



Australian Laboratory Services Pty. Ltd.

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No: 825, Corporate Site No: 23001.

QC CERTIFICATE PH18150724

Project: THOMAS CREEK

P.O. No.: SSF008

This report is for 112 Drill Core samples submitted to our lab in Perth, WA, Australia
on 18-JUN-2018.

The following have access to data associated with this certificate:

ANDY RUST

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Plus Appendix Pages
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SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LEV-01	Waste Disposal Levy
TRSPEC-20	Spectral Scan VNIR and SWIR
CRU-31	Fine crushing - 70% <2mm
SPLIT-D	Create D Split
CRU-QC	Crushing QC Test
SAM-COR01	Sample Core from Boxes - Regular
LOG-22	Sample login - Rcd w/o BarCode
CRU-21	Crush entire sample >70% -6 mm
PUL-23	Pulv Sample - Split/Retain
BAG-01	Bulk Master for Storage
SPL-21	Split sample - riffle splitter
PUL-QC	Pulverizing QC Test

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION
ME-MS61	48 element four acid ICP-MS
Au-AA25	Ore Grade Au 30g FA AA finish AAS

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.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Cameron Brosnan, Laboratory Manager, Perth



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QC CERTIFICATE OF ANALYSIS PH18150724

Sample Description	Method Analyte Units LOD	Au-AA25 Au ppm 0.01	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01	ME-MS61 Ca % 0.01	ME-MS61 Cd ppm 0.02	ME-MS61 Ce ppm 0.01	ME-MS61 Co ppm 0.1	ME-MS61 Cr ppm 1	ME-MS61 Cs ppm 0.05	ME-MS61 Cu ppm 0.2	ME-MS61 Fe % 0.01
STANDARDS																
G312-10		24.7														
G312-10		24.9														
G312-10		25.4														
Target Range - Lower Bound		23.4														
Upper Bound		26.4														
G914-10		10.50														
G914-10		10.70														
G914-10		10.30														
Target Range - Lower Bound		9.63														
Upper Bound		10.90														
GBM908-10			2.96	7.12	61.4	1130	1.37	1.23	3.87	1.61	103.5	26.7	138	3.47	3630	5.65
GBM908-10			3.03	7.49	64.5	1220	1.44	1.26	4.02	1.77	109.5	29.0	141	3.62	3770	5.88
GBM908-10			2.92	7.29	59.6	1170	1.63	1.08	3.66	1.74	106.0	26.8	142	3.95	3710	5.49
Target Range - Lower Bound			2.60	6.40	50.2	930	1.27	1.12	3.33	1.53	99.0	24.0	125	3.44	3350	4.98
Upper Bound			3.20	7.84	61.8	1280	1.66	1.39	4.10	1.91	121.0	29.6	155	4.32	3850	6.10
JK-17		2.00														
JK-17		1.94														
JK-17		1.93														
Target Range - Lower Bound		1.87														
Upper Bound		2.13														
LEA-16		0.50														
LEA-16		0.53														
LEA-16		0.55														
Target Range - Lower Bound		0.46														
Upper Bound		0.54														
MRGeo08			4.12	7.86	29.8	1140	3.25	0.61	2.71	2.13	76.8	20.0	91	12.45	622	4.08
MRGeo08			4.42	8.06	31.1	1200	3.20	0.67	2.75	2.25	78.4	21.5	93	13.20	633	4.19
MRGeo08			4.34	7.93	33.8	1170	3.41	0.66	2.55	2.19	75.5	19.8	92	12.85	641	3.91
Target Range - Lower Bound			4.00	6.64	29.5	920	2.98	0.60	2.35	2.00	66.2	17.7	81	11.20	587	3.55
Upper Bound			4.92	8.14	36.5	1270	3.76	0.76	2.90	2.48	81.0	21.9	102	13.80	675	4.37
OGGeo08			20.7	7.25	125.5	760	2.73	10.95	2.37	18.70	70.9	99.7	87	11.40	8800	5.77
OGGeo08			21.1	7.20	127.0	560	2.87	10.50	2.31	19.60	73.8	101.5	82	11.75	8770	5.68
Target Range - Lower Bound			18.15	6.07	106.0	700	2.59	9.44	1.98	16.70	64.8	87.2	78	9.85	7800	4.81
Upper Bound			22.2	7.44	130.0	980	3.27	11.55	2.44	20.5	79.2	107.0	98	12.15	8980	5.91



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QC CERTIFICATE OF ANALYSIS PH18150724

Sample Description	Method Analyte Units LOD	ME-MS61 Ga ppm 0.05	ME-MS61 Ge ppm 0.05	ME-MS61 Hf ppm 0.1	ME-MS61 In ppm 0.005	ME-MS61 K % 0.01	ME-MS61 La ppm 0.5	ME-MS61 Li ppm 0.2	ME-MS61 Mg % 0.01	ME-MS61 Mn ppm 5	ME-MS61 Mo ppm 0.05	ME-MS61 Na % 0.01	ME-MS61 Nb ppm 0.1	ME-MS61 Ni ppm 0.2	ME-MS61 P ppm 10	ME-MS61 Pb ppm 0.5
STANDARDS																
G312-10																
G312-10																
G312-10																
Target Range - Lower Bound																
Upper Bound																
G914-10																
G914-10																
G914-10																
Target Range - Lower Bound																
Upper Bound																
GBM908-10		21.7	0.14	3.6	0.075	2.18	51.9	8.4	1.87	809	63.2	2.20	10.2	2240	980	2030
GBM908-10		21.9	0.13	3.4	0.080	2.22	54.7	8.0	1.91	847	65.2	2.25	11.6	2370	1090	2150
GBM908-10		20.3	0.13	3.6	0.080	2.17	55.8	11.2	1.81	810	61.6	2.12	10.8	2320	1010	2090
Target Range - Lower Bound		18.65	0.13	3.3	0.064	1.87	49.0	9.8	1.61	715	57.9	1.93	9.5	2020	880	1845
Upper Bound		22.9	0.35	4.3	0.092	2.31	61.0	12.4	1.99	885	70.9	2.38	11.9	2470	1100	2250
JK-17																
JK-17																
JK-17																
Target Range - Lower Bound																
Upper Bound																
LEA-16																
LEA-16																
LEA-16																
Target Range - Lower Bound																
Upper Bound																
MRGeo08		18.50	0.12	2.9	0.173	3.33	36.8	33.3	1.39	561	13.75	2.06	19.8	691	1060	1090
MRGeo08		19.10	0.12	3.2	0.184	3.28	38.1	30.0	1.39	576	14.20	2.05	21.7	714	1080	1130
MRGeo08		18.60	0.12	3.0	0.171	3.16	38.0	32.2	1.34	567	14.90	1.97	20.6	725	1090	1120
Target Range - Lower Bound		17.50	<0.05	2.8	0.155	2.79	31.1	29.5	1.17	497	13.65	1.76	19.0	622	930	971
Upper Bound		21.5	0.27	3.6	0.201	3.43	39.1	36.5	1.45	619	16.75	2.18	23.4	760	1160	1185
OGGeo08		16.35	0.12	2.8	1.405	3.18	34.6	31.6	1.36	539	957	1.98	16.6	9060	870	7600
OGGeo08		18.30	0.13	2.9	1.475	3.09	37.0	34.3	1.31	534	936	1.89	18.6	9060	880	7480
Target Range - Lower Bound		16.05	0.25	2.5	1.320	2.59	31.0	29.7	1.11	447	841	1.62	15.4	8000	760	6520
Upper Bound		19.75	0.49	3.3	1.620	3.19	39.0	36.7	1.38	557	1030	2.00	19.0	9770	950	7970



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QC CERTIFICATE OF ANALYSIS PH18150724

Method Analyte Units LOD	ME-MS61 Rb ppm 0.1	ME-MS61 Re ppm 0.002	ME-MS61 S % 0.01	ME-MS61 Sb ppm 0.05	ME-MS61 Sc ppm 0.1	ME-MS61 Se ppm 1	ME-MS61 Sn ppm 0.2	ME-MS61 Sr ppm 0.2	ME-MS61 Ta ppm 0.05	ME-MS61 Te ppm 0.05	ME-MS61 Th ppm 0.01	ME-MS61 Ti % 0.005	ME-MS61 Tl ppm 0.02	ME-MS61 U ppm 0.1	ME-MS61 V ppm 1
Sample Description															
G312-10															
G312-10															
G312-10															
Target Range - Lower Bound															
Upper Bound															
G914-10															
G914-10															
G914-10															
Target Range - Lower Bound															
Upper Bound															
GBM908-10	174.5	<0.002	0.38	1.51	19.0	1	2.9	297	0.72	0.06	17.35	0.667	1.21	2.1	145
GBM908-10	179.5	<0.002	0.41	1.60	19.7	<1	3.2	309	0.76	0.05	17.65	0.693	1.18	2.2	145
GBM908-10	176.5	0.002	0.38	1.68	18.5	1	3.2	294	0.71	0.05	18.05	0.663	1.24	2.2	143
Target Range - Lower Bound	153.0	<0.002	0.33	1.40	17.0	<1	2.7	258	0.68	<0.05	16.55	0.591	1.00	2.0	123
Upper Bound	187.0	0.006	0.43	2.01	21.0	3	3.9	316	0.97	0.16	20.3	0.733	1.40	2.6	153
JK-17															
JK-17															
JK-17															
Target Range - Lower Bound															
Upper Bound															
LEA-16															
LEA-16															
LEA-16															
Target Range - Lower Bound															
Upper Bound															
MRGeo08	209	0.008	0.31	4.06	12.7	1	3.6	314	1.43	<0.05	20.7	0.492	1.03	5.8	113
MRGeo08	213	0.008	0.34	4.14	13.2	1	3.9	321	1.55	<0.05	21.3	0.508	1.01	6.7	111
MRGeo08	207	0.008	0.31	4.46	12.0	1	4.0	314	1.49	<0.05	19.85	0.504	1.03	5.5	113
Target Range - Lower Bound	173.5	0.005	0.27	3.89	11.1	<1	3.5	277	1.39	<0.05	17.90	0.443	0.89	4.9	97
Upper Bound	212	0.013	0.35	5.39	13.7	4	4.7	339	1.81	0.14	21.9	0.553	1.25	6.2	121
OGGeo08	192.0	1.395	2.99	26.2	10.4	10	13.0	266	1.27	0.15	18.80	0.417	1.64	5.1	94
OGGeo08	196.5	1.450	3.02	27.3	10.9	10	13.1	263	1.30	0.16	19.10	0.413	1.70	5.7	91
Target Range - Lower Bound	164.5	1.285	2.51	22.8	9.2	8	12.5	224	1.19	0.09	16.90	0.353	1.43	4.5	77
Upper Bound	201	1.575	3.09	31.0	11.4	14	15.7	274	1.57	0.31	20.7	0.443	1.98	5.8	97



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Sample Description	Method Analyte Units LOD	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
STANDARDS					
G312-10					
G312-10					
G312-10					
Target Range - Lower Bound					
Upper Bound					
G914-10					
G914-10					
G914-10					
Target Range - Lower Bound					
Upper Bound					
GBM908-10		3.4	37.4	1080	141.0
GBM908-10		3.2	39.1	1110	143.0
GBM908-10		3.3	37.4	1110	142.5
Target Range - Lower Bound		2.9	35.2	939	117.5
Upper Bound		4.1	43.2	1150	160.5
JK-17					
JK-17					
JK-17					
Target Range - Lower Bound					
Upper Bound					
LEA-16					
LEA-16					
LEA-16					
Target Range - Lower Bound					
Upper Bound					
MRGeo08		4.4	26.6	812	101.5
MRGeo08		4.8	27.5	815	107.0
MRGeo08		4.7	26.8	838	104.5
Target Range - Lower Bound		4.1	23.8	722	92.2
Upper Bound		5.8	29.3	886	126.0
OGGeo08		4.3	23.8	7570	92.6
OGGeo08		4.4	22.6	7730	95.2
Target Range - Lower Bound		3.9	21.1	6500	78.6
Upper Bound		5.4	26.0	7950	107.5



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Sample Description	Method Analyte Units LOD	Au-AA25	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
		Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu
		ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%
		0.01	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2
STANDARDS															
OREAS 24b			0.08	8.16	8.2	780	2.67	0.75	1.12	0.04	87.9	17.1	119	11.25	39.7
OREAS 24b			0.06	7.67	7.6	740	2.55	0.56	1.06	0.06	85.0	16.3	116	10.95	37.5
OREAS 24b			0.07	7.78	7.5	770	2.57	0.63	1.07	0.05	83.2	16.8	115	10.95	36.3
OREAS 24b			0.08	8.04	7.4	790	2.55	0.84	1.10	0.05	86.0	16.8	120	11.25	39.5
OREAS 24b			0.09	8.16	8.2	790	2.39	0.74	1.03	0.05	85.5	15.9	120	11.15	39.3
Target Range - Lower Bound			0.05	7.02	7.3	600	2.25	0.60	0.94	<0.02	76.8	14.3	105	9.58	35.1
Upper Bound			0.10	8.60	9.4	830	2.86	0.76	1.18	0.09	93.8	17.8	131	11.80	40.9
OREAS 601			49.6	6.23	327	960	1.99	21.3	1.31	7.75	63.7	4.7	47	6.82	981
OREAS 601			51.8	6.49	331	670	1.98	20.5	1.37	8.01	63.6	4.9	40	7.10	1010
Target Range - Lower Bound			44.3	5.66	276	740	1.81	18.80	1.17	7.05	56.7	4.5	37	6.00	939
Upper Bound			54.1	6.94	338	1020	2.33	23.0	1.45	8.67	69.3	5.8	47	7.44	1080
BLANKS															
BLANK		0.01													
BLANK		0.02													
BLANK		<0.01													
BLANK		0.02													
BLANK		0.01													
BLANK		0.01													
Target Range - Lower Bound		<0.01													
Upper Bound		0.02													
BLANK			0.01	<0.01	<0.2	<10	<0.05	0.01	<0.01	<0.02	0.01	<0.1	1	<0.05	0.2
BLANK			0.01	<0.01	<0.2	<10	<0.05	<0.01	<0.01	<0.02	0.01	<0.1	<1	<0.05	<0.2
BLANK			0.01	<0.01	<0.2	<10	<0.05	<0.01	<0.01	<0.02	0.01	0.1	<1	<0.05	0.3
BLANK			<0.01	<0.01	<0.2	<10	<0.05	<0.01	<0.01	<0.02	0.01	0.1	<1	<0.05	0.8
BLANK			0.01	<0.01	<0.2	<10	<0.05	<0.01	<0.01	<0.02	0.01	<0.1	<1	<0.05	1.5
Target Range - Lower Bound		<0.01	<0.01	<0.2	<10	<0.05	<0.01	<0.01	<0.01	<0.02	<0.01	<0.1	<1	<0.05	<0.2
Upper Bound		0.02	0.02	0.4	20	0.10	0.02	0.02	0.02	0.04	0.02	0.2	2	0.10	0.4



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Sample Description	Method Analyte Units LOD	ME-MS61 Ga ppm 0.05	ME-MS61 Ge ppm 0.05	ME-MS61 Hf ppm 0.1	ME-MS61 In ppm 0.005	ME-MS61 K % 0.01	ME-MS61 La ppm 0.5	ME-MS61 Li ppm 0.2	ME-MS61 Mg % 0.01	ME-MS61 Mn ppm 5	ME-MS61 Mo ppm 0.05	ME-MS61 Na % 0.01	ME-MS61 Nb ppm 0.1	ME-MS61 Ni ppm 0.2	ME-MS61 P ppm 10	ME-MS61 Pb ppm 0.5
STANDARDS																
OREAS 24b		21.1	0.13	3.9	0.080	3.06	43.9	57.5	1.67	458	3.82	0.87	14.9	61.6	730	22.0
OREAS 24b		20.2	0.12	3.7	0.073	2.87	42.4	57.4	1.58	436	3.46	0.83	14.3	59.2	690	20.5
OREAS 24b		19.75	0.12	3.6	0.072	2.82	40.8	55.8	1.56	444	3.47	0.81	14.9	59.5	700	21.5
OREAS 24b		22.0	0.13	3.9	0.075	2.89	44.5	52.8	1.61	456	3.46	0.84	15.3	61.2	730	22.5
OREAS 24b		20.0	0.10	4.1	0.076	2.88	43.7	49.1	1.57	447	3.85	0.83	14.8	58.7	730	23.1
Target Range - Lower Bound		18.05	<0.05	3.4	0.063	2.52	37.7	48.4	1.39	391	3.46	0.70	13.0	53.8	610	20.3
Upper Bound		22.2	0.26	4.4	0.091	3.10	47.1	59.6	1.72	489	4.34	0.88	16.2	66.2	770	25.9
OREAS 601		21.3	0.12	4.3	1.735	2.15	31.8	19.7	0.37	470	3.59	1.45	12.5	24.7	450	331
OREAS 601		22.4	0.12	4.5	1.785	2.17	32.4	16.8	0.37	496	3.50	1.46	13.8	22.4	490	345
Target Range - Lower Bound		18.30	<0.05	4.0	1.550	1.88	27.3	18.3	0.34	427	3.43	1.30	11.2	21.7	410	296
Upper Bound		22.5	0.27	5.1	1.910	2.32	34.5	22.8	0.44	533	4.31	1.61	14.0	26.9	530	362
BLANKS																
BLANK																
BLANK																
BLANK																
BLANK																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK		<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	<0.2	<0.01	<5	<0.05	<0.01	<0.1	<0.2	<10	<0.5
BLANK		<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	0.2	<0.01	<5	<0.05	<0.01	<0.1	<0.2	10	<0.5
BLANK		<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	0.2	<0.01	<5	<0.05	<0.01	<0.1	0.8	<10	0.6
BLANK		<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	0.2	<0.01	<5	<0.05	<0.01	<0.1	0.4	<10	0.5
BLANK		<0.05	0.08	<0.1	<0.005	<0.01	<0.5	<0.2	<0.01	<5	0.05	<0.01	<0.1	0.3	<10	1.3
Target Range - Lower Bound		<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	<0.2	<0.01	<5	<0.05	<0.01	<0.1	<0.2	<10	<0.5
Upper Bound		0.10	0.10	0.2	0.010	0.02	1.0	0.4	0.02	10	0.10	0.02	0.2	0.4	20	1.0



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QC CERTIFICATE OF ANALYSIS PH18150724

Sample Description	Method Analyte Units LOD	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
		Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U
		ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
		0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1
STANDARDS															
OREAS 24b		173.5	<0.002	0.21	0.90	16.5	1	4.1	128.5	1.08	<0.05	17.20	0.455	0.85	2.8
OREAS 24b		167.0	<0.002	0.20	0.81	15.6	1	4.0	121.5	1.04	<0.05	16.05	0.429	0.82	2.7
OREAS 24b		163.0	<0.002	0.20	0.81	15.5	<1	3.9	122.5	1.06	<0.05	16.30	0.438	0.79	2.8
OREAS 24b		173.0	<0.002	0.21	0.82	16.3	<1	4.0	126.5	1.09	<0.05	16.65	0.452	0.85	2.7
OREAS 24b		174.0	<0.002	0.20	0.92	14.7	<1	4.2	126.0	1.12	<0.05	16.30	0.456	0.85	2.9
Target Range - Lower Bound		147.5	<0.002	0.17	0.76	13.7	<1	3.6	111.5	0.99	<0.05	14.75	0.387	0.71	2.7
Upper Bound		180.5	0.006	0.23	1.15	16.9	3	4.9	136.5	1.33	0.10	18.05	0.484	1.01	3.5
OREAS 601		95.0	<0.002	1.05	31.2	4.3	12	4.1	225	0.92	16.05	11.05	0.179	1.16	3.6
OREAS 601		99.5	<0.002	1.14	32.1	4.4	13	4.0	235	0.96	16.10	11.05	0.186	1.18	3.6
Target Range - Lower Bound		87.2	<0.002	0.95	25.8	4.3	9	3.5	207	0.89	14.35	9.80	0.157	1.01	3.5
Upper Bound		107.0	0.004	1.19	35.0	5.4	15	4.8	253	1.19	17.65	12.00	0.203	1.41	4.5
BLANKS															
BLANK															
BLANK															
BLANK															
BLANK															
BLANK															
Target Range - Lower Bound															
Upper Bound															
BLANK		<0.1	<0.002	<0.01	<0.05	<0.1	<1	<0.2	<0.2	<0.05	<0.05	<0.01	<0.005	<0.02	<0.1
BLANK		<0.1	<0.002	<0.01	<0.05	<0.1	<1	<0.2	<0.2	<0.05	<0.05	0.01	<0.005	<0.02	<0.1
BLANK		<0.1	<0.002	<0.01	<0.05	<0.1	<1	<0.2	<0.2	<0.05	<0.05	<0.01	<0.005	<0.02	<0.1
BLANK		<0.1	<0.002	<0.01	<0.05	<0.1	<1	<0.2	<0.2	<0.05	<0.05	<0.01	<0.005	<0.02	<0.1
BLANK		<0.1	<0.002	<0.01	<0.05	<0.1	<1	<0.2	<0.2	<0.05	<0.05	<0.01	<0.005	<0.02	<0.1
Target Range - Lower Bound		<0.1	<0.002	<0.01	<0.05	<0.1	<1	<0.2	<0.2	<0.05	<0.05	<0.01	<0.005	<0.02	<0.1
Upper Bound		0.2	0.004	0.02	0.10	0.2	2	0.4	0.4	0.10	0.10	0.02	0.010	0.04	0.2



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QC CERTIFICATE OF ANALYSIS PH18150724

Sample Description	Method Analyte Units LOD	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
STANDARDS					
OREAS 24b		3.2	20.6	112	142.0
OREAS 24b		3.6	19.8	106	133.0
OREAS 24b		3.2	19.5	104	141.0
OREAS 24b		3.4	22.4	107	139.0
OREAS 24b		3.3	55.9	111	139.5
Target Range - Lower Bound		3.0	18.3	93	113.5
Upper Bound		4.3	22.5	118	154.5
OREAS 601		5.3	11.9	1340	160.0
OREAS 601		5.5	11.2	1380	166.0
Target Range - Lower Bound		4.8	10.0	1195	131.5
Upper Bound		6.8	12.4	1465	179.0
BLANKS					
BLANK					
BLANK					
BLANK					
BLANK					
BLANK					
BLANK					
Target Range - Lower Bound					
Upper Bound					
BLANK		<0.1	<0.1	<2	<0.5
BLANK		<0.1	<0.1	<2	<0.5
BLANK		<0.1	<0.1	<2	<0.5
BLANK		<0.1	<0.1	<2	<0.5
BLANK		<0.1	<0.1	<2	<0.5
Target Range - Lower Bound		<0.1	<0.1	<2	<0.5
Upper Bound		0.2	0.2	4	1.0



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QC CERTIFICATE OF ANALYSIS PH18150724

Sample Description	Method Analyte Units LOD	Au-AA25 Au ppm 0.01	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01	ME-MS61 Ca % 0.01	ME-MS61 Cd ppm 0.02	ME-MS61 Ce ppm 0.01	ME-MS61 Co ppm 0.1	ME-MS61 Cr ppm 1	ME-MS61 Cs ppm 0.05	ME-MS61 Cu ppm 0.2	ME-MS61 Fe % 0.01
DUPLICATES																
ORIGINAL		0.01														
DUP		0.02														
Target Range - Lower Bound		<0.01														
Upper Bound		0.02														
ORIGINAL		0.01														
DUP		0.01														
Target Range - Lower Bound		<0.01														
Upper Bound		0.02														
ORIGINAL		<0.01														
DUP		<0.01														
Target Range - Lower Bound		<0.01														
Upper Bound		0.02														
ORIGINAL		<0.01														
DUP		<0.01														
Target Range - Lower Bound		<0.01														
Upper Bound		0.02														
ORIGINAL		0.37														
DUP		0.40														
Target Range - Lower Bound		0.36														
Upper Bound		0.41														
ORIGINAL		0.22														
DUP		0.25														
Target Range - Lower Bound		0.21														
Upper Bound		0.26														
TCD 190			0.03	7.82	5.7	480	0.97	0.05	4.41	<0.02	24.7	34.3	189	1.00	227	4.74
DUP			0.02	7.29	5.3	450	0.89	0.04	4.17	0.02	24.4	31.7	176	0.96	217	4.46
Target Range - Lower Bound			<0.01	7.17	5.0	420	0.83	0.03	4.07	<0.02	23.3	31.3	172	0.88	214	4.36
Upper Bound			0.04	7.94	6.0	510	1.03	0.06	4.51	0.04	25.8	34.8	193	1.08	230	4.84



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QC CERTIFICATE OF ANALYSIS PH18150724

Sample Description	Method Analyte Units LOD	ME-MS61 Ga ppm 0.05	ME-MS61 Ge ppm 0.05	ME-MS61 Hf ppm 0.1	ME-MS61 In ppm 0.005	ME-MS61 K % 0.01	ME-MS61 La ppm 0.5	ME-MS61 Li ppm 0.2	ME-MS61 Mg % 0.01	ME-MS61 Mn ppm 5	ME-MS61 Mo ppm 0.05	ME-MS61 Na % 0.01	ME-MS61 Nb ppm 0.1	ME-MS61 Ni ppm 0.2	ME-MS61 P ppm 10	ME-MS61 Pb ppm 0.5
ORIGINAL DUP Target Range - Lower Bound Upper Bound		DUPLICATES														
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
TCD 190 DUP Target Range - Lower Bound Upper Bound		12.50 12.65 11.90 13.25	0.14 0.13 0.08 0.19	1.0 1.0 0.9 1.2	0.060 0.057 0.051 0.066	2.26 2.14 2.08 2.32	8.5 8.4 7.5 9.4	12.4 11.4 11.1 12.7	5.53 5.16 5.07 5.62	577 546 528 595	0.12 0.11 0.06 0.17	1.92 1.80 1.76 1.96	6.3 6.1 5.8 6.6	171.5 164.0 159.0 176.5	1210 1130 1100 1240	3.1 3.0 2.4 3.7



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Sample Description	Method Analyte Units LOD	ME-MS61 Rb ppm 0.1	ME-MS61 Re ppm 0.002	ME-MS61 S % 0.01	ME-MS61 Sb ppm 0.05	ME-MS61 Sc ppm 0.1	ME-MS61 Se ppm 1	ME-MS61 Sn ppm 0.2	ME-MS61 Sr ppm 0.2	ME-MS61 Ta ppm 0.05	ME-MS61 Te ppm 0.05	ME-MS61 Th ppm 0.01	ME-MS61 Ti % 0.005	ME-MS61 Tl ppm 0.02	ME-MS61 U ppm 0.1	ME-MS61 V ppm 1
ORIGINAL DUP Target Range - Lower Bound Upper Bound		DUPLICATES														
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
TCD 190 DUP Target Range - Lower Bound Upper Bound		101.0 99.2 95.0 105.0	<0.002 0.002 <0.002 0.004	0.52 0.51 0.48 0.55	0.39 0.39 0.31 0.47	44.5 42.1 41.0 45.6	1 1 <1 2	2.1 2.0 1.7 2.4	247 232 227 252	0.41 0.40 0.33 0.48	<0.05 <0.05 <0.05 0.10	13.40 13.55 12.80 14.15	0.309 0.290 0.280 0.319	0.21 0.20 0.17 0.24	1.1 1.1 0.9 1.3	122 115 112 125



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Sample Description	Method Analyte Units LOD	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
ORIGINAL DUP Target Range - Lower Bound Upper Bound		DUPLICATES			
ORIGINAL DUP Target Range - Lower Bound Upper Bound					
ORIGINAL DUP Target Range - Lower Bound Upper Bound					
ORIGINAL DUP Target Range - Lower Bound Upper Bound					
ORIGINAL DUP Target Range - Lower Bound Upper Bound					
ORIGINAL DUP Target Range - Lower Bound Upper Bound					
ORIGINAL DUP Target Range - Lower Bound Upper Bound					
ORIGINAL DUP Target Range - Lower Bound Upper Bound					
TCD 190 DUP Target Range - Lower Bound Upper Bound		0.5 0.5 0.4 0.6	17.6 17.1 16.4 18.3	29 27 25 31	38.2 36.7 34.1 40.8



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Sample Description	Method Analyte Units LOD	Au-AA25 Au ppm 0.01	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01	ME-MS61 Ca % 0.01	ME-MS61 Cd ppm 0.02	ME-MS61 Ce ppm 0.01	ME-MS61 Co ppm 0.1	ME-MS61 Cr ppm 1	ME-MS61 Cs ppm 0.05	ME-MS61 Cu ppm 0.2	ME-MS61 Fe % 0.01
DUPLICATES																
TCD 200		0.01														
DUP		0.01														
Target Range - Lower Bound		<0.01														
Upper Bound		0.02														
TCD 210			0.03	7.42	4.6	360	0.94	0.04	5.10	0.02	23.8	41.8	208	1.13	108.0	5.66
DUP			0.03	7.27	4.6	360	0.92	0.04	5.02	<0.02	24.0	41.1	210	1.14	104.0	5.55
Target Range - Lower Bound			0.02	6.97	4.2	320	0.83	0.03	4.80	<0.02	22.7	39.3	198	1.03	102.0	5.31
Upper Bound			0.04	7.72	5.0	400	1.03	0.05	5.32	0.04	25.1	43.6	220	1.24	110.0	5.90
TCD 220		<0.01														
DUP		0.01														
Target Range - Lower Bound		<0.01														
Upper Bound		0.02														
TCD 224			0.10	8.09	5.4	570	1.86	0.20	2.91	0.05	46.9	39.4	47	0.89	268	4.40
DUP			0.09	7.90	5.1	560	1.64	0.21	2.87	0.05	45.8	38.5	47	0.86	263	4.30
Target Range - Lower Bound			0.08	7.59	4.8	510	1.61	0.18	2.74	0.03	44.0	36.9	44	0.78	256	4.12
Upper Bound			0.11	8.40	5.7	620	1.89	0.23	3.04	0.07	48.7	41.0	50	0.97	275	4.58
TCD 244			0.16	8.61	12.8	530	1.14	0.26	1.35	0.04	9.69	255	98	2.13	958	6.61
DUP			0.13	8.77	12.6	550	1.08	0.26	1.38	0.04	9.36	264	105	2.16	978	6.80
Target Range - Lower Bound			0.13	8.25	11.9	490	1.00	0.24	1.29	<0.02	9.04	246	95	1.99	934	6.36
Upper Bound			0.16	9.13	13.5	590	1.22	0.28	1.44	0.06	10.00	273	108	2.30	1000	7.05
TCD 256		<0.01														
DUP		0.01														
Target Range - Lower Bound		<0.01														
Upper Bound		0.02														
TCD 258			0.26	7.92	7.6	470	1.17	0.34	1.59	3.10	20.7	136.5	60	1.51	1030	5.55
DUP			0.25	7.88	7.8	470	1.07	0.34	1.59	3.09	20.7	136.5	57	1.56	1020	5.51
Target Range - Lower Bound			0.23	7.50	7.1	420	1.01	0.31	1.50	2.92	19.65	129.5	55	1.41	989	5.24
Upper Bound			0.28	8.31	8.3	520	1.23	0.37	1.68	3.27	21.7	143.5	62	1.66	1060	5.82
TCD 278			0.02	8.45	4.5	540	1.09	0.03	2.39	0.03	44.2	38.2	90	2.56	139.0	3.77
DUP			0.03	8.17	4.4	530	1.14	0.03	2.36	0.03	40.6	37.8	90	2.46	138.0	3.71
Target Range - Lower Bound			<0.01	7.88	4.0	480	1.01	0.02	2.25	<0.02	40.3	36.0	85	2.33	133.5	3.54
Upper Bound			0.04	8.74	4.9	590	1.22	0.04	2.50	0.04	44.5	40.0	96	2.69	143.5	3.94



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Sample Description	Method Analyte Units LOD	ME-MS61 Ga ppm 0.05	ME-MS61 Ge ppm 0.05	ME-MS61 Hf ppm 0.1	ME-MS61 In ppm 0.005	ME-MS61 K % 0.01	ME-MS61 La ppm 0.5	ME-MS61 Li ppm 0.2	ME-MS61 Mg % 0.01	ME-MS61 Mn ppm 5	ME-MS61 Mo ppm 0.05	ME-MS61 Na % 0.01	ME-MS61 Nb ppm 0.1	ME-MS61 Ni ppm 0.2	ME-MS61 P ppm 10	ME-MS61 Pb ppm 0.5
DUPLICATES																
TCD 200 DUP																
Target Range - Lower Bound																
Upper Bound																
TCD 210 DUP		12.30	0.10	1.0	0.062	1.66	7.8	10.5	5.39	715	0.16	2.15	6.5	133.5	1270	7.2
Target Range - Lower Bound		12.30	0.13	1.0	0.063	1.63	7.9	10.4	5.27	705	0.18	2.13	6.4	130.0	1250	7.0
Upper Bound		11.65	0.06	0.9	0.054	1.55	7.0	9.7	5.05	670	0.11	2.02	6.0	125.0	1190	6.2
		12.95	0.17	1.2	0.071	1.74	8.7	11.2	5.61	751	0.23	2.26	6.9	138.5	1330	8.0
TCD 220 DUP																
Target Range - Lower Bound																
Upper Bound																
TCD 224 DUP		14.65	0.08	2.2	0.017	1.69	24.9	10.9	1.25	534	0.86	2.83	4.5	176.0	680	6.4
Target Range - Lower Bound		14.75	0.08	2.2	0.016	1.65	24.2	8.8	1.24	519	0.72	2.76	4.2	170.5	670	6.3
Upper Bound		13.90	<0.05	2.0	0.011	1.58	22.8	9.2	1.17	495	0.70	2.65	4.0	164.5	630	5.5
		15.50	0.10	2.4	0.022	1.76	26.3	10.5	1.32	558	0.88	2.94	4.7	182.0	720	7.2
TCD 244 DUP		11.10	0.08	1.4	0.026	2.04	6.1	28.4	2.01	250	0.72	3.21	5.5	549	50	12.5
Target Range - Lower Bound		11.20	0.08	1.4	0.028	2.12	5.7	26.8	2.08	258	5.86	3.35	5.6	590	70	12.5
Upper Bound		10.55	<0.05	1.2	0.021	1.97	5.1	26.0	1.93	236	3.08	3.11	5.2	541	50	11.4
		11.75	0.10	1.6	0.033	2.19	6.7	29.2	2.16	272	3.50	3.45	5.9	598	70	13.6
TCD 256 DUP																
Target Range - Lower Bound																
Upper Bound																
TCD 258 DUP		11.20	0.07	2.5	0.019	1.36	10.7	12.3	1.90	259	0.98	3.26	5.9	415	170	72.0
Target Range - Lower Bound		11.35	0.07	2.7	0.019	1.35	10.7	10.9	1.89	256	0.93	3.25	5.9	413	180	72.9
Upper Bound		10.65	<0.05	2.4	0.013	1.28	9.7	10.8	1.79	240	0.86	3.08	5.5	393	160	68.3
		11.90	0.10	2.8	0.025	1.43	11.7	12.4	2.00	275	1.05	3.43	6.3	435	190	76.6
TCD 278 DUP		15.55	0.11	2.0	0.007	1.86	20.2	18.6	3.49	258	0.30	2.15	6.2	84.9	570	3.0
Target Range - Lower Bound		15.25	0.10	1.9	0.007	1.82	18.0	18.9	3.42	255	0.30	2.13	6.3	85.2	580	3.0
Upper Bound		14.60	<0.05	1.8	<0.005	1.74	17.6	17.6	3.27	239	0.24	2.02	5.8	80.6	540	2.4
		16.20	0.16	2.1	0.010	1.94	20.6	19.9	3.64	274	0.37	2.26	6.7	89.5	610	3.7



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QC CERTIFICATE OF ANALYSIS PH18150724

Sample Description	Method Analyte Units LOD	ME-MS61 Rb ppm 0.1	ME-MS61 Re ppm 0.002	ME-MS61 S % 0.01	ME-MS61 Sb ppm 0.05	ME-MS61 Sc ppm 0.1	ME-MS61 Se ppm 1	ME-MS61 Sn ppm 0.2	ME-MS61 Sr ppm 0.2	ME-MS61 Ta ppm 0.05	ME-MS61 Te ppm 0.05	ME-MS61 Th ppm 0.01	ME-MS61 Ti % 0.005	ME-MS61 Tl ppm 0.02	ME-MS61 U ppm 0.1	ME-MS61 V ppm 1
TCD 200 DUP Target Range - Lower Bound Upper Bound		DUPLICATES														
TCD 210 DUP Target Range - Lower Bound Upper Bound		90.2 90.0 85.5 94.7	0.002 0.002 <0.002 0.004	0.60 0.59 0.56 0.63	0.39 0.38 0.31 0.46	35.7 34.5 33.2 37.0	1 1 <1 2	1.9 1.9 1.6 2.2	253 251 239 265	0.39 0.39 0.32 0.46	<0.05 <0.05 <0.05 0.10	11.50 11.50 10.90 12.10	0.334 0.327 0.309 0.352	0.16 0.15 0.12 0.19	1.1 1.1 0.9 1.3	138 136 129 145
TCD 220 DUP Target Range - Lower Bound Upper Bound																
TCD 224 DUP Target Range - Lower Bound Upper Bound		77.2 76.3 72.8 80.7	0.007 0.007 0.005 0.009	1.81 1.77 1.69 1.89	0.41 0.41 0.33 0.49	10.4 10.1 9.6 10.9	2 2 <1 3	0.6 0.7 0.4 0.9	245 239 230 254	0.47 0.48 0.40 0.55	0.09 0.08 <0.05 0.10	22.9 23.1 21.8 24.2	0.282 0.276 0.260 0.298	0.16 0.16 0.13 0.19	3.1 3.1 2.8 3.4	65 64 60 69
TCD 244 DUP Target Range - Lower Bound Upper Bound		90.7 85.6 83.6 92.7	0.008 0.012 0.008 0.013	3.99 4.07 3.82 4.24	0.52 0.52 0.43 0.61	30.3 30.5 28.8 32.0	5 5 4 6	0.3 0.3 <0.2 0.4	293 304 283 314	0.31 0.31 0.24 0.38	0.09 0.11 <0.05 0.16	8.11 7.86 7.58 8.39	0.403 0.419 0.385 0.437	0.20 0.21 0.17 0.24	0.7 0.7 0.6 0.8	154 159 148 165
TCD 256 DUP Target Range - Lower Bound Upper Bound																
TCD 258 DUP Target Range - Lower Bound Upper Bound		64.3 64.8 61.2 67.9	0.010 0.012 0.008 0.014	3.32 3.31 3.14 3.49	0.37 0.39 0.30 0.46	22.7 23.0 21.6 24.1	4 4 3 5	0.3 0.3 <0.2 0.4	217 216 205 228	0.38 0.38 0.31 0.45	0.10 0.11 <0.05 0.16	11.50 11.95 11.15 12.30	0.356 0.360 0.335 0.381	0.11 0.12 0.09 0.14	1.2 1.3 1.1 1.4	135 135 127 143
TCD 278 DUP Target Range - Lower Bound Upper Bound		76.4 62.5 65.9 73.0	0.002 0.002 <0.002 0.004	0.90 0.88 0.84 0.94	0.27 0.26 0.20 0.33	30.0 29.1 28.0 31.1	1 1 <1 2	0.4 0.4 <0.2 0.6	269 266 254 281	0.38 0.37 0.31 0.44	<0.05 <0.05 <0.05 0.10	9.42 8.84 8.66 9.60	0.403 0.405 0.379 0.429	0.15 0.15 0.12 0.18	1.4 1.3 1.2 1.5	155 153 145 163



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Sample Description	Method Analyte Units LOD	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
TCD 200 DUP Target Range - Lower Bound Upper Bound		DUPLICATES			
TCD 210 DUP Target Range - Lower Bound Upper Bound		0.5 0.5 0.4 0.6	18.0 18.1 17.0 19.1	22 21 18 25	39.8 37.7 35.3 42.2
TCD 220 DUP Target Range - Lower Bound Upper Bound					
TCD 224 DUP Target Range - Lower Bound Upper Bound		0.7 0.7 0.5 0.9	7.7 7.6 7.2 8.1	35 34 31 38	81.2 82.0 75.0 88.2
TCD 244 DUP Target Range - Lower Bound Upper Bound		1.3 1.4 1.1 1.6	1.6 1.6 1.4 1.8	40 40 36 44	52.3 51.7 47.6 56.4
TCD 256 DUP Target Range - Lower Bound Upper Bound					
TCD 258 DUP Target Range - Lower Bound Upper Bound		1.1 1.1 0.9 1.3	7.0 6.9 6.5 7.4	356 347 332 371	107.0 106.0 98.0 115.0
TCD 278 DUP Target Range - Lower Bound Upper Bound		0.5 0.5 0.4 0.6	16.0 14.8 14.5 16.3	23 22 19 26	79.0 78.3 72.3 85.0



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Sample Description	Method Analyte Units LOD	Au-AA25 Au ppm 0.01	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01	ME-MS61 Ca % 0.01	ME-MS61 Cd ppm 0.02	ME-MS61 Ce ppm 0.01	ME-MS61 Co ppm 0.1	ME-MS61 Cr ppm 1	ME-MS61 Cs ppm 0.05	ME-MS61 Cu ppm 0.2	ME-MS61 Fe % 0.01
DUPLICATES																
TCD 283		0.01														
DUP		<0.01														
Target Range - Lower Bound		<0.01														
Upper Bound		0.02														
TCD 292			0.05	7.69	4.3	600	1.17	0.06	1.86	0.04	43.2	111.5	129	3.08	406	4.97
DUP			0.03	7.75	4.6	610	1.14	0.06	1.86	0.05	39.5	109.5	137	2.92	406	5.03
Target Range - Lower Bound			0.03	7.32	4.0	550	1.05	0.05	1.76	<0.02	39.3	105.0	125	2.80	392	4.74
Upper Bound			0.05	8.12	4.9	660	1.26	0.07	1.96	0.07	43.4	116.0	141	3.20	420	5.26
TCD 312			0.05	8.22	6.6	570	1.49	0.07	1.91	0.08	55.6	86.6	69	4.07	282	4.13
DUP			0.05	8.13	6.3	560	1.41	0.07	1.89	0.07	55.3	83.3	72	3.85	276	4.10
Target Range - Lower Bound			0.04	7.76	5.9	510	1.33	0.06	1.80	0.05	52.7	80.6	66	3.71	269	3.90
Upper Bound			0.06	8.59	7.0	620	1.57	0.08	2.01	0.10	58.2	89.3	75	4.21	289	4.33
TCD 323			0.09	8.24	5.7	480	1.29	0.08	1.98	0.09	30.8	82.1	110	4.18	370	3.89
DUP			0.05	8.07	5.6	470	1.23	0.07	1.94	0.08	31.4	81.4	108	4.09	362	3.81
Target Range - Lower Bound			0.06	7.74	5.2	430	1.15	0.06	1.85	0.06	29.5	77.6	103	3.88	353	3.65
Upper Bound			0.08	8.57	6.1	520	1.37	0.09	2.07	0.11	32.7	85.9	115	4.39	379	4.05
ORIGINAL		0.09														
DUP		0.09														
Target Range - Lower Bound		0.08														
Upper Bound		0.10														
ORIGINAL		0.01														
DUP		0.01														
Target Range - Lower Bound		<0.01														
Upper Bound		0.02														
ORIGINAL		1.83														
DUP		1.43														
Target Range - Lower Bound		1.54														
Upper Bound		1.72														
ORIGINAL		1.11														
DUP		1.05														
Target Range - Lower Bound		1.02														
Upper Bound		1.14														



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Sample Description	Method Analyte Units LOD	ME-MS61 Ga ppm 0.05	ME-MS61 Ge ppm 0.05	ME-MS61 Hf ppm 0.1	ME-MS61 In ppm 0.005	ME-MS61 K % 0.01	ME-MS61 La ppm 0.5	ME-MS61 Li ppm 0.2	ME-MS61 Mg % 0.01	ME-MS61 Mn ppm 5	ME-MS61 Mo ppm 0.05	ME-MS61 Na % 0.01	ME-MS61 Nb ppm 0.1	ME-MS61 Ni ppm 0.2	ME-MS61 P ppm 10	ME-MS61 Pb ppm 0.5
TCD 283 DUP Target Range - Lower Bound Upper Bound		DUPLICATES														
TCD 292 DUP Target Range - Lower Bound Upper Bound		16.65 13.70 14.35 16.00	0.09 0.10 <0.05 0.10	2.9 2.8 2.6 3.1	0.011 0.011 <0.005 0.017	2.24 2.25 2.12 2.37	21.9 20.2 19.5 22.6	14.1 15.0 13.6 15.5	2.77 2.79 2.63 2.93	290 290 271 310	0.54 0.65 0.52 0.67	2.36 2.39 2.25 2.50	7.0 6.7 6.4 7.3	287 288 273 302	360 370 340 390	9.2 9.8 8.5 10.5
TCD 312 DUP Target Range - Lower Bound Upper Bound		15.65 14.00 14.05 15.60	0.12 0.12 0.06 0.18	2.3 2.2 2.0 2.5	0.010 0.009 <0.005 0.010	1.76 1.74 1.65 1.85	27.3 27.0 25.3 29.0	24.5 22.5 22.1 24.9	2.98 2.95 2.81 3.12	222 219 204 237	1.82 2.40 1.95 2.27	2.10 2.09 1.98 2.21	6.1 5.6 5.5 6.2	54.6 56.4 52.5 58.5	590 590 550 630	6.5 6.8 5.8 7.5
TCD 323 DUP Target Range - Lower Bound Upper Bound		15.30 15.10 14.40 16.00	0.06 0.07 <0.05 0.10	2.7 2.6 2.4 2.9	0.013 0.013 0.007 0.019	1.23 1.22 1.15 1.30	16.0 16.6 15.0 17.6	32.2 31.9 30.2 33.9	2.92 2.86 2.74 3.04	265 262 245 282	9.30 8.99 8.64 9.65	2.10 2.06 1.97 2.19	5.7 5.7 5.3 6.1	128.0 125.0 120.0 133.0	890 860 820 930	5.4 5.2 4.5 6.1
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																



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Sample Description	Method Analyte Units LOD	ME-MS61 Rb ppm 0.1	ME-MS61 Re ppm 0.002	ME-MS61 S % 0.01	ME-MS61 Sb ppm 0.05	ME-MS61 Sc ppm 0.1	ME-MS61 Se ppm 1	ME-MS61 Sn ppm 0.2	ME-MS61 Sr ppm 0.2	ME-MS61 Ta ppm 0.05	ME-MS61 Te ppm 0.05	ME-MS61 Th ppm 0.01	ME-MS61 Ti % 0.005	ME-MS61 Tl ppm 0.02	ME-MS61 U ppm 0.1	ME-MS61 V ppm 1
TCD 283 DUP Target Range - Lower Bound Upper Bound		DUPLICATES														
TCD 292 DUP Target Range - Lower Bound Upper Bound		111.5 106.0 103.0 114.5	0.002 0.003 <0.002 0.004	2.43 2.44 2.30 2.57	0.32 0.31 0.24 0.39	28.6 27.6 26.6 29.6	3 2 <1 4	0.4 0.4 <0.2 0.6	252 253 240 265	0.37 0.37 0.30 0.44	<0.05 <0.05 <0.05 0.10	11.25 10.55 10.35 11.45	0.347 0.351 0.327 0.371	0.19 0.19 0.16 0.22	1.5 1.4 1.3 1.6	124 127 118 133
TCD 312 DUP Target Range - Lower Bound Upper Bound		88.9 85.2 82.6 91.5	0.007 0.007 0.005 0.009	2.07 2.02 1.93 2.16	0.33 0.33 0.26 0.40	28.0 27.2 26.1 29.1	1 1 <1 2	0.4 0.4 <0.2 0.6	244 241 230 255	0.39 0.37 0.31 0.45	<0.05 <0.05 <0.05 0.10	11.05 12.25 11.05 12.25	0.367 0.365 0.343 0.389	0.17 0.16 0.13 0.20	1.4 1.4 1.2 1.6	239 235 224 250
TCD 323 DUP Target Range - Lower Bound Upper Bound		63.3 66.1 61.4 68.0	0.013 0.012 0.010 0.015	1.91 1.88 1.79 2.00	0.29 0.29 0.22 0.36	29.1 28.6 27.3 30.4	2 2 <1 3	0.6 0.6 0.4 0.8	250 243 234 259	0.41 0.40 0.33 0.48	<0.05 <0.05 <0.05 0.10	10.75 10.40 10.05 11.10	0.385 0.376 0.356 0.405	0.13 0.14 0.10 0.17	1.8 1.8 1.6 2.0	276 271 259 288
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																
ORIGINAL DUP Target Range - Lower Bound Upper Bound																



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Sample Description	Method Analyte Units LOD	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
TCD 283 DUP Target Range - Lower Bound Upper Bound		DUPLICATES			
TCD 292 DUP Target Range - Lower Bound Upper Bound		0.7 0.7 0.5 0.9	10.6 10.3 9.8 11.1	23 23 20 26	111.5 108.0 101.0 118.5
TCD 312 DUP Target Range - Lower Bound Upper Bound		1.1 1.1 0.9 1.3	16.6 16.1 15.4 17.3	36 37 33 40	85.6 82.9 77.4 91.1
TCD 323 DUP Target Range - Lower Bound Upper Bound		1.4 1.4 1.2 1.6	10.9 11.0 10.3 11.6	27 26 23 30	99.7 98.8 91.3 107.0
ORIGINAL DUP Target Range - Lower Bound Upper Bound					
ORIGINAL DUP Target Range - Lower Bound Upper Bound					
ORIGINAL DUP Target Range - Lower Bound Upper Bound					
ORIGINAL DUP Target Range - Lower Bound Upper Bound					



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CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method:

REE's may not be totally soluble in this method.
ME-MS61

ACCREDITATION COMMENTS

Applies to Method:

NATA Accreditation covers the performance of this service but does not cover the performance of ALS Perth Sample Preparation. Corporate Accreditation No: 825, Corporate Site No: 23001. The Technical Signatory is Wendy Wong, Senior QC Chemist
Au-AA25 ME-MS61

LABORATORY ADDRESSES

Applies to Method:

Processed at ALS Perth located at 31 Denninup Way, Malaga, Australia. Processed at ALS Perth Sample Preparation at 79 Distinction Road, Wangara, WA, Australia

Au-AA25	BAG-01	CRU-21	CRU-31
CRU-QC	LEV-01	LOG-22	ME-MS61
PUL-23	PUL-QC	SAM-COR01	SPL-21
SPLIT-D	TRSPEC-20	WEI-21	