



Australian Laboratory Services Pty. Ltd.

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No: 825, Corporate Site No: 23001.

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Plus Appendix Pages
Finalized Date: 23-AUG-2017
Account: TODRIV

CERTIFICATE AD17164439

P.O. No.: TRR17-003

This report is for 107 Soil samples submitted to our lab in Adelaide, SA, Australia on 11-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
BAG-01	Bulk Master for Storage
SPL-21	Split sample - riffle splitter

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ICP22	Au 50g FA ICP-AES finish	ICP-AES
ME-ICP61	33 element four acid 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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CERTIFICATE OF ANALYSIS AD17164439

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	ME-ICP61 Ag ppm 0.5	ME-ICP61 Al % 0.01	ME-ICP61 As ppm 5	ME-ICP61 Ba ppm 10	ME-ICP61 Be ppm 0.5	ME-ICP61 Bi ppm 2	ME-ICP61 Ca % 0.01	ME-ICP61 Cd ppm 0.5	ME-ICP61 Co ppm 1	ME-ICP61 Cr ppm 1	ME-ICP61 Cu ppm 1	ME-ICP61 Fe % 0.01	ME-ICP61 Ga ppm 10	ME-ICP61 K % 0.01
W17001		0.45	<0.5	5.52	7	280	1.5	<2	0.39	<0.5	36	2390	418	36.7	20	0.24
W17002		0.49	<0.5	3.73	5	1810	1.8	5	4.80	<0.5	345	1500	816	13.70	10	0.22
W17003		0.55	<0.5	3.38	<5	810	1.8	<2	3.97	<0.5	241	2760	916	14.55	10	0.11
W17004		0.64	<0.5	2.92	6	2420	4.9	2	1.22	<0.5	647	2010	1275	23.2	10	0.16
W17005		0.26	<0.5	3.29	<5	2830	4.9	<2	2.56	<0.5	726	2080	1280	19.05	10	0.13
W17006		0.58	<0.5	3.09	<5	1330	3.4	<2	1.70	<0.5	751	2500	1010	16.95	10	0.12
W17007		0.61	<0.5	3.13	5	870	3.5	<2	0.90	<0.5	625	2300	935	17.40	10	0.13
W17008		0.45	<0.5	2.87	<5	660	3.0	<2	3.62	<0.5	1140	2420	982	14.65	10	0.10
W17009		0.40	<0.5	3.12	<5	450	4.4	<2	2.66	<0.5	517	2810	847	14.20	10	0.18
W17010		3.96	<0.5	2.24	<5	330	2.8	<2	5.37	0.5	778	1520	526	10.80	10	0.16
W17011		4.04	<0.5	2.00	<5	260	2.8	<2	6.89	0.5	247	1370	409	11.10	<10	0.14
W17012		1.23	<0.5	1.91	<5	220	1.6	<2	7.70	<0.5	157	1260	377	10.95	<10	0.14
W17013		0.68	<0.5	1.93	<5	100	0.7	<2	9.10	0.6	104	1160	306	10.20	<10	0.14
W17014		0.82	<0.5	1.86	<5	110	0.5	<2	8.51	0.6	107	1140	372	11.15	10	0.14
W17015		0.33	<0.5	1.94	<5	170	0.6	<2	8.15	0.6	136	1170	402	11.45	10	0.14
W17016		0.70	<0.5	1.78	<5	70	<0.5	2	9.47	0.5	95	1070	260	10.25	10	0.13
W17017		0.96	<0.5	1.77	<5	90	0.5	<2	9.62	0.5	101	1100	283	10.35	<10	0.12
W17018		1.11	<0.5	1.88	<5	90	<0.5	<2	9.26	0.5	99	981	246	9.90	<10	0.14
W17019		2.12	<0.5	1.85	5	120	<0.5	<2	9.04	0.5	103	872	271	9.32	10	0.15
W17020		1.57	<0.5	2.46	<5	130	<0.5	<2	8.07	<0.5	111	1020	274	9.71	<10	0.19
W17021		1.43	<0.5	2.51	<5	120	<0.5	<2	9.38	<0.5	96	635	225	8.99	10	0.25
W17022		1.67	<0.5	2.05	<5	120	<0.5	<2	9.29	0.5	100	678	235	9.30	10	0.18
W17023		1.91	<0.5	2.16	<5	80	<0.5	<2	9.06	0.8	90	711	241	10.45	<10	0.18
W17024		1.36	<0.5	2.61	6	80	<0.5	3	9.41	0.8	107	940	304	9.63	10	0.22
W17025		0.06	<0.5	5.88	16	30	1.1	<2	1.73	<0.5	29	50	41	2.86	20	3.98
W17026		1.63	<0.5	3.14	8	90	<0.5	<2	7.39	<0.5	106	1520	283	10.45	10	0.23
W17027		1.92	<0.5	2.30	<5	90	<0.5	<2	9.32	<0.5	100	1140	237	9.87	<10	0.19
W17028		2.35	<0.5	1.83	<5	160	<0.5	<2	9.01	0.9	180	775	342	10.50	<10	0.15
W17029		2.24	<0.5	1.75	<5	90	<0.5	<2	10.15	0.7	106	803	314	10.65	<10	0.15
W17030		1.20	<0.5	1.71	<5	70	<0.5	<2	9.38	<0.5	102	619	264	9.65	<10	0.16
W17031		1.98	<0.5	1.60	<5	590	<0.5	<2	9.72	0.6	87	591	225	9.60	<10	0.13
W17032		2.51	<0.5	1.55	<5	3240	<0.5	<2	11.10	0.8	95	533	236	9.20	<10	0.15
W17036		2.28	<0.5	1.65	<5	80	<0.5	<2	8.66	<0.5	92	477	248	8.95	<10	0.26
W17040		2.30	<0.5	1.63	<5	170	<0.5	<2	7.62	0.5	91	691	170	9.73	<10	0.24
W17041		1.71	<0.5	1.69	<5	180	<0.5	2	7.27	<0.5	89	421	186	10.55	10	0.31
W17042		1.80	<0.5	1.55	<5	120	<0.5	<2	7.49	0.5	99	349	227	9.45	10	0.27
W17043		2.52	<0.5	1.63	<5	100	<0.5	<2	7.72	0.7	89	345	212	9.52	<10	0.28
W17044		2.62	<0.5	1.62	<5	110	<0.5	<2	8.14	0.5	78	325	161	9.46	10	0.29
W17045		3.13	<0.5	1.54	<5	90	<0.5	<2	7.03	0.5	78	315	213	9.64	<10	0.25
W17046		2.64	<0.5	1.56	<5	80	<0.5	<2	7.92	0.5	73	290	211	9.35	10	0.22



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CERTIFICATE OF ANALYSIS AD17164439

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	Tl
		ppm 10	% 0.01	ppm 5	ppm 1	% 0.01	ppm 1	ppm 10	ppm 2	% 0.01	ppm 5	ppm 1	ppm 1	ppm 20	% 0.01	ppm 10
W17001		30	0.24	1400	2	0.04	151	470	104	0.04	<5	119	50	<20	0.61	<10
W17002		460	2.81	3810	1	0.23	633	600	16	0.05	<5	94	988	20	0.35	<10
W17003		170	3.56	1820	1	0.35	956	220	6	0.13	<5	129	220	<20	0.41	<10
W17004		30	2.21	12950	<1	0.37	1095	160	6	0.16	<5	129	157	<20	0.38	<10
W17005		40	2.84	13400	<1	0.37	1070	160	4	0.14	<5	136	382	<20	0.43	<10
W17006		20	2.24	8840	<1	0.40	1370	120	7	0.08	<5	136	178	<20	0.40	<10
W17007		90	1.71	4850	<1	0.36	1135	220	8	0.08	<5	122	190	<20	0.39	<10
W17008		140	3.37	4080	<1	0.38	1400	210	10	0.10	<5	108	812	<20	0.37	<10
W17009		90	4.76	2880	<1	0.54	944	170	5	0.07	<5	121	242	<20	0.42	<10
W17010		30	6.97	3330	<1	0.45	729	70	6	0.03	<5	84	213	<20	0.30	10
W17011		30	7.04	2240	<1	0.42	523	70	7	0.02	<5	82	187	<20	0.28	<10
W17012		20	7.46	1920	1	0.40	435	60	5	0.02	<5	79	127	<20	0.27	10
W17013		20	8.47	1540	1	0.37	334	60	4	0.01	<5	78	96	<20	0.29	<10
W17014		10	7.38	1420	1	0.39	451	50	3	0.01	<5	77	105	<20	0.28	<10
W17015		20	7.82	1750	1	0.39	405	70	5	0.01	<5	78	116	<20	0.29	<10
W17016		10	8.22	1520	1	0.34	339	40	4	0.01	<5	76	90	<20	0.27	<10
W17017		10	8.63	1710	<1	0.32	314	40	5	<0.01	<5	78	88	<20	0.26	<10
W17018		10	9.08	1750	1	0.32	265	40	2	<0.01	<5	73	87	<20	0.26	<10
W17019		10	9.39	1960	1	0.32	259	40	8	0.01	<5	75	85	<20	0.26	<10
W17020		<10	9.32	2180	1	0.34	287	40	3	0.01	<5	68	122	<20	0.26	<10
W17021		<10	9.37	1840	<1	0.37	180	50	3	<0.01	<5	78	99	<20	0.29	<10
W17022		<10	10.10	2000	<1	0.31	152	50	<2	<0.01	<5	76	82	<20	0.26	<10
W17023		<10	9.33	1680	<1	0.39	224	60	<2	<0.01	<5	74	92	<20	0.27	<10
W17024		<10	9.19	1690	2	0.47	274	50	7	<0.01	<5	68	101	<20	0.29	<10
W17025		<10	0.81	351	8	1.61	34	640	41	0.02	<5	8	77	<20	0.31	10
W17026		<10	9.69	1590	1	0.56	538	40	3	<0.01	5	48	120	<20	0.31	<10
W17027		<10	9.15	1630	<1	0.46	303	60	6	0.01	<5	66	94	<20	0.26	<10
W17028		<10	8.04	2400	<1	0.40	227	50	10	0.01	<5	75	105	<20	0.25	<10
W17029		<10	7.54	1590	1	0.38	197	40	5	0.01	<5	79	120	<20	0.25	<10
W17030		<10	9.20	1710	<1	0.32	147	20	4	0.01	<5	78	71	<20	0.24	<10
W17031		<10	7.92	1500	<1	0.32	176	60	7	0.02	<5	73	91	<20	0.22	<10
W17032		<10	9.32	1510	2	0.27	129	80	16	0.22	<5	71	121	<20	0.21	<10
W17036		<10	9.76	1830	<1	0.32	125	20	6	0.01	<5	75	47	<20	0.22	<10
W17040		<10	10.80	1710	<1	0.31	169	50	3	0.01	<5	64	49	<20	0.22	<10
W17041		<10	10.25	1980	1	0.37	77	60	10	0.01	7	76	59	<20	0.21	10
W17042		<10	10.40	2510	<1	0.33	115	50	5	0.01	<5	69	48	<20	0.20	<10
W17043		<10	10.10	1985	1	0.36	80	70	7	0.01	<5	73	51	<20	0.21	<10
W17044		<10	10.20	1885	1	0.34	62	50	7	0.01	<5	75	52	<20	0.21	<10
W17045		<10	9.97	2070	1	0.32	85	50	5	0.01	<5	69	46	<20	0.20	<10
W17046		<10	10.00	1935	<1	0.30	76	50	6	0.01	<5	75	45	<20	0.21	<10



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CERTIFICATE OF ANALYSIS AD17164439

Sample Description	Method Analyte Units LOR	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	Au-ICP22	PUL-QC
		U	V	W	Zn	Au	Pass75um
		ppm 10	ppm 1	ppm 10	ppm 2	ppm 0.001	% 0.01
W17001		<10	758	<10	369	0.001	
W17002		<10	157	<10	265	0.002	
W17003		<10	146	<10	382	0.002	
W17004		<10	389	<10	339	0.001	99.0
W17005		<10	377	10	345	0.005	
W17006		<10	305	<10	610	0.002	
W17007		<10	297	<10	519	0.002	
W17008		<10	200	<10	349	0.002	
W17009		<10	197	<10	253	0.002	
W17010		<10	194	<10	187	0.002	
W17011		<10	227	<10	140	0.002	
W17012		<10	217	<10	128	0.003	
W17013		<10	230	<10	111	0.007	
W17014		<10	231	<10	100	0.015	
W17015		<10	223	<10	120	0.003	
W17016		<10	239	<10	89	0.016	
W17017		<10	246	<10	87	0.005	
W17018		<10	239	<10	86	0.005	
W17019		<10	225	<10	101	0.005	
W17020		<10	256	<10	109	0.002	
W17021		<10	265	<10	90	0.001	
W17022		<10	256	<10	98	0.002	
W17023		<10	251	<10	133	0.012	
W17024		<10	245	<10	99	0.007	
W17025		<10	68	<10	60	0.017	
W17026		<10	217	<10	113	0.017	
W17027		<10	225	<10	95	0.018	
W17028		<10	234	<10	92	0.007	
W17029		<10	242	<10	84	0.039	
W17030		<10	234	<10	109	0.010	
W17031		<10	228	<10	82	0.010	
W17032		<10	221	<10	98	0.002	
W17036		<10	246	<10	102	0.002	
W17040		<10	222	<10	96	0.010	
W17041		<10	249	<10	100	0.027	
W17042		<10	230	<10	100	0.007	
W17043		<10	251	<10	91	0.007	
W17044		<10	256	<10	90	0.008	
W17045		<10	237	<10	92	0.008	
W17046		<10	260	<10	86	0.007	



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Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	ME-ICP61 Ag ppm 0.5	ME-ICP61 Al % 0.01	ME-ICP61 As ppm 5	ME-ICP61 Ba ppm 10	ME-ICP61 Be ppm 0.5	ME-ICP61 Bi ppm 2	ME-ICP61 Ca % 0.01	ME-ICP61 Cd ppm 0.5	ME-ICP61 Co ppm 1	ME-ICP61 Cr ppm 1	ME-ICP61 Cu ppm 1	ME-ICP61 Fe % 0.01	ME-ICP61 Ga ppm 10	ME-ICP61 K % 0.01
W17047		1.65	<0.5	1.47	<5	170	<0.5	<2	7.45	<0.5	81	300	184	9.81	10	0.17
W17048		3.58	<0.5	1.71	<5	90	<0.5	<2	7.53	0.6	103	472	197	10.25	10	0.17
W17052		3.11	<0.5	1.50	<5	40	<0.5	<2	8.20	<0.5	78	199	148	9.82	<10	0.13
W17053		2.23	<0.5	1.54	<5	40	<0.5	<2	8.49	0.5	78	206	147	10.15	<10	0.13
W17058		1.96	<0.5	1.47	<5	10	<0.5	<2	7.89	<0.5	93	258	152	14.65	10	0.06
W17063		1.82	<0.5	1.06	<5	10	<0.5	<2	8.10	0.5	85	1350	147	12.50	<10	0.04
W17067		1.30	<0.5	0.98	<5	10	<0.5	<2	9.46	0.5	90	1385	113	8.19	<10	0.04
W17068		2.40	<0.5	0.98	7	10	<0.5	<2	9.04	0.5	91	1305	135	8.64	<10	0.04
W17069		2.18	<0.5	0.96	7	10	<0.5	<2	9.13	0.6	86	1405	173	9.10	<10	0.03
W17070		1.97	<0.5	0.75	11	10	<0.5	<2	5.29	0.5	94	1205	662	16.25	<10	0.02
W17071		2.43	<0.5	0.83	34	10	<0.5	<2	7.50	0.5	83	1300	212	11.45	<10	0.02
W17072		1.82	<0.5	0.88	14	10	<0.5	<2	8.68	0.6	87	1385	114	8.78	<10	0.03
W17073		2.70	<0.5	0.74	20	<10	<0.5	<2	5.51	0.9	78	1345	537	12.00	<10	0.01
W17075		0.05	0.5	4.64	<5	10	1.1	<2	0.13	0.6	1	15	191	0.22	10	4.40
W17076		2.19	<0.5	0.86	8	10	<0.5	<2	9.00	0.5	89	1350	144	9.40	<10	0.04
W17077		2.89	<0.5	0.89	<5	10	<0.5	<2	9.71	0.7	91	1395	120	8.10	<10	0.04
W17078		2.76	<0.5	0.87	8	10	<0.5	<2	8.76	0.5	90	1415	187	8.61	<10	0.04
W17079		1.48	<0.5	0.91	<5	10	<0.5	<2	9.33	<0.5	91	1320	124	8.37	<10	0.04
W17084		1.31	<0.5	1.02	<5	30	<0.5	2	9.99	<0.5	97	1355	160	9.21	<10	0.10
W17089		2.60	<0.5	1.10	<5	10	<0.5	<2	9.48	<0.5	89	1160	203	8.27	<10	0.03
W17094		2.58	<0.5	0.96	<5	20	<0.5	<2	9.67	0.7	93	1170	181	8.76	<10	0.06
W17096		2.52	<0.5	1.00	<5	20	<0.5	<2	9.78	0.7	97	1250	184	9.20	<10	0.06
W17097		2.69	<0.5	0.97	<5	20	<0.5	<2	9.83	<0.5	94	1240	208	8.88	<10	0.05
W17098		1.48	<0.5	0.98	<5	10	<0.5	<2	9.82	<0.5	94	1270	186	8.80	<10	0.05
W17099		2.00	<0.5	0.99	5	20	<0.5	3	9.55	<0.5	94	1345	191	8.74	<10	0.06
W17157		1.68	<0.5	1.17	<5	20	<0.5	<2	9.25	0.5	81	1240	188	8.42	<10	0.08
W17158		3.66	<0.5	1.18	<5	20	<0.5	<2	8.71	<0.5	83	1155	221	8.54	<10	0.09
W17162		1.77	<0.5	0.92	5	10	<0.5	<2	9.89	<0.5	92	1295	176	8.83	<10	0.05
W17163		1.73	<0.5	0.97	7	10	<0.5	<2	9.28	<0.5	91	1225	218	8.88	<10	0.03
W17164		1.60	<0.5	1.04	6	20	<0.5	3	9.54	0.5	92	1140	158	8.27	<10	0.05
W17165		1.35	<0.5	0.91	<5	10	<0.5	<2	9.41	0.8	91	1180	189	8.57	<10	0.04
W17166		1.90	<0.5	0.87	<5	10	<0.5	<2	9.59	0.7	92	1210	200	8.71	<10	0.03
W17167		2.64	<0.5	0.84	<5	10	<0.5	<2	9.85	0.5	91	1270	189	8.67	<10	0.03
W17168		1.87	<0.5	0.80	<5	10	<0.5	<2	9.13	0.5	91	1250	225	8.41	<10	0.02
W17169		1.71	<0.5	0.79	<5	10	<0.5	<2	8.98	<0.5	90	1310	137	8.48	<10	0.02
W17170		1.41	<0.5	0.81	<5	10	<0.5	<2	9.28	0.6	93	1360	129	8.85	<10	0.02
W17171		1.57	<0.5	0.81	<5	10	<0.5	<2	9.05	0.7	90	1260	160	8.33	<10	0.03
W17172		1.73	<0.5	0.81	6	<10	<0.5	<2	8.14	0.6	91	1220	425	9.83	<10	0.02
W17173		2.01	<0.5	0.82	<5	10	<0.5	2	9.23	0.6	91	1270	159	7.95	<10	0.03
W17174		2.15	<0.5	0.82	<5	10	<0.5	3	9.01	0.6	90	1240	144	8.47	<10	0.03

***** See Appendix Page for comments regarding this certificate *****



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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	Tl
		ppm 10	% 0.01	ppm 5	ppm 1	% 0.01	ppm 1	ppm 10	ppm 2	% 0.01	ppm 5	ppm 1	ppm 1	ppm 20	% 0.01	ppm 10
W17047		<10	10.25	2020	1	0.26	72	40	2	0.02	<5	73	50	<20	0.21	<10
W17048		<10	10.45	2190	2	0.27	130	50	4	0.01	<5	73	62	<20	0.23	<10
W17052		<10	10.30	2060	4	0.19	53	50	<2	0.29	<5	81	37	<20	0.23	<10
W17053		<10	10.60	2110	3	0.19	51	70	6	0.30	5	84	36	<20	0.24	<10
W17058		<10	10.15	2070	3	0.12	59	30	5	0.33	5	83	24	<20	0.68	<10
W17063		<10	12.50	1355	3	0.12	354	40	2	0.17	<5	53	22	<20	0.17	<10
W17067		<10	13.40	1510	3	0.13	378	40	6	0.14	<5	54	27	<20	0.16	<10
W17068		<10	13.55	1525	4	0.14	381	30	6	0.14	<5	53	26	<20	0.16	<10
W17069		<10	13.50	1530	3	0.11	379	50	7	0.12	<5	54	22	<20	0.16	<10
W17070		<10	13.65	1405	1	0.05	393	60	6	0.19	<5	43	8	<20	0.12	<10
W17071		<10	13.35	1510	1	0.08	365	30	3	0.16	<5	51	15	<20	0.14	<10
W17072		<10	13.75	1555	3	0.11	377	30	3	0.14	<5	54	21	<20	0.15	<10
W17073		<10	14.35	1560	<1	0.06	316	30	2	0.12	<5	47	8	<20	0.13	<10
W17075		<10	0.05	46	<1	1.18	9	460	22	0.06	<5	<1	20	<20	0.02	10
W17076		<10	13.15	1485	4	0.11	381	30	4	0.14	<5	52	21	<20	0.14	<10
W17077		<10	13.50	1495	2	0.13	387	10	5	0.14	<5	55	26	<20	0.15	<10
W17078		<10	13.25	1540	1	0.11	371	50	3	0.19	<5	53	22	<20	0.14	<10
W17079		<10	13.50	1490	2	0.12	393	50	4	0.16	<5	55	24	<20	0.15	<10
W17084		<10	13.75	1690	2	0.15	345	20	2	0.16	<5	57	25	<20	0.15	<10
W17089		<10	12.45	1670	3	0.14	332	30	6	0.22	<5	57	20	<20	0.16	<10
W17094		<10	13.35	1660	2	0.14	328	50	7	0.18	<5	57	30	<20	0.15	10
W17096		<10	13.75	1715	5	0.15	342	40	3	0.19	<5	57	30	<20	0.16	<10
W17097		<10	13.25	1660	2	0.14	333	30	3	0.21	<5	57	28	<20	0.15	<10
W17098		<10	13.55	1650	5	0.14	347	40	3	0.19	<5	57	28	<20	0.16	<10
W17099		<10	13.30	1655	3	0.15	338	30	5	0.19	<5	56	27	<20	0.15	<10
W17157		<10	12.95	1675	3	0.17	308	40	5	0.21	<5	58	26	<20	0.16	10
W17158		<10	12.80	1670	3	0.17	321	50	3	0.23	<5	56	26	<20	0.16	<10
W17162		<10	13.50	1660	3	0.14	328	30	7	0.20	<5	57	26	<20	0.15	<10
W17163		<10	13.35	1615	3	0.12	318	40	3	0.20	<5	56	21	<20	0.15	<10
W17164		<10	13.00	1540	2	0.14	345	30	<2	0.26	<5	56	26	<20	0.15	<10
W17165		<10	12.90	1640	3	0.13	312	30	6	0.21	<5	57	26	<20	0.15	<10
W17166		<10	13.20	1645	4	0.12	312	40	4	0.22	<5	58	26	<20	0.15	<10
W17167		<10	13.25	1675	4	0.13	304	30	7	0.19	<5	59	26	<20	0.15	<10
W17168		<10	12.70	1625	3	0.11	326	30	5	0.25	<5	55	24	<20	0.14	<10
W17169		<10	12.95	1595	3	0.11	343	30	6	0.16	<5	54	24	<20	0.14	<10
W17170		<10	13.40	1600	4	0.10	335	30	5	0.18	<5	57	23	<20	0.14	<10
W17171		<10	12.85	1610	4	0.11	336	30	7	0.24	<5	56	23	<20	0.14	<10
W17172		<10	13.45	1885	3	0.09	322	40	5	0.23	<5	54	19	<20	0.14	<10
W17173		<10	12.65	1625	2	0.11	313	30	4	0.23	<5	57	23	<20	0.14	<10
W17174		<10	12.95	1575	4	0.11	324	30	5	0.18	<5	56	25	<20	0.14	<10



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Sample Description	Method Analyte Units LOR	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	Au-ICP22	PUL-QC
		U	V	W	Zn	Au	Pass75um
		ppm	ppm	ppm	ppm	ppm	%
		10	1	10	2	0.001	0.01
W17047		<10	252	<10	114	0.006	
W17048		<10	264	<10	136	0.008	
W17052		<10	285	<10	150	0.001	
W17053		<10	297	<10	158	<0.001	
W17058		<10	1000	<10	125	0.001	98.0
W17063		<10	184	<10	76	0.006	
W17067		<10	175	<10	81	0.003	
W17068		<10	177	<10	156	0.003	
W17069		<10	171	<10	103	0.003	
W17070		<10	138	<10	142	0.004	
W17071		<10	159	<10	124	0.005	
W17072		<10	168	<10	86	0.002	
W17073		<10	149	<10	141	0.007	
W17075		<10	3	<10	299	0.346	
W17076		<10	161	<10	83	0.002	
W17077		<10	172	<10	78	0.001	
W17078		<10	161	<10	94	0.002	
W17079		<10	171	<10	87	0.001	
W17084		<10	171	<10	89	0.004	
W17089		<10	177	<10	112	0.001	
W17094		<10	168	<10	80	0.001	
W17096		<10	174	<10	88	0.001	
W17097		<10	174	<10	77	0.001	
W17098		<10	176	<10	82	0.001	
W17099		<10	171	<10	84	0.001	
W17157		<10	184	<10	81	0.001	
W17158		<10	178	<10	81	0.002	
W17162		<10	175	<10	84	0.002	
W17163		<10	169	<10	81	0.003	
W17164		<10	169	<10	58	0.003	
W17165		<10	171	<10	75	0.002	
W17166		<10	175	<10	74	0.002	
W17167		<10	175	<10	89	0.002	
W17168		<10	168	<10	69	0.002	
W17169		<10	169	<10	76	0.002	
W17170		<10	176	<10	77	0.003	
W17171		<10	172	<10	74	0.003	
W17172		<10	165	<10	174	0.016	
W17173		<10	170	<10	79	0.006	
W17174		<10	172	<10	74	0.003	



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Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	ME-ICP61 Ag ppm 0.5	ME-ICP61 Al % 0.01	ME-ICP61 As ppm 5	ME-ICP61 Ba ppm 10	ME-ICP61 Be ppm 0.5	ME-ICP61 Bi ppm 2	ME-ICP61 Ca % 0.01	ME-ICP61 Cd ppm 0.5	ME-ICP61 Co ppm 1	ME-ICP61 Cr ppm 1	ME-ICP61 Cu ppm 1	ME-ICP61 Fe % 0.01	ME-ICP61 Ga ppm 10	ME-ICP61 K % 0.01
W17175		0.05	2.6	6.96	53	1100	1.4	4	3.75	1.8	26	139	3580	5.47	20	2.17
W17179		1.32	<0.5	0.87	<5	10	<0.5	2	9.54	0.5	94	1270	168	8.71	<10	0.03
W17184		1.80	<0.5	0.86	<5	10	<0.5	<2	9.72	0.5	99	1190	254	9.06	<10	0.03
W17185		1.58	<0.5	0.87	<5	10	<0.5	<2	10.00	0.7	98	1290	239	9.30	<10	0.03
W17186		1.58	<0.5	0.84	6	10	<0.5	<2	9.72	0.6	97	1260	209	9.09	10	0.03
W17187		1.59	<0.5	0.81	<5	10	<0.5	<2	9.15	0.5	93	1250	247	9.30	<10	0.02
W17188		1.53	<0.5	0.82	<5	10	<0.5	<2	9.86	0.5	95	1310	164	8.82	<10	0.02
W17191		1.28	<0.5	0.79	<5	10	<0.5	2	9.34	0.5	92	1290	163	8.99	<10	0.02
W17192		2.66	<0.5	0.81	<5	10	<0.5	<2	9.38	0.5	97	1290	190	9.21	<10	0.02
W17193		1.71	<0.5	0.81	<5	10	<0.5	2	9.44	0.7	97	1310	181	9.29	<10	0.03
W17194		1.53	<0.5	1.26	5	10	<0.5	<2	9.35	0.6	88	1150	189	8.67	10	0.03
W17195		1.92	<0.5	4.56	<5	500	0.6	2	8.98	<0.5	60	659	86	7.45	10	0.69
W17199		1.76	<0.5	0.82	<5	10	<0.5	<2	9.48	0.5	93	1290	139	9.04	<10	0.03
W17205		1.93	<0.5	0.91	<5	10	<0.5	<2	9.35	0.5	95	1030	229	9.12	<10	0.03
W17206		1.95	<0.5	1.09	<5	10	<0.5	<2	9.12	0.6	86	789	368	8.89	<10	0.05
W17210		1.51	<0.5	0.87	<5	10	<0.5	<2	9.56	0.8	92	1290	179	9.07	<10	0.04
W17211		3.41	<0.5	0.87	<5	10	<0.5	2	9.41	0.5	90	1300	179	8.93	<10	0.04
W17216		2.05	<0.5	1.73	<5	30	<0.5	<2	9.61	0.6	77	959	131	8.52	10	0.07
W17217		1.09	<0.5	0.99	<5	10	<0.5	<2	9.32	0.5	91	1030	177	9.15	<10	0.04
W17218		1.17	<0.5	0.95	<5	10	<0.5	<2	9.38	0.5	93	1220	183	9.36	<10	0.04
W17219		1.82	<0.5	1.75	5	10	<0.5	<2	8.49	0.8	82	997	185	10.10	<10	0.02
W17220		2.02	<0.5	0.87	<5	10	<0.5	<2	9.20	0.7	93	1230	216	8.90	<10	0.03
W17221		2.08	<0.5	1.75	6	70	<0.5	<2	9.46	0.5	84	1050	185	8.90	10	0.14
W17222		1.81	<0.5	1.05	<5	10	<0.5	<2	9.44	0.5	90	1220	169	8.71	<10	0.03
W17223		1.28	<0.5	0.89	<5	10	<0.5	4	9.58	<0.5	93	1280	178	9.09	<10	0.03
W17224		0.28	<0.5	1.23	6	110	<0.5	<2	8.16	0.7	95	1420	169	12.50	10	0.05
W17225		0.06	<0.5	15.85	20	50	<0.5	5	0.02	<0.5	2	150	7	15.15	50	0.14



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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	Tl
		ppm 10	% 0.01	ppm 5	ppm 1	% 0.01	ppm 1	ppm 10	ppm 2	% 0.01	ppm 5	ppm 1	ppm 1	ppm 20	% 0.01	ppm 10
W17175		50	1.83	798	59	2.15	2130	1000	2040	0.39	<5	17	291	20	0.65	<10
W17179		<10	13.25	1585	4	0.12	334	30	7	0.22	<5	58	25	<20	0.15	<10
W17184		<10	13.40	1730	4	0.12	331	30	<2	0.27	<5	61	26	<20	0.15	<10
W17185		<10	13.85	1790	4	0.12	345	20	3	0.25	<5	62	27	<20	0.15	<10
W17186		<10	13.50	1750	3	0.13	342	30	4	0.27	<5	60	26	<20	0.14	<10
W17187		<10	13.15	1805	3	0.11	325	20	7	0.34	<5	59	21	<20	0.14	<10
W17188		<10	13.30	1750	4	0.12	325	30	3	0.21	<5	61	25	<20	0.14	<10
W17191		<10	13.05	1740	4	0.11	316	20	8	0.18	<5	58	23	<20	0.14	<10
W17192		<10	13.25	1725	4	0.13	340	30	5	0.22	<5	59	25	<20	0.14	<10
W17193		<10	13.40	1785	5	0.12	333	30	5	0.20	<5	59	24	<20	0.14	<10
W17194		<10	12.35	1700	4	0.12	303	70	4	0.17	<5	56	24	<20	0.17	<10
W17195		10	8.67	1650	2	0.78	234	450	6	0.09	<5	40	169	<20	0.35	<10
W17199		<10	13.20	1735	3	0.11	320	20	4	0.21	<5	60	24	<20	0.14	<10
W17205		<10	13.00	1775	4	0.13	207	20	5	0.27	<5	63	26	<20	0.15	<10
W17206		<10	12.60	1910	4	0.14	184	30	4	0.39	<5	69	27	<20	0.17	<10
W17210		<10	13.20	1755	5	0.12	349	30	5	0.19	<5	60	25	<20	0.15	<10
W17211		<10	12.95	1725	3	0.12	342	30	7	0.19	<5	60	25	<20	0.15	<10
W17216		<10	11.25	1760	4	0.15	226	140	4	0.17	<5	58	41	<20	0.21	<10
W17217		<10	12.80	1665	4	0.13	304	40	2	0.24	<5	63	26	<20	0.16	<10
W17218		<10	13.10	1705	3	0.14	342	40	4	0.22	<5	63	26	<20	0.16	<10
W17219		<10	12.25	2300	2	0.08	288	140	6	0.21	<5	56	22	<20	0.21	<10
W17220		<10	13.15	1725	2	0.10	319	30	3	0.19	<5	61	21	<20	0.14	<10
W17221		10	11.80	1775	3	0.23	286	130	<2	0.18	<5	56	60	<20	0.21	<10
W17222		<10	12.75	1695	4	0.12	319	60	2	0.20	<5	59	26	<20	0.16	<10
W17223		<10	13.30	1745	4	0.12	343	30	3	0.20	<5	62	25	<20	0.15	<10
W17224		10	11.20	2060	8	0.16	303	100	11	0.18	<5	62	67	<20	0.20	<10
W17225		<10	0.03	352	19	0.01	7	100	16	0.06	<5	7	5	50	0.84	<10



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Sample Description	Method Analyte Units LOR	ME-ICP61 U ppm 10	ME-ICP61 V ppm 1	ME-ICP61 W ppm 10	ME-ICP61 Zn ppm 2	Au-ICP22 Au ppm 0.001	PUL-QC Pass75um %
W17175		<10	137	<10	1100	0.470	
W17179		<10	175	<10	75	0.002	
W17184		<10	178	<10	83	0.003	
W17185		<10	179	<10	89	0.002	
W17186		<10	176	<10	93	0.003	95.0
W17187		<10	170	<10	93	0.005	
W17188		<10	177	<10	81	0.003	
W17191		<10	173	<10	84	0.001	
W17192		<10	173	<10	95	0.002	
W17193		<10	175	<10	88	0.001	
W17194		<10	176	<10	89	0.001	
W17195		<10	172	<10	93	0.001	
W17199		<10	179	<10	80	0.002	
W17205		<10	181	<10	92	0.002	
W17206		<10	201	<10	84	0.010	
W17210		<10	180	<10	86	0.001	
W17211		<10	175	<10	82	0.001	
W17216		<10	187	<10	88	<0.001	
W17217		<10	187	<10	78	0.001	
W17218		<10	186	<10	89	<0.001	
W17219		<10	184	<10	104	0.002	
W17220		<10	177	<10	94	0.002	
W17221		<10	188	<10	89	<0.001	
W17222		<10	178	<10	80	0.001	
W17223		<10	181	<10	82	0.001	
W17224		<10	269	<10	324	0.001	
W17225		<10	413	<10	4	0.001	



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

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Total # Appendix Pages: 1
Finalized Date: 23-AUG-2017
Account: TODRIV

CERTIFICATE OF ANALYSIS AD17164439

CERTIFICATE COMMENTS

ACCREDITATION COMMENTS

Applies to Method:

NATA Accredited. Corporate Accreditation No: 825, Corporate Site No: 23001. The Technical Signatory is Wendy Wong, Senior QC Chemist.
Au-ICP22 ME-ICP61

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
Au-ICP22 ME-ICP61

Applies to Method:

Processed at ALS Adelaide located at Unit 1, 1 Burma Road, Pooraka, Adelaide, SA, Australia.
BAG-01 LEV-01 LOG-22
PUL-23 PUL-QC SPL-21

LOG-24
WEI-21