



Australian Laboratory Services Pty. Ltd.

32 Shand Street
Stafford
Brisbane QLD 4053
Phone: +61 (7) 3243 7222 Fax: +61 (7) 3243 7218
www.alsglobal.com/geochemistry

ALS Perth is a NATA Accredited Testing Laboratory. Corporate Accreditation
No: 825, Corporate Site No: 23001.

Page: 1
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 15-JAN-2019
Account: ACCELE

CERTIFICATE AD18313760

Project: Thomas Creek

This report is for 8 Sediment samples submitted to our lab in Adelaide, SA, Australia on 16-DEC-2018.

The following have access to data associated with this certificate:

ROBERT REID

ANDY RUST

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LEV-01	Waste Disposal Levy
PUL-31	Pulverize split to 85% <75 um
LOG-22	Sample login - Rcd w/o BarCode
SCR-41	Screen to -180um and save both

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION
ME-MS61	48 element four acid ICP-MS
Au-ICP21	Au 30g FA ICP-AES Finish ICP-AES

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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Page: 2 - A
Total # Pages: 2 (A - D)
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Sample Description	Method Analyte Units LOD	WEI-21	Au-ICP21	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
		Recvd Wt.	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs
		kg	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
		0.02	0.001	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05
TCS005		1.66	0.001	0.03	5.09	8.9	170	0.63	0.11	0.37	<0.02	65.9	6.8	79	2.08
TCS006		1.22	0.019	0.03	5.20	12.5	230	0.69	0.08	0.67	0.02	83.4	9.2	261	0.82
TCS007		1.45	0.009	<0.01	3.55	5.9	230	0.77	0.03	0.10	<0.02	62.7	7.0	152	0.96
TCS008		1.16	0.014	0.03	6.81	4.8	270	0.60	0.06	0.90	0.02	60.4	5.3	86	1.01
TCS009		1.26	0.006	0.02	2.77	2.0	370	0.25	0.03	0.16	0.02	27.5	2.5	284	0.62
TCS010		1.25	0.010	0.04	3.31	1.5	800	0.22	0.03	0.18	<0.02	83.5	1.7	72	0.67
TCS011		1.45	0.029	0.04	7.20	8.1	190	1.55	0.15	1.55	0.03	67.7	33.3	210	0.85
TCS012		1.27	0.023	0.06	2.82	1.2	610	0.19	0.01	0.14	<0.02	13.90	1.1	194	0.51



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Page: 2 - B
Total # Pages: 2 (A - D)
Plus Appendix Pages
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		Fe	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P
		%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
		0.01	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
TCS005		2.33	10.80	0.09	32.3	0.029	0.84	30.9	16.1	0.27	401	1.03	1.56	27.1	10.3	290
TCS006		4.91	10.05	0.10	11.7	0.024	0.91	49.3	9.7	0.52	382	2.36	2.43	8.5	16.7	320
TCS007		1.91	8.13	0.10	3.5	0.010	1.04	34.1	8.3	0.85	145	23.9	0.39	9.0	14.5	190
TCS008		2.79	10.90	0.09	7.0	0.026	1.09	36.6	10.3	0.60	280	0.83	3.70	7.3	13.2	60
TCS009		1.11	4.47	0.05	45.5	0.008	1.05	14.5	6.8	0.16	222	2.36	1.10	11.9	5.1	40
TCS010		1.11	6.13	0.09	21.7	0.008	2.58	52.0	7.5	0.10	156	0.43	0.75	6.9	3.9	50
TCS011		6.23	15.90	0.16	5.0	0.066	0.58	35.1	14.4	1.25	643	0.73	1.07	17.4	94.1	640
TCS012		1.14	4.36	0.07	50.8	0.005	1.88	6.8	6.0	0.05	188	0.43	1.02	5.4	3.9	40



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Page: 2 - C
Total # Pages: 2 (A - D)
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		Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	U
		ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
		0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.1
TCS005		8.3	33.5	<0.002	0.03	6.13	9.8	<1	4.9	140.0	1.87	<0.05	14.45	1.805	9.3
TCS006		18.5	40.2	<0.002	0.04	1.23	10.1	<1	4.9	107.5	0.78	<0.05	11.70	0.496	3.9
TCS007		2.5	47.6	0.024	0.04	1.09	17.3	<1	2.9	45.4	0.65	0.06	6.14	0.288	2.4
TCS008		12.1	45.9	<0.002	0.03	1.35	8.7	<1	1.9	139.5	0.68	<0.05	5.23	0.523	2.6
TCS009		3.8	41.3	<0.002	0.02	1.01	7.7	<1	2.4	57.3	0.94	<0.05	18.70	0.688	10.3
TCS010		3.2	71.0	<0.002	0.01	0.43	2.8	<1	0.8	65.0	0.51	<0.05	6.99	0.344	5.2
TCS011		15.0	26.3	<0.002	0.04	1.33	24.8	1	4.4	114.0	1.21	0.06	12.75	0.707	4.7
TCS012		3.5	51.5	<0.002	0.01	0.45	2.6	<1	0.7	60.9	0.43	<0.05	14.10	0.308	10.5



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Page: 2 - D
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Sample Description	Method Analyte Units LOD	ME-MS61 V ppm 1	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
TCS005		236	2.7	18.0	11	>500
TCS006		178	3.1	15.2	18	>500
TCS007		128	7.8	11.8	11	137.0
TCS008		117	1.4	12.1	16	299
TCS009		68	5.0	23.1	6	>500
TCS010		42	0.6	14.3	5	>500
TCS011		273	2.1	22.0	32	185.5
TCS012		28	0.5	30.7	6	>500



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Page: Appendix 1
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	CERTIFICATE COMMENTS
	<p>ANALYTICAL COMMENTS</p> <p>Applies to Method: REE's may not be totally soluble in this method. ME-MS61</p>
	<p>ACCREDITATION COMMENTS</p> <p>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-ICP21 ME-MS61</p>
	<p>LABORATORY ADDRESSES</p> <p>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-ICP21 ME-MS61</p>
	<p>Applies to Method: Processed at ALS Adelaide located at Unit 1, 1 Burma Road, Pooraka, Adelaide, SA, Australia. LEV-01 LOG-22 PUL-31 SCR-41 WEI-21</p>