



Date Submitted: 01-Mar-16
Invoice No.: A16-01674
Invoice Date: 28-Mar-16
Your Reference: CORDILLERA

Geological Survey of Canada
475-601 BOOTH ST
OTTAWA ON K1A0E8
Canada

ATTN: Alex Zagorevski

CERTIFICATE OF ANALYSIS

69 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1D Enh INAA(INAAGEO)

Code 4LITHORES (11+) Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A16-01674**

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:

For values exceeding the upper limits we recommend assays.

We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total. Zr is now being reported from FUS-ICP instead of FUS-MS.

CERTIFIED BY:



Emmanuel Esemé , Ph.D.
Quality Control

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Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm
Lower Limit	2	5	0.5	50	0.5	1	1	5	1	0.01	1	1	5	1	0.01	20	15	0.1	0.1	3	0.02	0.05	0.5
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
15ZESM001a																							
15ZESM001b																							
15ZESM003b																							
15ZESM004																							
15ZESM005a																							
15ZESM005b																							
15ZESM005c																							
15ZESM005d																							
15ZESM012e																							
15ZESM015																							
15ZESM023-2																							
15ZESM027																							
15ZESM032																							
15ZESM034-3																							
15ZESM039a																							
15ZESM042																							
15ZESM048																							
15ZESM053																							
15ZESM058																							
15ZESM060																							
15ZESM069																							
15ZESM076																							
15ZESM076-2																							
15ZESM092																							
15ZESM093																							
15ZESM098																							
15ZESM108																							
15ZESM126a																							
15ZESM134																							
15ZESM135																							
15ZESM138a																							
15ZESM145																							
15ZESM150a																							
15ZESM150b																							
15ZEAC002a																							
15ZEAC002b																							
15ZEAC004a																							
15ZEAC009b																							
15ZEAC022b																							
15ZEAC024																							
15ZEAC034a																							
15ZEAC039																							
15ZEAC042																							
15ZEAC045a																							
15ZEAC045c																							
15ZEAC048																							
15ZEAC057																							
15ZEAC054																							

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm
Lower Limit	2	5	0.5	50	0.5	1	1	5	1	0.01	1	1	5	1	0.01	20	15	0.1	0.1	3	0.02	0.05	0.5
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
15ZEAC058a																							
15ZEAC058b																							
15ZEAC059b																							
15ZEAC060a																							
15ZEAC060b																							
15ZEAC065																							
15ZEAC067																							
15ZEAC070																							
15ZEAC080a																							
15ZEAC106																							
15ZEAC102																							
15ZEAC111																							
Mmi-15-18-1																							
14ZE795	15	< 5	40.2	3590	< 0.5	4	106	133	< 1	8.59	9	< 1	< 5	< 1	0.14	< 20	242	1.1	22.7	< 3	< 0.02	< 0.05	< 0.5
15ZEAC085	< 2	< 5	4.0	430	< 0.5	17	76	200	< 1	13.3	2	< 1	< 5	< 1	0.03	< 20	< 15	1.6	54.9	< 3	< 0.02	< 0.05	< 0.5
15ZE1033a	< 2	< 5	< 0.5	< 50	< 0.5	10	56	621	< 1	8.00	< 1	< 1	< 5	< 1	0.04	< 20	< 15	0.1	43.7	< 3	< 0.02	< 0.05	< 0.5
15ZE1033b	< 2	< 5	8.5	< 50	< 0.5	11	36	630	< 1	7.59	6	< 1	< 5	< 1	0.03	< 20	< 15	2.0	57.2	< 3	< 0.02	< 0.05	< 0.5
15ZE1033c	< 2	< 5	3.4	< 50	< 0.5	1	50	958	< 1	6.18	< 1	< 1	< 5	< 1	0.07	270	< 15	< 0.1	28.5	< 3	< 0.02	< 0.05	< 0.5
15ZE1033d	< 2	< 5	< 0.5	< 50	< 0.5	10	47	505	< 1	7.84	< 1	< 1	< 5	< 1	0.03	< 20	< 15	< 0.1	41.5	< 3	< 0.02	< 0.05	< 0.5
15ZE1033e	< 2	< 5	10.1	< 50	< 0.5	< 1	57	325	< 1	9.46	3	< 1	< 5	< 1	2.97	< 20	< 15	< 0.1	55.2	< 3	< 0.02	< 0.05	< 0.5
15ZEAC055																							

Results

Activation Laboratories Ltd.

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Analyte Symbol	Th	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%
Lower Limit	0.2	0.5	1	50	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
15ZESM001a														51.43	16.29	9.56	0.169	3.91	7.13	3.53	3.96	0.980	0.41
15ZESM001b														48.53	15.05	8.62	0.179	4.36	8.23	1.74	4.31	0.651	0.49
15ZESM003b														50.77	14.58	9.57	0.165	4.69	8.79	2.86	4.09	0.801	0.47
15ZESM004														50.35	14.64	10.11	0.167	5.04	9.73	2.70	3.82	0.787	0.59
15ZESM005a														50.30	16.07	10.08	0.176	4.80	8.60	2.88	3.55	0.743	0.35
15ZESM005b														52.47	14.46	9.43	0.161	4.83	8.58	2.86	4.07	0.713	0.31
15ZESM005c														51.98	15.96	7.40	0.113	6.65	7.12	3.87	1.86	0.960	0.33
15ZESM005d														50.88	16.30	9.38	0.164	3.77	7.46	3.37	3.79	0.977	0.36
15ZESM012e														44.89	13.28	11.34	0.175	7.32	10.40	3.57	0.68	1.124	0.08
15ZESM015														52.52	15.62	10.11	0.148	6.79	6.10	3.60	0.33	1.092	0.10
15ZESM023-2														41.51	0.72	9.57	0.130	43.12	1.02	0.03	< 0.01	0.009	< 0.01
15ZESM027														42.77	0.93	9.52	0.127	40.61	1.00	0.03	< 0.01	0.007	< 0.01
15ZESM032														49.59	14.80	9.45	0.161	6.44	11.67	2.60	0.08	1.245	0.11
15ZESM034-3														41.78	0.86	8.28	0.119	39.62	0.86	0.05	0.01	0.011	< 0.01
15ZESM039a														50.16	13.84	10.95	0.180	7.26	9.75	3.28	0.18	1.635	0.17
15ZESM042														51.71	14.76	11.84	0.172	5.24	8.17	3.75	0.35	1.522	0.12
15ZESM048														75.65	10.23	3.09	0.080	0.98	1.42	4.14	1.43	0.225	0.04
15ZESM053														42.35	14.25	11.22	0.181	7.98	18.62	0.39	0.04	1.362	0.08
15ZESM058														45.62	14.34	12.44	0.194	6.99	9.48	3.34	0.61	1.642	0.13
15ZESM060														41.11	13.47	12.26	0.196	7.27	18.84	0.30	< 0.01	1.599	0.12
15ZESM069														44.69	14.82	11.61	0.174	7.26	12.26	2.42	0.28	1.057	0.08
15ZESM076														46.20	14.29	14.42	0.229	9.17	7.32	2.61	0.83	1.295	0.08
15ZESM076-2														48.44	13.30	12.46	0.202	8.72	8.24	2.51	1.86	1.397	0.09
15ZESM092														50.13	14.95	13.49	0.207	4.72	7.09	4.90	0.14	1.885	0.13
15ZESM093														51.87	13.87	13.98	0.212	4.08	6.09	5.38	0.11	1.883	0.12
15ZESM098														51.04	14.23	11.58	0.182	7.27	9.02	4.24	0.18	1.073	0.08
15ZESM108														52.68	17.99	6.53	0.116	5.75	9.25	4.91	0.13	0.631	0.06
15ZESM126a														67.64	19.12	0.81	0.008	0.31	0.50	10.34	0.37	0.089	0.14
15ZESM134														52.48	14.08	9.25	0.177	10.47	6.63	3.62	0.05	0.390	0.04
15ZESM135														51.07	16.19	8.85	0.141	5.62	11.44	2.78	0.02	0.455	0.04
15ZESM138a														46.22	17.78	8.20	0.154	7.28	15.57	2.00	0.85	0.160	< 0.01
15ZESM145														49.90	13.89	12.72	0.203	6.47	8.99	4.09	0.19	1.937	0.17
15ZESM150a														52.32	13.67	10.10	0.187	9.08	8.99	3.97	0.04	0.483	0.02
15ZESM150b														66.07	16.27	4.33	0.084	1.44	5.28	5.57	0.05	0.360	0.14
15ZEAC002a														48.56	14.79	11.46	0.206	5.78	9.63	2.58	2.81	0.839	0.36
15ZEAC002b														49.78	15.22	10.41	0.177	4.43	9.14	2.25	4.52	0.805	0.51
15ZEAC004a														51.07	15.08	9.87	0.157	5.19	9.45	2.56	2.44	0.809	0.31
15ZEAC009b														56.45	0.70	6.55	0.129	34.03	0.92	0.04	0.01	0.014	< 0.01
15ZEAC022b														34.93	0.11	7.44	0.096	43.63	0.08	0.02	< 0.01	0.003	< 0.01
15ZEAC024														52.74	3.07	7.18	0.124	34.13	1.43	0.02	< 0.01	0.017	0.02
15ZEAC034a														53.61	2.29	7.11	0.127	33.33	2.01	0.02	< 0.01	0.014	< 0.01
15ZEAC039														49.18	13.31	12.99	0.190	6.97	8.47	3.69	0.05	1.508	0.14
15ZEAC042														57.51	15.07	8.78	0.165	4.65	4.01	5.77	0.06	0.701	0.08
15ZEAC045a														51.85	17.47	8.57	0.137	5.44	11.00	2.39	0.04	0.377	0.04
15ZEAC045c														74.99	12.69	3.48	0.030	0.56	1.15	5.03	0.67	0.233	0.05
15ZEAC048														48.06	12.05	8.80	0.175	11.99	11.17	2.06	0.52	0.878	0.14
15ZEAC057														47.19	15.42	10.09	0.206	9.52	8.65	2.97	0.05	0.874	0.09

Analyte Symbol	Th	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%
Lower Limit	0.2	0.5	1	50	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
15ZEAC054														46.51	18.56	9.03	0.130	8.01	11.31	2.34	0.56	1.202	0.03
15ZEAC058a														49.70	15.10	9.49	0.159	6.49	13.25	0.74	0.02	0.885	0.10
15ZEAC058b														53.64	16.48	9.02	0.058	3.86	6.07	5.55	0.05	1.585	0.16
15ZEAC059b														69.17	14.81	3.34	0.062	0.99	2.43	5.69	1.05	0.228	0.05
15ZEAC060a														33.61	0.27	13.46	0.178	36.86	0.06	0.02	< 0.01	0.011	< 0.01
15ZEAC060b														52.17	1.65	6.72	0.156	19.33	18.36	0.15	< 0.01	0.071	< 0.01
15ZEAC065														40.63	13.41	12.05	0.171	4.45	25.38	0.46	0.01	1.463	0.07
15ZEAC067														51.68	13.40	12.41	0.201	4.63	9.16	4.52	0.80	1.719	0.17
15ZEAC070														44.09	12.07	12.43	0.184	8.48	17.84	0.44	0.29	1.607	0.14
15ZEAC080a														59.00	9.00	10.09	0.202	7.22	7.67	4.79	0.16	0.884	0.03
15ZEAC106														42.06	15.58	14.38	0.168	8.33	9.95	2.30	0.12	2.143	0.38
15ZEAC102														47.33	13.10	11.86	0.182	7.02	12.41	1.74	0.69	2.200	0.20
15ZEAC111														51.71	13.88	12.18	0.185	7.51	5.41	4.41	0.26	0.949	0.08
Mmi-15-18-1														66.09	16.43	2.23	0.045	1.49	3.36	4.71	2.02	0.456	0.18
14ZE795	9.3	16.2	< 1	140	130	194	108	30.8	5.1	2.4	5.3	0.27	28.9										
15ZEAC085	< 0.2	< 0.5	< 1	< 50	18.3	39	14	6.5	1.6	< 0.5	5.3	0.09	28.9										
15ZE1033a	< 0.2	< 0.5	< 1	< 50	3.9	< 3	< 5	1.3	< 0.2	< 0.5	1.1	< 0.05	28.9										
15ZE1033b	< 0.2	< 0.5	21	< 50	8.6	33	26	10.6	1.8	2.2	6.0	0.26	30.3										
15ZE1033c	< 0.2	< 0.5	< 1	< 50	1.4	< 3	< 5	0.9	< 0.2	< 0.5	1.3	0.05	28.3										
15ZE1033d	< 0.2	< 0.5	< 1	< 50	2.3	3	< 5	1.3	< 0.2	< 0.5	1.8	< 0.05	32.4										
15ZE1033e	< 0.2	< 0.5	< 1	< 50	5.6	19	< 5	4.8	0.9	< 0.5	4.0	0.17	29.5										
15ZEAC055														55.22	17.76	5.59	0.180	3.87	7.46	5.29	0.88	0.549	0.12

Results

Activation Laboratories Ltd.

Report: A16-01674

Analyte Symbol	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb
Unit Symbol	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit		0.01	1	1	5	20	1	20	10	30	1	0.5	5	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2
Method Code	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	FUS-ICP	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
15ZESM001a	2.95	100.3	27	2	259	30	23	< 20	130	100	21	1.4	< 5	91	903	24.7	123	7.9	< 2	0.6	< 0.1	3	1.8
15ZESM001b	6.63	98.78	27	2	195	100	22	30	80	80	18	1.2	< 5	103	751	18.0	115	7.6	< 2	0.6	< 0.1	1	1.9
15ZESM003b	3.44	100.2	31	2	261	30	26	< 20	110	80	18	1.5	9	85	917	18.1	109	6.7	< 2	0.5	< 0.1	2	1.9
15ZESM004	2.11	100.1	30	2	255	60	29	< 20	130	90	16	1.5	7	71	863	23.0	130	6.3	< 2	0.6	< 0.1	2	1.2
15ZESM005a	1.83	99.38	30	1	266	60	29	< 20	60	80	18	1.4	< 5	79	801	17.1	82	4.6	< 2	< 0.5	< 0.1	1	1.2
15ZESM005b	1.41	99.30	33	2	240	80	28	30	60	70	17	1.8	13	86	788	18.0	88	4.7	< 2	< 0.5	< 0.1	1	1.4
15ZESM005c	3.72	99.97	19	2	135	250	30	160	40	60	18	1.2	< 5	39	722	14.1	140	13.9	< 2	0.6	< 0.1	1	0.9
15ZESM005d	3.00	99.44	25	2	247	30	22	< 20	90	100	20	1.2	< 5	84	777	24.4	118	7.9	< 2	0.6	< 0.1	2	1.0
15ZESM012e	6.43	99.27	40	< 1	279	290	45	100	120	70	15	1.5	< 5	11	135	20.2	57	2.8	< 2	< 0.5	< 0.1	< 1	1.0
15ZESM015	3.42	99.82	32	< 1	317	30	31	30	70	70	17	1.2	< 5	4	154	22.2	67	1.2	< 2	< 0.5	< 0.1	< 1	0.8
15ZESM023-2	3.04	99.15	9	< 1	38	2410	111	2510	< 10	50	1	1.0	< 5	< 1	< 2	< 0.5	< 1	0.3	< 2	< 0.5	< 0.1	< 1	0.7
15ZESM027	4.49	99.48	11	< 1	41	2990	105	2230	20	50	1	1.2	< 5	< 1	4	< 0.5	< 1	0.2	< 2	< 0.5	< 0.1	< 1	0.7
15ZESM032	3.73	99.88	40	< 1	297	130	31	70	60	60	16	1.7	< 5	1	62	26.8	65	1.8	< 2	< 0.5	< 0.1	2	0.8
15ZESM034-3	7.38	98.98	11	< 1	44	2960	100	2240	10	40	1	1.1	< 5	< 1	< 2	< 0.5	< 1	0.2	< 2	< 0.5	< 0.1	< 1	0.7
15ZESM039a	2.34	99.74	37	< 1	314	300	39	140	60	80	17	1.5	< 5	2	110	35.7	112	2.7	< 2	< 0.5	< 0.1	1	0.8
15ZESM042	2.69	100.3	36	< 1	361	70	33	40	60	70	18	1.5	< 5	5	156	31.8	87	1.5	< 2	< 0.5	< 0.1	< 1	0.6
15ZESM048	1.51	98.78	11	< 1	32	70	5	30	10	80	14	< 0.5	< 5	13	43	62.0	165	2.3	5	0.7	0.1	2	0.7
15ZESM053	4.17	100.6	43	< 1	329	170	36	60	70	70	14	1.4	< 5	1	195	29.1	63	1.0	< 2	< 0.5	< 0.1	< 1	0.7
15ZESM058	4.77	99.55	42	< 1	377	120	39	50	60	90	18	1.7	< 5	12	333	36.4	88	1.7	< 2	< 0.5	0.1	1	0.8
15ZESM060	3.94	99.10	43	< 1	358	170	39	60	70	90	12	1.5	< 5	< 1	98	36.4	86	1.4	< 2	0.6	0.1	1	0.7
15ZESM069	5.37	100.0	37	< 1	263	300	42	90	100	80	15	1.9	< 5	5	79	20.9	49	2.7	< 2	< 0.5	< 0.1	< 1	1.0
15ZESM076	3.86	100.3	45	< 1	303	400	51	100	120	90	16	1.6	< 5	10	69	20.6	63	3.3	< 2	< 0.5	< 0.1	< 1	1.4
15ZESM076-2	3.03	100.2	50	< 1	329	490	45	100	140	80	14	1.9	< 5	20	94	22.1	66	3.2	< 2	< 0.5	< 0.1	< 1	1.2
15ZESM092	1.79	99.42	40	< 1	439	30	34	20	50	90	19	1.5	< 5	2	162	38.2	93	1.4	< 2	< 0.5	0.1	1	0.7
15ZESM093	1.08	98.67	38	< 1	464	< 20	33	< 20	50	100	18	1.4	< 5	2	135	34.7	80	1.1	< 2	< 0.5	< 0.1	1	0.7
15ZESM098	1.15	100.0	41	< 1	308	330	44	150	60	90	16	1.3	< 5	2	120	28.3	41	0.8	< 2	< 0.5	< 0.1	< 1	0.8
15ZESM108	1.81	99.87	24	< 1	148	280	25	100	30	40	14	1.4	< 5	1	228	13.8	37	1.3	< 2	< 0.5	< 0.1	< 1	0.8
15ZESM126a	0.57	99.92	< 1	< 1	5	< 20	1	< 20	< 10	< 30	14	< 0.5	< 5	5	148	1.4	37	1.3	< 2	< 0.5	< 0.1	< 1	0.9
15ZESM134	3.04	100.2	35	< 1	215	620	39	200	10	80	11	1.3	< 5	< 1	17	10.4	13	0.2	< 2	< 0.5	< 0.1	< 1	0.7
15ZESM135	2.43	99.03	36	< 1	280	190	22	40	260	60	16	1.4	< 5	< 1	132	3.7	11	< 0.2	< 2	< 0.5	< 0.1	< 1	0.8
15ZESM138a	1.92	100.1	41	< 1	153	20	31	40	10	40	13	1.1	< 5	15	47	2.3	< 1	< 0.2	< 2	< 0.5	< 0.1	< 1	0.9
15ZESM145	1.76	100.3	40	< 1	369	160	39	70	120	100	19	1.6	< 5	3	48	40.5	109	2.5	< 2	< 0.5	0.1	1	0.8
15ZESM150a	1.99	100.8	45	< 1	305	520	31	110	10	60	13	1.3	< 5	< 1	31	6.1	11	< 0.2	< 2	< 0.5	< 0.1	< 1	0.6
15ZESM150b	1.37	101.0	7	< 1	78	20	12	< 20	< 10	< 30	13	0.9	< 5	< 1	94	8.0	36	0.3	< 2	< 0.5	< 0.1	< 1	0.6
15ZEAC002a	1.89	98.90	35	1	318	70	37	30	170	110	18	1.9	< 5	73	703	20.6	81	6.2	< 2	1.4	< 0.1	1	1.1
15ZEAC002b	2.29	99.53	28	2	273	40	29	< 20	130	130	19	1.9	< 5	98	1009	21.1	106	6.7	< 2	0.9	< 0.1	2	1.9
15ZEAC004a	1.34	98.28	34	1	258	110	23	50	80	50	17	1.5	< 5	48	592	17.9	83	3.9	5	< 0.5	0.2	1	1.1
15ZEAC009b	0.00	98.86	10	< 1	39	3840	65	860	< 10	40	1	1.7	< 5	< 1	4	< 0.5	3	0.3	< 2	< 0.5	< 0.1	< 1	0.7
15ZEAC022b	13.47	99.79	3	< 1	10	2650	106	2490	< 10	60	< 1	0.9	< 5	< 1	< 2	< 0.5	< 1	< 0.2	< 2	< 0.5	< 0.1	< 1	0.7
15ZEAC024	0.58	99.31	21	< 1	125	3700	67	1240	40	40	3	1.2	< 5	< 1	< 2	< 0.5	< 1	< 0.2	< 2	< 0.5	< 0.1	< 1	0.7
15ZEAC034a	0.04	98.55	23	< 1	111	4650	71	1860	280	40	2	1.3	< 5	< 1	< 2	< 0.5	< 1	< 0.2	< 2	< 0.5	< 0.1	< 1	0.7
15ZEAC039	2.25	98.75	44	< 1	381	130	41	70	150	80	16	1.6	< 5	1	89	29.7	80	3.9	< 2	< 0.5	< 0.1	1	0.7
15ZEAC042	2.06	98.85	29	< 1	219	50	26	30	50	70	18	1.6	< 5	< 1	90	21.2	52	0.7	< 2	< 0.5	< 0.1	< 1	0.8
15ZEAC045a	2.33	99.64	37	< 1	156	20	30	20	20	50	14	1.5	< 5	< 1	163	11.1	21	0.3	< 2	< 0.5	< 0.1	< 1	0.8
15ZEAC045c	0.90	99.79	6	< 1	14	30	3	< 20	20	< 30	13	1.0	< 5	9	108	26.1	103	1.4	< 2	< 0.5	< 0.1	< 1	0.9
15ZEAC048	3.11	98.95	36	< 1	229	1320	47	320	80	60	9	1.7	< 5	11	40	14.1	50	12.6	< 2	< 0.5	< 0.1	< 1	1.4
15ZEAC057	3.47	98.53	32	< 1	245	250	42	190	30	160	15	1.4	< 5	< 1	154	20.2	54	1.5	< 2	< 0.5	< 0.1	< 1	0.8
15ZEAC054	2.21	99.89	52	< 1	337	120	35	60	50	70	19	1.4	< 5	12	292	23.3	40	3.2	2	< 0.5	0.1	< 1	0.8

Analyte Symbol	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb
Unit Symbol	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit		0.01	1	1	5	20	1	20	10	30	1	0.5	5	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2
Method Code	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	FUS-ICP	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
15ZEAC058a	2.87	98.81	35	< 1	279	300	28	100	< 10	100	18	1.8	< 5	< 1	226	19.0	55	2.3	< 2	< 0.5	< 0.1	< 1	0.8
15ZEAC058b	2.28	98.74	29	< 1	425	20	21	< 20	10	< 30	19	1.1	< 5	< 1	106	35.0	104	3.6	< 2	0.6	< 0.1	< 1	0.8
15ZEAC059b	0.93	98.76	10	< 1	32	20	4	< 20	< 10	50	15	0.9	< 5	9	342	10.4	86	1.3	< 2	0.5	< 0.1	< 1	0.8
15ZEAC060a	13.59	98.05	7	< 1	34	2350	138	2050	< 10	60	1	0.8	< 5	< 1	< 2	< 0.5	1	0.4	< 2	< 0.5	< 0.1	< 1	0.7
15ZEAC060b	0.67	99.27	80	< 1	216	1310	42	330	< 10	30	3	2.0	< 5	< 1	11	2.2	3	0.4	< 2	< 0.5	< 0.1	< 1	0.7
15ZEAC065	1.81	99.89	35	< 1	451	40	28	< 20	30	80	12	2.2	< 5	< 1	28	27.2	62	0.8	< 2	< 0.5	< 0.1	< 1	0.7
15ZEAC067	0.95	99.65	35	< 1	314	80	33	30	50	100	19	1.5	< 5	12	337	44.5	125	3.4	< 2	0.6	0.1	1	0.8
15ZEAC070	1.96	99.54	43	< 1	371	130	37	60	30	90	15	1.7	< 5	3	144	38.7	83	2.8	2	< 0.5	< 0.1	1	0.9
15ZEAC080a	0.36	99.41	41	1	217	270	36	90	150	110	7	1.1	< 5	2	35	19.3	40	4.1	< 2	< 0.5	< 0.1	1	0.8
15ZEAC106	4.15	99.55	27	< 1	322	420	56	150	30	130	18	1.9	< 5	3	231	35.4	225	16.6	< 2	0.9	0.1	1	1.3
15ZEAC102	2.39	99.14	41	< 1	372	110	45	60	100	100	18	1.8	< 5	13	256	30.7	136	12.1	< 2	0.6	0.1	1	0.9
15ZEAC111	2.67	99.24	46	< 1	293	260	44	100	50	100	14	2.1	25	5	56	19.2	46	2.5	< 2	< 0.5	< 0.1	< 1	1.1
Mmi-15-18-1	2.70	99.72	8	2	65	30	3	< 20	30	< 30	21	1.5	13	51	985	17.9	147	11.3	< 2	0.6	< 0.1	2	5.6
14ZE795																							
15ZEAC085																							
15ZE1033a																							
15ZE1033b																							
15ZE1033c																							
15ZE1033d																							
15ZE1033e																							
15ZEAC055	1.90	98.81	13	< 1	79	50	12	< 20	80	60	18	1.1	< 5	21	408	16.2	112	4.1	< 2	0.6	< 0.1	1	0.9

Results

Activation Laboratories Ltd.

Report: A16-01674

Analyte Symbol	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	2	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05
Method Code	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	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
15ZESM001a	1.7	2372	31.5	58.0	6.87	28.0	6.11	1.79	5.30	0.82	4.67	0.90	2.46	0.366	2.50	0.381	3.1	0.69	2.7	0.84	12	0.1	9.08
15ZESM001b	4.6	2405	35.5	67.6	7.95	32.4	6.58	1.83	5.31	0.69	3.63	0.62	1.77	0.254	1.55	0.231	2.9	0.65	2.7	1.06	16	< 0.1	8.12
15ZESM003b	1.7	2410	35.2	63.8	7.49	30.1	6.15	1.80	4.94	0.65	3.52	0.63	1.79	0.254	1.54	0.246	2.8	0.59	3.5	1.39	25	0.2	10.3
15ZESM004	1.5	2295	37.2	70.9	8.64	35.1	8.07	2.36	6.90	0.90	4.54	0.80	2.18	0.293	1.81	0.278	3.3	0.54	2.7	2.94	24	0.3	9.04
15ZESM005a	2.8	2753	22.8	42.2	5.16	21.7	4.68	1.44	4.03	0.53	3.09	0.60	1.65	0.245	1.64	0.239	2.1	0.45	3.0	0.78	16	< 0.1	6.17
15ZESM005b	2.3	2787	20.3	39.7	5.00	20.6	4.77	1.50	4.43	0.59	3.32	0.66	1.82	0.267	1.75	0.261	2.3	0.48	2.7	3.81	20	0.9	5.92
15ZESM005c	2.8	1707	50.0	86.4	9.06	31.9	5.15	1.55	3.62	0.51	2.75	0.52	1.43	0.198	1.25	0.183	3.2	1.03	4.8	0.90	9	< 0.1	17.1
15ZESM005d	1.6	2389	31.5	57.7	6.80	27.7	6.09	1.83	5.43	0.79	4.47	0.86	2.43	0.347	2.30	0.349	3.1	0.68	2.7	1.34	23	0.1	8.80
15ZESM012e	0.3	894	2.71	7.51	1.21	6.55	2.53	0.803	3.14	0.58	3.64	0.73	2.08	0.308	2.06	0.321	1.6	0.44	2.5	0.20	< 5	< 0.1	0.36
15ZESM015	0.2	55	3.38	9.25	1.48	7.51	2.47	0.957	3.32	0.58	3.80	0.82	2.39	0.357	2.39	0.372	2.0	0.32	2.0	< 0.05	< 5	< 0.1	0.30
15ZESM023-2	< 0.1	3	0.11	0.12	0.02	0.07	0.02	0.005	0.02	< 0.01	0.03	< 0.01	0.03	0.005	0.03	0.005	< 0.1	0.23	1.7	< 0.05	< 5	< 0.1	< 0.05
15ZESM027	< 0.1	2	0.13	0.13	0.01	0.05	0.02	< 0.005	0.01	< 0.01	0.02	< 0.01	0.03	< 0.005	0.04	0.006	< 0.1	0.23	1.9	< 0.05	< 5	< 0.1	< 0.05
15ZESM032	0.2	21	2.86	8.36	1.44	7.66	2.84	1.17	3.80	0.68	4.52	0.97	2.76	0.404	2.66	0.401	1.9	0.33	3.8	< 0.05	< 5	< 0.1	0.17
15ZESM034-3	< 0.1	3	0.09	0.12	0.02	0.06	0.02	0.008	0.03	< 0.01	0.03	< 0.01	0.03	0.007	0.05	0.008	< 0.1	0.23	3.3	< 0.05	< 5	< 0.1	< 0.05
15ZESM039a	0.1	33	4.90	14.4	2.34	12.5	4.19	1.46	5.36	0.95	6.38	1.32	3.76	0.556	3.77	0.550	2.9	0.41	2.6	< 0.05	< 5	< 0.1	0.26
15ZESM042	0.3	76	3.63	11.1	1.83	10.1	3.40	1.34	4.74	0.82	5.58	1.18	3.36	0.512	3.38	0.524	2.5	0.29	1.8	< 0.05	< 5	< 0.1	0.25
15ZESM048	< 0.1	128	8.74	26.0	4.16	21.2	6.65	1.23	8.38	1.50	10.0	2.16	6.49	1.02	7.23	1.09	4.9	0.42	1.8	0.11	< 5	< 0.1	1.02
15ZESM053	0.2	15	2.09	7.11	1.26	7.72	2.87	1.12	4.03	0.78	5.00	1.05	3.05	0.461	3.15	0.463	1.9	0.27	1.6	< 0.05	< 5	< 0.1	0.08
15ZESM058	1.0	48	3.38	10.8	1.86	10.2	4.13	1.38	5.23	0.96	6.33	1.36	3.90	0.582	3.98	0.578	2.7	0.33	2.3	< 0.05	< 5	< 0.1	0.14
15ZESM060	0.1	12	2.79	9.61	1.72	9.88	3.74	1.38	5.09	0.94	6.37	1.33	3.80	0.573	3.76	0.568	2.6	0.29	2.3	< 0.05	< 5	< 0.1	0.11
15ZESM069	0.6	61	3.63	9.10	1.42	7.53	2.44	0.821	3.19	0.57	3.68	0.77	2.18	0.327	2.13	0.319	1.5	0.40	2.3	< 0.05	< 5	< 0.1	0.23
15ZESM076	0.3	607	4.04	10.5	1.64	8.35	2.68	1.04	3.32	0.62	4.03	0.79	2.30	0.330	2.24	0.337	1.8	0.46	1.8	0.06	< 5	< 0.1	0.34
15ZESM076-2	0.3	1962	3.65	9.51	1.55	8.03	2.77	0.932	3.48	0.65	4.12	0.84	2.39	0.347	2.29	0.344	1.9	0.44	2.0	0.15	< 5	< 0.1	0.35
15ZESM092	0.2	54	3.13	10.5	1.93	10.6	4.00	1.65	5.44	0.98	6.62	1.37	4.02	0.612	4.06	0.612	2.8	0.28	1.8	< 0.05	< 5	< 0.1	0.14
15ZESM093	0.1	34	3.03	10.0	1.74	10.1	3.57	1.27	4.95	0.92	6.00	1.27	3.62	0.542	3.60	0.534	2.4	0.29	1.7	< 0.05	< 5	< 0.1	0.18
15ZESM098	0.1	31	1.35	4.45	0.85	5.21	2.38	0.902	3.58	0.71	4.80	0.99	2.97	0.459	3.05	0.473	1.4	0.26	1.7	< 0.05	< 5	< 0.1	0.06
15ZESM108	< 0.1	191	1.88	5.07	0.80	4.39	1.46	0.669	2.00	0.38	2.46	0.51	1.47	0.223	1.45	0.215	1.0	0.30	1.9	< 0.05	< 5	< 0.1	0.11
15ZESM126a	0.3	266	2.53	5.21	0.69	3.01	0.91	0.384	0.88	0.08	0.32	0.03	0.06	0.009	0.07	0.014	1.4	0.29	1.6	< 0.05	< 5	< 0.1	0.21
15ZESM134	< 0.1	8	0.35	1.06	0.22	1.57	0.84	0.352	1.22	0.24	1.70	0.38	1.17	0.179	1.28	0.193	0.6	0.23	1.8	< 0.05	< 5	< 0.1	< 0.05
15ZESM135	< 0.1	10	0.46	1.03	0.17	0.98	0.38	0.270	0.57	0.09	0.61	0.13	0.39	0.067	0.43	0.061	0.4	0.22	2.1	< 0.05	< 5	< 0.1	< 0.05
15ZESM138a	4.1	303	0.12	0.22	0.04	0.30	0.19	0.141	0.32	0.06	0.41	0.09	0.27	0.044	0.29	0.044	< 0.1	0.24	1.7	0.07	< 5	< 0.1	< 0.05
15ZESM145	0.4	54	4.27	13.3	2.20	12.1	4.30	1.48	5.86	1.07	7.09	1.49	4.31	0.632	4.29	0.637	3.0	0.36	2.1	< 0.05	< 5	< 0.1	0.20
15ZESM150a	< 0.1	14	0.44	1.26	0.23	1.44	0.55	0.334	0.89	0.16	1.11	0.23	0.66	0.101	0.66	0.106	0.5	0.22	2.3	< 0.05	< 5	< 0.1	< 0.05
15ZESM150b	< 0.1	22	1.67	4.47	0.65	3.08	0.92	0.435	1.20	0.20	1.29	0.28	0.81	0.131	0.95	0.159	1.1	0.25	1.7	< 0.05	< 5	< 0.1	0.11
15ZEAC002a	4.2	2004	23.6	45.7	5.56	23.5	5.37	1.40	4.46	0.71	3.97	0.76	2.08	0.293	1.76	0.275	2.8	0.58	1.9	0.55	18	< 0.1	5.44
15ZEAC002b	1.6	2432	33.1	60.2	7.02	28.3	6.01	1.73	5.23	0.76	4.16	0.75	2.13	0.308	1.80	0.291	3.2	0.65	2.3	0.65	25	0.1	9.60
15ZEAC004a	2.1	2199	16.5	31.6	3.93	16.3	4.22	1.30	3.56	0.48	3.10	0.62	1.67	0.249	1.82	0.275	1.9	0.22	2.6	0.25	10	< 0.1	4.86
15ZEAC009b	< 0.1	13	0.21	0.30	0.04	0.14	0.03	< 0.005	0.02	< 0.01	0.04	< 0.01	0.02	< 0.005	0.02	0.004	< 0.1	0.21	2.0	< 0.05	< 5	< 0.1	0.06
15ZEAC022b	< 0.1	5	0.26	0.28	0.02	0.07	0.01	< 0.005	0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.005	0.01	< 0.002	< 0.1	0.19	2.6	< 0.05	< 5	< 0.1	< 0.05
15ZEAC024	< 0.1	3	0.08	0.08	0.01	0.05	< 0.01	< 0.005	0.01	< 0.01	0.03	< 0.01	0.04	0.012	0.10	0.021	< 0.1	0.19	1.9	< 0.05	< 5	< 0.1	< 0.05
15ZEAC034a	< 0.1	4	0.05	0.06	< 0.01	< 0.05	0.02	0.009	0.01	< 0.01	0.02	< 0.01	0.04	0.012	0.08	0.014	< 0.1	0.21	2.2	< 0.05	< 5	< 0.1	< 0.05
15ZEAC039	0.3	52	5.40	13.9	2.04	10.8	3.59	1.20	4.63	0.80	5.27	1.07	2.98	0.430	2.96	0.423	2.2	0.47	1.9	< 0.05	< 5	< 0.1	0.46
15ZEAC042	< 0.1	66	3.10	8.05	1.24	6.66	2.24	0.805	2.80	0.50	3.52	0.71	2.17	0.319	2.22	0.336	1.7	0.25	1.8	< 0.05	< 5	< 0.1	0.39
15ZEAC045a	< 0.1	24	1.58	3.76	0.58	3.17	1.11	0.588	1.66	0.28	1.90	0.41	1.18	0.179	1.23	0.183	0.7	0.22	2.6	< 0.05	< 5	< 0.1	0.17
15ZEAC045c	0.3	440	5.47	13.6	2.02	9.43	2.99	0.384	3.60	0.63	4.09	0.87	2.76	0.472	2.92	0.458	3.7	0.28	1.9	0.08	< 5	< 0.1	0.85
15ZEAC048	0.3	84	7.81	16.2	1.97	8.28	2.25	0.584	2.47	0.41	2.50	0.53	1.47	0.230	1.38	0.209	1.4	1.06	1.8	0.05	< 5	< 0.1	1.15
15ZEAC057	< 0.1	31	3.28	8.77	1.38	7.39	2.53	0.911	3.08	0.54	3.64	0.76	2.16	0.317	2.07	0.310	1.5	0.28	2.0	< 0.05	< 5	< 0.1	0.26
15ZEAC054	0.3	424	4.38	11.4	1.86	9.94	3.13	1.02	3.93	0.67	4.19	0.83	2.36	0.355	2.17	0.318	1.5	0.49	2.6	0.10	< 5	< 0.1	0.44

Analyte Symbol	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	2	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05
Method Code	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	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
15ZEAC058a	< 0.1	14	3.06	8.13	1.31	6.49	2.30	0.843	2.98	0.50	3.22	0.67	2.05	0.295	1.92	0.311	1.5	0.47	2.0	< 0.05	< 5	< 0.1	0.28
15ZEAC058b	< 0.1	15	5.90	15.0	2.20	11.7	3.93	1.35	4.95	0.86	5.80	1.28	3.55	0.534	3.71	0.572	3.0	0.54	2.1	< 0.05	< 5	< 0.1	0.64
15ZEAC059b	0.1	161	3.77	8.49	1.11	4.98	1.38	0.509	1.56	0.26	1.66	0.36	1.08	0.177	1.27	0.185	2.3	0.38	2.0	< 0.05	< 5	< 0.1	0.71
15ZEAC060a	< 0.1	< 2	0.06	< 0.05	< 0.01	< 0.05	< 0.01	< 0.005	0.02	< 0.01	0.03	< 0.01	0.02	< 0.005	0.03	0.004	< 0.1	0.33	1.6	< 0.05	< 5	< 0.1	< 0.05
15ZEAC060b	< 0.1	3	0.13	0.32	0.06	0.32	0.16	0.070	0.31	0.06	0.38	0.08	0.26	0.040	0.26	0.036	0.1	0.30	1.8	< 0.05	< 5	< 0.1	< 0.05
15ZEAC065	< 0.1	5	1.92	6.69	1.23	6.87	2.83	1.07	3.82	0.71	4.53	1.01	2.86	0.434	2.78	0.436	1.9	0.33	2.0	< 0.05	< 5	< 0.1	0.10
15ZEAC067	1.9	116	5.34	15.8	2.62	13.8	4.69	1.66	6.43	1.17	7.65	1.63	4.50	0.684	4.77	0.685	3.4	0.50	1.6	< 0.05	< 5	< 0.1	0.32
15ZEAC070	0.2	108	3.39	10.3	1.71	9.68	3.56	1.39	5.22	1.00	6.60	1.43	4.10	0.599	4.03	0.612	2.5	0.46	2.0	< 0.05	< 5	< 0.1	0.23
15ZEAC080a	0.1	95	1.45	4.13	0.77	4.29	1.79	0.684	2.47	0.48	3.31	0.70	2.00	0.299	1.84	0.275	1.2	0.45	1.7	< 0.05	< 5	< 0.1	0.15
15ZEAC106	0.2	40	15.0	36.4	5.13	23.9	6.20	2.02	6.84	1.09	6.56	1.31	3.77	0.558	3.67	0.586	5.4	1.53	2.1	< 0.05	< 5	< 0.1	1.54
15ZEAC102	0.4	51	11.6	27.9	3.84	18.5	4.99	1.74	5.73	0.99	6.01	1.16	3.13	0.451	2.87	0.428	3.4	1.11	1.9	< 0.05	< 5	< 0.1	1.01
15ZEAC111	0.2	475	1.90	5.38	0.89	5.08	1.92	0.695	2.70	0.52	3.34	0.71	2.02	0.310	1.95	0.290	1.3	0.40	2.5	< 0.05	< 5	< 0.1	0.14
Mmi-15-18-1	2.7	403	27.8	56.1	6.73	26.2	5.59	0.932	4.42	0.61	3.40	0.62	1.74	0.251	1.62	0.247	3.7	1.15	2.7	0.26	7	0.3	5.21
14ZE795																							
15ZEAC085																							
15ZE1033a																							
15ZE1033b																							
15ZE1033c																							
15ZE1033d																							
15ZE1033e																							
15ZEAC055	0.3	1071	11.5	21.7	2.62	10.7	2.47	0.946	2.57	0.42	2.62	0.54	1.59	0.261	1.79	0.284	2.7	0.50	2.3	0.13	< 5	< 0.1	2.20

Analyte Symbol	U
Unit Symbol	ppm
Lower Limit	0.01
Method Code	FUS-MS
15ZESM001a	3.61
15ZESM001b	3.51
15ZESM003b	4.22
15ZESM004	3.97
15ZESM005a	2.56
15ZESM005b	1.83
15ZESM005c	3.69
15ZESM005d	3.76
15ZESM012e	0.15
15ZESM015	0.14
15ZESM023-2	< 0.01
15ZESM027	0.01
15ZESM032	0.08
15ZESM034-3	0.01
15ZESM039a	0.15
15ZESM042	0.13
15ZESM048	1.06
15ZESM053	0.04
15ZESM058	0.07
15ZESM060	0.06
15ZESM069	0.11
15ZESM076	0.09
15ZESM076-2	0.11
15ZESM092	0.09
15ZESM093	0.10
15ZESM098	0.11
15ZESM108	0.17
15ZESM126a	0.43
15ZESM134	0.03
15ZESM135	0.04
15ZESM138a	< 0.01
15ZESM145	0.25
15ZESM150a	0.03
15ZESM150b	0.12
15ZEAC002a	2.31
15ZEAC002b	4.13
15ZEAC004a	1.64
15ZEAC009b	0.02
15ZEAC022b	0.02
15ZEAC024	< 0.01
15ZEAC034a	< 0.01
15ZEAC039	0.39
15ZEAC042	0.17
15ZEAC045a	0.07
15ZEAC045c	0.38
15ZEAC048	0.30
15ZEAC057	0.13
15ZEAC054	0.27

Analyte Symbol	U
Unit Symbol	ppm
Lower Limit	0.01
Method Code	FUS-MS
15ZEAC058a	0.12
15ZEAC058b	0.26
15ZEAC059b	0.47
15ZEAC060a	< 0.01
15ZEAC060b	< 0.01
15ZEAC065	0.06
15ZEAC067	0.16
15ZEAC070	0.08
15ZEAC080a	0.26
15ZEAC106	0.48
15ZEAC102	0.37
15ZEAC111	0.07
Mmi-15-18-1	1.26
14ZE795	
15ZEAC085	
15ZE1033a	
15ZE1033b	
15ZE1033c	
15ZE1033d	
15ZE1033e	
15ZEAC055	1.50

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm
Lower Limit	2	5	0.5	50	0.5	1	1	5	1	0.01	1	1	5	1	0.01	20	15	0.1	0.1	3	0.02	0.05	0.5
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas																							
DNC-1 Cert																							
GBW 07113 Meas																							
GBW 07113 Cert																							
LKSD-3 Meas																							
LKSD-3 Cert																							
TDB-1 Meas																							
TDB-1 Cert																							
W-2a Meas																							
W-2a Cert																							
DTS-2b Meas																							
DTS-2b Cert																							
SY-4 Meas																							
SY-4 Cert																							
CTA-AC-1 Meas																							
CTA-AC-1 Cert																							
BIR-1a Meas																							
BIR-1a Cert																							
NCS DC86312 Meas																							
NCS DC86312 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																							
OREAS 101b (Fusion) Meas																							
OREAS 101b (Fusion) Cert																							
JR-1 Meas																							
JR-1 Cert																							
DMMAS 119 Meas	1800		1920	1240			48	77		3.76					2.17		7.8	6.5					
DMMAS 119 Cert	1754		1850	1252			49	73		3.59					2.11		7.9	6.5					
15ZESM039a Orig																							
15ZESM039a Dup																							
15ZESM145 Orig																							
15ZESM145 Dup																							
15ZEAC057 Orig																							
15ZEAC057 Dup																							
15ZEAC059b Orig																							
15ZEAC059b Split																							

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm
Lower Limit	2	5	0.5	50	0.5	1	1	5	1	0.01	1	1	5	1	0.01	20	15	0.1	0.1	3	0.02	0.05	0.5
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
15ZE1033e Orig	< 2	< 5	10.1	< 50	< 0.5	< 1	57	325	< 1	9.46	3	< 1	< 5	< 1	2.97	< 20	< 15	< 0.1	55.2	< 3	< 0.02	< 0.05	< 0.5
15ZE1033e Split	< 2	< 5	10.9	< 50	< 0.5	< 1	56	324	< 1	9.58	4	< 1	< 5	< 1	3.10	< 20	< 15	< 0.1	55.4	< 3	< 0.02	< 0.05	< 0.5
15ZEAC055 Orig																							
15ZEAC055 Dup																							
Method Blank																							
Method Blank	< 2	< 5	< 0.5	< 50	< 0.5	< 1	< 1	< 5	< 1	< 0.01	< 1	< 1	< 5	< 1	< 0.01	< 20	< 15	< 0.1	< 0.1	< 3	< 0.02	< 0.05	< 0.5

Analyte Symbol	Th	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%
Lower Limit	0.2	0.5	1	50	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
NIST 694 Meas														11.22	1.95	0.75	0.013	0.35	43.12	0.88	0.55	0.121	30.18
NIST 694 Cert														11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2
DNC-1 Meas														46.92	18.48	9.88	0.148	10.08	11.47	1.92	0.22	0.480	0.09
DNC-1 Cert														47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070
GBW 07113 Meas														72.76	12.63	3.15	0.141	0.15	0.59	2.44	5.43	0.274	0.04
GBW 07113 Cert														72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500
LKSD-3 Meas																							
LKSD-3 Cert																							
TDB-1 Meas																							
TDB-1 Cert																							
W-2a Meas														51.98	15.34	10.80	0.165	6.28	10.94	2.20	0.61	1.080	0.14
W-2a Cert														52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130
DTS-2b Meas																							
DTS-2b Cert																							
SY-4 Meas														49.45	20.45	6.13	0.106	0.51	8.04	6.98	1.66	0.285	0.12
SY-4 Cert														49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131
CTA-AC-1 Meas																							
CTA-AC-1 Cert																							
BIR-1a Meas														47.72	15.80	11.45	0.172	9.59	13.47	1.83	0.02	0.980	0.01
BIR-1a Cert														47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021
NCS DC86312 Meas																							
NCS DC86312 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																							
OREAS 101b (Fusion) Meas																							
OREAS 101b (Fusion) Cert																							
JR-1 Meas																							
JR-1 Cert																							
DMMAS 119 Meas		27.6			17.5	32		2.7															
DMMAS 119 Cert		26.3			17.2	28.8		2.40															
15ZESM039a Orig														49.52	13.71	10.86	0.178	7.23	9.67	3.26	0.18	1.605	0.17
15ZESM039a Dup														50.79	13.96	11.04	0.182	7.29	9.82	3.29	0.19	1.664	0.17
15ZESM145 Orig														49.72	13.81	12.78	0.203	6.45	8.97	4.05	0.19	1.922	0.17
15ZESM145 Dup														50.09	13.96	12.65	0.204	6.49	9.01	4.13	0.20	1.953	0.18
15ZEAC057 Orig														47.25	15.34	10.11	0.207	9.47	8.70	2.95	0.05	0.875	0.08
15ZEAC057 Dup														47.13	15.50	10.07	0.205	9.57	8.60	2.99	0.05	0.872	0.10
15ZEAC059b Orig														69.17	14.81	3.34	0.062	0.99	2.43	5.69	1.05	0.228	0.05

Analyte Symbol	Th	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%
Lower Limit	0.2	0.5	1	50	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01
Method Code	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
15ZEAC059b Split														68.86	14.96	3.43	0.064	1.01	2.46	5.82	1.06	0.228	0.06
15ZE1033e Orig	< 0.2	< 0.5	< 1	< 50	5.6	19	< 5	4.8	0.9	< 0.5	4.0	0.17	29.5										
15ZE1033e Split	< 0.2	< 0.5	< 1	< 50	5.9	20	< 5	4.8	0.9	< 0.5	4.0	0.16	29.0										
15ZEAC055 Orig														55.29	17.92	5.59	0.180	3.87	7.45	5.32	0.89	0.552	0.12
15ZEAC055 Dup														55.14	17.60	5.58	0.179	3.87	7.46	5.27	0.87	0.547	0.12
Method Blank																							
Method Blank	< 0.2	< 0.5	< 1	< 50	< 0.5	< 3	< 5	< 0.1	< 0.2	< 0.5	< 0.2	< 0.05	30.0										

Analyte Symbol	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb
Unit Symbol	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit		0.01	1	1	5	20	1	20	10	30	1	0.5	5	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2
Method Code	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	FUS-ICP	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
NIST 694 Meas					1636																		
NIST 694 Cert					1740																		
DNC-1 Meas			31		152	290	56		100		15				147		35						
DNC-1 Cert			31		148	270	57		100		15				144.0		38						
GBW 07113 Meas			5	4	< 5										40		376						
GBW 07113 Cert			5.00	4.00	5.00										43.0		403						
LKSD-3 Meas						90	32		40				27	76		28.6			2	2.5		3	1.4
LKSD-3 Cert						87.0	30.0		35.0				27.0	78.0		30.0			2.00	2.70		3.00	1.30
TDB-1 Meas						260			340							34.9							
TDB-1 Cert						251			323							36							
W-2a Meas			35	< 1	273			44	110	80	19	1.7		20	195	21.9	87	8.4	< 2	1.0			
W-2a Cert			36.0	1.30	262			43.0	110	80.0	17.0	1.00		21.0	190	24.0	94.0	7.90	0.600	0.0460			
DTS-2b Meas						> 10000	127	3800															
DTS-2b Cert						15500	120	3780															
SY-4 Meas			1	3	11										1199		544						
SY-4 Cert			1.1	2.6	8.0										1191		517						
CTA-AC-1 Meas									50	40						283							
CTA-AC-1 Cert									54.0	38.0						272							
BIR-1a Meas			44	< 1	333	390	50	190	130						111	15.1	22						
BIR-1a Cert			44	0.58	310	370	52	170	125						110	16	18						
NCS DC86312 Meas																	934						
NCS DC86312 Cert																	976						
NCS DC70009 (GBW07241) Meas							3		970	100	18	10.7	66	490		133					1.2	> 1000	
NCS DC70009 (GBW07241) Cert							3.7		960	100	16.5	11.2	69.9	500		128					1.3	1701	
OREAS 100a (Fusion) Meas							16		170										25				
OREAS 100a (Fusion) Cert							18.1		169										24.1				
OREAS 101a (Fusion) Meas							47		440							170			22				
OREAS 101a (Fusion) Cert							48.8		434							183			21.9				
OREAS 101b (Fusion) Meas							44		420							178			20				
OREAS 101b (Fusion) Cert							47		416							178			20.9				
JR-1 Meas								< 20	< 10		18		17	240				14.5	4	1.0	< 0.1	3	1.3
JR-1 Cert								1.67	2.68		16.1		16.3	257				15.2	3.25	0.031	0.028	2.86	1.19
DMMAS 119 Meas																							
DMMAS 119 Cert																							
15ZESM039a Orig	2.34	98.74	37	< 1	311	300	39	140	60	80	17	1.5	< 5	2	110	35.9	110	2.6	< 2	< 0.5	< 0.1	1	0.8
15ZESM039a Dup	2.34	100.7	37	< 1	316	300	39	140	60	80	17	1.6	< 5	2	110	35.5	114	2.8	< 2	< 0.5	< 0.1	1	0.8
15ZESM145 Orig	1.76	100.0	40	< 1	367	170	39	90	120	90	19	1.8	< 5	3	48	40.4	108	2.5	< 2	< 0.5	0.1	1	0.8
15ZESM145 Dup	1.76	100.6	40	< 1	371	160	39	60	120	100	19	1.5	< 5	3	48	40.6	111	2.6	< 2	0.5	0.1	1	0.8
15ZEAC057 Orig	3.47	98.51	32	< 1	244	250	42	200	30	160	15	1.3	< 5	< 1	153	20.2	54	1.5	< 2	< 0.5	< 0.1	< 1	0.8
15ZEAC057 Dup	3.47	98.55	32	< 1	246	250	42	190	30	160	15	1.5	< 5	< 1	155	20.1	54	1.5	< 2	< 0.5	< 0.1	< 1	0.8
15ZEAC059b Orig	0.93	98.76	10	< 1	32	20	4	< 20	< 10	50	15	0.9	< 5	9	342	10.4	86	1.3	< 2	0.5	< 0.1	< 1	0.8
15ZEAC059b Split	0.92	98.87	10	< 1	32	20	4	< 20	< 10	40	15	1.0	< 5	9	348	10.2	77	1.1	< 2	< 0.5	< 0.1	< 1	0.7

Analyte Symbol	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb
Unit Symbol	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit		0.01	1	1	5	20	1	20	10	30	1	0.5	5	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2
Method Code	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	FUS-ICP	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
15ZE1033e Orig																							
15ZE1033e Split																							
15ZEAC055 Orig	1.90	99.08	13	< 1	80	50	12	< 20	80	60	18	1.1	< 5	21	411	16.1	113	4.0	4	0.6	< 0.1	1	0.9
15ZEAC055 Dup	1.90	98.53	13	< 1	79	50	12	< 20	80	60	18	1.1	< 5	21	404	16.2	111	4.1	< 2	0.5	< 0.1	1	0.9
Method Blank						< 20	< 1	< 20	< 10	< 30	< 1	< 0.5	< 5	< 1		< 0.5		< 0.2	< 2	< 0.5	< 0.1	< 1	< 0.2
Method Blank																							

Analyte Symbol	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	2	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05
Method Code	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	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas		105				5.50									2.00								
DNC-1 Cert		118				5.20									2.0								
GBW 07113 Meas		500																					
GBW 07113 Cert		506																					
LKSD-3 Meas	2.4		51.2	97.1		46.8	8.60			1.00	5.30					0.420	5.0		1.8				10.8
LKSD-3 Cert	2.30		52.0	90.0		44.0	8.00			1.00	4.90					0.400	4.80		2.00				11.4
TDB-1 Meas			17.4	40.6		24.6		2.00							3.30								2.90
TDB-1 Cert			17	41		23		2.1							3.4								2.7
W-2a Meas		171		24.5		13.5	3.50			0.64		0.79	2.30		2.10	0.310	2.6		1.2	0.13	9	0.1	2.30
W-2a Cert		182		23.0		13.0	3.30			0.630		0.760	2.50		2.10	0.330	2.60		0.300	0.200	9.30	0.0300	2.40
DTS-2b Meas																							
DTS-2b Cert																							
SY-4 Meas		347																					
SY-4 Cert		340																					
CTA-AC-1 Meas			> 2000	> 3000		1120	161	43.4	126	14.0					10.7	1.12							21.4
CTA-AC-1 Cert			2176	3326		1087	162	46.7	124	13.9					11.4	1.08							21.8
BIR-1a Meas		8				2.70	1.20	0.570	1.90		3.90					0.310	0.7						
BIR-1a Cert		6				2.5	1.1	0.55	2.0		4					0.3	0.60						
NCS DC86312 Meas			> 2000	177		1570				235	32.2	184	34.8	99.8	13.6	87.7	12.4						24.0
NCS DC86312 Cert			2360	190		1600				225.0	34.6	183	36	96.2	15.1	87.79	11.96						23.6
NCS DC70009 (GBW07241) Meas	40.8		24.0	60.3	8.00	32.7	12.2		15.1	3.20	21.0	4.30	13.5	2.30	15.8	2.32			2120				26.9
NCS DC70009 (GBW07241) Cert	41		23.7	60.3	7.9	32.9	12.5		14.8	3.3	20.7	4.5	13.4	2.2	14.9	2.4			2200				28.3
OREAS 100a (Fusion) Meas			260	470	46.3	151	23.8		21.5	3.57	23.1	4.86	15.3	2.33	15.3	2.21							48.6
OREAS 100a (Fusion) Cert			260	463	47.1	152	23.6		23.6	3.80	23.2	4.81	14.9	2.31	14.9	2.26							51.6
OREAS 101a (Fusion) Meas			841	1450	135	408	50.8	8.16		5.48	33.2	6.66	20.2	3.00	18.7	2.65							34.5
OREAS 101a (Fusion) Cert			816	1396	134	403	48.8	8.06		5.92	33.3	6.46	19.5	2.90	17.5	2.66							36.6
OREAS 101b (Fusion) Meas			790	1380	125	383	50.0	8.21		5.29	31.5	6.23	18.7	2.74	17.6	2.54							36.2
OREAS 101b (Fusion) Cert			789	1331	127	378	48	7.77		5.37	32.1	6.34	18.7	2.66	17.6	2.58							37.1
JR-1 Meas	19.5		19.9	47.2	6.00	23.6	5.95			0.99				0.700	4.74	0.730	4.3	1.96		1.39	20	0.5	25.4
JR-1 Cert	20.8		19.7	47.2	5.58	23.3	6.03			1.01				0.67	4.55	0.71	4.51	1.86		1.56	19.3	0.56	26.7
DMMAS 119 Meas																							
DMMAS 119 Cert																							
15ZESM039a Orig	0.1	33	4.99	14.6	2.39	12.7	4.27	1.46	5.41	0.98	6.44	1.34	3.80	0.554	3.73	0.551	2.9	0.43	3.1	< 0.05	< 5	< 0.1	0.26
15ZESM039a Dup	0.1	33	4.82	14.3	2.29	12.3	4.12	1.46	5.31	0.92	6.31	1.29	3.72	0.557	3.81	0.549	2.9	0.39	2.1	< 0.05	< 5	< 0.1	0.26
15ZESM145 Orig	0.4	54	4.18	13.1	2.17	11.9	4.29	1.47	6.03	1.07	7.02	1.48	4.26	0.622	4.19	0.634	3.0	0.34	2.1	< 0.05	< 5	< 0.1	0.20
15ZESM145 Dup	0.4	55	4.37	13.4	2.24	12.3	4.31	1.50	5.70	1.06	7.15	1.49	4.35	0.643	4.39	0.639	3.1	0.37	2.1	< 0.05	< 5	< 0.1	0.21
15ZEAC057 Orig	< 0.1	31	3.27	8.85	1.40	7.42	2.57	0.922	3.13	0.55	3.64	0.77	2.20	0.317	2.07	0.314	1.6	0.28	2.2	< 0.05	< 5	< 0.1	0.26
15ZEAC057 Dup	< 0.1	31	3.30	8.69	1.37	7.37	2.48	0.901	3.02	0.53	3.65	0.76	2.12	0.316	2.08	0.306	1.5	0.28	1.7	< 0.05	< 5	< 0.1	0.27
15ZEAC059b Orig	0.1	161	3.77	8.49	1.11	4.98	1.38	0.509	1.56	0.26	1.66	0.36	1.08	0.177	1.27	0.185	2.3	0.38	2.0	< 0.05	< 5	< 0.1	0.71
15ZEAC059b Split	0.1	163	3.75	8.45	1.15	4.96	1.31	0.481	1.64	0.27	1.64	0.35	1.08	0.185	1.24	0.195	2.1	0.44	1.7	< 0.05	< 5	< 0.1	0.73

Analyte Symbol	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	2	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05
Method Code	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	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
15ZE1033e Orig																							
15ZE1033e Split																							
15ZEAC055 Orig	0.3	1078	11.8	21.9	2.59	10.7	2.52	0.987	2.54	0.41	2.60	0.54	1.58	0.254	1.79	0.282	2.7	0.49	2.4	0.13	< 5	< 0.1	2.25
15ZEAC055 Dup	0.3	1063	11.3	21.5	2.65	10.7	2.43	0.905	2.59	0.43	2.64	0.54	1.60	0.268	1.80	0.286	2.6	0.52	2.1	0.14	< 5	< 0.1	2.16
Method Blank	< 0.1		< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.002	< 0.1	< 0.01	< 0.5	< 0.05	< 5	< 0.1	< 0.05
Method Blank																							

Analyte Symbol	U
Unit Symbol	ppm
Lower Limit	0.01
Method Code	FUS-MS
NIST 694 Meas	
NIST 694 Cert	
DNC-1 Meas	
DNC-1 Cert	
GBW 07113 Meas	
GBW 07113 Cert	
LKSD-3 Meas	4.70
LKSD-3 Cert	4.60
TDB-1 Meas	
TDB-1 Cert	
W-2a Meas	0.51
W-2a Cert	0.530
DTS-2b Meas	
DTS-2b Cert	
SY-4 Meas	
SY-4 Cert	
CTA-AC-1 Meas	
CTA-AC-1 Cert	
BIR-1a Meas	
BIR-1a Cert	
NCS DC86312 Meas	
NCS DC86312 Cert	
NCS DC70009 (GBW07241) Meas	
NCS DC70009 (GBW07241) Cert	
OREAS 100a (Fusion) Meas	131
OREAS 100a (Fusion) Cert	135
OREAS 101a (Fusion) Meas	416
OREAS 101a (Fusion) Cert	422
OREAS 101b (Fusion) Meas	390
OREAS 101b (Fusion) Cert	396
JR-1 Meas	8.50
JR-1 Cert	8.88
DMMAS 119 Meas	
DMMAS 119 Cert	
15ZESM039a Orig	0.14
15ZESM039a Dup	0.15
15ZESM145 Orig	0.24
15ZESM145 Dup	0.25
15ZEAC057 Orig	0.13
15ZEAC057 Dup	0.13
15ZEAC059b Orig	0.47
15ZEAC059b Split	0.44

Analyte Symbol	U
Unit Symbol	ppm
Lower Limit	0.01
Method Code	FUS-MS
15ZE1033e Orig	
15ZE1033e Split	
15ZEAC055 Orig	1.52
15ZEAC055 Dup	1.48
Method Blank	< 0.01
Method Blank	