



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

CERTIFICATE AD17159965

Project: TRR17-002

This report is for 37 Rock samples submitted to our lab in Adelaide, SA, Australia on 4-AUG-2017.

The following have access to data associated with this certificate:

PAUL BURTON
 CATH WETHERBY

KIM GREY

GAVIN OTTO

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LOG-24	Pulp Login - Rcd w/o Barcode
PUL-QC	Pulverizing QC Test
LEV-01	Waste Disposal Levy
PUL-23	Pulv Sample - Split/Retain

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu-OG62	Ore Grade Cu - Four Acid	ICP-AES
Pb-OG62	Ore Grade Pb - Four Acid	ICP-AES
Zn-OG62	Ore Grade Zn - Four Acid	ICP-AES
Au-ICP22	Au 50g FA ICP-AES finish	ICP-AES
ME-ICP61	33 element four acid ICP-AES	ICP-AES
ME-OG62	Ore Grade Elements - Four Acid	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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Page: 2 - A
 Total # Pages: 2 (A - C)
 Plus Appendix Pages
 Finalized Date: 16-AUG-2017
 Account: TODRIV

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CERTIFICATE OF ANALYSIS AD17159965

Sample Description	Method Analyte Units LOR	WEI-21	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
		Recvd Wt. kg	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %
		0.02	0.5	0.01	5	10	0.5	2	0.01	0.5	1	1	1	0.01	10	0.01
SY16108		1.11	<0.5	1.25	<5	160	1.7	2	4.47	3.1	7	5	34	2.45	<10	0.09
SY16109		1.93	<0.5	9.85	<5	270	6.3	<2	10.25	<0.5	2	3	7	1.78	30	1.88
SY16110		1.16	<0.5	0.88	<5	10	<0.5	<2	22.0	0.5	2	4	6	0.48	<10	0.02
SY16111		1.08	<0.5	7.64	<5	90	13.2	8	11.70	0.6	10	27	318	9.37	30	0.26
SY16112		1.22	0.9	6.53	<5	2510	1.6	50	1.39	<0.5	2	4	1340	1.24	10	4.27
SY16113		1.15	<0.5	0.40	<5	80	<0.5	<2	0.94	<0.5	2	11	30	0.92	<10	0.23
SY16114		2.03	<0.5	8.47	<5	120	7.3	23	11.35	1.1	2	6	767	7.30	30	0.35
SY16115		1.13	<0.5	2.31	<5	70	5.9	<2	9.53	1.4	12	2	18	4.59	10	0.18
SY16116		2.13	<0.5	6.93	<5	100	8.4	<2	9.58	1.5	8	7	6	4.27	20	0.42
SY16117		1.55	39.0	0.20	<5	50	0.6	98	0.87	10.9	5	2	>10000	4.10	<10	0.02
SY16118		2.46	64.1	0.39	<5	10	0.6	265	2.13	12.6	9	2	2100	2.25	<10	0.03
SY16119		1.55	50.8	0.27	<5	20	0.5	256	1.90	12.0	7	2	387	3.52	<10	0.02
SY16120		2.00	<0.5	1.62	<5	20	1.4	7	7.47	2.1	13	1	304	3.47	10	0.10
SY16121		1.74	5.4	0.42	<5	130	1.1	18	7.57	28.5	9	3	2580	2.33	<10	0.06
SY16122		2.31	22.6	0.93	<5	20	1.9	69	2.31	23.7	9	4	2700	1.95	10	0.05
SY16123		1.60	3.6	0.77	<5	310	<0.5	13	13.95	37.0	4	4	66	1.39	<10	0.02
SY16124		1.36	23.8	8.55	<5	2880	5.2	39	2.43	3.6	6	40	3510	4.40	20	1.34
SY16125		1.26	28.2	1.17	<5	150	1.7	93	8.33	7.1	13	4	2640	3.56	10	0.13
SY16126		1.75	<0.5	2.71	<5	100	2.7	2	9.32	0.7	30	12	20	5.73	10	0.24
SY16127		1.61	56.2	0.46	<5	90	0.5	194	5.12	2.2	11	5	177	2.46	<10	0.05
SY16128		1.73	6.0	0.29	<5	180	1.2	12	5.45	8.3	6	3	399	1.87	<10	0.03
SY16129		0.05	14.2	2.44	60	70	0.6	37	0.28	58.3	74	20	>10000	11.60	20	0.59
SY16130		1.92	<0.5	5.41	<5	530	1.5	2	1.64	<0.5	17	43	62	4.29	10	2.03
SY16131		1.76	<0.5	5.21	<5	510	1.4	<2	2.05	<0.5	14	40	48	4.14	10	1.93
SY16132		1.95	<0.5	5.75	5	510	4.5	<2	2.10	0.5	12	32	164	4.18	10	1.84
SY16133		1.91	<0.5	5.99	<5	650	2.0	<2	0.87	<0.5	14	53	98	3.96	20	2.08
SY16134		1.24	<0.5	6.34	<5	630	1.6	<2	0.96	<0.5	16	52	39	4.66	20	2.12
SY16135		1.79	<0.5	5.78	<5	510	1.3	<2	1.02	<0.5	17	51	29	4.78	20	1.89
SY16136		1.86	<0.5	5.09	<5	520	1.4	<2	0.92	<0.5	11	38	15	3.74	10	1.90
SY16137		1.99	<0.5	6.28	<5	700	1.7	<2	0.93	<0.5	11	38	45	3.89	20	2.43
SY16138		2.08	<0.5	5.63	<5	660	1.5	<2	0.93	0.7	10	44	90	3.53	20	2.32
SY16139		1.95	<0.5	6.54	<5	590	2.3	<2	1.12	3.1	12	49	443	3.79	20	2.30
SY16140		1.73	<0.5	5.93	<5	490	1.6	3	1.21	2.1	15	59	203	4.49	20	1.95
SY16141		2.19	<0.5	4.04	<5	360	1.4	<2	0.55	<0.5	10	30	35	3.10	10	1.38
SY16142		1.64	<0.5	5.51	<5	600	1.4	<2	0.59	<0.5	10	37	34	3.56	10	2.23
SY16143		1.59	<0.5	5.80	<5	630	1.4	<2	0.78	<0.5	10	38	30	3.73	10	2.39
SY16144		0.05	0.5	4.62	5	10	1.1	<2	0.13	0.9	1	12	194	0.21	10	3.81



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Page: 2 - B
 Total # Pages: 2 (A - C)
 Plus Appendix Pages
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 Account: TODRIV

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CERTIFICATE OF ANALYSIS AD17159965

Sample Description	Method Analyte Units LOR	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	
		La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Ti	
		ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm
		10	0.01	5	1	0.01	1	10	2	0.01	5	1	1	20	0.01	10	
SY16108		10	5.67	15500	1	0.14	1	350	21	0.02	<5	1	14	<20	0.04	<10	
SY16109		10	0.71	2790	1	1.13	<1	1550	28	<0.01	<5	1	343	<20	0.03	<10	
SY16110		10	10.40	9010	<1	0.01	<1	300	11	<0.01	<5	1	72	<20	0.03	<10	
SY16111		30	3.04	11000	<1	0.18	9	920	29	<0.01	<5	9	467	20	0.30	<10	
SY16112		<10	0.23	1810	1	0.44	<1	110	137	<0.01	<5	1	189	<20	0.02	<10	
SY16113		<10	0.32	496	<1	0.05	<1	30	7	<0.01	<5	<1	9	<20	<0.01	<10	
SY16114		20	0.57	8440	2	0.12	<1	3050	53	<0.01	<5	5	354	20	0.14	<10	
SY16115		<10	9.15	11100	<1	0.31	6	1060	18	<0.01	<5	3	64	<20	0.05	<10	
SY16116		<10	5.36	17100	<1	1.23	5	740	21	<0.01	<5	4	117	<20	0.08	<10	
SY16117		10	17.40	4450	1	0.02	4	660	>10000	0.02	<5	<1	6	<20	0.01	<10	
SY16118		<10	12.60	5370	2	0.03	3	640	>10000	0.04	<5	<1	57	<20	0.01	<10	
SY16119		<10	16.95	5750	10	0.03	3	380	>10000	0.09	<5	<1	50	<20	0.01	10	
SY16120		<10	13.70	8490	<1	0.13	2	130	2140	<0.01	<5	1	3	<20	0.04	<10	
SY16121		<10	12.70	8650	1	0.06	3	840	7560	0.03	<5	<1	15	<20	0.02	<10	
SY16122		20	17.60	5920	1	0.06	5	950	>10000	0.02	<5	3	28	<20	0.03	<10	
SY16123		10	14.30	6760	<1	<0.01	1	1600	4450	0.06	<5	1	26	<20	0.03	<10	
SY16124		20	1.69	22100	2	1.89	12	220	1920	0.09	<5	10	151	<20	0.13	<10	
SY16125		10	12.35	8130	1	0.17	7	790	>10000	<0.01	<5	2	11	<20	0.03	<10	
SY16126		10	9.91	10400	<1	0.38	12	220	115	<0.01	<5	7	43	<20	0.14	<10	
SY16127		10	14.25	7980	<1	0.05	5	550	>10000	0.11	<5	2	46	<20	0.02	<10	
SY16128		<10	9.97	5860	1	0.03	3	540	8280	0.04	<5	1	18	<20	0.01	<10	
SY16129		10	1.28	767	4	0.14	31	110	>10000	7.75	29	3	11	<20	0.05	<10	
SY16130		30	1.25	1310	<1	0.65	19	240	56	0.02	<5	12	117	20	0.38	10	
SY16131		40	1.30	1700	<1	0.40	17	270	370	0.01	<5	11	92	20	0.39	10	
SY16132		30	1.71	4790	<1	0.38	12	380	137	0.01	<5	9	103	20	0.32	<10	
SY16133		40	0.97	3570	<1	0.32	25	260	42	0.01	<5	12	80	30	0.34	<10	
SY16134		50	1.23	3160	<1	0.35	25	240	51	0.01	<5	13	78	30	0.39	<10	
SY16135		50	1.17	1710	1	0.37	18	350	33	0.01	<5	14	80	30	0.47	<10	
SY16136		40	0.79	1290	1	0.27	15	260	32	<0.01	<5	10	75	20	0.34	<10	
SY16137		70	0.85	1580	1	0.40	17	290	213	0.01	<5	10	89	50	0.35	<10	
SY16138		50	1.29	2630	<1	0.35	17	300	351	0.01	<5	11	75	30	0.33	<10	
SY16139		50	1.62	2890	1	0.37	21	370	1700	0.01	<5	12	78	30	0.37	<10	
SY16140		40	2.87	4360	1	0.36	28	250	825	0.01	<5	15	72	20	0.36	<10	
SY16141		30	0.47	1490	<1	0.19	11	270	61	0.01	<5	6	60	20	0.27	<10	
SY16142		80	0.46	1050	<1	0.28	15	290	76	0.01	<5	9	83	50	0.35	<10	
SY16143		60	0.51	939	1	0.29	16	250	54	0.01	<5	10	96	40	0.35	<10	
SY16144		<10	0.03	46	1	1.19	9	470	25	0.07	<5	<1	21	<20	0.02	10	



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Page: 2 - C
 Total # Pages: 2 (A - C)
 Plus Appendix Pages
 Finalized Date: 16-AUG-2017
 Account: TODRIV

CERTIFICATE OF ANALYSIS AD17159965

Sample Description	Method Analyte Units LOR	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	Cu-OG62	Pb-OG62	Zn-OG62	Au-ICP22	PUL-QC
		U	V	W	Zn	Cu	Pb	Zn	Au	Pass75um
		ppm	ppm	ppm	ppm	%	%	%	ppm	%
		10	1	10	2	0.001	0.001	0.001	0.001	0.01
SY16108		<10	11	10	3850				0.001	
SY16109		<10	7	<10	116				0.002	
SY16110		<10	5	<10	317				0.001	
SY16111		<10	46	<10	437				0.001	
SY16112		<10	9	<10	85				0.160	99.0
SY16113		<10	1	<10	22				0.001	
SY16114		<10	20	<10	160				0.006	
SY16115		<10	17	<10	1550				0.001	
SY16116		<10	24	<10	1680				0.001	
SY16117		<10	4	<10	>10000	1.840	1.590	2.96	0.033	
SY16118		10	6	<10	>10000		8.69	7.60	0.058	
SY16119		<10	4	<10	>10000		9.72	3.23	0.039	
SY16120		<10	23	<10	4540				0.001	
SY16121		<10	11	<10	>10000			4.85	0.013	
SY16122		<10	13	<10	>10000		4.60	6.81	0.035	
SY16123		<10	9	20	>10000			1.385	0.009	
SY16124		<10	22	<10	1830				0.032	
SY16125		<10	70	10	8080		1.150		0.034	
SY16126		<10	42	<10	442				0.001	
SY16127		10	10	<10	6290		6.07		0.028	
SY16128		<10	9	<10	>10000			8.86	0.007	
SY16129		<10	23	100	>10000	2.46	3.05	1.510	NSS	
SY16130		<10	86	<10	128				0.002	
SY16131		<10	77	10	176				0.001	
SY16132		<10	50	10	1490				0.002	
SY16133		<10	64	<10	264				0.002	
SY16134		<10	76	<10	184				0.001	
SY16135		<10	101	<10	175				0.001	
SY16136		<10	65	<10	99				0.001	
SY16137		<10	67	<10	349				0.002	
SY16138		<10	62	<10	813				0.001	
SY16139		<10	186	<10	3470				0.004	
SY16140		<10	83	<10	2100				0.002	
SY16141		<10	47	<10	160				0.001	
SY16142		<10	68	<10	142				<0.001	
SY16143		<10	68	<10	107				<0.001	
SY16144		<10	3	<10	317				0.347	



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CERTIFICATE OF ANALYSIS AD17159965

	CERTIFICATE COMMENTS								
	ANALYTICAL COMMENTS								
Applies to Method:	NSS is non-sufficient sample. ALL METHODS								
	ACCREDITATION COMMENTS								
Applies to Method:	NATA Accredited. Corporate Accreditation No: 825, Corporate Site No: 23001. The Technical Signatory is Wendy Wong, Senior QC Chemist. <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Au-ICP22</td> <td style="width: 33%;">ME-ICP61</td> <td style="width: 33%;">ME-OG62</td> </tr> </table>	Au-ICP22	ME-ICP61	ME-OG62					
Au-ICP22	ME-ICP61	ME-OG62							
	LABORATORY ADDRESSES								
Applies to Method:	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 <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Au-ICP22</td> <td style="width: 33%;">Cu-OG62</td> <td style="width: 33%;">ME-ICP61</td> <td style="width: 33%;">ME-OG62</td> </tr> <tr> <td>Pb-OG62</td> <td>Zn-OG62</td> <td></td> <td></td> </tr> </table>	Au-ICP22	Cu-OG62	ME-ICP61	ME-OG62	Pb-OG62	Zn-OG62		
Au-ICP22	Cu-OG62	ME-ICP61	ME-OG62						
Pb-OG62	Zn-OG62								
Applies to Method:	Processed at ALS Adelaide located at Unit 1, 1 Burma Road, Pooraka, Adelaide, SA, Australia. <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">LEV-01</td> <td style="width: 33%;">LOG-22</td> <td style="width: 33%;">LOG-24</td> <td style="width: 33%;">PUL-23</td> </tr> <tr> <td>PUL-QC</td> <td>WEI-21</td> <td></td> <td></td> </tr> </table>	LEV-01	LOG-22	LOG-24	PUL-23	PUL-QC	WEI-21		
LEV-01	LOG-22	LOG-24	PUL-23						
PUL-QC	WEI-21								