



Australian Laboratory Services Pty. Ltd.

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Plus Appendix Pages
Finalized Date: 6-DEC-2017
Account: TODRIV

QC CERTIFICATE AD17261497

Project: WB

P.O. No.: WB17-03

This report is for 36 Rock samples submitted to our lab in Adelaide, SA, Australia on 30-NOV-2017.

The following have access to data associated with this certificate:

KIM GREY

GAVIN OTTO

CATH WETHERBY

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-23	Pulv Sample - Split/Retain
LOG-22	Sample login - Rcd w/o BarCode
CRU-21	Crush entire sample >70% -6 mm
LEV-01	Waste Disposal Levy
PUL-QC	Pulverizing QC Test
LOG-24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS91	ICP-MS Analysis - Sodium Peroxide Fusion	ICP-MS
ME-ICP89	Peroxide Fusion by ICP-AES	ICP-AES

To: TODD RIVER METALS
ATTN: CATH WETHERBY
LEVEL 1
282 ROKEBY ROAD
SUBIACO WA 6008

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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Sample Description	Method Analyte Units LOR	ME-ICP89 Al2O3 %	ME-ICP89 As %	ME-ICP89 CaO %	ME-ICP89 Co %	ME-ICP89 Cr2O3 %	ME-ICP89 Cu %	ME-ICP89 Fe2O3 %	ME-ICP89 K2O %	ME-ICP89 Li %	ME-ICP89 MgO %	ME-ICP89 MnO %	ME-ICP89 Ni %	ME-ICP89 Pb %	ME-ICP89 S %	ME-ICP89 SiO2 %
		0.02	0.01	0.01	0.005	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.005	0.01	0.01	0.2
STANDARDS																
AMIS0339		23.7	<0.01	0.64	<0.005	0.09	0.02	2.27	1.45	2.26	0.41	0.31	<0.005	<0.01	0.01	66.7
AMIS0339		23.1	0.01	0.69	<0.005	0.09	0.02	2.27	1.49	2.26	0.41	0.32	<0.005	<0.01	0.01	64.4
Target Range - Lower Bound		21.3	<0.01	0.60	<0.005	0.05	<0.01	2.04	1.37	2.10	0.38	0.30	<0.005	<0.01	<0.01	59.0
Upper Bound		24.8	0.02	0.72	0.010	0.09	0.04	2.39	1.61	2.44	0.46	0.36	0.010	0.02	0.04	69.0
NCSDC86304		19.95	<0.01	0.06	<0.005	0.01	<0.01	0.29	4.87	1.090	0.03	0.25	<0.005	<0.01	0.01	66.7
NCSDC86304		19.65	<0.01	0.08	<0.005	0.01	<0.01	0.31	4.90	1.100	0.04	0.25	<0.005	<0.01	0.01	65.2
Target Range - Lower Bound		17.65	<0.01	0.05	<0.005	<0.01	<0.01	0.27	4.42	0.980	<0.01	0.23	<0.005	<0.01	<0.01	59.6
Upper Bound		20.6	0.02	0.09	0.010	0.02	0.02	0.33	5.16	1.140	0.05	0.29	0.010	0.02	0.02	69.7
REE-1		6.59	0.01	3.04	<0.005	0.04	0.01	5.79	3.61	0.020	1.39	0.20	<0.005	0.11	0.03	64.8
REE-1		6.93	0.02	3.30	<0.005	0.05	0.01	6.22	3.90	0.023	1.44	0.21	<0.005	0.12	0.04	67.6
Target Range - Lower Bound		6.25	<0.01	2.97	<0.005	0.02	<0.01	5.49	3.43		1.36	0.18	<0.005	0.09	<0.01	61.9
Upper Bound		7.31	0.03	3.47	0.010	0.06	0.03	6.40	4.01		1.61	0.23	0.013	0.14	0.05	72.3
RTS-3a		9.73	<0.01	2.95	0.012	0.03	0.22	29.5	0.59	0.006	4.08	0.19	0.010	0.02	9.71	39.8
RTS-3a		10.05	<0.01	3.13	0.015	0.04	0.23	30.6	0.55	0.002	4.06	0.20	0.006	0.02	9.67	40.0
Target Range - Lower Bound		8.93	<0.01	2.76	<0.005	<0.01	0.21	27.1	0.50		3.80	0.18	<0.005	<0.01	8.86	36.0
Upper Bound		10.40	0.03	3.23	0.025	0.05	0.26	31.5	0.61		4.44	0.23	0.016	0.04	10.30	42.2
BLANKS																
BLANK		<0.02	<0.01	<0.01	<0.005	0.01	<0.01	0.03	0.58	0.001	0.02	<0.01	<0.005	<0.01	0.03	0.4
BLANK		0.06	<0.01	0.01	<0.005	0.02	<0.01	0.11	<0.01	0.001	0.01	<0.01	<0.005	<0.01	0.01	0.2
Target Range - Lower Bound		<0.02		<0.01				<0.01	<0.01		<0.01				<0.01	<0.2
Upper Bound		0.04		0.02				0.02	0.02		0.02				0.02	0.4
DUPLICATES																
B206		19.10	<0.01	0.25	<0.005	<0.01	<0.01	0.33	11.80	0.004	0.02	0.02	<0.005	<0.01	0.01	68.9
DUP		19.00	<0.01	0.22	<0.005	<0.01	<0.01	0.34	11.80	0.003	0.02	0.02	<0.005	<0.01	<0.01	68.0
Target Range - Lower Bound		18.30	<0.01	0.22	<0.005	<0.01	<0.01	0.31	11.35	0.002	<0.01	<0.01	<0.005	<0.01	<0.01	65.7
Upper Bound		19.80	0.02	0.25	0.010	0.02	0.02	0.36	12.25	0.005	0.03	0.03	0.010	0.02	0.02	71.2



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Sample Description	Method Analyte Units LOR	ME-ICP89 TiO2 %	ME-ICP89 Zn %	ME-MS91 Cs ppm	ME-MS91 Nb ppm	ME-MS91 Rb ppm	ME-MS91 Sn ppm	ME-MS91 Ta ppm	ME-MS91 Th ppm	ME-MS91 U ppm
		0.02	0.01	0.2	5	0.5	5	0.5	0.5	0.5
STANDARDS										
AMIS0339		0.05	0.01	275	112	1495	171	355	2.1	6.1
AMIS0339		0.04	0.01	276	104	1395	166	339	2.1	5.9
Target Range - Lower Bound		<0.02	<0.01	247	87	1235	147	299	0.9	4.6
Upper Bound		0.08	0.02	302	117	1510	191	367	3.1	7.2
NCSDC86304		0.03	0.02	1590	51	6850	106	80.9	2.6	3.1
NCSDC86304		0.03	0.02	1740	54	6970	110	85.0	2.5	3.3
Target Range - Lower Bound		<0.02	<0.01		40	6120		75.7	1.4	2.0
Upper Bound		0.07	0.04		66	7480		93.7	3.6	4.4
REE-1		0.63	0.19	1.2	>2500	1050	498	218	744	134.0
REE-1		0.64	0.20	1.2	>2500	1085	524	231	757	146.5
Target Range - Lower Bound		0.57	0.16	0.6	3640	942	443	207	647	123.0
Upper Bound		0.71	0.21	1.5	>2500	1150	553	255	791	151.0
RTS-3a		0.63	0.30	0.2	<5	13.9	290	<0.5	1.2	<0.5
RTS-3a		0.64	0.31	0.6	7	13.6	272	<0.5	1.0	<0.5
Target Range - Lower Bound		0.58	0.26	0.6	<5	13.4	233	<0.5	<0.5	<0.5
Upper Bound		0.72	0.32	1.6	10	17.4	295	1.2	2.1	1.2
BLANKS										
BLANK		<0.02	<0.01	0.9	<5	1.1	<5	<0.5	<0.5	<0.5
BLANK		<0.02	<0.01	<0.2	<5	0.7	<5	<0.5	<0.5	<0.5
Target Range - Lower Bound		<0.02		<0.2	<5	<0.5	<5	<0.5	<0.5	<0.5
Upper Bound		0.04		0.4	10	1.0	10	1.0	1.0	1.0
DUPLICATES										
B206		<0.02	<0.01	97.8	17	2870	57	20.1	0.5	0.7
DUP		<0.02	<0.01	99.0	12	2910	69	21.6	0.5	0.7
Target Range - Lower Bound		<0.02	<0.01	93.3	9	2750	55	19.3	<0.5	<0.5
Upper Bound		0.04	0.02	103.5	20	3040	71	22.4	1.0	1.0



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		0.02	0.01	0.01	0.005	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.005	0.01	0.01	0.2
B221 DUP Target Range - Lower Bound Upper Bound		DUPLICATES														
ORIGINAL DUP Target Range - Lower Bound Upper Bound		16.45 16.20 15.70 16.95	0.01 0.01 <0.01 0.02	0.45 0.42 0.41 0.46	<0.005 <0.005 <0.005 0.010	0.02 0.02 <0.01 0.03	<0.01 <0.01 <0.01 0.02	1.13 1.12 1.07 1.18	1.37 1.37 1.31 1.43	1.125 1.120 1.080 1.165	0.09 0.09 0.08 0.10	0.14 0.14 0.12 0.16	<0.005 <0.005 <0.005 0.010	0.01 <0.01 <0.01 0.02	0.02 0.01 <0.01 0.02	75.1 74.0 71.6 77.5



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	CERTIFICATE COMMENTS
	<p style="text-align: center;">LABORATORY ADDRESSES</p> <p>Processed at ALS Perth located at 31 Denninup Way, Malaga, Australia. NATA Accreditation does not cover the performance of ALS Perth Sample Preparation which is processed at 79 Distinction Road, Wangara, WA, Australia</p> <p>Applies to Method: ME-ICP89 ME-MS91</p> <p>Processed at ALS Adelaide located at Unit 1, 1 Burma Road, Pooraka, Adelaide, SA, Australia.</p> <p>Applies to Method: CRU-21 LEV-01 LOG-22 LOG-24 PUL-23 PUL-QC WEI-21</p>