573	403	61	26	1.0	< 0.2	85	< 0.5	< 0.5	379	1.4	280	614	81.7	302	53.5	11.7	28.8	3.3	16.3	2.7	6.5	0.80	4.4	0.60
415574	244	27	33	0.7	< 0.2	29	< 0.5	0.6	591	2.4	205	439	58.1	214	34.3	7.05	16.3	1.7	8.3	1.4	3.5	0.46	2.7	0.38
415575	64	< 2	80	0.8	< 0.2	46	< 0.5	1.1	188	0.8	26.0	63.9	7.32	27.0	4.9	1.01	2.4	0.3	1.4	0.2	0.7	0.10	0.8	0.13
415576	70	18	70	0.7	< 0.2	38	< 0.5	1.5	284	< 0.4	94.9	261	35.1	134	21.3	4.09	11.1	1.4	6.5	1.1	2.6	0.32	1.8	0.26
415577	74	4	86	1.0	< 0.2	47	< 0.5	< 0.5	31	< 0.4	35.5	80.4	9.16	33.1	5.4	1.20	3.5	0.5	2.3	0.4	1.1	0.16	1.1	0.18
415578	223	223	49	1.5	< 0.2	101	< 0.5	1.1	454	1.1	890	2130	280	1050	164	32.8	84.3	10.8	52.9	8.8	21.3	2.67	14.5	1.97
415579	1663	56	2	2.9	< 0.2	12	< 0.5	4.5	4367	< 0.4	204	435	51.5	184	29.4	6.59	17.9	2.4	12.5	2.2	6.3	1.03	7.8	1.57

Activation Laboratories Ltd. Report: A10-1082 (i)

Analyte Symbol	Hf	Ta	W	Ti	Pb	Th	U	ZrO2	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
415951	7.7	2.4	< 1	< 0.1	24	2150	20.4	0.053	0.222
415952	10.7	4.1	< 1	< 0.1	24	3060	25.9	0.062	0.225
415953	7.2	1.7	< 1	< 0.1	40	561	9.8	0.042	0.126
415954	4.6	1.0	< 1	< 0.1	19	1820	9.9	0.036	0.151
415955	4.8	1.2	< 1	< 0.1	23	698	8.7	0.028	0.128
415956	29.2	16.6	4	0.2	34	599	15.0	0.115	0.247
415957	7.9	3.2	1	0.2	28	679	12.9	0.035	0.085
415958	3.5	1.1	< 1	0.1	20	662	6.6	0.018	0.070
415959	3.5	2.2	< 1	0.2	11	739	10.2	0.013	0.057
415960	4.2	10.2	3	0.2	41	3640	15.1	0.016	0.051
415961	3.2	0.1	< 1	< 0.1	108	7250	6.2	0.019	0.015
415520	13.5	8.3	8	0.7	22	119	11.5	0.074	0.030
415521	11.0	13.3	1	0.5	19	197	13.0	0.083	0.080
415523	7.5	9.2	< 1	0.6	19	212	12.9	0.071	0.097
415524	7.6	9.4	< 1	0.6	21	205	14.4	0.087	0.094
415525	8.8	12.6	1	0.4	18	188	11.4	0.080	0.103
415526	9.6	12.3	1	0.5	15	198	12.9	0.073	0.124
415527	8.8	8.4	2	0.5	51	89.1	7.0	0.060	0.061
415528	8.4	9.7	3	0.5	28	227	18.3	0.084	0.114
415529	8.7	9.7	< 1	0.5	44	202	13.9	0.079	0.118
415530	12.8	7.9	2	0.6	66	354	20.6	0.113	0.078
415531	8.4	2.8	2	0.5	14	80.9	4.3	0.055	0.019
415532	17.5	15.2	2	0.2	32	220	14.5	0.123	0.161
415533	18.5	19.6	2	0.7	40	90.9	18.4	0.127	0.095
415534	11.9	14.8	1	0.6	38	95.2	13.5	0.091	0.068
415535	9.1	12.1	2	0.6	31	126	12.0	0.079	0.081
415536	10.9	13.1	2	0.4	39	118	11.1	0.078	0.081
415537	13.6	13.3	3	0.4	30	194	14.9	0.098	0.101
415538	16.5	18.2	2	0.3	39	91.0	4.5	0.117	0.199
415539	11.5	9.3	2	0.4	38	133	9.1	0.081	0.067
415540	5.9	8.2	2	0.5	38	219	9.2	0.053	0.062
415541	12.5	12.1	2	0.6	32	189	11.7	0.087	0.082
415542	27.5	23.8	4	0.6	21	88.9	8.4	0.190	0.216
415543	21.7	21.0	1	0.3	24	98.9	6.2	0.154	0.193
415544	22.4	13.9	1	0.5	36	317	19.0	0.149	0.091
415545	6.7	9.3	< 1	0.8	70	276	20.1	0.071	0.130
415546	7.1	9.4	< 1	0.8	35	274	18.8	0.062	0.132
415547	6.4	2.6	< 1	0.5	82	420	12.1	0.067	0.149
415548	9.4	4.1	< 1	0.7	647	5170	16.0	0.068	0.366
415549	8.9	1.9	< 1	0.2	142	3700	17.0	0.075	0.338
415550	3.1	1.0	< 1	0.1	76	5010	5.1	0.017	0.015
415551	10.4	3.7	1	0.6	34	287	5.2	0.064	0.021
415552	2.8	1.4	< 1	0.1	44	4410	4.0	0.019	0.037
415553	15.5	7.7	2	0.3	29	3190	7.9	0.091	0.071
415554	7.1	3.1	< 1	0.3	29	3240	10.0	0.044	0.058
415555	3.0	1.1	2	< 0.1	52	1610	3.8	0.030	0.034
415556	2.4	3.0	< 1	0.2	102	3880	4.6	0.015	0.046
415557	16.5	8.3	3	0.9	126	104	5.7	0.102	0.020
415558	2.3	2.7	1	0.2	6	2920	3.2	0.010	0.038
415559	7.0	3.3	1	0.4	15	2410	3.5	0.037	0.039
415560	3.4	4.5	1	0.2	69	912	4.0	0.030	0.104
415561	1.4	0.1	< 1	< 0.1	88	480	1.7	0.030	0.075

Analyte Symbol	Hf	Ta	W	Ti	Pb	Th	U	ZrO2	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
415562	6.5	1.1	< 1	< 0.1	138	825	2.2	0.082	0.199
415563	3.5	1.7	2	< 0.1	86	214	4.1	0.040	0.114
415564	9.7	7.6	3	0.6	53	427	15.6	0.057	0.074
415565	10.2	8.0	3	0.8	66	395	16.6	0.059	0.056
415566	8.0	5.8	< 1	0.2	18	187	2.6	0.052	0.226
415567	21.3	4.7	< 1	0.4	64	507	5.9	0.125	0.233
415568	15.8	9.3	< 1	0.3	18	100	1.7	0.090	0.141
415569	12.7	9.3	2	0.4	24	37.5	1.9	0.076	0.066
415570	16.8	7.0	2	0.2	35	110	2.2	0.097	0.059
415571	3.1	2.9	< 1	< 0.1	14	769	1.2	0.017	0.189
415572	2.7	1.4	< 1	< 0.1	10	1070	1.8	0.015	0.174
415573	3.4	4.8	< 1	< 0.1	7	718	1.2	0.023	0.184
415574	2.1	0.2	< 1	< 0.1	14	908	1.6	0.012	0.129
415575	2.9	0.5	< 1	< 0.1	10	672	1.7	0.015	0.190
415576	2.1	0.1	< 1	< 0.1	8	713	1.5	0.008	0.145
415577	3.9	0.7	< 1	0.1	< 5	273	0.9	0.022	0.216
415578	10.5	3.5	< 1	0.2	15	824	3.5	0.034	0.332
415579	14.2	2.7	< 1	0.3	13	68.9	1.3	0.088	0.023

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Quality Control																										
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Sr	Y	Ba	Cr	Co	Ni	Cu	Zn	Ga		
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	2	2	3	20	1	20	10	30	1		
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS		
WMG-1 Meas																			780	209	2640	6080	110	10		
WMG-1 Cert																			770	200	2700	5900	110	10.3		
NIST 694 Meas	10.87	1.87	0.74	0.013	0.33	42.30	0.87	0.52	0.113	30.17					1666											
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740											
DNC-1 Meas	46.94	17.97	9.77	0.146	9.83	11.51	1.91	0.22	0.477	0.06			31	156	144	16	107	270	57	260	100	70				
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31	148.0	144.0	18.0	118	270.0	57.0	247	100.0	70.0				
GBW 07113 Meas	72.31	13.43	3.29	0.145	0.15	0.62	2.56	5.55	0.287	0.05			6	4	< 5	44	48	511								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00	43.0	43.0	506								
GXR-2 Meas																			30	8	< 20	80	540	33		
GXR-2 Cert																			36.0	8.60	21.0	76.0	530	37.0		
NIST 1633b Meas	48.20	28.01	11.22	0.018	0.75	2.20	0.28	2.26	1.276	0.55			40		306	1035		701								
NIST 1633b Cert	49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296	1040		709								
OKA-2 Meas																										
OKA-2 Cert																										
BE-N Meas																										
BE-N Cert																										
AC-E Meas																										
AC-E Cert																										
OKA-1 Meas																										
OKA-1 Cert																										
W-2a Meas	53.35	15.11	10.71	0.165	6.33	11.32	2.25	0.62	1.069	0.15			36	< 1	285	192	20	181	90	44	70	110	80	17		
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	190	24.0	182	92.0	43.0	70.0	110	80.0	17.0		
SY-4 Meas	49.67	20.73	5.98	0.108	0.51	8.16	6.87	1.64	0.289	0.12			1	3	< 5	1198	119	349								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0	1191	119	340								
CTA-AC-1 Meas																										
CTA-AC-1 Cert																				< 1		60	30			
BIR-1a Meas	47.66	15.81	11.37	0.172	9.43	13.61	1.82	0.02	0.982	0.03			43	< 1	342	108	14	9	380	52	160	130	70	15		
BIR-1a Cert	47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	108	16.0	7.00	382	51.4	166	126	71.0	16.0		
NCS DC86312 Meas																										
NCS DC86312 Cert																										
ZW-C Meas																										
ZW-C Cert																										
VS-N Meas																										
VS-N Cert																										
NCS DC70014 Meas																					26	70	2630	7400	25	
NCS DC70014 Cert																					26.2	70.9	2600.00	7400.00	25.2	
IGS 40 Meas	16.94	2.22		0.417	4.03	17.09	0.16	1.27	0.162	0.60																
IGS 40 Cert	16.59	2.10		0.40	4.02	16.99	0.12	1.28	0.185	0.54																
NCS DC86316 Meas																										
NCS DC86316 Cert																										
NCS DC70009 (GBW07241) Meas																			30	3	< 20	890	100	17		
NCS DC70009 (GBW07241) Cert																			30	3.7	2.8	960.000	100.000	16.5		
OREAS 100a (Fusion) Meas																					17		170			
OREAS 100a (Fusion) Cert																					18.1		169			
OREAS 101a (Fusion) Meas																					49		430			
OREAS 101a (Fusion) Cert																					48.8		434			
JR-1 Meas																				< 20	< 1	< 20	< 10	< 30	17	
JR-1 Cert																				2.83	0.83	1.67	2.68	30.6	16.1	
SX18-01 Meas																										
SX18-01 Cert																										
SX18-04 Meas																										
SX18-04 Cert																										
SX18-05 Meas																										

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Quality Control																										
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Sr	Y	Ba	Cr	Co	Ni	Cu	Zn	Ga		
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	2	2	3	20	1	20	10	30	1		
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS		
SX18-05 Cert																										
415524 Orig	22.77	6.49	22.09	1.331	5.38	21.42	0.38	2.61	0.619	1.45	12.13	96.66	12	17	86	7210	141	6786	180	15	100	30	530	26		
415524 Dup	23.20	6.54	22.35	1.351	5.45	21.36	0.38	2.65	0.643	1.47	12.13	97.53	12	17	86	7291	143	6903	180	15	90	30	540	26		
415539 Orig	41.78	10.15	15.25	0.915	2.62	14.76	2.45	3.98	0.499	0.77	5.80	98.98	7	18	41	2914	123	3099	70	6	40	20	480	31		
415539 Split	42.32	10.35	15.23	0.927	2.72	14.62	2.46	3.97	0.503	0.83	5.85	99.77	8	18	40	2939	126	3174	60	7	30	10	460	29		
415539 Orig																										
415539 Dup																										
415541 Orig	39.78	9.68	16.92	1.023	2.87	14.25	1.75	4.80	0.405	0.89	6.10	98.47	8	17	46	3641	138	2914	70	7	40	20	540	30		
415541 Dup	39.84	9.79	16.86	1.024	2.87	14.25	1.76	4.83	0.408	0.88	6.10	98.62	8	17	46	3640	138	2884	70	7	40	20	540	30		
415559 Orig																			< 20	11	< 20	< 10	3240	28		
415559 Split	9.53	3.07	76.86	2.300	2.28	1.40	0.15	0.86	0.038	0.09	-1.13	95.45	12	11	25	457	190	10160	< 20	12	< 20	< 10	3300	26		
415559 Split																			< 20	12	< 20	< 10	3300	26		
415568 Orig																			< 20	12	< 20	< 10	3300	26		
415568 Dup																			< 20	12	< 20	< 10	3300	26		
415569 Orig	43.97	11.36	21.30	0.929	3.42	7.02	2.94	4.26	0.371	0.26	3.26	99.10	15	14	41	1831	42	3027	20	4	< 20	< 10	620	27		
415569 Split	43.61	11.29	21.35	0.932	3.39	6.98	2.91	4.19	0.368	0.25	3.28	98.55	15	14	46	1817	42	3004	< 20	4	< 20	< 10	640	27		
415571 Orig	1.44	1.27	94.13	1.495	0.43	1.57	0.06	0.08	0.353	0.70	-2.42	99.11	6	< 1	76	216	54	185	< 20	10	< 20	< 10	1810	23		
415571 Dup	1.43	1.28	94.22	1.501	0.43	1.58	0.06	0.08	0.345	0.69	-2.42	99.19	6	< 1	76	211	54	188	< 20	11	< 20	< 10	1850	23		
Method Blank Method																			< 20	< 1	< 20	< 10	< 30	< 1		
Blank																			< 20	< 1	< 20	< 10	< 30	< 1		
Method Blank Method																			< 20	< 1	< 20	< 10	< 30	< 1		
Blank																			< 20	< 1	< 20	< 10	< 30	< 1		

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Quality Control																										
Analyte Symbol	Ge	As	Rb	Mo	Ag	In	Sn	Sb	Cs	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu		
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	ppm	
Detection Limit	1	5	2	2	0.5	0.2	1	0.5	0.5	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04		
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS		
WMG-1 Meas		9		< 2	2.4		3	2.9	< 0.5		8.5	18.0		10.0	2.5	0.76		0.4	2.4	0.5		0.21	1.3	0.19		
WMG-1 Cert		7.00		1.40	2.70		2.20	1.80	0.480		8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	1.30	0.210		
NIST 694 Meas																										
NIST 694 Cert																										
DNC-1 Meas								1.2			3.9			5.2		0.59							2.0			
DNC-1 Cert								0.96			3.6			5.20		0.59							2.0			
GBW 07113 Meas																										
GBW 07113 Cert																										
GXR-2 Meas		23	75	< 2	16.6	< 0.2	3	49.3	5.3	< 0.4	25.3	50.6		19.1	3.5	0.65	3.0	0.5	2.7			0.26	1.7	0.25		
GXR-2 Cert		25.0	78.0	2.10	17.0	0.252	1.70	49.0	5.20	0.690	25.6	51.4		19.0	3.50	0.810	3.30	0.480	3.30			0.300	2.04	0.270		
NIST 1633b Meas																										
NIST 1633b Cert																										
OKA-2 Meas											51000	122000	14300	57200	9250	2270	4840	468	1500	150	374	14.0	103	12.4		
OKA-2 Cert											47700	114000	14900	57400	8620	2250	5030	51.0	1480	175	525	18.0	97.0	11.0		
BE-N Meas																										
BE-N Cert																										
AC-E Meas																										
AC-E Cert																										
OKA-1 Meas																										
OKA-1 Cert																										
W-2a Meas	2	< 5	19	< 2	< 0.5			1.1	0.9	< 0.4	10.6	23.6		13.0	3.3	1.09		0.6	3.8	0.8	2.1	0.33	2.0	0.30		
W-2a Cert	1.00	1.20	21.0	0.600	0.0460			0.790	0.990	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	2.10	0.330		
SY-4 Meas																										
SY-4 Cert																										
CTA-AC-1 Meas											2100	3170		1110	163	44.3	126	14.5					10.6	1.09		
CTA-AC-1 Cert											2176	3326		1087	162	46.7	124	13.9					11.4	1.08		
BIR-1a Meas	2	< 5	< 2	< 2	< 0.5		< 1	0.8	< 0.5	< 0.4	0.6	2.0	0.46	2.7	1.1	0.52	1.8	0.4	2.6	0.6	1.6	0.26	1.7	0.24		
BIR-1a Cert	1.50	0.440	0.250	0.500	0.0360		0.650	0.580	0.00500	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	1.65	0.260		
NCS DC86312 Meas																										
NCS DC86312 Cert																										
ZW-C Meas																										
ZW-C Cert																										
VS-N Meas																										
VS-N Cert																										
NCS DC70014 Meas				270	17.1			180		80.3	44.4	85.7	9.83	37.1	7.7	1.63	6.9	1.1	6.2	1.2	3.4	0.52	3.3	0.48		
NCS DC70014 Cert				270.000	16.7			180.000		80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	3.3	0.50		
IGS 40 Meas											20700															
IGS 40 Cert											20720.00															
NCS DC86316 Meas																										
NCS DC86316 Cert																										
NCS DC70009 (GBW07241) Meas	11	71	505		1.8	1.3	1700	3.9	43.4		24.3	60.7	7.87	31.9	12.7	0.12	14.7	3.3	21.2	4.4	13.0	2.41	16.4	2.31		
NCS DC70009 (GBW07241) Cert	11.2	69.9	500.00		1.8	1.3	1700.00	3.1	41		23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	14.9	2.4		
OREAS 100a (Fusion) Meas				24							269	475	46.2	149	24.3	3.57	20.8	3.7	22.8	4.9	14.4	2.41	15.3	2.17		
OREAS 100a (Fusion) Cert				24.1							260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	14.9	2.26		
OREAS 101a (Fusion) Meas				21							798	1340	128	391	49.8	7.97	36.9	5.5	31.7	6.5	19.1	2.95	18.3	2.51		
OREAS 101a (Fusion) Cert				21.9							816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	17.5	2.66		
JR-1 Meas	3	17	248	3	< 0.5	< 0.2	3	1.5	20.8	0.5	20.5	48.0	5.90	23.3	5.8	0.29	5.5	1.0	6.2	1.3	4.0	0.71	4.7	0.71		
JR-1 Cert	1.88	16.3	257	3.25	0.031	0.028	2.86	1.19	20.8	0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	4.55	0.71		
SX18-01 Meas																										
SX18-01 Cert																										
SX18-04 Meas																										
SX18-04 Cert																										
SX18-05 Meas																										

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Quality Control																										
Analyte Symbol	Ge	As	Rb	Mo	Ag	In	Sn	Sb	Cs	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu		
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	ppm	
Detection Limit	1	5	2	2	0.5	0.2	1	0.5	0.5	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04		
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-05 Cert																										
415524 Orig	3	11	78	< 2	1.9	< 0.2	12	< 0.5	2.8	< 0.4	941	1650	149	489	68.7	18.4	48.8	6.0	29.5	5.3	14.0	1.84	10.9	1.63		
415524 Dup	3	11	78	< 2	1.8	< 0.2	12	< 0.5	2.8	< 0.4	934	1640	149	487	67.7	18.2	48.6	6.0	29.4	5.2	13.8	1.82	10.9	1.62		
415539 Orig	2	7	121	9	2.3	< 0.2	10	< 0.5	2.4	< 0.4	647	1070	107	357	53.9	13.0	38.5	5.0	24.8	4.5	12.2	1.73	10.7	1.70		
415539 Split	2	7	112	8	2.4	< 0.2	10	0.8	2.4	< 0.4	602	976	105	336	50.5	12.4	35.5	4.8	24.4	4.3	11.8	1.64	10.3	1.67		
415539 Orig																										
415539 Dup																										
415541 Orig	2	6	165	12	2.5	< 0.2	12	< 0.5	3.2	< 0.4	706	1190	120	401	59.7	15.4	43.2	5.8	28.2	5.1	13.7	1.91	11.9	1.90		
415541 Dup	2	6	165	12	2.4	< 0.2	12	< 0.5	3.2	< 0.4	694	1150	117	396	59.1	15.1	43.5	5.5	27.8	5.0	13.5	1.87	11.7	1.87		
415559 Orig	7	18	63	48	1.5	< 0.2	102	< 0.5	1.8	1.8	625	1570	287	1490	313	64.7	125	10.1	40.5	6.3	16.4	2.36	15.4	2.48		
415559 Split	6	14	69	48	1.2	< 0.2	102	< 0.5	1.8	1.6	679	1690	283	1550	328	65.8	124	10.4	40.8	6.4	16.8	2.39	15.9	2.37		
415559 Split	6	14	69	48	1.2	< 0.2	102	< 0.5	1.8	1.6	679	1690	283	1550	328	65.8	124	10.4	40.8	6.4	16.8	2.39	15.9	2.37		
415568 Orig																										
415568 Dup																										
415569 Orig	2	< 5	153	6	2.0	< 0.2	27	< 0.5	5.6	< 0.4	211	371	37.2	131	19.8	4.37	13.3	1.8	9.1	1.7	4.8	0.74	5.7	1.11		
415569 Split	2	< 5	154	6	2.1	< 0.2	28	< 0.5	5.6	< 0.4	210	373	37.3	129	20.2	4.40	13.3	1.8	9.1	1.7	5.0	0.77	5.7	1.09		
415571 Orig	2	< 5	7	126	1.0	< 0.2	32	< 0.5	0.5	0.8	280	634	85.0	323	63.1	12.6	33.6	3.6	16.1	2.6	6.5	0.80	4.5	0.59		
415571 Dup	2	< 5	7	129	1.1	< 0.2	33	< 0.5	0.5	0.8	274	628	83.9	320	62.5	12.3	32.7	3.5	15.8	2.6	6.5	0.81	4.5	0.61		
Method Blank Method	< 1	< 5	< 2	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.04		
Blank																										
Method Blank Method																										
Blank																										

Quality Control									
Analyte Symbol	Hf	Ta	W	Tl	Pb	Th	U	ZrO2	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
WMG-1 Meas	1.5	0.2	1		12	1.4	0.8		
WMG-1 Cert	1.30	0.500	1.30		15.0	1.10	0.650		
NIST 694 Meas									
NIST 694 Cert									
DNC-1 Meas									
DNC-1 Cert									
GBW 07113 Meas									
GBW 07113 Cert									
GXR-2 Meas	5.9	0.6	1	0.7	500	8.2	2.9		
GXR-2 Cert	8.30	0.900	1.90	1.03	690	8.80	2.90		
NIST 1633b Meas									
NIST 1633b Cert									
OKA-2 Meas						28200			
OKA-2 Cert						28900			
BE-N Meas								0.037	0.013
BE-N Cert								0.035	0.015
AC-E Meas								0.111	0.016
AC-E Cert								0.105	0.016
OKA-1 Meas									0.520
OKA-1 Cert									0.529
W-2a Meas	2.6	0.4	< 1	< 0.1	11	2.2	0.5		
W-2a Cert	2.60	0.500	0.300	0.200	9.30	2.40	0.530		
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	1.8	1.8				23.0	4.3		
CTA-AC-1 Cert	1.13	2.65				21.8	4.4		
BIR-1a Meas	0.6	< 0.1	< 1	< 0.1	< 5	0.1	< 0.1		
BIR-1a Cert	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100		
NCS DC86312 Meas							25.6		
NCS DC86312 Cert							23.6		
ZW-C Meas								0.007	
ZW-C Cert								0.011	
VS-N Meas								0.099	0.095
VS-N Cert								0.095	0.10
NCS DC70014 Meas									
NCS DC70014 Cert									
IGS 40 Meas									
IGS 40 Cert									
NCS DC86316 Meas								4.71	
NCS DC86316 Cert								4.68	
NCS DC70009 (GBW07241) Meas			2330	2.1		28.3			
NCS DC70009 (GBW07241) Cert			2200.00	1.8		28.3			
OREAS 100a (Fusion) Meas						51.2	141		
OREAS 100a (Fusion) Cert						51.6	135		
OREAS 101a (Fusion) Meas						35.4	420		
OREAS 101a (Fusion) Cert						36.6	422		
JR-1 Meas	5.1	1.3	3	1.3	15	26.6	9.4		
JR-1 Cert	4.51	1.86	1.59	1.56	19.3	26.7	8.88		
SX18-01 Meas								0.088	0.694
SX18-01 Cert								0.093	0.695
SX18-04 Meas								0.157	1.344
SX18-04 Cert								0.146	1.32
SX18-05 Meas								0.214	1.003

Quality Control									
Analyte Symbol	Hf	Ta	W	Tl	Pb	Th	U	ZrO2	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
SX18-05 Cert								0.218	0.973
415524 Orig	7.6	9.3	< 1	0.5	21	205	14.5		
415524 Dup	7.7	9.4	< 1	0.6	21	204	14.4		
415539 Orig	11.5	9.3	2	0.4	38	133	9.1	0.081	0.067
415539 Split	11.5	13.5	2	0.4	60	138	9.8	0.081	0.066
415539 Orig								0.080	0.067
415539 Dup								0.083	0.066
415541 Orig	12.6	11.5	2	0.6	33	190	11.7		
415541 Dup	12.4	12.8	2	0.7	32	187	11.6		
415559 Orig	7.0	3.3	1	0.4	15	2410	3.5	0.037	0.039
415559 Split	7.0	4.5	2	0.4	15	2300	3.5	0.038	0.039
415559 Split	7.0	4.5	2	0.4	15	2300	3.5		
415568 Orig								0.091	0.141
415568 Dup								0.090	0.140
415569 Orig	12.7	9.3	2	0.4	24	37.5	1.9	0.076	0.066
415569 Split	12.7	9.2	2	0.4	54	37.3	1.8	0.075	0.067
415571 Orig	3.2	3.1	< 1	< 0.1	16	770	1.2		
415571 Dup	3.1	2.7	< 1	< 0.1	11	768	1.2		
Method Blank Method Blank	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1		
Method Blank Method Blank								< 0.003	< 0.003



Date Submitted: 24-Feb-10
Invoice No.: A10-0805
Invoice Date: 15-Mar-10
Your Reference: Clay Howells

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

81 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-0805**

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

Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Report: A10-0805

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1	5	2
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414491	29.56	8.25	15.13	0.820	4.29	20.45	0.88	3.94	0.729	1.60	11.50	97.15	13	15	122	70	15	30	30	410	18	1	< 5	82
414492	26.23	7.45	17.24	1.210	4.27	20.88	0.76	3.63	0.649	1.51	12.56	96.41	13	21	111	70	13	30	30	590	20	1	7	84
414493	26.08	7.63	15.97	1.081	4.27	21.65	0.43	4.30	0.590	1.48	13.43	96.90	12	19	101	80	12	40	30	500	19	1	6	120
414494	27.01	7.61	15.59	1.097	3.91	20.78	0.51	4.75	0.664	1.61	12.98	96.51	13	15	108	70	13	30	20	530	19	2	< 5	168
414495	22.65	6.31	15.51	1.175	3.45	25.28	0.74	3.22	0.536	1.99	16.15	97.02	12	11	84	70	8	30	30	680	17	1	< 5	188
414496	25.61	7.42	16.11	1.617	4.39	22.14	0.46	3.70	0.595	1.54	13.31	96.89	13	26	91	80	11	30	10	710	23	2	7	131
414497	25.75	7.19	16.15	1.561	4.46	22.99	0.35	3.67	0.654	1.57	13.56	97.91	13	25	103	70	12	30	20	680	22	2	9	109
414498	26.10	7.20	19.38	1.429	4.19	20.09	0.98	3.43	0.663	1.50	11.39	96.36	14	21	110	70	14	30	40	700	22	2	6	72
414499	27.06	7.90	17.02	1.169	4.11	21.28	0.85	3.75	0.721	1.65	12.48	97.98	13	21	106	80	13	30	20	530	24	2	6	71
414500	28.76	8.12	16.02	1.091	4.22	19.95	0.84	4.22	0.678	1.42	11.74	97.06	13	18	107	70	14	30	50	480	19	1	< 5	78
415501	27.33	7.72	15.34	0.953	4.08	21.72	0.76	4.01	0.692	1.66	12.64	96.91	12	18	111	80	14	40	30	450	19	1	< 5	77
415502	24.22	6.92	19.09	1.840	3.88	21.52	0.16	4.14	0.609	1.43	12.79	96.60	13	15	95	70	12	30	20	600	22	2	5	119
415503	28.65	8.24	15.59	0.837	4.32	20.33	0.20	4.94	0.696	1.54	11.54	96.89	12	17	110	80	14	40	30	440	19	1	< 5	142
415504	28.65	8.20	15.29	0.833	4.25	21.02	0.20	4.95	0.726	1.56	11.83	97.52	13	15	112	80	14	30	30	420	18	1	< 5	138
415505	24.15	7.24	18.79	1.250	4.18	21.34	0.21	4.39	0.709	1.52	12.14	95.93	14	17	106	80	16	40	40	850	23	2	< 5	149
415506	30.23	9.32	26.73	0.671	4.68	14.44	1.35	2.72	1.281	1.03	7.52	99.97	6	6	156	90	13	60	< 10	330	19	1	5	74
415507	32.85	10.34	19.91	0.547	7.14	11.19	0.57	3.50	1.355	1.20	9.42	98.01	12	9	146	140	20	90	10	230	19	1	13	120
415508	29.32	8.76	22.06	0.562	8.36	9.89	0.23	4.62	1.322	1.11	11.63	97.87	12	6	154	170	22	120	20	230	20	1	7	171
415509	30.80	9.92	20.71	0.676	8.28	11.01	0.46	5.02	1.388	0.74	9.13	98.14	7	5	83	170	22	110	< 10	210	20	1	< 5	217
415510	6.59	2.07	29.86	0.960	7.49	23.58	0.14	1.17	0.902	0.26	25.53	98.54	5	< 1	44	60	8	40	20	200	14	2	6	57
415511	30.77	8.91	15.67	0.637	9.75	13.85	0.61	4.63	1.327	1.21	10.26	97.62	18	7	146	300	29	170	30	220	16	1	< 5	180
415512	36.95	11.96	9.39	0.535	3.85	18.09	3.93	4.22	0.625	1.46	7.98	98.99	11	9	74	100	13	60	< 10	180	18	1	< 5	141
415513	29.14	9.10	13.71	0.721	3.75	22.20	1.60	3.37	0.610	1.55	11.99	97.74	13	6	92	70	15	50	70	230	22	1	< 5	139
415514	29.65	9.40	9.57	0.682	4.11	23.62	2.13	3.59	0.657	1.66	13.03	98.08	7	7	63	110	12	70	< 10	180	20	1	< 5	141
415515	31.54	10.24	11.69	0.728	3.76	20.82	2.72	3.97	0.578	1.40	10.14	97.59	7	7	65	80	16	60	40	210	23	1	< 5	151
415516	41.89	14.18	9.40	0.574	2.56	14.69	4.69	5.01	0.444	1.23	4.83	99.50	6	9	53	50	8	40	10	250	22	1	< 5	189
415517	42.26	14.62	10.01	0.525	2.44	13.80	4.62	5.01	0.445	1.17	3.97	98.87	6	8	55	50	8	30	< 10	260	22	1	< 5	293
415518	41.55	16.43	13.33	0.605	1.66	9.88	5.46	5.06	0.408	0.57	4.14	99.09	3	9	42	30	5	< 20	10	340	32	1	< 5	188
415519	41.90	14.79	12.37	0.637	2.24	12.54	5.22	4.24	0.434	1.54	2.89	98.80	6	9	51	70	6	30	< 10	330	23	1	< 5	170

Activation Laboratories Ltd. Report: A10-0805

Analyte Symbol	Sr	Y	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
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	2	2		2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1
Analysis Method	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414491	4816	88		13	0.8	< 0.2	6	< 0.5	2.2	4765	0.6	505	857	81.5	282	42.6	11.5	28.8	3.7	18.5	3.2	8.4	1.11	6.8
414492	5940	127		6	0.8	< 0.2	9	0.6	2.6	4532	0.8	891	1430	140	471	66.6	17.3	42.0	5.3	26.0	4.5	11.9	1.58	9.5
414493	6220	121		< 2	0.9	< 0.2	8	< 0.5	2.1	3983	< 0.4	805	1280	118	394	55.2	14.7	36.3	4.8	24.2	4.3	11.2	1.51	9.1
414494	5607	121		< 2	0.7	< 0.2	8	< 0.5	5.4	4137	< 0.4	825	1350	123	400	55.4	14.9	38.4	4.9	24.6	4.4	11.7	1.60	9.6
414495	5981	128		4	0.8	< 0.2	9	< 0.5	14.0	1951	< 0.4	660	1250	124	430	63.4	16.2	43.2	5.7	28.3	5.0	13.2	1.81	11.1
414496	6240	211		< 2	0.8	< 0.2	12	< 0.5	4.9	2820	0.4	1340	2320	229	770	106	27.1	67.6	8.5	41.3	7.3	18.9	2.56	15.3
414497	7081	166		7	0.8	< 0.2	11	0.5	2.2	3700	< 0.4	1210	1920	189	625	85.8	22.0	52.6	6.6	32.5	5.7	14.5	1.95	11.5
414498	5364	161		18	1.0	< 0.2	11	< 0.5	4.7	4161	1.0	1100	1830	186	638	90.6	22.5	56.5	7.1	33.6	5.9	15.3	1.96	11.4
414499	5493	137		3	1.1	< 0.2	9	< 0.5	3.9	4237	< 0.4	804	1440	164	552	77.8	20.0	47.7	6.0	29.4	5.2	13.4	1.79	11.0
414500	5399	101		< 2	0.9	< 0.2	8	< 0.5	2.5	4266	< 0.4	747	1180	107	348	47.4	12.7	32.4	4.2	20.6	3.7	9.7	1.31	7.9
415501	5591	101		< 2	0.9	< 0.2	7	< 0.5	3.1	4835	< 0.4	734	1120	102	335	48.6	13.2	33.8	4.3	21.2	3.8	9.6	1.31	8.0
415502	6185	109		< 2	0.9	< 0.2	11	< 0.5	2.1	5148	0.4	1350	2140	193	581	65.4	15.9	39.9	4.7	22.4	3.8	10.0	1.34	8.0
415503	5248	94		< 2	0.7	< 0.2	7	< 0.5	2.2	6532	< 0.4	532	902	85.0	291	44.5	12.0	30.5	3.9	19.4	3.4	8.9	1.22	7.3
415504	5484	95		< 2	0.8	< 0.2	6	< 0.5	2.3	7094	0.5	543	919	86.9	298	45.0	12.1	30.8	3.9	19.5	3.4	8.9	1.21	7.4
415505	7148	131		5	0.8	< 0.2	7	< 0.5	3.6	7792	< 0.4	1020	1590	152	497	66.2	17.0	42.1	5.2	25.9	4.6	12.4	1.67	10.0
415506	2147	55		7	1.4	< 0.2	10	< 0.5	3.2	982	< 0.4	286	550	54.1	196	31.9	8.81	24.7	3.2	14.6	2.3	5.3	0.67	4.2
415507	900	63		4	1.8	< 0.2	9	< 0.5	4.2	1694	< 0.4	289	562	56.7	204	32.3	8.49	23.7	3.2	15.3	2.6	6.5	0.89	5.6
415508	541	60		2	2.1	< 0.2	11	< 0.5	4.5	3165	< 0.4	334	635	63.2	228	36.1	9.90	25.7	3.1	14.1	2.3	6.0	0.83	5.4
415509	920	39		< 2	1.0	< 0.2	9	< 0.5	7.1	3331	< 0.4	289	603	63.5	234	36.5	9.71	24.2	2.7	11.0	1.6	3.7	0.47	3.0
415510	1821	85		2	0.8	< 0.2	10	< 0.5	2.4	1660	< 0.4	699	1470	183	666	95.8	24.9	57.2	6.3	26.2	3.7	7.8	0.91	5.1
415511	1568	56		< 2	0.8	< 0.2	5	< 0.5	6.8	2865	< 0.4	303	631	65.3	242	36.3	9.42	24.3	3.1	14.4	2.3	5.7	0.73	4.4
415512	3056	44		6	1.7	< 0.2	4	< 0.5	3.9	1659	< 0.4	249	476	46.8	166	25.1	6.64	17.1	2.2	10.4	1.8	4.9	0.68	4.4
415513	4488	67		3	2.8	< 0.2	9	< 0.5	4.0	1734	< 0.4	390	679	63.5	219	31.6	8.34	21.8	2.8	14.4	2.7	7.4	1.05	6.5
415514	5025	50		3	1.0	< 0.2	2	< 0.5	5.1	1712	< 0.4	444	706	62.0	201	27.6	7.15	18.8	2.3	11.3	2.0	5.3	0.72	4.6
415515	3734	46		6	1.5	< 0.2	3	< 0.5	5.3	1510	< 0.4	416	675	59.7	194	26.6	6.80	18.0	2.1	10.6	1.8	4.8	0.66	4.1
415516	2561	52		9	1.4	< 0.2	4	< 0.5	7.1	816	< 0.4	415	726	68.2	230	32.8	8.13	21.7	2.7	12.5	2.1	5.5	0.72	4.4
415517	2368	43		3	1.2	< 0.2	5	< 0.5	6.9	517	< 0.4	320	600	57.9	201	29.5	7.33	19.2	2.4	10.9	1.8	4.5	0.58	3.5
415518	1946	39		6	3.4	< 0.2	7	< 0.5	9.6	1643	< 0.4	225	416	41.1	141	20.2	4.84	13.7	1.7	8.6	1.5	4.2	0.62	4.2
415519	1896	58		8	1.2	< 0.2	6	< 0.5	6.0	988	< 0.4	466	805	77.3	269	38.6	8.80	25.2	3.0	14.1	2.4	5.9	0.77	4.8

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Analyte Symbol	Lu	Hf	Ta	W	Ti	Pb	Th	U	Nb2O5	ZrO2
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
414439	0.41	16.6	35.3	1	0.4	24	17.8	11.3	0.073	0.157
414440	0.54	13.5	76.2	1	0.4	45	39.7	40.7	0.209	0.140
414441	0.95	5.3	39.7	< 1	0.2	94	76.3	87.9	0.367	0.080
414442	0.77	6.8	115	< 1	< 0.1	91	29.9	109	0.465	0.098
414443	0.75	9.1	127	< 1	< 0.1	108	23.9	144	0.400	0.128
414444	0.91	14.5	209	< 1	< 0.1	132	49.5	174	0.581	0.181
414445	1.04	11.2	59.2	< 1	0.2	90	56.0	94.4	0.350	0.153
414446	0.51	6.0	43.4	2	0.8	17	17.7	20.4	0.077	0.019
414447	1.05	13.1	63.8	< 1	0.1	88	63.3	92.4	0.371	0.200
414448	1.03	5.9	52.6	< 1	< 0.1	91	89.7	101	0.415	0.094
414449	0.97	4.8	7.3	< 1	< 0.1	77	68.0	41.4	0.236	0.073
414450	0.85	2.1	10.0	< 1	0.2	102	199	31.6	0.208	0.043
414451	1.27	5.4	23.2	< 1	0.4	93	235	54.4	0.286	0.132
414452	1.25	7.2	95.7	< 1	0.8	107	233	112	0.379	0.179
414453	2.72	30.1	24.4	1	0.3	26	62.2	10.7	0.109	0.207
414454	1.67	27.1	21.5	2	0.3	36	70.9	11.3	0.082	0.177
414455	2.55	3.9	13.4	1	< 0.1	24	144	14.0	0.070	0.269
414456	1.55	7.1	14.1	< 1	0.5	79	115	5.5	0.072	0.072
414457	3.01	11.1	11.2	< 1	1.2	21	261	7.2	0.133	0.077
414458	2.08	11.9	18.9	2	0.7	78	121	10.9	0.073	0.103
414459	1.02	6.6	15.4	1	0.4	50	91.6	5.5	0.064	0.074
414460	1.05	6.8	16.5	< 1	0.3	60	102	6.0	0.074	0.079
414461	1.73	6.5	14.9	2	0.4	61	177	6.6	0.076	0.077
414462	1.84	6.9	13.5	< 1	0.7	46	145	6.2	0.077	0.085
414463	1.73	6.4	10.4	< 1	0.9	35	189	4.8	0.082	0.080
414464	1.64	6.2	12.5	1	0.6	91	208	7.4	0.065	0.069
414465	1.16	6.9	16.8	1	0.4	71	122	7.5	0.077	0.072
414466	1.52	6.7	14.8	< 1	0.5	50	116	6.1	0.086	0.071
414467	1.85	6.6	8.4	< 1	0.9	49	198	6.9	0.108	0.068
414468	1.85	7.2	10.4	< 1	0.9	43	177	6.4	0.101	0.069
414469	1.75	7.9	13.9	< 1	0.8	75	234	5.9	0.101	0.073
414470	1.68	7.9	11.4	< 1	0.6	47	196	7.3	0.110	0.069
414471	1.50	6.5	13.6	< 1	0.5	63	153	5.8	0.074	0.065
414472	1.61	6.3	16.0	1	0.5	68	143	5.2	0.064	0.063
414473	1.61	7.3	17.3	< 1	0.2	66	198	7.1	0.075	0.076
414474	1.44	6.6	15.4	< 1	0.5	65	156	5.2	0.073	0.073
414475	1.51	6.2	13.7	< 1	0.5	62	163	7.0	0.069	0.069
414476	1.32	6.1	14.9	< 1	0.4	72	127	5.4	0.068	0.069
414477	1.51	6.9	17.2	< 1	0.4	57	156	6.6	0.076	0.066
414478	2.12	8.4	16.6	< 1	0.5	53	215	9.0	0.103	0.081
414479	1.44	7.1	17.4	< 1	0.5	64	173	7.7	0.093	0.073
414480	1.57	6.4	13.4	< 1	0.5	54	178	6.7	0.083	0.068
414481	1.62	6.4	15.3	< 1	0.5	51	170	7.7	0.081	0.065
414482	1.64	6.5	13.1	1	0.7	58	177	7.8	0.086	0.065
414483	1.44	5.7	13.3	2	0.6	61	135	8.6	0.076	0.064
414484	1.34	6.1	15.4	1	0.6	57	125	6.5	0.067	0.064
414485	1.07	6.1	16.2	< 1	0.3	47	115	5.6	0.068	0.063
414486	1.30	5.6	16.7	< 1	0.4	74	132	6.5	0.075	0.061
414487	1.14	6.2	16.0	< 1	0.3	52	125	7.5	0.067	0.063
414488	1.13	6.0	17.5	< 1	0.3	64	120	7.3	0.070	0.068
414489	1.13	6.3	17.0	< 1	0.3	65	149	6.2	0.071	0.073
414490	1.12	5.9	16.6	< 1	0.3	72	116	5.7	0.069	0.069

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Analyte Symbol	Lu	Hf	Ta	W	Ti	Pb	Th	U	Nb2O5	ZrO2
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
414491	1.07	6.5	16.0	2	0.3	78	121	5.8	0.060	0.066
414492	1.43	6.6	14.4	2	0.4	115	146	8.2	0.073	0.071
414493	1.36	6.8	16.6	1	0.5	90	130	8.8	0.083	0.077
414494	1.44	6.2	15.2	< 1	0.6	32	138	6.6	0.071	0.070
414495	1.72	7.0	8.9	< 1	0.7	37	117	9.4	0.091	0.079
414496	2.18	6.9	12.7	< 1	0.5	95	194	14.0	0.088	0.075
414497	1.68	6.8	13.3	2	0.4	105	142	9.9	0.075	0.074
414498	1.66	7.6	14.0	< 1	0.5	121	206	11.2	0.075	0.072
414499	1.66	7.2	17.1	< 1	0.2	99	154	10.0	0.073	0.063
414500	1.19	6.5	15.8	< 1	0.5	73	125	7.2	0.071	0.072
415501	1.15	6.8	16.5	< 1	0.5	57	128	6.9	0.077	0.075
415502	1.22	5.9	12.5	< 1	0.3	50	140	7.1	0.072	0.069
415503	1.13	6.2	15.9	< 1	0.3	49	120	6.0	0.074	0.063
415504	1.11	6.1	16.6	< 1	0.4	66	120	5.9	0.069	0.066
415505	1.53	6.1	9.2	< 1	0.8	151	183	8.8	0.088	0.070
415506	0.65	11.9	32.5	2	0.2	27	98.0	24.2	0.140	0.110
415507	0.91	12.7	24.6	1	0.3	8	97.0	14.8	0.099	0.110
415508	0.88	15.8	15.6	1	0.4	< 5	115	6.3	0.086	0.145
415509	0.49	7.7	21.8	< 1	0.5	< 5	101	2.4	0.085	0.064
415510	0.72	3.6	6.8	< 1	< 0.1	7	113	1.9	0.059	0.032
415511	0.75	6.1	21.0	< 1	0.6	8	83.1	19.1	0.081	0.048
415512	0.74	11.4	40.4	2	0.4	33	41.2	25.8	0.128	0.112
415513	1.04	16.0	22.3	< 1	0.4	32	50.3	25.5	0.204	0.185
415514	0.73	7.6	23.7	< 1	0.3	30	40.7	23.0	0.146	0.085
415515	0.67	7.6	27.9	3	0.6	39	37.4	21.9	0.137	0.075
415516	0.68	10.2	30.9	2	0.5	24	62.0	14.5	0.098	0.092
415517	0.56	7.7	38.8	2	0.7	24	71.8	15.3	0.134	0.079
415518	0.69	23.3	14.8	< 1	0.6	16	32.6	3.9	0.061	0.188
415519	0.81	10.2	41.4	2	0.5	33	132	16.9	0.130	0.088

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Quality Control																									
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas																740	203	2530	5660	110	10			9	
WMG-1 Cert																770	200	2700	5900	110	10.3			7.00	
NIST 694 Meas	11.18	1.88	0.74	0.013	0.33	42.43	0.88	0.53	0.117	30.16					1666										
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740										
DNC-1 Meas	47.47	18.61	9.80	0.148	10.08	11.61	1.92	0.22	0.491	0.08			31	< 1	159	280	58	260	100	70	14	2	< 5	4	
DNC-1 Cert	47.0	18.3	9.93	0.149	10.1	11.3	1.87	0.234	0.480	0.0900			31.0	1.00	148	285	54.7	247	96.0	66.0	15.0	1.30	0.200	4.50	
GBW 07113 Meas	72.50	13.07	3.20	0.142	0.15	0.61	2.52	5.48	0.288	0.05			6	4	< 5										
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00										
STM-1 (Depleted) Meas																									
STM-1 (Depleted) Cert																									
GXR-2 Meas																30	9	< 20	80	530	34			24	75
GXR-2 Cert																36.0	8.60	21.0	76.0	530	37.0			25.0	78.0
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	52.28	15.46	10.34	0.166	6.22	11.10	2.22	0.62	1.087	0.13			35	< 1	282	80	43	70	110	80	17	2	< 5	20	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20	21.0	
SY-4 Meas	50.03	20.48	6.26	0.106	0.50	8.27	6.92	1.68	0.295	0.12			1	3	< 5										
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0										
CTA-AC-1 Meas																		< 1	60	30					
CTA-AC-1 Cert																		2.72	54.0	38.0					
BIR-1a Meas																370	52	160	130	70	15	2	< 5	< 2	
BIR-1a Cert																382	51.4	166	126	71.0	16.0	1.50	0.440	0.250	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas																	26	70	2670	7400	26				
NCS DC70014 Cert																	26.2	70.9	2600.00	7400.00	25.2				
NCS DC86316 Meas																									
NCS DC86316 Cert																									
NCS DC70009 (GBW07241) Meas																30	3	< 20	770	90	16	11	70	505	
NCS DC70009 (GBW07241) Cert																30	3.7	2.8	960.000	100.000	16.5	11.2	69.9	500.00	
OREAS 100a (Fusion) Meas																	17		170						
OREAS 100a (Fusion) Cert																	18.1		169						
OREAS 101a (Fusion) Meas																	49		430						
OREAS 101a (Fusion) Cert																	48.8		434						
JR-1 Meas																< 20	< 1	< 20	< 10	< 30	16	3	17	248	
JR-1 Cert																2.83	0.83	1.67	2.68	30.6	16.1	1.88	16.3	257	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
414453 Orig	52.18	12.68	10.45	0.869	0.99	13.10	3.31	4.52	0.207	0.89	1.20	100.4	2	9	< 5	< 20	< 1	< 20	< 10	160	31	3	< 5	129	
414453 Dup	52.46	12.84	10.29	0.874	0.99	12.95	3.26	4.46	0.212	0.86	1.20	100.4	2	9	< 5	< 20	< 1	< 20	< 10	160	31	2	< 5	131	
414468 Orig																									

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Quality Control																									
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
414468 Split	25.61	7.46	18.13	1.201	4.40	20.30	0.54	4.54	0.812	1.50	11.80	96.28	15	17	124	70	16	40	40	730	23	2	< 5	198	
414468 Orig																									
414468 Dup																									
414470 Orig	29.15	7.44	15.49	0.967	3.16	20.71	1.06	4.29	0.436	0.74	13.87	97.31	11	12	52	40	6	30	< 10	700	26	1	< 5	165	
414470 Dup	28.98	7.34	15.55	0.971	3.16	20.66	1.06	4.25	0.436	0.74	13.87	97.01	11	12	51	40	6	30	< 10	700	26	1	< 5	163	
414488 Orig	28.34	8.43	16.05	0.914	4.56	21.20	0.67	3.80	0.724	1.53	12.03	98.26	13	13	116	80	14	30	20	440	18	1	< 5	67	
414488 Split	28.01	8.49	15.64	0.906	4.38	21.12	0.67	3.76	0.746	1.52	11.97	97.22	12	13	114	80	14	30	20	420	19	1	< 5	68	
414497 Orig																									
414497 Dup																									
414498 Orig	26.10	7.20	19.38	1.429	4.19	20.09	0.98	3.43	0.663	1.50	11.39	96.36	14	21	110	70	14	30	40	700	22	2	6	72	
414498 Split	26.09	7.57	19.18	1.441	4.12	19.93	1.00	3.49	0.692	1.47	11.26	96.23	14	22	115	70	14	30	40	670	22	2	5	71	
414500 Orig	28.64	8.17	15.88	1.082	4.21	19.85	0.84	4.21	0.679	1.41	11.74	96.70	13	18	106	70	14	40	50	490	19	1	< 5	78	
414500 Dup	28.88	8.08	16.16	1.100	4.23	20.04	0.84	4.24	0.678	1.43	11.74	97.41	13	18	108	70	14	30	50	470	19	1	< 5	79	
415517 Orig	42.20	14.58	9.93	0.522	2.43	13.77	4.62	5.01	0.440	1.21	3.97	98.67	6	8	54	50	8	30	< 10	270	22	1	< 5	294	
415517 Dup	42.32	14.66	10.08	0.528	2.44	13.83	4.62	5.02	0.451	1.13	3.97	99.06	6	8	55	50	8	30	< 10	260	22	1	< 5	292	
Method Blank Method																< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5	< 2	
Blank																									
Method Blank Method																									
Blank																									

Activation Laboratories Ltd. Report: A10-0805

Quality Control																									
Analyte Symbol	Sr	Y	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	
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	2	2	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	
Analysis Method	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas			6	< 2	2.3		2	3.2	< 0.5			9.1	18.6		9.8	2.4	0.74		0.4	2.4	0.5		0.21	1.3	
WMG-1 Cert			6.00	1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	1.30	
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas	141	17	2	< 2	< 0.5			1.3	< 0.5	107	< 0.4	4.7	9.7	1.21	5.2	1.5	0.58	2.0	0.4	2.8	0.6	1.8	0.31	2.0	
DNC-1 Cert	145	18.0	3.00	0.700	0.0270			0.960	0.340	114	0.0200	3.80	10.6	1.30	4.90	1.38	0.590	2.00	0.410	2.70	0.620	2.00	0.380	2.01	
GBW 07113 Meas	41	45								502															
GBW 07113 Cert	43.0	43.0								506															
STM-1 (Depleted) Meas																									
STM-1 (Depleted) Cert																									
GXR-2 Meas			10	< 2	16.5	< 0.2	2	47.5	5.3		< 0.4	28.4	54.3		19.6	3.6	0.69	3.0	0.5	2.8			0.26	1.7	
GXR-2 Cert			11.0	2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50	0.810	3.30	0.480	3.30			0.300	2.04	
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	193	20	8	< 2	< 0.5			1.4	0.9	175	< 0.4	11.4	24.6		12.7	3.3	1.07		0.6	3.8	0.8	2.1	0.33	2.1	
W-2a Cert	190	24.0	7.90	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	2.10	
SY-4 Meas	1201	119								353															
SY-4 Cert	1191	119								340															
CTA-AC-1 Meas												2290	3310		1120	163	44.7	125	14.5					10.6	
CTA-AC-1 Cert												2176	3326		1087	162	46.7	124	13.9					11.4	
BIR-1a Meas			< 1	< 2	< 0.5		< 1	0.8	< 0.5		< 0.4	1.3	3.0	0.47	2.7	1.1	0.52	1.8	0.4	2.5	0.6	1.6	0.26	1.7	
BIR-1a Cert			0.600	0.500	0.0360		0.650	0.580	0.00500		0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	1.65	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
ZW-C Meas																									
ZW-C Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas				270	17.3			180		80.3	50.4	92.6	10.5	38.2	7.9	1.66	7.2	1.2	6.4	1.3	3.4	0.53	3.4		
NCS DC70014 Cert				270.000	16.7			180.000		80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	3.3		
NCS DC86316 Meas																									
NCS DC86316 Cert																									
NCS DC70009 (GBW07241) Meas			509	1.5	1.3	1700	3.8	43.6		116	26.8	64.0	8.16	32.2	12.6	0.12	15.0	3.4	21.6	4.5	13.1	2.43	16.4		
NCS DC70009 (GBW07241) Cert			980.000	1.8	1.3	1700.00	3.1	41		680.000	23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	14.9		
OREAS 100a (Fusion) Meas				23								288	485	47.0	149	24.1	3.59	20.5	3.7	22.6	4.8	14.1	2.34	15.0	
OREAS 100a (Fusion) Cert				24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	14.9	
OREAS 101a (Fusion) Meas				20								855	1410	133	398	50.7	8.09	35.8	5.5	32.0	6.6	19.2	2.97	18.2	
OREAS 101a (Fusion) Cert				21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	17.5	
JR-1 Meas			18	3	< 0.5	< 0.2	3	1.6	20.8		0.5	23.1	52.0	6.20	23.9	5.9	0.28	5.6	1.0	6.3	1.3	3.9	0.70	4.6	
JR-1 Cert			15.2	3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	4.55	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
414453 Orig	1928	225	1040	4	2.5	< 0.2	7	< 0.5	1.3	968	< 0.4	667	1340	147	550	92.6	19.8	67.2	9.6	49.5	8.9	23.4	3.16	18.4	
414453 Dup	1887	226	1060	4	2.6	< 0.2	7	< 0.5	1.3	956	< 0.4	666	1340	147	551	93.1	19.7	67.2	9.5	48.9	9.0	23.0	3.12	18.1	
414468 Orig																									

Activation Laboratories Ltd. Report: A10-0805

Quality Control																								
Analyte Symbol	Sr	Y	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
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	2	2	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1
Analysis Method	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414468 Split	4992	157		< 2	1.1	< 0.2	10	< 0.5	12.1	4902	< 0.4	812	1330	134	451	66.1	18.2	48.7	6.4	31.9	5.7	14.9	2.05	12.1
414468 Orig																								
414468 Dup																								
414470 Orig	6057	132	870	8	0.8	< 0.2	9	< 0.5	7.0	5088	< 0.4	818	1270	119	370	55.5	15.6	43.3	5.6	27.2	4.8	12.6	1.74	10.9
414470 Dup	6047	133	845	9	0.7	< 0.2	9	< 0.5	7.1	5082	< 0.4	822	1300	119	371	55.8	15.6	43.8	5.6	27.3	4.8	12.6	1.75	10.8
414488 Orig	5145	99		< 2	0.8	< 0.2	7	< 0.5	1.4	4625	0.5	593	992	92.6	315	46.3	12.6	31.2	4.0	20.1	3.5	9.3	1.23	7.6
414488 Split	5013	96		< 2	0.9	< 0.2	7	< 0.5	1.4	4515	0.5	588	980	91.5	313	46.0	12.6	32.4	4.2	20.2	3.5	9.5	1.26	7.4
414497 Orig																								
414497 Dup																								
414498 Orig	5364	161		18	1.0	< 0.2	11	< 0.5	4.7	4161	1.0	1100	1830	186	638	90.6	22.5	56.5	7.1	33.6	5.9	15.3	1.96	11.4
414498 Split	5613	160		17	1.1	< 0.2	11	< 0.5	4.7	4189	1.0	1090	1830	186	641	90.5	22.6	57.4	7.1	34.0	5.8	14.9	1.99	11.5
414500 Orig	5354	100	559	< 2	0.9	< 0.2	8	< 0.5	2.5	4255	< 0.4	754	1200	108	352	47.8	12.8	32.6	4.1	20.5	3.7	9.8	1.31	7.8
414500 Dup	5444	101	550	< 2	1.0	< 0.2	8	< 0.5	2.5	4277	< 0.4	741	1170	106	345	47.0	12.5	32.2	4.2	20.7	3.7	9.6	1.30	7.9
415517 Orig	2372	44	1040	3	1.2	< 0.2	5	< 0.5	6.9	516	< 0.4	323	600	58.6	202	29.9	7.36	19.2	2.4	11.0	1.8	4.5	0.58	3.6
415517 Dup	2365	43	1090	3	1.2	< 0.2	5	< 0.5	6.9	518	< 0.4	318	599	57.3	200	29.0	7.31	19.2	2.3	10.8	1.8	4.4	0.58	3.5
Method Blank Method Blank			< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5		< 0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1
Method Blank Method Blank																								

Quality Control										
Analyte Symbol	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5	ZrO2
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
WMG-1 Meas	0.18	1.6	0.3	1		17	1.3	0.8		
WMG-1 Cert	0.210	1.30	0.500	1.30		15.0	1.10	0.650		
NIST 694 Meas										
NIST 694 Cert										
DNC-1 Meas	0.29	1.1	< 0.1	< 1	< 0.1	7	0.3	< 0.1		
DNC-1 Cert	0.320	1.01	0.0980	0.200	0.0260	6.30	0.200	0.100		
GBW 07113 Meas										
GBW 07113 Cert										
STM-1 (Depleted) Meas										0.172
STM-1 (Depleted) Cert										0.163
GXR-2 Meas	0.25	6.0	0.7	2	0.7	669	8.2	2.9		
GXR-2 Cert	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90		
BE-N Meas									0.015	0.038
BE-N Cert									0.015	0.035
AC-E Meas									0.015	0.111
AC-E Cert									0.016	0.105
OKA-1 Meas									0.525	
OKA-1 Cert									0.529	
W-2a Meas	0.29	2.6	0.5	< 1	< 0.1	9	2.3	0.5		
W-2a Cert	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530		
SY-4 Meas										
SY-4 Cert										
CTA-AC-1 Meas	1.07	1.7	2.6				23.3	4.3		
CTA-AC-1 Cert	1.08	1.13	2.65				21.8	4.4		
BIR-1a Meas	0.24	0.6	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1		
BIR-1a Cert	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100		
NCS DC86312 Meas								26.0		
NCS DC86312 Cert								23.6		
ZW-C Meas										0.007
ZW-C Cert										0.011
VS-N Meas									0.100	0.093
VS-N Cert									0.10	0.095
NCS DC70014 Meas	0.48					27200				
NCS DC70014 Cert	0.50					27200.00				
NCS DC86316 Meas										4.695
NCS DC86316 Cert										4.68
NCS DC70009 (GBW07241) Meas	2.34			2310	2.1	63	28.4			
NCS DC70009 (GBW07241) Cert	2.4			2200.00	1.8	81.2	28.3			
OREAS 100a (Fusion) Meas	2.10						50.4	137		
OREAS 100a (Fusion) Cert	2.26						51.6	135		
OREAS 101a (Fusion) Meas	2.51					73	36.0	421		
OREAS 101a (Fusion) Cert	2.66					19	36.6	422		
JR-1 Meas	0.69	5.1	1.7	3	1.3	21	26.5	9.2		
JR-1 Cert	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88		
SX18-01 Meas									0.689	0.086
SX18-01 Cert									0.695	0.093
SX18-04 Meas									1.333	0.153
SX18-04 Cert									1.32	0.146
SX18-05 Meas									1.002	0.214
SX18-05 Cert									0.973	0.218
414453 Orig	2.71	30.4	24.2	1	0.3	26	62.6	10.5		
414453 Dup	2.74	29.7	24.5	1	0.3	26	61.8	10.8		
414468 Orig									0.101	0.069

Quality Control										
Analyte Symbol	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5	ZrO2
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF	FUS-XRF
414468 Split	1.82	6.7	9.1	< 1	0.9	47	181	6.5	0.099	0.072
414468 Orig									0.102	0.068
414468 Dup									0.099	0.070
414470 Orig	1.68	7.9	11.5	< 1	0.6	44	195	7.2		
414470 Dup	1.68	8.0	11.4	< 1	0.6	49	197	7.4		
414488 Orig	1.13	6.0	17.5	< 1	0.3	64	120	7.3	0.070	0.068
414488 Split	1.16	6.3	17.9	1	0.3	62	120	7.4	0.070	0.068
414497 Orig									0.076	0.072
414497 Dup									0.075	0.076
414498 Orig	1.66	7.6	14.0	< 1	0.5	121	206	11.2	0.075	0.072
414498 Split	1.66	7.8	13.9	1	0.5	119	206	11.0	0.074	0.074
414500 Orig	1.19	6.5	15.8	< 1	0.5	72	125	7.2		
414500 Dup	1.18	6.6	15.7	< 1	0.5	74	124	7.1		
415517 Orig	0.57	7.7	38.8	1	0.7	24	72.4	15.3		
415517 Dup	0.55	7.6	38.8	2	0.7	23	71.2	15.3		
Method Blank Method Blank	< 0.04	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1		
Method Blank Method Blank									< 0.003	



Date Submitted: 22-Feb-10
Invoice No.: A10-0748 (i)
Invoice Date: 30-Jul-10
Your Reference: Clay Howells

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

230 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT	A10-0748 (i)	Code 8-Nb2O5 - XRF Option XRF Code 8-REE-Rare Earth Element Pkg Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2) Code Specific Gravity Pulp
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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control



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	Spec Grav
Unit Symbol	-
Detection Limit	0.01
Analysis Method	GRAV

414275 3.25

Quality Control

Analyte Symbol	Spec Grav
Unit Symbol	-
Detection Limit	0.01
Analysis Method	GRAV

Method Blank Method < 0.01
Blank



Date Submitted: 22-Feb-10
Invoice No.: A10-0748
Invoice Date: 09-Mar-10
Your Reference: Clay Howells

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

230 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-0748**

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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control



ACTIVATION LABORATORIES LTD.

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+1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Activation Laboratories Ltd. Report: A10-0748

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1	5	2
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414417	1.12	0.24	47.55	2.883	0.85	25.33	0.08	0.03	0.045	2.73	16.11	96.96	7	3	38	< 20	3	< 20	< 10	600	17	2	5	< 2
414418	0.54	0.21	40.19	2.762	1.07	29.14	0.05	< 0.01	0.039	4.28	16.91	95.20	6	5	36	< 20	1	< 20	< 10	620	16	2	< 5	< 2
414419	0.82	0.21	31.98	2.715	1.22	32.61	0.06	< 0.01	0.032	6.04	19.74	95.43	6	1	20	< 20	< 1	< 20	< 10	550	26	4	10	< 2
414420	1.88	0.51	63.35	3.009	1.59	15.31	0.13	0.17	0.045	3.15	8.60	97.73	5	< 1	34	< 20	6	< 20	< 10	630	25	3	7	16
414421	28.68	8.31	5.12	0.366	0.52	27.46	2.91	2.58	0.321	2.02	19.20	97.50	7	5	< 5	< 20	< 1	< 20	< 10	120	21	2	< 5	84
414422	28.46	8.20	18.79	0.633	9.45	14.87	0.60	4.56	1.251	1.66	10.80	99.27	16	6	142	260	29	160	40	260	19	2	< 5	197
414423	1.78	0.41	29.82	2.503	2.48	31.66	0.12	0.06	0.019	4.32	23.50	96.67	2	< 1	< 5	< 20	2	< 20	< 10	160	22	4	10	6
414424	2.45	0.70	18.49	1.644	1.47	39.05	0.15	0.12	0.020	3.92	28.37	96.38	1	< 1	< 5	< 20	< 1	< 20	< 10	90	26	5	12	6
414425	2.16	0.52	23.30	1.702	0.85	37.10	0.16	0.10	0.025	3.28	27.25	96.45	2	1	13	< 20	< 1	< 20	< 10	140	26	5	11	5
414426	1.58	0.43	13.30	1.335	0.73	43.72	0.17	0.08	0.011	2.38	32.89	96.64	1	1	< 5	< 20	< 1	< 20	< 10	80	26	5	12	2
414427	3.07	0.90	13.99	1.394	0.81	41.53	0.22	0.34	0.014	2.18	32.11	96.56	1	5	< 5	< 20	< 1	< 20	< 10	70	24	4	11	14
414428	1.38	0.39	26.22	2.128	1.31	36.81	0.12	0.06	0.009	4.56	25.74	98.74	1	< 1	< 5	< 20	< 1	< 20	< 10	140	23	4	12	2
414429	13.32	5.21	14.23	1.270	1.12	32.35	0.28	2.79	0.031	1.87	25.24	97.72	1	8	< 5	< 20	< 1	< 20	< 10	90	25	4	9	78
414430	1.86	0.62	12.68	1.385	0.85	43.49	0.20	0.10	0.007	1.92	33.86	96.97	1	1	< 5	< 20	< 1	< 20	< 10	310	24	5	12	4
414431	2.56	0.83	15.32	1.444	1.06	40.93	0.22	0.20	0.010	2.73	31.03	96.35	1	1	< 5	< 20	< 1	< 20	< 10	70	24	4	12	12
414432	1.38	0.48	13.50	1.341	0.90	43.20	0.14	0.03	0.006	3.53	32.18	96.69	< 1	< 1	< 5	< 20	< 1	< 20	< 10	50	20	4	10	< 2
414433	1.87	0.57	15.31	1.214	0.83	42.76	0.16	0.07	0.010	2.35	32.61	97.76	1	2	< 5	< 20	< 1	< 20	< 10	60	24	5	12	5
414434	1.25	0.40	15.93	1.456	0.81	41.95	0.11	0.03	0.005	2.97	31.53	96.46	1	< 1	< 5	< 20	< 1	< 20	< 10	60	28	5	14	< 2
414435	1.33	0.38	15.79	1.346	0.74	42.53	0.13	0.02	0.010	2.46	31.95	96.69	1	< 1	< 5	< 20	< 1	< 20	< 10	70	26	5	12	< 2
414436	2.16	0.61	14.51	1.269	1.17	42.16	0.20	0.09	0.015	3.36	30.58	96.11	< 1	2	6	< 20	< 1	< 20	< 10	120	22	4	11	5
414437	1.45	0.50	21.25	1.408	0.78	39.24	0.12	0.06	0.013	3.53	28.05	96.40	1	< 1	< 5	< 20	< 1	< 20	< 10	100	23	4	11	4
414438	51.63	11.30	12.02	0.869	0.90	11.88	3.17	4.40	0.233	0.97	1.66	99.02	4	13	< 5	< 20	< 1	< 20	< 10	190	36	4	8	155

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Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	2	2	4		2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414417	7556	79	112		5	0.5	< 0.2	14	< 0.5	< 0.5	2234	< 0.4	664	1330	136	462	59.8	16.0	37.5	4.3	21.3	3.5	8.7	1.11
414418	10120	135	85		6	0.6	< 0.2	14	< 0.5	< 0.5	2940	< 0.4	895	1800	207	743	107	27.9	63.4	7.8	37.7	6.1	14.7	1.84
414419	12780	143	97		9	0.7	< 0.2	9	< 0.5	< 0.5	2496	< 0.4	1110	2230	220	823	115	30.6	74.3	8.8	40.6	6.8	16.0	1.95
414420	4573	63	85		17	< 0.5	< 0.2	11	< 0.5	1.0	477	< 0.4	1170	2020	170	546	55.0	11.9	33.5	3.4	16.0	2.7	7.0	0.88
414421	5265	96	295		< 2	1.7	< 0.2	3	< 0.5	1.8	1438	< 0.4	395	767	78.8	267	38.1	9.65	26.5	3.3	17.8	3.5	10.1	1.45
414422	2114	76	350		< 2	2.0	< 0.2	6	< 0.5	6.7	2477	< 0.4	333	676	71.0	242	35.6	9.28	25.3	3.3	16.7	2.9	7.5	0.94
414423	7359	154	42		125	< 0.5	< 0.2	< 1	< 0.5	< 0.5	1033	< 0.4	875	1890	197	803	125	33.2	81.6	9.2	41.7	6.6	14.6	1.57
414424	10720	178	44		31	< 0.5	< 0.2	< 1	< 0.5	< 0.5	2207	< 0.4	1100	2370	244	1000	155	41.4	104	11.2	49.2	7.3	15.5	1.57
414425	9427	195	43		31	< 0.5	< 0.2	3	< 0.5	< 0.5	1295	< 0.4	845	1950	214	915	147	38.5	93.3	10.8	49.9	8.1	18.2	2.04
414426	10610	201	36		8	< 0.5	< 0.2	< 1	< 0.5	< 0.5	1758	< 0.4	900	2090	230	978	158	41.8	102	11.9	53.0	8.4	18.5	1.94
414427	10130	186	42		7	< 0.5	< 0.2	< 1	< 0.5	< 0.5	1979	< 0.4	855	1990	215	911	146	39.0	98.2	11.1	49.9	7.8	17.0	1.76
414428	9710	187	29		61	< 0.5	< 0.2	< 1	< 0.5	< 0.5	1523	< 0.4	861	2030	217	909	148	39.9	102	11.5	50.8	7.9	16.9	1.78
414429	8020	151	120		12	0.6	< 0.2	2	< 0.5	2.3	1598	< 0.4	691	1560	169	717	117	30.9	80.3	8.9	39.7	6.3	14.5	1.61
414430	10310	191	30		< 2	< 0.5	< 0.2	1	< 0.5	< 0.5	1765	< 0.4	814	1980	223	951	153	40.6	101	11.6	52.4	8.3	17.8	1.86
414431	10500	178	41		9	< 0.5	< 0.2	< 1	< 0.5	0.6	2063	< 0.4	855	1940	212	882	145	38.3	98.7	11.0	48.9	7.5	16.3	1.75
414432	8512	154	75		17	< 0.5	< 0.2	< 1	< 0.5	< 0.5	1772	< 0.4	719	1660	180	772	128	34.3	87.7	9.7	42.3	6.6	14.0	1.48
414433	9900	160	84		3	< 0.5	< 0.2	< 1	< 0.5	< 0.5	2352	< 0.4	781	1810	201	865	140	36.2	89.7	9.5	42.1	6.5	13.6	1.48
414434	10760	198	58		3	0.5	< 0.2	< 1	< 0.5	< 0.5	1964	< 0.4	984	2300	254	1080	173	45.1	114	12.7	56.9	8.8	18.6	1.91
414435	10450	169	65		3	< 0.5	< 0.2	< 1	< 0.5	< 0.5	1974	< 0.4	823	1920	212	907	142	36.8	90.2	9.9	45.3	7.0	14.9	1.59
414436	9224	157	105		3	0.7	< 0.2	1	< 0.5	< 0.5	2349	< 0.4	757	1750	190	808	126	33.6	84.5	9.2	42.0	6.6	14.1	1.53
414437	9450	152	45		8	< 0.5	< 0.2	1	< 0.5	< 0.5	1549	< 0.4	789	1760	191	810	127	32.7	83.8	9.2	40.9	6.4	13.7	1.47
414438	2023	131	1518		5	9.6	< 0.2	5	< 0.5	1.6	1065	< 0.4	691	1430	150	525	73.7	9.91	48.9	5.8	29.4	5.3	14.9	2.14

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414209	14.9	2.40	24.5	16.7	2	1.0	44	171	10.5	0.064
414210	10.2	1.59	15.3	83.6	6	0.6	83	97.4	67.9	0.164
414211	8.3	1.53	41.4	16.2	< 1	0.4	28	32.7	6.2	0.070
414212	8.3	1.56	25.2	22.6	< 1	0.5	58	33.3	13.6	0.081
414213	9.6	1.52	14.6	23.7	< 1	0.6	38	111	18.4	0.077
414214	12.0	1.92	13.5	16.7	1	0.4	37	152	13.4	0.074
414215	8.9	1.44	22.4	21.6	1	0.7	19	50.4	8.6	0.070
414216	9.8	1.71	26.9	34.0	2	0.6	46	113	27.6	0.110
414217	13.1	2.22	27.5	34.2	1	0.3	33	277	32.5	0.110
414218	15.0	2.28	12.1	15.6	2	0.4	96	326	15.6	0.067
414219	16.9	2.47	10.8	19.0	2	1.0	147	319	15.7	0.078
414220	13.9	2.11	14.8	21.8	1	0.8	37	323	20.6	0.098
414221	14.4	2.22	16.5	22.5	< 1	0.7	44	303	28.5	0.101
414222	14.4	2.18	9.9	16.3	2	0.9	50	261	17.6	0.081
414223	14.1	2.18	17.1	18.9	2	0.9	91	261	17.0	0.067
414224	17.4	2.56	15.5	19.5	2	0.9	159	404	19.5	0.077
414225	15.0	2.22	9.7	15.3	2	0.7	123	296	15.3	0.063
414226	16.3	2.46	21.6	19.8	< 1	0.3	35	365	19.2	0.084
414227	4.6	0.85	12.7	12.6	< 1	0.8	24	45.2	8.2	0.038
414228	9.8	1.79	17.7	20.1	< 1	0.6	27	73.6	15.7	0.052
414229	19.4	2.92	31.4	42.1	1	0.5	60	253	45.0	0.141
414230	13.3	1.90	14.3	22.1	2	0.7	30	296	12.4	0.116
414231	18.2	2.68	15.1	24.4	< 1	0.6	43	281	9.3	0.198
414232	10.0	1.60	21.5	21.1	< 1	0.6	27	189	12.9	0.095
414233	11.1	1.74	20.2	22.5	< 1	0.6	30	199	13.4	0.100
414234	22.4	3.18	27.2	40.7	3	0.8	61	159	47.9	0.151
414235	42.8	6.00	13.3	44.7	< 1	0.7	25	160	65.1	0.214
414236	11.0	1.87	25.2	35.7	< 1	0.5	31	151	35.9	0.126
414237	11.6	2.06	32.0	29.4	< 1	0.3	36	143	31.2	0.092
414238	6.2	1.13	19.8	24.6	1	0.7	30	69.1	28.5	0.068
414239	5.1	1.08	13.5	6.5	5	0.5	8	20.5	4.9	0.024
414240	4.2	0.82	8.3	7.9	9	0.5	9	28.0	5.3	0.022
414241	3.5	0.65	10.5	21.4	19	0.7	14	24.9	15.2	0.054
414242	3.4	0.59	8.2	12.9	4	0.4	16	31.2	7.3	0.037
414243	18.9	2.89	11.5	4.5	1	0.2	30	107	9.6	0.124
414244	30.8	4.45	5.5	0.9	< 1	< 0.1	93	210	30.3	0.462
414245	25.9	3.76	3.9	0.4	< 1	< 0.1	189	145	16.5	0.320
414246	32.3	4.63	3.4	< 0.1	< 1	< 0.1	230	156	15.1	0.229
414247	27.0	3.93	4.3	< 0.1	< 1	< 0.1	267	234	33.9	0.145
414248	28.5	4.16	3.7	0.3	2	< 0.1	375	153	27.6	0.221
414249	26.2	3.89	3.8	1.4	3	0.1	398	223	33.2	0.132
414250	19.3	2.96	2.0	0.2	< 1	< 0.1	291	156	19.3	0.080
414251	35.0	5.54	3.6	0.6	5	< 0.1	227	251	41.4	0.114
414252	37.7	6.04	4.1	< 0.1	7	< 0.1	21	76.3	14.8	0.098
414253	18.2	2.71	6.8	13.8	15	0.1	92	118	22.1	0.702
414254	18.1	2.84	1.4	28.6	16	< 0.1	125	128	306	0.816
414255	20.6	3.05	3.1	13.9	11	0.1	84	120	156	0.466
414256	23.8	3.53	6.7	4.9	13	0.3	28	133	52.7	0.228
414257	85.9	13.1	12.3	1.9	2	< 0.1	39	417	22.7	0.213
414258	59.3	9.52	4.4	0.1	3	< 0.1	42	355	9.9	0.294
414259	62.7	9.63	10.6	1.8	1	0.2	119	512	20.5	0.394
414260	82.2	12.1	18.2	8.6	1	0.7	78	1190	76.5	0.297

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414261	99.4	15.3	23.2	28.6	< 1	0.3	62	997	50.1	0.469
414262	74.9	11.2	33.0	8.3	6	0.9	39	2710	84.9	0.680
414263	20.8	3.06	19.2	3.1	< 1	0.9	138	1300	121	0.215
414264	29.2	3.95	21.9	5.8	< 1	0.3	24	2680	21.7	0.419
414265	27.1	3.71	17.6	3.5	< 1	0.1	32	2060	14.2	0.350
414266	22.1	3.53	25.3	48.8	< 1	1.7	52	290	7.0	0.108
414267	31.2	4.67	13.3	8.2	2	0.6	24	376	6.0	0.043
414268	8.3	1.45	7.3	2.6	2	0.4	7	50.2	1.1	0.011
414269	22.1	3.84	16.0	12.6	< 1	0.4	19	539	15.8	0.069
414270	9.3	1.72	11.8	5.1	< 1	0.4	12	68.8	3.4	0.025
414271	5.7	1.01	9.2	3.0	< 1	0.6	20	23.8	1.3	0.012
414272	33.3	4.69	11.7	3.7	< 1	0.8	129	300	7.7	0.022
414273	32.0	4.51	8.7	6.6	< 1	0.2	134	850	16.7	0.251
414274	37.4	5.52	17.3	16.2	1	0.6	63	732	19.2	0.195
414275	36.2	5.37	16.4	15.5	< 1	0.7	68	709	19.0	0.192
414276	38.3	5.65	14.7	16.4	< 1	0.8	55	674	21.0	0.181
414277	14.8	2.18	8.8	15.1	< 1	0.8	55	242	10.1	0.085
414278	12.8	2.03	8.9	12.8	< 1	0.9	31	213	13.4	0.126
414279	16.8	2.45	9.3	15.1	< 1	0.9	60	344	11.3	0.099
414280	10.0	1.51	7.7	15.3	< 1	0.6	53	118	6.1	0.066
414281	13.1	2.01	6.4	12.9	4	0.6	10	180	7.9	0.063
414282	13.9	2.20	11.3	18.8	4	0.8	6	95.3	10.6	0.078
414283	13.5	2.44	23.0	20.7	6	1.0	11	132	9.5	0.077
414284	12.4	1.92	6.5	14.2	< 1	0.5	45	103	4.6	0.062
414285	10.6	1.63	6.7	13.8	< 1	0.5	56	119	5.1	0.062
414286	24.5	3.61	6.9	11.4	< 1	0.8	45	132	4.8	0.064
414287	30.7	4.46	10.6	7.1	< 1	0.9	91	465	11.9	0.138
414288	34.5	5.00	12.9	1.8	< 1	0.3	45	857	14.2	0.222
414289	14.4	2.26	11.7	9.5	< 1	0.6	54	577	5.3	0.097
414290	12.9	1.93	8.0	8.9	< 1	0.6	82	599	5.3	0.095
414291	13.7	2.09	8.7	13.1	< 1	0.6	66	199	8.3	0.085
414292	11.1	1.66	5.6	8.7	< 1	0.8	68	192	8.1	0.075
414293	17.0	2.57	2.7	3.2	< 1	0.6	86	309	19.4	0.120
414294	16.0	2.43	6.9	5.6	< 1	0.7	78	315	11.9	0.125
414295	6.8	1.30	15.1	12.3	< 1	0.7	14	41.9	4.4	0.082
414296	9.0	1.48	11.7	20.2	< 1	0.5	46	118	6.5	0.103
414297	13.7	2.07	7.3	15.2	< 1	0.5	77	258	11.1	0.095
414298	12.7	1.92	2.6	0.6	< 1	0.2	71	390	7.3	0.108
414299	6.3	0.97	1.2	1.0	< 1	0.1	70	329	10.7	0.032
414300	82.5	12.8	11.3	3.7	< 1	1.8	157	313	12.9	0.014
414301	5.5	0.85	0.6	0.2	< 1	< 0.1	99	448	5.7	0.015
414302	8.9	1.36	1.7	0.1	< 1	< 0.1	79	447	4.4	0.079
414303	11.5	1.67	4.2	0.5	< 1	< 0.1	16	875	5.8	0.083
414304	10.0	1.49	9.9	1.2	< 1	0.3	33	508	6.8	0.172
414305	12.5	1.88	10.7	2.3	< 1	0.5	155	349	4.6	0.163
414306	68.5	11.0	43.2	26.3	5	0.9	150	151	15.8	0.065
414307	23.3	3.61	11.8	2.6	< 1	0.5	79	234	4.2	0.140
414308	18.4	2.69	9.3	3.7	< 1	0.7	60	281	4.3	0.099
414309	55.0	8.49	43.1	19.5	1	1.0	130	169	13.9	0.052
414310	16.1	2.48	19.0	5.4	< 1	0.8	67	208	2.8	0.118
414311	12.0	1.71	7.0	2.9	< 1	0.3	53	534	6.3	0.148
414312	4.9	0.99	17.3	8.1	< 1	0.3	11	54.5	5.5	0.120

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414313	3.9	0.82	9.8	2.4	< 1	0.2	< 5	8.2	0.9	0.014
414314	6.5	1.23	10.5	1.8	7	0.2	< 5	33.7	1.2	0.018
414315	8.8	1.57	7.5	4.3	< 1	0.2	9	26.7	2.3	0.016
414316	14.3	2.03	7.1	4.2	< 1	0.5	11	569	6.0	0.136
414317	15.5	2.36	12.7	7.7	< 1	0.3	32	949	8.2	0.146
414318	12.0	2.10	10.7	6.8	< 1	0.5	15	67.7	3.0	0.021
414319	7.2	1.40	9.7	8.2	< 1	0.3	15	46.3	5.1	0.041
414320	19.9	2.77	5.2	2.5	< 1	0.5	29	2410	10.4	0.136
414321	8.8	1.29	8.7	19.2	< 1	0.2	18	448	2.8	0.220
414322	3.9	0.67	8.1	24.6	< 1	0.2	18	159	3.6	0.250
414323	2.7	0.55	9.6	6.5	< 1	0.6	6	17.5	6.0	0.017
414324	4.8	0.88	14.5	9.1	< 1	0.3	15	28.4	6.1	0.055
414325	5.5	0.90	9.9	7.4	4	0.2	24	16.1	2.8	0.020
414326	3.6	0.61	7.7	6.0	< 1	0.2	25	12.9	2.8	0.024
414327	4.5	0.79	10.0	9.0	3	0.3	23	25.3	5.4	0.043
414328	4.4	0.76	9.0	8.6	< 1	0.2	26	30.7	4.2	0.058
414329	4.9	0.86	6.8	8.1	< 1	0.3	31	25.8	3.0	0.028
414330	4.1	0.69	8.1	6.1	< 1	0.2	28	12.8	1.4	0.028
414331	3.4	0.57	5.7	3.0	< 1	0.3	22	13.0	0.8	0.021
414332	7.8	1.13	4.5	11.3	< 1	0.3	< 5	58.6	5.4	0.038
414333	6.3	0.85	2.0	3.5	< 1	0.1	< 5	89.6	2.0	0.071
414334	4.7	0.60	1.4	2.2	< 1	< 0.1	< 5	98.8	1.0	0.071
414335	6.0	0.77	2.8	4.8	< 1	0.2	19	128	2.4	0.072
414336	5.3	0.83	15.2	36.9	< 1	0.2	30	73.3	20.5	0.120
414337	4.8	0.77	13.0	45.9	< 1	0.6	22	42.1	30.5	0.163
414338	3.1	0.49	6.2	26.7	< 1	0.8	12	21.3	13.3	0.127
414339	4.4	0.76	11.3	31.3	< 1	0.4	9	27.8	3.0	0.143
414340	4.7	0.85	21.1	48.7	< 1	0.2	15	18.2	1.1	0.220
414341	1.8	0.29	3.7	15.7	< 1	0.4	20	12.6	3.0	0.049
414342	4.9	0.78	10.0	35.9	< 1	0.3	28	48.3	22.6	0.151
414343	4.3	0.68	28.4	9.5	< 1	0.2	16	35.0	11.1	0.145
414344	5.2	0.84	11.8	32.6	< 1	0.2	32	47.1	22.8	0.148
414345	5.9	0.85	8.4	8.4	< 1	< 0.1	34	135	14.2	0.072
414346	9.6	1.53	29.8	99.4	< 1	0.5	75	119	58.0	0.344
414347	9.8	1.49	37.7	107	1	0.7	69	113	64.7	0.430
414348	6.2	0.97	20.9	187	< 1	0.6	108	113	143	0.423
414349	7.0	1.15	27.8	176	< 1	0.6	94	97.0	122	0.445
414350	6.5	0.97	17.7	98.1	< 1	0.4	63	107	61.4	0.259
414351	5.5	0.87	14.6	139	2	0.7	100	86.1	99.1	0.319
414352	8.9	1.22	4.5	14.4	< 1	0.2	43	88.7	9.7	0.095
414353	14.8	1.89	4.2	2.8	< 1	< 0.1	88	158	4.8	0.042
414354	21.2	2.61	6.8	13.2	< 1	0.4	112	195	9.4	0.153
414355	14.0	2.15	43.6	61.1	< 1	0.4	39	111	19.1	0.262
414356	9.0	1.24	1.5	13.4	< 1	0.3	34	67.5	5.2	0.135
414357	4.6	0.64	1.9	13.7	1	0.5	22	69.5	5.2	0.078
414358	11.7	1.47	1.4	10.1	< 1	0.1	12	149	6.3	0.149
414359	11.2	1.39	0.6	0.6	< 1	< 0.1	35	107	2.4	0.124
414360	10.6	1.37	1.1	4.6	< 1	0.1	34	105	4.4	0.076
414361	7.8	1.14	6.0	22.3	< 1	0.5	23	73.2	7.3	0.085
414362	6.9	0.99	8.2	52.1	< 1	0.4	25	199	9.4	0.282
414363	6.9	0.93	2.7	15.2	< 1	0.1	23	449	5.3	0.154
414364	11.0	1.48	7.3	31.8	< 1	0.6	18	316	14.2	0.187

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414365	6.3	0.87	5.4	11.8	< 1	0.4	6	180	5.1	0.115
414366	6.6	0.93	5.0	22.2	< 1	0.4	21	291	10.2	0.148
414367	9.8	1.44	12.5	36.4	< 1	0.5	20	211	14.3	0.162
414368	10.2	1.37	9.6	30.7	< 1	0.3	51	181	22.6	0.256
414369	11.6	1.54	6.0	51.8	< 1	0.6	32	283	26.2	0.256
414370	8.8	1.12	4.4	28.1	1	0.7	47	247	12.9	0.127
414371	7.5	1.10	12.2	42.6	< 1	0.7	28	177	14.5	0.175
414372	13.2	1.95	16.2	31.2	5	0.5	28	183	14.5	0.168
414373	11.9	1.70	24.9	33.7	< 1	0.3	30	261	22.5	0.285
414374	12.6	1.97	25.6	46.9	< 1	0.3	23	213	19.8	0.270
414375	14.9	2.48	29.3	46.3	< 1	0.2	26	172	19.1	0.233
414376	10.8	1.67	17.3	13.5	< 1	< 0.1	16	166	6.1	0.154
414377	7.2	1.01	18.7	21.1	< 1	0.3	14	28.9	7.9	0.115
414378	10.2	1.23	2.3	1.1	< 1	< 0.1	30	34.8	4.3	0.258
414379	10.2	1.27	1.6	0.7	< 1	< 0.1	33	23.4	3.0	0.481
414380	9.5	1.17	1.3	0.3	< 1	< 0.1	34	19.6	1.8	0.236
414381	7.0	1.29	14.1	56.9	< 1	0.2	36	59.7	22.0	0.102
414382	10.3	1.75	17.6	31.9	< 1	< 0.1	22	61.3	12.2	0.164
414383	11.8	1.84	20.8	17.9	< 1	0.1	13	65.0	11.2	0.163
414384	7.4	1.13	16.8	33.6	< 1	< 0.1	13	312	28.2	0.500
414385	7.8	1.38	13.0	14.0	< 1	0.2	18	109	4.4	0.089
414386	11.6	1.71	9.6	7.7	< 1	< 0.1	12	176	5.4	0.035
414387	5.1	0.97	10.1	11.2	< 1	0.2	18	29.5	2.6	0.050
414388	5.9	1.17	11.4	9.7	< 1	0.1	27	26.7	1.2	0.073
414389	5.2	1.00	12.9	10.0	< 1	0.1	5	37.5	1.9	0.076
414390	7.8	1.11	10.6	7.5	< 1	< 0.1	< 5	504	9.5	0.126
414391	8.6	1.67	13.3	11.4	< 1	< 0.1	8	64.2	6.5	0.072
414392	12.9	1.86	22.8	23.6	< 1	0.2	18	532	23.4	0.393
414393	15.8	2.45	46.6	26.7	< 1	0.5	44	231	15.4	0.119
414394	8.7	1.29	12.8	35.2	< 1	< 0.1	12	339	20.0	0.621
414395	31.4	4.26	22.8	14.9	< 1	< 0.1	15	519	18.6	0.149
414396	13.1	2.07	15.6	5.2	< 1	0.2	16	184	6.0	0.029
414397	9.2	1.63	23.7	13.3	< 1	0.2	17	103	8.0	0.057
414398	22.2	3.02	27.5	24.3	< 1	0.2	14	445	16.5	0.123
414399	12.0	1.86	20.7	18.8	< 1	0.2	14	108	8.8	0.072
414400	3.6	0.70	6.4	6.9	< 1	0.3	16	26.8	3.3	0.022
414401	12.6	1.74	16.4	18.2	< 1	< 0.1	10	457	12.6	0.085
414402	11.4	1.99	22.0	18.3	< 1	< 0.1	14	162	11.7	0.049
414403	3.9	0.75	8.5	9.4	< 1	0.3	14	21.8	6.8	0.020
414404	4.7	0.81	8.1	6.7	< 1	0.3	24	23.2	3.7	0.021
414405	14.6	2.07	17.1	9.1	< 1	0.3	16	91.5	5.7	0.080
414406	4.6	0.75	7.8	13.5	< 1	0.3	31	30.8	6.6	0.059
414407	6.6	0.89	4.6	1.2	< 1	< 0.1	12	37.8	1.0	0.070
414408	6.1	1.13	14.7	21.5	1	0.7	67	60.4	22.8	0.082
414409	5.8	0.90	5.5	1.3	< 1	< 0.1	29	224	3.6	0.097
414410	9.5	1.58	6.5	0.7	4	< 0.1	43	195	3.5	0.075
414411	6.1	0.96	4.0	0.3	< 1	< 0.1	57	218	2.8	0.128
414412	5.6	0.81	3.3	0.6	< 1	< 0.1	33	208	2.2	0.129
414413	7.6	1.28	20.0	9.8	2	0.1	27	166	6.7	0.093
414414	5.3	0.77	5.8	1.6	< 1	< 0.1	12	236	4.1	0.094
414415	9.1	1.60	23.5	9.8	< 1	0.1	28	57.6	1.0	0.115
414416	5.3	0.90	10.6	6.7	1	0.2	25	18.6	2.1	0.034

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414417	6.7	0.98	2.4	< 0.1	< 1	< 0.1	48	76.3	0.6	0.227
414418	10.4	1.49	2.4	< 0.1	< 1	< 0.1	133	236	1.4	0.363
414419	10.8	1.54	2.8	< 0.1	< 1	< 0.1	259	98.6	2.5	0.288
414420	5.2	0.77	2.3	0.1	< 1	< 0.1	34	209	3.4	0.114
414421	8.4	1.17	7.4	4.7	< 1	0.1	46	48.3	1.9	0.029
414422	5.5	0.87	6.6	15.9	< 1	0.5	< 5	70.0	3.6	0.073
414423	7.9	0.96	1.2	0.9	< 1	< 0.1	22	25.0	1.5	0.114
414424	7.2	0.79	1.3	0.7	< 1	< 0.1	29	36.3	1.6	0.118
414425	10.2	1.26	1.4	1.0	< 1	< 0.1	28	24.8	1.2	0.114
414426	9.0	1.06	1.3	0.4	< 1	< 0.1	37	26.9	2.3	0.120
414427	8.5	1.01	1.3	1.9	< 1	< 0.1	28	27.5	2.9	0.095
414428	8.8	0.99	1.1	0.5	< 1	< 0.1	26	24.8	0.8	0.110
414429	7.9	0.95	2.6	4.3	< 1	< 0.1	24	21.6	2.7	0.137
414430	8.7	0.99	1.2	< 0.1	< 1	< 0.1	46	22.0	0.6	0.074
414431	8.4	0.99	1.3	0.3	< 1	< 0.1	37	29.1	2.3	0.086
414432	7.1	0.81	1.8	3.0	< 1	< 0.1	26	36.3	5.9	0.158
414433	7.0	0.79	2.1	1.3	< 1	< 0.1	22	32.9	2.5	0.158
414434	8.6	0.96	1.7	< 0.1	< 1	< 0.1	32	35.9	0.8	0.122
414435	7.4	0.86	1.6	0.5	< 1	< 0.1	24	46.1	2.0	0.173
414436	7.1	0.82	2.5	2.5	< 1	< 0.1	24	28.0	4.6	0.306
414437	7.0	0.83	1.3	1.9	< 1	< 0.1	20	28.6	2.6	0.169
414438	14.2	2.51	29.8	20.6	< 1	0.2	17	57.8	9.1	0.098

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Quality Control																									
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas																740	200	2630	6070	110	10			8	
WMG-1 Cert																770	200	2700	5900	110	10.3			7.00	
DH-1a Meas																									
DH-1a Cert																									
TAN-1 Meas																		< 1						> 1000	
TAN-1 Cert																		9.00						2700	
NIST 694 Meas	11.18	1.91	0.73	0.012	0.35	42.66	0.86	0.54	0.115	30.20					1662										
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740										
DNC-1 Meas	47.36	18.41	9.81	0.145	10.10	11.46	1.94	0.22	0.477	0.07			31	< 1	158	250	56	250	100	60	14	1	< 5	4	
DNC-1 Cert	47.0	18.3	9.93	0.149	10.1	11.3	1.87	0.234	0.480	0.0900			31.0	1.00	148	285	54.7	247	96.0	66.0	15.0	1.30	0.200	4.50	
GBW 07113 Meas	71.06	12.81	3.26	0.152	0.15	0.60	2.47	5.41	0.277	0.04			5	4	< 5										
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00										
GXR-2 Meas																	8	< 20	80	580	33			22	75
GXR-2 Cert																36.0	8.60	21.0	76.0	530	37.0			25.0	78.0
NIST 1633b Meas	49.29	28.21	11.27	0.019	0.77	2.19	0.26	2.34	1.280	0.55			41		311										
NIST 1633b Cert	49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530			41.0		296										
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
NOD-A-1 Meas																< 20	> 1000	5810	1110	580					
NOD-A-1 Cert																4.00	3110	6360	1110	587					
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	53.31	15.69	10.91	0.165	6.32	11.11	2.25	0.62	1.083	0.11			36	< 1	282	80	43	60	110	70	18	2	< 5	18	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20	21.0	
SARM-62 Meas																									
SARM-62 Cert																									
CTA-AC-1 Meas																		< 1	60	< 30					
CTA-AC-1 Cert																		2.72	54.0	38.0					
BIR-1a Meas	47.37	15.56	11.28	0.169	9.69	13.56	1.83	0.02	0.966	0.02			43	< 1	343	380	53	160	130	70	15	2	< 5	< 2	
BIR-1a Cert	47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50	0.440	0.250	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas																	24	60	2580	7390	24				
NCS DC70014 Cert																26.2	70.9	2600.00	7400.00	25.2					
IGS 40 Meas																									
IGS 40 Cert																									
NCS DC70009 (GBW07241) Meas																30	3	< 20	1010	100	17	11	72	505	
NCS DC70009 (GBW07241) Cert																30	3.7	2.8	960.000	100.000	16.5	11.2	69.9	500.00	
OREAS 100a (Fusion) Meas																	17		170						
OREAS 100a (Fusion) Cert																		18.1	169						
OREAS 101a (Fusion) Meas																	48		440						
OREAS 101a (Fusion) Cert																	48.8		434						
JR-1 Meas																< 20	< 1	< 20	< 10	< 30	17	3	16	250	
JR-1 Cert																2.83	0.83	1.67	2.68	30.6	16.1	1.88	16.3	257	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									

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Quality Control																										
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb		
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2		
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS		
SX18-04 Cert																										
SX18-05 Meas																										
SX18-05 Cert																										
SARM 3 Meas																				< 10	360			178		
SARM 3 Cert																				13	395			190		
414223 Orig	48.08	11.48	11.76	1.021	4.86	12.99	1.88	4.32	0.668	1.13	2.54	100.7	16	55	81	110	13	30	30	540	30	2	5	370		
414223 Dup	47.00	11.21	11.56	0.990	4.73	12.91	1.78	4.05	0.640	1.15	2.54	98.55	16	55	77	110	13	30	30	540	30	2	< 5	374		
414238 Orig																< 20	2	< 20	10	190	30	1	< 5	378		
414238 Split	59.31	14.29	6.43	0.439	1.17	4.71	3.55	7.71	0.179	0.39	0.75	98.93	3	13	23	< 20	2	< 20	10	160	28	2	< 5	357		
414238 Orig																										
414238 Dup																										
414240 Orig	60.03	16.03	5.90	0.301	0.52	1.63	4.95	7.13	0.228	0.10	0.85	97.68	3	8	8	< 20	2	< 20	< 10	110	28	1	< 5	253		
414240 Dup	60.73	15.91	6.00	0.298	0.52	1.63	4.91	7.15	0.223	0.11	0.85	98.32	3	8	7	< 20	2	< 20	< 10	110	28	1	< 5	253		
414258 Orig																										
414258 Split	5.73	0.21	22.61	2.274	4.68	31.21	0.03	0.05	0.133	4.93	27.90	99.75	14	4	17	< 20	1	< 20	< 10	80	39	5	16	8		
414267 Orig																										
414267 Dup																										
414268 Orig																< 20	< 1	< 20	< 10	80	34	1	< 5	151		
414268 Split	61.72	15.24	5.45	0.281	0.79	2.42	5.57	5.63	0.254	0.06	1.90	99.32	3	9	< 5	< 20	< 1	< 20	< 10	80	31	2	< 5	147		
414271 Orig	63.83	14.65	4.89	0.243	0.58	2.13	5.69	5.96	0.286	0.12	1.45	99.83	2	6	< 5	< 20	< 1	< 20	< 10	110	34	2	< 5	146		
414271 Dup	62.79	14.63	4.80	0.238	0.56	2.08	5.58	5.81	0.285	0.07	1.45	98.30	2	6	< 5	< 20	< 1	< 20	< 10	110	34	1	< 5	146		
414288 Orig	5.94	1.66	81.49	3.042	1.98	3.24	0.07	0.53	0.241	0.31	0.19	98.70	19	3	59	< 20	13	< 20	< 10	3250	32	3	6	23		
414288 Dup	5.91	1.63	79.80	3.010	1.98	3.21	0.07	0.53	0.237	0.28	0.19	96.85	19	3	61	< 20	13	< 20	< 10	3190	32	3	6	22		
414297 Orig																										
414297 Dup																										
414298 Orig																										
414298 Split	2.35	0.84	57.98	3.301	1.37	17.38	0.06	0.13	0.035	3.85	8.48	95.77	11	< 1	20	< 20	6	< 20	< 10	1620	33	4	11	4		
414308 Orig																< 20	9	< 20	< 10	1160	29	2	< 5	120		
414308 Split	17.01	4.77	55.78	2.779	2.82	7.33	0.77	1.76	0.176	2.79	1.05	97.04	7	17	22	< 20	10	< 20	< 10	1170	47	6	15	115		
414319 Orig	54.42	12.42	9.91	0.657	0.73	8.49	3.80	5.91	0.442	0.36	2.36	99.50	9	10	< 5	< 20	< 1	< 20	< 10	200	25	2	< 5	169		
414319 Dup	54.05	12.36	9.66	0.642	0.72	8.34	3.75	5.76	0.436	0.37	2.36	98.46	9	10	< 5	< 20	< 1	< 20	< 10	200	25	2	< 5	170		
414327 Orig																										
414327 Dup																										
414328 Orig																< 20	4	< 20	< 10	160	25	1	< 5	132		
414328 Split	56.25	15.35	7.58	0.332	0.92	5.97	5.37	5.03	0.783	0.58	1.89	100.1	13	5	24	< 20	4	< 20	< 10	170	24	2	< 5	134		
414336 Orig	37.82	12.35	12.30	0.537	5.05	16.40	1.74	3.92	0.819	1.10	8.53	100.6	10	8	94	80	14	50	10	180	22	1	< 5	145		
414336 Dup	37.37	12.27	12.39	0.541	5.05	16.21	1.73	3.89	0.831	1.10	8.53	99.92	10	8	94	80	13	50	< 10	180	22	1	< 5	142		
414357 Orig																										
414357 Dup																										
414358 Orig																< 20	3	< 20	< 10	310	40	3	9	49		
414358 Split	14.58	5.10	34.00	1.617	7.58	14.81	0.27	2.12	0.015	2.54	14.91	97.55	2	2	8	< 20	4	< 20	< 10	330	42	3	12	48		
414367 Orig	41.98	13.12	14.93	1.282	4.49	10.08	1.71	5.77	0.034	1.15	5.34	99.90	5	10	< 5	< 20	2	< 20	< 10	420	37	3	8	179		
414367 Dup	42.25	13.09	15.00	1.286	4.64	10.13	1.73	5.83	0.034	1.17	5.34	100.5	5	10	< 5	< 20	1	< 20	< 10	450	39	3	8	193		
414384 Orig	17.63	2.92	66.46	2.063	1.35	8.49	0.62	0.22	0.115	1.22	-1.76	99.32	6	6	23	< 20	7	< 20	< 10	1110	29	3	6	10		
414384 Dup	17.60	2.93	65.92	2.043	1.35	8.48	0.61	0.22	0.115	1.22	-1.76	98.73	6	6	25	< 20	7	< 20	< 10	1140	29	3	6	10		
414387 Orig																										
414387 Dup																										
414388 Orig																< 20	4	20	20	590	22	2	< 5	46		
414388 Split	34.33	5.04	39.44	1.195	1.37	11.21	2.23	1.69	1.218	0.13	1.74	99.59	9	5	16	< 20	4	< 20	20	650	23	2	< 5	49		
414408 Orig	54.82	13.73	8.20	0.761	1.32	8.36	3.19	6.50	0.178	0.33	1.45	98.84	6	12	7	< 20	2	< 20	< 10	230	24	2	< 5	244		
414408 Split	55.34	14.35	8.02	0.749	1.27	8.08	3.15	6.35	0.178	0.34	1.42	99.24	6	12	< 5	< 20	2	< 20	< 10	220	24	2	< 5	233		
414415 Orig	38.87	8.31	24.96	1.706	3.19	12.19	2.99	2.16	0.458	0.16	3.42	98.41	12	25	21	< 20	6	< 20	< 10	760	23	2	< 5	66		
414415 Dup	38.95	8.32	24.81	1.697	3.18	12.15	3.01	2.17	0.455	0.17	3.42	98.33	12	25	20	< 20	6	< 20	< 10	750	23	2	< 5	65		
414418 Orig	0.54	0.21	40.19	2.762	1.07	29.14	0.05	< 0.01	0.039	4.28	16.91	95.20	6	5	36											
414418 Split	1.03	0.23	40.32	2.781	1.09	29.08	0.05	0.01	0.040	4.57	16.94	96.14	6	3	33	< 20	2	< 20	< 10	580	23	4	9	< 2		
414418 Orig																										
414418 Dup																										

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Quality Control																								
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414432 Orig	1.38	0.48	13.55	1.336	0.90	43.05	0.14	0.03	0.006	3.53	32.18	96.58	< 1	< 1	< 5	< 20	< 1	< 20	< 10	50	20	4	10	< 2
414432 Dup	1.38	0.48	13.46	1.346	0.90	43.36	0.14	0.03	0.006	3.53	32.18	96.80	1	< 1	< 5	< 20	< 1	< 20	< 10	50	19	4	10	< 2
414438 Orig																								
414438 Dup																								
Method Blank Method																< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5	< 2
Blank																								
Method Blank Method																								
Blank																								

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Quality Control																									
Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas				6	< 2	2.2		2	3.3	< 0.5			8.6	17.3		9.1	2.3	0.70		0.4	2.4	0.5		0.21	
WMG-1 Cert				6.00	1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200	
DH-1a Meas																									
DH-1a Cert																									
TAN-1 Meas									14.1	809			0.8												
TAN-1 Cert									19.0	830			3.50												
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas	149	17	40	2	< 2	< 0.5			1.1	< 0.5	161	< 0.4	4.4	8.8	1.07	4.8	1.4	0.56	2.0	0.4	2.6	0.6	1.8	0.30	
DNC-1 Cert	145	18.0	41.0	3.00	0.700	0.0270			0.960	0.340	114	0.0200	3.80	10.6	1.30	4.90	1.38	0.590	2.00	0.410	2.70	0.620	2.00	0.380	
GBW 07113 Meas	42	46	430								515		GBW	3.80	10.6	1.30	4.90	1.38	0.590	2.00	0.410	2.70	0.620	2.00	0.380
GBW 07113 Cert	43.0	43.0	403								506														
GXR-2 Meas				9	< 2	16.7	< 0.2	4	48.7	5.3		< 0.4	27.9	53.6		19.5	3.6	0.71	3.1	0.5	2.8			0.26	
GXR-2 Cert				11.0	2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50	0.810	3.30	0.480	3.30			0.300	
NIST 1633b Meas	1041										699														
NIST 1633b Cert	1040										709														
OKA-2 Meas													49100	120000	14400	54700	> 1000	> 1000	> 1000	504	> 1000	168	401	16.6	
OKA-2 Cert													47700	114000	14900	57400	8620	2250	5030	51.0	1480	175	525	18.0	
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
NOD-A-1 Meas																									
NOD-A-1 Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	194	20	95	9	< 2	< 0.5			1.2	0.8	178	< 0.4	11.4	24.5		12.7	3.2	1.09		0.7	3.9	0.8	2.2	0.34	
W-2a Cert	190	24.0	94.0	7.90	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	
SARM-62 Meas																									
SARM-62 Cert																									
CTA-AC-1 Meas													2330	3340		1140	166	45.4	127	14.8					
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9					
BIR-1a Meas	110	15	18	< 1	< 2	< 0.5		< 1	0.8	< 0.5	8	< 0.4	1.3	3.0	0.43	2.5	1.1	0.51	1.9	0.4	2.6	0.6	1.6	0.27	
BIR-1a Cert	108	16.0	16.0	0.600	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas					270	17.0		> 1000	179			80.3	47.4	88.0	9.75	36.5	7.6	1.61	7.0	1.1	6.3	1.3	3.4	0.53	
NCS DC70014 Cert					270.000	16.7		44700.00	180.000			80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	
IGS 40 Meas													20800		2630	7440									
IGS 40 Cert													20720.00		2730.000	8320.000									
NCS DC70009 (GBW07241) Meas					1.9	1.3	> 1000	4.1	43.3		151	26.5	63.2	7.94	31.7	12.3	0.13	14.9	3.3	20.5	4.3	12.7	2.36		
NCS DC70009 (GBW07241) Cert					1.8	1.3	1700.00	3.1	41		680.000	23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2		
OREAS 100a (Fusion) Meas					24								283	477	45.7	146	23.6	3.54	20.6	3.7	22.5	4.9	14.3	2.38	
OREAS 100a (Fusion) Cert					24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	
OREAS 101a (Fusion) Meas					21								850	1370	129	384	49.5	7.87	35.5	5.5	31.7	6.5	19.0	2.96	
OREAS 101a (Fusion) Cert					21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90	
JR-1 Meas				18	4	< 0.5	< 0.2	3	1.6	20.8		0.6	22.4	50.0	5.93	23.2	5.8	0.28	5.8	1.0	6.3	1.4	4.1	0.72	
JR-1 Cert				15.2	3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67	
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									

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Quality Control																								
Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
SX18-04 Cert																								
SX18-05 Meas																								
SX18-05 Cert																								
SARM 3 Meas																								
SARM 3 Cert																								
414223 Orig	1189	172	759	536	2	3.2	< 0.2	14	< 0.5	15.1	1214	1.8	801	1410	149	491	71.6	18.7	53.9	7.5	37.1	6.5	16.9	2.29
414223 Dup	1197	168	755	545	2	3.5	< 0.2	14	< 0.5	15.2	1134	1.9	808	1420	150	496	72.0	19.0	55.0	7.6	38.0	6.6	17.2	2.32
414238 Orig					< 2	3.6	< 0.2	8	< 0.5	3.7		< 0.4	186	353	36.2	120	17.3	3.83	11.8	1.7	8.7	1.7	5.0	0.84
414238 Split	751	45	913		< 2	5.8	< 0.2	8	< 0.5	3.8	1755	< 0.4	194	358	37.8	123	17.9	3.95	12.8	1.7	8.9	1.7	5.0	0.81
414238 Orig																								
414238 Dup																								
414240 Orig	277	31	325	170	< 2	1.3	< 0.2	5	< 0.5	1.1	1018	< 0.4	134	234	21.7	67.5	9.4	1.91	6.5	1.0	5.9	1.2	3.5	0.58
414240 Dup	271	31	329	178	< 2	1.3	< 0.2	5	< 0.5	1.1	1012	< 0.4	134	236	21.9	68.8	9.6	1.90	6.7	1.0	5.9	1.2	3.5	0.57
414258 Orig																								
414258 Split	517	460	199		7	1.5	< 0.2	11	< 0.5	0.7	447	1.4	1050	2270	233	926	149	43.0	130	19.8	106	20.1	56.2	8.42
414267 Orig																								
414267 Dup																								
414268 Orig					31	1.2	< 0.2	4	< 0.5	< 0.5		< 0.4	412	575	52.7	168	25.2	5.55	18.6	2.6	13.6	2.6	7.4	1.16
414268 Split	726	80	302		28	1.6	< 0.2	5	< 0.5	0.5	4516	< 0.4	409	584	53.3	166	24.6	5.47	20.3	2.5	13.2	2.5	7.2	1.11
414271 Orig	639	58	455	103	29	1.6	< 0.2	3	< 0.5	1.1	3766	< 0.4	352	494	44.9	143	20.6	3.48	14.2	2.0	10.1	1.9	5.4	0.81
414271 Dup	633	58	439	104	29	1.5	< 0.2	< 1	< 0.5	1.1	3686	< 0.4	356	495	44.9	144	20.5	3.48	14.2	1.9	10.2	1.9	5.4	0.82
414288 Orig	1557	515	410	579	59	1.9	< 0.2	43	< 0.5	0.9	4243	1.8	2020	3420	333	1030	144	46.0	136	20.6	103	17.7	44.7	5.92
414288 Dup	1514	514	410	676	59	1.8	< 0.2	42	< 0.5	0.9	4200	1.9	2000	3370	327	1030	143	46.3	136	20.7	103	17.5	44.8	5.85
414297 Orig																								
414297 Dup																								
414298 Orig																								
414298 Split	11070	121	111		342	0.9	< 0.2	32	< 0.5	< 0.5	865	1.7	1490	2780	242	810	96.4	22.7	49.8	5.6	25.9	4.7	13.2	1.94
414308 Orig					32	2.3	< 0.2	14	< 0.5	3.5		< 0.4	1590	3040	319	1070	135	31.2	78.5	10.2	51.7	9.1	23.7	3.19
414308 Split	5044	221	369		33	3.0	< 0.2	14	< 0.5	3.7	9356	< 0.4	1660	3170	287	1000	127	29.9	74.5	10.0	48.1	8.4	21.8	3.00
414319 Orig	3056	45	393	371	2	1.2	< 0.2	6	< 0.5	1.8	6600	< 0.4	210	432	48.5	178	29.3	7.16	16.9	2.2	10.7	2.0	5.6	0.94
414319 Dup	3080	44	372	361	2	1.2	< 0.2	6	< 0.5	1.8	6443	< 0.4	206	428	47.8	178	28.9	7.13	16.3	2.1	10.4	1.9	5.5	0.90
414327 Orig																								
414327 Dup																								
414328 Orig					7	1.3	< 0.2	3	< 0.5	2.3		< 0.4	180	331	34.1	119	17.8	4.86	11.7	1.6	8.4	1.6	4.4	0.65
414328 Split	1631	39	350		7	1.9	< 0.2	3	< 0.5	2.4	2407	< 0.4	194	340	35.9	117	17.1	4.77	12.1	1.6	8.0	1.5	4.2	0.61
414336 Orig	3082	55	879	984	4	3.3	< 0.2	9	< 0.5	6.6	1521	< 0.4	290	547	57.5	201	29.9	7.49	18.9	2.5	12.5	2.3	6.1	0.85
414336 Dup	3093	57	907	998	4	3.3	< 0.2	9	< 0.5	6.4	1470	< 0.4	283	528	55.5	197	29.2	7.22	18.6	2.5	12.2	2.2	5.9	0.82
414357 Orig																								
414357 Dup																								
414358 Orig					166	0.7	< 0.2	2	< 0.5	1.6		4.0	1250	2030	185	615	80.6	21.7	61.3	7.7	38.7	6.8	17.7	2.26
414358 Split	1898	175	65		165	0.6	< 0.2	2	< 0.5	1.4	2613	2.9	1330	2200	184	608	79.8	21.7	64.0	7.9	39.1	7.0	17.9	2.24
414367 Orig	2265	121	821	728	15	3.6	< 0.2	5	< 0.5	12.4	2862	< 0.4	869	1630	163	582	79.3	17.8	54.3	6.2	28.9	4.9	13.0	1.73
414367 Dup	2265	120	809	1110	16	3.6	< 0.2	5	< 0.5	12.8	2878	< 0.4	839	1600	165	597	79.1	17.0	49.9	6.0	29.5	5.1	12.8	1.66
414384 Orig	1733	93	743	1830	36	3.6	< 0.2	16	< 0.5	< 0.5	508	0.6	688	1250	136	484	69.2	14.2	40.2	4.3	19.8	3.4	8.9	1.19
414384 Dup	1750	93	747	2210	38	3.9	< 0.2	17	< 0.5	< 0.5	490	0.6	735	1330	144	505	70.8	14.8	43.9	4.7	20.8	3.5	9.4	1.23
414387 Orig																								
414387 Dup																								
414388 Orig					21	2.9	< 0.2	8	< 0.5	1.0		< 0.4	178	358	42.9	155	22.7	3.30	13.8	1.8	8.6	1.6	4.7	0.77
414388 Split	1398	37	473		20	3.2	< 0.2	8	< 0.5	0.9	622	< 0.4	198	382	42.7	149	21.9	3.18	13.7	1.7	8.5	1.6	4.7	0.74
414408 Orig	5832	44	556		5	3.1	< 0.2	6	< 0.5	3.5	9368	< 0.4	207	413	43.5	146	21.6	5.78	14.3	1.9	9.4	1.7	5.0	0.80
414408 Split	5745	43	566		4	3.3	< 0.2	5	< 0.5	3.4	9141	< 0.4	196	387	41.1	140	21.1	5.84	14.1	1.8	8.9	1.6	4.8	0.76
414415 Orig	1680	66	917	808	8	4.9	< 0.2	21	< 0.5	2.2	1673	< 0.4	273	523	56.6	192	29.4	7.08	19.4	2.6	13.9	2.6	7.9	1.28
414415 Dup	1666	67	918	734	8	4.8	< 0.2	21	< 0.5	2.2	1671	< 0.4	274	525	56.0	192	28.8	6.97	19.5	2.6	13.8	2.6	7.7	1.26
414418 Orig	10120	135	85								2940													
414418 Split	10280	133	91		6	0.5	< 0.2	13	< 0.5	< 0.5	2942	< 0.4	939	1920	191	731	104	27.8	69.3	7.8	37.0	5.9	14.4	1.81
414418 Orig																								
414418 Dup																								

Activation Laboratories Ltd. Report: A10-0748

Quality Control																									
Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
414432 Orig	8461	153	74	641	17	< 0.5	< 0.2	< 1	< 0.5	< 0.5	1783	< 0.4	709	1660	179	774	128	34.0	86.2	9.6	42.0	6.6	14.2	1.49	
414432 Dup	8563	154	77	576	17	0.5	< 0.2	< 1	< 0.5	< 0.5	1761	< 0.4	728	1660	180	769	128	34.7	89.2	9.7	42.6	6.6	13.9	1.46	
414438 Orig																									
414438 Dup																									
Method Blank Method				< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5		< 0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	
Blank																									
Method Blank Method																									
Blank																									

Quality Control										
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
WMG-1 Meas	1.3	0.19	1.5	0.3	< 1		16	1.1	0.8	
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650	
DH-1a Meas								829	> 1000	
DH-1a Cert								910	2630	
TAN-1 Meas			27.9	> 500				4.7	26.1	
TAN-1 Cert			22.0	2360				4.60	23.8	
NIST 694 Meas										
NIST 694 Cert										
DNC-1 Meas	2.0	0.28	1.0	< 0.1	< 1	< 0.1	6	0.2	< 0.1	
DNC-1 Cert	2.01	0.320	1.01	0.0980	0.200	0.0260	6.30	0.200	0.100	
GBW 07113 Meas										
GBW 07113 Cert										
GXR-2 Meas	1.7	0.25	5.7	0.7	< 1	0.7	685	8.2	2.9	
GXR-2 Cert	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90	
NIST 1633b Meas										
NIST 1633b Cert										
OKA-2 Meas	110	13.0						28900		
OKA-2 Cert	97.0	11.0						28900		
BE-N Meas										0.015
BE-N Cert										0.015
AC-E Meas										0.015
AC-E Cert										0.016
NOD-A-1 Meas							854			
NOD-A-1 Cert							846			
OKA-1 Meas										0.522
OKA-1 Cert										0.529
W-2a Meas	2.2	0.30	2.7	0.5	< 1	< 0.1	8	2.2	0.6	
W-2a Cert	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530	
SARM-62 Meas			> 1000							
SARM-62 Cert			11100							
CTA-AC-1 Meas	10.9	1.10	2.0	2.2				23.4	4.4	
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4	
BIR-1a Meas	1.7	0.25	0.6	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	
BIR-1a Cert	1.65	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100	
NCS DC86312 Meas								25.8		
NCS DC86312 Cert								23.6		
VS-N Meas										0.101
VS-N Cert										0.10
NCS DC70014 Meas	3.4	0.48		0.3	217		> 10000			
NCS DC70014 Cert	3.3	0.50		16.2	680.000		27200.00			
IGS 40 Meas										
IGS 40 Cert										
NCS DC70009 (GBW07241) Meas	16.2	2.31			2340	2.1	66	28.1		
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8	81.2	28.3		
OREAS 100a (Fusion) Meas	15.4	2.15						50.8	142	
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135	
OREAS 101a (Fusion) Meas	18.4	2.52					70	35.5	420	
OREAS 101a (Fusion) Cert	17.5	2.66					19	36.6	422	
JR-1 Meas	4.9	0.71	5.1	1.7	3	1.3	20	26.6	9.7	
JR-1 Cert	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88	
SX18-01 Meas										0.688
SX18-01 Cert										0.695
SX18-04 Meas										1.336

Quality Control										
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
SX18-04 Cert										1.32
SX18-05 Meas										1.001
SX18-05 Cert										0.973
SARM 3 Meas							55	66.5	19.5	
SARM 3 Cert							43	66	14	
414223 Orig	14.1	2.17	17.0	18.9	1	0.9	91	259	17.0	
414223 Dup	14.2	2.19	17.3	18.9	2	0.9	92	262	16.9	
414238 Orig	6.2	1.13	19.8	24.6	1	0.7	30	69.1	28.5	0.068
414238 Split	6.0	1.09	20.5	25.0	< 1	0.7	24	70.1	30.6	0.066
414238 Orig										0.068
414238 Dup										0.067
414240 Orig	4.2	0.80	8.2	7.9	9	0.5	9	27.9	5.3	
414240 Dup	4.2	0.83	8.5	8.0	9	0.5	9	28.2	5.3	
414258 Orig										0.294
414258 Split	57.7	9.16	4.7	0.1	< 1	< 0.1	34	317	10.1	0.290
414267 Orig										0.043
414267 Dup										0.042
414268 Orig	8.3	1.45	7.3	2.6	2	0.4	7	50.2	1.1	0.011
414268 Split	7.8	1.36	7.4	2.6	1	0.4	< 5	48.0	1.1	0.010
414271 Orig	5.6	1.01	9.3	2.9	< 1	0.6	19	23.7	1.3	
414271 Dup	5.7	1.01	9.1	3.0	< 1	0.6	20	24.0	1.3	
414288 Orig	34.5	5.06	12.9	1.5	< 1	0.3	44	854	14.2	
414288 Dup	34.5	4.94	12.8	2.1	< 1	0.3	45	861	14.2	
414297 Orig										0.096
414297 Dup										0.095
414298 Orig										0.108
414298 Split	12.3	1.82	2.7	0.7	< 1	< 0.1	62	359	7.2	0.110
414308 Orig	18.4	2.69	9.3	3.7	< 1	0.7	60	281	4.3	0.099
414308 Split	17.7	2.50	9.2	4.5	< 1	0.7	53	245	4.4	0.099
414319 Orig	7.1	1.41	9.9	8.2	< 1	0.3	15	46.6	5.1	
414319 Dup	7.2	1.39	9.6	8.2	< 1	0.3	15	46.0	5.1	
414327 Orig										0.043
414327 Dup										0.042
414328 Orig	4.4	0.76	9.0	8.6	< 1	0.2	26	30.7	4.2	0.058
414328 Split	4.1	0.70	8.6	8.8	< 1	0.3	20	30.7	4.5	0.059
414336 Orig	5.4	0.84	15.3	37.3	< 1	0.2	30	74.3	20.9	
414336 Dup	5.3	0.82	15.1	36.4	< 1	0.2	30	72.4	20.1	
414357 Orig										0.078
414357 Dup										0.077
414358 Orig	11.7	1.47	1.4	10.1	< 1	0.1	12	149	6.3	0.149
414358 Split	11.6	1.48	1.5	10.2	< 1	0.1	12	159	6.7	0.149
414367 Orig	10.1	1.47	12.5	35.9	< 1	0.6	20	210	14.2	
414367 Dup	9.5	1.41	12.5	36.9	< 1	0.5	20	212	14.4	
414384 Orig	7.3	1.09	16.7	32.2	< 1	< 0.1	13	304	27.8	
414384 Dup	7.5	1.17	17.0	35.1	< 1	< 0.1	14	319	28.6	
414387 Orig										0.051
414387 Dup										0.050
414388 Orig	5.9	1.17	11.4	9.7	< 1	0.1	27	26.7	1.2	0.073
414388 Split	5.6	1.12	11.6	10.2	< 1	0.1	26	27.2	1.3	0.072
414408 Orig	6.1	1.13	14.7	21.5	1	0.7	67	60.4	22.8	0.082
414408 Split	5.7	1.06	14.0	20.5	< 1	0.7	64	59.4	22.5	0.084
414415 Orig	9.1	1.60	23.6	9.8	< 1	0.1	28	58.5	1.0	
414415 Dup	9.1	1.60	23.5	9.9	1	0.1	29	56.6	0.9	
414418 Orig										0.363
414418 Split	10.1	1.44	2.4	< 0.1	< 1	< 0.1	122	211	1.4	0.365
414418 Orig										0.364
414418 Dup										0.363

Quality Control										
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414432 Orig	7.0	0.80	1.8	3.1	< 1	< 0.1	25	36.2	5.9	
414432 Dup	7.2	0.82	1.8	2.9	< 1	< 0.1	27	36.3	5.8	
414438 Orig										0.098
414438 Dup										0.098
Method Blank Method Blank	< 0.1	< 0.04	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	
Method Blank Method Blank										< 0.003



Date Submitted: 10-Feb-10
Invoice No.: A10-0588 (i)
Invoice Date: 30-Jul-10
Your Reference: Clay Howells

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

107 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT	A10-0588 (i)	Code 8-Nb2O5 - XRF Option XRF Code 8-REE-Rare Earth Element Pkg Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2) Code Specific Gravity Pulp
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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control



ACTIVATION LABORATORIES LTD.

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

Analyte Symbol	Spec Grav
Unit Symbol	-
Detection Limit	0.01
Analysis Method	GRAV

414207 3.36

Quality Control

Analyte Symbol Spec Grav

Unit Symbol -

Detection Limit 0.01

Analysis Method GRAV

Method Blank Method < 0.01
Blank



Date Submitted: 10-Feb-10
Invoice No.: A10-0588
Invoice Date: 02-Mar-10
Your Reference: Clay Howells

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

107 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 8-Nb2O5 - XRF Option XRF
Code 8-Rare Earth Element Pkg Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A10-0588**

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

Notes:

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

CERTIFIED BY :

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

Elitsa Hrischeva, Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Report: A10-0588

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	
	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Unit Symbol																									
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1	5	2	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
414102	28.94	7.96	15.33	0.907	3.96	20.17	0.43	4.97	0.576	1.45	12.36	97.05	11	17	91	80	12	40	30	470	24	2	7	155	
414103	26.77	7.54	15.05	0.849	4.32	21.76	0.37	4.59	0.558	1.52	14.03	97.35	11	15	90	80	11	40	30	430	21	2	7	162	
414104	20.45	5.78	21.02	1.039	3.22	24.13	0.37	3.37	0.398	1.07	16.17	97.03	12	13	63	80	8	40	20	850	23	3	10	141	
414105	1.89	0.46	46.17	3.334	2.97	22.10	0.07	0.10	0.025	1.99	16.64	95.76	11	2	16	< 20	3	< 20	< 10	1370	15	2	6	3	
414106	4.77	1.40	58.71	2.926	3.17	13.53	0.10	0.87	0.079	2.50	8.61	96.66	6	< 1	22	< 20	9	< 20	< 10	1710	15	2	< 5	71	
414107	0.85	0.21	70.51	2.664	0.78	12.67	0.06	0.05	0.013	0.94	6.99	95.72	7	< 1	15	< 20	9	< 20	< 10	2880	10	1	< 5	4	
414108	2.60	0.51	70.72	2.670	0.89	11.03	0.20	0.14	0.036	0.76	6.03	95.59	6	< 1	20	< 20	9	< 20	< 10	1730	9	< 1	< 5	10	
414109	2.88	0.69	67.24	3.390	1.65	10.80	0.19	0.10	0.018	0.50	7.12	94.56	7	< 1	18	< 20	9	< 20	< 10	2360	24	3	8	11	
414110	2.23	1.08	59.51	3.436	2.72	13.66	0.04	0.02	0.047	0.53	10.38	93.65	9	1	40	< 20	8	< 20	< 10	2500	36	3	8	< 2	
414111	1.10	0.46	61.00	3.348	1.53	15.36	0.07	0.02	0.019	1.54	10.40	94.84	9	< 1	16	< 20	6	< 20	< 10	2310	21	3	8	< 2	
414112	0.50	0.22	65.18	3.495	1.57	13.90	0.05	0.01	0.008	0.59	9.47	94.98	8	< 1	18	< 20	7	< 20	< 10	2300	10	1	< 5	< 2	
414113	0.23	0.13	59.44	3.507	1.80	15.92	0.05	< 0.01	0.010	0.93	11.34	93.37	10	< 1	16	< 20	6	< 20	< 10	1890	13	2	< 5	< 2	
414114	26.66	8.14	29.82	1.188	1.20	15.02	2.33	2.71	0.247	1.13	10.01	98.45	6	3	13	< 20	3	< 20	< 10	620	24	3	8	88	
414115	0.97	0.43	66.77	3.057	0.94	13.35	0.04	0.03	0.040	0.75	7.64	94.01	10	< 1	25	< 20	9	< 20	< 10	2010	7	< 1	< 5	< 2	
414116	0.98	0.38	71.03	2.927	0.86	11.56	0.03	< 0.01	0.061	0.84	5.77	94.45	7	< 1	36	< 20	10	< 20	< 10	2150	9	< 1	< 5	< 2	
414117	3.75	1.28	60.66	2.558	2.30	14.00	0.06	0.37	0.098	2.38	7.52	94.97	8	1	38	< 20	9	< 20	< 10	1930	14	1	< 5	28	
414118	2.49	0.82	53.76	2.634	3.52	16.51	0.06	0.28	0.038	2.41	12.11	94.63	5	1	20	< 20	6	< 20	< 10	2430	18	3	7	16	
414119	2.43	0.79	41.49	2.848	5.24	21.38	0.04	0.15	0.088	5.69	15.58	95.74	5	1	34	< 20	4	< 20	< 10	880	22	3	7	8	
414120	1.15	0.42	37.43	2.598	1.34	28.99	0.02	0.07	0.061	4.45	18.03	94.55	4	1	22	< 20	1	< 20	< 10	620	24	3	9	7	
414121	0.97	0.33	31.37	2.375	1.92	31.69	0.08	0.04	0.048	4.21	21.25	94.28	4	1	23	< 20	< 1	< 20	< 10	380	19	2	7	4	
414122	1.05	0.33	39.86	2.638	1.20	27.81	0.11	0.05	0.029	4.55	16.21	93.83	4	1	24	< 20	2	< 20	< 10	680	23	3	10	11	
414123	8.85	2.64	40.05	1.054	2.59	21.53	0.15	1.96	0.195	8.70	7.57	95.29	3	1	41	< 20	14	< 20	30	820	23	3	8	165	
414124	15.62	4.35	54.95	0.946	2.92	8.56	0.23	2.24	0.334	1.51	5.88	97.54	7	5	103	< 20	11	< 20	< 10	1020	34	2	< 5	164	
414125	23.08	6.48	19.82	1.525	3.51	18.70	0.32	4.25	0.697	0.14	18.84	97.37	10	6	45	20	6	< 20	< 10	870	36	1	< 5	371	
414126	18.38	4.69	35.87	1.120	3.46	14.00	0.13	3.27	0.599	3.44	13.00	97.97	9	4	73	< 20	9	< 20	< 10	360	24	2	6	284	
414127	17.24	3.82	56.11	0.671	2.09	8.00	0.83	2.17	0.623	0.71	4.46	96.73	5	4	97	< 20	14	< 20	30	730	22	1	< 5	186	
414128	32.05	7.37	6.56	0.493	0.63	26.07	2.31	3.81	0.208	1.80	16.78	98.09	7	4	< 5	< 20	< 1	< 20	40	160	18	2	< 5	126	
414129	42.27	10.19	6.83	0.441	0.46	18.17	3.21	4.94	0.283	0.99	11.67	99.45	6	5	< 5	< 20	< 1	< 20	< 10	180	22	2	< 5	155	
414130	12.02	3.69	75.72	1.996	1.86	1.81	0.59	1.30	0.266	0.05	-0.58	98.73	11	3	82	< 20	14	< 20	< 10	3400	29	2	< 5	74	
414131	7.72	1.60	69.71	2.125	3.80	5.38	0.07	0.41	0.189	0.07	6.29	97.36	12	4	122	< 20	10	< 20	< 10	3790	24	2	6	25	
414132	3.24	0.81	66.92	2.906	5.33	7.56	0.04	0.20	0.087	0.03	9.02	96.13	12	2	88	< 20	10	< 20	< 10	3420	18	1	< 5	4	
414133	9.37	2.85	60.59	2.032	5.03	6.86	0.12	1.48	0.159	0.05	7.35	95.88	14	5	113	< 20	11	< 20	< 10	3030	27	2	< 5	97	
414134	18.82	6.22	52.06	1.880	4.36	4.88	0.50	3.13	0.411	0.12	4.04	96.40	14	5	117	< 20	11	< 20	< 10	2480	54	2	< 5	155	
414135	30.72	8.10	45.79	1.354	2.47	5.54	1.88	2.95	0.332	0.12	0.71	99.97	19	10	123	< 20	6	< 20	< 10	2000	95	3	5	140	
414136	39.28	9.93	36.13	0.959	1.43	5.01	2.92	3.59	0.540	0.10	0.18	100.1	13	13	48	< 20	5	< 20	< 10	900	36	1	< 5	127	
414137	17.44	4.93	65.79	1.725	2.48	4.33	0.75	1.72	0.575	0.44	-0.57	99.62	19	9	105	< 20	11	< 20	< 10	2050	97	2	< 5	104	
414138	37.16	11.47	36.90	0.952	1.62	1.97	1.56	6.58	0.403	0.21	0.40	99.22	6	9	68	< 20	8	< 20	< 10	1040	54	2	< 5	234	
414139	24.13	7.55	49.66	1.895	3.25	4.65	0.41	4.14	0.532	0.88	0.51	97.61	13	16	93	30	15	< 20	20	1510	79	3	6	167	
414140	29.46	8.93	42.50	1.656	3.14	8.63	0.90	3.01	0.743	0.77	0.35	100.1	12	26	87	50	15	30	30	1080	32	2	5	82	
414141	35.23	10.33	25.39	1.599	3.43	12.26	1.71	3.12	0.703	0.97	2.52	97.26	13	30	73	60	14	40	40	940	34	3	6	124	
414142	34.87	10.09	26.74	1.490	3.37	11.79	2.54	3.02	0.658	0.88	3.04	98.48	15	21	71	70	11	20	< 10	1010	27	2	< 5	127	
414143	37.91	11.25	20.46	1.736	3.92	12.42	1.53	3.73	0.733	1.48	2.54	97.72	15	33	73	100	12	30	20	1010	34	3	8	129	
414144	38.24	11.14	20.54	1.771	4.03	11.56	1.62	3.81	0.706	1.00	2.64	97.06	14	34	68	60	13	30	20	1090	36	3	6	144	
414145	39.12	11.46	21.21	1.635	4.18	11.56	1.60	3.79	0.650	0.86	2.14	98.20	15	30	73	90	14	40	30	930	32	2	5	117	
414146	38.21	11.38	22.10	1.815	4.50	10.53	1.66	4.05	1.137	0.87	2.10	98.36	18	25	82	70	12	40	30	1250	36	2	5	154	
414147	38.10	11.00	24.79	2.058	4.49	10.46	1.80	3.42	0.575	0.15	1.75	98.59	20	35	62	60	13	40	40	1390	43	2	< 5	97	
414148	38.42	12.17	17.08	0.856	2.15	12.37	1.91	5.62	0.521	0.88	6.74	98.73	8	9	52	30	7	< 20	20	630	62	2	< 5	219	
414149	40.09	12.43	27.07	1.266	2.44	3.51	0.89	8.02	0.081	1.11	1.15	98.07	8	8	41	< 20	4	< 20	< 10	1070	100	4	7	221	
414150	30.07	8.63	40.63	2.070	3.03	4.61	0.50	5.71	0.097	1.57	0.56	97.47	14	14	46	< 20	8	< 20	< 10	2080	187	4	9	191	
414151	19.16	5.98	58.42	2.077	2.41	4.11	0.35	3.42	0.127	1.61	-0.63	97.05	16	10	100	< 20	10	< 20	< 10	2680	157	3	6	119	
414152	24.78	7.80	52.07	1.729	1.99	3.46	0.51	4.32	0.129	0.65	-0.10	97.34	14	12	104	< 20	9	< 20	< 10	1860	127	2	6	155	
414153	1																								

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1	5	2
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414154	18.41	4.67	57.64	2.402	2.17	8.16	0.82	0.91	0.320	1.35	0.20	97.06	22	15	102	< 20	10	< 20	< 10	2330	82	3	7	24
414155	16.60	3.55	58.46	2.496	2.11	7.85	0.89	1.55	0.181	1.22	1.48	96.39	12	5	53	< 20	13	< 20	30	1220	27	2	5	55
414156	44.36	9.85	13.49	0.561	0.87	13.40	3.06	4.85	0.590	1.00	6.20	98.23	10	7	22	< 20	3	< 20	< 10	280	22	2	< 5	172
414157	58.32	11.87	9.29	0.586	0.89	7.18	4.42	5.49	0.499	0.82	0.89	100.3	10	10	7	< 20	2	< 20	< 10	310	30	2	< 5	237
414158	59.96	13.56	7.86	0.394	0.74	4.20	5.11	5.63	0.506	0.22	0.62	98.81	13	5	< 5	< 20	2	< 20	< 10	150	24	2	< 5	197
414159	58.03	15.15	9.38	0.255	0.89	3.58	5.15	5.55	1.093	0.39	0.79	100.3	18	6	9	< 20	3	< 20	< 10	140	26	2	< 5	164
414160	58.92	15.02	10.21	0.314	0.46	2.91	5.18	5.68	0.724	0.17	0.29	99.87	17	4	6	< 20	1	< 20	10	140	30	2	< 5	161
414161	59.49	14.05	9.71	0.312	0.32	2.83	5.58	5.42	0.585	0.12	0.47	98.88	14	5	< 5	< 20	< 1	< 20	< 10	190	28	2	< 5	157
414162	59.27	14.89	8.21	0.264	1.09	2.58	5.03	6.00	0.602	0.29	1.31	99.54	14	4	< 5	< 20	1	< 20	< 10	130	30	2	< 5	193
414163	59.18	14.22	6.57	0.086	2.54	1.38	4.13	6.10	0.232	0.17	2.96	97.57	6	7	8	< 20	< 1	< 20	< 10	< 30	31	2	< 5	255
414164	52.60	12.67	18.91	0.579	1.61	2.82	3.77	5.06	0.375	0.06	1.02	99.49	11	8	36	< 20	4	< 20	20	500	70	2	< 5	144
414165	59.31	14.67	10.15	0.355	0.28	3.27	5.37	5.61	0.654	0.16	0.17	100.00	17	4	< 5	< 20	< 1	< 20	< 10	170	26	2	< 5	146
414166	58.68	13.98	8.86	0.403	0.53	5.17	5.11	5.62	0.493	0.35	1.22	100.4	19	6	< 5	< 20	1	< 20	< 10	170	24	2	< 5	155
414167	55.58	12.55	7.81	0.507	0.75	8.35	4.27	5.87	0.305	0.46	3.20	99.65	12	8	5	< 20	3	< 20	< 10	240	30	2	< 5	257
414168	56.72	13.82	7.80	0.402	0.61	5.81	4.68	6.12	0.384	0.14	2.71	99.21	17	5	< 5	< 20	1	< 20	< 10	170	22	1	< 5	192
414169	58.57	15.34	8.50	0.320	0.64	3.56	4.87	6.28	0.664	0.25	1.25	100.3	17	3	5	< 20	3	< 20	< 10	180	24	2	< 5	193
414170	55.13	15.22	8.04	0.379	0.94	5.50	4.61	5.98	0.631	0.38	3.21	100.0	12	4	6	< 20	4	< 20	< 10	190	22	1	< 5	222
414171	54.40	13.57	11.07	0.364	0.74	5.06	4.39	5.70	0.387	0.66	3.52	99.85	11	6	< 5	< 20	21	< 20	140	150	20	1	< 5	173
414172	59.07	15.76	6.77	0.306	0.57	4.43	5.36	5.40	0.603	0.19	1.41	99.86	14	4	< 5	< 20	2	< 20	< 10	160	23	2	< 5	131
414173	60.72	15.43	6.75	0.274	0.56	3.74	5.34	5.89	0.577	0.22	1.05	100.6	14	3	< 5	< 20	2	< 20	< 10	140	22	2	< 5	144
414174	51.57	13.90	8.27	0.401	0.73	9.82	4.67	4.88	0.619	0.43	4.94	100.2	10	7	8	< 20	4	< 20	< 10	180	21	2	< 5	149
414175	55.14	15.15	7.12	0.341	0.59	6.48	5.26	4.96	0.625	0.48	2.45	98.59	12	7	6	< 20	3	< 20	< 10	170	22	2	< 5	127
414176	57.26	15.17	7.61	0.321	0.57	5.37	5.05	5.55	0.495	0.61	1.89	99.89	14	4	< 5	< 20	6	< 20	10	140	23	2	< 5	156
414177	54.89	15.07	10.20	0.317	0.45	4.26	4.62	5.74	0.517	0.34	3.52	99.94	11	3	7	< 20	9	< 20	20	120	21	1	< 5	152
414178	58.55	15.54	7.43	0.273	0.55	3.67	5.41	5.39	0.594	0.29	0.92	98.62	15	3	< 5	< 20	4	< 20	< 10	130	22	2	< 5	123
414179	59.25	16.18	6.92	0.261	0.51	3.99	5.46	5.37	0.653	0.37	1.13	100.1	15	6	< 5	< 20	2	< 20	< 10	160	22	2	< 5	132
414180	49.69	11.60	15.06	0.411	0.68	6.13	3.86	4.86	0.424	1.25	3.90	97.87	13	4	8	< 20	32	< 20	70	150	18	1	< 5	134
414181	57.20	14.44	9.47	0.335	0.57	4.55	4.48	6.22	0.460	0.88	1.71	100.3	12	4	< 5	< 20	10	< 20	30	130	22	2	< 5	186
414182	59.80	15.85	6.85	0.274	0.48	3.39	5.44	5.61	0.612	0.17	0.69	99.17	14	3	< 5	< 20	2	< 20	< 10	130	22	2	< 5	143
414183	61.72	15.63	5.19	0.298	0.51	3.53	5.12	6.59	0.370	0.32	0.83	100.1	8	5	< 5	< 20	1	< 20	< 10	110	24	1	< 5	211
414184	58.63	11.72	9.17	0.661	1.18	7.23	4.28	5.67	0.218	0.81	0.82	100.4	4	6	7	< 20	4	< 20	10	190	23	2	< 5	224
414185	57.47	11.64	10.25	0.710	0.85	7.75	4.12	5.22	0.421	0.24	0.58	99.25	4	6	12	< 20	3	< 20	< 10	220	22	2	< 5	208
414186	57.16	13.07	8.68	0.513	0.83	7.45	4.20	5.94	0.390	0.56	1.56	100.4	6	7	14	< 20	4	190	< 10	190	23	2	< 5	202
414187	57.05	15.42	7.27	0.277	0.85	3.98	5.23	5.57	0.647	0.36	1.60	98.26	8	5	16	< 20	4	< 20	< 10	160	25	1	< 5	178
414188	58.95	15.44	7.20	0.318	0.88	4.30	5.37	5.50	0.711	0.50	1.32	100.5	9	6	16	< 20	3	< 20	< 10	170	24	1	< 5	185
414189	51.98	12.37	9.89	0.457	1.71	8.87	4.23	4.56	1.100	1.03	2.35	98.55	16	6	56	< 20	8	< 20	< 10	200	22	2	< 5	150
414190	54.86	14.63	9.32	0.279	2.03	5.81	5.17	4.30	1.649	0.82	1.32	100.2	16	4	85	< 20	12	< 20	< 10	140	22	2	< 5	121
414191	56.30	13.70	7.95	0.357	0.43	5.68	4.45	6.18	0.451	0.28	2.32	98.09	8	4	< 5	< 20	1	< 20	< 10	190	28	1	< 5	202
414192	52.54	13.58	8.92	0.364	1.18	7.45	4.58	4.87	0.988	0.73	3.39	98.59	14	4	36	< 20	6	< 20	< 10	210	22	2	< 5	180
414193	45.10	12.07	6.35	0.327	0.84	13.96	3.84	4.80	0.646	0.89	9.25	98.06	9	3	15	< 20	3	< 20	< 10	140	20	1	< 5	161
414194	44.16	13.12	12.94	0.447	3.91	9.93	3.53	3.04	1.935	1.13	4.69	98.83	19	5	165	< 20	21	< 20	< 10	210	22	2	< 5	134
414195	56.03	13.69	7.56	0.390	0.89	6.78	4.34	5.78	0.641	0.55	2.39	99.04	8	5	22	< 20	4	< 20	< 10	160	23	1	< 5	159
414196	50.11	12.49	11.11	0.474	0.93	9.06	4.12	4.95	0.687	0.64	3.93	98.51	12	5	13	< 20	4	< 20	10	220	22	2	< 5	130
414197	54.27	14.14	5.78	0.287	0.76	7.65	4.23	6.18	0.402	0.65	3.85	98.19	6	4	17	< 20	3	< 20	< 10	110	22	1	< 5	168
414198	52.84	11.52	10.18	0.568	1.10	10.24	4.02	5.16	0.373	0.72	3.20	99.91	9	6	16	< 20	3	< 20	10	230	20	2	< 5	147
414199	47.93	12.91	8.54	0.411	0.82	11.58	4.34	4.76	0.675	1.08	5.96	99.00	9	4	25	< 20	3	< 20	10	200	23	2	< 5	135
414200	43.45	8.56	12.87	0.729	1.23	16.68	3.33	3.36	0.561	1.44	7.06	99.27	10	5	17	< 20	2	< 20	10	270	18	2	< 5	89
414201	58.62	14.35	5.69	0.446	0.84	5.97	4.57	6.32	0.179	0.19	2.21	99.38	3	20	12	< 20	2	< 20	< 10	270	35	2	6	323
414202	51.47	10.62	11.54	1.001	3.01	10.05	3.48	3.97	0.444	0.71	2.03	98.33	8	25	56	40	6	< 20	< 10	550	31	2	6	182
414203	58.62	12.39	5.99	0.665	2.53	6.34	3.47	6.33	0.230	0.31	2.10	98.98	4	11	18	60	2	< 20	10	230	31	2	6	278
414204	58.97	14.19	5.75	0.450	1.02	5.03	3.02	8.25	0.227	0.13	0.71	97.74	5	9	22	20	3	< 20	10	260	23	1	< 5	332
414205	47.95	3.99	20.09	1.730	4.44	19.06	1.85	0.68	0.769	0.10	0.04	100.7	21	39	96	90	11	30						

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414206	49.43	6.02	17.42	1.504	4.12	16.34	2.10	1.97	0.722	0.10	0.50	100.2	18	39	85	70	10	30	60	760	24	2	< 5	104
414207	45.28	8.97	18.98	1.476	4.80	15.04	1.64	2.37	0.925	0.04	0.42	99.96	20	39	114	90	14	30	10	870	26	2	< 5	82
414208	39.08	10.03	20.93	1.507	5.48	15.79	1.05	2.24	0.983	0.97	0.68	98.74	20	50	153	90	18	40	50	960	31	3	7	149

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Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	2	2	4		2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414102	5287	113	433		< 2	2.0	< 0.2	7	< 0.5	2.5	5932	< 0.4	632	1020	115	365	53.8	14.3	36.2	4.7	23.7	4.2	11.1	1.54
414103	5775	114	406		< 2	2.1	< 0.2	7	< 0.5	4.8	5271	0.5	601	966	109	356	52.9	14.0	35.6	4.6	22.7	4.1	11.0	1.47
414104	5090	225	314		6	2.0	< 0.2	21	< 0.5	4.9	4521	0.6	878	1550	182	625	128	36.3	87.7	11.2	51.8	8.7	22.1	2.97
414105	5369	190	112		245	0.8	< 0.2	13	< 0.5	< 0.5	1020	1.1	936	2320	271	988	151	39.1	91.2	11.0	53.4	9.2	23.4	3.08
414106	3167	56	102		147	1.0	< 0.2	12	< 0.5	5.2	611	0.6	531	1150	139	451	54.1	13.4	28.1	3.3	16.0	2.8	7.2	0.97
414107	7820	34	76		252	1.0	< 0.2	10	< 0.5	< 0.5	287	2.5	568	1120	128	394	43.1	10.3	20.4	1.9	9.1	1.6	4.4	0.63
414108	6675	30	73		261	0.6	< 0.2	13	< 0.5	< 0.5	381	1.3	416	868	92.0	293	30.2	8.37	14.5	1.5	7.1	1.3	3.5	0.50
414109	11960	58	87		227	0.8	< 0.2	15	< 0.5	< 0.5	1566	1.2	1220	2510	271	820	77.0	17.2	34.4	3.2	16.4	2.9	8.3	1.17
414110	15640	103	132		173	0.8	< 0.2	17	0.6	< 0.5	2592	1.6	1950	4460	464	1470	136	27.6	60.0	5.7	28.9	5.1	14.1	1.95
414111	13550	64	98		226	0.8	< 0.2	16	< 0.5	< 0.5	1939	1.5	1160	2380	258	814	80.6	20.0	35.8	3.4	17.1	3.0	8.0	1.15
414112	9751	55	57		213	< 0.5	< 0.2	12	< 0.5	< 0.5	2101	1.4	820	1510	147	447	46.8	14.7	23.9	2.4	12.1	2.1	5.9	0.87
414113	12430	102	83		73	< 0.5	< 0.2	15	< 0.5	< 0.5	2649	0.6	1580	2690	244	715	78.3	23.2	46.3	4.7	23.0	4.0	10.5	1.51
414114	5903	188	288		10	1.3	< 0.2	36	< 0.5	1.4	3846	< 0.4	1280	1890	192	579	84.1	23.5	56.4	7.5	35.5	6.1	16.0	2.18
414115	6902	73	146		319	0.9	< 0.2	44	< 0.5	< 0.5	562	4.0	327	696	78.5	288	48.1	15.8	30.2	3.9	19.2	3.4	8.9	1.17
414116	4634	49	251		286	1.3	< 0.2	36	< 0.5	< 0.5	190	1.7	218	469	52.3	185	26.8	7.84	18.6	2.6	13.4	2.4	6.2	0.81
414117	4321	123	191		191	1.0	< 0.2	18	< 0.5	0.9	3319	0.7	574	1250	143	492	66.9	16.7	45.3	6.1	31.2	5.6	14.6	2.00
414118	5800	118	184		60	1.4	< 0.2	8	< 0.5	< 0.5	2375	1.0	820	1650	199	690	92.2	23.6	50.4	6.6	32.3	5.5	13.7	1.74
414119	3254	211	183		65	1.3	< 0.2	3	< 0.5	< 0.5	2172	< 0.4	1770	3480	357	1220	162	39.9	101	11.8	56.0	9.1	23.0	2.95
414120	10710	156	151		46	1.3	< 0.2	7	< 0.5	< 0.5	1976	< 0.4	1340	2440	267	928	129	33.0	73.4	9.1	43.4	7.2	17.2	2.17
414121	8944	202	184		29	1.2	< 0.2	3	< 0.5	< 0.5	1945	< 0.4	1240	2650	292	1080	164	44.3	106	12.8	58.6	9.4	22.3	2.70
414122	8924	157	161		54	1.5	< 0.2	8	< 0.5	< 0.5	1342	< 0.4	1200	2110	252	936	140	36.2	79.3	10.0	48.9	7.9	18.3	2.19
414123	4549	143	56		11	1.0	< 0.2	8	0.7	10.8	1163	< 0.4	1140	2460	267	936	120	27.1	71.5	8.1	38.3	6.4	15.2	1.90
414124	825	71	564		9	3.5	< 0.2	25	< 0.5	6.9	1448	0.7	363	769	83.8	287	39.6	9.67	26.0	3.1	15.6	2.7	6.9	0.96
414125	1122	79	1147		3	4.5	< 0.2	24	0.7	15.1	1658	< 0.4	402	777	81.4	274	40.3	10.5	27.5	3.3	16.4	3.0	9.1	1.47
414126	1009	85	637		7	2.4	< 0.2	10	< 0.5	5.2	1370	< 0.4	427	837	88.2	295	41.0	8.80	28.4	3.6	18.3	3.3	9.0	1.29
414127	1101	42	324		39	1.6	< 0.2	15	< 0.5	7.1	2076	< 0.4	108	228	25.0	90.6	14.8	3.56	11.1	1.6	8.6	1.6	4.4	0.65
414128	5992	75	397		3	1.9	< 0.2	6	< 0.5	1.5	2266	< 0.4	416	738	84.6	276	39.0	9.47	23.8	3.2	16.7	3.1	8.6	1.23
414129	4188	54	365		< 2	1.5	< 0.2	5	< 0.5	1.5	1851	< 0.4	284	495	57.4	191	27.4	6.61	16.7	2.3	12.0	2.2	6.2	0.95
414130	331	149	602		33	2.5	< 0.2	32	< 0.5	3.5	2971	1.2	411	1010	141	622	121	29.3	76.4	8.9	40.5	6.8	17.5	2.25
414131	181	145	272		26	1.3	< 0.2	36	< 0.5	1.0	2737	1.7	380	889	130	543	103	26.1	58.1	7.0	32.1	5.6	14.4	1.83
414132	81	86	313		23	1.2	< 0.2	43	< 0.5	< 0.5	1333	1.4	292	689	79.2	284	55.1	20.4	46.3	6.0	27.5	4.5	11.1	1.49
414133	877	128	580		47	2.4	< 0.2	38	< 0.5	6.2	5654	3.0	629	1160	119	388	64.2	21.7	55.3	6.6	30.0	5.0	12.7	1.64
414134	1947	180	989		46	3.9	< 0.2	70	< 0.5	8.3	9489	0.5	563	1010	102	329	61.8	22.2	64.8	9.3	44.5	7.4	17.7	2.30
414135	1024	233	1228		6	4.4	< 0.2	124	< 0.5	7.5	2901	0.5	477	1060	134	461	108	34.2	96.1	13.3	60.2	9.5	21.5	2.67
414136	2706	41	689		4	2.5	< 0.2	38	0.5	3.2	7397	< 0.4	121	232	27.4	91.3	18.8	5.59	13.0	1.8	9.0	1.6	4.4	0.71
414137	669	130	629		6	2.2	< 0.2	66	< 0.5	6.5	2747	0.8	470	907	107	364	74.4	20.5	50.0	6.9	32.9	5.5	13.1	1.69
414138	1210	43	533		9	2.0	< 0.2	23	< 0.5	8.4	8193	< 0.4	264	446	50.0	155	23.9	6.32	16.2	2.2	10.5	1.8	4.8	0.65
414139	1066	196	366		11	1.7	< 0.2	30	< 0.5	6.1	5854	2.3	1050	1870	204	661	110	30.3	72.5	9.7	46.8	7.8	19.6	2.61
414140	1948	241	631		4	2.5	< 0.2	26	< 0.5	2.6	9118	< 0.4	691	1290	151	508	88.7	25.0	63.7	9.5	47.7	8.5	21.8	2.99
414141	2759	204	468		4	2.1	< 0.2	22	< 0.5	5.9	7506	< 0.4	745	1390	165	551	91.4	25.0	62.5	8.8	44.6	8.0	20.7	2.82
414142	2404	119	643		3	2.4	< 0.2	23	< 0.5	6.8	7232	< 0.4	421	846	103	350	57.8	15.4	38.9	5.6	28.4	4.9	12.9	1.82
414143	3258	235	422		3	1.7	< 0.2	19	0.6	6.0	10480	< 0.4	974	1810	212	708	115	30.5	77.5	11.1	55.3	9.7	24.7	3.24
414144	3107	155	469		4	2.0	< 0.2	23	< 0.5	7.4	9016	< 0.4	683	1270	151	500	78.7	20.8	51.5	7.2	36.7	6.3	16.3	2.24
414145	3268	119	369		4	1.8	< 0.2	20	0.5	4.6	7392	< 0.4	584	1040	117	385	58.1	15.4	37.5	5.2	25.5	4.5	11.6	1.61
414146	2372	120	444		6	2.0	< 0.2	26	< 0.5	5.6	11310	< 0.4	516	952	112	373	59.5	15.4	38.6	5.4	27.3	4.7	12.3	1.73
414147	2080	59	591		4	2.8	< 0.2	36	< 0.5	4.1	5792	< 0.4	208	407	51.6	178	30.4	8.17	19.5	2.9	14.8	2.5	6.7	1.02
414148	3544	79	432		3	1.9	< 0.2	18	< 0.5	8.2	7810	< 0.4	378	688	80.5	269	42.6	11.0	27.1	3.8	18.9	3.3	8.7	1.16
414149	2083	193	291		4	1.2	< 0.2	20	< 0.5	5.5	14220	0.6	1290	2130	222	673	104	29.0	68.8	8.8	42.6	7.8	21.6	3.08
414150	1659	277	434		5	2.0	< 0.2	40	< 0.5	4.2	11170	2.3	1890	3020	363	1110	177	45.2	113	13.8	68.1	12.4	34.6	4.87
414151	1324	316	377		6	1.9	< 0.2	72	< 0.5	4.6	7222	0.9	1510	2690	261	871	158	43.8	109	13.4	65.3	11.9	33.2	4.70
414152	1396	81	350		11	1.6	< 0.2	87	< 0.5	4.7	10580	< 0.4	426	670	83.7	259	44.2	11.7	30.2	4.0	20.1	3.6	9.8	1.36
414153	1554	255	411		9	1.7	< 0.2	74	< 0.5	1.4	1956	0.7	1090	1800	172	564	96.9	27.6	73.9	9.9	51.1	9.6	27.7	4.18

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Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	2	2	4		2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414154	1696	365	537		6	2.6	< 0.2	66	< 0.5	1.1	1313	2.3	2030	3230	305	1040	222	63.0	158	18.6	84.7	14.2	36.5	4.79
414155	3840	243	404		4	3.2	< 0.2	25	< 0.5	0.8	3253	2.3	2430	3380	271	783	154	44.9	108	11.6	51.3	9.0	25.4	3.65
414156	2949	41	480		3	1.8	< 0.2	11	< 0.5	1.7	2322	< 0.4	219	362	45.2	144	20.7	4.62	13.4	1.7	9.0	1.7	4.9	0.73
414157	1181	54	530		3	2.1	< 0.2	12	0.8	2.1	1879	< 0.4	336	553	69.4	221	32.8	6.57	21.7	2.8	15.0	2.8	8.1	1.25
414158	866	34	271		3	1.0	< 0.2	5	< 0.5	1.3	1638	< 0.4	116	195	24.8	82.5	13.3	3.04	9.7	1.3	7.6	1.5	4.4	0.70
414159	1060	48	431		8	1.5	< 0.2	4	< 0.5	1.4	2777	< 0.4	142	231	29.1	98.2	16.1	4.54	12.5	1.7	9.7	1.8	5.3	0.78
414160	732	39	525		13	2.1	< 0.2	4	< 0.5	0.9	1183	< 0.4	130	215	27.6	93.5	15.8	3.35	12.0	1.7	9.4	1.8	5.3	0.83
414161	261	49	568		7	2.2	< 0.2	3	< 0.5	1.1	571	< 0.4	142	237	30.6	104	17.3	2.90	13.1	1.9	10.7	2.0	6.1	0.93
414162	418	51	555		6	2.1	< 0.2	3	< 0.5	1.6	727	< 0.4	163	267	33.9	112	18.7	2.88	14.3	2.1	11.6	2.2	6.4	0.97
414163	177	34	408		15	1.5	< 0.2	7	< 0.5	< 0.5	327	< 0.4	172	295	28.3	90.8	13.8	2.18	10.1	1.4	7.1	1.3	3.9	0.64
414164	485	33	693		12	2.6	< 0.2	20	< 0.5	1.7	2275	< 0.4	152	249	31.1	100	15.9	3.06	10.6	1.4	7.4	1.4	4.0	0.62
414165	353	43	490		3	1.8	< 0.2	4	< 0.5	1.1	691	< 0.4	124	215	28.0	95.6	16.0	2.87	11.8	1.7	9.3	1.8	5.2	0.81
414166	847	42	567		4	2.0	< 0.2	6	< 0.5	1.5	1639	< 0.4	144	236	29.4	96.2	15.2	3.50	10.9	1.5	8.5	1.6	4.5	0.71
414167	1756	27	718		4	3.1	< 0.2	11	< 0.5	2.2	2181	< 0.4	164	268	33.0	104	15.0	3.62	10.0	1.3	7.0	1.4	4.1	0.69
414168	1294	24	396		3	1.3	< 0.2	5	< 0.5	2.4	1898	< 0.4	114	179	21.4	69.0	10.3	2.65	7.2	0.9	5.0	1.0	2.9	0.47
414169	990	26	314		6	1.0	< 0.2	3	< 0.5	4.8	2585	< 0.4	107	173	21.4	70.4	10.8	3.48	7.7	1.0	5.3	1.0	2.9	0.43
414170	1343	33	324		4	1.3	< 0.2	3	< 0.5	8.9	3201	< 0.4	136	216	26.1	83.5	12.7	4.18	8.9	1.2	6.3	1.2	3.6	0.53
414171	897	27	358		4	3.4	< 0.2	4	< 0.5	4.0	2141	< 0.4	132	219	27.1	88.1	13.0	3.76	8.6	1.1	5.7	1.0	3.1	0.47
414172	1563	31	300		13	1.0	< 0.2	2	< 0.5	2.5	2953	< 0.4	156	236	28.0	89.2	13.1	4.42	8.7	1.1	6.5	1.2	3.5	0.52
414173	1072	27	307		6	1.1	< 0.2	3	< 0.5	2.3	3364	< 0.4	118	188	22.9	73.5	11.2	3.96	7.8	1.0	5.5	1.0	3.0	0.45
414174	2811	42	317		5	1.2	< 0.2	11	< 0.5	3.8	2650	< 0.4	186	296	36.1	117	17.1	4.57	11.8	1.5	8.2	1.5	4.4	0.67
414175	2308	36	308		6	1.1	< 0.2	10	< 0.5	1.9	2981	< 0.4	171	275	33.6	109	16.0	4.54	10.9	1.4	7.5	1.4	4.0	0.58
414176	1111	34	370		8	1.6	< 0.2	4	< 0.5	2.4	2816	< 0.4	166	274	34.0	111	16.7	5.24	11.5	1.5	7.8	1.4	4.1	0.62
414177	968	30	317		6	1.7	< 0.2	3	< 0.5	2.3	2953	< 0.4	134	220	27.0	87.1	13.2	4.13	8.7	1.1	6.0	1.1	3.3	0.48
414178	749	30	384		6	1.6	< 0.2	3	< 0.5	1.6	3203	< 0.4	110	182	22.8	76.0	12.0	4.19	8.3	1.1	6.3	1.2	3.4	0.50
414179	888	40	397		8	1.4	< 0.2	3	< 0.5	2.2	3156	< 0.4	134	221	27.4	89.8	14.6	4.81	10.5	1.5	8.2	1.6	4.7	0.69
414180	990	33	465		4	3.8	< 0.2	4	< 0.5	1.5	2430	< 0.4	174	303	38.6	127	18.8	5.02	12.3	1.5	7.7	1.4	3.9	0.58
414181	1083	35	410		7	3.2	< 0.2	5	< 0.5	2.0	2762	< 0.4	144	251	32.2	107	16.5	4.72	11.2	1.4	7.7	1.4	4.2	0.62
414182	843	27	377		6	1.3	< 0.2	3	< 0.5	1.4	3101	< 0.4	94.3	154	19.2	64.3	10.2	3.78	7.4	1.0	5.6	1.0	2.9	0.47
414183	990	33	262		5	0.9	< 0.2	3	< 0.5	2.0	2166	< 0.4	112	190	23.8	78.9	12.8	3.46	9.2	1.2	6.8	1.3	3.8	0.57
414184	779	40	543		5	2.2	< 0.2	8	< 0.5	2.1	1045	< 0.4	140	252	32.3	107	16.7	3.51	11.3	1.5	8.2	1.6	4.7	0.77
414185	1290	24	742		3	2.7	< 0.2	8	< 0.5	1.9	1527	< 0.4	86.8	157	20.3	66.4	10.8	2.35	7.0	0.9	5.4	1.1	3.5	0.65
414186	1714	31	869		8	3.1	< 0.2	6	< 0.5	2.7	2117	< 0.4	147	242	30.1	98.3	14.9	3.31	10.2	1.3	7.0	1.4	4.0	0.66
414187	988	27	473		6	1.7	< 0.2	3	< 0.5	5.6	1915	< 0.4	130	234	23.8	82.0	12.6	3.68	8.9	1.2	6.1	1.2	3.3	0.49
414188	1057	32	494		5	1.6	< 0.2	4	< 0.5	7.2	2080	< 0.4	126	206	26.0	85.6	13.3	3.60	9.3	1.2	6.6	1.2	3.5	0.52
414189	1515	49	474		4	1.5	< 0.2	5	< 0.5	4.0	1533	< 0.4	183	310	39.8	132	21.0	4.47	14.8	2.0	10.4	1.9	5.6	0.83
414190	1092	48	694		9	2.2	< 0.2	3	< 0.5	1.9	1449	< 0.4	176	275	33.6	109	17.4	3.77	13.0	1.8	9.8	1.8	5.2	0.77
414191	1500	32	490		3	1.7	< 0.2	4	< 0.5	4.1	1291	< 0.4	109	190	24.8	83.9	13.3	2.41	9.6	1.3	7.4	1.4	4.2	0.68
414192	1705	35	235		5	0.9	< 0.2	3	< 0.5	5.9	2195	< 0.4	160	257	31.8	103	15.4	4.08	10.4	1.4	7.4	1.4	3.9	0.58
414193	3168	47	291		3	1.0	< 0.2	2	< 0.5	4.7	2145	< 0.4	249	397	48.2	153	21.7	5.57	14.5	1.9	9.8	1.9	5.3	0.71
414194	1842	47	358		6	1.4	< 0.2	4	< 0.5	6.6	1382	< 0.4	174	273	34.0	114	18.2	4.48	13.8	1.9	10.0	1.9	5.3	0.78
414195	1585	34	512		7	1.8	< 0.2	5	< 0.5	1.9	1861	< 0.4	141	229	28.5	92.9	14.3	3.83	9.8	1.3	7.1	1.4	4.0	0.64
414196	1689	43	375		7	1.3	< 0.2	6	< 0.5	2.4	1213	< 0.4	162	276	34.9	113	17.4	4.14	11.9	1.6	8.7	1.6	4.9	0.73
414197	1868	34	416		5	1.5	< 0.2	4	< 0.5	1.8	1524	< 0.4	153	252	31.0	101	15.1	3.79	10.2	1.3	7.0	1.3	3.7	0.55
414198	1873	32	559		4	1.8	< 0.2	8	< 0.5	2.1	1751	< 0.4	132	250	28.6	98.1	14.4	3.70	9.7	1.3	7.0	1.3	3.7	0.60
414199	2546	46	331		5	1.1	< 0.2	4	< 0.5	3.3	1308	< 0.4	209	381	43.3	147	21.0	5.10	13.7	1.8	9.3	1.6	4.6	0.69
414200	2753	62	478		6	1.5	< 0.2	5	< 0.5	1.3	1047	< 0.4	253	475	56.4	194	29.3	6.83	19.3	2.6	12.9	2.3	6.1	0.93
414201	1616	171	1960		4	5.8	< 0.2	21	0.7	3.7	1561	< 0.4	448	682	66.6	201	28.5	5.99	21.8	3.6	22.8	5.1	16.5	3.06
414202	1814	234	1143		3	3.2	< 0.2	24	< 0.5	2.8	2864	< 0.4	563	995	108	352	53.7	12.2	38.9	6.0	36.4	7.6	22.8	3.76
414203	1458	346	672		5	1.9	< 0.2	12	< 0.5	3.0	2014	< 0.4	726	1280	137	442	67.9	14.9	51.7	8.2	50.2	10.8	32.8	5.30
414204	2557	41	401		3	1.2	< 0.2	5	< 0.5	3.1	4671	< 0.4	181	296	30.4	94.0	13.7	2.71	9.4	1.4	7.4	1.4	4.2	0.68
414205	660	52	1107		< 2	3.1	< 0.2	18	< 0.5	1.2	316	< 0.4	134	266	31.6	107	17.6	3.89	12.6	2.0	10.5	2.0	6.5	1.14

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Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	2	2	4		2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414206	1136	54	1034		2	3.0	< 0.2	19	< 0.5	2.1	984	< 0.4	136	264	31.0	103	16.9	3.93	12.0	1.9	10.6	2.1	6.3	1.16
414207	1134	57	997		< 2	2.7	< 0.2	18	< 0.5	1.6	1780	< 0.4	125	244	29.4	103	18.0	4.76	13.5	2.2	12.0	2.2	6.1	1.06
414208	1408	200	828		4	2.5	< 0.2	16	< 0.5	4.7	1616	0.7	920	1600	174	560	82.7	22.1	61.8	8.7	44.0	7.7	19.3	2.60

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414102	9.2	1.40	6.9	15.3	< 1	0.5	56	167	7.4	0.078
414103	9.0	1.34	6.9	14.6	< 1	0.6	57	142	6.7	0.076
414104	17.7	2.54	5.6	6.7	< 1	0.7	230	678	14.1	0.140
414105	19.0	2.88	2.1	< 0.1	< 1	< 0.1	104	548	13.7	0.045
414106	5.7	0.80	1.6	1.4	< 1	0.3	33	246	8.6	0.181
414107	3.9	0.58	0.9	0.4	< 1	< 0.1	32	312	6.4	0.015
414108	3.3	0.50	1.4	0.7	< 1	< 0.1	19	196	3.8	0.021
414109	7.4	1.13	2.8	1.7	< 1	< 0.1	50	254	3.5	0.016
414110	12.3	1.86	6.1	0.3	< 1	< 0.1	65	320	2.8	0.015
414111	7.2	1.12	2.2	0.3	< 1	< 0.1	55	271	3.4	0.009
414112	5.8	0.89	0.9	0.1	< 1	< 0.1	80	315	4.7	0.016
414113	9.5	1.45	1.4	< 0.1	< 1	< 0.1	88	404	9.2	0.026
414114	13.7	2.16	5.3	2.7	< 1	0.2	63	191	5.3	0.129
414115	6.9	1.02	2.5	< 0.1	< 1	< 0.1	50	649	8.6	0.062
414116	4.8	0.72	10.2	1.1	< 1	< 0.1	31	399	3.0	0.266
414117	11.8	1.74	5.3	0.9	< 1	0.2	47	270	2.7	0.224
414118	10.0	1.41	3.9	0.9	< 1	0.1	47	348	2.1	0.135
414119	16.9	2.41	3.5	0.3	< 1	< 0.1	38	195	3.2	0.219
414120	12.1	1.69	2.9	0.5	< 1	< 0.1	68	123	1.4	0.215
414121	14.9	2.03	3.7	< 0.1	< 1	< 0.1	82	132	1.5	0.175
414122	11.8	1.61	3.2	0.1	< 1	< 0.1	56	169	1.9	0.173
414123	9.9	1.26	1.7	2.1	< 1	0.5	26	141	3.5	0.107
414124	6.0	0.96	9.9	29.4	2	0.5	247	137	26.2	0.298
414125	10.3	1.76	23.2	23.6	13	0.8	120	184	33.7	0.250
414126	8.0	1.25	11.5	1.3	5	0.4	89	184	20.9	0.116
414127	4.6	0.78	7.2	1.1	< 1	0.4	89	158	7.0	0.080
414128	7.7	1.25	8.4	10.2	< 1	0.2	27	56.4	10.2	0.098
414129	6.5	1.12	8.2	5.7	< 1	0.3	15	38.1	3.0	0.030
414130	12.5	1.75	13.5	2.9	< 1	0.2	32	1540	5.1	0.267
414131	10.5	1.47	4.6	0.6	< 1	0.3	63	1580	10.3	0.170
414132	8.5	1.15	6.4	0.6	< 1	< 0.1	25	1350	3.6	0.187
414133	9.8	1.41	11.5	2.6	< 1	0.5	101	819	4.4	0.257
414134	13.4	1.90	20.7	14.0	< 1	0.7	54	821	18.3	0.464
414135	16.1	2.44	33.9	19.3	< 1	0.4	27	1550	16.6	0.486
414136	5.9	1.18	15.2	15.8	< 1	0.3	20	173	4.9	0.114
414137	10.3	1.56	12.6	14.4	< 1	0.4	18	631	9.1	0.224
414138	4.1	0.68	10.4	30.9	< 1	0.7	18	125	9.3	0.133
414139	15.8	2.35	5.6	8.7	< 1	0.9	33	702	5.9	0.145
414140	19.3	2.99	11.0	14.2	< 1	0.5	27	508	9.5	0.188
414141	18.4	2.95	8.7	16.7	< 1	0.5	28	290	10.1	0.167
414142	12.0	2.08	10.5	23.2	< 1	0.4	21	327	11.6	0.211
414143	20.7	3.32	7.3	15.4	< 1	0.5	32	350	9.2	0.151
414144	14.4	2.37	7.6	17.9	< 1	0.5	30	260	7.6	0.163
414145	10.1	1.63	6.3	13.7	< 1	0.5	27	188	4.3	0.124
414146	11.0	1.78	7.8	15.5	< 1	0.6	24	174	5.2	0.182
414147	7.5	1.45	10.4	17.2	< 1	0.5	22	41.5	1.1	0.182
414148	7.4	1.18	8.2	23.2	< 1	0.7	20	140	6.7	0.129
414149	19.1	2.77	5.5	25.2	< 1	1.4	26	421	7.3	0.085
414150	29.9	4.41	9.5	12.2	< 1	1.5	49	963	6.5	0.098
414151	28.8	4.18	7.7	3.4	< 1	1.0	20	1030	5.4	0.112
414152	8.8	1.39	7.7	12.1	< 1	1.0	32	448	4.8	0.122
414153	26.8	3.94	8.2	17.6	< 1	0.4	27	545	26.8	0.380

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414154	28.7	4.29	11.8	4.2	< 1	< 0.1	152	1620	7.8	0.198
414155	22.2	3.35	9.1	1.1	< 1	0.2	175	1160	3.9	0.099
414156	5.2	0.93	10.8	11.9	< 1	0.1	16	42.7	8.1	0.087
414157	9.3	1.66	14.6	24.7	3	0.2	25	101	16.6	0.111
414158	5.0	0.93	7.1	6.3	2	0.2	13	14.8	2.6	0.032
414159	5.1	0.80	9.2	6.5	< 1	0.3	34	20.8	2.4	0.023
414160	6.1	1.04	12.6	8.6	4	0.5	20	17.0	2.9	0.025
414161	6.6	1.10	13.1	9.4	2	0.3	14	19.8	3.1	0.030
414162	6.8	1.17	13.6	8.8	3	0.4	7	26.2	3.8	0.034
414163	5.0	0.97	10.7	17.8	3	0.4	8	60.6	9.2	0.046
414164	4.7	0.87	15.8	30.5	2	0.4	12	50.1	12.5	0.125
414165	5.8	0.99	11.4	6.7	1	0.2	13	18.4	2.7	0.021
414166	5.5	0.98	12.5	8.1	2	0.2	18	30.2	5.5	0.036
414167	5.6	1.07	20.7	10.6	2	0.3	28	33.0	9.8	0.057
414168	3.7	0.67	8.7	4.2	< 1	0.2	14	15.2	3.2	0.036
414169	2.9	0.49	6.5	4.1	< 1	0.2	25	26.8	2.0	0.053
414170	3.5	0.53	7.1	7.6	1	0.3	17	41.7	4.6	0.105
414171	3.3	0.56	7.4	9.6	< 1	0.4	14	45.8	7.4	0.110
414172	3.5	0.55	6.3	4.7	2	0.2	28	16.5	2.6	0.027
414173	3.0	0.50	6.4	8.1	< 1	0.2	25	25.4	6.2	0.071
414174	4.2	0.64	7.0	8.1	< 1	0.2	25	27.0	5.4	0.064
414175	3.6	0.56	7.0	8.9	1	0.1	27	34.1	4.2	0.079
414176	4.1	0.66	8.5	7.5	< 1	0.2	21	46.3	6.2	0.092
414177	3.0	0.46	6.6	10.2	< 1	0.1	20	95.6	7.7	0.251
414178	3.3	0.53	8.1	9.6	< 1	0.1	22	56.5	6.8	0.162
414179	4.5	0.70	9.4	8.9	1	0.2	40	47.3	5.0	0.106
414180	3.8	0.62	9.7	10.8	< 1	< 0.1	15	117	8.6	0.288
414181	4.2	0.67	9.3	7.5	< 1	0.2	15	52.6	4.6	0.122
414182	3.4	0.55	8.6	5.6	1	0.2	19	25.4	3.3	0.044
414183	3.8	0.59	5.8	6.2	< 1	0.3	13	63.3	4.1	0.056
414184	5.8	1.06	13.8	20.7	< 1	0.2	17	119	17.4	0.250
414185	6.2	1.22	18.1	30.7	1	0.2	24	138	21.1	0.296
414186	5.1	0.94	18.6	16.3	< 1	0.2	24	89.4	14.0	0.214
414187	3.3	0.58	10.8	7.6	< 1	0.3	22	30.7	4.4	0.067
414188	3.6	0.58	10.4	7.6	< 1	0.2	22	30.3	4.1	0.063
414189	5.7	0.95	10.4	8.0	< 1	0.2	19	35.7	4.9	0.065
414190	5.1	0.79	14.1	5.6	< 1	0.2	18	19.4	2.8	0.019
414191	5.2	0.90	11.2	5.3	< 1	0.2	14	18.3	3.7	0.035
414192	3.8	0.62	5.7	3.5	< 1	0.3	18	11.6	1.3	0.023
414193	4.4	0.67	6.5	11.3	< 1	0.2	22	50.2	7.3	0.144
414194	4.9	0.79	8.2	4.8	2	0.2	14	22.3	2.1	0.030
414195	4.6	0.78	11.2	10.4	2	0.1	22	46.7	6.9	0.105
414196	5.0	0.85	8.9	26.1	1	0.2	31	84.7	15.3	0.256
414197	3.6	0.60	8.3	18.1	< 1	0.2	28	81.7	15.5	0.220
414198	4.8	0.91	10.6	12.6	< 1	0.3	23	49.4	9.9	0.113
414199	4.7	0.81	7.2	9.2	< 1	0.3	23	38.3	6.9	0.061
414200	6.6	1.18	8.1	26.3	< 1	0.2	34	135	25.3	0.285
414201	21.6	3.46	44.0	21.9	2	0.7	82	165	9.9	0.070
414202	24.8	3.61	26.0	23.2	1	0.4	61	152	19.9	0.106
414203	34.7	4.67	16.5	23.7	1	0.6	47	149	27.7	0.107
414204	4.8	0.79	9.9	9.1	< 1	0.9	45	37.3	3.2	0.026
414205	9.3	1.79	28.8	11.3	< 1	0.1	22	32.4	3.8	0.030

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414206	9.5	1.81	26.6	15.0	< 1	0.3	30	33.1	4.1	0.042
414207	8.5	1.59	20.8	14.2	< 1	0.3	26	13.9	2.1	0.062
414208	15.6	2.36	13.7	17.8	< 1	0.5	66	327	13.2	0.072

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Quality Control																									
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas																750	200	2520	6190	120	10			9	
WMG-1 Cert																770	200	2700	5900	110	10.3			7.00	
DH-1a Meas																									
DH-1a Cert																									
TAN-1 Meas																									
TAN-1 Cert																									
NIST 694 Meas	11.23	1.87	0.73	0.013	0.34	42.87	0.87	0.54	0.114	30.12															
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	47.14	18.33	9.93	0.146	9.86	11.44	1.92	0.22	0.475	0.08			31	< 1	161	250	56	240	100	70	13	1	< 5	4	
DNC-1 Cert	47.0	18.3	9.93	0.149	10.1	11.3	1.87	0.234	0.480	0.0900			31.0	1.00	148	285	54.7	247	96.0	66.0	15.0	1.30	0.200	4.50	
GBW 07113 Meas	73.05	13.02	3.53	0.181	0.14	0.60	2.50	5.46	0.281	0.06			5	4	< 5										
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00										
GXR-2 Meas																									
GXR-2 Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
NOD-A-1 Meas																									
NOD-A-1 Cert																									
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	51.89	15.23	10.70	0.166	6.20	11.03	2.21	0.62	1.080	0.14			35	< 1	286	80	42	70	110	80	18	2	< 5	20	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20	21.0	
SY-4 Meas	50.07	20.57	6.16	0.108	0.50	8.17	6.97	1.68	0.289	0.14			1	3	6										
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0										
CTA-AC-1 Meas																									
CTA-AC-1 Cert																									
NCS DC86312 Meas																									
NCS DC86312 Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas																									
NCS DC70014 Cert																									
IGS 40 Meas																									
IGS 40 Cert																									
NCS DC70009 (GBW07241) Meas																									
NCS DC70009 (GBW07241) Cert																									
OREAS 100a (Fusion) Meas																									
OREAS 100a (Fusion) Cert																									
OREAS 101a (Fusion) Meas																									
OREAS 101a (Fusion) Cert																									
JR-1 Meas																									
JR-1 Cert																									
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
414116 Orig	0.98	0.38	71.00	2.924	0.86	11.61	0.03	0.01	0.061	0.86	5.77	94.47	7	< 1	37	< 20	10	< 20	< 10	2150	9	< 1	< 5	< 2	
414116 Dup	0.99	0.38	71.07	2.930	0.86	11.51	0.03	< 0.01	0.061	0.83	5.77	94.44	7	< 1	35	< 20	10	< 20	< 10	2140	9	< 1	< 5	< 2	
414131 Orig																									

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Quality Control																									
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
414131 Split	7.71	1.62	70.32	2.187	3.70	5.46	0.07	0.42	0.197	0.08	6.34	98.11	11	5	134	< 20	11	< 20	< 10	3980	24	2	< 5	25	
414131 Orig																									
414131 Dup																									
414133 Orig	9.39	2.85	60.74	2.040	5.06	6.87	0.12	1.48	0.161	0.06	7.35	96.11	14	5	114	< 20	11	< 20	< 10	3030	27	2	< 5	97	
414133 Dup	9.35	2.86	60.44	2.024	5.00	6.84	0.12	1.48	0.157	0.04	7.35	95.65	14	5	112	< 20	11	< 20	< 10	3020	27	2	< 5	97	
414151 Orig																< 20	10	< 20	< 10	2680	157	3	6	119	
414151 Split	19.01	5.97	57.56	2.066	2.25	4.13	0.35	3.48	0.128	1.73	-0.49	96.20	14	10	105	< 20	10	< 20	< 10	2710	155	3	7	119	
414160 Orig																									
414160 Dup																									
414161 Orig																									
414161 Split	58.77	14.04	9.78	0.310	0.34	2.81	5.53	5.40	0.574	0.13	0.73	98.41	14	5	< 5	< 20	< 1	< 20	< 10	180	27	2	< 5	151	
414164 Orig	52.62	12.67	18.92	0.579	1.62	2.83	3.77	5.06	0.377	0.06	1.02	99.51	11	8	36	< 20	4	< 20	20	500	70	2	< 5	144	
414164 Dup	52.58	12.67	18.90	0.579	1.61	2.82	3.78	5.06	0.374	0.06	1.02	99.46	11	8	36	< 20	4	< 20	20	500	70	2	< 5	144	
414181 Orig	57.65	14.33	9.50	0.338	0.57	4.59	4.51	6.27	0.461	0.89	1.71	100.8	13	4	< 5	< 20	10	< 20	30	130	22	2	< 5	191	
414181 Dup	56.75	14.54	9.43	0.332	0.57	4.51	4.45	6.17	0.459	0.87	1.71	99.80	12	4	< 5	< 20	10	< 20	20	130	21	2	< 5	182	
414189 Orig																									
414189 Dup																									
414191 Orig																< 20	1	< 20	< 10	190	28	1	< 5	202	
414191 Split	56.41	13.86	8.31	0.366	0.43	5.76	4.48	6.27	0.458	0.28	2.29	98.93	8	4	< 5	< 20	< 1	< 20	< 10	220	30	2	< 5	204	
414191 Split	56.41	13.86	8.31	0.366	0.43	5.76	4.48	6.27	0.458	0.28	2.29	98.93	8	4	< 5	< 20	< 1	< 20	< 10	220	30	2	< 5	204	
414201 Orig	58.62	14.35	5.69	0.446	0.84	5.97	4.57	6.32	0.179	0.19	2.21	99.38	3	20	12	< 20	2	< 20	< 10	270	35	2	6	323	
414201 Split	57.85	14.30	5.61	0.443	0.82	5.87	4.45	6.20	0.174	0.19	2.25	98.16	3	20	12	< 20	1	< 20	< 10	260	34	2	6	317	
Method Blank Method																									
Blank																									

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Quality Control																								
Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas				6	< 2	2.3		4	2.8	< 0.5			8.4	16.3		9.1	2.4	0.74		0.4	2.5	0.5		0.22
WMG-1 Cert				6.00	1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200
DH-1a Meas																								
DH-1a Cert																								
TAN-1 Meas									13.4	740			< 0.1											
TAN-1 Cert									19.0	830			3.50											
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas	142	16	36	2	< 2	< 0.5			1.0	< 0.5	108	< 0.4	2.1	3.9	0.60	2.9	1.2	0.53	1.8	0.4	2.7	0.7	1.8	0.34
DNC-1 Cert	145	18.0	41.0	3.00	0.700	0.0270			0.960	0.340	114	0.0200	3.80	10.6	1.30	4.90	1.38	0.590	2.00	0.410	2.70	0.620	2.00	0.380
GBW 07113 Meas	42	46	418								509													
GBW 07113 Cert	43.0	43.0	403								506													
GXR-2 Meas				9	< 2	16.6	< 0.2	4	48.7	5.3		< 0.4	24.8	45.5		17.3	3.4	0.66	2.9	0.5	2.8			0.30
GXR-2 Cert				11.0	2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50	0.810	3.30	0.480	3.30			0.300
BE-N Meas																								
BE-N Cert																								
AC-E Meas																								
AC-E Cert																								
NOD-A-1 Meas																								
NOD-A-1 Cert																								
OKA-1 Meas																								
OKA-1 Cert																								
W-2a Meas	193	20	88	8	< 2	< 0.5			1.1	0.9	175	< 0.4	10.6	21.6		11.8	3.2	1.06		0.6	3.8	0.8	2.1	0.33
W-2a Cert	190	24.0	94.0	7.90	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380
SY-4 Meas	1161	119	560								349													
SY-4 Cert	1191	119	517								340													
CTA-AC-1 Meas													> 2000	3340		1150	169	46.0	130	15.3				
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9				
NCS DC86312 Meas																								
NCS DC86312 Cert																								
VS-N Meas																								
VS-N Cert																								
NCS DC70014 Meas				< 1	269	16.9		> 1000	177			80.3	43.6	78.2	9.34	34.3	7.3	1.54	6.7	1.1	6.3	1.3	3.4	0.56
NCS DC70014 Cert				46.9	270.000	16.7		44700.00	180.000			80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57
IGS 40 Meas													> 2000	> 1000	> 2000									
IGS 40 Cert													20720.00	2730.000	8320.000									
NCS DC70009 (GBW07241) Meas					618	2.3	1.3	> 1000	3.8	42.7		157	23.9	55.7	7.62	30.2	12.2	0.08	14.1	3.3	20.5	4.3	12.3	2.33
NCS DC70009 (GBW07241) Cert					980.000	1.8	1.3	1700.00	3.1	41		680.000	23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2
OREAS 100a (Fusion) Meas					23								277	453	47.1	149	24.1	3.59	21.0	3.8	23.0	4.9	14.3	2.40
OREAS 100a (Fusion) Cert					24.1								260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31
OREAS 101a (Fusion) Meas					20								842	1350	133	391	50.2	7.97	36.1	5.5	31.9	6.6	18.8	2.95
OREAS 101a (Fusion) Cert					21.9								816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90
JR-1 Meas				18	3	< 0.5	< 0.2	3	1.3	20.9		0.8	19.9	43.5	5.64	21.7	5.6	0.23	5.4	1.1	6.2	1.4	3.9	0.73
JR-1 Cert				15.2	3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67
SX18-01 Meas																								
SX18-01 Cert																								
SX18-04 Meas																								
SX18-04 Cert																								
SX18-05 Meas																								
SX18-05 Cert																								
414116 Orig	4653	49	253	504	284	1.3	< 0.2	36	< 0.5	< 0.5	190	1.7	218	469	52.5	185	27.0	7.95	18.6	2.7	13.5	2.4	6.2	0.82
414116 Dup	4616	49	249	439	288	1.3	< 0.2	36	< 0.5	< 0.5	190	1.7	217	469	52.1	185	26.6	7.73	18.6	2.6	13.3	2.4	6.2	0.80
414131 Orig																								

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Quality Control																									
Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
414131 Split	189	145	274		28	1.1	< 0.2	35	< 0.5	0.9	2939	1.7	363	879	127	524	96.7	25.2	59.0	6.9	31.2	5.4	13.6	1.80	
414131 Orig																									
414131 Dup																									
414133 Orig	882	127	592	723	47	2.4	< 0.2	38	< 0.5	6.2	5657	3.0	627	1160	119	388	64.2	21.7	55.5	6.6	29.8	5.0	12.8	1.65	
414133 Dup	873	128	569	711	47	2.4	< 0.2	38	< 0.5	6.1	5651	2.9	631	1160	119	389	64.1	21.7	55.0	6.6	30.3	5.1	12.6	1.62	
414151 Orig					6	1.9	< 0.2	72	< 0.5	4.6		0.9	1510	2690	261	871	158	43.8	109	13.4	65.3	11.9	33.2	4.70	
414151 Split	1384	322	390		6	1.9	< 0.2	70	< 0.5	4.6	7666	0.9	1580	2780	270	892	162	45.3	113	13.9	67.7	12.5	34.7	4.94	
414160 Orig																									
414160 Dup																									
414161 Orig																									
414161 Split	264	49	539		7	2.0	< 0.2	2	< 0.5	0.9	566	< 0.4	150	250	30.6	110	18.2	3.12	13.9	2.0	10.9	2.1	6.2	0.95	
414164 Orig	481	33	688	919	12	2.6	< 0.2	20	< 0.5	1.7	2295	< 0.4	152	249	31.2	100	16.1	3.04	10.7	1.4	7.3	1.4	3.9	0.62	
414164 Dup	489	33	698	960	12	2.6	< 0.2	20	< 0.5	1.7	2255	< 0.4	153	250	31.0	100	15.7	3.08	10.5	1.4	7.4	1.4	4.0	0.63	
414181 Orig	1080	35	414	954	7	3.4	< 0.2	5	< 0.5	2.0	2784	< 0.4	148	259	33.1	110	17.0	4.90	11.7	1.5	7.9	1.5	4.3	0.64	
414181 Dup	1086	35	406	897	7	3.0	< 0.2	4	< 0.5	1.9	2740	< 0.4	139	243	31.3	104	15.9	4.54	10.8	1.4	7.5	1.4	4.1	0.61	
414189 Orig																									
414189 Dup																									
414191 Orig					3	1.7	< 0.2	4	< 0.5	4.1		< 0.4	109	190	24.8	83.9	13.3	2.41	9.6	1.3	7.4	1.4	4.2	0.68	
414191 Split	1545	31	487		3	1.5	< 0.2	3	< 0.5	4.1	1309	< 0.4	105	204	24.0	83.1	13.1	2.44	9.1	1.3	6.8	1.3	3.7	0.61	
414191 Split	1545	31	487		3	1.5	< 0.2	3	< 0.5	4.1	1309	< 0.4	105	204	24.0	83.1	13.1	2.44	9.1	1.3	6.8	1.3	3.7	0.61	
414201 Orig	1616	171	1960		4	5.8	< 0.2	21	0.7	3.7	1561	< 0.4	448	682	66.6	201	28.5	5.99	21.8	3.6	22.8	5.1	16.5	3.06	
414201 Split	1598	170	1993		4	5.8	< 0.2	21	< 0.5	3.7	1520	< 0.4	437	665	66.5	200	27.9	6.09	21.2	3.6	22.8	4.9	16.7	3.08	
Method Blank Method																									
Blank																									

Quality Control										
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
WMG-1 Meas	1.4	0.20	1.6	0.3	< 1		16	0.9	0.8	
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650	
DH-1a Meas								906	> 1000	
DH-1a Cert								910	2630	
TAN-1 Meas			23.7	> 500				3.6	30.1	
TAN-1 Cert			22.0	2360				4.60	23.8	
NIST 694 Meas										
NIST 694 Cert										
DNC-1 Meas	1.9	0.32	1.1	0.1	< 1	< 0.1	7	< 0.1	0.2	
DNC-1 Cert	2.01	0.320	1.01	0.0980	0.200	0.0260	6.30	0.200	0.100	
GBW 07113 Meas										
GBW 07113 Cert										
GXR-2 Meas	1.8	0.28	5.6	0.7	< 1	0.7	691	7.8	2.9	
GXR-2 Cert	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90	
BE-N Meas										0.015
BE-N Cert										0.015
AC-E Meas										0.015
AC-E Cert										0.016
NOD-A-1 Meas							873			
NOD-A-1 Cert							846			
OKA-1 Meas										0.535
OKA-1 Cert										0.529
W-2a Meas	2.1	0.29	2.6	0.5	< 1	< 0.1	8	1.7	0.5	
W-2a Cert	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530	
SY-4 Meas										
SY-4 Cert										
CTA-AC-1 Meas	11.1	1.16	2.0	2.3				24.1	4.4	
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4	
NCS DC86312 Meas								26.8		
NCS DC86312 Cert								23.6		
VS-N Meas										0.100
VS-N Cert										0.10
NCS DC70014 Meas	3.4	0.50	< 0.1	215	> 10000					
NCS DC70014 Cert	3.3	0.50	16.2	680.000	27200.00					
IGS 40 Meas										
IGS 40 Cert										
NCS DC70009 (GBW07241) Meas	15.9	2.26			2340	2.1	67	29.5		
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8	81.2	28.3		
OREAS 100a (Fusion) Meas	15.4	2.16						55.4	142	
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135	
OREAS 101a (Fusion) Meas	18.3	2.52					71	37.9	420	
OREAS 101a (Fusion) Cert	17.5	2.66					19	36.6	422	
JR-1 Meas	4.8	0.73	5.0	1.7	3	1.3	21	28.0	9.5	
JR-1 Cert	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88	
SX18-01 Meas										0.694
SX18-01 Cert										0.695
SX18-04 Meas										1.344
SX18-04 Cert										1.32
SX18-05 Meas										0.999
SX18-05 Cert										0.973
414116 Orig	4.9	0.72	10.2	1.2	< 1	< 0.1	31	400	3.0	
414116 Dup	4.8	0.71	10.2	1.0	< 1	< 0.1	31	398	2.9	
414131 Orig										0.170

Quality Control										
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414131 Split	10.6	1.49	4.6	0.7	< 1	0.3	68	1780	12.3	0.172
414131 Orig										0.172
414131 Dup										0.168
414133 Orig	9.7	1.40	11.7	2.6	< 1	0.5	102	819	4.4	
414133 Dup	9.8	1.42	11.4	2.5	< 1	0.4	101	819	4.4	
414151 Orig	28.8	4.18	7.7	3.4	< 1	1.0	20	1030	5.4	0.112
414151 Split	29.4	4.26	7.9	3.8	< 1	1.0	21	1030	5.3	0.110
414160 Orig										0.025
414160 Dup										0.026
414161 Orig										0.030
414161 Split	6.6	1.15	13.2	8.9	2	0.4	14	20.9	3.1	0.028
414164 Orig	4.7	0.86	15.8	30.5	1	0.4	12	50.6	12.6	
414164 Dup	4.7	0.89	15.9	30.5	2	0.4	12	49.7	12.5	
414181 Orig	4.3	0.69	9.6	7.8	1	0.2	15	53.8	4.8	
414181 Dup	4.1	0.65	9.0	7.2	< 1	0.2	15	51.3	4.5	
414189 Orig										0.066
414189 Dup										0.064
414191 Orig	5.2	0.90	11.2	5.3	< 1	0.2	14	18.3	3.7	0.035
414191 Split	4.7	0.88	9.5	5.2	< 1	0.4	14	17.8	3.6	0.035
414191 Split	4.7	0.88	9.5	5.2	< 1	0.4	14	17.8	3.6	
414201 Orig	21.6	3.46	44.0	21.9	2	0.7	82	165	9.9	0.070
414201 Split	21.9	3.40	44.1	21.5	1	0.6	79	153	9.2	0.073
Method Blank Method Blank										< 0.003



Date Submitted: 08-Feb-10
Invoice No.: A10-0485 (i)
Invoice Date: 30-Jul-10
Your Reference: Clay Howells

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

101 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 4LITHO-Quant(11+) Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)
REPORT **A10-0485 (i)** Code Nb Assay - XRF XRF
Code Specific Gravity Pulp

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

Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control



ACTIVATION LABORATORIES LTD.

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	Spec Grav
Unit Symbol	-
Detection Limit	0.01
Analysis Method	GRAV

414002	2.74
414007	3.42
414062	4.38
414065	3.09
414067	3.21
414076	3.86

Quality Control

Analyte Symbol	Spec Grav
Unit Symbol	-
Detection Limit	0.01
Analysis Method	GRAV

414002 Orig	2.73
414002 Dup	2.75
Method Blank Method Blank	< 0.01



Date Submitted: 08-Feb-10
Invoice No.: A10-0485 (i)
Invoice Date: 26-Feb-10
Your Reference: Clay Howells

Rare Earth Metal Inc.
3250 W Arthur Street
RR#2
Thunder Bay On P7C 4V1
Canada

ATTN: Mick Stares

CERTIFICATE OF ANALYSIS

101 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 4LITHO-Quant(11+) Major Elements Fusion
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)
Code Nb Assay - XRF XRF

REPORT **A10-0485 (i)**

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Notes:

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

CERTIFIED BY :

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

Emmanuel Esemé , Ph.D.
Quality Control

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1	5	2
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
414001	50.96	13.10	10.19	0.328	2.45	6.14	3.78	5.32	0.566	0.67	6.03	99.54	9	6	39	40	4	< 20	10	100	29	2	7	190
414002	41.89	9.78	8.11	0.601	5.16	11.04	2.50	4.98	0.422	0.11	15.52	100.1	5	7	31	< 20	3	< 20	10	40	23	1	5	328
414003	37.06	5.07	10.56	0.673	8.13	13.12	0.30	4.37	0.774	0.12	20.32	100.5	4	11	32	20	5	< 20	< 10	70	23	2	6	429
414004	53.89	13.38	7.45	0.178	3.00	4.26	3.20	7.56	0.544	0.13	6.61	100.2	9	6	56	< 20	5	< 20	< 10	90	30	2	< 5	586
414005	34.68	8.05	25.32	1.155	3.43	15.36	1.12	3.36	0.454	4.30	2.12	99.34	14	36	149	< 20	11	< 20	40	760	56	6	21	230
414006	36.94	10.44	23.35	1.179	3.50	12.00	0.47	5.00	0.362	1.91	3.36	98.51	10	30	119	< 20	10	< 20	10	720	41	3	10	359
414007	22.63	6.84	30.14	1.837	5.68	15.80	0.33	2.78	0.209	4.54	7.70	98.49	9	19	101	< 20	10	< 20	70	780	46	4	13	178
414008	6.84	1.37	19.63	2.044	7.98	27.92	0.25	0.51	0.055	4.10	27.20	97.91	4	5	17	< 20	< 1	< 20	10	280	18	3	10	33
414009	9.42	2.52	31.41	1.882	5.93	22.95	0.29	0.76	0.301	3.92	17.80	97.18	7	9	132	< 20	5	< 20	20	620	38	4	16	52
414010	14.31	4.02	29.66	1.348	8.47	18.00	0.38	1.66	0.204	3.60	16.32	97.96	7	11	94	< 20	7	< 20	40	520	37	4	14	140
414011	24.16	6.48	22.27	0.669	8.47	13.24	0.73	4.48	1.035	3.03	14.49	99.05	7	9	128	< 20	18	< 20	40	460	40	4	5	1280
414012	16.86	4.63	44.28	1.583	4.23	13.77	0.27	1.40	0.356	4.01	5.89	97.28	11	21	194	< 20	12	< 20	30	960	54	6	20	115
414013	5.79	0.48	35.69	1.613	8.69	19.39	0.11	0.20	0.037	2.59	22.26	96.84	8	8	81	< 20	3	< 20	< 10	710	24	5	17	28
414014	1.46	0.26	44.01	2.339	1.96	26.97	0.03	0.03	0.023	1.50	20.47	99.04	7	4	68	< 20	5	< 20	< 10	1140	21	3	10	4
414015	2.12	0.51	27.60	2.158	3.22	32.44	0.08	0.16	0.034	3.29	24.86	96.47	7	2	26	< 20	1	< 20	< 10	860	25	4	13	17
414016	1.84	0.22	41.17	2.655	3.13	25.14	0.03	0.02	0.031	3.83	17.94	96.00	9	1	18	< 20	3	< 20	< 10	1240	25	4	15	< 2
414017	2.66	0.46	57.61	2.802	2.93	16.55	0.03	0.02	0.045	2.15	12.11	97.37	10	2	40	< 20	5	< 20	20	1080	30	5	12	2
414018	39.00	8.04	31.34	1.293	1.67	6.54	3.13	3.32	0.305	0.65	2.38	97.67	9	23	31	< 20	5	< 20	10	880	34	3	8	222
414019	61.62	15.41	5.09	0.254	0.58	2.22	5.05	7.10	0.303	0.08	1.07	98.77	1	10	< 5	< 20	< 1	< 20	< 10	170	32	< 1	< 5	298
414020	56.95	14.31	10.39	0.452	0.81	3.06	4.59	6.49	0.285	0.26	1.10	98.69	2	12	12	30	< 1	< 20	< 10	360	36	1	< 5	275
414021	9.64	2.89	74.47	1.636	0.62	5.25	0.73	0.53	0.320	2.36	0.46	98.91	10	8	106	30	13	< 20	100	1680	68	6	16	39
414022	7.25	3.23	76.79	2.137	0.68	5.43	0.25	0.39	0.352	1.61	-0.22	97.91	11	6	115	< 20	9	< 20	30	2200	68	6	15	21
414023	51.53	12.65	10.53	1.130	1.66	11.13	3.26	4.49	0.131	0.93	2.65	100.1	6	25	9	< 20	< 1	< 20	< 10	420	39	3	8	185
414024	63.70	15.16	4.62	0.188	0.57	1.89	5.63	6.08	0.232	0.06	1.32	99.44	1	10	< 5	40	< 1	< 20	< 10	110	37	1	< 5	236
414025	54.42	13.19	10.05	0.613	0.68	7.05	4.50	5.38	0.202	0.29	3.06	99.45	3	9	10	< 20	< 1	< 20	< 10	380	40	2	5	174
414026	3.83	0.62	31.22	2.247	1.01	33.02	0.05	0.04	0.107	3.28	20.84	96.27	18	8	33	< 20	< 1	30	40	1750	40	4	10	5
414027	1.93	0.52	35.30	2.316	0.74	30.97	0.02	0.02	0.252	2.85	20.61	95.52	13	3	38	< 20	< 1	20	30	1490	37	4	10	< 2
414028	24.40	4.62	40.70	2.869	2.89	15.17	0.61	1.24	0.476	1.66	2.21	96.84	25	49	64	< 20	5	< 20	< 10	2240	56	6	18	77
414029	61.20	15.28	4.97	0.467	0.95	4.21	4.84	6.62	0.121	0.29	1.20	100.1	3	11	< 5	30	< 1	< 20	< 10	210	35	1	< 5	200
414030	57.16	12.87	9.22	0.638	1.26	5.15	3.73	5.52	0.216	0.46	2.13	98.35	4	18	15	< 20	2	< 20	< 10	430	43	3	5	346
414031	43.52	12.82	13.61	1.046	2.75	10.52	1.09	6.99	0.384	0.81	4.96	98.49	4	33	26	30	5	< 20	20	670	39	3	7	528
414032	43.48	14.42	14.62	0.977	2.93	8.37	0.68	7.99	0.218	0.71	4.20	98.60	3	23	17	< 20	3	< 20	< 10	610	34	2	< 5	485
414033	45.04	15.03	13.11	1.068	2.61	8.77	0.39	8.24	0.086	0.61	2.77	97.71	2	24	9	< 20	2	< 20	< 10	620	34	2	< 5	377
414034	46.23	15.71	12.04	0.947	3.17	9.11	0.46	7.88	0.099	0.55	2.70	98.89	2	25	9	< 20	2	< 20	< 10	590	36	2	< 5	416
414035	45.10	15.44	13.06	0.982	3.30	8.45	0.49	7.85	0.110	0.52	2.87	98.17	4	30	12	< 20	3	< 20	10	630	37	2	< 5	403
414036	46.90	16.19	12.86	0.756	2.86	5.83	0.34	9.44	0.131	0.48	3.37	99.17	3	22	14	< 20	3	< 20	< 10	500	39	3	< 5	564
414037	47.19	15.62	11.04	0.924	3.24	8.17	0.38	8.47	0.164	0.51	2.41	98.12	4	34	16	< 20	2	< 20	< 10	650	37	2	< 5	447
414038	40.67	12.58	18.27	1.495	3.43	12.83	0.55	5.16	0.138	1.16	2.09	98.39	10	44	35	< 20	5	< 20	20	1000	44	4	9	196
414039	36.57	11.94	21.49	1.745	4.25	13.57	0.73	3.70	0.250	1.54	1.99	97.77	10	39	58	< 20	7	< 20	20	1110	45	4	11	117
414040	47.33	14.55	12.58	1.119	3.65	8.94	0.54	7.26	0.117	0.49	2.17	98.75	3	32	16	< 20	2	< 20	< 10	730	36	3	< 5	297
414041	46.22	15.87	12.87	1.088	3.90	7.70	0.53	7.69	0.204	0.56	2.50	99.13	4	30	21	< 20	3	< 20	< 10	800	40	3	5	398
414042	48.53	16.42	13.05	0.738	3.30	4.65	0.54	9.18	0.174	0.51	2.40	99.49	2	27	19	< 20	5	< 20	< 10	640	38	3	< 5	528
414043	34.74	11.36	33.62	1.240	3.05	6.72	0.55	5.15	0.181	0.34	2.83	99.78	5	22	59	< 20	22	< 20	120	1100	36	2	6	212
414044	27.39	6.85	12.70	0.785	8.16	16.57	0.22	4.67	0.569	0.34	20.82	99.08	5	8	43	< 20	11	< 20	40	350	30	2	< 5	714
414045	29.74	8.24	18.78	0.578	7.62	11.31	0.60	5.42	0.996	0.69	15.08	99.05	12	7	103	< 20	14	< 20	< 10	380	38	3	< 5	1200
414046	14.07	3.75	29.66	0.642	7.78	17.77	0.60	2.23	0.595	5.08	15.11	97.29	12	4	99	< 20	15	< 20	40	350	29	3	6	531
414047	18.85	4.32	50.13	2.019	4.08	7.82	0.90	1.68	0.521	1.40	5.13	96.85	30	17	73	< 20	15	< 20	30	1250	58	3	9	198
414048	16.19	3.34	57.03	2.778	3.87	8.06	0.73	0.73	0.125	0.67	4.02	97.53	31	23	37	< 20	9	< 20	< 10	1600	30	4	9	34
414049	5.84	1.08	69.17	5.346	3.17	4.94	0.11	0.31	0.048	0.94	4.65	95.62	27	13	30	< 20	13	< 20	20	1460	46	8	19	36
414050	7.91	1.79	47.91	1.250	5.03	10.93	0.14	0.22	1.157	0.63	14.98	91.95	26	4	127	< 20	13	< 20	< 10	820	104	2	12	19
414051	8.30	1.89	58.40	1.384	3.67	6.75	0.19	0.45	1.046	0.35	12.68	95.11	19	6	116	< 20	17	< 20	20	680	107	3	12	43
414052	10.08	1.73	57.28	1.023	4.41	7.50	0.05	0.49	0.839	0.27	11.83													

Activation Laboratories Ltd. Report: A10-0485 (i) rev 1

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	1	5	2
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414054	49.12	12.25	19.93	0.518	1.75	0.92	2.90	4.64	0.376	0.15	5.84	98.39	10	12	27	< 20	8	< 20	20	100	47	2	31	143
414055	9.20	2.51	77.00	2.027	0.77	1.01	0.36	0.66	0.931	0.29	2.36	97.10	11	9	98	< 20	12	< 20	40	1260	89	4	15	30
414056	23.10	5.48	56.07	1.961	1.04	2.20	1.65	2.15	0.662	0.15	1.88	96.33	11	15	62	< 20	7	< 20	< 10	1170	61	2	< 5	71
414057	60.50	15.01	7.25	0.406	0.48	1.02	5.19	6.24	0.239	0.12	2.05	98.51	6	20	10	30	< 1	< 20	< 10	180	39	2	< 5	201
414058	62.16	13.98	6.23	0.269	0.65	0.79	4.91	6.65	0.237	0.08	2.18	98.13	5	67	9	40	< 1	< 20	< 10	90	38	1	< 5	260
414059	60.96	14.81	6.69	0.294	0.92	0.76	4.71	7.00	0.258	0.09	2.13	98.62	7	19	16	30	1	< 20	< 10	130	39	1	< 5	221
414060	53.60	16.47	9.05	0.571	2.38	0.82	2.31	8.29	0.052	0.24	1.74	95.51	3	27	< 5	< 20	4	< 20	< 10	660	50	3	6	438
414061	53.81	17.57	7.60	0.683	1.74	1.74	1.97	9.09	0.034	0.17	1.05	95.47	3	27	< 5	30	< 1	< 20	< 10	670	49	2	< 5	396
414062	7.73	2.41	78.25	2.701	2.06	1.95	0.23	1.10	0.211	0.14	0.12	96.90	16	7	45	< 20	10	< 20	< 10	3940	26	4	8	110
414063	7.94	2.95	77.69	2.610	2.42	0.74	0.18	1.20	0.122	0.14	0.17	96.18	16	9	39	< 20	13	< 20	< 10	3910	41	6	14	102
414064	46.13	15.29	13.66	1.060	3.72	3.75	1.42	8.53	0.100	0.43	2.98	97.08	5	21	6	< 20	4	< 20	< 10	1220	40	2	< 5	488
414065	44.18	12.96	22.48	1.026	2.01	3.92	2.59	5.78	0.230	0.35	1.70	97.22	12	21	17	< 20	5	< 20	< 10	1080	33	2	< 5	219
414066	54.37	12.86	12.00	0.514	1.96	2.09	4.70	5.70	0.495	0.31	4.09	99.09	7	9	27	20	4	< 20	< 10	150	23	2	< 5	146
414067	37.19	7.81	21.29	1.721	4.75	11.03	2.21	3.13	0.549	1.11	6.04	96.81	15	21	64	40	9	< 20	< 10	1020	58	6	14	156
414068	30.51	8.13	15.56	1.017	4.49	20.15	0.99	3.65	0.800	1.56	10.41	97.27	15	21	121	60	14	30	20	650	23	2	6	162
414069	24.08	6.98	35.42	1.944	5.13	11.01	0.47	3.24	1.018	1.12	4.97	95.38	22	48	165	40	13	< 20	30	2620	63	5	13	188
414070	50.26	14.72	9.84	0.939	1.87	6.45	3.30	5.24	0.547	0.42	2.58	96.16	11	47	10	< 20	3	< 20	< 10	580	43	3	8	169
414071	36.31	12.19	26.28	1.217	5.65	1.71	1.01	5.40	0.350	0.62	2.30	93.03	7	34	31	< 20	6	< 20	< 10	990	114	7	18	253
414072	13.75	3.27	60.04	2.843	3.62	6.13	0.12	1.70	0.057	0.29	6.09	97.92	11	4	23	< 20	6	< 20	< 10	1690	22	< 1	< 5	84
414073	10.85	4.34	53.63	2.525	3.97	7.04	0.06	0.81	0.065	2.28	7.02	92.59	18	5	41	< 20	17	< 20	10	3300	136	15	42	65
414074	1.65	0.35	72.50	3.777	1.79	9.00	0.02	0.03	0.032	0.18	6.17	95.50	12	1	27	< 20	7	< 20	10	2120	13	2	< 5	< 2
414075	3.16	0.62	69.04	3.282	2.07	8.68	0.05	0.09	0.097	0.38	5.37	92.84	13	1	27	< 20	9	< 20	20	2050	29	3	9	5
414076	9.53	2.68	55.09	2.649	3.07	11.48	0.16	1.04	0.245	0.66	6.98	93.58	12	14	57	20	10	< 20	20	1810	59	6	14	36
414077	30.05	9.47	14.96	0.689	4.86	18.63	0.33	4.75	1.556	1.58	9.67	96.56	15	32	166	50	24	40	40	400	24	2	6	162
414078	16.75	3.34	53.99	2.729	3.51	8.80	0.15	1.41	0.346	0.65	3.08	94.75	16	16	65	30	14	20	40	2690	50	5	15	45
414079	25.73	7.94	16.55	1.050	4.05	20.82	0.31	5.04	0.797	1.58	13.46	97.33	12	26	112	70	14	30	20	940	31	2	7	167
414080	27.32	8.15	19.77	1.119	4.05	19.46	0.25	4.54	0.793	1.38	10.74	97.57	14	38	128	60	16	30	40	940	31	2	7	142
414081	26.49	7.98	17.38	0.913	4.25	21.06	0.30	4.40	0.828	1.58	11.94	97.12	14	34	125	60	16	40	30	680	27	2	6	146
414082	27.46	8.19	15.88	0.867	4.44	20.45	0.50	4.47	0.809	1.55	12.55	97.16	15	25	122	80	15	50	40	470	27	2	8	129
414083	24.84	7.19	22.09	1.116	4.52	18.92	0.41	4.19	0.751	1.44	11.62	97.08	14	16	122	50	14	30	30	1380	47	3	9	142
414084	25.11	7.90	16.65	1.118	4.32	22.45	0.44	4.28	0.744	1.70	13.56	98.27	12	18	114	50	18	30	20	610	23	2	6	122
414085	25.67	7.39	16.74	1.111	4.74	21.46	0.30	4.18	0.676	1.49	14.05	97.80	12	16	109	70	13	30	30	590	23	2	6	110
414086	32.37	9.41	16.95	0.848	3.94	15.26	0.80	6.39	0.635	1.11	11.34	99.06	6	6	68	80	10	20	10	710	22	1	< 5	368
414087	26.74	7.80	19.50	1.064	4.27	19.26	0.63	4.42	0.688	1.91	11.43	97.71	11	12	95	70	13	30	30	760	23	2	9	249
414088	27.01	7.72	18.35	1.061	4.08	20.87	1.18	3.23	0.651	1.54	12.10	97.80	12	18	105	80	14	40	30	590	23	2	8	65
414089	26.78	7.66	18.80	1.122	4.24	20.47	0.88	3.58	0.644	1.58	12.05	97.79	11	18	105	70	13	30	30	660	23	2	8	79
414090	26.68	7.64	17.80	0.916	4.86	20.19	0.62	3.90	0.638	1.59	13.36	98.19	11	13	108	70	13	30	30	500	21	2	7	82
414091	26.56	7.62	17.59	1.092	4.11	21.28	0.44	3.89	0.613	1.66	12.60	97.47	11	15	96	70	12	30	30	630	22	2	7	97
414092	29.31	7.99	17.46	1.065	4.08	20.10	0.54	4.56	0.635	1.64	12.01	99.39	12	19	103	60	12	30	30	640	24	2	8	156
414093	28.01	8.07	17.47	0.905	4.18	20.18	0.83	3.98	0.697	1.64	12.01	97.98	12	17	111	70	13	30	30	520	21	2	7	90
414094	26.24	8.05	16.98	0.856	4.50	22.17	0.31	4.34	0.746	1.73	13.18	99.10	12	13	126	70	14	30	40	510	21	2	7	132
414095	26.66	7.95	17.94	0.972	4.09	21.24	0.35	4.14	0.727	1.69	11.93	97.69	13	16	121	70	15	30	60	560	23	2	7	121
414096	27.38	7.70	16.03	1.038	3.84	21.98	0.31	4.27	0.633	1.73	12.89	97.80	12	19	104	60	13	30	30	560	23	2	6	111
414097	27.30	8.23	15.43	0.772	4.41	21.76	0.34	4.63	0.787	1.82	13.10	98.57	13	14	122	60	15	30	30	450	21	2	6	116
414098	20.89	5.94	28.39	1.560	3.31	19.42	0.18	3.36	0.522	1.28	11.48	96.33	12	13	89	50	12	30	30	1070	22	2	7	109
414099	74.20	11.78	2.86	0.064	0.28	0.35	4.11	4.93	0.039	0.04	0.45	99.10	5	4	< 5	40	< 1	< 20	< 10	110	35	2	< 5	394
414100	4.76	1.30	50.76	2.527	2.32	17.60	0.10	0.31	0.105	1.79	10.92	92.49	11	5	29	20	5	< 20	20	2470	39	6	17	16
414101	33.85	9.04	15.35	0.936	3.63	16.12	1.47	5.17	0.428	1.39	11.32	98.73	9	16	66	60	8	20	< 10	490	25	2	7	179

Activation Laboratories Ltd.

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Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	2	2	4		2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414001	365	114	429		3	1.1	< 0.2	13	< 0.5	1.7	863	< 0.4	471	739	81.3	262	39.6	10.4	29.0	4.3	22.0	4.0	11.1	1.52
414002	119	56	557		2	1.9	< 0.2	14	0.7	5.5	435	< 0.4	146	225	26.5	86.2	14.3	3.19	10.6	1.8	10.5	2.0	5.9	0.93
414003	94	70	361	< 2	1.1	< 0.2	11	0.6	4.0	261	< 0.4	126	208	25.3	86.9	16.1	3.96	12.8	2.2	13.1	2.5	7.7	1.26	
414004	142	46	337	< 2	1.1	< 0.2	28	< 0.5	9.7	629	< 0.4	172	246	25.3	76.9	10.6	2.08	7.7	1.3	7.8	1.6	4.9	0.78	
414005	1450	433	803		7	3.0	< 0.2	17	< 0.5	5.0	762	0.5	2840	4490	462	1550	214	53.2	143	18.5	93.0	15.8	41.5	5.14
414006	949	227	1032		4	3.7	< 0.2	16	< 0.5	8.2	694	< 0.4	1370	2160	218	731	104	27.2	76.9	10.0	49.6	8.7	22.2	2.90
414007	1050	331	755		7	3.0	< 0.2	13	< 0.5	4.7	995	< 0.4	1680	2650	268	939	140	37.8	99.8	13.3	68.9	12.6	33.0	4.28
414008	808	218	296		3	1.0	< 0.2	8	< 0.5	1.0	123	< 0.4	854	1580	181	682	110	30.1	76.4	9.6	48.6	8.8	23.0	3.17
414009	1358	314	324		4	1.1	< 0.2	10	< 0.5	1.9	628	< 0.4	1870	3130	338	1160	165	43.8	110	14.0	69.3	12.2	31.5	3.95
414010	950	288	445		4	1.7	< 0.2	11	< 0.5	5.0	784	< 0.4	1650	2690	289	996	146	39.2	101	12.5	64.5	11.4	29.3	3.82
414011	655	103	364	< 2	1.3	< 0.2	27	< 0.5	38.1	406	< 0.4	465	894	109	375	57.5	11.7	36.4	4.9	23.2	4.1	10.4	1.34	
414012	1102	466	531		5	2.0	< 0.2	17	0.6	3.7	564	0.5	2550	4370	470	1630	234	61.2	156	21.0	103	18.1	46.7	5.75
414013	354	348	283		4	1.5	< 0.2	13	< 0.5	0.8	277	0.6	1360	2680	316	1210	192	52.4	124	16.6	81.9	14.4	38.0	4.87
414014	1700	193	180		5	1.1	< 0.2	10	0.8	< 0.5	210	0.4	1150	2230	255	926	134	36.1	82.6	10.0	47.7	8.4	21.9	2.79
414015	1916	225	280		3	1.3	< 0.2	7	1.2	< 0.5	511	0.7	1350	2520	284	1040	141	35.8	82.5	10.4	52.2	9.6	25.7	3.47
414016	1727	235	195		6	1.1	< 0.2	13	1.5	< 0.5	234	0.9	1600	3060	347	1210	147	34.4	71.9	9.3	50.5	9.5	27.7	3.95
414017	982	263	255		17	1.2	< 0.2	11	0.9	< 0.5	247	0.4	1820	3230	346	1140	145	36.2	78.1	10.2	55.7	10.1	26.8	3.76
414018	764	154	1363		15	4.9	< 0.2	51	0.8	6.8	729	< 0.4	690	1200	135	449	64.3	16.3	44.4	6.4	34.4	6.2	16.8	2.48
414019	729	32	328		12	1.2	< 0.2	8	< 0.5	3.8	1002	< 0.4	109	168	18.3	63.7	10.5	2.27	7.8	1.2	6.4	1.2	3.7	0.61
414020	694	63	444		10	1.5	< 0.2	11	< 0.5	4.2	791	< 0.4	210	370	44.0	150	23.6	5.54	17.2	2.6	13.6	2.6	7.0	1.06
414021	528	637	903		24	4.2	< 0.2	43	< 0.5	2.6	175	0.6	2210	3880	418	1400	221	62.9	193	29.4	149	25.7	63.9	8.02
414022	579	702	646		25	3.0	< 0.2	48	6.2	1.3	276	< 0.4	2220	3930	424	1440	238	73.5	228	34.5	177	29.2	72.6	9.25
414023	666	339	631		4	2.3	< 0.2	19	< 0.5	2.1	351	< 0.4	821	1380	157	532	83.7	22.3	69.3	11.8	66.4	12.6	35.5	5.21
414024	235	54	628		12	2.1	< 0.2	5	< 0.5	1.5	241	< 0.4	229	349	38.0	125	18.6	2.69	12.8	1.9	10.4	2.0	5.8	0.92
414025	646	228	659		4	2.3	< 0.2	9	< 0.5	1.1	346	< 0.4	645	1230	142	481	75.3	17.4	59.2	9.5	50.2	9.1	24.8	3.54
414026	2428	475	360		4	2.3	< 0.2	14	0.6	< 0.5	805	1.4	1210	2380	279	998	157	45.8	126	22.6	136	26.7	73.7	10.6
414027	2401	471	285		11	1.7	< 0.2	17	< 0.5	< 0.5	648	1.6	1350	2660	303	1060	168	49.3	130	19.6	110	20.0	54.6	7.57
414028	1069	765	1280		13	4.8	< 0.2	109	< 0.5	2.6	744	1.1	2250	3980	431	1510	234	67.9	197	29.6	155	27.4	76.8	10.7
414029	661	88	372		19	1.3	< 0.2	8	< 0.5	2.0	2174	< 0.4	212	363	42.0	143	22.8	5.90	17.8	2.9	17.2	3.5	10.3	1.57
414030	1133	234	731		4	2.5	< 0.2	20	< 0.5	6.0	3174	< 0.4	432	715	78.5	258	41.2	10.6	35.8	6.8	42.8	8.8	27.2	4.37
414031	1706	246	798		2	2.8	< 0.2	65	< 0.5	13.1	4438	< 0.4	690	1130	123	404	63.9	16.9	51.6	8.3	44.3	8.3	23.6	3.37
414032	1655	143	619	< 2	2.0	< 0.2	14	< 0.5	9.9	3901	< 0.4	477	803	89.6	293	45.4	12.3	33.6	5.1	26.7	5.0	14.1	2.06	
414033	1886	126	635		2	2.1	< 0.2	11	< 0.5	5.6	4276	< 0.4	481	819	89.7	300	45.7	12.6	32.3	4.8	24.1	4.4	12.5	1.78
414034	1724	212	694	< 2	2.4	< 0.2	12	0.6	4.6	4133	< 0.4	456	765	88.1	288	47.6	14.3	39.4	6.6	37.8	7.4	21.3	3.10	
414035	1654	163	753	< 2	2.6	< 0.2	14	< 0.5	5.2	4406	< 0.4	509	849	94.3	311	49.1	13.8	36.4	5.6	29.9	5.6	15.7	2.26	
414036	1124	126	809	< 2	2.4	< 0.2	18	< 0.5	10.4	2991	< 0.4	438	730	84.8	284	43.1	11.2	29.1	4.3	22.7	4.3	12.2	1.80	
414037	1915	220	786	< 2	2.4	< 0.2	14	< 0.5	8.8	7473	< 0.4	558	892	97.4	317	51.6	15.2	42.0	6.6	37.7	7.2	20.9	3.12	
414038	1932	395	702		2	2.7	< 0.2	21	< 0.5	3.2	5647	< 0.4	1200	1980	211	733	113	33.1	89.3	13.5	73.7	13.6	38.6	5.56
414039	2007	512	604	< 2	2.6	< 0.2	20	< 0.5	2.0	3950	0.4	1580	2580	265	908	138	41.3	112	16.8	90.8	16.6	48.8	7.03	
414040	2194	212	610	< 2	2.1	< 0.2	11	< 0.5	4.5	8918	< 0.4	592	996	113	381	60.7	17.4	45.2	6.9	38.7	7.3	20.8	3.03	
414041	1719	198	735	< 2	2.5	< 0.2	11	< 0.5	6.5	3940	< 0.4	639	1060	122	404	62.2	17.2	42.4	6.5	35.9	6.8	18.9	2.64	
414042	1988	151	732	< 2	2.5	< 0.2	12	< 0.5	9.7	7117	< 0.4	429	731	83.9	281	44.5	12.2	32.3	5.0	26.7	5.1	14.2	1.97	
414043	1590	229	591		3	3.5	< 0.2	16	< 0.5	3.9	3745	0.5	466	821	98.0	348	58.8	17.0	44.1	7.1	41.9	8.2	24.1	3.79
414044	364	119	443	< 2	1.7	< 0.2	22	0.6	19.4	1318	< 0.4	198	353	42.1	144	24.5	6.49	19.2	3.2	19.1	3.9	12.2	1.91	
414045	255	99	450	< 2	1.6	< 0.2	59	< 0.5	33.8	1214	< 0.4	127	246	30.5	107	19.7	5.22	16.8	2.8	16.0	3.2	9.5	1.48	
414046	1048	202	959		6	3.7	< 0.2	30	0.5	14.7	720	< 0.4	408	889	114	416	71.4	17.4	54.0	7.6	41.2	7.5	20.6	2.95
414047	579	358	1309		10	5.3	< 0.2	68	< 0.5	6.0	1624	0.8	859	1610	182	658	127	40.7	123	18.8	92.0	15.6	38.1	5.14
414048	474	395	851		8	3.1	< 0.2	39	< 0.5	1.1	1147	0.6	861	1780	217	835	154	45.3	122	18.5	94.5	16.9	41.9	5.65
414049	374	728	488		15	2.3	< 0.2	15	2.2	1.2	2401	1.6	2180	4960	574	2210	344	95.5	233	30.2	154	27.2	73.3	9.79
414050	552	175	1160		7	4.2	< 0.2	207	1.1	1.0	1277	1.1	363	756	95.0	333	66.6	20.9	60.4	8.8	44.2	7.1	18.2	2.41
414051	523	144	1327		5	4.5	< 0.2	199	1.1	3.1	1255	0.8	388	815	103	350	69.7	21.5	58.4	7.8	37.6	6.1	15.3	1.96
414052	568	153	1150		6	4.6	< 0.2	226	1.2	3.8	1593	1.0	529	1050	131	451	100	29.8	81.2	10.3	46.2	7.3	16.9	2.15

Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	2	2	4		2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
414054	330	162	621		3	2.2	< 0.2	61	0.6	2.1	2281	0.8	288	467	55.5	189	44.6	14.2	41.1	6.1	31.9	5.6	15.2	2.12
414055	406	313	1267		6	4.8	< 0.2	231	< 0.5	1.2	1170	1.5	810	1700	206	781	187	59.7	167	23.1	107	16.9	38.6	5.15
414056	412	91	1416		4	4.7	< 0.2	134	< 0.5	1.2	3287	0.7	247	409	47.8	159	30.4	8.98	26.3	3.8	19.4	3.3	9.1	1.34
414057	217	84	741		9	2.5	< 0.2	12	< 0.5	0.6	2362	< 0.4	242	378	44.8	152	27.9	6.63	20.5	2.9	15.8	2.9	8.4	1.29
414058	188	72	1225		11	3.7	< 0.2	8	< 0.5	0.5	2601	< 0.4	221	307	34.8	114	21.2	4.57	16.7	2.5	13.6	2.5	6.9	1.05
414059	296	75	781		9	2.4	< 0.2	17	< 0.5	1.0	2761	< 0.4	229	353	41.1	136	24.7	5.68	18.8	2.7	14.2	2.5	7.2	1.14
414060	2307	177	1600		17	4.7	< 0.2	19	< 0.5	6.1	20510	< 0.4	537	860	95.2	306	60.3	18.4	49.6	6.9	34.1	6.0	16.4	2.38
414061	3192	186	1550		25	4.5	< 0.2	17	< 0.5	7.1	25380	< 0.4	372	565	62.0	204	41.8	14.1	39.5	6.0	32.1	6.0	16.7	2.48
414062	178	437	727		29	2.4	< 0.2	72	< 0.5	2.7	3649	6.1	728	1610	204	834	209	62.3	160	20.8	102	17.2	44.3	5.78
414063	129	547	539		33	2.1	< 0.2	50	< 0.5	4.3	6330	4.5	1700	3450	407	1580	321	90.2	223	27.8	129	22.0	55.1	7.21
414064	1999	156	1363		5	4.0	< 0.2	18	< 0.5	21.9	15320	< 0.4	306	548	65.5	223	43.1	13.6	38.4	5.8	31.0	5.6	15.6	2.29
414065	1786	207	985		15	2.9	< 0.2	27	< 0.5	7.3	16300	0.6	521	916	107	358	68.8	21.0	59.7	8.7	44.4	7.7	20.1	2.72
414066	225	90	877		6	2.6	< 0.2	14	0.5	0.9	2012	< 0.4	161	260	30.3	98.8	17.3	4.07	16.5	2.9	17.4	3.3	8.8	1.31
414067	1664	466	846		9	2.6	< 0.2	27	0.6	8.0	5858	0.8	2680	4350	447	1410	205	64.3	202	26.5	114	17.3	38.3	4.56
414068	5863	147	440		3	1.3	< 0.2	11	< 0.5	7.0	7142	< 0.4	683	1040	116	376	59.3	16.9	44.0	5.8	29.4	5.3	13.8	1.89
414069	4544	893	733		11	2.4	< 0.2	47	< 0.5	5.9	19000	1.6	2820	4240	410	1310	236	79.1	237	35.4	178	29.2	73.6	9.19
414070	5847	535	883		15	2.5	< 0.2	43	0.6	2.8	25540	< 0.4	2110	2690	238	701	101	33.1	99.5	15.5	82.3	15.3	39.1	5.43
414071	2976	1264	976		15	2.9	< 0.2	55	< 0.5	6.3	38240	1.4	4310	6810	661	1970	345	120	366	53.3	259	43.1	105	13.1
414072	1276	76	250		68	0.8	< 0.2	32	< 0.5	< 0.5	178	1.4	126	273	34.9	114	18.6	6.76	15.0	2.8	16.4	3.2	9.0	1.27
414073	3108	1511	251		35	1.5	< 0.2	63	< 0.5	1.6	11650	1.2	6370	13900	1520	4790	697	164	480	72.8	387	68.6	175	22.8
414074	4999	96	136		78	0.6	< 0.2	21	< 0.5	< 0.5	537	1.4	772	1270	127	367	50.1	15.7	34.3	4.8	24.1	4.2	11.3	1.52
414075	7012	220	239		127	1.1	< 0.2	35	< 0.5	< 0.5	2010	1.8	2840	3890	334	894	110	29.5	65.1	9.6	52.4	9.3	25.3	3.42
414076	10730	517	395		69	2.0	< 0.2	50	< 0.5	1.1	8574	1.2	4800	6300	506	1620	235	56.6	155	20.5	108	19.2	52.2	7.02
414077	6708	113	442	< 2		1.6	< 0.2	11	< 0.5	3.9	14090	0.4	550	763	82.2	270	40.9	11.2	27.8	4.1	21.3	3.8	10.1	1.33
414078	3873	580	529		60	2.6	< 0.2	64	< 0.5	1.3	4503	2.1	2620	4010	387	1220	212	63.2	164	22.9	122	21.6	54.8	7.34
414079	7221	227	401		3	1.3	< 0.2	13	< 0.5	5.7	9130	0.5	928	1330	144	489	83.6	23.6	59.6	8.4	42.3	7.7	19.9	2.68
414080	6662	211	468		7	1.5	< 0.2	18	0.5	1.9	8513	0.6	832	1240	142	485	80.2	22.5	55.4	7.9	41.5	7.4	18.8	2.49
414081	7647	153	403		5	1.3	< 0.2	14	< 0.5	2.8	6988	< 0.4	731	1050	119	410	67.9	18.3	43.0	5.8	29.4	5.1	13.2	1.74
414082	6807	147	468		10	2.3	< 0.2	10	< 0.5	3.8	7501	< 0.4	798	1200	125	420	67.3	18.1	42.5	5.8	28.9	5.1	13.5	1.78
414083	6882	249	376		7	1.3	< 0.2	18	< 0.5	4.9	9967	0.4	1540	2150	207	637	91.4	28.2	76.6	9.6	44.6	7.7	19.5	2.56
414084	5681	135	339	< 2		1.1	< 0.2	8	< 0.5	2.9	5166	0.5	731	1140	125	421	62.3	16.7	40.2	5.5	27.6	5.0	13.0	1.76
414085	5722	136	300	< 2		1.0	< 0.2	9	< 0.5	1.6	4657	0.5	794	1220	134	427	59.7	16.0	38.1	5.3	27.0	4.9	13.1	1.74
414086	3614	71	164	< 2		0.6	< 0.2	8	< 0.5	23.0	4477	< 0.4	357	580	64.8	211	29.9	8.01	19.9	2.8	14.4	2.6	6.8	0.90
414087	4812	111	365	< 2		1.2	< 0.2	10	< 0.5	17.0	3622	< 0.4	606	967	111	362	52.0	13.6	33.7	4.7	23.7	4.2	10.9	1.45
414088	5670	118	357	< 2		1.2	< 0.2	12	< 0.5	4.6	4935	< 0.4	648	1020	114	376	55.2	15.0	35.6	4.9	25.2	4.5	11.9	1.57
414089	6536	131	362	< 2		1.2	< 0.2	11	< 0.5	3.2	4771	< 0.4	692	1120	128	427	62.9	16.8	40.0	5.4	27.4	4.9	12.6	1.70
414090	5868	107	375	< 2		1.1	< 0.2	8	< 0.5	2.1	4971	< 0.4	616	936	103	339	49.9	13.5	32.2	4.4	22.3	4.0	10.4	1.38
414091	6006	134	423	< 2		1.3	< 0.2	15	< 0.5	1.4	4217	0.5	757	1210	135	450	64.8	17.3	40.8	5.7	28.7	5.1	13.2	1.69
414092	5426	143	390	< 2		1.1	< 0.2	10	< 0.5	2.3	4344	0.6	777	1220	135	453	64.7	17.4	42.0	5.6	28.3	5.1	13.3	1.84
414093	5330	110	377	< 2		1.2	< 0.2	8	< 0.5	2.9	4643	< 0.4	578	899	101	341	50.2	13.4	33.1	4.4	22.5	4.0	10.6	1.40
414094	6036	104	357	< 2		1.2	< 0.2	8	< 0.5	1.7	5105	0.5	547	850	96.1	321	47.9	12.8	31.0	4.2	20.9	3.7	9.8	1.29
414095	5145	105	387	< 2		1.2	< 0.2	9	< 0.5	1.7	5262	< 0.4	626	968	106	341	48.4	13.2	31.4	4.3	21.9	3.8	10.2	1.37
414096	6592	122	405	< 2		1.2	< 0.2	23	< 0.5	1.9	5196	< 0.4	792	1180	130	422	58.4	15.6	36.3	4.9	24.9	4.4	11.7	1.56
414097	5681	99	358	< 2		1.1	< 0.2	7	< 0.5	1.9	6314	0.5	543	819	92.9	305	45.5	12.2	29.6	3.9	20.2	3.6	9.5	1.23
414098	7179	125	299		11	0.9	< 0.2	22	< 0.5	1.9	6038	0.6	977	1510	164	512	66.1	16.7	36.8	4.9	25.5	4.6	12.1	1.65
414099	151	19	121	< 2		< 0.5	< 0.2	13	< 0.5	0.6	286	< 0.4	78.0	146	16.1	49.8	8.4	1.04	5.3	0.8	4.3	0.8	2.1	0.32
414100	11600	276	144		165	1.4	< 0.2	9	< 0.5	< 0.5	6647	1.3	2940	5220	515	1830	251	56.7	109	12.3	60.0	11.1	29.9	4.10
414101	4038	99	352		6	1.1	< 0.2	9	< 0.5	3.8	5832	< 0.4	498	790	90.4	305	44.1	11.6	27.5	3.8	20.1	3.5	9.7	1.34

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414001	9.0	1.32	8.3	6.9	3	0.3	15	81.9	8.2	0.035
414002	6.2	0.94	11.7	1.3	8	0.5	14	44.5	3.5	0.013
414003	8.2	1.22	5.9	2.5	15	0.5	26	84.4	4.1	0.030
414004	5.6	0.92	8.1	2.6	5	0.9	13	25.1	3.9	0.016
414005	27.6	3.81	16.6	23.3	3	0.6	46	617	39.6	0.073
414006	16.9	2.46	19.8	20.9	3	1.3	31	292	21.0	0.060
414007	25.3	3.66	13.3	10.0	2	0.9	36	343	29.2	0.084
414008	18.8	2.75	6.3	2.9	1	0.1	18	157	15.1	0.018
414009	22.2	3.17	6.4	5.2	< 1	0.2	34	325	32.3	0.156
414010	21.5	3.11	8.0	7.0	1	0.5	39	255	28.5	0.086
414011	7.5	1.09	7.6	6.8	2	1.9	15	36.5	16.6	0.077
414012	31.0	4.19	9.1	8.5	2	0.3	49	565	36.1	0.101
414013	28.0	4.01	4.2	0.2	< 1	< 0.1	53	257	16.9	0.179
414014	16.7	2.51	2.5	< 0.1	< 1	< 0.1	38	308	13.1	0.152
414015	21.4	3.34	3.4	0.3	< 1	< 0.1	78	189	23.6	0.223
414016	24.4	3.73	3.8	0.2	< 1	< 0.1	61	268	18.6	0.170
414017	22.6	3.38	4.9	0.5	< 1	< 0.1	22	320	21.0	0.129
414018	16.7	2.81	32.4	19.0	4	0.6	28	161	25.1	0.162
414019	4.5	0.80	8.4	5.3	2	0.8	23	24.8	3.3	0.020
414020	7.5	1.28	11.0	7.2	2	0.8	28	48.1	5.2	0.038
414021	46.0	6.24	19.2	9.4	4	< 0.1	76	616	31.3	0.216
414022	52.2	7.33	13.5	8.0	2	< 0.1	57	1000	42.6	0.263
414023	33.4	5.11	15.0	10.3	3	0.4	32	207	15.2	0.093
414024	6.7	1.19	15.0	5.1	3	0.5	13	30.2	3.3	0.017
414025	22.9	3.58	14.5	12.2	2	0.4	39	208	14.3	0.126
414026	68.8	10.7	6.0	< 0.1	1	< 0.1	331	375	14.1	0.175
414027	46.0	6.82	5.7	0.4	< 1	< 0.1	377	477	20.8	0.308
414028	66.2	9.92	25.0	7.7	1	0.3	219	813	38.5	0.292
414029	11.2	1.90	7.7	3.6	< 1	0.5	19	49.5	5.0	0.029
414030	30.4	4.97	22.2	29.6	3	0.8	33	173	15.5	0.116
414031	20.6	2.97	21.8	30.4	2	1.8	48	223	11.8	0.136
414032	12.8	1.91	12.2	31.8	2	1.6	49	128	7.6	0.102
414033	11.0	1.62	12.8	32.3	< 1	1.2	121	114	8.1	0.114
414034	19.3	2.88	13.7	34.9	2	0.8	67	98.5	9.8	0.112
414035	14.0	2.14	15.1	36.6	1	1.1	74	148	10.9	0.119
414036	10.9	1.62	14.9	36.8	1	1.8	28	120	11.5	0.119
414037	20.6	3.22	16.7	35.5	1	1.4	40	128	9.4	0.118
414038	34.0	5.18	13.8	31.0	1	1.7	72	325	19.9	0.136
414039	45.8	6.75	10.8	22.5	1	1.3	79	349	24.3	0.209
414040	19.6	2.96	12.2	36.7	< 1	0.7	68	168	19.4	0.115
414041	16.2	2.44	13.2	36.3	< 1	0.9	66	160	13.0	0.105
414042	12.6	1.94	13.4	33.3	1	1.4	94	130	12.0	0.090
414043	26.1	4.07	9.3	31.1	1	1.3	112	157	39.5	0.155
414044	12.9	2.09	7.7	13.9	7	1.2	18	77.0	8.9	0.047
414045	10.2	1.63	11.0	14.4	7	1.7	26	45.6	23.0	0.152
414046	18.3	2.93	12.6	8.9	5	0.8	79	85.5	59.6	0.386
414047	31.6	4.86	27.7	8.4	< 1	0.8	65	1070	38.5	0.401
414048	33.0	4.97	15.7	2.0	< 1	0.2	35	1150	20.8	0.155
414049	59.7	8.88	8.3	< 0.1	2	< 0.1	297	1240	45.3	0.076
414050	14.0	2.10	43.9	45.0	6	0.2	81	1710	95.7	2.309
414051	11.6	1.83	40.4	19.4	2	0.3	38	1140	62.5	1.513
414052	12.6	1.86	33.8	13.2	2	0.3	24	1880	66.6	1.247

Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
414054	13.8	2.26	17.2	14.8	7	0.6	16	440	66.3	0.492
414055	29.2	3.89	33.5	15.8	3	0.3	47	3460	68.7	1.240
414056	9.3	1.72	33.4	12.9	3	0.3	30	648	30.9	0.932
414057	9.0	1.60	11.7	4.3	7	0.4	9	84.6	6.8	0.036
414058	7.3	1.30	17.3	15.0	8	0.5	8	65.1	10.5	0.035
414059	8.1	1.51	15.3	5.2	14	0.6	8	57.9	3.4	0.020
414060	15.8	2.56	26.3	58.5	2	1.8	56	220	25.3	0.072
414061	16.9	2.79	30.7	66.9	1	1.8	77	155	11.0	0.070
414062	34.3	4.96	13.2	3.7	< 1	0.6	202	2180	20.4	0.331
414063	41.7	5.89	10.8	2.4	< 1	0.8	222	2230	27.9	0.273
414064	15.1	2.41	25.0	48.8	1	2.2	46	202	8.9	0.133
414065	17.2	2.70	20.4	22.5	< 1	1.0	46	259	10.2	0.091
414066	8.8	1.39	16.7	4.2	43	0.4	14	61.2	2.9	0.049
414067	26.7	4.34	18.8	9.4	4	0.6	16	405	6.0	0.115
414068	11.7	1.83	7.4	12.0	< 1	0.6	43	166	5.4	0.296
414069	54.0	8.08	15.5	9.5	1	0.9	93	1070	14.6	0.079
414070	35.0	5.44	18.3	23.0	5	0.8	116	127	12.8	0.138
414071	76.6	11.1	18.5	22.8	3	1.4	48	619	18.4	0.090
414072	8.3	1.36	4.3	5.2	2	0.3	25	323	15.1	0.082
414073	135	19.5	10.0	1.4	< 1	0.7	167	939	34.0	0.089
414074	9.0	1.29	2.4	< 0.1	< 1	< 0.1	43	402	14.6	0.091
414075	20.3	3.02	3.3	1.0	< 1	< 0.1	99	854	26.5	0.162
414076	42.1	6.29	6.2	< 0.1	< 1	< 0.1	78	737	19.0	0.083
414077	8.2	1.30	8.3	13.3	< 1	0.7	128	97.9	5.6	0.070
414078	43.8	6.41	8.4	4.9	< 1	< 0.1	57	893	28.3	0.140
414079	15.7	2.29	8.0	10.4	2	0.8	119	193	6.5	0.097
414080	14.5	2.15	9.3	12.2	< 1	0.7	133	222	8.4	0.092
414081	10.6	1.61	7.6	13.1	< 1	0.5	124	177	6.2	0.083
414082	10.8	1.62	7.2	31.7	2	< 0.1	69	177	16.5	0.098
414083	15.3	2.27	7.3	10.1	< 1	0.6	85	331	5.7	0.089
414084	10.8	1.67	5.9	12.8	< 1	0.5	68	179	8.1	0.076
414085	10.5	1.61	5.6	13.3	< 1	0.5	53	177	7.5	0.074
414086	5.5	0.84	3.3	9.1	< 1	1.0	23	54.4	2.9	0.085
414087	8.7	1.36	6.7	10.8	< 1	0.9	33	133	5.5	0.091
414088	9.4	1.45	6.5	14.9	< 1	0.5	42	169	8.0	0.080
414089	10.1	1.53	6.1	14.1	< 1	0.5	48	169	7.3	0.077
414090	8.3	1.27	6.0	14.5	< 1	0.4	32	135	6.8	0.074
414091	10.0	1.55	7.2	15.9	< 1	0.3	63	172	9.7	0.082
414092	11.0	1.68	7.8	17.0	< 1	0.5	67	163	9.6	0.078
414093	8.3	1.26	6.3	15.1	< 1	0.4	52	131	6.3	0.077
414094	7.7	1.18	6.3	14.6	< 1	0.3	75	133	5.6	0.072
414095	8.4	1.32	6.8	14.5	< 1	0.2	85	141	6.8	0.084
414096	9.3	1.44	7.0	15.2	< 1	0.2	56	157	8.5	0.073
414097	7.4	1.12	6.2	15.5	< 1	0.3	32	121	6.0	0.069
414098	10.1	1.60	5.4	9.1	< 1	0.3	65	222	10.5	0.087
414099	2.3	0.47	4.3	37.8	3	0.5	16	22.5	28.6	0.075
414100	24.5	3.67	2.9	0.3	1	< 0.1	264	676	19.9	0.066
414101	8.3	1.36	7.1	13.6	1	0.6	54	120	7.6	0.073

Quality Control																									
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
WMG-1 Meas																750	202	2480	6150	130	10			9	
WMG-1 Cert																770	200	2700	5900	110	10.3			7.00	
DH-1a Meas																									
DH-1a Cert																									
TAN-1 Meas																								2530	
TAN-1 Cert																								2700	
NIST 694 Meas	11.27	1.87	0.73	0.013	0.34	42.78	0.88	0.54	0.114	30.11					1683										
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740										
DNC-1 Meas	46.71	18.15	9.68	0.147	10.01	11.36	1.90	0.22	0.477	0.07			31	< 1	159	250	56	240	100	70	14	1	< 5	4	
DNC-1 Cert	47.0	18.3	9.93	0.149	10.1	11.3	1.87	0.234	0.480	0.0900			31.0	1.00	148	285	54.7	247	96.0	66.0	15.0	1.30	0.200	4.50	
GBW 07113 Meas	73.01	12.99	3.56	0.180	0.14	0.68	2.50	5.47	0.281	0.05			5	4	< 5										
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00										
GXR-2 Meas																		8	< 20	80	580	33		22	76
GXR-2 Cert																		36.0	8.60	21.0	76.0	530	37.0	25.0	78.0
OKA-2 Meas																									
OKA-2 Cert																									
BE-N Meas																									
BE-N Cert																									
AC-E Meas																									
AC-E Cert																									
NOD-A-1 Meas																< 20	> 1000	5130	1040	590					
NOD-A-1 Cert																4.00	3110	6360	1110	587					
OKA-1 Meas																									
OKA-1 Cert																									
W-2a Meas	52.60	15.45	10.70	0.166	6.27	11.11	2.25	0.63	1.077	0.14			35	< 1	288	80	42	70	110	90	18	2	< 5	19	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20	21.0	
SARM-62 Meas																									
SARM-62 Cert																									
SY-4 Meas	49.41	20.76	6.01	0.107	0.50	8.08	6.91	1.66	0.288	0.13			1	3	6										
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0										
CTA-AC-1 Meas																									
CTA-AC-1 Cert																									
BIR-1a Meas	47.95	15.95	11.36	0.172	9.49	13.62	1.85	0.02	0.988	0.04			44	< 1	351	370	52	160	130	80	16	2	< 5	< 2	
BIR-1a Cert	47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960	0.0500			44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50	0.440	0.250	
NCS DC86312 Meas																									
NCS DC86312 Cert																									
VS-N Meas																									
VS-N Cert																									
NCS DC70014 Meas																		25	70	2590	7390	25			
NCS DC70014 Cert																		26.2	70.9	2600.00	7400.00	25.2			
IGS 40 Meas																									
IGS 40 Cert																									
NCS DC70009 (GBW07241) Meas																	30	3	< 20	990	110	17	11	71	507
NCS DC70009 (GBW07241) Cert																	30	3.7	2.8	960.000	100.000	16.5	11.2	69.9	500.00
OREAS 100a (Fusion) Meas																			17	180					
OREAS 100a (Fusion) Cert																			18.1	169					
OREAS 101a (Fusion) Meas																			48	440					
OREAS 101a (Fusion) Cert																			48.8	434					
JR-1 Meas																									
JR-1 Cert																									
SX18-01 Meas																									
SX18-01 Cert																									
SX18-04 Meas																									

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Quality Control																									
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
SARM 3 Meas																			10	480					195
SARM 3 Cert																			13	395					190
414015 Orig	2.12	0.50	27.63	2.160	3.22	32.66	0.08	0.16	0.034	3.33	24.86	96.76	7	2	25	< 20	1	< 20	10	840	25	4	13	17	
414015 Dup	2.12	0.51	27.58	2.156	3.22	32.22	0.08	0.16	0.035	3.25	24.86	96.18	7	2	27	< 20	1	< 20	< 10	870	25	4	13	16	
414030 Orig	57.16	12.87	9.22	0.638	1.26	5.15	3.73	5.52	0.216	0.46	2.13	98.35	4	18	15	< 20	2	< 20	< 10	430	43	3	5	346	
414030 Split	57.18	13.04	9.23	0.642	1.27	5.18	3.68	5.51	0.214	0.48	2.11	98.53	4	18	15	< 20	2	< 20	< 10	470	44	2	< 5	362	
414030 Orig																									
414030 Dup																									
414032 Orig	43.37	14.50	14.62	0.975	2.91	8.34	0.68	7.95	0.219	0.70	4.20	98.47	3	23	16	< 20	3	< 20	< 10	600	34	2	< 5	486	
414032 Dup	43.59	14.33	14.62	0.979	2.94	8.40	0.68	8.03	0.218	0.72	4.20	98.73	3	23	17	< 20	3	< 20	< 10	610	34	2	< 5	484	
414050 Orig	7.91	1.79	47.91	1.250	5.03	10.93	0.14	0.22	1.157	0.63	14.98	91.95	26	4	127	< 20	13	< 20	< 10	820	104	2	12	19	
414050 Split	8.13	1.84	46.87	1.245	5.13	11.30	0.13	0.22	1.151	0.59	15.51	92.12	26	4	130	< 20	14	< 20	10	850	105	2	11	18	
414060 Orig																									
414060 Dup																									
414061 Orig	53.81	17.57	7.60	0.683	1.74	1.74	1.97	9.09	0.034	0.17	1.05	95.47	3	27	< 5	30	< 1	< 20	< 10	670	49	2	< 5	396	
414061 Split	53.94	16.95	7.56	0.680	1.72	1.76	1.97	9.13	0.034	0.17	1.02	94.94	3	28	< 5	30	< 1	< 20	< 10	720	51	2	< 5	411	
414064 Orig	46.42	15.33	13.73	1.065	3.75	3.76	1.43	8.60	0.101	0.44	2.98	97.60	6	21	6	< 20	4	< 20	< 10	1230	40	2	< 5	489	
414064 Dup	45.85	15.25	13.60	1.055	3.70	3.73	1.41	8.46	0.100	0.42	2.98	96.56	5	21	6	< 20	4	< 20	< 10	1210	40	2	< 5	487	
414081 Orig	26.42	8.00	17.39	0.914	4.27	21.06	0.29	4.39	0.832	1.58	11.94	97.09	14	34	124	60	15	40	30	680	27	2	7	149	
414081 Dup	26.55	7.96	17.38	0.912	4.23	21.06	0.30	4.42	0.825	1.58	11.94	97.16	14	34	125	60	16	30	30	680	27	2	6	144	
414089 Orig																									
414089 Dup																									
414091 Orig	26.56	7.62	17.59	1.092	4.11	21.28	0.44	3.89	0.613	1.66	12.60	97.47	11	15	96	70	12	30	30	630	22	2	7	97	
414091 Split	26.68	7.74	17.52	1.091	4.31	21.46	0.44	3.89	0.618	1.51	12.48	97.75	12	15	98	80	12	30	30	610	22	2	7	96	
414101 Orig	33.85	9.04	15.35	0.936	3.63	16.12	1.47	5.17	0.428	1.39	11.32	98.73	9	16	66	60	8	20	< 10	490	25	2	7	179	
414101 Split	35.57	9.35	14.73	0.903	3.56	15.17	1.61	5.43	0.431	1.32	10.72	98.81	8	16	64	60	8	20	< 10	470	25	2	7	178	
Method Blank Method																									
Blank																									

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Quality Control																								
Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
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	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
WMG-1 Meas				6	< 2	2.3		3	2.6	< 0.5			8.4	16.2		9.6	2.4	0.72		0.4	2.5	0.5		0.21
WMG-1 Cert				6.00	1.40	2.70		2.20	1.80	0.480			8.20	16.0		9.00	2.30	0.820		0.300	2.80	0.500		0.200
DH-1a Meas																								
DH-1a Cert																								
TAN-1 Meas									13.9	780			< 0.1											
TAN-1 Cert									19.0	830			3.50											
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas	145	17	38	2	< 2	< 0.5			0.9	< 0.5	108	< 0.4	3.3	6.2	0.92	4.1	1.3	0.56	1.9	0.4	2.7	0.7	1.8	0.33
DNC-1 Cert	145	18.0	41.0	3.00	0.700	0.0270			0.960	0.340	114	0.0200	3.80	10.6	1.30	4.90	1.38	0.590	2.00	0.410	2.70	0.620	2.00	0.380
GBW 07113 Meas	42	46	422								511													
GBW 07113 Cert	43.0	43.0	403								506													
GXR-2 Meas				9	< 2	16.7	< 0.2	4	50.5	5.4		< 0.4	24.7	47.0		18.9	3.5	0.71	3.0	0.5	2.8			0.30
GXR-2 Cert				11.0	2.10	17.0	0.252	1.70	49.0	5.20		0.690	25.6	51.4		19.0	3.50	0.810	3.30	0.480	3.30			0.300
OKA-2 Meas													50900	113000	14600	53100	> 1000	> 1000	> 1000	452	> 1000	157	339	14.7
OKA-2 Cert													47700	114000	14900	57400	8620	2250	5030	51.0	1480	175	525	18.0
BE-N Meas																								
BE-N Cert																								
AC-E Meas																								
AC-E Cert																								
NOD-A-1 Meas																								
NOD-A-1 Cert																								
OKA-1 Meas																								
OKA-1 Cert																								
W-2a Meas	198	20	90	8	< 2	< 0.5			0.9	0.9	178	< 0.4	10.3	21.3		12.2	3.2	1.05		0.6	3.8	0.8	2.1	0.34
W-2a Cert	190	24.0	94.0	7.90	0.600	0.0460			0.790	0.990	182	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380
SARM-62 Meas																								
SARM-62 Cert																								
SY-4 Meas	1182	119	555								346													
SY-4 Cert	1191	119	517								340													
CTA-AC-1 Meas													2320	3350		1180	171	46.4	132	15.5				
CTA-AC-1 Cert													2176	3326		1087	162	46.7	124	13.9				
BIR-1a Meas	112	15	17	< 1	< 2	< 0.5		< 1	< 0.5	< 0.5	10	< 0.4	0.4	0.6	0.25	1.7	1.0	0.52	1.8	0.4	2.6	0.6	1.6	0.31
BIR-1a Cert	108	16.0	16.0	0.600	0.500	0.0360		0.650	0.580	0.00500	7.00	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260
NCS DC86312 Meas																								
NCS DC86312 Cert																								
VS-N Meas																								
VS-N Cert																								
NCS DC70014 Meas				< 1	> 100	16.9		> 1000	178		80.4	42.5	78.6	9.70	36.2	7.6	1.57	6.9	1.1	6.4	1.3	3.5	0.56	
NCS DC70014 Cert				46.9	270.000	16.7		44700.00	180.000		80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	
IGS 40 Meas													21300	2700	7470									
IGS 40 Cert													20720.00	2730.000	8320.000									
NCS DC70009 (GBW07241) Meas				> 100	2.3	1.3	> 1000	3.9	43.5		158	24.0	57.4	8.02	32.2	12.6	0.10	14.7	3.3	21.0	4.4	13.1	2.41	
NCS DC70009 (GBW07241) Cert				980.000	1.8	1.3	1700.00	3.1	41		680.000	23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	
OREAS 100a (Fusion) Meas				24									261	446	47.6	150	24.6	3.65	21.0	3.7	23.2	4.9	14.7	2.45
OREAS 100a (Fusion) Cert				24.1									260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31
OREAS 101a (Fusion) Meas				21									806	1340	134	399	50.8	8.01	35.3	5.6	32.7	6.6	19.5	3.00
OREAS 101a (Fusion) Cert				21.9									816	1396	134	403	48.8	8.06	43.4	5.92	33.3	6.46	19.5	2.90
JR-1 Meas				17	3	< 0.5	< 0.2	3	1.2	21.0		0.7	19.9	44.7	5.95	23.0	5.8	0.25	5.6	1.0	6.4	1.4	4.1	0.74
JR-1 Cert				15.2	3.25	0.031	0.028	2.86	1.19	20.8		0.56	19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61	0.67
SX18-01 Meas																								
SX18-01 Cert																								
SX18-04 Meas																								

Quality Control																									
Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	
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	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
SX18-04 Cert																									
SX18-05 Meas																									
SX18-05 Cert																									
SARM 3 Meas																									
SARM 3 Cert																									
414015 Orig	1904	230	274	945	3	1.4	< 0.2	7	1.0	< 0.5	516	0.7	1380	2570	293	1060	142	36.2	83.3	10.7	53.9	9.9	25.9	3.52	
414015 Dup	1927	221	285	973	3	1.3	< 0.2	7	1.4	< 0.5	507	0.7	1320	2460	275	1010	140	35.4	81.7	10.0	50.6	9.3	25.5	3.41	
414030 Orig	1133	234	731		4	2.5	< 0.2	20	< 0.5	6.0	3174	< 0.4	432	715	78.5	258	41.2	10.6	35.8	6.8	42.8	8.8	27.2	4.37	
414030 Split	1149	233	729		4	2.1	< 0.2	30	< 0.5	6.0	3304	< 0.4	418	707	81.0	263	42.2	10.8	36.2	6.6	40.6	8.5	26.4	4.29	
414030 Orig																									
414030 Dup																									
414032 Orig	1645	142	611	778	< 2	2.1	< 0.2	13	< 0.5	9.9	3885	< 0.4	477	816	90.1	292	45.5	12.3	33.7	5.0	26.8	5.0	14.1	2.05	
414032 Dup	1664	145	627	837	2	2.0	< 0.2	14	< 0.5	9.9	3918	< 0.4	477	789	89.2	294	45.4	12.3	33.6	5.1	26.5	4.9	14.0	2.07	
414050 Orig	552	175	1160		7	4.2	< 0.2	207	1.1	1.0	1277	1.1	363	756	95.0	333	66.6	20.9	60.4	8.8	44.2	7.1	18.2	2.41	
414050 Split	538	174	1166		7	3.8	< 0.2	204	1.2	1.0	1259	1.2	347	737	91.8	318	63.0	19.7	56.3	8.4	42.7	7.0	17.9	2.33	
414060 Orig																									
414060 Dup																									
414061 Orig	3192	186	1550		25	4.5	< 0.2	17	< 0.5	7.1	25380	< 0.4	372	565	62.0	204	41.8	14.1	39.5	6.0	32.1	6.0	16.7	2.48	
414061 Split	3199	189	1586		24	4.3	< 0.2	17	< 0.5	7.2	25440	< 0.4	336	510	56.6	186	39.3	13.3	37.1	5.7	30.6	5.9	16.9	2.52	
414064 Orig	1990	157	1371	1080	5	4.0	< 0.2	18	< 0.5	21.9	15420	< 0.4	304	549	65.8	225	43.5	13.6	38.0	5.8	31.1	5.6	15.6	2.27	
414064 Dup	2007	154	1356	1090	5	4.0	< 0.2	19	< 0.5	21.9	15220	< 0.4	308	548	65.3	222	42.7	13.5	38.8	5.8	31.0	5.6	15.7	2.31	
414081 Orig	7638	153	401	557	5	1.3	< 0.2	14	< 0.5	2.8	6978	0.4	740	1070	121	418	68.7	18.3	42.2	5.8	29.6	5.2	13.4	1.75	
414081 Dup	7655	153	405	517	5	1.3	< 0.2	14	< 0.5	2.8	6998	< 0.4	721	1030	116	403	67.1	18.2	43.7	5.8	29.1	5.1	13.1	1.73	
414089 Orig																									
414089 Dup																									
414091 Orig	6006	134	423		< 2	1.3	< 0.2	15	< 0.5	1.4	4217	0.5	757	1210	135	450	64.8	17.3	40.8	5.7	28.7	5.1	13.2	1.69	
414091 Split	5970	136	418		< 2	1.3	< 0.2	10	< 0.5	1.5	4161	0.5	747	1190	134	438	63.6	16.9	39.2	5.5	28.0	4.9	12.8	1.69	
414101 Orig	4038	99	352		6	1.1	< 0.2	9	< 0.5	3.8	5832	< 0.4	498	790	90.4	305	44.1	11.6	27.5	3.8	20.1	3.5	9.7	1.34	
414101 Split	3790	97	363		6	1.1	< 0.2	9	< 0.5	3.9	5789	< 0.4	481	759	87.4	287	42.7	11.0	26.0	3.7	19.1	3.4	9.2	1.28	
Method Blank Method																									
Blank																									

Quality Control										
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
WMG-1 Meas	1.3	0.19	1.6	0.4	< 1		16	1.1	0.8	
WMG-1 Cert	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650	
DH-1a Meas								847	> 1000	
DH-1a Cert								910	2630	
TAN-1 Meas			19.5	> 500				2.7	25.2	
TAN-1 Cert			22.0	2360				4.60	23.8	
NIST 694 Meas										
NIST 694 Cert										
DNC-1 Meas	2.0	0.32	1.1	0.1	< 1	< 0.1	7	< 0.1	0.2	
DNC-1 Cert	2.01	0.320	1.01	0.0980	0.200	0.0260	6.30	0.200	0.100	
GBW 07113 Meas										
GBW 07113 Cert										
GXR-2 Meas	1.8	0.29	5.7	0.7	< 1	0.7	676	7.7	2.9	
GXR-2 Cert	2.04	0.270	8.30	0.900	1.90	1.03	690	8.80	2.90	
OKA-2 Meas	95.5	11.2						28000		
OKA-2 Cert	97.0	11.0						28900		
BE-N Meas										0.015
BE-N Cert										0.015
AC-E Meas										0.014
AC-E Cert										0.016
NOD-A-1 Meas							845			
NOD-A-1 Cert							846			
OKA-1 Meas										0.538
OKA-1 Cert										0.529
W-2a Meas	2.1	0.30	2.7	0.5	< 1	< 0.1	8	1.9	0.6	
W-2a Cert	2.10	0.330	2.60	0.500	0.300	0.200	9.30	2.40	0.530	
SARM-62 Meas			> 1000							
SARM-62 Cert			11100							
SY-4 Meas										
SY-4 Cert										
CTA-AC-1 Meas	11.5	1.16	1.9	2.3				22.6	4.3	
CTA-AC-1 Cert	11.4	1.08	1.13	2.65				21.8	4.4	
BIR-1a Meas	1.7	0.28	0.7	< 0.1	< 1	< 0.1	< 5	< 0.1	0.1	
BIR-1a Cert	1.65	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100	
NCS DC86312 Meas								24.7		
NCS DC86312 Cert								23.6		
VS-N Meas										0.099
VS-N Cert										0.10
NCS DC70014 Meas	3.4	0.51		< 0.1	210		> 10000			
NCS DC70014 Cert	3.3	0.50		16.2	680.000		27200.00			
IGS 40 Meas										
IGS 40 Cert										
NCS DC70009 (GBW07241) Meas	16.4	2.30			2340	2.2	66	27.8		
NCS DC70009 (GBW07241) Cert	14.9	2.4			2200.00	1.8	81.2	28.3		
OREAS 100a (Fusion) Meas	15.6	2.18						50.4	139	
OREAS 100a (Fusion) Cert	14.9	2.26						51.6	135	
OREAS 101a (Fusion) Meas	18.9	2.55					69	35.5	421	
OREAS 101a (Fusion) Cert	17.5	2.66					19	36.6	422	
JR-1 Meas	4.9	0.72	5.1	1.7	3	1.3	20	26.1	9.3	
JR-1 Cert	4.55	0.71	4.51	1.86	1.59	1.56	19.3	26.7	8.88	
SX18-01 Meas										0.693
SX18-01 Cert										0.695
SX18-04 Meas										1.336

Quality Control										
Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Th	U	Nb2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	0.003
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-XRF
SX18-04 Cert										1.32
SX18-05 Meas										1.001
SX18-05 Cert										0.973
SARM 3 Meas							55	66.8	19.3	
SARM 3 Cert							43	66	14	
414015 Orig	21.8	3.44	3.4	0.2	< 1	< 0.1	76	195	23.7	
414015 Dup	20.9	3.25	3.4	0.3	< 1	< 0.1	79	184	23.5	
414030 Orig	30.4	4.97	22.2	29.6	3	0.8	33	173	15.5	0.116
414030 Split	29.5	4.85	22.5	30.0	2	0.8	32	180	16.3	0.118
414030 Orig										0.116
414030 Dup										0.117
414032 Orig	13.0	1.92	12.2	31.6	2	1.6	49	128	7.5	
414032 Dup	12.6	1.90	12.1	32.0	2	1.6	49	129	7.7	
414050 Orig	14.0	2.10	43.9	45.0	6	0.2	81	1710	95.7	2.309
414050 Split	13.5	2.10	44.3	46.3	5	0.2	84	1750	100	2.323
414060 Orig										0.072
414060 Dup										0.073
414061 Orig	16.9	2.79	30.7	66.9	1	1.8	77	155	11.0	0.070
414061 Split	16.8	2.78	30.5	65.8	1	1.8	81	160	11.6	0.067
414064 Orig	15.1	2.41	25.1	49.3	1	2.2	45	202	8.9	
414064 Dup	15.1	2.42	24.8	48.3	1	2.2	46	202	8.9	
414081 Orig	10.7	1.62	7.6	12.8	< 1	0.5	124	181	6.2	
414081 Dup	10.5	1.59	7.5	13.3	< 1	0.6	123	174	6.1	
414089 Orig										0.077
414089 Dup										0.077
414091 Orig	10.0	1.55	7.2	15.9	< 1	0.3	63	172	9.7	0.082
414091 Split	10.1	1.54	7.3	15.6	< 1	0.4	61	172	10.1	0.084
414101 Orig	8.3	1.36	7.1	13.6	1	0.6	54	120	7.6	0.073
414101 Split	8.1	1.34	7.1	12.6	< 1	0.7	54	114	7.1	0.068
Method Blank Method										< 0.003
Blank										



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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 1
 Finalized Date: 15- SEP- 2010
 Account: RAEAME

CERTIFICATE TB10118253

Project:
 P.O. No.:
 This report is for 25 Crushed Rock samples submitted to our lab in Thunder Bay, ON, Canada on 24- AUG- 2010.

The following have access to data associated with this certificate:

REG FELIX

ACCOUNTS PAYABLE

MICHAEL STARES

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
PUL- QC	Pulverizing QC Test
LOG- 22	Sample login - Rcd w/o BarCode
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um
LOG- 24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
TOT- ICP06	Total Calculation for ICP06	ICP- AES
ME- XRF10	Fusion XRF - Ore Grade	XRF
OA- GRA06	LOI for ME- XRF06	WST- SIM
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS

To: RARE EARTH METALS INC.
 ATTN: REG FELIX
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

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

Signature:

Colin Ramshaw, Vancouver Laboratory Manager



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CERTIFICATE OF ANALYSIS TB10118253

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg	ME- XRF10 Nb2O5 %	ME- XRF10 ZrO2 %	ME- ICP06 SiO2 %	ME- ICP06 Al2O3 %	ME- ICP06 Fe2O3 %	ME- ICP06 MnO %	ME- ICP06 MgO %	ME- ICP06 CaO %	ME- ICP06 Na2O %	ME- ICP06 K2O %	ME- ICP06 TiO2 %	ME- ICP06 P2O5 %	ME- ICP06 BaO %	ME- ICP06 Cr2O3 %
414001		1.09	0.03	0.05	51.8	13.55	9.27	0.30	2.26	5.91	3.93	5.31	0.58	0.53	0.09	<0.01
414011		1.11	0.08	0.06	25.7	7.08	16.95	0.66	8.53	14.15	0.87	4.98	0.88	3.11	0.05	<0.01
414041		0.85	0.11	0.12	44.1	15.10	12.90	1.09	3.75	7.82	0.57	7.38	0.23	0.53	0.42	<0.01
414062		1.43	0.35	0.10	6.46	2.09	80.6	2.95	1.80	1.72	0.23	0.85	0.22	0.15	0.34	<0.01
414082		1.18	0.09	0.14	27.8	8.27	15.95	0.85	4.18	19.55	0.49	4.94	0.83	1.42	0.86	0.01
414092		0.02	0.52	0.19	6.32	1.77	3.93	0.78	1.92	43.5	0.46	0.70	0.21	2.32	0.31	<0.01
414102		1.06	0.08	0.11	28.9	8.11	15.70	0.91	4.04	19.50	0.50	5.18	0.61	1.33	0.68	0.01
414122		1.09	0.15	0.15	1.21	0.32	37.4	2.91	1.25	29.2	0.14	0.06	0.03	4.33	0.17	<0.01
414142		1.23	0.21	0.11	33.3	9.85	23.9	1.42	3.17	12.05	2.57	2.98	0.64	0.81	0.80	0.01
414162		0.92	0.04	0.08	58.2	14.35	8.70	0.29	1.02	2.89	5.18	6.00	0.59	0.27	0.09	<0.01
414182		0.98	0.05	0.06	60.4	15.80	7.04	0.28	0.47	3.54	5.70	5.75	0.81	0.17	0.34	<0.01
414202		1.25	0.11	0.18	50.9	10.25	11.20	0.97	2.89	10.05	3.52	3.95	0.41	0.62	0.32	0.01
414222		1.46	0.08	0.09	41.4	10.60	14.15	1.24	5.53	15.80	0.97	3.61	0.79	1.18	0.16	0.02
414242		0.83	0.04	0.06	60.3	17.10	6.46	0.13	0.63	1.64	5.21	6.70	0.41	0.17	0.16	<0.01
414271		1.06	0.01	0.07	62.7	14.85	4.95	0.24	0.57	2.26	5.74	5.70	0.29	0.06	0.41	<0.01
414291		0.69	0.09	0.13	28.2	7.90	16.40	1.01	4.02	21.3	0.30	4.64	0.85	1.55	0.74	0.01
414311		1.29	0.14	0.12	12.10	2.96	52.1	2.23	2.34	13.55	0.51	1.18	0.23	1.47	0.67	<0.01
414331		0.82	0.02	0.05	53.9	15.30	8.58	0.28	1.30	6.18	5.91	4.51	1.06	0.41	0.32	<0.01
414350		0.39	0.26	0.21	40.9	13.50	9.57	0.77	1.77	15.90	1.49	5.85	0.07	0.80	0.27	<0.01
414360		0.38	0.26	0.20	41.4	13.75	9.13	0.74	1.78	16.10	1.46	6.01	0.07	0.78	0.27	<0.01
414370		1.09	0.14	0.09	40.9	13.05	11.30	0.90	2.32	12.30	2.05	7.12	0.03	1.34	0.42	<0.01
414384		1.34	0.48	0.11	17.25	2.66	67.5	2.20	1.24	8.09	0.60	0.18	0.11	1.13	0.05	<0.01
414404		0.63	0.02	0.08	56.0	13.25	8.81	0.43	0.75	7.60	4.82	4.98	0.50	0.40	0.19	<0.01
414432		0.90	0.15	0.12	1.22	0.50	14.15	1.48	0.92	42.0	0.17	0.02	0.01	3.39	0.22	<0.01
414433		0.15	<0.01	0.01	59.5	23.0	1.02	0.02	0.12	0.55	10.50	4.63	0.01	0.01	<0.01	<0.01



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To: RARE EARTH METALS INC.
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 THUNDERBAY ON P7C 4V1

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 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118253

Sample Description	Method Analyte Units LOR	ME- ICP06	OA- GRA05	TOT- ICP06	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
		SrO %	LOI %	Total %	Ag ppm	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Dy ppm	Er ppm	Eu ppm	Ga ppm	Gd ppm
		0.01	0.01	0.01	1	0.5	0.5	0.5	10	0.01	5	0.05	0.03	0.03	0.1	0.05
414001		0.04	5.71	99.3	<1	761	643	4.8	10	1.56	11	20.2	10.00	8.69	24.4	33.6
414011		0.08	14.05	97.1	<1	432	884	16.7	10	35.7	32	24.4	11.00	11.55	36.8	50.7
414041		0.19	2.26	96.3	<1	3520	1010	4.7	10	5.06	<5	34.6	18.45	16.25	32.8	55.0
414062		0.02	-0.40	97.0	<1	2470	1435	2.1	<10	1.77	<5	88.7	38.3	53.3	11.9	153.5
414082		0.74	11.50	97.4	<1	7400	1075	17.7	70	3.46	24	28.7	13.35	17.10	22.3	57.3
414092		1.52	31.8	95.5	1	2670	1760	5.2	<10	0.75	7	13.20	6.34	12.75	9.2	49.6
414102		0.57	12.45	98.5	<1	5900	946	14.8	80	2.12	23	22.9	11.15	13.30	19.4	46.0
414122		1.18	19.20	97.4	<1	1375	1995	1.3	<10	0.35	<5	46.1	19.35	32.1	10.7	107.0
414142		0.29	3.85	95.6	1	6870	768	12.2	70	5.46	10	26.3	12.10	13.70	22.7	47.9
414162		0.05	1.48	99.1	<1	778	272	1.3	<10	1.56	8	10.50	5.60	2.99	27.2	16.45
414182		0.10	0.69	101.0	<1	2960	160.0	2.2	<10	1.39	<5	5.55	3.06	4.07	22.5	9.66
414202		0.21	2.48	97.8	<1	2820	1035	7.5	40	2.57	<5	39.3	25.1	12.80	27.1	55.5
414222		0.16	2.17	97.8	<1	1335	1625	19.1	150	8.60	37	45.6	20.1	22.7	22.9	83.9
414242		0.03	0.79	99.7	<1	1340	223	3.3	<10	1.67	7	5.90	3.37	2.07	29.9	9.91
414271		0.08	1.88	99.7	<1	3480	464	<0.5	<10	1.03	<5	10.10	5.40	3.49	31.5	19.90
414291		0.59	11.80	99.3	<1	6550	1095	17.6	70	2.16	27	33.6	15.85	18.40	19.7	60.3
414311		0.62	8.45	98.4	<1	5590	1550	3.6	<10	1.75	5	37.6	16.90	24.4	13.6	82.9
414331		0.14	3.34	101.0	<1	2750	255	7.4	<10	4.00	5	7.10	3.79	4.69	21.3	13.05
414350		0.49	8.33	99.7	<1	2340	706	2.1	<10	4.06	<5	18.10	8.93	10.20	29.0	36.2
414360		0.50	8.49	100.5	<1	2350	659	2.1	<10	4.03	<5	17.10	8.18	9.41	28.9	33.8
414370		0.40	7.06	99.2	<1	3630	1990	2.5	<10	14.15	<5	36.4	15.70	20.6	29.9	85.0
414384		0.20	-1.68	99.5	<1	399	1105	3.7	<10	0.35	6	18.15	8.60	11.25	16.9	46.6
414404		0.35	1.77	99.9	<1	1560	331	2.6	<10	1.18	<5	8.22	4.33	3.80	21.3	15.75
414432		1.04	32.5	97.6	<1	1640	1515	1.6	<10	0.07	<5	44.7	16.55	33.2	5.8	102.0
414433		0.01	1.09	100.5	<1	28.7	10.3	<0.5	<10	0.88	<5	0.88	0.61	0.32	22.1	0.90



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CERTIFICATE OF ANALYSIS TB10118253

Sample Description	Method Analyte Units LOR	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	
		Hf ppm	Ho ppm	La ppm	Lu ppm	Mo ppm	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Pr ppm	Rb ppm	Sm ppm	Sn ppm	Sr ppm	Ta ppm
		0.2	0.01	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1
414001		9.4	3.67	378	1.09	3	189.0	221	8	10	64.2	185.0	33.1	9	346	6.8
414011		8.1	4.10	418	0.99	<2	400	368	<5	7	100.5	1290	56.7	24	675	10.0
414041		12.2	6.47	551	2.11	<2	666	373	<5	58	105.0	340	57.3	8	1495	34.7
414062		9.6	15.10	585	3.63	24	589	711	<5	96	174.0	78.1	180.5	9	124.5	1.3
414082		8.0	4.97	679	1.37	6	488	391	33	76	108.5	155.0	61.8	8	6030	22.0
414092		0.7	2.12	975	0.56	14	1850	474	<5	30	153.0	34.0	50.9	<1	>10000	21.1
414102		6.9	4.02	556	1.22	<2	404	341	38	48	96.6	155.5	49.6	6	4660	15.0
414122		2.6	7.47	913	1.41	42	48.8	847	<5	70	234	11.6	124.5	2	8980	0.1
414142		9.6	4.47	371	1.70	3	1150	315	21	14	86.9	119.0	50.7	18	2290	25.4
414162		12.4	1.97	138.0	0.92	5	237	110.5	<5	7	30.2	179.0	17.90	3	441	8.2
414182		8.5	1.05	87.1	0.51	6	281	67.5	<5	19	18.20	145.0	10.60	2	784	5.5
414202		28.1	8.08	573	3.43	3	672	368	13	48	106.0	184.5	56.4	20	1705	22.9
414222		9.9	7.76	897	1.93	3	507	579	52	46	164.0	217	84.5	9	1280	15.8
414242		8.7	1.12	138.0	0.51	<2	224	72.7	<5	15	22.4	235	10.05	2	259	11.9
414271		9.0	1.87	331	0.87	35	74.4	145.0	<5	19	43.3	144.5	20.1	<1	599	2.9
414291		7.8	5.85	638	1.75	<2	441	397	29	63	112.0	142.5	63.3	9	4780	12.4
414311		6.8	6.27	659	1.48	20	195.0	714	<5	51	191.5	66.5	102.0	9	5000	1.1
414331		5.6	1.30	141.5	0.46	5	124.0	95.9	<5	23	26.3	126.0	13.80	1	1140	3.1
414350		17.5	3.21	369	0.98	8	1600	269	<5	31	74.8	159.5	40.7	4	3940	101.5
414360		17.2	2.95	354	0.91	7	1585	249	<5	30	69.9	159.0	37.9	4	4000	101.0
414370		4.8	5.92	1040	1.09	16	826	711	<5	38	213	293	94.4	3	3210	28.1
414384		14.9	3.03	585	0.87	32	783	417	<5	7	116.5	11.0	58.4	7	1565	6.1
414404		7.4	1.48	169.0	0.70	4	150.0	129.0	<5	28	35.9	131.0	18.70	2	2790	6.0
414432		1.3	6.92	677	0.77	16	66.3	785	<5	29	193.5	1.7	129.0	<1	8350	0.2
414433		1.2	0.20	5.1	0.12	<2	2.4	4.7	<5	7	1.24	62.3	0.91	1	58.4	0.2



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 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 2 - D
 Total # Pages: 2 (A - D)
 Finalized Date: 1S- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118253

Sample Description	Method Analyte Units LOR	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	
		Tb ppm	Th ppm	Ti ppm	Tm ppm	U ppm	V ppm	W ppm	Y ppm	Yb ppm	Zn ppm	Zr ppm
		0.01	0.05	0.5	0.01	0.05	5	1	0.5	0.03	5	2
414001		4.04	66.1	<0.5	1.43	5.38	35	5	93.9	8.03	89	312
414011		5.49	39.1	1.1	1.40	15.90	124	3	103.0	7.76	432	380
414041		6.82	162.0	0.6	2.72	11.25	20	2	176.0	15.60	679	703
414062		18.55	>1000	<0.5	5.27	14.85	<5	7	351	29.5	2440	503
414082		6.29	165.0	<0.5	1.76	10.80	122	2	132.0	10.25	494	437
414092		3.88	48.1	<0.5	0.71	22.7	196	2	53.2	4.11	463	84
414102		4.96	151.5	<0.5	1.54	6.31	90	2	102.0	8.59	435	366
414122		11.20	150.0	<0.5	2.18	1.56	10	2	148.0	11.70	475	146
414142		5.53	289	<0.5	1.71	10.85	58	2	105.5	11.05	817	571
414162		2.04	29.3	<0.5	0.89	3.43	<5	4	46.8	5.84	145	521
414182		1.14	26.2	<0.5	0.48	3.09	<5	3	25.7	3.14	136	368
414202		7.01	126.0	<0.5	4.19	16.10	48	4	220	25.7	436	1165
414222		9.84	275	0.6	2.58	14.75	92	3	179.5	14.45	621	549
414242		1.13	31.4	<0.5	0.52	6.14	8	5	28.6	3.34	97	414
414271		2.19	22.4	<0.5	0.85	1.08	<5	3	52.3	5.50	130	405
414291		6.99	185.0	0.5	2.17	6.29	124	2	145.5	12.70	553	445
414311		8.95	507	<0.5	2.09	4.82	25	2	141.5	11.40	1435	359
414331		1.47	13.70	<0.5	0.55	0.78	41	3	32.1	3.28	164	257
414350		4.04	128.5	<0.5	1.19	56.2	<5	3	72.8	7.11	341	1075
414360		3.79	113.0	<0.5	1.12	56.7	<5	3	69.2	6.64	315	1085
414370		8.65	308	0.6	1.82	11.95	<5	4	130.5	8.97	362	299
414384		4.53	293	<0.5	1.06	19.55	<5	6	72.9	6.36	971	638
414404		1.79	22.9	<0.5	0.66	2.95	7	3	36.1	4.47	158	290
414432		10.85	36.1	<0.5	1.63	4.88	<5	2	147.0	7.37	60	75
414433		0.13	1.49	<0.5	0.12	0.38	<5	1	4.9	0.72	27	62



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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 1
 Finalized Date: 14- SEP- 2010
 Account: RAEAME

CERTIFICATE TB10118254

Project:
 P.O. No.:
 This report is for 25 Crushed Rock samples submitted to our lab in Thunder Bay, ON, Canada on 24- AUG- 2010.

The following have access to data associated with this certificate:

REG FELIX	ACCOUNTS PAYABLE	MICHAEL STARES
-----------	------------------	----------------

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
PUL- QC	Pulverizing QC Test
LOG- 22	Sample login - Rcd w/o BarCode
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um
LOG- 24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
TOT- ICP06	Total Calculation for ICP06	ICP- AES
ME- XRF10	Fusion XRF - Ore Grade	XRF
OA- GRA06	LOI for ME- XRF06	WST- SIM
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS

To: RARE EARTH METALS INC.
 ATTN: REG FELIX
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

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

Signature:

Colin Ramshaw, Vancouver Laboratory Manager



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To: RARE EARTH METALS INC.
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Page: 2 - A
 Total # Pages: 2 (A - D)
 Finalized Date: 14- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118254

Sample Description	Method Analyte Units LOR	WEI- 21	ME- XRF10	ME- XRF10	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	ME- ICP06	
		Recvd Wt. kg	Nb2O5 %	ZrO2 %	SiO2 %	Al2O3 %	Fe2O3 %	MnO %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	BaO %	Cr2O3 %
414451		0.77	0.27	0.21	20.6	6.18	11.40	0.80	1.23	31.5	0.54	2.47	0.02	2.92	0.14	<0.01
414475		1.09	0.07	0.12	27.1	7.86	17.25	1.20	4.23	20.8	0.55	4.38	0.79	1.56	0.63	0.01
414495		1.40	0.09	0.13	23.2	6.51	16.65	1.20	3.43	24.6	0.77	3.41	0.58	1.86	0.22	0.01
414511		0.61	0.09	0.07	31.3	8.90	16.75	0.64	9.24	14.20	0.66	4.63	1.34	1.08	0.30	0.04
415531		1.11	0.02	0.07	57.2	14.30	6.25	0.41	1.04	5.34	4.10	6.95	0.23	0.28	0.10	<0.01
415550		0.56	<0.01	0.04	3.19	1.45	86.1	2.53	1.36	1.94	0.07	0.19	0.02	<0.01	0.36	<0.01
415560		0.52	<0.01	0.04	3.11	1.45	86.4	2.53	1.36	1.89	0.07	0.17	0.02	0.08	0.35	<0.01
415570		1.85	0.06	0.12	35.0	6.69	24.5	1.35	2.16	16.30	2.16	2.42	0.29	0.92	0.30	<0.01
415594		0.92	0.13	0.09	26.3	7.63	28.7	1.69	6.49	8.52	0.60	3.89	0.51	1.43	0.41	0.02
415614		1.77	0.05	0.06	5.72	2.12	73.8	3.31	2.42	5.20	0.04	0.57	0.03	0.79	0.58	<0.01
415644		1.68	0.35	0.44	49.5	14.30	9.74	0.91	1.63	10.55	1.36	7.40	0.11	0.77	1.78	<0.01
415663		1.18	0.07	0.11	37.0	10.75	23.1	1.59	3.15	15.35	0.45	3.72	0.63	1.50	0.08	0.02
415683		1.92	0.09	0.12	30.2	7.83	19.60	1.34	3.30	20.1	0.19	4.23	0.45	1.28	0.21	0.02
415700		0.02	0.01	0.14	12.05	0.57	4.49	0.44	0.68	17.20	0.29	0.14	0.24	9.07	0.09	<0.01
415702		1.85	0.08	0.05	5.53	2.26	80.2	2.93	0.71	6.47	0.17	8.20	0.14	0.51	0.08	<0.01
415733		1.92	0.05	0.14	0.73	0.27	68.6	4.10	1.40	13.40	0.02	<0.01	0.02	0.91	0.06	<0.01
415753		1.69	0.15	0.19	12.50	4.21	34.1	2.02	3.92	20.1	0.09	2.48	0.34	1.48	1.38	0.01
415773		1.84	0.23	0.16	8.54	2.65	46.4	2.66	2.15	18.60	0.03	1.24	0.07	2.26	0.52	<0.01
415796		2.23	0.15	0.09	14.05	5.81	51.3	2.81	1.12	14.35	0.37	0.91	0.13	1.37	0.16	<0.01
415816		2.10	0.14	0.15	28.5	9.06	29.6	1.98	2.71	11.30	0.41	4.21	0.18	0.81	2.86	<0.01
415836		1.97	0.12	0.17	0.29	0.14	42.4	2.95	1.46	27.2	0.03	<0.01	0.01	2.35	0.24	<0.01
415856		2.17	0.21	0.12	1.12	0.41	57.6	3.72	1.16	18.75	0.05	0.01	0.05	3.79	0.12	<0.01
415876		1.86	0.24	0.10	3.79	0.65	34.3	2.18	5.45	24.8	0.06	0.02	0.04	6.03	0.18	<0.01
415896		1.82	0.05	0.15	37.0	6.40	25.1	1.70	0.67	17.80	1.17	1.39	0.39	2.08	0.10	<0.01
415897		0.14	<0.01	0.01	59.7	22.4	1.00	0.03	0.13	0.56	10.40	4.60	0.01	0.02	<0.01	<0.01

Comments: Certificate Comments" Samples with high rare earth metals > 2% will have low whole rock totals".



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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 2 - B
 Total # Pages: 2 (A - D)
 Finalized Date: 14- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118254

Sample Description	Method Analyte Units LOR	ME- ICP06	OA- GRA05	TOT- ICP06	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	
		SrO %	LOI %	Total %	Ag ppm	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Dy ppm	Er ppm	Eu ppm	Ga ppm	Gd ppm
		0.01	0.01	0.01	1	0.5	0.5	0.5	10	0.01	5	0.05	0.03	0.03	0.1	0.05
414451		0.90	19.10	97.8	<1	1255	1600	3.1	<10	1.33	<5	47.8	17.95	29.4	19.6	99.4
414475		0.65	10.75	97.8	1	5390	1410	16.8	60	2.24	23	25.8	12.60	15.90	17.1	59.7
414495		0.70	15.80	98.9	<1	1820	1075	12.4	60	13.20	24	28.2	13.35	15.30	16.6	56.1
414511		0.20	10.05	99.3	<1	2670	513	30.0	280	6.37	31	13.35	5.72	8.38	15.7	28.9
415531		0.14	2.18	98.5	<1	802	541	1.8	10	1.13	<5	14.95	7.28	6.63	31.0	28.5
415550		0.07	-2.28	95.0	<1	2730	821	1.4	<10	0.33	<5	37.9	17.05	59.8	7.1	138.5
415560		0.07	-2.19	95.3	<1	2700	831	1.5	<10	0.32	<5	39.1	17.30	60.4	7.3	141.0
415570		0.32	5.91	98.3	1	2630	682	5.9	<10	1.72	7	19.90	9.70	10.85	18.1	39.8
415594		0.11	11.65	98.0	<1	3440	1290	12.1	80	3.67	11	33.2	16.15	18.15	20.6	64.0
415614		0.37	1.79	96.7	<1	4710	2740	2.9	<10	0.49	<5	43.1	23.8	40.1	14.4	138.0
415644		0.66	2.07	101.0	3	>10000	964	3.0	<10	3.11	<5	34.9	20.0	15.35	34.7	50.8
415663		0.13	1.29	98.8	<1	653	1820	16.6	150	8.71	26	47.9	23.9	25.1	28.6	84.7
415683		0.40	9.49	98.6	1	1625	1305	15.1	130	1.86	21	35.5	16.70	19.75	22.4	63.4
415700		0.89	1.88	48.0	1	995	>10000	2.7	<10	0.21	<5	>1000	441	>1000	329	>1000
415702		0.25	0.49	99.9	1	644	1235	1.9	<10	0.28	8	36.4	17.65	20.00	9.7	64.2
415733		1.16	8.63	99.3	<1	480	381	2.6	<10	0.01	<5	11.15	5.26	12.05	4.3	19.30
415753		1.34	14.50	98.5	1	>10000	2650	8.0	40	0.97	10	67.5	32.8	36.9	20.7	121.0
415773		0.95	11.15	97.2	1	4560	1835	4.5	<10	0.16	7	70.0	31.2	35.1	22.5	108.5
415796		0.24	4.98	97.6	1	1300	2240	4.8	<10	0.62	7	57.8	27.8	33.4	23.3	111.5
415816		0.85	5.45	97.9	1	>10000	1920	6.4	10	5.07	8	50.4	23.4	25.7	41.7	88.8
415836		1.53	20.8	99.4	<1	2150	2000	1.1	<10	0.01	<5	36.9	15.75	30.0	8.7	90.5
415856		0.87	9.92	97.6	<1	948	1895	2.3	<10	0.24	<5	50.9	23.7	28.3	16.1	90.4
415876		0.66	18.05	96.2	1	1505	2160	2.2	<10	0.06	<5	63.4	26.4	42.4	13.8	127.0
415896		0.11	1.99	95.9	1	844	2360	3.8	<10	0.74	7	186.5	95.8	62.7	28.5	213
415897		0.01	1.28	100.0	<1	27.7	10.9	<0.5	<10	0.84	<5	1.11	0.74	0.39	23.4	1.05

Comments: Certificate Comments" Samples with high rare earth metals > 2% will have low whole rock totals".



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Page: 2 - C
 Total # Pages: 2 (A - D)
 Finalized Date: 14- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118254

Sample Description	Method Analyte Units LOR	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
		Hf ppm	Ho ppm	La ppm	Lu ppm	Mo ppm	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Pr ppm	Rb ppm	Sm ppm	Sn ppm	Sr ppm	Ta ppm
		0.2	0.01	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1
414451		3.9	7.46	778	1.20	7	550	677	<5	55	178.0	69.4	110.5	3	7600	21.7
414475		6.3	4.47	856	1.31	<2	307	466	24	52	137.5	107.0	63.2	7	5240	12.9
414495		6.3	4.89	563	1.44	4	435	412	26	29	115.5	205	60.0	9	5720	13.9
414511		6.0	2.18	254	0.62	<2	457	221	166	<5	58.3	185.5	32.2	4	1575	21.1
415531		8.8	2.59	288	0.96	6	118.0	206	<5	18	57.5	166.5	30.8	2	1115	3.9
415550		1.6	5.60	235	1.38	58	20.3	1230	<5	108	180.5	10.9	336	5	463	0.5
415560		1.6	5.73	236	1.39	59	21.0	1255	<5	115	184.0	10.5	341	4	472	0.5
415570		15.1	3.43	348	1.45	8	383	288	<5	37	76.6	73.7	45.4	12	2530	6.8
415594		8.4	5.89	745	1.80	4	499	455	33	16	130.0	162.5	68.1	10	858	17.3
415614		1.8	7.22	927	2.19	42	103.0	1635	<5	21	385	35.0	224	2	2980	2.5
415644		37.8	6.50	561	2.84	4	2270	348	<5	70	100.0	205	53.7	7	5500	150.0
415663		12.6	8.25	1035	2.47	7	440	641	81	38	190.5	325	89.5	15	1050	19.8
415683		9.2	5.93	780	1.74	3	559	473	65	38	134.0	140.5	69.1	13	3290	19.1
415700		10.8	173.0	>10000	15.95	2	240	>10000	<5	24	>1000	18.7	>1000	2	6980	13.5
415702		2.8	6.18	588	1.62	13	164.0	481	<5	12	135.0	8.7	73.0	5	1945	1.9
415733		1.1	1.87	130.5	0.48	146	43.0	172.5	<5	114	47.5	0.8	22.8	5	9490	0.1
415753		5.7	11.40	1735	3.48	28	279	861	<5	107	265	85.5	124.0	18	>10000	4.0
415773		7.6	11.45	1005	2.89	15	387	724	<5	97	205	38.0	119.5	7	8110	2.5
415796		6.1	9.60	1200	3.16	23	351	885	<5	29	252	26.2	131.5	17	1945	7.3
415816		8.4	8.31	1130	2.56	8	722	673	<5	50	201	137.5	91.1	19	6990	29.6
415836		0.8	5.65	990	1.18	15	74.3	812	<5	58	230	0.4	108.0	2	>10000	0.1
415856		4.0	8.43	924	2.09	19	98.3	745	<5	112	215	4.3	101.0	3	6810	0.2
415876		3.6	9.94	1015	1.97	2	315	994	<5	27	263	2.8	157.5	7	5310	0.2
415896		14.0	33.6	1305	10.15	5	301	920	<5	22	261	64.0	186.0	27	878	10.2
415897		1.4	0.23	5.7	0.13	<2	3.5	5.2	<5	7	1.32	62.1	0.99	1	69.4	0.2

Comments: Certificate Comments" Samples with high rare earth metals > 2% will have low whole rock totals".



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CERTIFICATE OF ANALYSIS TB10118254

Sample Description	Method Analyte Units LOR	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	
		Tb ppm	Th ppm	Tl ppm	Tm ppm	U ppm	V ppm	W ppm	Y ppm	Yb ppm	Zn ppm	Zr ppm
		0.01	0.05	0.5	0.01	0.05	5	1	0.5	0.03	5	2
414451		11.00	221	<0.5	1.94	49.5	<5	2	162.5	10.00	689	242
414475		6.00	161.5	<0.5	1.67	6.07	113	2	115.5	9.54	525	360
414495		6.14	113.5	0.5	1.80	8.62	83	2	115.0	10.40	643	372
414511		3.12	83.3	0.5	0.71	21.5	129	2	48.3	4.34	215	348
415531		3.20	85.5	<0.5	1.06	3.77	7	3	61.4	6.50	186	391
415550		12.00	>1000	<0.5	1.87	2.96	<5	5	121.5	11.00	2190	74
415560		12.15	>1000	<0.5	1.96	3.06	<5	5	123.5	11.15	2230	78
415570		4.32	120.5	<0.5	1.38	1.88	20	3	79.4	9.07	625	596
415594		7.11	197.0	<0.5	2.24	16.25	51	2	149.5	13.15	483	521
415614		12.35	>1000	<0.5	2.83	2.81	<5	6	175.5	16.70	1820	114
415644		6.63	68.6	0.6	3.09	46.4	7	3	194.0	19.55	266	2970
415663		10.00	233	0.5	3.24	14.65	67	4	206	18.65	714	738
415683		7.61	199.5	0.5	2.24	14.55	59	3	148.0	12.95	564	576
415700		664	>1000	<0.5	21.5	201	404	4	2510	139.5	172	452
415702		7.73	318	<0.5	2.37	2.33	9	7	152.5	13.65	1365	155
415733		2.39	626	<0.5	0.69	2.72	<5	1	26.3	3.79	1545	95
415753		14.50	458	0.5	4.47	7.10	37	2	314	26.3	994	282
415773		14.25	486	<0.5	4.10	10.25	49	2	262	22.9	1455	360
415796		12.80	651	<0.5	3.80	12.85	24	2	232	23.1	1200	448
415816		10.70	304	0.7	3.09	11.65	31	2	192.5	18.50	1555	442
415836		9.35	116.5	<0.5	1.71	0.72	11	2	121.5	9.39	624	35
415856		11.00	272	<0.5	3.03	0.79	24	2	170.0	16.80	805	157
415876		14.80	119.0	<0.5	3.05	0.90	25	2	216	16.45	265	154
415896		33.4	532	<0.5	14.05	15.70	68	4	864	80.8	513	677
415897		0.18	1.69	0.5	0.13	0.32	<5	2	6.0	0.86	28	71

Comments: Certificate Comments " Samples with high rare earth metals > 2% will have low whole rock totals".



ALS Canada Ltd.
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 North Vancouver BC V7H 0A7
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 1
 Finalized Date: 15- SEP- 2010
 Account: RAEAME

CERTIFICATE TB10118255

Project:
 P.O. No.:
 This report is for 25 Crushed Rock samples submitted to our lab in Thunder Bay, ON, Canada on 24- AUG- 2010.
 The following have access to data associated with this certificate:


REG FELIX	ACCOUNTS PAYABLE	MICHAEL STARES
-----------	------------------	----------------

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
PUL- QC	Pulverizing QC Test
LOG- 22	Sample login - Rcd w/o BarCode
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um
LOG- 24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
TOT- ICP06	Total Calculation for ICP06	ICP- AES
ME- XRF10	Fusion XRF - Ore Grade	XRF
OA- GRA06	LOI for ME- XRF06	WST- SIM
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS

To: RARE EARTH METALS INC.
 ATTN: REG FELIX
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

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

Signature: 
 Colin Ramshaw, Vancouver Laboratory Manager



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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 2 - A
 Total # Pages: 2 (A - D)
 Finalized Date: 15- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118255

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg	ME- XRF10 Nb2O5 %	ME- XRF10 ZrO2 %	ME- ICP06 SiO2 %	ME- ICP06 Al2O3 %	ME- ICP06 Fe2O3 %	ME- ICP06 MnO %	ME- ICP06 MgO %	ME- ICP06 CaO %	ME- ICP06 Na2O %	ME- ICP06 K2O %	ME- ICP06 TiO2 %	ME- ICP06 P2O5 %	ME- ICP06 BaO %	ME- ICP06 Cr2O3 %
415916		1.20	0.07	0.05	43.0	12.90	15.25	1.03	2.17	7.13	0.58	8.40	0.04	0.57	0.56	<0.01
415936		2.63	0.29	0.09	1.68	0.80	74.8	3.42	1.66	9.60	0.03	0.08	0.07	1.03	0.11	0.01
415952		1.53	0.23	0.07	6.96	1.96	84.5	4.50	1.07	0.97	0.17	0.19	0.11	0.28	0.04	<0.01
598520		1.11	0.09	0.14	40.3	10.30	15.45	1.17	5.71	15.00	0.94	3.32	0.75	1.34	0.76	0.04
598550		2.88	0.07	0.03	3.53	1.60	83.7	2.16	0.97	0.68	0.08	0.39	0.06	0.23	0.27	<0.01
598570		5.00	0.19	0.12	0.31	0.20	57.8	3.63	1.01	20.6	0.03	<0.01	0.04	1.98	0.01	<0.01
598610		1.98	0.12	0.06	0.24	0.07	60.4	4.48	0.77	19.95	0.02	<0.01	0.02	0.75	0.09	<0.01
598630		2.42	0.81	0.21	19.50	4.85	58.0	2.28	2.17	4.99	0.73	1.76	0.57	0.36	0.48	<0.01
598650		1.96	0.35	0.15	32.9	8.98	27.3	2.69	2.60	10.40	0.32	4.76	0.06	1.16	2.44	<0.01
598680		1.51	0.22	0.17	48.3	13.30	15.75	0.90	2.61	5.10	0.43	9.68	0.43	0.24	1.12	0.02
598700		0.92	0.20	0.14	28.3	8.13	34.9	2.20	3.95	9.72	0.58	4.10	0.15	0.79	0.90	0.01
598710		0.92	0.20	0.14	28.3	8.05	35.0	2.21	3.88	9.80	0.58	4.10	0.16	0.78	0.89	<0.01
598723		2.89	0.08	0.04	3.07	1.22	84.3	3.14	0.76	4.45	0.12	0.23	0.06	0.08	0.08	<0.01
598743		2.33	0.11	0.11	8.96	1.92	63.3	3.15	1.81	11.30	0.15	0.65	0.09	0.75	0.39	<0.01
598763		1.42	0.02	0.08	60.3	15.10	6.81	0.27	0.74	3.73	5.26	5.77	0.48	0.15	0.20	<0.01
598777		2.75	0.15	0.14	0.54	0.14	77.6	3.86	2.65	8.30	0.03	<0.01	0.02	0.77	0.17	<0.01
598797		1.73	0.07	0.09	51.8	12.60	16.90	0.79	0.45	4.96	3.69	5.76	0.24	0.39	0.17	<0.01
598817		3.44	0.17	0.04	2.20	1.68	89.9	3.69	1.07	0.97	0.15	0.18	0.07	0.06	0.20	<0.01
598820		0.02	<0.01	<0.01	16.30	0.53	77.5	0.22	0.23	3.19	0.02	<0.01	0.02	2.25	0.11	<0.01
598837		1.18	0.38	0.08	40.7	13.60	19.70	1.24	1.69	3.62	0.50	9.10	0.04	1.21	2.43	<0.01
598857		2.17	0.18	0.14	5.14	2.21	64.5	3.08	1.22	13.45	0.06	0.68	0.19	1.38	0.81	<0.01
598887		1.55	0.12	0.15	13.10	3.53	28.2	1.98	1.06	28.5	0.68	1.27	0.07	2.43	0.23	<0.01
598907		2.17	0.12	0.13	51.0	12.05	16.60	0.97	0.87	7.57	3.68	4.93	0.24	0.41	0.44	<0.01
598962		2.01	0.17	0.10	3.93	1.40	21.6	1.59	0.64	39.1	0.10	0.55	0.05	1.70	0.11	<0.01
598963		0.10	<0.01	0.01	59.5	23.4	1.06	0.02	0.12	0.58	10.55	4.70	0.01	0.01	<0.01	<0.01

Comments: Low whole rock total confirmed by re- analysis.



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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 2 - B
 Total # Pages: 2 (A - D)
 Finalized Date: 15- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118255

Sample Description	Method Analyte Units LOR	ME- ICP06	OA- GRA05	TOT- ICP06	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
		SrO %	LOI %	Total %	Ag ppm	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Dy ppm	Er ppm	Eu ppm	Ga ppm	Cd ppm
		0.01	0.01	0.01	1	0.5	0.5	0.5	10	0.01	5	0.05	0.03	0.03	0.1	0.05
415916		0.26	4.65	96.5	1	4570	723	4.3	<10	2.49	<5	13.40	6.80	7.91	19.1	27.1
415936		0.56	5.30	99.2	<1	930	1025	1.2	<10	0.32	<5	41.3	21.6	21.8	7.8	65.0
415952		0.04	-1.39	99.4	1	328	1680	2.7	<10	2.72	<5	69.4	31.1	34.9	10.9	111.5
598520		0.22	2.49	97.8	1	6340	1635	23.1	250	3.71	36	37.7	19.20	17.70	25.6	69.4
598550		0.02	-2.90	90.8	<1	2270	742	2.0	<10	0.57	<5	44.5	21.0	49.7	12.0	111.5
598570		0.99	12.60	99.2	<1	111.5	502	1.6	<10	0.01	<5	22.3	9.70	14.80	5.2	37.7
598610		0.47	14.30	101.5	<1	726	307	1.0	<10	0.01	<5	7.68	4.06	3.89	5.7	12.25
598630		0.09	1.28	97.1	3	3890	1660	1.9	<10	2.47	<5	223	102.0	84.5	62.3	244
598650		0.51	3.25	97.4	3	>10000	3190	4.4	<10	6.32	<5	68.2	34.4	39.2	61.3	134.5
598680		0.19	1.59	99.7	1	8990	359	10.4	120	2.87	15	33.1	14.15	15.15	121.0	44.3
598700		0.44	3.78	98.0	1	6980	1330	5.2	<10	1.66	7	56.6	25.6	28.0	56.9	84.5
598710		0.44	4.27	98.5	1	7420	1345	5.4	<10	1.58	<5	59.4	26.7	29.5	57.5	88.1
598723		0.23	0.30	98.0	<1	640	2560	1.0	<10	0.97	<5	42.4	21.0	27.4	13.4	101.0
598743		0.61	5.07	98.2	1	3130	2810	3.7	<10	0.73	<5	65.5	31.5	35.4	15.7	122.5
598763		0.13	0.98	99.9	<1	1530	320	1.6	10	0.80	<5	9.48	5.16	3.25	27.5	15.75
598777		1.20	4.65	99.9	<1	1370	1760	2.1	<10	<0.01	<5	13.05	7.91	14.45	7.3	49.7
598797		0.10	1.57	99.4	<1	1295	1005	3.5	<10	2.14	<5	29.1	14.20	13.50	28.1	50.1
598817		0.04	-1.19	99.0	1	1650	2460	1.3	<10	0.62	<5	48.9	23.4	31.5	12.9	109.5
598820		0.01	0.79	101.0	2	931	13.5	3.5	<10	0.04	44	1.75	1.14	3.05	1.8	1.75
598837		0.42	1.29	95.5	3	>10000	2230	3.8	<10	9.62	<5	54.5	33.7	30.9	87.3	100.0
598857		0.57	6.76	100.0	1	6640	1190	3.9	<10	0.49	<5	44.5	18.55	26.2	15.5	76.7
598887		1.16	18.40	100.5	1	1835	1950	2.5	<10	1.08	<5	45.1	20.3	30.1	14.5	96.7
598907		0.37	1.87	101.0	2	3950	386	3.0	<10	2.84	<5	12.15	6.57	5.74	25.0	19.95
598962		0.69	29.1	100.5	<1	955	1740	1.4	<10	0.95	<5	75.5	32.7	45.3	12.7	130.0
598963		0.01	1.28	101.0	<1	29.9	15.9	<0.5	<10	0.88	<5	1.02	0.67	0.42	22.2	1.05

Comments: Low whole rock total confirmed by re- analysis.



ALS Canada Ltd.
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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 2 - C
 Total # Pages: 2 (A - D)
 Finalized Date: 15- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118255

Sample Description	Method Analyte Units LOR	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	
		Hf ppm 0.2	Ho ppm 0.01	La ppm 0.5	Lu ppm 0.01	Mo ppm 2	Nb ppm 0.2	Nd ppm 0.1	Ni ppm 5	Pb ppm 5	Pr ppm 0.03	Rb ppm 0.2	Sm ppm 0.03	Sn ppm 1	Sr ppm 0.1	Ta ppm 0.1
415916		2.3	2.21	448	0.86	10	490	237	<5	15	71.0	176.0	29.1	5	2110	11.0
415936		2.6	7.17	321	2.18	52	386	644	<5	53	151.5	7.6	89.5	5	4440	0.7
415952		6.9	11.50	690	2.93	60	432	770	<5	31	202	18.2	135.0	14	268	2.5
598520		17.1	6.53	1030	1.95	16	617	546	107	40	161.0	103.0	72.9	14	1820	21.4
598550		1.5	6.99	253	2.16	26	84.2	899	<5	18	144.0	24.7	249	11	137.5	1.1
598570		1.6	3.62	145.0	0.82	38	106.5	289	<5	51	70.8	0.4	44.6	3	7530	0.1
598610		0.8	1.36	184.0	0.46	23	57.8	101.0	<5	35	30.8	0.2	12.00	2	3870	0.1
598630		41.6	37.6	762	12.40	7	1915	747	<5	130	192.0	101.5	208	55	721	10.1
598650		13.1	11.55	1895	3.84	11	2000	1125	<5	71	327	204	140.5	14	4200	122.5
598680		25.6	5.39	170.0	1.55	5	1435	163.5	45	50	42.0	321	37.6	31	1590	15.5
598700		16.7	9.40	697	2.72	4	518	535	<5	114	146.0	113.5	98.0	26	3530	1.3
598710		18.4	9.84	726	2.96	4	963	544	<5	105	147.0	114.0	100.0	26	3580	14.7
598723		2.1	7.05	1205	1.76	4	101.0	955	<5	44	283	19.3	115.0	5	1840	0.8
598743		5.8	10.85	1465	3.08	17	248	1055	<5	31	304	28.7	137.5	16	4960	3.2
598763		9.6	1.69	180.0	0.80	7	141.0	122.0	<5	18	34.2	131.0	17.40	2	1070	5.2
598777		0.7	2.14	852	0.80	30	146.5	622	<5	53	189.0	0.4	60.2	6	9580	0.4
598797		12.4	4.96	535	1.71	10	441	386	<5	22	109.0	227	54.6	13	780	11.5
598817		4.1	7.66	964	2.06	5	221	1110	<5	128	305	20.5	138.5	4	283	0.5
598820		0.5	0.39	10.6	0.10	<2	2.3	9.6	<5	4830	2.18	0.6	1.95	40	86.3	0.4
598837		3.5	10.20	1185	4.98	23	2420	864	<5	31	249	227	124.5	25	3590	167.0
598857		7.6	6.97	631	1.59	47	112.0	434	<5	75	123.0	29.5	77.2	18	4310	0.5
598887		3.9	7.12	1050	1.72	6	282	762	<5	34	209	47.7	112.5	3	9180	1.3
598907		16.7	2.09	192.5	1.24	5	930	146.5	<5	42	40.8	213	22.0	9	3190	20.9
598962		2.8	12.10	782	3.00	5	77.6	845	<5	281	211	32.3	157.0	4	5470	0.2
598963		1.4	0.20	8.2	0.12	<2	5.2	6.8	<5	7	1.82	59.6	1.17	<1	84.4	0.1

Comments: Low whole rock total confirmed by re- analysis.



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 2103 Dollarton Hwy
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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 2 - D
 Total # Pages: 2 (A - D)
 Finalized Date: 15- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118255

Sample Description	Method Analyte Units LOR	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
		Tb ppm 0.01	Th ppm 0.05	Ti ppm 0.5	Tm ppm 0.01	U ppm 0.05	V ppm S	W ppm I	Y ppm 0.5	Yb ppm 0.03	Zn ppm S	Zr ppm 2
415916		3.02	70.7	0.5	0.94	5.08	5	6	58.2	5.87	396	98
415936		8.47	498	<0.5	3.01	8.69	6	6	144.5	17.45	2300	167
415952		14.45	>1000	<0.5	4.20	17.95	<5	7	243	23.3	2230	350
598520		8.03	141.5	0.5	2.60	14.90	79	4	168.5	15.15	506	917
598550		11.35	>1000	<0.5	2.71	2.88	<5	8	142.0	16.70	2410	96
598570		4.81	208	<0.5	1.20	1.24	9	2	58.9	6.58	698	82
598610		1.51	15.80	<0.5	0.57	0.15	6	2	29.6	3.47	398	44
598630		40.7	>1000	0.6	15.15	24.3	27	9	857	92.3	3830	1500
598650		15.15	280	0.9	4.65	51.5	19	2	297	27.6	1350	761
598680		6.47	303	1.3	1.98	6.13	171	2	124.0	11.55	871	1160
598700		11.65	563	0.8	3.50	6.35	54	7	212	20.6	1230	690
598710		11.95	583	0.7	3.65	6.25	56	2	218	21.5	1260	774
598723		10.30	572	<0.5	2.64	5.04	<5	6	168.0	14.50	1735	84
598743		14.30	493	<0.5	4.04	5.11	6	6	269	24.0	2150	271
598763		1.94	17.25	<0.5	0.75	2.30	6	3	41.6	5.22	128	479
598777		4.08	383	<0.5	0.96	1.21	<5	6	53.1	6.24	1440	38
598797		6.11	259	<0.5	2.00	8.88	14	3	120.0	12.15	569	578
598817		11.60	971	<0.5	2.85	3.50	5	6	157.0	16.30	2340	153
598820		0.25	3.30	<0.5	0.18	0.66	25	7	15.5	0.95	2560	20
598837		11.50	294	1.0	5.38	42.4	17	4	305	35.2	898	189
598857		9.51	>1000	<0.5	2.09	4.55	19	2	154.0	12.85	1605	502
598887		10.65	68.8	<0.5	2.14	3.70	12	3	162.5	13.65	262	171
598907		2.49	115.5	<0.5	0.96	15.75	10	3	49.2	7.77	413	698
598962		16.25	456	<0.5	3.75	18.70	5	2	275	23.5	671	171
598963		0.16	2.93	<0.5	0.10	0.28	<5	2	5.3	0.81	27	72

Comments: Low whole rock total confirmed by re- analysis.



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THUNDERBAY ON P7C 4V1

Page: 1
Finalized Date: 15- SEP- 2010
Account: RAEAME

CERTIFICATE TB10118256

Project:
P.O. No.:
This report is for 24 Crushed Rock samples submitted to our lab in Thunder Bay, ON, Canada on 24- AUG- 2010.

The following have access to data associated with this certificate:

REG FELIX

ACCOUNTS PAYABLE

MICHAEL STARES

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
PUL- QC	Pulverizing QC Test
LOG- 22	Sample login - Rcd w/o BarCode
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um
LOG- 24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
TOT- ICP06	Total Calculation for ICP06	ICP- AES
ME- XRF10	Fusion XRF - Ore Grade	XRF
OA- GRA06	LOI for ME- XRF06	WST- SIM
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS

To: RARE EARTH METALS INC.
ATTN: REG FELIX
RR #2, 3250 W. ARTHUR STREET
THUNDERBAY ON P7C 4V1

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

Signature:

Colin Ramshaw, Vancouver Laboratory Manager



ALS Canada Ltd.
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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 2 - A
 Total # Pages: 2 (A - D)
 Finalized Date: 1S- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118256

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg	ME- XRF10 Nb2O5 %	ME- XRF10 ZrO2 %	ME- ICP06 SiO2 %	ME- ICP06 Al2O3 %	ME- ICP06 Fe2O3 %	ME- ICP06 MnO %	ME- ICP06 MgO %	ME- ICP06 CaO %	ME- ICP06 Na2O %	ME- ICP06 K2O %	ME- ICP06 TiO2 %	ME- ICP06 P2O5 %	ME- ICP06 BaO %	ME- ICP06 Cr2O3 %
598982		2.14	0.10	0.08	37.6	15.05	24.4	1.04	1.76	7.27	0.86	7.41	0.14	0.92	0.56	<0.01
599002		1.78	0.15	0.15	8.28	1.77	17.85	1.20	0.77	39.4	0.36	0.54	0.03	2.00	0.09	<0.01
599022		1.79	0.06	0.06	58.5	14.90	8.34	0.54	0.71	3.99	4.22	6.67	0.25	0.35	0.11	<0.01
599042		2.08	0.17	0.16	10.60	3.24	33.5	1.99	2.33	25.7	0.07	1.86	0.24	1.56	0.48	0.01
599062		1.22	0.21	0.15	36.1	7.55	27.8	2.15	3.48	11.40	3.53	1.86	0.48	0.24	0.09	0.01
599082		2.63	0.38	0.07	1.88	0.79	93.3	2.03	0.42	0.73	0.04	<0.01	0.11	0.23	0.01	<0.01
599102		2.82	0.09	0.03	6.46	2.67	84.3	2.71	1.29	2.36	0.19	0.40	0.11	0.45	0.13	<0.01
599122		1.91	0.13	0.07	25.6	8.13	51.9	1.26	1.04	6.15	1.94	2.13	0.98	0.94	0.11	<0.01
599142		1.33	0.17	0.06	37.7	8.42	28.3	0.92	1.44	1.38	1.91	3.46	0.21	0.64	0.07	<0.01
599162		2.25	0.11	0.09	17.55	4.38	32.2	1.87	3.17	23.2	0.25	1.63	0.36	1.42	0.32	0.02
599182		1.55	0.07	0.07	58.2	9.53	13.65	0.67	0.72	5.17	3.79	3.37	0.08	0.44	0.10	<0.01
599202		3.01	0.12	0.10	6.66	1.64	73.2	2.87	1.26	8.04	0.32	0.42	0.10	0.94	0.22	<0.01
599205		0.02	0.49	0.18	6.44	1.82	3.96	0.79	2.02	42.3	0.47	0.74	0.20	2.33	0.31	<0.01
599222		2.70	0.17	0.06	1.12	0.22	61.2	3.46	2.75	15.65	0.04	<0.01	0.03	2.72	0.01	<0.01
599242		1.81	0.17	0.18	48.2	10.40	13.55	1.47	2.65	10.10	2.62	4.59	0.31	0.14	1.65	<0.01
599262		2.06	0.09	0.09	35.8	11.70	20.2	1.05	6.52	11.90	1.12	4.18	0.90	1.03	1.77	0.03
599860		0.67	0.07	0.07	43.4	11.95	7.93	0.66	3.82	14.30	2.01	5.68	0.23	1.13	0.51	<0.01
599870		0.70	0.07	0.07	43.5	12.00	7.83	0.67	3.81	14.35	2.01	5.69	0.23	1.17	0.51	<0.01
599901		0.68	0.03	0.13	57.1	15.40	7.21	0.52	0.67	4.18	4.20	6.20	0.73	0.21	1.80	<0.01
599921		0.57	0.02	0.16	39.5	9.42	9.01	0.94	0.65	17.75	2.14	5.71	0.16	0.86	0.52	<0.01
599934		1.10	0.08	0.09	50.6	13.35	8.69	0.51	1.35	8.46	3.72	6.20	0.37	1.33	0.11	<0.01
599957		1.48	0.05	0.14	47.0	15.05	11.50	0.68	2.35	8.47	1.60	7.70	0.70	0.72	0.54	0.01
599988		1.96	0.22	0.14	44.0	13.90	13.40	1.16	1.88	10.15	1.66	5.88	0.17	1.41	2.36	<0.01
599989		0.14	<0.01	0.01	58.4	22.9	0.98	0.02	0.12	0.49	10.25	4.63	0.01	0.01	<0.01	<0.01



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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 2 - B
 Total # Pages: 2 (A - D)
 Finalized Date: 15- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118256

Sample Description	Method Analyte Units LOR	ME- ICP06	OA- GRA05	TOT- ICP06	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
		SrO %	LOI %	Total %	Ag ppm	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Dy ppm	Er ppm	Eu ppm	Ga ppm	Gd ppm
598982		0.38	1.99	99.4	1	4830	466	5.2	<10	4.31	<5	14.70	6.89	9.88	27.4	29.2
599002		1.27	27.5	101.0	<1	794	1465	1.3	<10	0.50	<5	42.1	16.85	27.2	9.7	83.1
599022		0.12	1.98	100.5	1	899	532	2.8	10	1.16	<5	14.60	7.16	6.09	29.7	25.5
599042		1.15	18.10	101.0	2	4190	2050	4.7	30	0.72	7	53.4	23.9	29.7	15.3	96.5
599062		0.26	4.93	99.9	3	768	561	7.6	40	4.72	<5	13.85	6.96	7.95	21.4	26.8
599082		0.02	-2.18	97.4	1	109.5	2400	1.2	<10	0.07	<5	214	77.5	110.0	14.4	317
599102		0.05	-0.60	100.5	1	1090	2450	2.3	<10	0.81	8	54.0	24.8	33.5	14.3	113.5
599122		0.15	0.10	100.5	1	934	924	3.5	<10	2.23	<5	20.2	9.43	12.65	27.7	43.3
599142		0.05	11.20	95.7	3	576	1550	12.4	10	1.14	12	39.8	17.10	24.6	27.1	81.3
599162		0.37	12.20	98.9	1	2740	1795	9.6	90	1.91	14	51.2	23.6	27.8	18.2	89.7
599182		0.19	4.08	100.0	1	850	597	2.5	20	3.17	<5	23.7	11.65	8.91	33.1	34.6
599202		0.64	2.67	99.0	<1	1885	1300	2.7	<10	0.25	<5	28.2	13.95	16.40	7.0	54.7
599205		1.51	32.6	95.5	6	2760	1820	5.2	<10	0.80	7	14.05	6.99	13.05	8.9	48.7
599222		0.45	9.95	97.6	1	102.5	778	2.6	<10	0.04	<5	16.65	7.82	11.85	6.0	36.1
599242		0.40	2.28	98.4	2	>10000	335	3.4	<10	2.34	<5	17.15	8.82	7.17	25.1	23.4
599262		0.27	2.47	98.9	1	>10000	970	21.6	240	7.14	7	28.0	13.90	14.15	36.2	48.2
599860		0.30	8.42	100.5	2	4540	1235	7.5	<10	6.81	25	29.9	15.30	14.20	22.0	54.4
599870		0.30	7.98	100.0	1	4480	1215	7.4	10	7.00	23	29.8	15.45	14.30	21.3	54.2
599901		0.51	1.87	100.5	1	>10000	1105	1.6	<10	1.32	<5	20.7	12.05	18.90	27.0	48.7
599921		0.88	12.20	99.7	1	4720	1780	1.3	<10	2.10	<5	50.6	26.5	22.5	27.3	81.9
599934		0.08	5.14	99.9	1	949	913	3.2	<10	1.16	<5	31.0	16.45	11.40	23.1	44.8
599957		0.71	1.77	98.8	1	4750	826	11.9	30	5.43	30	17.20	8.73	9.08	19.8	30.8
599988		0.58	0.59	97.1	2	>10000	1695	3.9	<10	4.43	6	51.1	25.2	25.3	30.8	84.0
599989		<0.01	1.19	99.0	<1	35.4	7.5	<0.5	<10	0.82	<5	0.94	0.65	0.32	21.5	0.74



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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 2 - C
 Total # Pages: 2 (A - D)
 Finalized Date: 15- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118256

Sample Description	Method Analyte Units LOR	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	
		Hf ppm	Ho ppm	La ppm	Lu ppm	Mo ppm	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Pr ppm	Rb ppm	Sm ppm	Sr ppm	Sr ppm	Ta ppm
		0.2	0.01	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1
598982		4.8	2.42	225	0.58	7	656	248	<5	21	57.5	196.0	40.4	4	3260	21.4
599002		2.7	6.44	808	1.11	7	71.0	600	<5	30	156.5	41.2	94.2	6	9600	0.2
599022		8.6	2.49	304	0.87	7	398	182.5	7	27	52.5	195.5	26.9	5	1025	13.6
599042		5.3	8.76	1260	2.06	8	444	661	<5	86	194.0	51.2	97.1	10	9260	4.6
599062		20.5	2.28	286	1.52	6	1335	215	12	21	60.4	83.1	31.0	24	2050	21.2
599082		14.9	32.1	1015	4.95	5	157.0	997	<5	34	278	1.3	271	19	159.0	0.3
599102		3.6	8.70	1160	1.97	4	122.5	937	<5	10	269	20.6	135.5	26	332	0.2
599122		9.0	3.26	477	0.97	4	422	349	<5	14	97.1	91.5	50.4	19	1240	14.4
599142		10.0	6.14	861	1.60	4	1140	575	8	18	160.5	128.5	86.7	16	438	6.4
599162		7.1	8.42	1050	2.33	2	268	603	18	89	175.5	53.8	90.6	14	2910	3.2
599182		12.0	4.04	320	1.33	3	463	218	6	33	61.6	325	36.8	13	1665	11.9
599202		4.6	4.73	659	1.26	197	74.4	471	<5	51	135.0	18.5	62.6	9	5260	0.1
599205		0.6	2.17	1010	0.57	15	1695	473	<5	38	152.5	33.8	50.4	<1	>10000	15.8
599222		2.1	2.66	288	0.67	104	81.4	326	<5	66	90.2	1.3	42.2	1	3570	0.1
599242		25.6	2.92	170.0	2.08	12	1185	132.5	<5	55	36.2	143.5	23.3	18	3360	22.1
599262		10.4	4.79	546	1.63	2	654	349	132	15	99.6	155.5	53.1	17	2380	19.0
599860		5.6	5.15	687	1.46	2	518	419	8	17	123.0	269	59.0	3	2540	14.2
599870		5.6	5.13	678	1.48	2	515	421	11	17	121.0	263	58.1	3	2540	14.1
599901		11.9	3.64	771	1.78	5	223	433	<5	87	110.0	158.0	73.4	5	4330	9.3
599921		10.2	8.88	974	2.84	10	192.0	647	<5	72	180.5	181.0	94.5	3	7600	6.4
599934		12.8	5.60	505	1.71	8	632	320	<5	24	92.4	148.0	45.7	5	694	5.4
599957		7.9	2.97	520	0.98	5	366	251	20	73	76.4	206	31.5	5	6230	13.2
599988		8.4	8.78	952	2.71	5	1470	589	<5	72	169.0	213	87.8	8	4900	65.1
599989		1.2	0.19	4.2	0.13	<2	1.4	3.3	<5	6	0.85	58.5	0.63	<1	50.9	0.2



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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 2 - D
 Total # Pages: 2 (A - D)
 Finalized Date: 15- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118256

Sample Description	Method Analyte Units LOR	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	
		Tb ppm	Th ppm	Ti ppm	Tm ppm	U ppm	V ppm	W ppm	Y ppm	Yb ppm	Zn ppm	Zr ppm
		0.01	0.05	0.5	0.01	0.05	5	1	0.5	0.03	5	2
598982		3.34	177.0	0.8	0.74	11.25	21	3	58.0	4.45	656	272
599002		9.71	77.8	<0.5	1.65	8.51	6	2	148.5	9.35	177	92
599022		3.02	73.8	<0.5	0.90	9.73	8	4	62.3	6.07	207	345
599042		11.55	259	<0.5	2.71	8.71	33	2	212	16.60	683	250
599062		3.13	28.2	<0.5	1.01	4.00	21	3	49.7	8.49	1065	984
599082		44.4	>1000	<0.5	8.28	2.03	7	2	714	45.4	1615	353
599102		12.60	782	<0.5	2.62	6.27	5	2	210	16.00	1585	182
599122		4.74	195.0	<0.5	1.08	7.47	53	3	81.1	7.16	717	420
599142		9.24	246	<0.5	1.88	10.05	30	5	144.0	12.00	142	396
599162		10.90	301	<0.5	2.76	9.66	59	2	215	17.60	839	337
599182		4.68	148.0	0.7	1.50	7.93	10	3	105.0	9.86	455	345
599202		6.25	534	<0.5	1.60	5.92	11	2	109.5	10.10	1485	221
599205		4.14	48.5	<0.5	0.68	23.4	198	2	54.2	4.39	449	84
599222		3.95	146.0	<0.5	0.83	1.24	16	2	55.1	5.25	826	112
599242		3.27	77.4	0.5	1.36	12.05	9	4	73.1	11.50	747	1040
599262		5.88	205	0.5	1.71	5.89	114	3	121.0	11.55	577	462
599860		6.31	179.0	<0.5	1.87	6.72	29	5	139.0	11.55	231	283
599870		6.35	182.5	<0.5	1.86	6.80	28	5	137.0	11.70	232	274
599901		4.91	24.9	0.6	1.59	4.31	<5	3	124.5	11.75	325	522
599921		10.10	258	0.6	3.33	5.29	<5	3	223	21.7	357	438
599934		5.96	122.0	<0.5	2.09	6.74	15	5	141.5	13.25	178	575
599957		3.62	79.2	0.9	1.09	8.25	42	4	79.0	7.25	300	426
599988		10.40	202	0.5	3.18	28.0	10	3	233	20.5	437	494
599989		0.13	0.83	<0.5	0.10	0.23	<5	2	5.1	0.77	23	58



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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

Page: 1
 Finalized Date: 14- SEP- 2010
 Account: RAEAME

CERTIFICATE TB10118257

Project:
 P.O. No.:
 This report is for 14 Crushed Rock samples submitted to our lab in Thunder Bay, ON, Canada on 24- AUG- 2010.

The following have access to data associated with this certificate:

REG FELIX

ACCOUNTS PAYABLE

MICHAEL STARES

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
PUL- QC	Pulverizing QC Test
LOG- 22	Sample login - Rcd w/o BarCode
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um
LOG- 24	Pulp Login - Rcd w/o Barcode

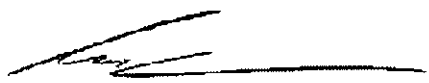
ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
TOT- ICP06	Total Calculation for ICP06	ICP- AES
ME- XRF10	Fusion XRF - Ore Grade	XRF
OA- GRA06	LOI for ME- XRF06	WST- SIM
ME- ICP06	Whole Rock Package - ICP- AES	ICP- AES
OA- GRA05	Loss on Ignition at 1000C	WST- SEQ
ME- MS81	38 element fusion ICP- MS	ICP- MS

To: RARE EARTH METALS INC.
 ATTN: REG FELIX
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

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

Signature:



Colin Ramshaw, Vancouver Laboratory Manager



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To: RARE EARTH METALS INC.
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 THUNDERBAY ON P7C 4V1

Page: 2 - A
 Total # Pages: 2 (A - D)
 Finalized Date: 14- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118257

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg	ME- XRF10 Nb2O5 %	ME- XRF10 ZrO2 %	ME- ICP06 SiO2 %	ME- ICP06 Al2O3 %	ME- ICP06 Fe2O3 %	ME- ICP06 MnO %	ME- ICP06 MgO %	ME- ICP06 CaO %	ME- ICP06 Na2O %	ME- ICP06 K2O %	ME- ICP06 TiO2 %	ME- ICP06 P2O5 %	ME- ICP06 BaO %	ME- ICP06 Cr2O3 %
414020		0.02	0.01	0.16	12.15	0.57	4.49	0.45	0.70	17.70	0.26	0.17	0.25	8.71	0.09	<0.01
414021		0.85	0.25	0.10	8.29	2.55	74.6	1.68	0.53	4.89	0.60	0.46	0.32	1.96	0.01	<0.01
414261		0.42	0.44	0.19	24.8	7.23	36.2	2.13	2.62	11.50	0.52	2.22	0.24	3.25	0.21	<0.01
415619		1.41	0.08	0.12	8.59	2.13	54.4	3.31	2.43	11.60	0.22	0.70	0.08	1.52	0.99	<0.01
415716		1.87	0.09	0.15	38.9	8.81	16.90	1.58	4.11	10.45	0.87	4.38	0.20	1.92	2.11	<0.01
598540		0.69	0.04	0.18	45.7	13.15	10.30	1.19	2.43	7.19	2.45	4.84	0.48	0.19	3.74	<0.01
598570		0.89	0.06	0.31	2.35	0.52	43.8	2.57	1.93	24.9	0.10	0.04	0.02	2.82	0.29	<0.01
598580		0.97	0.07	0.30	2.44	0.54	45.0	2.63	1.98	24.4	0.10	0.04	0.02	2.89	0.30	<0.01
598590		1.94	0.11	0.11	6.08	2.03	63.9	3.17	3.41	11.80	0.06	0.91	0.03	2.60	0.44	<0.01
598660		2.28	0.11	0.13	3.68	1.62	73.0	3.78	2.74	6.59	0.09	0.46	0.23	0.08	1.03	<0.01
598867		1.81	0.15	0.15	9.90	3.04	61.1	3.04	2.20	11.05	0.37	0.67	0.09	0.59	0.67	<0.01
599967		1.25	0.04	0.13	43.7	10.05	11.05	1.28	4.87	8.71	2.13	4.09	0.36	1.97	2.58	<0.01
599996		1.96	0.11	0.11	37.4	11.75	19.65	1.53	1.41	15.20	0.42	4.99	0.14	1.02	0.11	<0.01
599997		0.09	<0.01	0.01	59.8	23.7	1.31	0.03	0.14	0.52	10.20	4.68	0.01	<0.01	0.01	<0.01

Comments: Samples with high rare earth metals will have low whole rock totals.



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To: RARE EARTH METALS INC.
 RR #2, 3250 W. ARTHUR STREET
 THUNDERBAY ON P7C 4V1

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 Total # Pages: 2 (A - D)
 Finalized Date: 14- SEP- 2010
 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118257

Sample Description	Method Analyte Units LOR	ME- ICP06	OA- GRA05	TOT- ICP06	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
		SrO %	LOI %	Total %	Ag ppm	8a ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Dy ppm	Er ppm	Eu ppm	Ga ppm	Gd ppm
		0.01	0.01	0.01	1	0.5	0.5	0.5	10	0.01	5	0.05	0.03	0.03	0.1	0.05
414020		0.84	1.86	48.2	1	978	>10000	2.6	<10	0.23	<5	>1000	436	>1000	273	>1000
414021		0.06	-0.79	95.2	<1	116.0	3500	4.3	<10	1.80	35	138.0	60.0	58.1	32.5	201
414261		0.17	5.16	96.3	3	1745	3530	5.1	<10	1.46	10	214	103.0	86.2	42.6	271
415619		0.85	4.69	91.5	1	8860	5250	4.9	<10	1.76	6	107.5	52.7	70.7	16.4	235
415716		0.45	0.20	90.9	1	>10000	>10000	3.0	<10	2.35	<5	190.0	102.5	94.6	55.3	449
598540		0.77	2.69	95.1	1	>10000	4520	1.8	<10	2.88	<5	106.0	53.6	57.2	33.3	199.5
598570		2.74	15.90	98.0	<1	2570	3780	2.0	<10	0.14	<5	37.2	20.2	33.9	14.2	122.5
598580		2.72	16.05	99.1	<1	2750	3910	2.4	<10	0.17	<5	39.0	21.5	35.2	15.6	129.0
598590		0.89	5.79	101.0	<1	3940	3550	3.7	<10	2.25	<5	81.5	45.3	45.1	22.5	159.0
598660		0.98	4.61	98.9	<1	8760	5180	2.1	<10	1.59	5	96.6	64.7	36.2	24.3	164.5
598867		0.90	4.91	98.5	<1	5670	3870	3.3	<10	0.59	6	55.9	30.5	37.7	22.7	136.0
599967		0.57	0.90	92.3	<1	>10000	>10000	2.3	<10	3.25	<5	255	130.0	152.0	59.5	574
599996		0.09	2.20	95.9	<1	961	1315	7.0	20	7.32	7	61.8	31.4	30.1	29.6	92.5
599997		0.01	0.40	101.0	<1	104.5	67.9	0.5	<10	0.91	<5	1.78	1.11	0.90	22.6	2.96

Comments: Samples with high rare earth metals will have low whole rock totals.



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To: RARE EARTH METALS INC.
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 THUNDERBAY ON P7C 4V1

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 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118257

Sample Description	Method Analyte Units LOR	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	
		Hf	Ho	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sm	Sn	Sr	Ta
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		0.2	0.01	0.5	0.01	2	0.2	0.1	5	5	0.03	0.2	0.03	1	0.1	0.1
414020		10.6	171.5	>10000	15.30	2	243	>10000	<5	23	>1000	18.6	>1000	1	7010	10.6
414021		16.7	22.6	1890	4.88	13	133.5	1315	<5	49	368	38.5	194.5	20	464	1.0
414261		15.6	36.7	1835	11.75	3	1610	1345	<5	38	369	80.5	234	35	1270	23.9
415619		3.2	17.90	2700	5.07	45	142.5	1960	<5	42	551	53.8	287	14	7140	0.4
415716		18.3	32.6	8220	10.70	21	640	4230	<5	128	>1000	165.5	443	13	3670	19.2
598540		14.1	18.40	2910	6.36	6	275	1355	<5	289	410	152.5	189.5	6	6640	10.0
598570		1.4	6.29	1745	2.21	10	90.3	1380	<5	44	424	4.2	142.5	1	>10000	0.1
598580		1.5	6.56	1825	2.36	10	103.0	1420	<5	46	438	4.9	147.0	2	>10000	0.1
598590		2.2	15.25	1405	3.91	14	176.0	1615	<5	57	447	66.0	199.5	6	7510	0.1
598660		2.6	20.4	2340	5.92	94	299	1825	<5	115	583	49.3	188.0	3	7800	0.6
598867		7.9	10.15	2370	3.28	4	530	1050	<5	94	372	23.8	131.0	6	7170	3.6
599967		10.2	45.1	7090	11.70	7	255	5000	<5	61	>1000	153.5	622	6	4740	5.5
599996		10.0	11.25	667	3.38	10	722	573	7	27	159.0	285	103.5	15	597	19.5
599997		1.5	0.35	34.2	0.17	<2	4.0	23.7	<5	6	7.44	62.5	3.15	1	97.4	0.1

Comments: Samples with high rare earth metals will have low whole rock totals.



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To: RARE EARTH METALS INC.
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 THUNDERBAY ON P7C 4V1

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 Total # Pages: 2 (A - D)
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 Account: RAEAME

CERTIFICATE OF ANALYSIS TB10118257

Sample Description	Method Analyte Units LOR	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81	ME- MS81
		Tb ppm 0.01	Th ppm 0.05	Ti ppm 0.5	Tm ppm 0.01	U ppm 0.05	V ppm 5	W ppm 1	Y ppm 0.5	Yb ppm 0.03	Zn ppm 5	Zr ppm 2
414020		638	>1000	<0.5	19.15	201	397	4	2540	135.0	161	436
414021		27.9	575	<0.5	6.99	23.5	17	5	546	40.7	1260	607
414261		40.1	900	<0.5	13.25	37.7	60	4	1020	87.2	1220	833
415619		25.0	885	<0.5	6.14	7.25	6	3	435	39.5	1490	126
415716		44.5	464	0.9	12.25	17.40	8	4	834	80.2	869	773
598540		22.7	100.5	0.7	6.70	5.02	<5	4	621	45.1	416	617
598570		10.80	273	<0.5	2.25	0.81	5	1	167.0	15.20	1220	63
598580		11.25	284	<0.5	2.35	0.89	6	1	174.0	15.75	1330	66
598590		17.80	>1000	<0.5	5.32	2.68	13	2	376	30.9	1410	101
598660		18.40	408	<0.5	8.33	23.6	6	4	397	47.9	1590	159
598867		13.25	790	<0.5	3.81	8.44	10	5	254	24.2	2960	371
599967		61.3	680	1.1	15.25	18.80	<5	2	1100	91.5	565	440
599996		12.40	287	1.0	4.01	12.75	21	2	307	24.7	777	756
599997		0.36	4.90	<0.5	0.15	0.46	<5	1	9.5	1.06	34	76

Comments: Samples with high rare earth metals will have low whole rock totals.

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-01	0	180	-45.9	145
CH-01	3	179.9	-46.1	144.9
CH-01	6	179.9	-46.2	144.9
CH-01	9	179.8	-46.5	144.8
CH-01	12	179.8	-46.7	144.8
CH-01	15	179.8	-46.8	144.8
CH-01	18	179.7	-46.9	144.7
CH-01	21	179.7	-46.9	144.7
CH-01	24	179.6	-46.6	144.6
CH-01	27	179.6	-46.6	144.6
CH-01	30	179.6	-46.6	144.6
CH-01	33	179.7	-46.4	144.7
CH-01	36	179.9	-46.4	144.9
CH-01	39	180.1	-46.4	145.1
CH-01	42	180.3	-46.3	145.3
CH-01	45	180.5	-46.2	145.5
CH-01	48	180.7	-46.2	145.7
CH-01	51	180.9	-46.2	145.9
CH-01	54	181.2	-46.1	146.2
CH-01	57	181.4	-46.1	146.4
CH-01	60	181.6	-46.1	146.6
CH-01	63	181.9	-45.9	146.9
CH-01	66	182.2	-45.8	147.2
CH-01	69	182.5	-45.9	147.5
CH-01	72	182.7	-45.9	147.7
CH-01	75	182.8	-46	147.8
CH-01	78	182.8	-45.8	147.8
CH-01	81	182.9	-46	147.9
CH-01	84	183	-45.8	148
CH-01	87	183.1	-45.8	148.1
CH-01	90	183.3	-45.8	148.3
CH-01	93	183.6	-45.9	148.6
CH-01	96	183.8	-46	148.8
CH-01	99	184	-46	149
CH-01	102	184.2	-46	149.2
CH-01	105	184.4	-46.1	149.4
CH-01	108	184.5	-46	149.5
CH-01	111	184.7	-46.1	149.7
CH-01	114	184.9	-46.1	149.9
CH-01	117	185.1	-46.3	150.1
CH-01	120	185.3	-46.2	150.3
CH-01	123	185.6	-46.1	150.6
CH-01	126	185.7	-46.1	150.7
CH-01	129	185.9	-46	150.9

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-01	132	186.1	-45.9	151.1
CH-01	135	186.3	-45.8	151.3
CH-01	138	186.5	-45.8	151.5
CH-01	141	186.7	-45.7	151.7
CH-01	144	187	-45.5	152
CH-01	147	187.1	-45.5	152.1
CH-01	150	187.3	-45.4	152.3
CH-01	153	187.4	-45.3	152.4
CH-01	156	187.6	-45.2	152.6
CH-01	159	187.8	-45.1	152.8
CH-01	162	187.9	-45.2	152.9
CH-01	165	188.1	-45	153.1
CH-01	168	188.3	-44.9	153.3
CH-01	171	188.5	-44.7	153.5
CH-01	174	188.7	-44.8	153.7
CH-01	177	188.9	-44.7	153.9
CH-01	180	189.1	-44.5	154.1
CH-01	183	189.3	-44.5	154.3
CH-01	186	189.5	-44.4	154.5
CH-01	189	189.7	-44.3	154.7
CH-01	192	189.9	-44.2	154.9
CH-01	195	190.1	-44.3	155.1
CH-01	198	190.3	-44.3	155.3
CH-01	201	190.5	-44.4	155.5
CH-01	204	190.6	-44.4	155.6
CH-01	207	190.7	-44.5	155.7
CH-01	210	190.9	-44.4	155.9
CH-01	213	191	-44.6	156
CH-01	216	191.1	-44.7	156.1
CH-01	219	191.3	-44.8	156.3
CH-01	222	191.4	-44.9	156.4
CH-01	225	191.5	-44.9	156.5
CH-01	228	191.6	-45	156.6
CH-01	231	191.8	-45	156.8
CH-01	234	191.9	-45.1	156.9
CH-01	237	192.1	-45.1	157.1
CH-01	240	192.3	-45.2	157.3
CH-01	243	192.4	-45.3	157.4
CH-01	246	192.5	-45.3	157.5
CH-01	249	192.6	-45.4	157.6
CH-01	252	192.7	-45.4	157.7
CH-01	255	192.8	-45.5	157.8
CH-01	258	193	-45.5	158
CH-01	261	193.1	-45.6	158.1

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-01	264	193.3	-45.7	158.3
CH-01	267	193.5	-45.6	158.5
CH-01	270	193.7	-45.5	158.7
CH-01	273	193.9	-45.4	158.9
CH-01	276	194	-45.4	159
CH-01	279	194.2	-45.4	159.2
CH-01	282	194.4	-45.3	159.4
CH-01	285	194.6	-45.2	159.6
CH-01	288	194.8	-45.2	159.8
CH-01	291	195	-45	160
CH-01	294	195.3	-45	160.3
CH-01	297	195.5	-45	160.5
CH-01	300	195.7	-45.1	160.7
CH-01	303	195.9	-45	160.9
CH-01	309	196.4	-44.9	161.4
CH-02	0	180	-46.7	145
CH-02	3	179.8	-46.7	144.8
CH-02	6	179.4	-46.6	144.4
CH-02	9	179.3	-47	144.3
CH-02	12	179.7	-47.6	144.7
CH-02	15	180.3	-47.8	145.3
CH-02	18	180.8	-47.8	145.8
CH-02	21	181.1	-47.9	146.1
CH-02	24	181.2	-48.3	146.2
CH-02	27	181.3	-48.2	146.3
CH-02	30	181.3	-47.9	146.3
CH-02	33	181.1	-47.7	146.1
CH-02	36	180.9	-47.6	145.9
CH-02	39	180.8	-47.3	145.8
CH-02	42	180.9	-47.1	145.9
CH-02	45	181.1	-47	146.1
CH-02	48	181.3	-46.9	146.3
CH-02	51	181.6	-46.8	146.6
CH-02	54	181.9	-46.8	146.9
CH-02	57	182.2	-46.8	147.2
CH-02	60	182.4	-46.8	147.4
CH-02	63	182.7	-46.6	147.7
CH-02	66	183	-46.6	148
CH-02	69	183.2	-46.7	148.2
CH-02	72	183.5	-46.4	148.5
CH-02	75	183.8	-46.4	148.8
CH-02	78	184	-46.3	149
CH-02	81	184.3	-46.2	149.3
CH-02	84	184.5	-46.2	149.5

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-02	87	184.8	-46	149.8
CH-02	90	185	-46.1	150
CH-02	93	185.3	-46.1	150.3
CH-02	96	185.6	-45.9	150.6
CH-02	99	185.8	-45.8	150.8
CH-02	102	186	-45.8	151
CH-02	105	186.3	-45.7	151.3
CH-02	108	186.5	-45.8	151.5
CH-02	111	186.9	-45.6	151.9
CH-02	114	187.1	-45.6	152.1
CH-02	117	187.4	-45.6	152.4
CH-02	120	187.6	-45.5	152.6
CH-02	123	187.8	-45.5	152.8
CH-02	126	188	-45.5	153
CH-02	129	188.1	-45.5	153.1
CH-02	132	188.1	-45.7	153.1
CH-02	135	188.2	-45.8	153.2
CH-02	138	188.4	-45.5	153.4
CH-02	141	188.5	-45.6	153.5
CH-02	144	188.6	-45.6	153.6
CH-02	147	188.8	-45.7	153.8
CH-02	150	188.9	-45.8	153.9
CH-02	153	189.1	-45.7	154.1
CH-02	156	189.3	-45.8	154.3
CH-02	159	189.5	-45.8	154.5
CH-02	162	189.6	-45.8	154.6
CH-02	165	189.9	-45.8	154.9
CH-02	168	190	-45.9	155
CH-02	171	190.1	-45.9	155.1
CH-02	174	190.2	-46	155.2
CH-02	177	190.4	-46	155.4
CH-02	180	190.6	-46.1	155.6
CH-02	183	190.7	-46.1	155.7
CH-02	186	190.8	-46.3	155.8
CH-02	189	191	-46.2	156
CH-02	192	191.2	-46.2	156.2
CH-02	195	191.4	-46.4	156.4
CH-02	198	191.5	-46.5	156.5
CH-02	201	191.6	-46.5	156.6
CH-02	204	191.7	-46.3	156.7
CH-02	207	191.8	-46.3	156.8
CH-02	210	192	-46.3	157
CH-02	213	192.1	-46.3	157.1
CH-02	216	192.3	-46.4	157.3

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-02	219	192.5	-46.6	157.5
CH-02	222	192.5	-46.5	157.5
CH-02	225	192.6	-46.5	157.6
CH-02	228	192.8	-46.6	157.8
CH-02	231	193	-46.5	158
CH-02	234	193.2	-46.5	158.2
CH-02	237	193.5	-46.4	158.5
CH-02	240	193.8	-46.4	158.8
CH-02	243	194	-46.3	159
CH-02	246	194.3	-46.3	159.3
CH-02	249	194.5	-46.2	159.5
CH-02	252	194.7	-46.2	159.7
CH-02	255	194.9	-46.2	159.9
CH-02	258	195.1	-46.1	160.1
CH-02	261	195.4	-46.1	160.4
CH-02	264	195.6	-46.1	160.6
CH-02	267	195.8	-46.1	160.8
CH-02	270	196	-46.1	161
CH-02	273	196.1	-46	161.1
CH-02	276	196.1	-46.1	161.1
CH-02	279	196	-46.3	161
CH-02	282	196	-46.3	161
CH-02	285	196	-46.2	161
CH-02	288	196.1	-46.2	161.1
CH-02	291	196.1	-46.2	161.1
CH-02	294	196.2	-46.3	161.2
CH-02	297	196.3	-46.3	161.3
CH-02	300	196.3	-46.3	161.3
CH-02	303	196.3	-46.2	161.3
CH-02	306	196.4	-46.2	161.4
CH-02	309	196.4	-46.1	161.4
CH-02	312	196.5	-46.2	161.5
CH-02	315	196.6	-46.1	161.6
CH-02	318	196.7	-46.1	161.7
CH-02	321	196.7	-46.1	161.7
CH-02	324	196.8	-46.1	161.8
CH-02	327	196.8	-46.3	161.8
CH-02	330	196.9	-46.2	161.9
CH-02	333	197	-46.4	162
CH-02	336	197.1	-46.3	162.1
CH-02	339	197.1	-46.3	162.1
CH-02	342	197.3	-46.3	162.3
CH-02	345	197.3	-46.4	162.3
CH-02	348	197.5	-46.4	162.5

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-02	351	197.7	-46.4	162.7
CH-02	354	198	-46.4	163
CH-03	0	0	-45	325
CH-03	3	0	-45	324.7
CH-03	6	0.3	-45.3	324.7
CH-03	9	0.9	-45.9	324.4
CH-03	12	0.8	-45.8	324.9
CH-03	15	0.5	-45.5	327.1
CH-03	18	0.3	-45.3	327.3
CH-03	21	0.2	-45.2	327.8
CH-03	24	0.5	-45.5	328.6
CH-03	27	0.6	-45.6	329.5
CH-03	30	0.6	-45.6	329.9
CH-03	33	0.5	-45.5	330
CH-03	36	0.4	-45.4	329.9
CH-03	39	0.5	-45.5	330.2
CH-03	42	0.5	-45.5	329.9
CH-03	45	0.2	-45.2	329.9
CH-03	48	0.5	-45.5	330.2
CH-03	51	0.5	-45.5	330.6
CH-03	54	0.6	-45.6	330.9
CH-03	57	0.3	-45.3	331.2
CH-03	60	0.5	-45.5	331.1
CH-03	63	0.7	-45.7	331.1
CH-03	66	0.7	-45.7	331.1
CH-03	69	0.6	-45.6	330.8
CH-03	72	0.6	-45.6	329.3
CH-03	75	0.6	-45.6	329.5
CH-03	78	0.6	-45.6	328.9
CH-03	81	0.5	-45.5	326.5
CH-03	84	0.3	-45.3	326.7
CH-03	87	0.4	-45.4	326.4
CH-03	90	0.4	-45.4	326.3
CH-03	93	0.3	-45.3	326.6
CH-03	96	0.4	-45.4	326.5
CH-03	99	0.3	-45.3	325.6
CH-03	102	0.3	-45.3	325.3
CH-03	105	0.4	-45.4	325.2
CH-03	108	0.3	-45.3	325.6
CH-03	111	0.3	-45.3	325.5
CH-03	114	0.3	-45.3	323.9
CH-03	117	0.2	-45.2	321.9
CH-03	120	0	-45	321.7
CH-03	123	0	-45	321.6

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-03	126	0	-45	321.9
CH-03	129	0	-45	321.3
CH-03	132	353.9	-44.7	318.9
CH-03	135	353.8	-44.7	318.8
CH-03	138	354.1	-44.8	319.1
CH-03	141	353.6	-44.7	318.6
CH-03	144	351.5	-44.8	316.5
CH-03	147	351.6	-44.7	316.6
CH-03	150	351.7	-44.5	316.7
CH-03	153	351.5	-44.7	316.5
CH-03	156	351	-44.7	316
CH-03	159	348.5	-44.7	313.5
CH-03	162	345.9	-44.6	310.9
CH-03	165	344.3	-44.6	309.3
CH-03	168	344.6	-44.6	309.6
CH-03	171	344.8	-44.6	309.8
CH-03	174	344.7	-44.7	309.7
CH-03	177	344.9	-44.6	309.9
CH-03	180	345.9	-44.5	310.9
CH-03	183	348.1	-44.5	313.1
CH-03	186	348.4	-44.5	313.4
CH-03	189	348.6	-44.5	313.6
CH-03	192	348.8	-44.4	313.8
CH-03	195	348	-44.5	313
CH-03	198	346.3	-44.5	311.3
CH-03	201	346.5	-44.4	311.5
CH-03	204	347.9	-44.5	312.9
CH-03	207	348.2	-44.7	313.2
CH-03	210	348.5	-44.7	313.5
CH-03	213	348.7	-44.7	313.7
CH-03	216	348.2	-44.5	313.2
CH-03	219	347.4	-44.6	312.4
CH-03	222	347.7	-44.4	312.7
CH-03	225	349	-44.5	314
CH-03	228	349.4	-44.3	314.4
CH-03	231	349.7	-44.4	314.7
CH-03	234	349.6	-44.3	314.6
CH-03	237	349.6	-44.2	314.6
CH-03	240	349.8	-44.1	314.8
CH-03	243	350	-44	315
CH-03	246	349.7	-43.8	314.7
CH-03	249	348.4	-43.6	313.4
CH-03	252	347.4	-43.6	312.4
CH-03	255	347.2	-43.5	312.2

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-03	258	346.3	-43.4	311.3
CH-03	261	346.7	-43.3	311.7
CH-03	264	346.9	-43.2	311.9
CH-03	267	347.1	-43.1	312.1
CH-03	270	346.8	-43.1	311.8
CH-03	273	345.2	-43	310.2
CH-03	276	345.1	-43.1	310.1
CH-03	279	344.3	-43	309.3
CH-03	282	344.3	-42.8	309.3
CH-03	285	344.4	-42.7	309.4
CH-03	288	344	-42.5	309
CH-03	291	343.8	-42.4	308.8
CH-03	294	343.3	-42.5	308.3
CH-03	297	341.8	-42.4	306.8
CH-03	300	341.5	-42.1	306.5
CH-03	303	341.3	-42	306.3
CH-03	306	341.3	-42	306.3
CH-03	309	341.5	-41.8	306.5
CH-03	312	341.5	-41.6	306.5
CH-03	315	341.3	-41.6	306.3
CH-03	318	341.6	-41.6	306.6
CH-03	321	341.8	-41.4	306.8
CH-03	324	341.9	-41.3	306.9
CH-03	327	340.1	-41.1	305.1
CH-03	330	340.2	-41	305.2
CH-03	333	340.3	-40.8	305.3
CH-03	336	339.9	-40.8	304.9
CH-03	339	337.8	-40.7	302.8
CH-03	342	336.5	-40.6	301.5
CH-03	345	336.3	-40.4	301.3
CH-03	348	335.9	-40.3	300.9
CH-03	351	334.4	-40.2	299.4
CH-03	354	334.9	-40.2	299.9
CH-03	357	335.3	-40.2	300.3
CH-03	360	335.1	-39.9	300.1
CH-03	363	334.5	-39.9	299.5
CH-03	366	333	-39.8	298
CH-03	369	331.6	-39.7	296.6
CH-03	372	330.7	-39.7	295.7
CH-03	375	328.8	-39.6	293.8
CH-03	378	328.7	-39.4	293.7
CH-03	381	328.8	-39.3	293.8
CH-03	384	329.1	-39.2	294.1
CH-03	387	329.6	-39	294.6

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-03	390	330.1	-38.9	295.1
CH-03	393	330.5	-38.7	295.5
CH-03	396	330.4	-38.6	295.4
CH-03	399	329	-38.5	294
CH-03	402	328.2	-38.3	293.2
CH-03	405	328.5	-38.2	293.5
CH-03	408	329	-38.1	294
CH-03	411	328.8	-37.8	293.8
CH-03	414	327.6	-37.8	292.6
CH-03	417	327.3	-37.5	292.3
CH-03	420	327.4	-37.4	292.4
CH-03	423	327.5	-37.3	292.5
CH-03	426	327.3	-37	292.3
CH-03	429	327.4	-36.8	292.4
CH-03	432	326.9	-36.7	291.9
CH-03	435	325.8	-36.6	290.8
CH-03	438	325.9	-36.5	290.9
CH-03	441	325.7	-36.2	290.7
CH-03	444	325.2	-36.2	290.2
CH-03	447	323.7	-36	288.7
CH-03	450	323.8	-35.9	288.8
CH-03	453	323.8	-35.7	288.8
CH-03	456	323.1	-35.6	288.1
CH-03	462	322.8	-35.3	287.8
CH-03	465	322.5	-35	287.5
CH-04	0	180	-44.4	145
CH-04	3	180.1	-44.6	145.1
CH-04	6	180.1	-44.6	145.1
CH-04	9	180.1	-44.5	145.1
CH-04	12	180.1	-44.7	145.1
CH-04	15	180	-45.3	145
CH-04	18	180	-45.5	145
CH-04	21	179.9	-45.4	144.9
CH-04	24	179.9	-45.4	144.9
CH-04	27	179.9	-45.3	144.9
CH-04	30	179.9	-45.4	144.9
CH-04	33	180	-45.2	145
CH-04	36	180.1	-45.3	145.1
CH-04	39	180.3	-45.3	145.3
CH-04	42	180.5	-45.1	145.5
CH-04	45	180.7	-45.2	145.7
CH-04	48	180.9	-45	145.9
CH-04	51	181.1	-44.9	146.1
CH-04	54	181.3	-44.8	146.3

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-04	57	181.6	-44.8	146.6
CH-04	60	181.7	-44.8	146.7
CH-04	63	181.9	-44.7	146.9
CH-04	66	182.1	-44.5	147.1
CH-04	69	182.3	-44.4	147.3
CH-04	72	182.5	-44.5	147.5
CH-04	75	182.7	-44.4	147.7
CH-04	78	182.9	-44.4	147.9
CH-04	81	183.1	-44.1	148.1
CH-04	84	183.4	-44.2	148.4
CH-04	87	183.6	-44	148.6
CH-04	90	183.8	-44	148.8
CH-04	93	184	-44	149
CH-04	96	184.2	-44	149.2
CH-04	99	184.4	-43.9	149.4
CH-04	102	184.5	-43.8	149.5
CH-04	105	184.7	-43.7	149.7
CH-04	108	184.8	-43.6	149.8
CH-04	111	184.9	-43.6	149.9
CH-04	114	185	-43.5	150
CH-04	117	185.2	-43.3	150.2
CH-04	120	185.3	-43.2	150.3
CH-04	123	185.4	-43	150.4
CH-04	126	185.5	-42.9	150.5
CH-04	129	185.5	-42.8	150.5
CH-04	132	185.6	-42.7	150.6
CH-04	135	185.6	-42.5	150.6
CH-04	138	185.7	-42.3	150.7
CH-04	141	185.6	-42.1	150.6
CH-04	144	185.7	-42	150.7
CH-04	147	185.6	-41.9	150.6
CH-04	150	185.6	-41.8	150.6
CH-04	153	185.6	-41.7	150.6
CH-04	156	185.6	-41.5	150.6
CH-04	159	185.6	-41.4	150.6
CH-04	162	185.7	-41.3	150.7
CH-04	165	186	-41	151
CH-05	0	180	-70	145
CH-05	3	179.4	-70.1	144.4
CH-05	6	179.4	-69.9	144.4
CH-05	9	180	-70	145
CH-05	12	180.9	-69.9	145.9
CH-05	15	182	-69.9	147
CH-05	18	183.4	-69.6	148.4

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-05	21	184.3	-69.3	149.3
CH-05	24	184.4	-69.2	149.4
CH-05	27	184.2	-69	149.2
CH-05	30	184.1	-69	149.1
CH-05	33	184	-68.9	149
CH-05	36	184	-68.7	149
CH-05	39	184.1	-68.5	149.1
CH-05	42	184.1	-68.6	149.1
CH-05	45	184.1	-68.5	149.1
CH-05	48	184.1	-68.4	149.1
CH-05	51	184.1	-68.3	149.1
CH-05	54	184	-68.3	149
CH-05	57	184	-68.2	149
CH-05	60	184.1	-68.3	149.1
CH-05	63	184	-68.3	149
CH-05	66	184	-68.3	149
CH-05	69	183.9	-68.3	148.9
CH-05	72	183.8	-68.2	148.8
CH-05	75	183.7	-68.2	148.7
CH-05	78	183.7	-68.1	148.7
CH-05	81	183.8	-68.2	148.8
CH-05	84	183.8	-68.1	148.8
CH-05	87	183.8	-67.8	148.8
CH-05	90	184	-67.7	149
CH-05	93	184.1	-67.6	149.1
CH-05	96	184.4	-67.4	149.4
CH-05	99	184.7	-67.4	149.7
CH-05	102	184.9	-67.4	149.9
CH-05	105	185.1	-67.5	150.1
CH-05	108	185.5	-67.6	150.5
CH-05	111	185.6	-67.4	150.6
CH-05	114	186	-67.6	151
CH-05	117	186.2	-67.5	151.2
CH-05	120	186.6	-67.5	151.6
CH-05	123	187	-67.3	152
CH-05	126	187.3	-67.3	152.3
CH-05	129	187.6	-67.3	152.6
CH-05	132	187.9	-67.3	152.9
CH-05	135	188.1	-67.3	153.1
CH-05	138	188.3	-67.3	153.3
CH-05	141	188.7	-67.4	153.7
CH-05	144	188.9	-67.5	153.9
CH-05	147	189.2	-67.6	154.2
CH-05	150	189.5	-67.5	154.5

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-05	153	189.7	-67.4	154.7
CH-05	156	190	-67.3	155
CH-05	159	190.2	-67.3	155.2
CH-05	162	190.5	-67.4	155.5
CH-05	165	190.8	-67.3	155.8
CH-05	168	191.1	-67.4	156.1
CH-05	171	191.5	-67.5	156.5
CH-05	174	191.8	-67.5	156.8
CH-05	177	192.2	-67.5	157.2
CH-05	180	192.5	-67.7	157.5
CH-05	183	192.9	-67.5	157.9
CH-05	186	193.2	-67.7	158.2
CH-05	189	193.5	-67.6	158.5
CH-05	192	193.8	-67.5	158.8
CH-05	195	194.1	-67.4	159.1
CH-05	198	194.3	-67.3	159.3
CH-05	201	194.6	-67.2	159.6
CH-05	204	194.9	-67.2	159.9
CH-05	207	195.3	-67	160.3
CH-05	210	195.6	-66.9	160.6
CH-05	213	195.9	-66.8	160.9
CH-05	216	196.1	-67.1	161.1
CH-05	219	196.4	-66.8	161.4
CH-05	222	196.7	-66.5	161.7
CH-05	225	197	-66.5	162
CH-05	228	197.3	-66.6	162.3
CH-05	231	197.4	-66.3	162.4
CH-05	234	197.7	-66.3	162.7
CH-05	237	197.8	-66.2	162.8
CH-05	240	198	-65.9	163
CH-05	243	198.2	-65.9	163.2
CH-05	246	198.3	-65.9	163.3
CH-05	249	198.6	-65.5	163.6
CH-05	252	198.9	-65.5	163.9
CH-06	0	179	-88	144
CH-06	51	179	-87.3	144
CH-06	54	179.3	-87.4	144.3
CH-06	57	180.5	-87.5	145.5
CH-06	60	181.3	-87.4	146.3
CH-06	63	181.5	-87.1	146.5
CH-06	66	182.5	-87.1	147.5
CH-06	69	182.1	-87.3	147.1
CH-06	72	181.5	-87.1	146.5
CH-06	75	181.5	-87.7	146.5

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-06	78	180.5	-87.4	145.5
CH-06	81	178.7	-87.1	143.7
CH-06	84	176.1	-87.2	141.1
CH-06	87	172.3	-87.7	137.3
CH-06	90	169.3	-87.4	134.3
CH-06	93	167.2	-87.4	132.2
CH-06	96	164.1	-87.8	129.1
CH-06	99	158.9	-88	123.9
CH-06	102	156.1	-88	121.1
CH-06	105	155.9	-88.1	120.9
CH-06	108	157	-88.2	122
CH-06	111	156.9	-88	121.9
CH-06	114	157.7	-88.3	122.7
CH-06	117	156.5	-88	121.5
CH-06	120	156	-87.9	121
CH-06	123	156.6	-88.1	121.6
CH-06	126	157.3	-87.8	122.3
CH-06	129	157.5	-88.1	122.5
CH-06	132	157.5	-87.6	122.5
CH-06	135	158	-88.1	123
CH-06	138	158	-88.2	123
CH-06	141	158.5	-87.7	123.5
CH-06	144	158.5	-87.7	123.5
CH-06	147	158.7	-88	123.7
CH-06	150	157.6	-88	122.6
CH-06	153	157.1	-88	122.1
CH-06	156	157.3	-87.8	122.3
CH-06	159	157.2	-88.1	122.2
CH-06	162	156.1	-87.9	121.1
CH-06	165	155.6	-87.9	120.6
CH-06	168	154.8	-88.1	119.8
CH-06	171	154.6	-87.9	119.6
CH-06	174	155.1	-88	120.1
CH-06	177	155.3	-88.1	120.3
CH-06	180	155.3	-87.9	120.3
CH-06	183	155.5	-88	120.5
CH-06	186	155	-87.7	120
CH-06	189	155.2	-87.7	120.2
CH-06	192	154.5	-88	119.5
CH-06	195	154.8	-87.8	119.8
CH-06	198	155.2	-87.9	120.2
CH-06	201	154.5	-88.1	119.5
CH-06	204	154.1	-88.1	119.1
CH-06	207	152.7	-88	117.7

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Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-06	210	152.1	-88	117.1
CH-06	213	151.8	-88.1	116.8
CH-06	216	150.7	-87.8	115.7
CH-06	219	151.2	-88	116.2
CH-06	222	151.5	-87.8	116.5
CH-06	225	152.3	-87.9	117.3
CH-06	228	152.7	-87.9	117.7
CH-06	231	152.5	-88.2	117.5
CH-06	234	152.6	-87.9	117.6
CH-06	237	151.1	-88.3	116.1
CH-06	240	151	-88	116
CH-06	243	153.4	-88.1	118.4
CH-06	246	154.3	-88.1	119.3
CH-06	249	155.1	-88.2	120.1
CH-06	252	154.3	-88	119.3
CH-06	255	153.6	-87.9	118.6
CH-06	258	152.5	-88.2	117.5
CH-06	261	153.8	-88.1	118.8
CH-06	264	154.1	-87.9	119.1
CH-06	267	154.5	-88	119.5
CH-06	270	154.5	-88.3	119.5
CH-06	273	154.2	-88	119.2
CH-06	276	154.8	-88.3	119.8
CH-06	279	156.4	-88	121.4
CH-06	282	156.8	-87.9	121.8
CH-06	285	157.2	-88.2	122.2
CH-06	288	157.7	-88	122.7
CH-06	291	157.6	-88	122.6
CH-06	294	157.3	-88.1	122.3
CH-06	297	157.4	-88.2	122.4
CH-06	300	157	-87.9	122
CH-06	303	158.7	-88.2	123.7
CH-06	306	159.4	-87.9	124.4
CH-06	309	160.4	-87.9	125.4
CH-06	312	160.9	-88.1	125.9
CH-06	315	159.9	-87.9	124.9
CH-06	318	160.1	-87.7	125.1
CH-06	321	161.2	-87.7	126.2
CH-06	324	162.2	-87.9	127.2
CH-06	327	163	-87.9	128
CH-06	330	163.6	-87.8	128.6
CH-06	333	165.2	-87.7	130.2
CH-06	336	166.1	-87.8	131.1
CH-06	339	166.5	-87.7	131.5

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-06	342	166.4	-87.6	131.4
CH-06	345	167.3	-87.9	132.3
CH-06	348	167.4	-87.7	132.4
CH-06	351	167.7	-87.7	132.7
CH-06	354	169.6	-87.7	134.6
CH-07	0	180.3	-45.4	145.3
CH-07	3	180.4	-45	145.4
CH-07	6	180.3	-44.8	145.3
CH-07	9	180.3	-44.5	145.3
CH-07	12	180.2	-44.8	145.2
CH-07	15	180.2	-44.8	145.2
CH-07	18	180.1	-44.7	145.1
CH-07	21	179.9	-44.5	144.9
CH-07	24	179.8	-44.4	144.8
CH-07	27	179.9	-44.4	144.9
CH-07	30	180.1	-44.2	145.1
CH-07	33	180.4	-44.3	145.4
CH-07	36	180.6	-44.2	145.6
CH-07	39	180.9	-44.2	145.9
CH-07	42	181	-44.2	146
CH-07	45	181.3	-44.2	146.3
CH-07	48	181.5	-44.1	146.5
CH-07	51	181.7	-44	146.7
CH-07	54	181.8	-43.7	146.8
CH-07	57	182	-43.9	147
CH-07	60	182.2	-43.6	147.2
CH-07	63	182.5	-43.5	147.5
CH-07	66	182.6	-43.7	147.6
CH-07	69	182.6	-43.5	147.6
CH-07	72	182.7	-43.7	147.7
CH-07	75	182.7	-43.4	147.7
CH-07	78	182.8	-43.4	147.8
CH-07	81	182.9	-43.2	147.9
CH-07	84	182.9	-43	147.9
CH-07	87	183	-42.8	148
CH-07	90	183.2	-42.7	148.2
CH-07	93	183.3	-42.5	148.3
CH-07	96	183.3	-42.3	148.3
CH-07	99	183.4	-42.3	148.4
CH-07	102	183.6	-42	148.6
CH-07	105	183.8	-41.9	148.8
CH-07	108	183.9	-41.7	148.9
CH-07	111	184.1	-41.5	149.1
CH-07	114	184.3	-41.3	149.3

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-07	117	184.4	-41	149.4
CH-07	120	184.5	-40.9	149.5
CH-07	123	184.6	-40.6	149.6
CH-07	126	184.6	-40.4	149.6
CH-07	129	184.6	-40.4	149.6
CH-07	132	184.6	-40.1	149.6
CH-07	135	184.7	-40	149.7
CH-07	138	184.7	-39.8	149.7
CH-07	141	184.8	-39.1	149.8
CH-07	144	185	-39.5	150
CH-07	147	185.1	-39.3	150.1
CH-07	150	185.2	-39.2	150.2
CH-07	153	185.3	-39	150.3
CH-07	156	185.3	-38.8	150.3
CH-07	159	185.3	-38.7	150.3
CH-07	162	185.4	-38.4	150.4
CH-07	165	185.5	-38.5	150.5
CH-07	168	185.6	-38.3	150.6
CH-07	171	185.8	-38.1	150.8
CH-07	174	186	-38.1	151
CH-07	177	186.2	-38	151.2
CH-07	180	186.4	-38	151.4
CH-07	183	186.7	-38	151.7
CH-07	186	187	-38	152
CH-07	189	187.2	-38	152.2
CH-07	192	187.4	-37.9	152.4
CH-07	195	187.5	-37.8	152.5
CH-07	198	187.7	-37.7	152.7
CH-07	201	187.9	-37.6	152.9
CH-07	204	188	-37.6	153
CH-07	207	188.2	-37.6	153.2
CH-07	210	188.4	-37.4	153.4
CH-07	213	188.6	-37.2	153.6
CH-07	216	188.8	-37.1	153.8
CH-07	219	189	-37.1	154
CH-07	222	189.2	-37.4	154.2
CH-07	225	189.4	-36.8	154.4
CH-07	228	189.5	-36.8	154.5
CH-07	231	189.8	-36.8	154.8
CH-07	234	190	-36.8	155
CH-07	237	190.1	-36.6	155.1
CH-07	240	190.3	-36.4	155.3
CH-07	243	190.4	-36.2	155.4
CH-07	246	190.4	-36	155.4

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-07	249	190.4	-35.9	155.4
CH-07	252	190.4	-35.8	155.4
CH-07	255	190.5	-35.7	155.5
CH-07	258	190.5	-35.5	155.5
CH-07	261	190.7	-35.4	155.7
CH-07	264	190.8	-35.2	155.8
CH-07	267	190.9	-35.1	155.9
CH-07	270	191.1	-34.9	156.1
CH-07	273	191.2	-34.8	156.2
CH-07	276	191.3	-34.6	156.3
CH-07	279	191.4	-34.4	156.4
CH-07	282	191.5	-34.2	156.5
CH-07	285	191.5	-34	156.5
CH-07	288	191.5	-33.8	156.5
CH-07	291	191.5	-33.7	156.5
CH-07	294	191.6	-33.5	156.6
CH-07	297	191.8	-33.4	156.8
CH-07	300	191.9	-33.3	156.9
CH-07	303	192	-33.1	157
CH-07	306	192.1	-33	157.1
CH-07	309	192.1	-32.8	157.1
CH-07	312	192.2	-32.7	157.2
CH-07	315	192.3	-32.5	157.3
CH-07	318	192.3	-32.4	157.3
CH-07	321	192.4	-32.3	157.4
CH-07	324	192.5	-32.2	157.5
CH-07	327	192.6	-32	157.6
CH-07	330	192.8	-31.8	157.8
CH-07	333	193	-31.6	158
CH-07	336	193.1	-31.5	158.1
CH-07	339	193.3	-31.3	158.3
CH-07	342	193.4	-31.1	158.4
CH-07	345	193.6	-30.9	158.6
CH-08	0	180	-45.7	145
CH-08	3	180.2	-45.6	145.2
CH-08	6	180.3	-45.2	145.3
CH-08	9	180.4	-45.1	145.4
CH-08	12	180.3	-45.2	145.3
CH-08	15	180.3	-45.3	145.3
CH-08	18	180.3	-45.5	145.3
CH-08	21	180.2	-45.7	145.2
CH-08	24	180.1	-45.5	145.1
CH-08	27	180	-45.5	145
CH-08	30	180	-45.8	145

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-08	33	180.1	-45.7	145.1
CH-08	36	180.3	-45.7	145.3
CH-08	39	180.4	-45.9	145.4
CH-08	42	180.5	-45.8	145.5
CH-08	45	180.7	-45.8	145.7
CH-08	48	180.8	-46	145.8
CH-08	51	180.9	-46	145.9
CH-08	54	181.1	-46.1	146.1
CH-08	57	181.2	-46.1	146.2
CH-08	60	181.4	-46.2	146.4
CH-08	63	181.5	-46.1	146.5
CH-08	66	181.7	-46.3	146.7
CH-08	69	181.8	-46.3	146.8
CH-08	72	181.9	-46.2	146.9
CH-08	75	182	-46.3	147
CH-08	78	182	-46.4	147
CH-08	81	182.1	-46.2	147.1
CH-08	84	182.2	-46.5	147.2
CH-08	87	182.3	-46.3	147.3
CH-08	90	182.4	-46.3	147.4
CH-08	93	182.5	-46.4	147.5
CH-08	96	182.5	-46.5	147.5
CH-08	99	182.5	-46.7	147.5
CH-08	102	182.6	-46.7	147.6
CH-08	105	182.7	-46.6	147.7
CH-08	108	182.8	-46.7	147.8
CH-08	111	182.9	-46.6	147.9
CH-08	114	182.9	-46.6	147.9
CH-08	117	182.9	-46.7	147.9
CH-08	120	182.9	-46.8	147.9
CH-08	123	183	-46.8	148
CH-08	126	183.1	-46.4	148.1
CH-08	129	183.3	-46.7	148.3
CH-08	132	183.3	-46.8	148.3
CH-08	135	183.4	-46.8	148.4
CH-08	138	183.5	-46.8	148.5
CH-08	141	183.6	-47	148.6
CH-08	144	183.6	-47.1	148.6
CH-08	147	183.6	-47.1	148.6
CH-08	150	183.7	-47.1	148.7
CH-08	153	183.8	-47	148.8
CH-08	156	183.9	-46.9	148.9
CH-08	159	183.9	-47	148.9
CH-08	162	184	-47.2	149

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-08	165	184	-47.1	149
CH-08	168	184	-47	149
CH-08	171	184.1	-47.2	149.1
CH-08	174	184.1	-47.1	149.1
CH-08	177	184.2	-47.3	149.2
CH-08	180	184.3	-47.2	149.3
CH-08	183	184.4	-47.2	149.4
CH-08	186	184.5	-47.4	149.5
CH-08	189	184.5	-47.4	149.5
CH-08	192	184.6	-47.3	149.6
CH-08	195	184.7	-47.4	149.7
CH-08	198	184.8	-47.5	149.8
CH-08	201	184.8	-47.5	149.8
CH-08	204	184.9	-47.4	149.9
CH-08	207	184.9	-47.4	149.9
CH-08	210	185.1	-47.5	150.1
CH-08	213	185.1	-47.6	150.1
CH-08	216	185.2	-47.5	150.2
CH-08	219	185.2	-47.7	150.2
CH-08	222	185.3	-47.6	150.3
CH-08	225	185.4	-47.6	150.4
CH-08	228	185.5	-47.7	150.5
CH-08	231	185.5	-47.8	150.5
CH-08	234	185.6	-47.7	150.6
CH-08	237	185.7	-47.9	150.7
CH-08	240	185.8	-48	150.8
CH-08	243	185.8	-48	150.8
CH-08	246	185.9	-47.9	150.9
CH-08	249	186	-48	151
CH-08	255	186.1	-47.9	151.1
CH-09	0	180	-72.1	145
CH-09	3	179.5	-71.9	144.5
CH-09	6	178.9	-71.4	143.9
CH-09	9	178.1	-71.1	143.1
CH-09	12	177.4	-70.9	142.4
CH-09	15	176.7	-71.1	141.7
CH-09	18	176.5	-70.8	141.5
CH-09	21	176.6	-70.7	141.6
CH-09	24	176.7	-70.8	141.7
CH-09	27	176.7	-70.6	141.7
CH-09	30	176.9	-70.4	141.9
CH-09	33	177.1	-70.6	142.1
CH-09	36	177.3	-70.2	142.3
CH-09	39	177.6	-70.2	142.6

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-09	42	178	-70.1	143
CH-09	45	178.3	-70.6	143.3
CH-09	48	178.5	-70.1	143.5
CH-09	51	178.6	-69.9	143.6
CH-09	54	178.7	-70.2	143.7
CH-09	57	178.8	-70.2	143.8
CH-09	60	178.9	-70	143.9
CH-09	63	178.9	-70	143.9
CH-09	66	178.9	-69.9	143.9
CH-09	69	178.9	-69.7	143.9
CH-09	72	178.9	-69.5	143.9
CH-09	75	179	-69.7	144
CH-09	78	178.9	-69.5	143.9
CH-09	81	179	-69.6	144
CH-09	84	179	-69.2	144
CH-09	87	179	-69.1	144
CH-09	90	179.1	-69.3	144.1
CH-09	93	179.1	-69.3	144.1
CH-09	96	179.1	-68.9	144.1
CH-09	99	179.4	-68.7	144.4
CH-09	102	179.6	-68.8	144.6
CH-09	105	179.8	-68.9	144.8
CH-09	108	180.1	-68.6	145.1
CH-09	111	180.4	-68.7	145.4
CH-09	114	180.6	-68.8	145.6
CH-09	117	180.8	-68.8	145.8
CH-09	120	180.9	-68.8	145.9
CH-09	123	181.1	-68.7	146.1
CH-09	126	181.3	-68.9	146.3
CH-09	129	181.6	-68.8	146.6
CH-09	132	181.7	-68.7	146.7
CH-09	135	182	-68.7	147
CH-09	138	182.4	-68.8	147.4
CH-09	141	182.6	-69	147.6
CH-09	144	183	-68.8	148
CH-09	147	183.4	-68.9	148.4
CH-09	150	183.6	-68.8	148.6
CH-09	153	183.8	-68.8	148.8
CH-09	156	184.2	-68.9	149.2
CH-09	159	184.6	-68.9	149.6
CH-09	162	184.9	-69	149.9
CH-09	165	185.2	-69	150.2
CH-09	168	185.5	-69	150.5
CH-09	171	185.9	-69	150.9

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-09	174	186.2	-69	151.2
CH-09	177	186.5	-69.1	151.5
CH-09	180	186.8	-69	151.8
CH-09	183	187	-69	152
CH-09	186	187.3	-69.1	152.3
CH-09	189	187.4	-69.3	152.4
CH-09	192	187.7	-69	152.7
CH-09	195	188	-69	153
CH-09	198	188.1	-69	153.1
CH-09	201	188.4	-69	153.4
CH-09	204	188.6	-68.9	153.6
CH-09	207	188.9	-69	153.9
CH-09	210	189.1	-69	154.1
CH-09	213	189.3	-68.7	154.3
CH-09	216	189.6	-68.7	154.6
CH-09	219	190	-68.6	155
CH-09	222	190.2	-68.6	155.2
CH-09	225	190.6	-68.6	155.6
CH-09	228	190.9	-68.5	155.9
CH-09	231	191.2	-68.6	156.2
CH-09	234	191.4	-68.4	156.4
CH-09	237	191.7	-68.5	156.7
CH-09	240	192	-68.6	157
CH-09	243	192.2	-68.6	157.2
CH-09	246	192.4	-68.3	157.4
CH-09	249	192.7	-68.3	157.7
CH-09	252	192.9	-68.2	157.9
CH-09	255	193.3	-68.2	158.3
CH-09	258	193.6	-68.2	158.6
CH-09	261	193.8	-68.2	158.8
CH-09	264	194.1	-68.2	159.1
CH-09	267	194.4	-68.1	159.4
CH-09	270	194.6	-68.1	159.6
CH-09	273	194.7	-68.1	159.7
CH-09	276	194.9	-67.8	159.9
CH-09	279	195.2	-67.8	160.2
CH-09	282	195.5	-67.8	160.5
CH-09	285	196.1	-67.8	161.1
CH-09	288	196.4	-67.8	161.4
CH-09	291	196.6	-68.4	161.6
CH-09	294	196.7	-67.9	161.7
CH-09	297	197	-68.2	162
CH-09	300	197.2	-67.9	162.2
CH-09	303	197.5	-68.1	162.5

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-09	306	197.7	-67.9	162.7
CH-09	309	198	-68	163
CH-09	312	198.2	-68.1	163.2
CH-09	315	198.4	-68.3	163.4
CH-09	318	198.6	-68.1	163.6
CH-09	321	198.8	-68.3	163.8
CH-09	324	198.9	-68.1	163.9
CH-09	327	199.2	-67.4	164.2
CH-09	330	199.2	-68.2	164.2
CH-09	333	199.3	-68.3	164.3
CH-09	336	199.5	-68.4	164.5
CH-09	339	199.6	-77.5	164.6
CH-09	342	199.8	-68.5	164.8
CH-09	345	199.8	-68.5	164.8
CH-09	348	200	-68.4	165
CH-09	351	200.2	-68.5	165.2
CH-09	354	200.4	-68.1	165.4
CH-09	357	200.6	-68.2	165.6
CH-09	360	200.8	-68.3	165.8
CH-09	363	201.1	-68.1	166.1
CH-09	366	201.3	-68.2	166.3
CH-09	369	201.4	-68.3	166.4
CH-09	372	201.5	-68	166.5
CH-09	375	201.6	-68	166.6
CH-09	378	201.7	-67.8	166.7
CH-09	381	201.7	-67.6	166.7
CH-09	384	201.8	-67.5	166.8
CH-09	386	202.1	-67.5	167.1
CH-10	0	180	-70.3	145
CH-10	3	180.4	-70.1	145.4
CH-10	6	181.1	-69.9	146.1
CH-10	9	181.5	-70	146.5
CH-10	12	181.7	-69.8	146.7
CH-10	15	182.1	-70	147.1
CH-10	18	182.6	-69.4	147.6
CH-10	21	182.3	-69.1	147.3
CH-10	24	181.8	-69.1	146.8
CH-10	27	181.6	-69	146.6
CH-10	30	181.6	-69.1	146.6
CH-10	33	181.7	-68.8	146.7
CH-10	36	181.7	-68.7	146.7
CH-10	39	182	-68.9	147
CH-10	42	182.6	-69.1	147.6
CH-10	45	183	-69	148

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-10	48	183.3	-69.1	148.3
CH-10	51	183.6	-69.2	148.6
CH-10	54	183.8	-69.1	148.8
CH-10	57	183.8	-68.8	148.8
CH-10	60	183.9	-68.7	148.9
CH-10	63	184.1	-68.8	149.1
CH-10	66	184.3	-68.5	149.3
CH-10	69	184.3	-68.7	149.3
CH-10	72	184.5	-68.6	149.5
CH-10	75	184.5	-68.6	149.5
CH-10	78	184.5	-68.8	149.5
CH-10	81	184.7	-68.7	149.7
CH-10	84	184.8	-68.7	149.8
CH-10	87	184.8	-68.7	149.8
CH-10	90	184.9	-68.6	149.9
CH-10	93	185.1	-68.5	150.1
CH-10	96	185.1	-68.5	150.1
CH-10	99	185.1	-59.8	150.1
CH-10	102	185.2	-68.6	150.2
CH-10	105	185.4	-68.4	150.4
CH-10	108	185.5	-68.3	150.5
CH-10	111	185.6	-68.4	150.6
CH-10	114	185.7	-68.2	150.7
CH-10	117	185.8	-68.4	150.8
CH-10	120	185.9	-68.6	150.9
CH-10	123	186	-68.3	151
CH-10	126	186.1	-68.3	151.1
CH-10	129	186.3	-68.5	151.3
CH-10	132	186.4	-68.1	151.4
CH-10	135	186.5	-68	151.5
CH-10	138	186.8	-68.2	151.8
CH-10	141	187.1	-68.2	152.1
CH-10	144	187.4	-67.9	152.4
CH-10	147	187.7	-68.2	152.7
CH-10	150	188	-68.1	153
CH-10	153	188.2	-68.3	153.2
CH-10	156	188.3	-68	153.3
CH-10	159	188.5	-68.1	153.5
CH-10	162	188.7	-67.7	153.7
CH-10	165	188.9	-67.8	153.9
CH-10	168	189.3	-67.5	154.3
CH-10	171	190	-67.6	155
CH-10	174	190.3	-67.6	155.3
CH-10	177	190.2	-67.8	155.2

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-10	180	189.8	-67.5	154.8
CH-10	183	189.5	-67.6	154.5
CH-10	186	189.3	-67.3	154.3
CH-10	189	189.2	-67.3	154.2
CH-10	192	189.2	-67.2	154.2
CH-10	195	189.2	-67.3	154.2
CH-10	198	189.1	-67.3	154.1
CH-10	201	189.2	-66.6	154.2
CH-10	204	189.2	-66.6	154.2
CH-10	207	189.2	-66.4	154.2
CH-10	210	189.1	-66.6	154.1
CH-10	213	189.1	-66.6	154.1
CH-10	216	189.1	-66.4	154.1
CH-10	219	189.2	-66.4	154.2
CH-10	222	189.2	-66.4	154.2
CH-10	225	189.2	-66.3	154.2
CH-10	228	189.3	-66.5	154.3
CH-10	231	189.2	-66.6	154.2
CH-10	234	189.3	-66.5	154.3
CH-10	237	189.3	-66.6	154.3
CH-10	240	189.1	-66.8	154.1
CH-10	243	189.2	-66.8	154.2
CH-10	246	189.3	-66.8	154.3
CH-10	249	189.4	-66.8	154.4
CH-10	252	189.4	-66.8	154.4
CH-10	255	189.5	-66.8	154.5
CH-10	258	189.4	-67	154.4
CH-10	261	189.4	-66.8	154.4
CH-10	264	189.4	-66.8	154.4
CH-10	267	189.5	-66.9	154.5
CH-10	270	189.6	-66.8	154.6
CH-10	273	189.7	-67	154.7
CH-10	276	189.7	-66.9	154.7
CH-10	279	189.8	-66.8	154.8
CH-10	282	189.9	-66.9	154.9
CH-10	285	190.1	-67	155.1
CH-10	288	190.1	-67.1	155.1
CH-10	291	190.1	-67	155.1
CH-10	294	190.1	-67.2	155.1
CH-10	297	190	-67.1	155
CH-10	300	190	-67.3	155
CH-10	303	190.1	-67.1	155.1
CH-10	306	190.2	-67.3	155.2
CH-10	309	190.5	-67.4	155.5

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-11	0	180	-46	145
CH-11	3	179.9	-46.1	144.9
CH-11	6	179.7	-45.8	144.7
CH-11	9	179.6	-45.1	144.6
CH-11	12	179.5	-44.9	144.5
CH-11	15	179.6	-44.8	144.6
CH-11	18	179.7	-45	144.7
CH-11	21	179.9	-45.4	144.9
CH-11	24	180.2	-45.6	145.2
CH-11	27	180.4	-45.6	145.4
CH-11	30	180.5	-45.5	145.5
CH-11	33	180.4	-45.8	145.4
CH-11	36	180.4	-45.9	145.4
CH-11	39	180.5	-45.7	145.5
CH-11	42	180.6	-45.7	145.6
CH-11	45	180.7	-45.6	145.7
CH-11	48	180.9	-45.6	145.9
CH-11	51	181	-45.7	146
CH-11	54	181.1	-45.4	146.1
CH-11	57	181.2	-45.3	146.2
CH-11	60	181.2	-45.1	146.2
CH-11	63	181.3	-44.9	146.3
CH-11	66	181.5	-44.5	146.5
CH-11	69	181.6	-44.8	146.6
CH-11	72	181.9	-44.2	146.9
CH-11	75	182.2	-44.3	147.2
CH-11	78	182.5	-44.2	147.5
CH-11	81	182.8	-44.1	147.8
CH-11	84	183.2	-44.2	148.2
CH-11	87	183.4	-44.1	148.4
CH-11	90	183.7	-44	148.7
CH-11	93	184	-43.9	149
CH-11	96	184.3	-44.1	149.3
CH-11	99	184.5	-43.8	149.5
CH-11	102	184.7	-43.6	149.7
CH-11	105	185	-43.8	150
CH-11	108	185.3	-43.6	150.3
CH-11	111	185.6	-43.6	150.6
CH-11	114	185.9	-43.5	150.9
CH-11	117	186.1	-43.4	151.1
CH-11	120	186.4	-43.4	151.4
CH-11	123	186.7	-43.3	151.7
CH-11	126	186.9	-43.2	151.9
CH-11	129	187.2	-43.2	152.2

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-11	132	187.4	-42.9	152.4
CH-11	135	187.6	-42.9	152.6
CH-11	138	187.9	-42.8	152.9
CH-11	141	188	-42.8	153
CH-11	144	188.2	-42.7	153.2
CH-11	147	188.4	-42.6	153.4
CH-11	150	188.6	-42.3	153.6
CH-11	153	188.9	-42.4	153.9
CH-11	156	189.1	-42.1	154.1
CH-11	159	189.4	-42.1	154.4
CH-11	162	189.6	-42	154.6
CH-11	165	189.8	-41.9	154.8
CH-11	168	190	-41.8	155
CH-11	171	190.1	-41.6	155.1
CH-11	174	190.3	-41.4	155.3
CH-11	177	190.3	-41.3	155.3
CH-11	180	190.3	-41.1	155.3
CH-11	183	190.4	-41.1	155.4
CH-11	186	190.3	-40.8	155.3
CH-11	189	190.3	-40.7	155.3
CH-11	192	190.4	-40.7	155.4
CH-11	195	190.5	-40.4	155.5
CH-11	198	190.5	-40.3	155.5
CH-11	201	190.6	-40.3	155.6
CH-11	204	190.6	-40.1	155.6
CH-11	210	190.6	-40	155.6
CH-11	213	190.6	-39.6	155.6
CH-11	216	190.7	-39.6	155.7
CH-11	219	190.9	-39.5	155.9
CH-11	225	191.1	-39.3	156.1
CH-12	0	180	-46.1	145
CH-12	3	180	-45.9	145
CH-12	6	179.9	-45.9	144.9
CH-12	9	179.9	-46	144.9
CH-12	12	179.8	-45.9	144.8
CH-12	15	179.7	-46.2	144.7
CH-12	18	179.6	-46	144.6
CH-12	21	179.5	-46.1	144.5
CH-12	24	179.6	-45.9	144.6
CH-12	27	179.6	-46	144.6
CH-12	30	179.6	-45.8	144.6
CH-12	33	179.5	-45.8	144.5
CH-12	36	179.4	-45.9	144.4
CH-12	39	179.2	-46	144.2

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-12	42	179.3	-46	144.3
CH-12	45	179.4	-45.9	144.4
CH-12	48	179.4	-46	144.4
CH-12	51	179.5	-46.1	144.5
CH-12	54	179.6	-46.1	144.6
CH-12	57	179.7	-46.1	144.7
CH-12	60	179.8	-46.1	144.8
CH-12	63	179.9	-46.2	144.9
CH-12	66	180	-46.4	145
CH-12	69	180.1	-46.4	145.1
CH-12	72	180.2	-46.4	145.2
CH-12	75	180.3	-46.3	145.3
CH-12	78	180.4	-46.4	145.4
CH-12	81	180.5	-46.3	145.5
CH-12	84	180.6	-46.4	145.6
CH-12	87	180.7	-46.5	145.7
CH-12	90	180.7	-46.4	145.7
CH-12	93	180.7	-46.5	145.7
CH-12	96	180.8	-46.6	145.8
CH-12	99	180.9	-46.7	145.9
CH-12	102	181	-46.7	146
CH-12	105	181.1	-46.6	146.1
CH-12	108	181.2	-46.7	146.2
CH-12	111	181.3	-46.8	146.3
CH-12	114	181.3	-46.9	146.3
CH-12	117	181.5	-46.8	146.5
CH-12	123	181.5	-46.8	146.5
CH-12	126	181.6	-46.9	146.6
CH-12	129	181.6	-46.9	146.6
CH-12	132	181.6	-46.9	146.6
CH-12	135	181.7	-46.9	146.7
CH-12	138	181.7	-46.9	146.7
CH-12	141	181.8	-46.9	146.8
CH-12	144	181.8	-47.1	146.8
CH-12	147	181.8	-47.1	146.8
CH-12	150	181.9	-46.9	146.9
CH-12	153	181.8	-47.1	146.8
CH-12	156	181.9	-47	146.9
CH-12	159	181.9	-47.1	146.9
CH-12	162	181.9	-47.1	146.9
CH-12	165	182	-47.1	147
CH-12	168	182.1	-47.1	147.1
CH-12	171	182.2	-46.7	147.2
CH-12	174	182.2	-47.2	147.2

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-12	177	182.3	-47.2	147.3
CH-12	180	182.5	-47.2	147.5
CH-13	12	180	-70.8	145
CH-13	15	180.4	-70.7	145.4
CH-13	18	180.8	-70.5	145.8
CH-13	21	181.3	-70.2	146.3
CH-13	24	181.5	-70.1	146.5
CH-13	27	181.7	-70.5	146.7
CH-13	30	182	-70.4	147
CH-13	33	182.3	-70.2	147.3
CH-13	36	182.6	-70.4	147.6
CH-13	39	182.8	-70.5	147.8
CH-13	42	183.1	-70.5	148.1
CH-13	45	183.4	-70.4	148.4
CH-13	48	183.7	-70.1	148.7
CH-13	51	183.9	-70.2	148.9
CH-13	54	184.1	-70.2	149.1
CH-13	57	184.4	-70.2	149.4
CH-13	60	184.7	-70.1	149.7
CH-13	63	184.9	-70.1	149.9
CH-13	66	185.1	-69.9	150.1
CH-13	69	185.4	-69.8	150.4
CH-13	72	185.7	-69.9	150.7
CH-13	75	186	-69.8	151
CH-13	78	186.3	-69.5	151.3
CH-13	81	186.6	-69.4	151.6
CH-13	84	186.9	-69.4	151.9
CH-13	87	187.1	-69.4	152.1
CH-13	90	187.3	-69.5	152.3
CH-13	93	187.7	-69.4	152.7
CH-13	96	188	-69.3	153
CH-13	99	188.3	-69.2	153.3
CH-13	102	188.4	-69.1	153.4
CH-13	105	188.6	-68.9	153.6
CH-13	108	188.9	-68.6	153.9
CH-13	111	189.1	-68.7	154.1
CH-13	114	189.4	-68.4	154.4
CH-13	117	189.7	-68.5	154.7
CH-13	120	190.1	-68.7	155.1
CH-13	123	190.4	-68.7	155.4
CH-13	126	190.9	-68.6	155.9
CH-13	129	191.2	-68.6	156.2
CH-13	132	191.4	-68.5	156.4
CH-13	135	191.6	-68.6	156.6

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-13	138	191.7	-68.8	156.7
CH-13	141	192	-68.8	157
CH-13	144	192.4	-68.7	157.4
CH-13	147	192.6	-68.7	157.6
CH-13	150	192.9	-68.6	157.9
CH-13	153	193.1	-68.7	158.1
CH-13	156	193.4	-68.7	158.4
CH-13	159	193.7	-68.7	158.7
CH-13	162	194.1	-68.9	159.1
CH-13	165	194.3	-68.8	159.3
CH-13	168	194.6	-68.7	159.6
CH-13	171	195	-68.7	160
CH-13	174	195.2	-68.8	160.2
CH-13	177	195.5	-68.7	160.5
CH-13	180	195.9	-68.9	160.9
CH-13	183	196.1	-68.7	161.1
CH-13	186	196.3	-69.3	161.3
CH-13	189	196.6	-68.9	161.6
CH-13	192	196.8	-68.8	161.8
CH-13	195	197	-68.8	162
CH-13	198	197.2	-68.7	162.2
CH-13	201	197.3	-68.9	162.3
CH-13	204	197.7	-69	162.7
CH-13	207	198	-68.9	163
CH-13	210	198.3	-69	163.3
CH-13	213	198.6	-69	163.6
CH-13	216	199	-68.8	164
CH-13	219	199.4	-68.6	164.4
CH-13	222	199.5	-68.6	164.5
CH-13	225	199.7	-68.7	164.7
CH-13	228	200	-68.7	165
CH-13	231	200.2	-68.7	165.2
CH-13	234	200.4	-68.5	165.4
CH-13	237	200.5	-68.4	165.5
CH-13	240	200.7	-68.7	165.7
CH-13	243	201	-68.5	166
CH-13	246	201.1	-68.4	166.1
CH-13	249	201.4	-68.4	166.4
CH-13	252	201.7	-68.5	166.7
CH-13	255	201.9	-68.5	166.9
CH-13	258	202	-68.6	167
CH-13	261	202.2	-68.8	167.2
CH-13	264	202.3	-68.7	167.3
CH-13	267	202.6	-68.7	167.6

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-13	270	202.9	-68.7	167.9
CH-13	273	203.3	-68.8	168.3
CH-13	276	203.7	-68.7	168.7
CH-13	279	204.1	-68.4	169.1
CH-13	282	204.3	-68.7	169.3
CH-13	285	204.5	-68.6	169.5
CH-13	288	204.8	-68.4	169.8
CH-13	291	205.2	-68.4	170.2
CH-13	294	205.5	-68.4	170.5
CH-13	297	205.6	-68.3	170.6
CH-13	300	205.9	-68.6	170.9
CH-13	303	206.3	-68.5	171.3
CH-13	306	206.6	-68.4	171.6
CH-13	309	207	-68.5	172
CH-13	312	207.2	-68.2	172.2
CH-13	315	207.5	-68.3	172.5
CH-13	318	207.8	-68.2	172.8
CH-13	321	208	-68.2	173
CH-13	324	208	-68.4	173
CH-13	327	208.3	-68.2	173.3
CH-13	330	208.6	-68.3	173.6
CH-13	333	208.9	-68.3	173.9
CH-13	336	209.1	-68.1	174.1
CH-13	339	209.5	-68.1	174.5
CH-13	342	209.7	-68.3	174.7
CH-13	345	210	-68.3	175
CH-14	9	180	-69.5	145
CH-14	12	180	-69.2	145
CH-14	15	179.8	-69.1	144.8
CH-14	18	179.8	-69.5	144.8
CH-14	21	179.8	-69.3	144.8
CH-14	24	179.7	-69.1	144.7
CH-14	27	179.6	-69.2	144.6
CH-14	30	179.7	-69.3	144.7
CH-14	33	179.7	-69.7	144.7
CH-14	36	179.8	-69.5	144.8
CH-14	39	180	-69.5	145
CH-14	42	180.1	-69.8	145.1
CH-14	45	180.2	-69.5	145.2
CH-14	48	180.3	-69.8	145.3
CH-14	51	180.5	-69.8	145.5
CH-14	54	180.6	-69.6	145.6
CH-14	57	180.6	-69.5	145.6
CH-14	60	180.6	-69.7	145.6

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-14	63	180.5	-69.8	145.5
CH-14	66	180.6	-69.8	145.6
CH-14	69	180.6	-69.9	145.6
CH-14	72	180.7	-69.6	145.7
CH-14	75	180.7	-69.6	145.7
CH-14	78	180.7	-69.7	145.7
CH-14	81	180.7	-69.7	145.7
CH-14	84	180.8	-69.9	145.8
CH-14	87	181	-70	146
CH-14	90	181	-69.7	146
CH-14	93	181.1	-69.8	146.1
CH-14	96	181.1	-69.9	146.1
CH-14	99	181.2	-70	146.2
CH-14	102	181.3	-69.7	146.3
CH-14	105	181.4	-70.1	146.4
CH-14	108	181.4	-69.9	146.4
CH-14	111	181.5	-69.8	146.5
CH-14	114	181.7	-69.9	146.7
CH-14	117	181.7	-70.1	146.7
CH-14	120	181.8	-70	146.8
CH-14	123	181.9	-70.1	146.9
CH-14	126	182	-69.7	147
CH-14	129	182.1	-70.1	147.1
CH-14	132	182.2	-69.8	147.2
CH-14	135	182.4	-69.8	147.4
CH-14	138	182.4	-69.8	147.4
CH-14	141	182.5	-69.8	147.5
CH-14	144	182.6	-69.9	147.6
CH-14	147	182.6	-70.1	147.6
CH-14	150	182.7	-70	147.7
CH-14	153	182.8	-70.1	147.8
CH-14	156	182.9	-69.9	147.9
CH-14	159	182.9	-69.9	147.9
CH-14	162	183.1	-69.9	148.1
CH-14	165	183.1	-70	148.1
CH-14	168	183.2	-70	148.2
CH-14	171	183.2	-69.9	148.2
CH-14	174	183.3	-69.9	148.3
CH-14	177	183.4	-70	148.4
CH-14	180	183.5	-70.1	148.5
CH-14	183	183.4	-70.3	148.4
CH-14	186	183.5	-70.2	148.5
CH-14	189	183.6	-70.2	148.6
CH-14	192	183.7	-69.9	148.7

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Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-14	195	183.8	-70	148.8
CH-14	198	184	-70.2	149
CH-14	201	184	-70.1	149
CH-14	204	183.9	-70.3	148.9
CH-14	207	183.8	-70.3	148.8
CH-14	210	183.9	-70.2	148.9
CH-14	213	183.8	-70.2	148.8
CH-14	216	183.7	-70.3	148.7
CH-14	219	183.7	-70.2	148.7
CH-14	222	183.8	-70.2	148.8
CH-14	225	183.8	-70.3	148.8
CH-14	228	183.9	-70.2	148.9
CH-14	231	183.8	-69.9	148.8
CH-14	234	183.9	-69.9	148.9
CH-14	237	183.9	-70.1	148.9
CH-14	240	184	-70	149
CH-14	243	183.9	-70	148.9
CH-14	246	184	-70.2	149
CH-14	249	184.1	-70	149.1
CH-14	252	184	-70	149
CH-14	255	184	-70	149
CH-14	258	184.1	-70	149.1
CH-14	261	184.1	-70.2	149.1
CH-14	264	184.1	-70.2	149.1
CH-14	267	184.2	-70.2	149.2
CH-14	270	184.3	-70.3	149.3
CH-14	273	184.3	-70.1	149.3
CH-14	276	184.1	-70	149.1
CH-14	279	184.2	-70.3	149.2
CH-14	282	184.3	-70.1	149.3
CH-14	285	184.2	-70.1	149.2
CH-15	0	180	-46.8	145
CH-15	3	179.8	-46.5	144.8
CH-15	6	179.8	-46.2	144.8
CH-15	9	179.8	-46.1	144.8
CH-15	12	179.9	-46.2	144.9
CH-15	15	180	-46.5	145
CH-15	18	180.2	-46.5	145.2
CH-15	21	180.4	-46.4	145.4
CH-15	24	180.6	-46.4	145.6
CH-15	27	180.9	-46.1	145.9
CH-15	30	181.1	-46	146.1
CH-15	33	181.3	-45.9	146.3
CH-15	36	181.6	-45.9	146.6

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-15	39	181.9	-45.8	146.9
CH-15	42	182.2	-45.7	147.2
CH-15	45	182.4	-45.6	147.4
CH-15	48	182.8	-45.5	147.8
CH-15	51	183	-45.4	148
CH-15	54	183.3	-45.3	148.3
CH-15	57	183.6	-45.3	148.6
CH-15	60	183.8	-45.3	148.8
CH-15	63	183.8	-45.3	148.8
CH-15	66	183.8	-45.3	148.8
CH-15	69	183.9	-45.5	148.9
CH-15	72	183.9	-45.4	148.9
CH-15	75	184	-45.3	149
CH-15	78	184.2	-45.2	149.2
CH-15	81	184.3	-45.1	149.3
CH-15	84	184.3	-45.2	149.3
CH-15	87	184.3	-45.2	149.3
CH-15	90	184.3	-45.1	149.3
CH-15	93	184.2	-45.1	149.2
CH-15	96	184	-45	149
CH-15	99	183.9	-45.1	148.9
CH-15	102	183.9	-45	148.9
CH-15	105	184.1	-45	149.1
CH-15	108	184.4	-44.9	149.4
CH-15	111	184.7	-44.8	149.7
CH-15	114	185	-44.8	150
CH-15	117	185.3	-44.7	150.3
CH-15	120	185.6	-44.7	150.6
CH-15	123	185.8	-44.7	150.8
CH-15	126	186.1	-44.8	151.1
CH-15	129	186.3	-44.8	151.3
CH-15	132	186.5	-44.9	151.5
CH-15	135	186.7	-44.9	151.7
CH-15	138	187	-44.8	152
CH-15	141	187.3	-44.8	152.3
CH-15	144	187.6	-44.9	152.6
CH-15	147	187.8	-44.8	152.8
CH-15	150	188.1	-44.7	153.1
CH-15	153	188.4	-44.7	153.4
CH-15	156	188.7	-44.7	153.7
CH-15	159	189	-44.6	154
CH-15	162	189.3	-44.6	154.3
CH-15	165	189.6	-44.7	154.6
CH-15	168	190	-44.6	155

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-15	171	190.3	-44.6	155.3
CH-15	174	190.6	-44.6	155.6
CH-15	177	190.8	-44.5	155.8
CH-15	180	191.1	-44.6	156.1
CH-15	183	191.3	-44.5	156.3
CH-15	186	191.6	-44.5	156.6
CH-15	189	191.9	-44.5	156.9
CH-15	192	192.1	-44.4	157.1
CH-15	195	192.4	-44.3	157.4
CH-15	198	192.7	-44.2	157.7
CH-15	201	193	-44.2	158
CH-15	204	193.3	-44.1	158.3
CH-15	207	193.5	-44.1	158.5
CH-15	210	193.8	-44.1	158.8
CH-15	213	194.1	-44.1	159.1
CH-15	216	194.4	-44.1	159.4
CH-15	219	194.6	-44.1	159.6
CH-15	222	194.9	-44.1	159.9
CH-15	225	195.2	-44.2	160.2
CH-16	0	180	-44.8	145
CH-16	3	180.2	-44.4	145.2
CH-16	6	180.4	-44	145.4
CH-16	9	180.5	-44	145.5
CH-16	12	180.5	-44.4	145.5
CH-16	15	180.6	-44.2	145.6
CH-16	18	180.8	-44.1	145.8
CH-16	21	180.7	-44.1	145.7
CH-16	24	180.8	-44.1	145.8
CH-16	27	180.9	-44	145.9
CH-16	30	180.9	-44.2	145.9
CH-16	33	181	-44	146
CH-16	36	181.1	-44.1	146.1
CH-16	39	181.1	-44.1	146.1
CH-16	42	181.2	-44.2	146.2
CH-16	45	181.3	-44.2	146.3
CH-16	48	181.4	-44.3	146.4
CH-16	51	181.5	-44.3	146.5
CH-16	54	181.6	-44.4	146.6
CH-16	57	181.6	-44.4	146.6
CH-16	60	181.8	-44.5	146.8
CH-16	63	181.9	-44.4	146.9
CH-16	66	182	-44.4	147
CH-16	69	182	-44.4	147
CH-16	72	182.1	-44.5	147.1

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-16	75	182.2	-44.7	147.2
CH-16	78	182.3	-44.6	147.3
CH-16	81	182.4	-44.7	147.4
CH-16	84	182.5	-44.6	147.5
CH-16	87	182.6	-44.6	147.6
CH-16	90	182.7	-44.6	147.7
CH-16	93	182.8	-44.8	147.8
CH-16	96	182.8	-44.9	147.8
CH-16	99	182.9	-44.7	147.9
CH-16	102	183	-44.8	148
CH-16	105	183.1	-44.8	148.1
CH-16	108	183.3	-44.8	148.3
CH-16	111	183.4	-44.8	148.4
CH-16	114	183.5	-44.8	148.5
CH-16	117	183.6	-45	148.6
CH-16	120	183.7	-45	148.7
CH-16	123	183.8	-45.1	148.8
CH-16	126	183.9	-45.1	148.9
CH-16	129	183.9	-45.1	148.9
CH-16	132	184	-44.9	149
CH-16	135	184.1	-45	149.1
CH-16	138	184.2	-45.2	149.2
CH-16	141	184.2	-45.2	149.2
CH-16	144	184.4	-45.1	149.4
CH-16	147	184.4	-45.3	149.4
CH-16	150	184.5	-45.2	149.5
CH-16	153	184.7	-45.3	149.7
CH-16	156	184.8	-45.1	149.8
CH-16	159	184.8	-45.2	149.8
CH-16	162	184.9	-45.3	149.9
CH-16	165	185	-45.2	150
CH-16	168	185.1	-45.3	150.1
CH-16	171	185.1	-45.3	150.1
CH-16	174	185.1	-45.4	150.1
CH-16	177	185.2	-45.4	150.2
CH-16	180	185.3	-45.3	150.3
CH-16	183	185.3	-45.4	150.3
CH-16	186	185.4	-45.5	150.4
CH-16	189	185.5	-45.5	150.5
CH-16	192	185.5	-45.3	150.5
CH-16	195	185.5	-45.4	150.5
CH-16	198	185.6	-45.5	150.6
CH-16	201	185.7	-45.3	150.7
CH-16	204	185.7	-45.4	150.7

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-16	207	185.9	-45.5	150.9
CH-16	210	185.9	-45.4	150.9
CH-16	213	186	-45.4	151
CH-16	216	186	-45.5	151
CH-16	219	186.1	-45.5	151.1
CH-16	225	186.1	-45.5	151.1
CH-17	0	180	-69.7	145
CH-17	3	180	-70.8	145
CH-17	6	180.1	-71	145.1
CH-17	9	180.2	-71.3	145.2
CH-17	12	180.4	-71.5	145.4
CH-17	15	180.6	-71.5	145.6
CH-17	18	180.8	-71.6	145.8
CH-17	21	181.1	-71.6	146.1
CH-17	24	181.3	-71.5	146.3
CH-17	27	181.5	-71.7	146.5
CH-17	30	181.8	-71.7	146.8
CH-17	33	182.1	-71.7	147.1
CH-17	36	182.3	-71.5	147.3
CH-17	39	182.6	-71.7	147.6
CH-17	42	182.9	-71.5	147.9
CH-17	45	183.2	-71.8	148.2
CH-17	48	183.4	-71.6	148.4
CH-17	51	183.6	-71.6	148.6
CH-17	54	183.9	-71.6	148.9
CH-17	57	184	-71.6	149
CH-17	60	184.3	-71.8	149.3
CH-17	63	184.7	-71.9	149.7
CH-17	66	184.9	-72	149.9
CH-17	69	185	-71.8	150
CH-17	72	185.1	-71.7	150.1
CH-17	75	185.1	-71.7	150.1
CH-17	78	185.2	-71.8	150.2
CH-17	81	185.4	-71.9	150.4
CH-17	84	185.5	-71.9	150.5
CH-17	87	185.7	-71.6	150.7
CH-17	90	185.9	-71.6	150.9
CH-17	93	185.9	-71.8	150.9
CH-17	96	185.9	-71.8	150.9
CH-17	99	185.8	-71.7	150.8
CH-17	102	185.6	-71.5	150.6
CH-17	105	185.3	-71.6	150.3
CH-17	108	185.1	-71.7	150.1
CH-17	111	184.7	-71.6	149.7

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-17	114	184.3	-71.5	149.3
CH-17	117	184.1	-71.5	149.1
CH-17	120	184.1	-71.5	149.1
CH-17	123	184.2	-71.5	149.2
CH-17	126	184.2	-71.5	149.2
CH-17	129	184.4	-71.6	149.4
CH-17	132	184.6	-71.6	149.6
CH-17	135	184.8	-71.8	149.8
CH-17	138	185	-71.8	150
CH-17	141	185.3	-71.8	150.3
CH-17	144	185.4	-71.8	150.4
CH-17	147	185.7	-71.8	150.7
CH-17	150	186	-71.8	151
CH-17	153	186.1	-71.7	151.1
CH-17	156	186.4	-71.8	151.4
CH-17	159	186.6	-71.9	151.6
CH-17	162	186.7	-71.8	151.7
CH-17	165	186.8	-71.8	151.8
CH-17	168	187	-71.8	152
CH-17	171	187.2	-71.9	152.2
CH-17	174	187.3	-71.9	152.3
CH-17	177	187.7	-72	152.7
CH-17	180	188	-71.9	153
CH-17	183	188.3	-72	153.3
CH-17	186	188.6	-72.1	153.6
CH-17	189	189	-72.2	154
CH-17	192	189.4	-72.1	154.4
CH-17	195	189.7	-72.2	154.7
CH-17	198	189.9	-72.2	154.9
CH-17	201	190	-72.4	155
CH-17	204	190.2	-72.4	155.2
CH-17	207	190.3	-72.4	155.3
CH-17	210	190.4	-72.2	155.4
CH-17	213	190.7	-72.3	155.7
CH-17	216	190.9	-72.3	155.9
CH-17	219	190.9	-72.2	155.9
CH-17	222	191	-72.2	156
CH-17	225	191	-72.3	156
CH-17	228	191.4	-72.2	156.4
CH-17	231	191.6	-72.1	156.6
CH-17	234	191.9	-72.2	156.9
CH-17	237	191.9	-72	156.9
CH-17	240	192	-72	157
CH-17	243	192.4	-72.1	157.4

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-17	246	192.8	-72.1	157.8
CH-17	249	193.1	-72.1	158.1
CH-17	252	193.5	-72.4	158.5
CH-17	255	193.6	-72.1	158.6
CH-17	258	193.7	-72.1	158.7
CH-17	264	194.5	-72	159.5
CH-17	267	194.6	-71.9	159.6
CH-17	270	194.9	-71.8	159.9
CH-17	273	195.2	-72.1	160.2
CH-17	276	195.4	-71.8	160.4
CH-17	279	195.7	-72.1	160.7
CH-17	282	196	-72.1	161
CH-17	285	196.1	-71.8	161.1
CH-17	288	196.2	-72	161.2
CH-17	291	196.3	-71.7	161.3
CH-17	294	196.4	-71.6	161.4
CH-17	297	196.6	-71.6	161.6
CH-17	300	196.6	-71.7	161.6
CH-17	303	196.5	-71.7	161.5
CH-17	306	196.5	-71.5	161.5
CH-17	309	196.4	-71.9	161.4
CH-18	0	180.2	-70.5	145.2
CH-18	3	180.1	-70.5	145.1
CH-18	6	180.3	-70.6	145.3
CH-18	9	180.5	-70.6	145.5
CH-18	12	180.7	-70.5	145.7
CH-18	15	180.8	-70.5	145.8
CH-18	18	180.9	-70.2	145.9
CH-18	21	180.9	-70.4	145.9
CH-18	24	181	-70.3	146
CH-18	27	181.2	-70.3	146.2
CH-18	30	181.2	-70.2	146.2
CH-18	33	181.2	-70.2	146.2
CH-18	36	181.5	-70.3	146.5
CH-18	39	181.5	-70.2	146.5
CH-18	42	181.5	-70.4	146.5
CH-18	45	181.6	-70.3	146.6
CH-18	48	181.7	-70.3	146.7
CH-18	51	181.7	-70.5	146.7
CH-18	54	181.8	-70.4	146.8
CH-18	57	181.9	-70.3	146.9
CH-18	60	182	-70.3	147
CH-18	63	182	-70.2	147
CH-18	66	182.2	-70.5	147.2

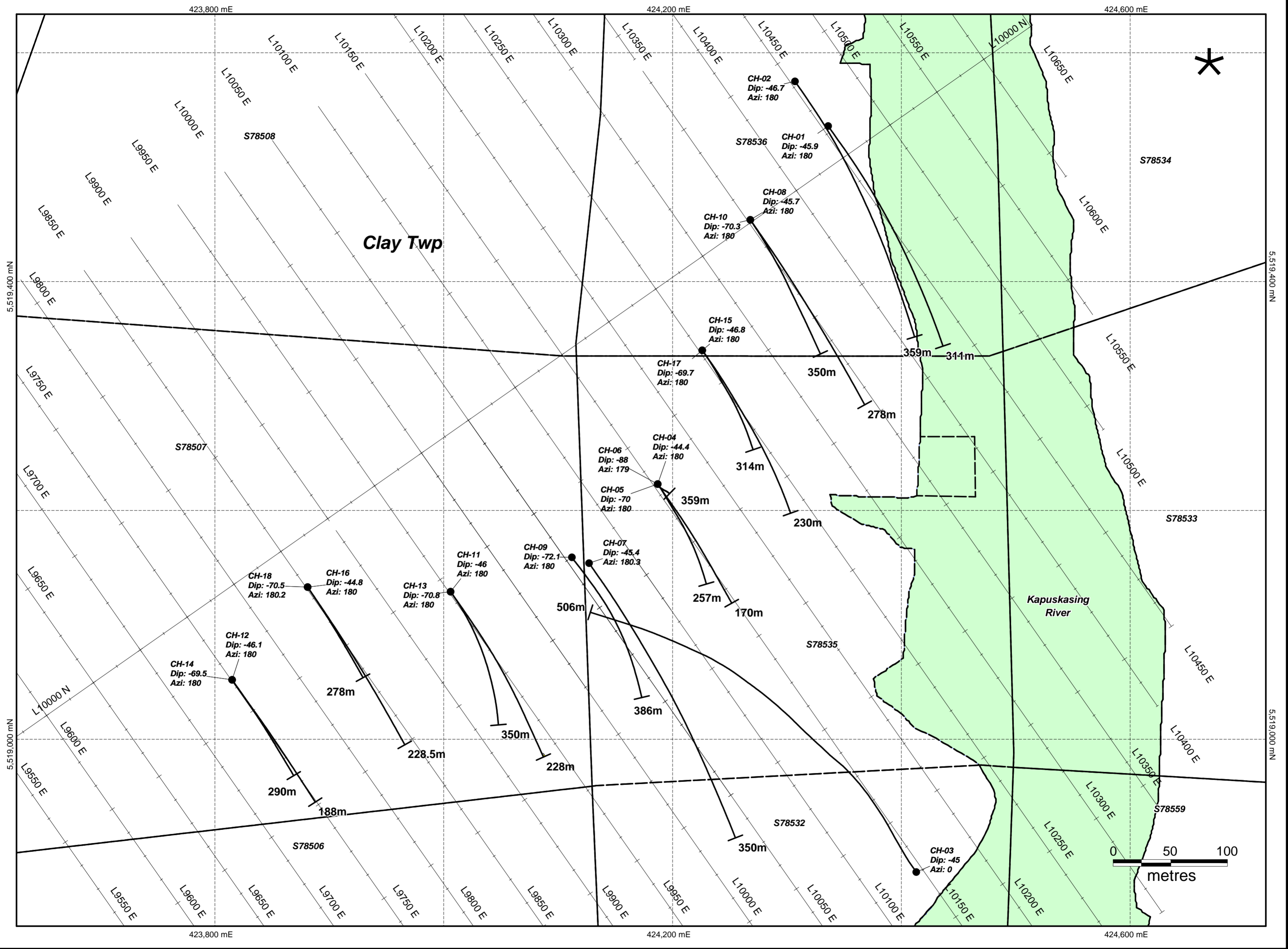
**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-18	69	182.2	-70.5	147.2
CH-18	72	182.3	-70.3	147.3
CH-18	75	182.4	-70.3	147.4
CH-18	78	182.6	-70.6	147.6
CH-18	81	182.6	-70.4	147.6
CH-18	84	182.7	-70.4	147.7
CH-18	87	182.8	-70.4	147.8
CH-18	90	182.8	-70.3	147.8
CH-18	93	182.9	-70.4	147.9
CH-18	96	182.9	-70.6	147.9
CH-18	99	182.9	-70.6	147.9
CH-18	102	183.1	-70.4	148.1
CH-18	105	183.2	-70.7	148.2
CH-18	108	183.3	-70.6	148.3
CH-18	111	183.3	-70.7	148.3
CH-18	114	183.4	-70.7	148.4
CH-18	117	183.5	-70.5	148.5
CH-18	120	183.6	-70.4	148.6
CH-18	123	183.6	-70.4	148.6
CH-18	126	183.5	-70.6	148.5
CH-18	129	183.6	-70.4	148.6
CH-18	132	183.7	-70.5	148.7
CH-18	135	183.6	-70.7	148.6
CH-18	138	183.6	-70.6	148.6
CH-18	141	183.7	-70.7	148.7
CH-18	144	183.7	-70.3	148.7
CH-18	147	183.8	-70.7	148.8
CH-18	150	183.9	-70.4	148.9
CH-18	153	184	-70.5	149
CH-18	156	184	-70.4	149
CH-18	159	184	-70.6	149
CH-18	162	184.1	-70.7	149.1
CH-18	165	184.2	-70.7	149.2
CH-18	168	184.2	-70.5	149.2
CH-18	171	184.2	-70.5	149.2
CH-18	174	184.3	-70.7	149.3
CH-18	177	184.4	-70.6	149.4
CH-18	180	184.4	-70.5	149.4
CH-18	183	184.5	-70.5	149.5
CH-18	186	184.5	-70.5	149.5
CH-18	189	184.5	-70.7	149.5
CH-18	192	184.5	-70.5	149.5
CH-18	195	184.6	-70.7	149.6
CH-18	198	184.6	-70.4	149.6

**Clay Howells Project
Drill Hole Survey File**

Hole ID	Depth(m)	Grid Bearing	DIP	True Bearing
CH-18	201	184.6	-70.7	149.6
CH-18	204	184.7	-70.6	149.7
CH-18	207	184.8	-70.6	149.8
CH-18	210	184.8	-70.8	149.8
CH-18	213	184.8	-70.5	149.8
CH-18	216	184.9	-70.5	149.9
CH-18	219	184.9	-70.6	149.9
CH-18	222	185.1	-70.5	150.1
CH-18	225	185	-71.7	150
CH-18	228	185.1	-70.4	150.1
CH-18	231	185.2	-70.6	150.2
CH-18	234	185.2	-69.8	150.2
CH-18	237	185.3	-70.6	150.3
CH-18	240	185.4	-70.3	150.4
CH-18	243	185.5	-70.6	150.5
CH-18	246	185.3	-70.6	150.3
CH-18	249	185.4	-70.4	150.4
CH-18	252	185.6	-70.6	150.6
CH-18	255	185.6	-70.3	150.6
CH-18	258	185.7	-70.4	150.7
CH-18	261	185.9	-70.6	150.9
CH-18	264	185.9	-70.3	150.9
CH-18	267	186	-70.4	151
CH-18	270	186	-70.4	151
CH-18	273	186.1	-70.4	151.1

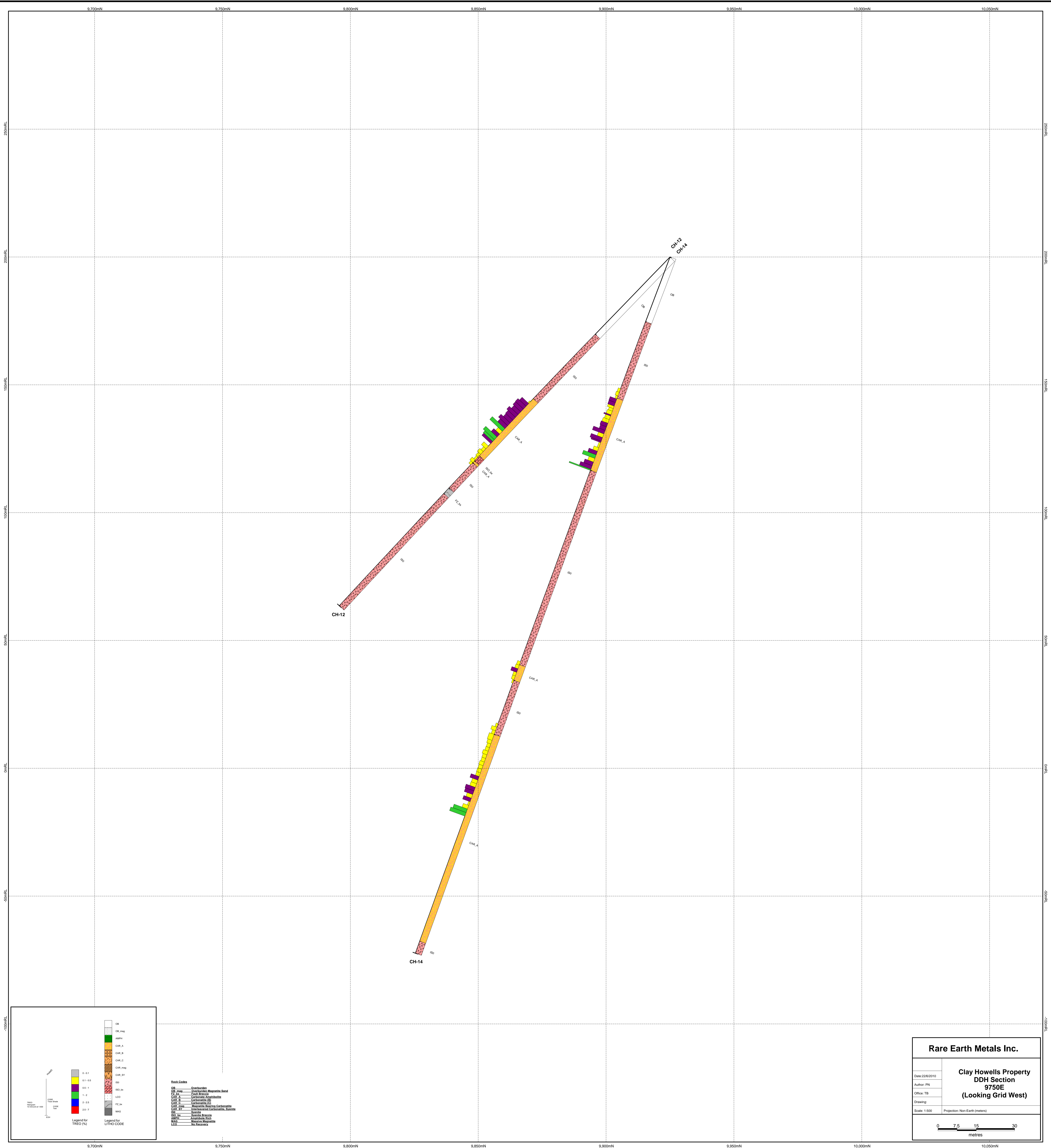
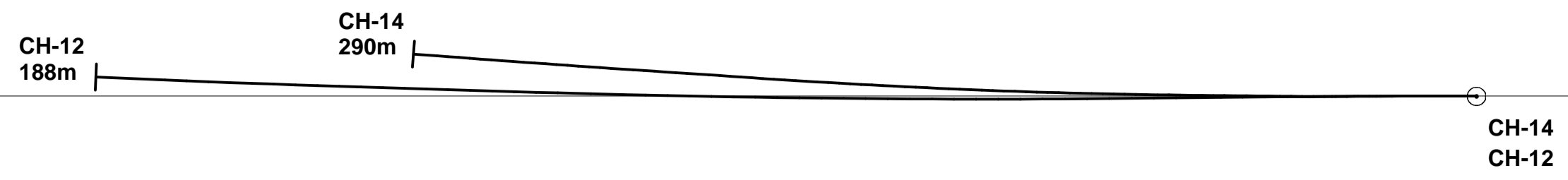
Appendix F – Drill Hole Plan Map & Cross Sections



Projection: UTM Zone 17 NAD83

**Clay Howells Project
Drill Hole Plan**





Legend for TRED (%)

- 0 - 0.1
- 0.1 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 7

Legend for LITHO CODE

- OB
- OB_HF
- AMH
- CAL_A
- CAL_B
- CAL_C
- CAL_D
- CAL_E
- CAL_F
- LEO
- FZ_1A
- FZ_1B
- FZ_2A
- FZ_2B
- MAG

Rock Codes

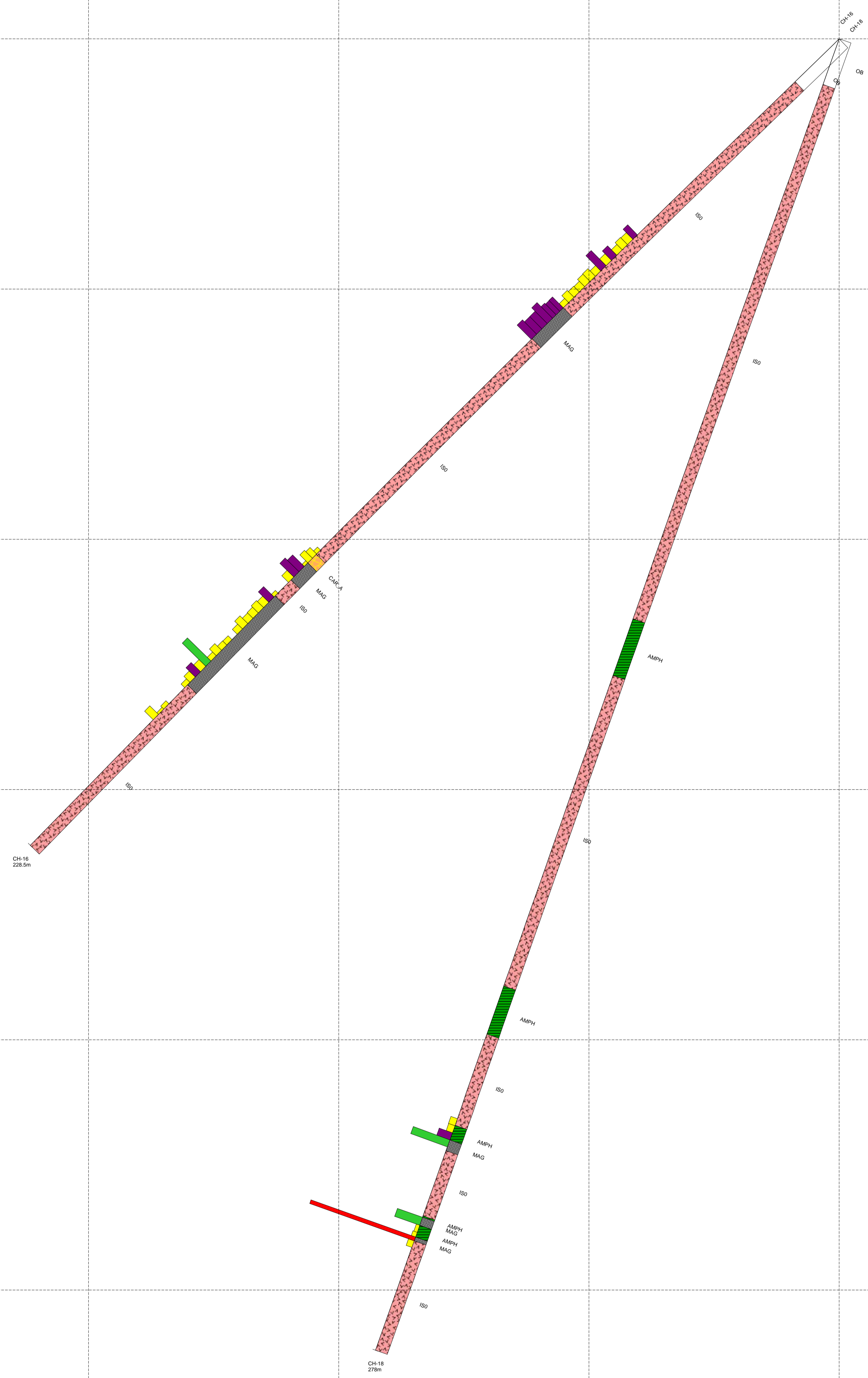
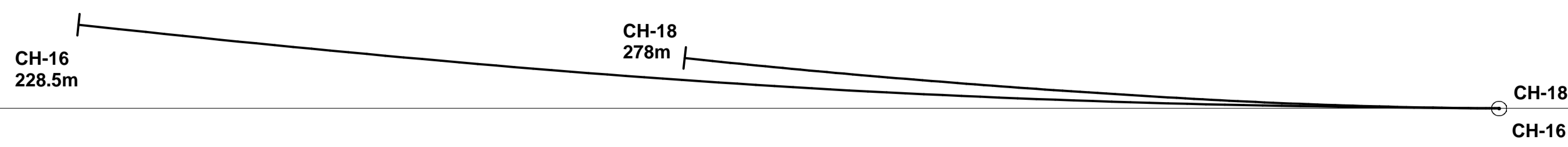
OB	Oxidized Breccia
OB_HF	Oxidized Breccia, Magnetite Band
AMH	Amphibole Matrix
CAL_A	Calcic Amphibole
CAL_B	Calcic Amphibole (B)
CAL_C	Calcic Amphibole (C)
CAL_D	Calcic Amphibole (D)
CAL_E	Calcic Amphibole (E)
CAL_F	Calcic Amphibole (F)
LEO	Lithic Breccia
FZ_1A	Fault Zone, Amphibole, Calcic Amphibole
FZ_1B	Fault Zone, Amphibole, Calcic Amphibole
FZ_2A	Fault Zone, Amphibole, Calcic Amphibole
FZ_2B	Fault Zone, Amphibole, Calcic Amphibole
MAG	Metasedimentary Gneiss
MAG_1A	Metasedimentary Gneiss, Amphibole
MAG_1B	Metasedimentary Gneiss, Amphibole
LEO	Lithic Breccia

Rare Earth Metals Inc.

**Clay Howells Property
DDH Section
9750E
(Looking Grid West)**

Date: 22/05/10
Author: PH
Office: TS
Drawing:
Scale: 1:500
Projection: Non Earth (metres)

0 7.5 15 30
metres



Legend for TREC (m)

Legend for LITHO CODES

Rock Codes

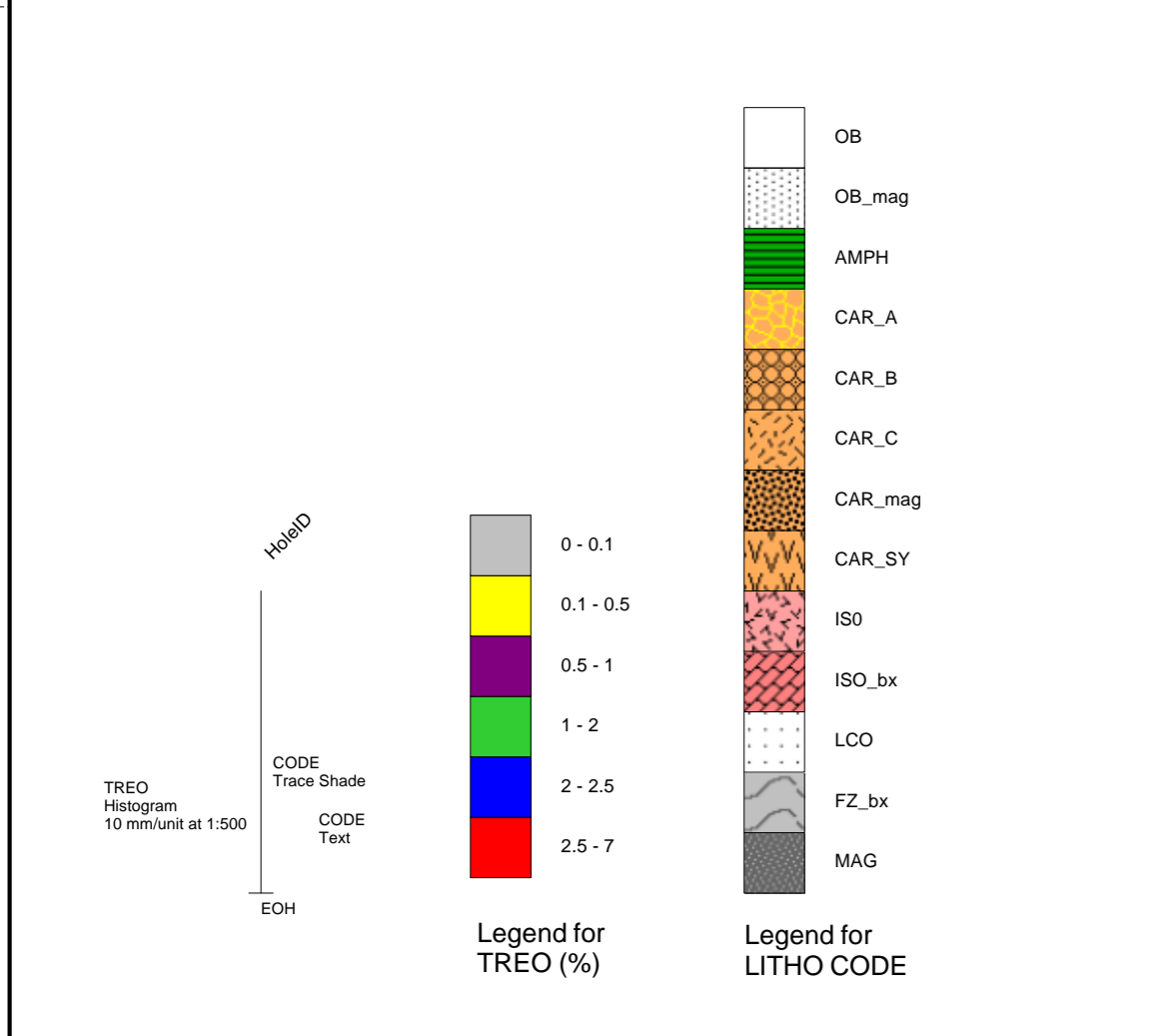
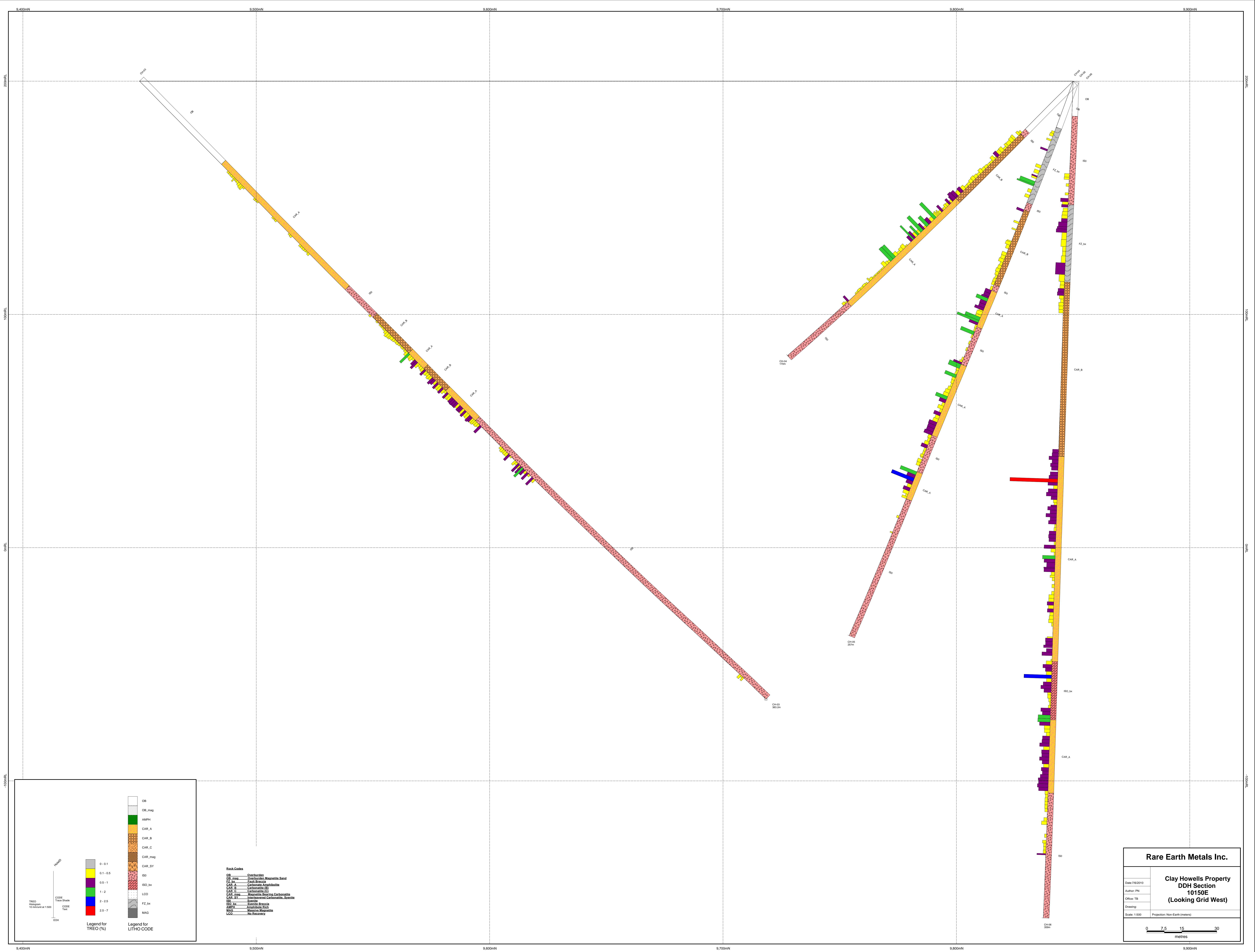
OS	Overburden
OS_mg	Overburden Magnesian Sand
OS_fm	Overburden Full Breccia
CAL_A	Carbonate Amphibolite
CAL_S	Carbonate SS
CAL_C	Carbonate SS
CAL_BV	Magnetite-bearing Carbonate Breccia
ISG	Ironstone
ISM	Ironstone Matrix
ISB	Ironstone Breccia
AMH	Amphibolite
ISD	Ironstone Breccia
ISL	Ironstone Breccia

Rare Earth Metals Inc.

**Clay Howells Property
DDH Section
9850E
(Looking Grid West)**

Date: 10/8/2010	Author: PH
Office: TB	Drawing:

Scale: 1:500 Projection: Non-Earth (meters)



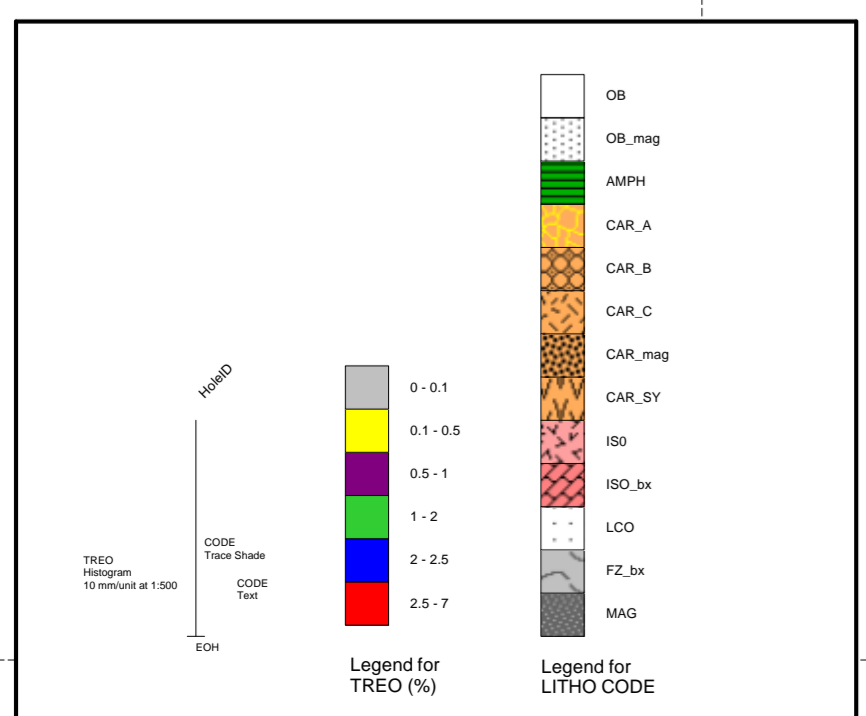
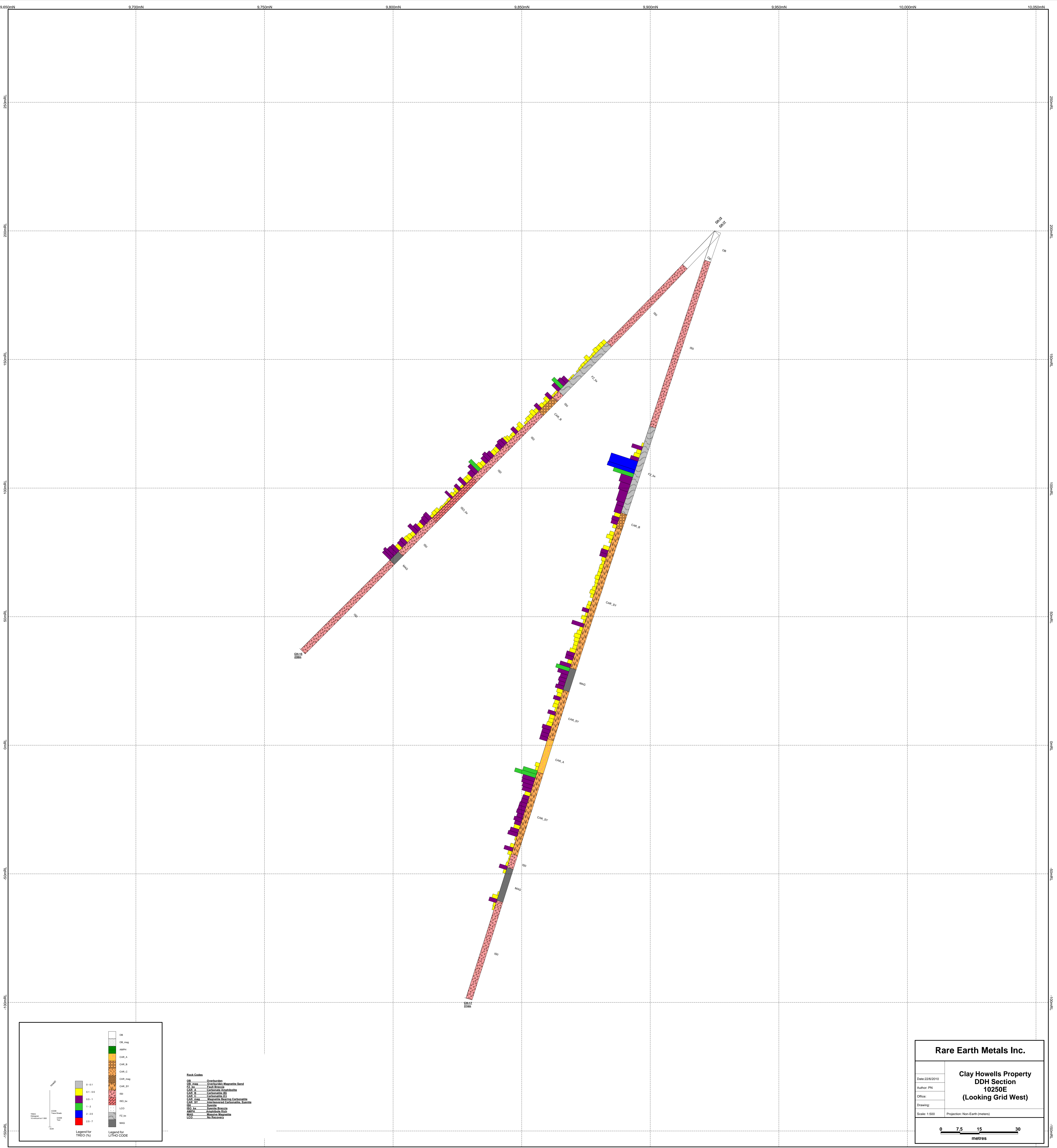
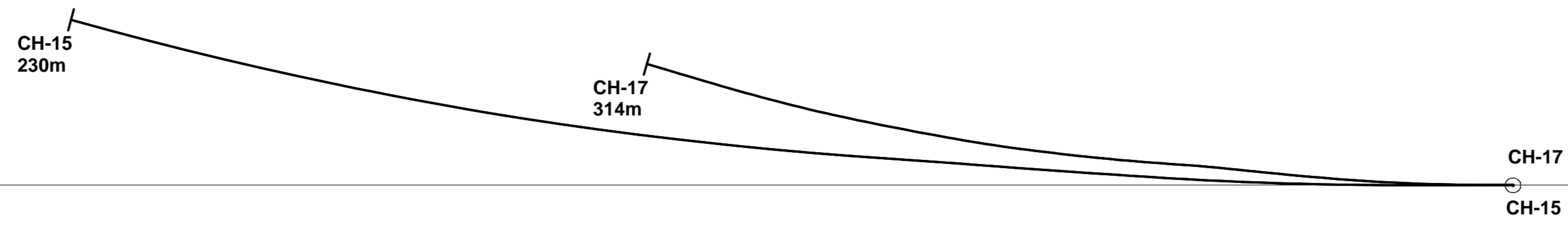
Rock Codes

OB	Quartzite
OB_MAG	Quartzite Magnetite Sand
FZ	Fracture
FZ_A	Fracture Magnetite Sand
FZ_B	Fracture Magnetite Sand
FZ_C	Fracture Magnetite Sand
FZ_D	Fracture Magnetite Sand
FZ_E	Fracture Magnetite Sand
FZ_F	Fracture Magnetite Sand
FZ_G	Fracture Magnetite Sand
FZ_H	Fracture Magnetite Sand
FZ_I	Fracture Magnetite Sand
FZ_J	Fracture Magnetite Sand
FZ_K	Fracture Magnetite Sand
FZ_L	Fracture Magnetite Sand
FZ_M	Fracture Magnetite Sand
FZ_N	Fracture Magnetite Sand
FZ_O	Fracture Magnetite Sand
FZ_P	Fracture Magnetite Sand
FZ_Q	Fracture Magnetite Sand
FZ_R	Fracture Magnetite Sand
FZ_S	Fracture Magnetite Sand
FZ_T	Fracture Magnetite Sand
FZ_U	Fracture Magnetite Sand
FZ_V	Fracture Magnetite Sand
FZ_W	Fracture Magnetite Sand
FZ_X	Fracture Magnetite Sand
FZ_Y	Fracture Magnetite Sand
FZ_Z	Fracture Magnetite Sand
SO	Syncline
SO_A	Syncline
SO_B	Syncline
SO_C	Syncline
SO_D	Syncline
SO_E	Syncline
SO_F	Syncline
SO_G	Syncline
SO_H	Syncline
SO_I	Syncline
SO_J	Syncline
SO_K	Syncline
SO_L	Syncline
SO_M	Syncline
SO_N	Syncline
SO_O	Syncline
SO_P	Syncline
SO_Q	Syncline
SO_R	Syncline
SO_S	Syncline
SO_T	Syncline
SO_U	Syncline
SO_V	Syncline
SO_W	Syncline
SO_X	Syncline
SO_Y	Syncline
SO_Z	Syncline
AMPH	Amphibole
AMPH_A	Amphibole
AMPH_B	Amphibole
AMPH_C	Amphibole
AMPH_D	Amphibole
AMPH_E	Amphibole
AMPH_F	Amphibole
AMPH_G	Amphibole
AMPH_H	Amphibole
AMPH_I	Amphibole
AMPH_J	Amphibole
AMPH_K	Amphibole
AMPH_L	Amphibole
AMPH_M	Amphibole
AMPH_N	Amphibole
AMPH_O	Amphibole
AMPH_P	Amphibole
AMPH_Q	Amphibole
AMPH_R	Amphibole
AMPH_S	Amphibole
AMPH_T	Amphibole
AMPH_U	Amphibole
AMPH_V	Amphibole
AMPH_W	Amphibole
AMPH_X	Amphibole
AMPH_Y	Amphibole
AMPH_Z	Amphibole
MAG	Magnetite
MAG_A	Magnetite
MAG_B	Magnetite
MAG_C	Magnetite
MAG_D	Magnetite
MAG_E	Magnetite
MAG_F	Magnetite
MAG_G	Magnetite
MAG_H	Magnetite
MAG_I	Magnetite
MAG_J	Magnetite
MAG_K	Magnetite
MAG_L	Magnetite
MAG_M	Magnetite
MAG_N	Magnetite
MAG_O	Magnetite
MAG_P	Magnetite
MAG_Q	Magnetite
MAG_R	Magnetite
MAG_S	Magnetite
MAG_T	Magnetite
MAG_U	Magnetite
MAG_V	Magnetite
MAG_W	Magnetite
MAG_X	Magnetite
MAG_Y	Magnetite
MAG_Z	Magnetite
SO	Syncline
SO_A	Syncline
SO_B	Syncline
SO_C	Syncline
SO_D	Syncline
SO_E	Syncline
SO_F	Syncline
SO_G	Syncline
SO_H	Syncline
SO_I	Syncline
SO_J	Syncline
SO_K	Syncline
SO_L	Syncline
SO_M	Syncline
SO_N	Syncline
SO_O	Syncline
SO_P	Syncline
SO_Q	Syncline
SO_R	Syncline
SO_S	Syncline
SO_T	Syncline
SO_U	Syncline
SO_V	Syncline
SO_W	Syncline
SO_X	Syncline
SO_Y	Syncline
SO_Z	Syncline
AMPH	Amphibole
AMPH_A	Amphibole
AMPH_B	Amphibole
AMPH_C	Amphibole
AMPH_D	Amphibole
AMPH_E	Amphibole
AMPH_F	Amphibole
AMPH_G	Amphibole
AMPH_H	Amphibole
AMPH_I	Amphibole
AMPH_J	Amphibole
AMPH_K	Amphibole
AMPH_L	Amphibole
AMPH_M	Amphibole
AMPH_N	Amphibole
AMPH_O	Amphibole
AMPH_P	Amphibole
AMPH_Q	Amphibole
AMPH_R	Amphibole
AMPH_S	Amphibole
AMPH_T	Amphibole
AMPH_U	Amphibole
AMPH_V	Amphibole
AMPH_W	Amphibole
AMPH_X	Amphibole
AMPH_Y	Amphibole
AMPH_Z	Amphibole
MAG	Magnetite
MAG_A	Magnetite
MAG_B	Magnetite
MAG_C	Magnetite
MAG_D	Magnetite
MAG_E	Magnetite
MAG_F	Magnetite
MAG_G	Magnetite
MAG_H	Magnetite
MAG_I	Magnetite
MAG_J	Magnetite
MAG_K	Magnetite
MAG_L	Magnetite
MAG_M	Magnetite
MAG_N	Magnetite
MAG_O	Magnetite
MAG_P	Magnetite
MAG_Q	Magnetite
MAG_R	Magnetite
MAG_S	Magnetite
MAG_T	Magnetite
MAG_U	Magnetite
MAG_V	Magnetite
MAG_W	Magnetite
MAG_X	Magnetite
MAG_Y	Magnetite
MAG_Z	Magnetite

Rare Earth Metals Inc.

Clay Howells Property DDH Section 10150E (Looking Grid West)

Date: 7/6/2010
 Author: PH
 Title: DDH Section
 Drawing: DDH Section
 Scale: 1:500 Projection: Non-Earth (metres)



Rock Codes

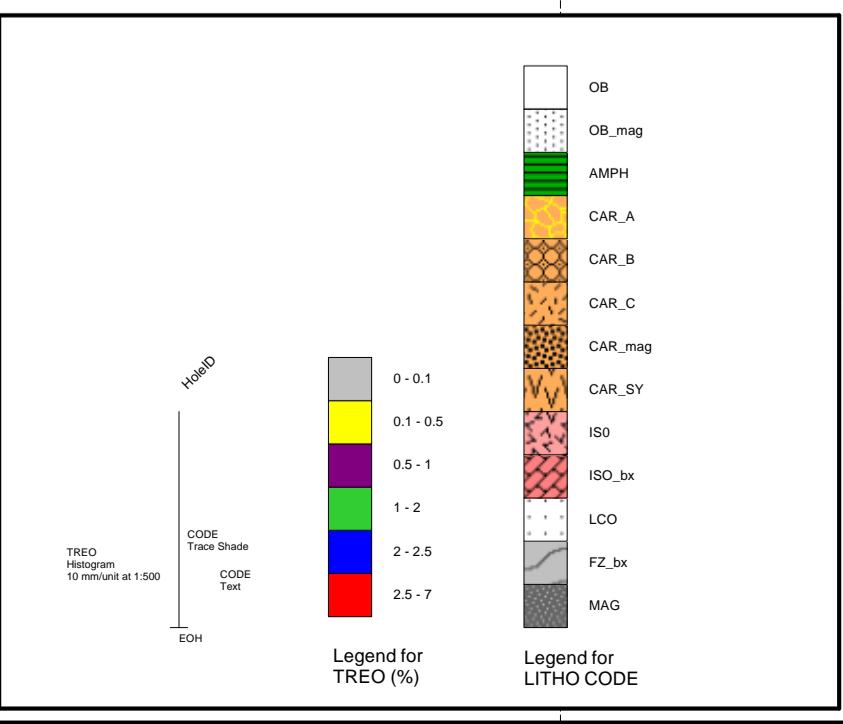
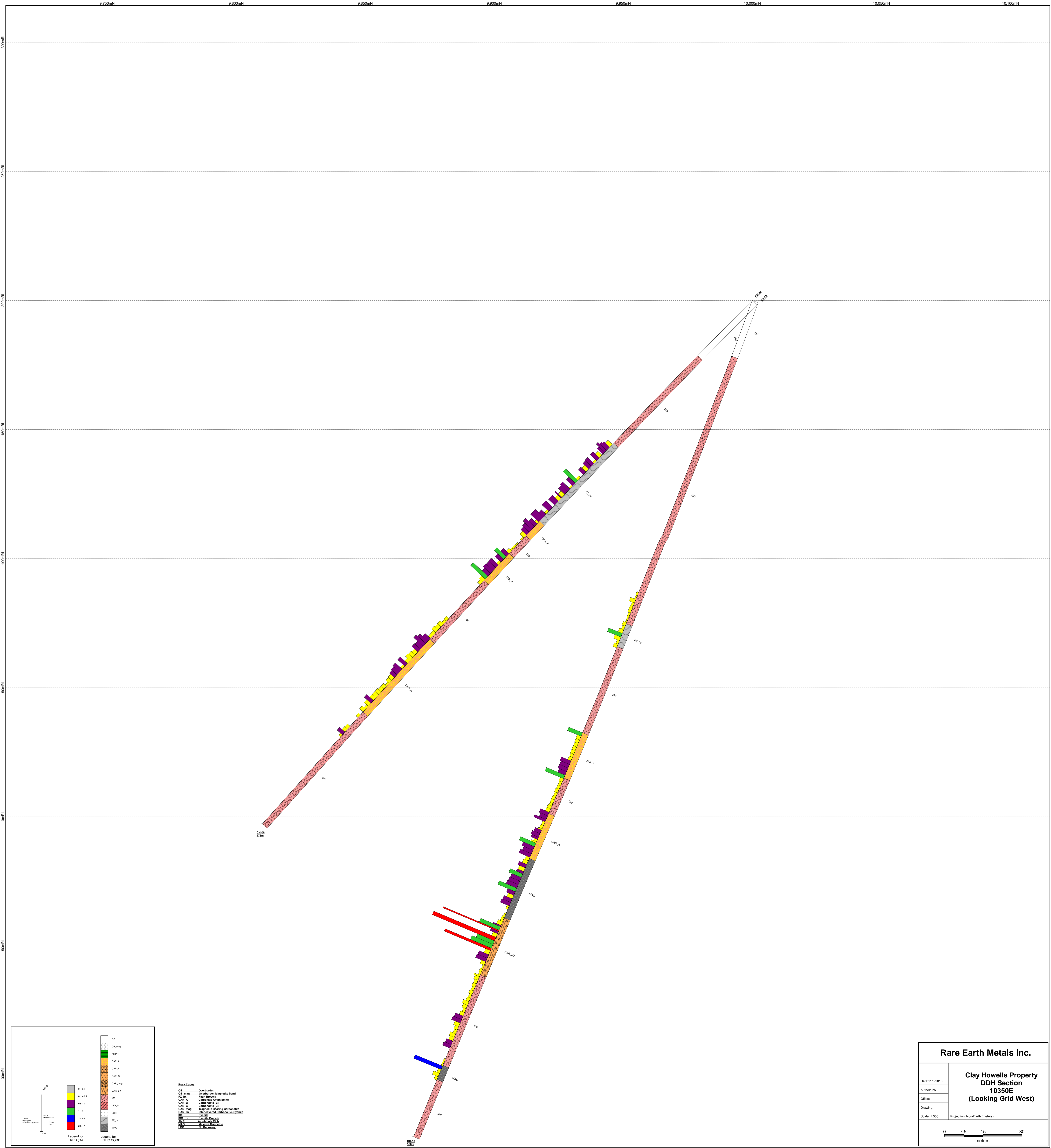
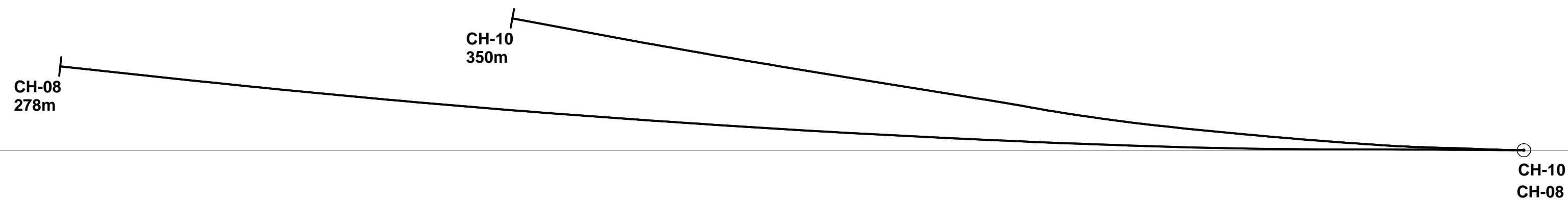
DS	Diabase
CH-15A	Carboniferous Magnetite Sand
CH-15B	Coal Strata
CH-15C	Carboniferous Shale
CH-15D	Carboniferous Sandstone
CH-15E	Carboniferous Siltstone
CH-15F	Carboniferous Shale
CH-15G	Carboniferous Sandstone
CH-15H	Carboniferous Shale
CH-15I	Carboniferous Sandstone
CH-15J	Carboniferous Shale
CH-15K	Carboniferous Sandstone
CH-15L	Carboniferous Shale
CH-15M	Carboniferous Sandstone
CH-15N	Carboniferous Shale
CH-15O	Carboniferous Sandstone
CH-15P	Carboniferous Shale
CH-15Q	Carboniferous Sandstone
CH-15R	Carboniferous Shale
CH-15S	Carboniferous Sandstone
CH-15T	Carboniferous Shale
CH-15U	Carboniferous Sandstone
CH-15V	Carboniferous Shale
CH-15W	Carboniferous Sandstone
CH-15X	Carboniferous Shale
CH-15Y	Carboniferous Sandstone
CH-15Z	Carboniferous Shale

Rare Earth Metals Inc.

Clay Howells Property
DDH Section
10250E
(Looking Grid West)

Date: 22/05/2010
Author: PH
Office:
Drawing:
Scale: 1:500 Projection: Non-Earth (metres)

0 7.5 15 30
metres



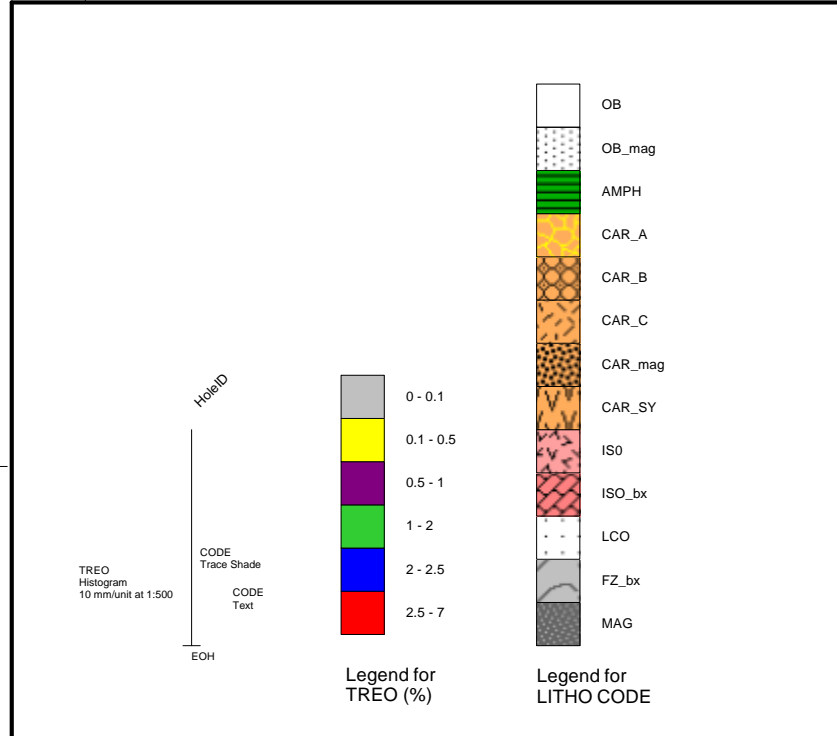
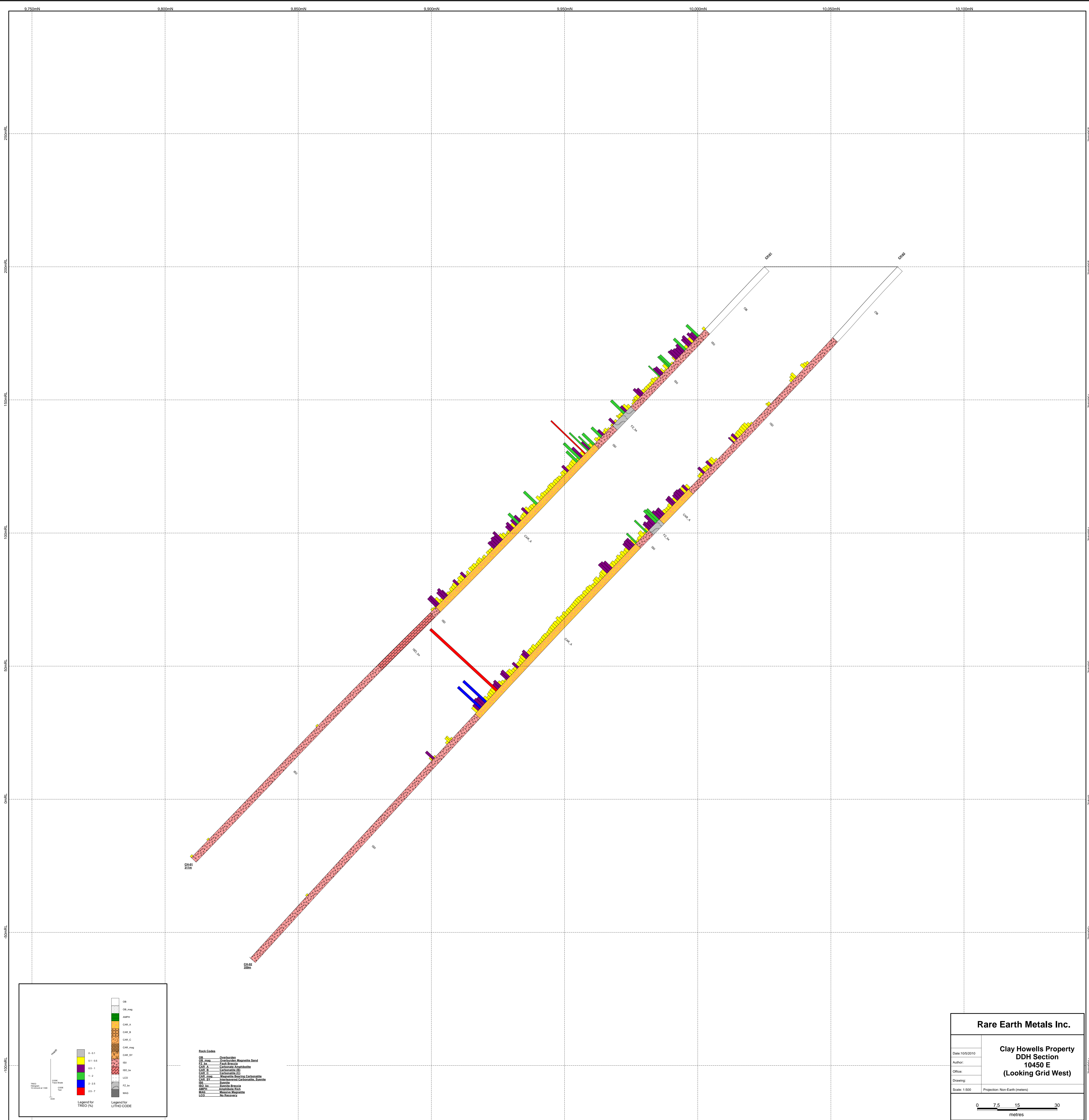
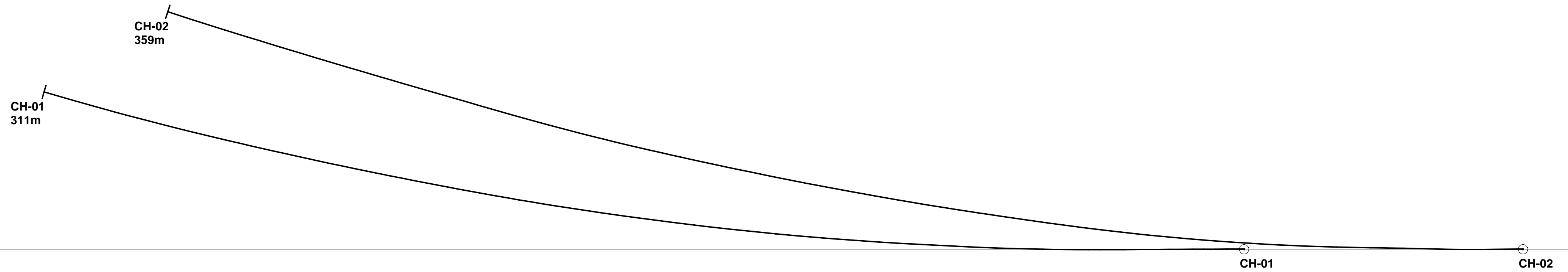
Rock Codes

OB	Orestatite
CAE	Carbonates
CAE_A	Carbonates Magnetite Sand
CAE_B	Carbonates Magnetite
CAE_C	Carbonates Magnetite
CAE_D	Carbonates Magnetite
CAE_E	Carbonates Magnetite
CAE_F	Carbonates Magnetite
CAE_G	Carbonates Magnetite
CAE_H	Carbonates Magnetite
CAE_I	Carbonates Magnetite
CAE_J	Carbonates Magnetite
CAE_K	Carbonates Magnetite
CAE_L	Carbonates Magnetite
CAE_M	Carbonates Magnetite
CAE_N	Carbonates Magnetite
CAE_O	Carbonates Magnetite
CAE_P	Carbonates Magnetite
CAE_Q	Carbonates Magnetite
CAE_R	Carbonates Magnetite
CAE_S	Carbonates Magnetite
CAE_T	Carbonates Magnetite
CAE_U	Carbonates Magnetite
CAE_V	Carbonates Magnetite
CAE_W	Carbonates Magnetite
CAE_X	Carbonates Magnetite
CAE_Y	Carbonates Magnetite
CAE_Z	Carbonates Magnetite
MAG	Magnetite
MAG_A	Magnetite
MAG_B	Magnetite
MAG_C	Magnetite
MAG_D	Magnetite
MAG_E	Magnetite
MAG_F	Magnetite
MAG_G	Magnetite
MAG_H	Magnetite
MAG_I	Magnetite
MAG_J	Magnetite
MAG_K	Magnetite
MAG_L	Magnetite
MAG_M	Magnetite
MAG_N	Magnetite
MAG_O	Magnetite
MAG_P	Magnetite
MAG_Q	Magnetite
MAG_R	Magnetite
MAG_S	Magnetite
MAG_T	Magnetite
MAG_U	Magnetite
MAG_V	Magnetite
MAG_W	Magnetite
MAG_X	Magnetite
MAG_Y	Magnetite
MAG_Z	Magnetite

Rare Earth Metals Inc.

**Clay Howells Property
DDH Section
10350E
(Looking Grid West)**

Date: 11/5/2010
 Author: PN
 Office:
 Drawing:
 Scale: 1:500 Projection: Non-Earth (metres)



Rock Codes

CH Overburden
 CH-1m Overburden (Marquette Sand)
 CH-2m Fine Brown
 CH-3m Carbonate
 CH-4m Carbonate (H)
 CH-5m Carbonate (L)
 CH-6m Magnetite (with Calcite)
 CH-7m Magnetite (with Calcite)
 CH-8m Magnetite (with Calcite)
 CH-9m Magnetite (with Calcite)
 CH-10m Magnetite (with Calcite)
 CH-11m Magnetite (with Calcite)
 CH-12m Magnetite (with Calcite)
 CH-13m Magnetite (with Calcite)
 CH-14m Magnetite (with Calcite)
 CH-15m Magnetite (with Calcite)
 CH-16m Magnetite (with Calcite)
 CH-17m Magnetite (with Calcite)
 CH-18m Magnetite (with Calcite)
 CH-19m Magnetite (with Calcite)
 CH-20m Magnetite (with Calcite)
 CH-21m Magnetite (with Calcite)
 CH-22m Magnetite (with Calcite)
 CH-23m Magnetite (with Calcite)
 CH-24m Magnetite (with Calcite)
 CH-25m Magnetite (with Calcite)
 CH-26m Magnetite (with Calcite)
 CH-27m Magnetite (with Calcite)
 CH-28m Magnetite (with Calcite)
 CH-29m Magnetite (with Calcite)
 CH-30m Magnetite (with Calcite)
 CH-31m Magnetite (with Calcite)
 CH-32m Magnetite (with Calcite)
 CH-33m Magnetite (with Calcite)
 CH-34m Magnetite (with Calcite)
 CH-35m Magnetite (with Calcite)
 CH-36m Magnetite (with Calcite)
 CH-37m Magnetite (with Calcite)
 CH-38m Magnetite (with Calcite)
 CH-39m Magnetite (with Calcite)
 CH-40m Magnetite (with Calcite)
 CH-41m Magnetite (with Calcite)
 CH-42m Magnetite (with Calcite)
 CH-43m Magnetite (with Calcite)
 CH-44m Magnetite (with Calcite)
 CH-45m Magnetite (with Calcite)
 CH-46m Magnetite (with Calcite)
 CH-47m Magnetite (with Calcite)
 CH-48m Magnetite (with Calcite)
 CH-49m Magnetite (with Calcite)
 CH-50m Magnetite (with Calcite)
 CH-51m Magnetite (with Calcite)
 CH-52m Magnetite (with Calcite)
 CH-53m Magnetite (with Calcite)
 CH-54m Magnetite (with Calcite)
 CH-55m Magnetite (with Calcite)
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 CH-59m Magnetite (with Calcite)
 CH-60m Magnetite (with Calcite)
 CH-61m Magnetite (with Calcite)
 CH-62m Magnetite (with Calcite)
 CH-63m Magnetite (with Calcite)
 CH-64m Magnetite (with Calcite)
 CH-65m Magnetite (with Calcite)
 CH-66m Magnetite (with Calcite)
 CH-67m Magnetite (with Calcite)
 CH-68m Magnetite (with Calcite)
 CH-69m Magnetite (with Calcite)
 CH-70m Magnetite (with Calcite)
 CH-71m Magnetite (with Calcite)
 CH-72m Magnetite (with Calcite)
 CH-73m Magnetite (with Calcite)
 CH-74m Magnetite (with Calcite)
 CH-75m Magnetite (with Calcite)
 CH-76m Magnetite (with Calcite)
 CH-77m Magnetite (with Calcite)
 CH-78m Magnetite (with Calcite)
 CH-79m Magnetite (with Calcite)
 CH-80m Magnetite (with Calcite)
 CH-81m Magnetite (with Calcite)
 CH-82m Magnetite (with Calcite)
 CH-83m Magnetite (with Calcite)
 CH-84m Magnetite (with Calcite)
 CH-85m Magnetite (with Calcite)
 CH-86m Magnetite (with Calcite)
 CH-87m Magnetite (with Calcite)
 CH-88m Magnetite (with Calcite)
 CH-89m Magnetite (with Calcite)
 CH-90m Magnetite (with Calcite)
 CH-91m Magnetite (with Calcite)
 CH-92m Magnetite (with Calcite)
 CH-93m Magnetite (with Calcite)
 CH-94m Magnetite (with Calcite)
 CH-95m Magnetite (with Calcite)
 CH-96m Magnetite (with Calcite)
 CH-97m Magnetite (with Calcite)
 CH-98m Magnetite (with Calcite)
 CH-99m Magnetite (with Calcite)
 CH-100m Magnetite (with Calcite)

Rare Earth Metals Inc.

Clay Howells Property
 DDH Section
 10450 E
 (Looking Grid West)

Date: 10/5/2010
 Author:
 Office:
 Drawing:
 Scale: 1:500 Projection: Non-Earth (meters)

0 7.5 15 30
 metres