



Australian Laboratory Services Pty, Ltd.

32 Shand Street

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www.alsglobal.com/geochemistry

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

CERTIFICATE AD18159773

This report is for 64 Rock samples submitted to our lab in Adelaide, SA, Australia on 4-JUL-2018.

The following have access to data associated with this certificate:

EARTH AI OPERATIONS

ISABELLA SYKES

ROMAN TESLYUK

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-QC	Pulverizing QC Test
LOG-22	Sample login - Rcd w/o BarCode
BAG-01	Bulk Master for Storage
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	

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Plus Appendix Pages

Finalized Date: 23-JUL-2018

This copy reported on 24-JUL-2018

Account: EARTOP

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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CERTIFICATE OF ANALYSIS AD18159773

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	Au-ICP21 Au ppm 0.001	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1
EAIELK032R		0.58	0.001	0.01	0.23	0.9	<0.02	<10	220	0.08	0.03	0.02	0.01	3.55	0.8	5
EAIELK041R		1.50	<0.001	0.01	1.42	0.4	<0.02	<10	910	6.08	0.03	0.02	0.04	13.30	6.6	14
EAIELK097R		1.89	<0.001	<0.01	0.28	0.5	<0.02	<10	150	0.10	0.03	0.01	<0.01	6.63	0.4	4
EAIELK101R		0.66	<0.001	0.01	0.17	0.6	<0.02	<10	40	0.08	0.04	<0.01	<0.01	1.93	1.0	5
EAIELK202R		0.52	0.001	0.01	1.57	2.6	<0.02	<10	40	3.00	0.07	0.01	0.02	15.60	7.2	100
												0.11	0.02	13.80	2.2	69

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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	ME-MS41
		Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na
		ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%
		0.05	0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01
EAIELK041R		1.35	6.2	32.8	2.87	0.20	0.19	<0.01	0.016	0.10	6.3	0.5	0.04	72	0.20	0.01
EAIELK097R		0.09	4.3	0.85	0.55	<0.05	0.27	<0.01	<0.005	0.07	3.6	0.4	0.01	102	0.21	<0.01
EAIELK101R		0.13	6.4	1.07	0.57	<0.05	0.13	<0.01	<0.005	0.11	1.0	0.3	0.02	175	0.37	0.01
EAIELK202R		0.08	51.0	38.5	4.31	0.25	0.33	0.04	0.107	0.02	10.1	2.8	0.01	99	0.57	0.01

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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	ME-MS41
		Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th
		ppm	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	0.2
EAIELK032R		<0.05	2.2	20	1.9	2.6	<0.001	0.03	0.15	0.5	<0.2	0.2	8.4	<0.01	0.01	0.5
EAIELK097R		<0.05	1.3	40	1.5	4.1	<0.001	0.03	0.16	0.3	<0.2	0.2	5.0	<0.01	0.01	1.2
EAIELK101R		<0.05	2.2	10	0.8	7.3	<0.001	0.02	0.22	0.2	<0.2	0.2	5.8	<0.01	0.01	0.4
EAIELK202R		0.17	19.4	880	37.5	1.0	<0.001	0.04	0.39	8.9	<0.2	0.6	13.8	<0.01	0.01	10.3

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Sample Description	Method Analyte Units LOD	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	PUL-QC
		Ti %	Ti ppm	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm	Pass7Sum %
		0.005	0.02	0.05	1	0.05	0.05	2	0.5	0.01
EAIELK032R		<0.005	<0.02	0.06	6	<0.05	0.95	<2	3.1	
EAIELK041R		0.023	0.04	5.34	22	0.05	13.30	20	9.2	
EAIELK097R		<0.005	<0.02	0.21	3	0.07	0.96	<2	9.6	
EAIELK101R		<0.005	0.02	0.08	3	2.30	0.52	<2	4.9	
EAIELK184R		0.024	0.05	19.00	284	0.12	28.2	377	3.3	
EAIELK185R		<0.005	0.07	7.14	5	<0.05	79.7	42	2.4	
EAIELK202R		0.019	0.03	3.19	546	0.07	8.57	43	17.8	

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Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	Au-ICP21 Au ppm 0.001	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1
EAIELK280R EAIELK284R EAIELK285R		1.61 1.17 1.58	<0.001 <0.001 <0.001	<0.01 0.01 0.01	1.01 0.88 0.24	5.8 21.6 1.2	<0.02 <0.02 <0.02	<10 <10 70	60 370 20	14.05 4.55 0.24	0.94 0.02 0.01	0.03 0.01 <0.01	0.07 0.02 <0.01	68.0 14.30 12.25	26.8 6.6 0.7	5 2 7

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No. 629, Corporate Site No. 23007.																
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	ME-MS41
		Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na
		ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%
		0.05	0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01
		0.011030.400.01														
EAIELK280R EAIELK284R EAIELK285R		1.02 0.15 0.08	48.8 33.8 2.4	28.3 27.5 0.74	4.67 2.60 0.88	0.53 0.13 <0.05	0.07 0.09 0.28	<0.01 0.01 0.01	0.040 0.009 0.007	0.03 0.09 0.10	26.4 6.3 5.8	0.8 0.9 0.4	0.03 0.02 0.02	83 53 84	1.06 1.35 0.23	<0.01 <0.01 <0.01

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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	ME-MS41
		Nb ppm 0.05	Ni ppm 0.2	P ppm 10	Pb ppm 0.2	Rb ppm 0.1	Re ppm 0.001	S % 0.01	Sb ppm 0.05	Sc ppm 0.1	Se ppm 0.2	Sn ppm 0.2	Sr ppm 0.2	Ta ppm 0.01	Te ppm 0.01	Th ppm 0.2
EAIELK280R EAIELK284R EAIELK285R		0.06 0.06 <0.05	22.1 6.1 0.9	3990 3330 80	2.6 1.2 1.3	3.1 6.0 6.4	<0.001 <0.001 <0.001	0.05 0.04 0.01	0.31 0.70 0.15	5.7 4.8 0.7	0.2 0.2 0.2	0.2 0.6 0.2	7.8 9.4 2.8	<0.01 <0.01 <0.01	0.01 0.01 <0.01	2.1 2.7 2.0

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		Ti %	Ti ppm	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm	Pass7Sum %
		0.005	0.02	0.05	1	0.05	0.05	2	0.5	0.01
EAIELK280R		<0.005	0.03	3.93	28	<0.05	13.20	122	3.0	
EAIELK284R		0.005	0.03	9.03	6	0.05	7.08	37	4.0	
EAIELK285R		<0.005	0.02	0.28	7	0.27	1.66	2	9.7	

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	CERTIFICATE COMMENTS
Applies to Method:	<p>ANALYTICAL COMMENTS</p> <p>Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g). ME-MS41</p> <p>ACCREDITATION COMMENTS</p> <p>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</p> <p>LABORATORY ADDRESSES</p> <p>Processed at ALS Perth located at 31 Denningup Way, Malaga, Australia. Processed at ALS Perth Sample Preparation at 79 Distinction Road, Wangara, WA, Australia Au-ICP21 ME-MS41</p> <p>Processed at ALS Adelaide located at Unit 1, 1 Burma Road, Pooraka, Adelaide, SA, Australia. BAG-01 CRU-21 LEV-01 LOG-22 PUL-32 PUL-QC WEI-21</p>