



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.

## CERTIFICATE AD18142775

This report is for 25 Rock samples submitted to our lab in Adelaide, SA, Australia on 18-JUN-2018.

The following have access to data associated with this certificate:

EARTH AI OPERATIONS

ROMAN TESLYUK

Page: 1  
Total # Pages: 2 (A - D)  
Plus Appendix Pages  
Finalized Date: 29-JUN-2018  
This copy reported on 2-JUL-2018  
Account: EARTOP

### SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-QC	Pulverizing QC Test
LOG-22	Sample login - Rcd w/o BarCode
CRU-21	Crush entire sample >70% -6 mm
LEV-01	Waste Disposal Levy
PUL-32	Pulverize 1000g to 85% < 75 um

### ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

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



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: 2 - A  
Total # Pages: 2 (A - D)  
Plus Appendix Pages  
Finalized Date: 29-JUN-2018  
Account: EARTOP

## CERTIFICATE OF ANALYSIS AD18142775

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg	Au-ICP21 Au ppm	ME-MS41 Ag ppm	ME-MS41 Al %	ME-MS41 As ppm	ME-MS41 Au ppm	ME-MS41 B ppm	ME-MS41 Ba ppm	ME-MS41 Be ppm	ME-MS41 Bi ppm	ME-MS41 Ca %	ME-MS41 Cd ppm	ME-MS41 Ce ppm	ME-MS41 Co ppm	ME-MS41 Cr ppm
		0.02	0.001	0.01	0.01	0.1	0.02	10	10	0.05	0.01	0.01	0.01	0.02	0.1	1
EAIHAM466R		0.54	<0.001	0.01	1.14	0.6	<0.02	<10	210	0.56	0.09	0.40	0.32	103.5	5.1	10
EAIHAM487R		0.60	<0.001	0.01	1.45	0.4	<0.02	<10	100	0.73	0.03	0.25	0.01	107.0	4.1	13
EAIHAM488R		0.77	<0.001	0.01	1.68	0.5	<0.02	<10	120	0.71	0.11	0.32	0.03	115.0	4.4	14
EAIHAM506R		0.73	<0.001	0.01	1.52	0.6	<0.02	<10	160	0.86	0.26	0.25	0.12	124.0	5.9	12
EAIHAM521R		0.52	<0.001	0.01	1.47	0.3	<0.02	<10	70	0.64	0.07	0.20	0.11	106.5	4.7	14
EAIHAM528R		0.69	<0.001	0.01	1.32	0.3	<0.02	<10	130	0.75	0.10	0.17	0.01	96.9	4.2	11
EAIHAM536R		0.72	<0.001	0.01	1.08	0.4	<0.02	<10	50	0.51	0.08	0.16	0.03	44.2	2.7	6
EAIHAM542R		0.58	<0.001	0.01	1.49	0.5	<0.02	<10	110	0.93	0.05	0.26	0.02	124.0	4.0	10
EAIHAM549R		0.55	<0.001	0.01	1.74	0.4	<0.02	<10	90	0.80	0.04	0.17	0.01	100.5	4.6	12
EAIHAM557R		0.62	<0.001	0.04	0.96	0.3	<0.02	<10	160	0.41	0.16	0.26	0.03	75.5	5.0	7
EAIHAM566R		0.63	0.001	0.01	1.34	0.1	<0.02	<10	150	0.68	0.21	0.08	0.05	96.9	4.3	12
EAIHAM571R		0.97	<0.001	0.01	0.71	0.3	<0.02	<10	150	0.41	0.15	0.20	0.12	76.3	3.0	7
EAIHAM573R		0.68	<0.001	0.01	1.10	0.5	<0.02	<10	130	0.59	0.05	0.15	0.03	119.0	3.8	11
EAIHAM580R		1.04	<0.001	0.01	1.37	0.4	<0.02	<10	90	0.63	0.06	0.16	0.03	111.5	4.6	11
EAIHAM602R		0.43	0.001	0.02	1.56	0.4	<0.02	<10	110	0.63	0.06	0.15	0.02	97.8	4.5	13
EAIHAM623R		0.39	<0.001	0.02	1.65	0.4	<0.02	<10	80	0.70	0.04	0.17	0.04	45.8	4.1	10
EAIHAM630R		1.17	0.001	0.11	0.95	0.4	<0.02	<10	140	0.53	0.21	0.24	1.24	39.8	2.9	10
EAIHAM655R		0.71	<0.001	0.08	1.80	0.3	<0.02	<10	170	0.69	0.56	0.15	<0.01	105.5	4.2	13
EAIHAM666R		0.47	0.001	0.03	1.70	0.5	<0.02	<10	120	0.65	0.08	0.18	0.74	101.5	4.7	10
EAIHAM688R		1.20	<0.001	0.05	1.70	0.5	<0.02	<10	90	0.84	0.20	0.22	0.49	103.5	4.6	11
EAIHAM803R		1.75	<0.001	0.02	1.21	0.3	<0.02	<10	130	0.42	0.23	0.23	1.16	89.5	4.6	12
EAIHAM813R		0.55	<0.001	0.04	1.37	0.6	<0.02	<10	180	0.44	0.08	0.15	<0.01	56.7	4.4	11
EAIHAM833R		0.74	<0.001	0.02	1.84	0.5	<0.02	<10	90	0.61	0.14	0.17	0.01	75.6	4.9	13
EAIHAM857R		0.63	<0.001	0.02	1.77	0.4	<0.02	<10	110	0.77	0.14	0.27	0.05	86.2	5.2	14
EAIHAM867R		0.57	<0.001	0.02	1.44	0.6	<0.02	<10	110	0.53	0.05	0.19	0.02	86.7	4.4	10



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: 2 - B

Total # Pages: 2 (A - D)

Plus Appendix Pages

Finalized Date: 29-JUN-2018

Account: EARTOP

# CERTIFICATE OF ANALYSIS AD18142775

Sample Description	Method Analyte Units LOD	ME-MS41 Cs ppm 0.05	ME-MS41 Cu ppm 0.2	ME-MS41 Fe % 0.01	ME-MS41 Ga ppm 0.05	ME-MS41 Ge ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME-MS41 Mo ppm 0.05	ME-MS41 Na % 0.01
EAIHAM466R		4.03	4.5	2.89	6.88	0.18	0.22	<0.01	0.040	0.47	60.9	22.3	0.32	375	0.26	0.13
EAIHAM487R		5.27	4.7	2.81	8.10	0.13	0.27	<0.01	0.042	0.66	34.4	27.1	0.35	359	0.24	0.10
EAIHAM488R		5.36	17.8	2.85	9.26	0.17	0.41	<0.01	0.081	0.84	43.0	20.0	0.31	367	0.60	0.14
EAIHAM506R		4.90	6.4	2.58	7.45	0.15	0.50	<0.01	0.059	0.83	31.5	26.8	0.37	643	0.26	0.11
EAIHAM521R		6.74	6.5	3.01	8.81	0.17	0.46	<0.01	0.073	0.81	49.8	27.4	0.34	499	0.19	0.14
EAIHAM528R		4.64	7.6	2.60	7.08	0.18	0.31	<0.01	0.087	0.66	70.6	20.7	0.28	511	0.24	0.10
EAIHAM536R		4.87	7.1	1.55	5.31	0.09	0.38	<0.01	0.022	0.47	19.4	22.4	0.17	321	0.27	0.09
EAIHAM542R		5.24	4.6	2.35	7.64	0.10	0.40	<0.01	0.073	0.75	17.5	19.2	0.24	342	0.80	0.11
EAIHAM549R		5.98	4.7	2.77	8.80	0.16	0.25	<0.01	0.088	0.80	51.6	16.0	0.27	505	0.14	0.10
EAIHAM557R		3.48	130.5	1.72	3.78	0.10	0.23	0.01	0.019	0.41	36.6	13.6	0.21	285	0.44	0.14
EAIHAM566R		8.25	56.4	2.92	7.87	0.19	0.22	<0.01	0.128	0.86	49.3	19.7	0.29	500	0.79	0.07
EAIHAM571R		2.17	3.9	1.83	4.36	0.10	0.51	<0.01	0.026	0.42	33.1	11.0	0.16	317	0.16	0.10
EAIHAM573R		7.54	10.4	2.82	6.90	0.13	0.33	<0.01	0.053	0.63	35.5	17.9	0.27	431	0.31	0.07
EAIHAM580R		7.73	15.2	2.52	7.50	0.16	0.20	<0.01	0.055	0.81	42.5	22.8	0.27	563	0.46	0.05
EAIHAM602R		6.42	3.0	2.39	7.91	0.16	0.34	<0.01	0.050	0.84	39.5	21.0	0.27	361	0.45	0.13
EAIHAM623R		7.56	7.2	2.55	7.33	0.10	0.28	<0.01	0.040	0.85	24.6	23.9	0.27	379	0.24	0.12
EAIHAM630R		3.10	91.0	2.10	6.30	0.12	0.30	0.01	0.466	0.29	19.4	17.5	0.13	344	0.35	0.08
EAIHAM655R		9.94	47.4	2.80	9.40	0.18	0.30	<0.01	0.272	1.02	53.8	44.3	0.31	487	0.44	0.10
EAIHAM666R		8.04	6.2	2.71	8.00	0.16	0.33	<0.01	0.053	0.92	48.1	32.6	0.28	477	0.38	0.12
EAIHAM688R		6.71	1.7	2.25	7.41	0.12	0.32	<0.01	0.033	0.85	31.9	19.5	0.26	410	0.40	0.07
EAIHAM803R		6.83	9.8	2.45	6.63	0.14	0.24	<0.01	0.037	0.77	41.2	33.8	0.30	558	0.19	0.08
EAIHAM813R		8.86	4.2	2.85	7.37	0.14	0.34	<0.01	0.101	0.86	26.1	39.1	0.30	480	0.37	0.10
EAIHAM833R		10.30	4.3	2.59	8.61	0.16	0.43	<0.01	0.041	1.00	28.2	42.8	0.32	437	0.55	0.11
EAIHAM857R		11.45	1.0	2.80	8.46	0.14	0.45	<0.01	0.032	1.09	18.4	48.6	0.34	412	0.38	0.13
EAIHAM867R		8.30	2.1	2.48	7.89	0.13	0.33	<0.01	0.029	0.90	28.5	58.6	0.28	373	0.26	0.11



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: 2 - C

Total # Pages: 2 (A - D)

Plus Appendix Pages

Finalized Date: 29-JUN-2018

Account: EARTOP

**CERTIFICATE OF ANALYSIS AD18142775**

Sample Description	Method Analyte Units LOD	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
		Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te
		ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		0.05	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01
EAIHAM466R		1.06	5.7	450	11.9	74.5	0.001	0.01	<0.05	5.9	<0.2	4.6	25.2	0.01	0.01
EAIHAM487R		1.20	5.6	420	9.3	105.5	<0.001	0.01	<0.05	7.7	<0.2	4.0	13.1	0.01	0.01
EAIHAM488R		1.27	5.6	360	10.4	88.1	<0.001	0.01	<0.05	10.7	0.2	6.8	15.7	0.02	0.02
EAIHAM506R		0.80	9.6	340	14.0	108.5	0.001	0.01	<0.05	9.1	<0.2	6.1	13.2	<0.01	<0.01
EAIHAM521R		1.26	6.0	330	13.8	115.5	<0.001	0.01	<0.05	10.5	0.2	6.0	9.7	0.03	0.01
EAIHAM528R		1.05	5.0	320	16.2	100.0	<0.001	0.01	<0.05	9.0	<0.2	7.1	11.2	0.01	0.01
EAIHAM536R		1.46	3.4	420	10.2	75.0	0.001	0.01	<0.05	4.2	<0.2	2.4	6.5	<0.01	<0.01
EAIHAM542R		1.03	5.1	370	15.7	113.5	<0.001	<0.01	<0.05	6.2	<0.2	4.8	12.4	0.02	0.01
EAIHAM549R		1.05	5.4	420	15.7	124.0	<0.001	<0.01	<0.05	7.3	<0.2	4.8	9.7	0.01	<0.01
EAIHAM557R		1.00	4.5	250	15.0	57.7	<0.001	0.01	<0.05	4.4	<0.2	1.7	15.3	0.01	0.03
EAIHAM566R		0.86	4.2	170	8.2	142.0	<0.001	0.01	<0.05	10.1	<0.2	18.5	12.1	0.01	0.03
EAIHAM571R		0.81	3.2	200	13.3	43.3	<0.001	0.01	<0.05	4.3	<0.2	2.4	16.0	0.01	<0.01
EAIHAM573R		1.17	5.4	330	9.4	108.5	<0.001	0.01	<0.05	8.1	<0.2	6.5	11.9	<0.01	<0.01
EAIHAM580R		0.87	5.3	320	15.0	150.0	<0.001	0.01	<0.05	8.2	<0.2	5.5	7.2	<0.01	0.01
EAIHAM602R		0.89	5.2	270	8.7	125.5	<0.001	<0.01	<0.05	8.8	<0.2	6.0	9.9	0.02	<0.01
EAIHAM623R		0.54	5.1	270	10.1	127.0	<0.001	0.01	<0.05	7.0	<0.2	5.0	9.0	0.01	<0.01
EAIHAM630R		1.43	2.9	310	6.9	47.9	0.001	0.01	<0.05	4.8	0.2	7.8	16.0	0.01	0.03
EAIHAM655R		1.16	5.5	360	11.0	148.0	<0.001	0.01	<0.05	9.7	<0.2	54.7	9.9	0.01	0.01
EAIHAM666R		0.84	5.5	290	13.2	132.0	<0.001	0.01	<0.05	7.8	<0.2	4.8	10.8	0.01	0.01
EAIHAM688R		0.78	5.3	380	20.5	123.5	<0.001	<0.01	<0.05	5.2	<0.2	4.8	9.6	0.01	<0.01
EAIHAM803R		1.03	5.4	330	10.4	104.0	0.001	0.01	<0.05	6.8	<0.2	3.7	11.2	0.01	<0.01
EAIHAM813R		0.99	5.8	330	4.5	152.0	<0.001	0.01	<0.05	10.5	<0.2	8.1	12.2	0.01	<0.01
EAIHAM833R		1.00	5.9	410	8.1	153.5	<0.001	<0.01	<0.05	9.2	0.2	4.5	6.6	0.03	0.02
EAIHAM857R		1.22	6.4	320	8.4	153.5	<0.001	<0.01	<0.05	9.4	<0.2	4.8	11.3	0.05	0.01
EAIHAM867R		1.15	5.6	380	6.8	141.0	<0.001	0.01	<0.05	8.7	<0.2	4.2	13.1	0.01	0.01



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: 2 - D

Total # Pages: 2 (A - D)

Plus Appendix Pages

Finalized Date: 29-JUN-2018

Account: EARTOP

## CERTIFICATE OF ANALYSIS AD18142775

Sample Description	Method Analyte Units LOD	ME-MS41 Ti %	ME-MS41 Ti ppm	ME-MS41 U ppm	ME-MS41 V ppm	ME-MS41 W ppm	ME-MS41 Y ppm	ME-MS41 Zn ppm	ME-MS41 Zr ppm	PUL-QC Pass75um %
		0.005	0.02	0.05	1	0.05	0.05	2	0.5	0.01
EAIHAM466R		0.124	0.42	2.33	28	0.14	43.2	73	6.4	
EAIHAM487R		0.132	0.57	1.75	22	0.09	18.60	63	7.4	
EAIHAM488R		0.151	0.50	3.22	23	0.17	31.6	66	10.7	
EAIHAM506R		0.149	0.67	0.99	25	0.19	37.9	83	13.1	
EAIHAM521R		0.160	0.68	1.57	23	0.09	18.60	136	8.8	
EAIHAM528R		0.130	0.57	1.00	19	0.11	30.2	155	8.1	
EAIHAM536R		0.087	0.44	0.66	9	0.22	12.30	43	7.1	
EAIHAM542R		0.133	0.66	2.24	17	1.27	19.75	89	13.0	
EAIHAM549R		0.136	0.68	3.62	20	<0.05	27.2	137	7.0	
EAIHAM557R		0.094	0.37	3.27	13	0.18	19.20	37	6.5	
EAIHAM566R		0.169	0.82	7.43	21	0.14	22.9	60	5.3	
EAIHAM571R		0.066	0.25	1.47	13	0.10	30.0	50	9.4	
EAIHAM573R		0.128	0.64	2.31	20	0.09	18.45	75	8.5	
EAIHAM580R		0.161	0.92	2.71	19	0.10	22.9	83	5.4	
EAIHAM602R		0.139	0.67	2.46	20	0.18	21.9	37	9.5	
EAIHAM623R		0.140	0.75	1.71	19	0.12	17.55	39	8.3	
EAIHAM630R		0.091	0.29	5.98	22	0.27	26.2	828	5.8	91.8
EAIHAM655R		0.170	0.92	2.86	23	0.61	21.7	88	9.0	
EAIHAM666R		0.147	0.71	1.75	20	1.18	26.6	116	9.7	
EAIHAM688R		0.140	0.73	2.27	18	0.10	39.4	85	9.4	
EAIHAM803R		0.148	0.58	4.32	21	0.14	32.8	936	6.4	94.0
EAIHAM813R		0.172	0.86	1.32	23	0.16	25.8	80	9.1	
EAIHAM833R		0.173	0.83	3.81	24	1.18	31.6	58	12.4	
EAIHAM857R		0.187	0.86	2.81	23	0.46	43.9	52	11.4	
EAIHAM867R		0.155	0.77	2.73	23	0.26	21.3	45	8.7	



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: Appendix 1  
Total # Appendix Pages: 1  
Finalized Date: 29-JUN-2018  
Account: EARTOP

**CERTIFICATE OF ANALYSIS AD18142775**

**CERTIFICATE COMMENTS**

**ANALYTICAL COMMENTS**

Applies to Method:

Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).  
ME-MS41

**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-ICP21 ME-MS41

**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-ICP21 ME-MS41

Applies to Method:

Processed at ALS Adelaide located at Unit 1, 1 Burma Road, Pooraka, Adelaide, SA, Australia.  
CRU-21 LEV-01 LOG-22 PUL-32  
PUL-QC WEI-21