



Date Submitted: 20-Dec-16
Invoice No.: A16-13724
Invoice Date: 31-Jan-17
Your Reference: 3000623172

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

ATTN: Alex Zagorevski

CERTIFICATE OF ANALYSIS

84 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

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

REPORT **A16-13724**

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Notes:

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:

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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Results

Activation Laboratories Ltd.

Report: A16-13724

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
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower 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	0.5	5
Method Code	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
16ZE1221	48.40	13.89	10.74	0.193	6.65	10.85	3.03	0.25	1.485	0.15	3.97	99.61	38	< 1	301	230	37	70	50	80	17	1.4	< 5
16ZE1222A	36.70	9.41	4.69	0.121	2.31	23.69	1.90	1.31	0.458	0.15	18.01	98.76	14	< 1	114	70	9	< 20	60	50	9	0.6	< 5
16ZE1228	48.62	15.45	9.28	0.145	7.80	11.02	2.73	0.75	0.904	0.06	3.77	100.6	41	< 1	252	400	40	160	90	70	13	1.0	< 5
16ZE1229	53.34	16.84	10.87	0.101	3.77	2.52	5.53	1.70	1.154	0.12	2.74	98.69	46	< 1	168	370	48	80	90	120	12	< 0.5	< 5
16ZE1231	46.16	13.22	14.90	0.205	5.31	8.00	3.90	0.13	2.109	0.20	4.51	98.64	35	< 1	469	100	43	70	340	120	24	1.6	< 5
16ZE1233	47.80	14.89	11.70	0.142	5.48	8.25	3.21	1.40	2.727	0.41	3.01	99.02	21	2	219	50	47	100	10	130	23	1.6	< 5
16ZE1239A	41.54	1.35	8.54	0.112	42.50	0.19	0.05	0.01	0.025	< 0.01	4.92	99.24	9	< 1	42	2850	104	2000	< 10	110	1	0.9	15
16ZE1239B	42.88	16.33	12.62	0.211	7.20	14.81	1.77	0.50	1.235	0.09	1.40	99.04	40	< 1	343	100	28	70	< 10	100	18	1.1	< 5
16ZE1240	35.11	13.53	10.80	0.195	8.77	19.82	0.82	0.50	1.607	0.12	7.48	98.75	41	< 1	299	210	37	80	< 10	80	14	0.9	< 5
16ZE1242	54.74	18.38	6.04	0.118	3.59	9.05	4.39	1.11	0.652	0.10	2.54	100.7	15	< 1	116	40	17	20	10	70	14	1.0	< 5
16ZE1244A	43.33	1.05	7.72	0.131	39.76	3.12	0.04	0.01	0.015	< 0.01	5.04	100.2	9	< 1	37	2280	88	1720	20	100	1	1.1	20
16ZE1244B	49.04	14.79	12.85	0.213	7.47	8.36	3.37	0.37	1.722	0.13	1.83	100.2	44	< 1	363	180	35	80	20	90	16	1.3	< 5
16ZE1246	45.46	16.10	12.16	0.146	7.31	11.14	1.55	1.01	1.306	0.08	3.04	99.31	45	< 1	343	190	105	110	300	40	16	1.2	< 5
16ZE1247	43.16	1.10	8.34	0.116	42.09	0.15	0.03	< 0.01	0.024	< 0.01	4.78	99.79	9	< 1	41	2660	108	2160	10	70	1	1.2	68
16ZE1249A	64.99	15.72	4.27	0.050	1.19	2.54	5.67	2.93	0.498	0.17	1.07	99.09	8	2	63	80	9	40	160	30	15	1.0	16
16ZE1249B	64.07	16.03	2.98	0.060	0.99	3.53	6.04	2.57	0.396	0.17	2.26	99.12	6	2	60	30	5	< 20	20	< 30	20	1.3	< 5
16ZE1249C	69.26	14.49	1.84	0.029	0.74	3.43	5.47	1.33	0.288	0.11	3.12	100.1	4	2	39	30	3	< 20	20	30	18	1.6	< 5
16ZE1250	51.89	14.53	11.06	0.155	6.10	9.27	3.62	0.23	1.205	0.10	1.94	100.1	41	< 1	311	170	33	60	40	80	15	1.2	< 5
16ZE1252A	48.89	14.99	10.81	0.190	7.08	12.67	2.75	0.14	1.395	0.11	0.63	99.66	39	< 1	301	240	36	80	10	60	18	1.9	< 5
16ZE1252B	29.13	17.55	13.95	0.311	24.49	1.16	0.20	0.03	1.667	0.12	10.24	98.84	40	< 1	380	140	43	60	< 10	100	17	0.5	< 5
16ZE1256	46.07	14.32	11.18	0.199	7.14	14.00	2.28	0.02	1.408	0.12	2.88	99.62	43	< 1	338	170	39	60	10	90	14	1.4	< 5
16ZE1259	47.98	13.89	11.73	0.209	5.88	11.77	2.10	1.01	1.802	0.35	2.01	98.74	37	1	356	190	41	110	40	110	20	1.6	< 5
16ZE1260	45.64	16.12	9.79	0.170	7.05	12.02	2.67	0.50	0.674	0.07	3.91	98.63	38	< 1	251	440	41	120	50	70	16	1.9	< 5
16ZE1265	40.50	1.35	8.50	0.145	40.83	1.28	0.04	0.03	0.019	< 0.01	6.57	99.28	11	< 1	48	2410	109	2030	< 10	50	1	0.8	< 5
16ZE1266	41.13	1.13	7.72	0.121	39.22	0.65	0.02	< 0.01	0.014	< 0.01	9.78	99.78	10	< 1	40	2650	107	2060	10	50	2	1.5	< 5
16ZE1270B	55.73	14.19	9.77	0.171	6.41	8.41	3.33	0.09	0.907	0.09	0.28	99.37	38	< 1	333	200	35	90	50	80	17	1.3	12
16ZE1271	51.57	12.48	10.88	0.159	6.87	10.49	3.43	0.09	1.518	0.17	2.10	99.76	39	< 1	315	240	39	90	60	90	16	1.5	< 5
16ZE1272	53.73	16.88	7.46	0.173	3.83	6.67	3.15	1.49	0.861	0.27	4.62	99.13	20	1	176	40	15	< 20	10	120	18	1.3	< 5
16ZE1275	40.84	0.52	8.42	0.124	45.14	0.62	0.02	< 0.01	0.009	< 0.01	4.54	100.2	9	< 1	32	2370	113	2260	< 10	50	< 1	0.9	< 5
16ZE1276A	41.92	0.80	9.85	0.145	42.69	0.88	0.04	0.02	0.027	< 0.01	3.46	99.82	11	< 1	43	2690	113	2030	40	60	1	1.0	< 5
16ZE1276B	50.09	1.84	6.77	0.147	22.37	16.88	0.19	< 0.01	0.183	< 0.01	0.86	99.33	63	< 1	192	2680	52	630	340	30	3	1.8	< 5
16ZE1277	49.08	13.96	10.08	0.183	6.48	11.57	3.58	0.09	1.170	0.10	2.71	98.99	36	< 1	300	70	33	60	50	70	14	1.3	< 5
16ZE1278	52.07	14.21	11.29	0.145	4.44	6.90	4.81	0.06	1.465	0.12	4.06	99.57	36	< 1	382	60	37	40	60	120	16	1.2	< 5
16ZE1279A	39.56	0.44	7.75	0.117	42.16	0.45	0.05	< 0.01	0.014	< 0.01	8.59	99.12	9	< 1	32	2730	105	2030	< 10	40	< 1	0.9	< 5
16ZE1279B	36.85	0.18	8.06	0.109	45.78	0.18	0.02	< 0.01	0.006	< 0.01	8.79	99.99	4	< 1	13	2430	115	2330	< 10	80	< 1	0.8	< 5
16ZE1279C	38.03	0.31	7.66	0.115	42.54	0.39	0.02	< 0.01	0.004	< 0.01	10.96	100.0	8	< 1	26	2240	102	1980	< 10	40	< 1	0.7	< 5
16ZE1280	53.47	14.46	9.85	0.138	6.88	6.09	4.85	0.14	1.116	0.09	3.43	100.5	35	< 1	317	50	33	60	< 10	< 30	14	1.3	< 5
16ZE1281	53.44	13.58	9.99	0.150	5.57	9.20	3.42	0.08	1.009	0.08	3.35	99.86	34	< 1	277	60	32	40	40	50	15	1.5	< 5
16ZE1282	50.28	17.59	11.21	0.167	3.27	6.78	5.26	0.22	0.982	0.07	3.98	99.82	34	< 1	194	< 20	27	< 20	30	90	17	1.2	< 5
16ZE1283	46.68	16.49	8.12	0.167	5.36	14.14	2.12	0.03	0.816	0.05	5.59	99.56	33	< 1	234	210	31	80	70	70	25	2.2	< 5
16ZE1284	75.20	6.33	4.15	0.101	1.82	5.75	1.91	0.06	0.416	0.05	2.99	98.79	13	< 1	110	80	13	30	20	30	8	1.5	< 5

Results

Activation Laboratories Ltd.

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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
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower 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	0.5	5
Method Code	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
16ZE1288	47.07	16.62	11.06	0.161	6.44	6.31	4.03	0.86	2.502	0.61	4.47	100.1	29	2	301	50	30	40	50	80	19	1.5	< 5
16ZE1289	52.36	14.45	13.35	0.211	4.29	7.46	4.38	0.48	0.944	0.07	2.28	100.3	44	< 1	400	< 20	32	< 20	40	100	17	1.4	< 5
16ZE1291	44.56	12.59	12.13	0.192	5.77	9.73	2.19	0.69	0.943	0.08	10.55	99.42	44	< 1	324	60	42	40	310	90	14	0.9	< 5
16ZE1294	81.64	2.17	1.88	0.079	0.38	6.96	0.41	0.16	0.076	< 0.01	5.83	99.57	3	< 1	24	50	4	< 20	20	< 30	3	< 0.5	< 5
16ZE1295	53.42	12.64	9.80	0.166	5.34	11.60	1.21	0.06	1.170	0.08	3.13	98.60	33	< 1	276	170	33	60	40	70	16	1.6	< 5
16ZE1296	43.24	2.16	8.86	0.127	40.52	2.09	0.05	< 0.01	0.031	< 0.01	2.88	99.96	13	< 1	61	2580	101	1940	20	50	2	1.0	< 5
16ZE1301A	49.79	13.50	13.53	0.196	6.64	8.57	3.31	2.03	1.669	0.14	0.80	100.2	42	< 1	346	190	46	120	20	130	16	1.6	< 5
16ZE1301B	45.96	1.67	8.52	0.115	35.35	0.19	0.05	< 0.01	0.024	< 0.01	6.46	98.35	13	< 1	59	3030	106	2040	20	60	1	1.5	5
16ZE1302	51.23	12.56	12.67	0.205	7.24	8.44	3.58	0.69	1.256	0.10	0.74	98.72	44	< 1	306	170	45	70	40	100	15	1.5	< 5
16ZE1305	49.76	19.78	9.47	0.148	2.57	5.02	3.97	3.99	2.229	0.65	1.13	98.71	13	4	239	40	20	50	100	130	26	1.8	< 5
16ZE1306	53.86	19.73	7.49	0.101	2.44	4.27	5.39	2.64	2.701	0.71	1.16	100.5	27	2	264	170	14	60	30	110	22	1.8	< 5
16ZE1308	50.07	12.77	12.93	0.241	6.54	12.52	2.56	0.53	1.413	0.13	0.53	100.2	48	< 1	338	220	47	70	70	90	14	2.0	< 5
16ZE1309	42.85	1.48	7.59	0.114	34.48	0.79	0.03	0.01	0.020	< 0.01	11.16	98.52	10	< 1	49	2370	93	1790	20	60	2	1.8	< 5
16ZE1311	46.37	15.29	11.63	0.269	8.66	13.01	1.44	0.24	0.982	0.07	0.93	98.90	38	< 1	251	330	48	110	110	110	19	3.3	< 5
16ZE1312	43.86	1.57	8.71	0.133	42.14	1.99	0.07	0.02	0.021	< 0.01	1.45	99.97	11	< 1	48	2700	106	1960	10	60	1	2.6	9
16ZE1319	49.90	12.59	8.27	0.172	12.35	9.78	2.40	1.28	0.667	0.12	2.25	99.79	38	< 1	200	770	45	190	10	80	12	1.4	< 5
16ZE1320	38.59	1.58	7.70	0.126	37.66	1.07	0.02	< 0.01	0.016	< 0.01	11.68	98.44	10	< 1	49	2460	104	1950	< 10	50	1	0.9	< 5
16ZE1321	49.51	14.67	12.73	0.203	6.27	9.73	3.80	0.24	1.764	0.09	1.64	100.6	41	< 1	370	80	39	50	60	80	16	1.3	< 5
16ZE1323	54.13	15.72	10.02	0.150	5.73	3.61	3.73	0.17	1.379	0.11	4.00	98.75	31	< 1	382	20	29	20	40	90	16	0.9	< 5
16ZE1324	47.02	15.85	5.86	0.108	10.80	14.38	1.00	0.44	0.183	< 0.01	3.18	98.82	44	< 1	135	780	48	230	130	< 30	11	1.2	< 5
16ZE1325	53.78	15.47	10.62	0.164	5.49	4.25	5.49	0.29	1.016	0.08	2.93	99.59	34	< 1	314	< 20	36	30	90	40	14	1.0	< 5
16ZE1328	47.73	15.35	12.72	0.212	6.54	10.23	2.59	0.62	1.525	0.12	2.30	99.92	43	< 1	366	170	46	90	190	90	17	1.4	< 5
16ZE1330A	51.89	13.71	11.10	0.190	6.45	7.71	3.97	0.08	1.494	0.11	2.84	99.54	37	< 1	330	140	40	50	40	90	14	1.1	< 5
16ZE1330B	54.05	14.93	9.85	0.173	4.37	7.13	4.34	0.08	1.018	0.12	2.55	98.59	29	< 1	268	< 20	25	< 20	30	70	17	1.3	< 5
16ZE1332	65.48	15.76	4.48	0.095	0.40	0.29	3.74	7.12	0.770	0.06	1.06	99.26	5	5	16	< 20	3	< 20	< 10	210	33	1.6	5
16ZE1333B	44.60	14.67	11.54	0.167	7.45	11.39	2.17	0.25	0.886	0.07	5.69	98.88	52	< 1	303	250	49	70	90	90	15	1.5	< 5
16ZE1336A	48.62	19.00	9.66	0.114	5.20	3.86	4.98	1.58	0.669	0.60	5.15	99.43	37	< 1	290	20	22	< 20	20	100	19	1.5	8
16ZEAB001B	49.33	17.36	5.47	0.108	8.16	14.50	2.53	0.19	0.379	< 0.01	2.28	100.3	42	< 1	169	490	23	120	50	30	11	1.1	< 5
16ZEAB007	49.06	14.73	10.84	0.180	6.73	10.51	3.13	0.26	1.646	0.19	3.24	100.5	39	< 1	309	170	36	60	50	90	15	1.5	< 5
16ZEAB009B	60.77	15.11	6.68	0.095	4.70	3.30	6.35	0.21	0.273	0.04	1.70	99.23	25	< 1	176	40	19	40	< 10	< 30	14	1.0	< 5
16ZEAB009C	49.57	13.27	10.03	0.167	9.97	8.88	2.88	0.26	0.352	0.03	3.31	98.71	40	< 1	251	380	41	130	80	70	12	0.9	< 5
16ZEAB012	47.67	14.94	11.27	0.174	6.73	11.86	2.40	0.24	1.498	0.17	3.36	100.3	41	< 1	312	280	40	80	40	80	19	1.6	< 5
16ZEAB013	51.74	13.94	11.73	0.188	5.42	8.82	4.20	0.44	1.423	0.12	1.98	99.98	40	< 1	352	80	37	40	60	90	17	1.4	< 5
16ZEAB017	58.44	15.81	6.28	0.112	3.98	7.20	3.44	0.57	0.738	0.17	2.31	99.05	22	1	107	50	15	< 20	< 10	80	18	1.2	< 5
16ZEAB019	48.33	16.11	11.19	0.177	6.24	9.39	3.47	0.42	1.268	0.09	3.40	100.1	40	< 1	299	180	37	70	100	80	17	1.5	< 5
16ZEAB020A	48.22	15.51	5.74	0.107	10.82	16.52	1.03	0.03	0.235	< 0.01	2.04	100.2	46	< 1	145	1000	34	190	130	< 30	10	1.2	< 5
16ZEAB058	49.91	14.49	10.40	0.169	6.35	9.82	3.55	0.31	1.530	0.19	3.02	99.73	35	< 1	310	170	35	70	130	80	16	1.4	< 5
16ZEAB060A	50.83	14.35	9.59	0.220	5.97	12.87	2.75	0.06	1.194	0.11	2.56	100.5	36	< 1	281	220	33	80	50	70	16	1.9	< 5
16ZEAB073A	53.37	16.35	8.19	0.088	8.32	1.44	3.20	2.47	0.843	0.33	5.49	100.1	15	1	182	< 20	15	< 20	10	80	17	0.8	< 5
16ZEAB172A	74.24	8.01	3.98	0.061	3.42	4.79	0.89	1.27	0.423	0.13	1.32	98.54	11	1	104	60	7	20	10	180	10	1.2	< 5
16ZEAB217	50.55	15.13	8.79	0.146	7.50	10.07	3.84	0.41	0.874	0.05	3.10	100.5	41	< 1	258	410	43	170	100	60	12	1.0	< 5

Results

Activation Laboratories Ltd.

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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
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower 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	0.5	5
Method Code	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
6ZE1304	59.35	7.09	7.10	0.161	11.73	10.83	0.35	0.25	0.327	0.07	1.49	98.74	19	< 1	129	1560	53	1350	20	120	9	0.9	8
6ZEAB010A2	52.52	18.22	6.07	0.100	7.56	7.66	3.78	0.89	0.363	0.01	2.92	100.1	31	< 1	141	210	30	100	10	30	10	0.8	< 5

Results

Activation Laboratories Ltd.

Report: A16-13724

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	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
Lower Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	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
Method Code	FUS-MS	FUS-ICP	FUS-MS	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
16ZE1221	4	115	34.6	106	4.8	< 2	< 0.5	< 0.1	< 1	1.4	< 0.1	52	7.59	19.3	2.76	13.7	3.99	1.32	5.44	0.89	5.81	1.20	3.47
16ZE1222A	24	840	15.8	49	1.8	< 2	< 0.5	< 0.1	< 1	0.3	0.4	619	4.97	10.4	1.59	7.15	1.99	0.731	2.47	0.45	2.60	0.54	1.58
16ZE1228	14	133	20.2	47	1.4	< 2	< 0.5	< 0.1	< 1	< 0.2	0.7	76	2.03	5.77	0.95	5.10	1.95	0.721	2.74	0.51	3.29	0.70	2.14
16ZE1229	34	56	24.6	59	1.6	< 2	< 0.5	< 0.1	< 1	0.3	0.6	51	3.10	7.54	1.29	6.90	2.85	0.948	3.89	0.72	4.68	0.97	2.79
16ZE1231	2	159	39.5	142	6.5	< 2	< 0.5	< 0.1	2	0.6	0.2	27	7.57	21.3	3.24	16.7	5.44	1.86	6.99	1.18	7.34	1.43	3.99
16ZE1233	35	461	29.4	202	27.0	< 2	0.7	< 0.1	2	0.4	0.3	540	22.3	50.3	6.32	28.0	6.76	2.33	7.24	1.03	5.73	1.04	2.68
16ZE1239A	< 1	5	0.5	5	0.2	< 2	< 0.5	< 0.1	< 1	3.1	0.7	10	0.35	0.40	0.04	0.17	0.04	0.028	0.05	0.01	0.08	0.02	0.06
16ZE1239B	39	193	29.4	70	1.5	< 2	< 0.5	< 0.1	3	1.8	2.5	93	3.20	11.2	1.84	9.59	3.14	1.21	4.34	0.79	5.02	1.03	3.01
16ZE1240	16	203	31.9	87	2.4	< 2	< 0.5	< 0.1	< 1	0.8	2.1	117	3.79	11.5	1.84	10.3	3.55	1.25	4.88	0.87	5.59	1.17	3.33
16ZE1242	60	735	10.2	49	1.4	< 2	< 0.5	< 0.1	2	0.6	3.5	90	3.17	8.29	1.22	6.08	1.75	0.644	2.03	0.29	1.68	0.32	0.96
16ZE1244A	< 1	12	< 0.5	3	< 0.2	< 2	< 0.5	< 0.1	4	5.5	0.8	4	0.14	0.25	0.02	0.12	0.03	0.031	0.05	< 0.01	0.07	0.01	0.04
16ZE1244B	33	600	38.0	102	2.4	< 2	< 0.5	0.3	42	0.7	0.9	91	4.35	13.5	2.18	11.5	3.95	1.33	5.63	0.98	6.55	1.39	3.93
16ZE1246	129	270	27.0	65	1.3	< 2	0.8	0.1	8	< 0.2	8.4	41	2.72	8.01	1.35	7.54	2.68	1.18	3.96	0.73	4.71	1.00	2.89
16ZE1247	2	3	0.6	4	< 0.2	< 2	< 0.5	< 0.1	< 1	0.9	0.5	3	0.42	0.30	0.03	0.15	0.06	0.019	0.06	0.01	0.07	0.02	0.07
16ZE1249A	49	737	7.8	105	4.4	< 2	< 0.5	< 0.1	< 1	1.1	1.3	1977	15.0	29.3	3.45	13.3	2.53	0.725	2.04	0.26	1.43	0.27	0.77
16ZE1249B	47	667	10.6	129	6.0	< 2	< 0.5	< 0.1	2	0.4	1.6	1500	19.1	37.8	4.31	16.2	3.04	0.877	2.42	0.34	1.92	0.37	1.04
16ZE1249C	28	163	5.0	87	2.6	< 2	< 0.5	< 0.1	1	0.3	1.5	365	11.9	23.8	2.72	10.0	1.94	0.588	1.44	0.16	0.87	0.16	0.42
16ZE1250	4	106	27.0	69	1.3	< 2	< 0.5	< 0.1	< 1	< 0.2	0.2	54	3.45	9.53	1.43	8.09	2.68	1.07	4.04	0.71	4.72	0.99	2.82
16ZE1252A	1	62	28.9	79	1.7	< 2	< 0.5	< 0.1	1	< 0.2	0.1	40	3.67	10.8	1.72	9.19	3.05	1.29	4.31	0.79	5.13	1.07	3.01
16ZE1252B	< 1	15	30.7	81	1.8	< 2	< 0.5	< 0.1	< 1	< 0.2	0.6	17	2.85	10.1	1.74	9.49	3.33	0.984	4.70	0.80	5.22	1.11	3.20
16ZE1256	< 1	152	30.2	79	1.6	< 2	< 0.5	< 0.1	< 1	0.4	< 0.1	45	3.07	9.91	1.67	8.94	3.09	1.08	4.73	0.82	5.15	1.08	3.08
16ZE1259	19	236	39.1	136	40.9	< 2	< 0.5	< 0.1	1	0.4	0.6	305	25.6	49.9	5.81	23.9	5.47	1.89	6.45	1.04	6.81	1.35	3.93
16ZE1260	11	136	17.5	37	3.5	< 2	< 0.5	< 0.1	< 1	0.5	0.5	375	2.98	6.55	0.96	4.70	1.65	0.659	2.47	0.45	2.92	0.61	1.83
16ZE1265	1	6	0.9	4	2.1	< 2	< 0.5	< 0.1	< 1	0.5	0.2	10	0.86	2.05	0.22	0.81	0.18	0.042	0.16	0.02	0.11	0.03	0.08
16ZE1266	< 1	30	< 0.5	6	0.5	< 2	< 0.5	< 0.1	1	1.0	0.8	12	0.40	0.89	0.09	0.32	0.07	0.025	0.05	< 0.01	0.05	0.01	0.04
16ZE1270B	2	143	21.4	55	1.2	< 2	< 0.5	< 0.1	< 1	3.7	0.4	37	2.71	7.39	1.18	6.10	2.08	0.861	3.13	0.56	3.61	0.75	2.25
16ZE1271	< 1	111	35.8	108	3.1	< 2	< 0.5	< 0.1	1	< 0.2	< 0.1	17	4.90	14.3	2.26	12.0	3.89	1.32	5.54	0.94	6.24	1.26	3.76
16ZE1272	38	806	20.7	111	4.7	< 2	< 0.5	< 0.1	1	0.3	1.2	1407	19.6	38.9	4.60	18.6	4.18	1.35	4.02	0.62	3.67	0.71	2.06
16ZE1275	< 1	< 2	< 0.5	3	< 0.2	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	4	0.15	0.27	0.02	0.15	0.04	0.012	0.04	< 0.01	0.02	< 0.01	0.01
16ZE1276A	< 1	8	0.6	4	< 0.2	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	16	0.26	0.59	0.07	0.32	0.07	0.029	0.10	0.02	0.10	0.02	0.07
16ZE1276B	< 1	7	5.6	6	< 0.2	< 2	< 0.5	< 0.1	< 1	< 0.2	0.2	6	0.17	0.58	0.12	0.85	0.40	0.196	0.74	0.15	1.03	0.21	0.61
16ZE1277	4	78	27.2	76	0.9	< 2	< 0.5	< 0.1	< 1	< 0.2	0.6	86	3.04	9.14	1.51	8.41	2.95	1.12	4.10	0.72	4.69	0.98	2.80
16ZE1278	< 1	81	32.9	85	0.5	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	21	2.56	9.10	1.61	9.26	3.53	1.31	4.78	0.85	5.77	1.19	3.47
16ZE1279A	< 1	< 2	< 0.5	3	< 0.2	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	< 2	0.05	0.14	< 0.01	0.10	0.03	0.011	0.04	< 0.01	0.05	0.01	0.03
16ZE1279B	< 1	< 2	< 0.5	4	< 0.2	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	< 2	0.36	0.47	0.02	0.13	0.05	0.012	0.03	< 0.01	0.03	< 0.01	0.02
16ZE1279C	< 1	< 2	< 0.5	4	< 0.2	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	< 2	< 0.05	0.06	< 0.01	0.05	< 0.01	< 0.005	0.02	< 0.01	< 0.01	< 0.01	< 0.01
16ZE1280	< 1	100	25.4	61	0.8	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	29	2.42	7.64	1.28	6.61	2.55	0.918	3.67	0.67	4.37	0.88	2.67
16ZE1281	< 1	76	22.7	59	0.6	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	17	2.28	7.11	1.19	6.75	2.45	0.832	3.50	0.60	3.93	0.84	2.43
16ZE1282	4	274	23.4	45	0.3	< 2	< 0.5	< 0.1	< 1	< 0.2	0.1	45	2.14	6.54	1.12	6.15	2.29	1.04	3.23	0.59	3.96	0.87	2.55
16ZE1283	< 1	77	23.3	49	0.5	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	26	3.70	9.04	1.30	6.67	2.37	1.24	3.50	0.57	3.76	0.75	2.30
16ZE1284	1	34	12.4	41	0.3	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	8	2.14	6.61	0.81	4.24	1.44	0.495	1.90	0.31	1.98	0.43	1.25

Results

Activation Laboratories Ltd.

Report: A16-13724

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	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
Lower Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	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
Method Code	FUS-MS	FUS-ICP	FUS-MS	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
16ZE1288	12	165	32.4	205	55.2	< 2	0.7	< 0.1	2	< 0.2	4.5	287	38.8	79.5	9.27	37.0	7.66	2.39	7.45	1.09	6.28	1.15	3.29
16ZE1289	10	141	18.0	32	1.3	< 2	< 0.5	< 0.1	< 1	< 0.2	0.4	58	1.77	4.75	0.73	3.94	1.51	0.628	2.40	0.42	3.08	0.66	1.95
16ZE1291	14	88	22.0	54	1.8	< 2	< 0.5	< 0.1	< 1	< 0.2	3.9	345	3.70	8.86	1.25	6.44	2.26	0.738	3.13	0.58	4.09	0.81	2.56
16ZE1294	4	25	2.4	13	0.4	3	< 0.5	< 0.1	< 1	0.2	0.2	31	2.36	8.62	0.50	1.91	0.38	0.112	0.44	0.07	0.44	0.09	0.28
16ZE1295	< 1	225	27.2	70	0.9	< 2	< 0.5	< 0.1	< 1	< 0.2	0.1	16	2.67	8.37	1.41	7.72	2.83	1.07	4.11	0.72	4.67	1.02	2.82
16ZE1296	< 1	< 2	1.2	4	< 0.2	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	< 2	0.08	0.10	< 0.01	0.07	0.05	0.026	0.10	0.02	0.16	0.04	0.13
16ZE1301A	97	230	35.1	90	4.9	< 2	< 0.5	< 0.1	1	1.0	8.9	583	4.81	12.6	1.94	10.0	3.59	1.42	5.34	0.94	6.24	1.29	3.71
16ZE1301B	< 1	3	0.7	4	< 0.2	< 2	< 0.5	< 0.1	< 1	0.7	1.7	5	0.69	1.51	0.18	0.79	0.12	0.099	0.07	0.01	0.09	0.02	0.08
16ZE1302	86	250	23.6	63	2.6	< 2	< 0.5	< 0.1	3	1.0	9.5	564	3.98	11.0	1.67	8.96	2.64	0.960	3.83	0.63	4.38	0.90	2.46
16ZE1305	121	270	37.3	373	136	< 2	1.3	< 0.1	2	0.9	3.5	1144	122	190	23.0	79.0	12.3	3.28	9.73	1.32	7.92	1.47	3.99
16ZE1306	88	206	36.7	274	79.8	< 2	0.9	< 0.1	1	0.6	6.5	576	41.4	90.6	9.76	35.5	6.85	2.26	6.88	1.09	6.74	1.31	3.61
16ZE1308	24	128	26.6	76	4.0	< 2	< 0.5	< 0.1	1	1.4	3.9	147	5.52	14.0	2.03	9.95	3.03	1.13	4.11	0.73	4.88	1.03	2.86
16ZE1309	1	13	1.1	3	< 0.2	< 2	< 0.5	< 0.1	< 1	1.1	1.8	14	0.28	0.52	0.07	0.28	0.09	0.077	0.12	0.03	0.19	0.04	0.11
16ZE1311	10	96	18.4	50	2.7	< 2	< 0.5	0.1	6	0.6	0.8	367	3.16	7.86	1.22	6.42	2.11	0.956	2.98	0.54	3.49	0.69	1.94
16ZE1312	2	78	0.5	5	< 0.2	< 2	< 0.5	< 0.1	< 1	0.8	0.7	6	0.17	0.32	0.04	0.13	0.03	0.018	0.04	< 0.01	0.08	0.02	0.06
16ZE1319	14	255	16.2	79	2.6	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	1188	8.84	19.5	2.40	10.4	2.42	0.815	2.80	0.46	2.90	0.59	1.69
16ZE1320	< 1	< 2	0.7	11	< 0.2	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	7	0.11	0.12	0.02	0.06	0.03	< 0.005	0.05	0.01	0.11	0.02	0.08
16ZE1321	3	232	30.4	73	1.3	< 2	< 0.5	< 0.1	< 1	0.6	0.1	125	2.76	8.63	1.47	8.17	2.97	1.14	4.30	0.79	5.48	1.17	3.41
16ZE1323	2	142	25.8	75	0.8	< 2	< 0.5	< 0.1	< 1	< 0.2	0.5	36	2.75	8.48	1.42	7.70	2.69	1.13	3.74	0.71	4.87	0.99	2.75
16ZE1324	9	121	5.6	5	< 0.2	< 2	< 0.5	< 0.1	< 1	< 0.2	1.1	41	0.13	0.53	0.12	0.78	0.41	0.234	0.81	0.14	1.06	0.22	0.65
16ZE1325	2	108	23.0	51	0.4	< 2	< 0.5	< 0.1	< 1	< 0.2	0.2	23	2.09	6.70	1.14	6.24	2.19	0.763	3.24	0.61	4.19	0.89	2.66
16ZE1328	11	202	25.7	71	3.4	< 2	< 0.5	< 0.1	< 1	0.6	1.6	674	4.47	11.9	1.85	9.29	3.06	1.17	4.17	0.74	4.81	0.99	2.70
16ZE1330A	1	85	32.5	76	1.0	< 2	< 0.5	< 0.1	< 1	< 0.2	0.3	44	2.43	8.38	1.45	8.03	3.05	0.941	4.47	0.82	5.60	1.20	3.46
16ZE1330B	< 1	127	25.6	74	0.8	< 2	< 0.5	< 0.1	< 1	< 0.2	0.1	38	3.36	9.71	1.51	7.95	2.65	0.905	3.73	0.67	4.61	0.96	2.78
16ZE1332	90	30	73.4	1235	157	3	3.8	< 0.1	7	0.5	0.2	168	121	240	27.4	96.5	17.5	2.11	13.8	2.31	13.9	2.67	7.57
16ZE1333B	6	318	30.2	43	1.0	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	62	1.33	3.90	0.70	4.17	1.84	0.801	3.40	0.68	4.91	1.09	3.40
16ZE1336A	30	195	26.0	50	1.8	< 2	< 0.5	< 0.1	< 1	1.0	2.6	210	12.1	28.2	3.87	18.0	4.58	1.41	4.86	0.74	4.65	0.92	2.67
16ZEAB001B	2	771	15.6	20	< 0.2	< 2	< 0.5	< 0.1	< 1	< 0.2	2.2	48	0.83	3.14	0.62	3.50	1.52	0.583	2.25	0.44	2.94	0.61	1.72
16ZEAB007	6	154	35.7	118	4.0	< 2	< 0.5	< 0.1	< 1	0.4	0.5	98	6.47	17.0	2.55	12.7	4.00	1.38	5.47	0.96	6.38	1.35	3.73
16ZEAB009B	4	140	8.9	48	0.3	< 2	< 0.5	< 0.1	< 1	0.2	0.2	120	2.40	5.72	0.79	3.38	1.12	0.306	1.31	0.25	1.64	0.33	0.97
16ZEAB009C	6	155	8.6	26	0.4	< 2	< 0.5	< 0.1	< 1	0.4	0.7	63	1.04	2.77	0.44	2.13	0.84	0.315	1.21	0.23	1.53	0.34	1.04
16ZEAB012	6	146	34.2	106	3.8	< 2	< 0.5	< 0.1	1	0.8	0.3	62	5.19	15.1	2.27	11.5	3.75	1.30	5.02	0.93	6.11	1.27	3.65
16ZEAB013	10	131	30.3	77	1.5	< 2	< 0.5	< 0.1	< 1	0.2	1.0	110	3.06	9.80	1.59	8.58	3.01	1.22	4.29	0.82	5.48	1.13	3.26
16ZEAB017	11	115	18.4	103	7.3	< 2	< 0.5	< 0.1	< 1	0.2	0.2	366	18.1	36.1	4.28	16.4	3.54	1.11	3.55	0.53	3.19	0.65	1.92
16ZEAB019	9	183	26.0	68	1.6	< 2	< 0.5	< 0.1	< 1	0.3	0.7	505	3.19	9.13	1.43	8.00	2.65	1.11	3.88	0.67	4.67	0.98	2.89
16ZEAB020A	< 1	83	6.7	8	0.4	< 2	< 0.5	< 0.1	< 1	< 0.2	0.1	14	0.45	0.92	0.18	1.14	0.56	0.310	0.97	0.19	1.19	0.26	0.79
16ZEAB058	4	78	32.0	112	3.6	< 2	< 0.5	< 0.1	1	0.6	0.1	183	4.73	13.7	2.18	11.0	3.71	1.37	5.12	0.93	5.97	1.23	3.53
16ZEAB060A	< 1	54	25.0	66	1.7	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	16	3.09	8.95	1.44	7.76	2.58	0.933	3.73	0.68	4.40	0.92	2.63
16ZEAB073A	65	146	18.9	89	4.1	< 2	< 0.5	< 0.1	< 1	2.1	3.2	799	10.1	21.4	2.74	11.6	2.92	0.955	3.17	0.55	3.37	0.71	2.05
16ZEAB172A	65	192	16.9	63	3.3	< 2	< 0.5	< 0.1	4	< 0.2	4.3	1024	12.9	24.7	3.15	12.6	2.75	0.615	2.80	0.47	2.93	0.56	1.66
16ZEAB217	9	147	20.6	44	0.6	< 2	< 0.5	< 0.1	< 1	0.4	1.0	47	1.18	4.12	0.79	4.62	1.77	0.654	2.85	0.52	3.72	0.79	2.24
6ZE1304	12	298	10.4	39	2.4	4	< 0.5	< 0.1	5	1.6	3.3	24	7.78	14.8	1.70	7.00	1.63	0.465	1.61	0.28	1.86	0.39	1.08

Results

Activation Laboratories Ltd.

Report: A16-13724

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	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
Lower Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	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
Method Code	FUS-MS	FUS-ICP	FUS-MS	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
6ZEAB010A2	23	191	8.2	19	< 0.2	< 2	< 0.5	< 0.1	< 1	0.2	0.5	152	0.59	1.92	0.31	1.65	0.64	0.262	1.10	0.22	1.48	0.32	0.92

Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.005	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
16ZE1221	0.487	3.49	0.556	2.4	0.30	< 0.5	< 0.05	< 5	< 0.1	0.67	0.14
16ZE1222A	0.239	1.69	0.253	1.3	0.09	1.3	< 0.05	< 5	< 0.1	0.48	1.38
16ZE1228	0.307	2.08	0.352	1.1	0.08	< 0.5	< 0.05	< 5	< 0.1	0.16	0.05
16ZE1229	0.424	2.81	0.472	1.5	0.10	< 0.5	0.11	< 5	< 0.1	0.14	0.46
16ZE1231	0.555	3.48	0.537	3.5	0.45	< 0.5	< 0.05	< 5	< 0.1	0.63	0.20
16ZE1233	0.376	2.35	0.341	4.3	1.85	< 0.5	< 0.05	< 5	< 0.1	2.18	0.76
16ZE1239A	0.010	0.07	0.011	< 0.1	0.01	1.5	< 0.05	8	0.2	< 0.05	< 0.01
16ZE1239B	0.451	2.97	0.499	1.8	0.09	< 0.5	0.16	< 5	< 0.1	0.22	0.13
16ZE1240	0.497	3.11	0.498	2.2	0.14	< 0.5	< 0.05	< 5	< 0.1	0.22	0.07
16ZE1242	0.144	0.91	0.138	1.1	0.06	< 0.5	1.03	< 5	< 0.1	0.20	0.18
16ZE1244A	0.007	0.05	0.007	< 0.1	< 0.01	< 0.5	< 0.05	< 5	1.5	< 0.05	< 0.01
16ZE1244B	0.570	3.76	0.593	2.7	0.15	0.8	1.16	7	< 0.1	0.24	0.11
16ZE1246	0.436	2.80	0.440	1.7	0.08	0.7	1.04	9	0.2	0.11	0.07
16ZE1247	0.013	0.10	0.015	< 0.1	< 0.01	1.5	< 0.05	< 5	1.0	< 0.05	< 0.01
16ZE1249A	0.113	0.79	0.134	2.3	0.32	< 0.5	0.06	14	< 0.1	2.62	1.97
16ZE1249B	0.156	1.09	0.178	2.8	0.41	< 0.5	< 0.05	14	< 0.1	3.81	1.79
16ZE1249C	0.064	0.43	0.065	1.9	0.22	< 0.5	< 0.05	9	< 0.1	2.36	2.88
16ZE1250	0.415	2.85	0.454	1.7	0.10	< 0.5	< 0.05	< 5	< 0.1	0.18	0.09
16ZE1252A	0.462	2.95	0.497	1.9	0.11	0.9	< 0.05	< 5	< 0.1	0.19	0.10
16ZE1252B	0.487	3.14	0.509	2.0	0.12	1.5	< 0.05	< 5	< 0.1	0.17	0.09
16ZE1256	0.462	3.14	0.507	2.1	0.12	< 0.5	< 0.05	< 5	< 0.1	0.14	0.08
16ZE1259	0.588	3.84	0.620	3.0	2.55	< 0.5	< 0.05	6	< 0.1	3.41	0.93
16ZE1260	0.274	1.87	0.287	1.0	0.23	< 0.5	< 0.05	< 5	< 0.1	0.26	0.15
16ZE1265	0.015	0.11	0.020	< 0.1	0.12	< 0.5	< 0.05	< 5	< 0.1	0.40	0.07
16ZE1266	0.008	0.07	0.016	< 0.1	0.03	< 0.5	< 0.05	< 5	< 0.1	0.13	0.03
16ZE1270B	0.327	2.23	0.351	1.3	0.08	< 0.5	< 0.05	< 5	< 0.1	0.27	0.12
16ZE1271	0.557	3.71	0.577	2.5	0.21	< 0.5	< 0.05	< 5	< 0.1	0.28	0.13
16ZE1272	0.304	2.00	0.324	2.5	0.28	< 0.5	< 0.05	10	< 0.1	4.79	2.40
16ZE1275	< 0.005	0.03	0.005	< 0.1	< 0.01	< 0.5	< 0.05	< 5	< 0.1	< 0.05	< 0.01
16ZE1276A	0.012	0.09	0.016	< 0.1	< 0.01	< 0.5	< 0.05	< 5	< 0.1	0.06	0.03
16ZE1276B	0.094	0.61	0.093	0.1	< 0.01	< 0.5	< 0.05	< 5	< 0.1	< 0.05	< 0.01
16ZE1277	0.423	2.78	0.452	2.0	0.08	< 0.5	< 0.05	< 5	< 0.1	0.12	0.09
16ZE1278	0.513	3.24	0.503	2.1	0.03	< 0.5	< 0.05	< 5	< 0.1	0.12	0.89
16ZE1279A	< 0.005	0.04	0.007	< 0.1	< 0.01	< 0.5	< 0.05	< 5	< 0.1	< 0.05	0.01
16ZE1279B	< 0.005	0.03	0.004	< 0.1	< 0.01	1.0	< 0.05	< 5	< 0.1	< 0.05	0.01
16ZE1279C	< 0.005	< 0.01	< 0.002	< 0.1	< 0.01	< 0.5	< 0.05	< 5	< 0.1	< 0.05	< 0.01
16ZE1280	0.402	2.68	0.429	1.6	0.05	< 0.5	< 0.05	< 5	< 0.1	0.17	0.08
16ZE1281	0.353	2.45	0.397	1.4	0.04	< 0.5	< 0.05	< 5	< 0.1	0.13	0.08
16ZE1282	0.353	2.48	0.395	1.2	0.03	0.8	< 0.05	< 5	< 0.1	0.14	0.16
16ZE1283	0.334	2.22	0.358	1.4	0.04	2.0	< 0.05	< 5	< 0.1	0.11	0.10
16ZE1284	0.177	1.31	0.202	1.0	0.04	< 0.5	< 0.05	< 5	< 0.1	0.26	0.11

Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.005	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
16ZE1288	0.446	2.95	0.462	4.3	3.66	< 0.5	< 0.05	< 5	< 0.1	4.50	1.26
16ZE1289	0.307	1.94	0.335	0.9	0.08	0.6	< 0.05	< 5	< 0.1	0.13	0.08
16ZE1291	0.387	2.67	0.416	1.4	0.13	< 0.5	< 0.05	< 5	< 0.1	0.35	0.09
16ZE1294	0.045	0.30	0.047	0.2	0.04	< 0.5	< 0.05	< 5	< 0.1	0.51	0.52
16ZE1295	0.412	2.83	0.443	1.8	0.07	< 0.5	< 0.05	< 5	< 0.1	0.10	0.09
16ZE1296	0.022	0.18	0.032	< 0.1	< 0.01	0.6	< 0.05	< 5	< 0.1	< 0.05	< 0.01
16ZE1301A	0.529	3.53	0.553	2.3	0.32	< 0.5	1.22	< 5	< 0.1	0.42	0.18
16ZE1301B	0.016	0.12	0.021	< 0.1	< 0.01	8.4	< 0.05	< 5	< 0.1	0.07	< 0.01
16ZE1302	0.349	2.24	0.357	1.6	0.23	< 0.5	1.81	< 5	< 0.1	0.41	0.12
16ZE1305	0.539	3.40	0.542	7.2	9.31	0.9	1.78	< 5	0.3	19.5	2.06
16ZE1306	0.506	3.41	0.523	5.8	5.34	1.0	1.18	< 5	< 0.1	12.0	1.63
16ZE1308	0.392	2.70	0.436	2.1	0.28	1.5	0.59	< 5	0.2	0.53	0.25
16ZE1309	0.018	0.12	0.022	< 0.1	0.01	< 0.5	0.08	6	< 0.1	< 0.05	0.01
16ZE1311	0.288	1.81	0.288	1.4	0.19	1.8	0.16	< 5	0.1	0.30	0.12
16ZE1312	0.012	0.09	0.013	< 0.1	< 0.01	2.6	< 0.05	< 5	< 0.1	0.12	0.01
16ZE1319	0.246	1.67	0.257	1.7	0.19	< 0.5	< 0.05	< 5	< 0.1	1.28	0.60
16ZE1320	0.013	0.10	0.017	0.2	< 0.01	0.7	< 0.05	< 5	< 0.1	< 0.05	< 0.01
16ZE1321	0.492	3.33	0.528	1.9	0.09	0.9	< 0.05	< 5	< 0.1	0.20	0.10
16ZE1323	0.403	2.66	0.443	2.1	0.06	< 0.5	< 0.05	< 5	< 0.1	0.25	0.59
16ZE1324	0.096	0.62	0.094	0.1	< 0.01	< 0.5	< 0.05	< 5	< 0.1	< 0.05	< 0.01
16ZE1325	0.400	2.63	0.437	1.5	0.02	< 0.5	< 0.05	< 5	< 0.1	0.16	0.11
16ZE1328	0.380	2.67	0.421	1.9	0.24	< 0.5	< 0.05	< 5	< 0.1	0.31	0.11
16ZE1330A	0.532	3.38	0.538	2.0	0.06	7.6	< 0.05	< 5	< 0.1	0.11	0.05
16ZE1330B	0.422	2.79	0.448	1.8	0.06	< 0.5	< 0.05	< 5	< 0.1	0.21	0.04
16ZE1332	1.08	7.22	1.11	25.9	10.4	2.9	0.07	10	< 0.1	13.6	3.78
16ZE1333B	0.519	3.42	0.546	1.2	0.05	< 0.5	< 0.05	< 5	< 0.1	0.10	0.20
16ZE1336A	0.383	2.42	0.356	1.4	0.09	< 0.5	< 0.05	< 5	< 0.1	1.05	0.75
16ZEAB001B	0.253	1.65	0.253	0.7	< 0.01	< 0.5	< 0.05	< 5	< 0.1	< 0.05	< 0.01
16ZEAB007	0.555	3.67	0.573	2.8	0.30	< 0.5	< 0.05	< 5	< 0.1	0.45	0.21
16ZEAB009B	0.154	1.05	0.184	1.3	0.02	< 0.5	< 0.05	< 5	< 0.1	0.46	0.23
16ZEAB009C	0.166	1.19	0.194	0.7	0.03	< 0.5	< 0.05	< 5	< 0.1	0.17	0.10
16ZEAB012	0.537	3.49	0.553	2.7	0.28	2.6	< 0.05	< 5	< 0.1	0.38	0.18
16ZEAB013	0.484	3.29	0.531	2.0	0.11	< 0.5	< 0.05	< 5	< 0.1	0.20	0.17
16ZEAB017	0.285	1.87	0.302	2.3	0.55	< 0.5	< 0.05	6	< 0.1	4.32	1.66
16ZEAB019	0.410	2.71	0.414	1.7	0.12	< 0.5	< 0.05	< 5	< 0.1	0.19	0.10
16ZEAB020A	0.112	0.69	0.104	0.2	< 0.01	1.4	< 0.05	< 5	< 0.1	< 0.05	0.01
16ZEAB058	0.519	3.39	0.508	2.6	0.30	1.5	< 0.05	< 5	< 0.1	0.41	0.16
16ZEAB060A	0.393	2.49	0.409	1.6	0.11	< 0.5	< 0.05	< 5	< 0.1	0.20	0.10
16ZEAB073A	0.303	2.04	0.321	2.3	0.31	< 0.5	0.11	5	< 0.1	2.51	1.26
16ZEAB172A	0.244	1.61	0.257	1.2	0.38	< 0.5	0.59	< 5	0.3	3.54	1.50
16ZEAB217	0.344	2.26	0.363	1.1	0.05	< 0.5	< 0.05	< 5	< 0.1	0.07	0.04
6ZE1304	0.157	1.13	0.181	0.8	0.24	1.0	0.11	< 5	0.5	1.94	1.51

Results

Activation Laboratories Ltd.

Report: A16-13724

Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.005	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
6ZEAB010A2	0.138	0.95	0.147	0.4	0.02	< 0.5	< 0.05	< 5	< 0.1	< 0.05	0.05

Analyte Symbol	SiO2	Al2O3	MnO	CaO	Na2O	K2O	TiO2	LOI	Total	Sc	Be	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Y	Zr	Nb
Unit Symbol	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.001	0.01	0.01	0.01	0.001		0.01	1	1	20	1	20	10	30	1	0.5	5	1	0.5	1	0.2
Method Code	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	FUS-MS	FUS-ICP	FUS-MS
NIST 694 Meas	11.31	2.00	0.010	42.86	0.90	0.55	0.120																
NIST 694 Cert	11.2	1.80	0.0116	43.6	0.860	0.510	0.110																
DNC-1 Meas	47.05	18.45	0.140	11.42	1.89	0.22	0.480			31		280	58	250	100	70	15				16.8	36	
DNC-1 Cert	47.15	18.34	0.150	11.49	1.890	0.234	0.480			31		270	57	247	100	70	15				18.0	38	
GBW 07113 Meas	71.11	13.45	0.150	0.60	2.53	5.33	0.290			5	4												390
GBW 07113 Cert	72.8	13.0	0.140	0.590	2.57	5.43	0.300			5.00	4.00												403
LKSD-3 Meas												90	31	50	30	150			26	75	28.0		
LKSD-3 Cert												87.0	30.0	47.0	35.0	152			27.0	78.0	30.0		
TDB-1 Meas												240		80	340	160				21	36.4		
TDB-1 Cert												251		92	323	155				23	36		
W-2a Meas	52.66	14.89	0.160	11.11	2.22	0.61	1.070			35	< 1	100	43	70	110	80	18	1.3		20	21.1	88	7.2
W-2a Cert	52.4	15.4	0.163	10.9	2.14	0.626	1.06			36.0	1.30	92.0	43.0	70.0	110	80.0	17.0	1.00		21.0	24.0	94.0	7.90
SY-4 Meas	49.90	21.02	0.110	8.14	6.84	1.76	0.290			1	3												536
SY-4 Cert	49.9	20.69	0.108	8.05	7.10	1.66	0.287			1.1	2.6												517
CTA-AC-1 Meas															60	40							280
CTA-AC-1 Cert															54.0	38.0							272
BIR-1a Meas	48.19	15.01	0.170	13.42	1.84	0.02	0.950			43	< 1	380	53	180	130	80	16					15.3	16
BIR-1a Cert	47.96	15.50	0.175	13.30	1.82	0.030	0.96			44	0.58	370	52	170	125	70	16					16	18
NCS DC86312 Meas																							988
NCS DC86312 Cert																							976
NCS DC70009 (GBW07241) Meas															990	100	17	10.5	63	502	139		
NCS DC70009 (GBW07241) Cert															960	100	16.5	11.2	69.9	500	128		
OREAS 100a (Fusion) Meas													17		180								138
OREAS 100a (Fusion) Cert													18.1		169								142
OREAS 101a (Fusion) Meas													48		440								177
OREAS 101a (Fusion) Cert													48.8		434								183
OREAS 101b (Fusion) Meas													45		420								176
OREAS 101b (Fusion) Cert													47		416								178
JR-1 Meas														< 20		30	17	2.0	17	253	44.3		14.4
JR-1 Cert														1.67		30.6	16.1	1.88	16.3	257	45.1		15.2
16ZE1249A Orig	64.74	15.70	0.049	2.53	5.62	2.91	0.493	1.07	98.76	9	2	80	9	40	170	30	15	1.1	16	49	7.8	104	4.4
16ZE1249A Dup	65.23	15.74	0.051	2.55	5.71	2.94	0.502	1.07	99.41	8	2	80	9	40	160	30	15	1.0	16	48	7.7	105	4.3
16ZE1277 Orig	48.91	13.86	0.185	11.56	3.59	0.09	1.166	2.71	98.64	36	< 1	70	32	70	50	70	14	1.3	< 5	4	26.7	76	0.8

Analyte Symbol	SiO2	Al2O3	MnO	CaO	Na2O	K2O	TiO2	LOI	Total	Sc	Be	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Y	Zr	Nb
Unit Symbol	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.001	0.01	0.01	0.01	0.001		0.01	1	1	20	1	20	10	30	1	0.5	5	1	0.5	1	0.2
Method Code	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	FUS-ICP	FUS-ICP	FUS-MS
16ZE1277 Dup	49.25	14.06	0.182	11.57	3.57	0.09	1.174	2.71	99.35	36	< 1	70	33	60	50	70	14	1.3	< 5	4	27.6	76	0.9
16ZE1302 Orig	51.23	12.56	0.205	8.44	3.58	0.69	1.256	0.74	98.72	44	< 1	170	45	70	40	100	15	1.5	< 5	86	23.6	63	2.6
16ZE1302 Split PREP DUP	52.25	12.72	0.209	8.52	3.54	0.68	1.325	0.72	100.5	44	< 1	180	47	80	40	110	15	1.5	< 5	89	24.2	67	3.0
16ZE1325 Orig	53.53	15.35	0.162	4.23	5.47	0.29	1.013	2.93	99.09	34	< 1	20	36	30	90	40	14	1.0	< 5	2	23.1	51	0.4
16ZE1325 Dup	54.03	15.58	0.165	4.26	5.51	0.29	1.019	2.93	100.1	34	< 1	< 20	35	30	90	40	13	1.0	< 5	2	23.0	52	0.5
16ZEAB060A Orig	50.86	14.33	0.221	12.87	2.77	0.06	1.200	2.56	100.5	36	< 1	230	33	80	50	70	16	1.9	< 5	< 1	25.3	66	1.6
16ZEAB060A Dup	50.81	14.37	0.218	12.88	2.72	0.06	1.188	2.56	100.5	36	< 1	220	32	80	50	70	16	1.9	< 5	< 1	24.8	66	1.7
16ZEAB217 Orig	50.55	15.13	0.146	10.07	3.84	0.41	0.874	3.10	100.5	41	< 1	410	43	170	100	60	12	1.0	< 5	9	20.6	44	0.6
16ZEAB217 Split PREP DUP	49.92	15.50	0.145	9.92	3.75	0.41	0.899	3.10	100.1	40	< 1	420	44	170	100	60	12	1.1	< 5	9	21.0	43	0.6
Method Blank												< 20	< 1	< 20	< 10	< 30	< 1	< 0.5	< 5	< 1	< 0.5		< 0.2
Method Blank	< 0.01	< 0.01	0.002	0.01	< 0.01	< 0.01	0.001			< 1	< 1												3

Analyte Symbol	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	
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
Lower Limit	2	0.5	0.1	1	0.2	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	
Method Code	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	FUS-MS	
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas					0.9		104	3.90			4.90		0.600								2.00			
DNC-1 Cert					0.96		118	3.6			5.20		0.59								2.0			
GBW 07113 Meas							502																	
GBW 07113 Cert							506																	
LKSD-3 Meas	< 2	2.0		2		2.4		48.9	94.2		44.6	8.00	1.50			5.00					2.90	0.430	4.5	0.71
LKSD-3 Cert	2.00	2.70		3.00		2.30		52.0	90.0		44.0	8.00	1.50			4.90					2.70	0.400	4.80	0.700
TDB-1 Meas								18.1	41.3		25.2		2.20								3.40			
TDB-1 Cert								17	41		23		2.1								3.4			
W-2a Meas	< 2					0.9	173	10.6	25.0		13.6	3.40	1.10		0.63	3.90	0.79	2.30			2.10	0.330	2.3	0.49
W-2a Cert	0.600					0.990	182	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50			2.10	0.330	2.60	0.500
SY-4 Meas							341																	
SY-4 Cert							340																	
CTA-AC-1 Meas								> 2000	> 3000		1170	166	46.9	133	14.6						10.9	1.13		2.45
CTA-AC-1 Cert								2176	3326		1087	162	46.7	124	13.9						11.4	1.08		2.65
BIR-1a Meas							8	0.70	2.00		2.60	1.10	0.530	1.90							1.60	0.230	0.6	
BIR-1a Cert							6	0.63	1.9		2.5	1.1	0.55	2.0							1.7	0.3	0.60	
NCS DC86312 Meas								> 2000	177		1600				240	31.3	185	35.1	101	13.6	84.9	12.3		
NCS DC86312 Cert								2360	190		1600				225.0	34.6	183	36	96.2	15.1	87.79	11.96		
NCS DC70009 (GBW07241) Meas		1.6	1.0	> 1000	3.4	42.0		23.9	61.1	8.00	32.4	12.7		16.1	3.10	22.0	4.30	14.3	2.30	16.0	2.42			
NCS DC70009 (GBW07241) Cert		1.8	1.3	1701	3.1	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			
OREAS 100a (Fusion) Meas	25							271	495	48.3	159	25.2	3.82	22.4	3.66	24.2	5.04	16.0	2.42	15.9	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	14.9	2.26			
OREAS 101a (Fusion) Meas	21							815	1380	130	402	49.6	8.37			32.3	6.53	20.1	2.90	18.1	2.55			
OREAS 101a (Fusion) Cert	21.9							816	1396	134	403	48.8	8.06			33.3	6.46	19.5	2.90	17.5	2.66			
OREAS 101b (Fusion) Meas	20							811	1370	129	389	50.0	8.12		5.23	31.7	6.34	19.2	2.80	18.1	2.70			
OREAS 101b (Fusion) Cert	20.9							789	1331	127	378	48	7.77		5.37	32.1	6.34	18.7	2.66	17.6	2.58			
JR-1 Meas	3		< 0.1	3		20.8		19.9	48.1	5.90	23.8	5.65	0.310		0.96	6.22				0.670	4.75	0.710	4.1	1.84
JR-1 Cert	3.25		0.028	2.86		20.8		19.7	47.2	5.58	23.3	6.03	0.30		1.01	5.69				0.67	4.55	0.71	4.51	1.86
16ZE1249A Orig	< 2	< 0.5	< 0.1	< 1	1.1	1.4	1974	15.3	29.5	3.48	13.5	2.60	0.731	2.08	0.26	1.47	0.27	0.76	0.116	0.82	0.133	2.4	0.33	
16ZE1249A Dup	< 2	< 0.5	< 0.1	1	1.1	1.3	1980	14.7	29.2	3.43	13.2	2.46	0.718	2.00	0.26	1.39	0.27	0.78	0.111	0.77	0.135	2.3	0.32	
16ZE1277 Orig	< 2	< 0.5	< 0.1	< 1	< 0.2	0.6	86	3.19	9.07	1.52	8.69	2.93	1.12	4.05	0.70	4.58	0.97	2.75	0.435	2.84	0.459	2.0	0.08	

Analyte Symbol	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta
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	2	0.5	0.1	1	0.2	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
Method Code	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	FUS-MS
16ZE1277 Dup	< 2	< 0.5	< 0.1	< 1	< 0.2	0.6	87	2.89	9.21	1.51	8.14	2.96	1.12	4.15	0.73	4.80	0.99	2.85	0.411	2.73	0.445	2.0	0.07
16ZE1302 Orig	< 2	< 0.5	< 0.1	3	1.0	9.5	564	3.98	11.0	1.67	8.96	2.64	0.960	3.83	0.63	4.38	0.90	2.46	0.349	2.24	0.357	1.6	0.23
16ZE1302 Split PREP DUP	< 2	< 0.5	< 0.1	4	0.5	10.0	559	4.08	11.3	1.72	8.50	2.74	1.00	3.83	0.66	4.47	0.93	2.51	0.374	2.50	0.369	1.6	0.24
16ZE1325 Orig	< 2	< 0.5	< 0.1	< 1	< 0.2	0.2	23	2.14	6.84	1.17	6.56	2.21	0.776	3.27	0.61	4.22	0.88	2.64	0.381	2.60	0.438	1.5	0.02
16ZE1325 Dup	< 2	< 0.5	< 0.1	< 1	< 0.2	0.2	23	2.04	6.57	1.12	5.92	2.17	0.749	3.22	0.60	4.16	0.90	2.69	0.418	2.65	0.436	1.5	0.03
16ZEAB060A Orig	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	16	3.14	9.00	1.45	7.86	2.52	0.953	3.89	0.70	4.36	0.95	2.68	0.397	2.54	0.414	1.6	0.11
16ZEAB060A Dup	< 2	< 0.5	< 0.1	< 1	< 0.2	< 0.1	16	3.04	8.91	1.43	7.66	2.64	0.914	3.57	0.66	4.44	0.89	2.58	0.389	2.45	0.404	1.6	0.12
16ZEAB217 Orig	< 2	< 0.5	< 0.1	< 1	0.4	1.0	47	1.18	4.12	0.79	4.62	1.77	0.654	2.85	0.52	3.72	0.79	2.24	0.344	2.26	0.363	1.1	0.05
16ZEAB217 Split PREP DUP	< 2	< 0.5	< 0.1	< 1	< 0.2	1.0	46	1.16	4.09	0.78	4.59	1.81	0.684	2.83	0.53	3.72	0.80	2.28	0.351	2.33	0.375	1.1	0.04
Method Blank	< 2	< 0.5	< 0.1	< 1	< 0.2	< 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
Method Blank							< 2																

Analyte Symbol	W	Tl	Pb	Bi	Th	U	Fe2O3(T)	MgO	P2O5	V	Sr
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm
Lower Limit	0.5	0.05	5	0.1	0.05	0.01	0.01	0.01	0.01	5	2
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
NIST 694 Meas							0.77	0.35	30.24	1607	
NIST 694 Cert							0.790	0.330	30.2	1740	
DNC-1 Meas			7				9.77	10.04	0.06	148	142
DNC-1 Cert			6.3				9.97	10.13	0.070	148	144.0
GBW 07113 Meas							3.24	0.14	0.03	6	40
GBW 07113 Cert							3.21	0.160	0.0500	5.00	43.0
LKSD-3 Meas	< 0.5				10.7	4.60					
LKSD-3 Cert	2.00				11.4	4.60					
TDB-1 Meas											
TDB-1 Cert											
W-2a Meas	< 0.5	< 0.05		< 0.1	2.30	0.53	10.52	6.25	0.13	269	193
W-2a Cert	0.300	0.200		0.0300	2.40	0.530	10.7	6.37	0.130	262	190
SY-4 Meas							6.33	0.51	0.14	8	1215
SY-4 Cert							6.21	0.54	0.131	8.0	1191
CTA-AC-1 Meas					23.3	4.20					
CTA-AC-1 Cert					21.8	4.4					
BIR-1a Meas							11.01	9.53	0.02	324	108
BIR-1a Cert							11.30	9.700	0.021	310	110
NCS DC86312 Meas					24.6						
NCS DC86312 Cert					23.6						
NCS DC70009 (GBW07241) Meas	2040	2.00			28.8						
NCS DC70009 (GBW07241) Cert	2200	1.8			28.3						
OREAS 100a (Fusion) Meas					53.0	143					
OREAS 100a (Fusion) Cert					51.6	135					
OREAS 101a (Fusion) Meas					35.4	424					
OREAS 101a (Fusion) Cert					36.6	422					
OREAS 101b (Fusion) Meas					37.3	400					
OREAS 101b (Fusion) Cert					37.1	396					
JR-1 Meas	1.6	1.49	19	0.6	25.9	9.20					
JR-1 Cert	1.59	1.56	19.3	0.56	26.7	8.88					
16ZE1249A Orig	< 0.5	0.08	13	< 0.1	2.63	1.96	4.29	1.18	0.17	63	725
16ZE1249A Dup	2.5	0.05	15	< 0.1	2.61	1.98	4.24	1.20	0.17	62	748

Analyte Symbol	W	Tl	Pb	Bi	Th	U	Fe2O3(T)	MgO	P2O5	V	Sr
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm
Lower Limit	0.5	0.05	5	0.1	0.05	0.01	0.01	0.01	0.01	5	2
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
16ZE1277 Orig	< 0.5	< 0.05	< 5	< 0.1	0.12	0.09	10.04	6.44	0.10	300	79
16ZE1277 Dup	21.2	< 0.05	< 5	< 0.1	0.12	0.09	10.11	6.52	0.10	299	77
16ZE1302 Orig	< 0.5	1.81	< 5	< 0.1	0.41	0.12	12.67	7.24	0.10	306	250
16ZE1302 Split PREP DUP	< 0.5	2.06	< 5	0.1	0.43	0.12	13.22	7.21	0.10	308	250
16ZE1325 Orig	< 0.5	< 0.05	< 5	< 0.1	0.16	0.11	10.52	5.50	0.08	313	106
16ZE1325 Dup	< 0.5	< 0.05	< 5	< 0.1	0.15	0.10	10.73	5.48	0.08	315	110
16ZEAB060A Orig	< 0.5	< 0.05	< 5	< 0.1	0.20	0.10	9.58	5.98	0.10	284	54
16ZEAB060A Dup	< 0.5	< 0.05	< 5	< 0.1	0.20	0.10	9.59	5.97	0.12	278	54
16ZEAB217 Orig	< 0.5	< 0.05	< 5	< 0.1	0.07	0.04	8.79	7.50	0.05	258	147
16ZEAB217 Split PREP DUP	< 0.5	< 0.05	< 5	< 0.1	0.07	0.03	8.90	7.46	0.05	251	145
Method Blank	< 0.5	< 0.05	< 5	< 0.1	< 0.05	< 0.01					
Method Blank							0.02	< 0.01	< 0.01	< 5	< 2