



Australian Laboratory Services Pty. Ltd.

32 Shand Street  
Stafford  
Brisbane QLD 4053  
Phone: +61 (7) 3243 7222 Fax: +61 (7) 3243 7218  
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Finalized Date: 4-SEP-2017  
Account: TODRIV

## CERTIFICATE AD17178512

P.O. No.: TRR17-007

This report is for 100 Percussion samples submitted to our lab in Adelaide, SA,  
Australia on 24-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
PUL-QC	Pulverizing QC Test
LOG-24	Pulp Login - Rcd w/o Barcode
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 AD17178512

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
W17623		1.36	<0.5	1.52	<5	30	<0.5	3	10.60	0.7	83	1040	256	7.62	<10	0.15
W17624		1.75	<0.5	1.44	<5	40	<0.5	<2	11.00	0.5	87	1010	266	7.98	<10	0.14
W17626		2.09	<0.5	1.31	<5	30	<0.5	<2	10.35	0.5	83	940	290	7.61	<10	0.11
W17627		2.19	<0.5	1.30	<5	30	<0.5	<2	10.90	<0.5	84	951	299	7.82	<10	0.11
W17628		2.60	<0.5	1.34	<5	30	<0.5	<2	10.90	0.7	84	1050	277	7.75	<10	0.12
W17629		2.01	<0.5	1.32	<5	20	<0.5	<2	10.65	0.5	84	1090	286	7.77	<10	0.10
W17630		1.89	<0.5	1.32	<5	30	<0.5	<2	10.75	0.6	86	1090	280	7.67	<10	0.11
W17631		1.75	<0.5	1.26	<5	30	<0.5	<2	10.65	0.5	84	1120	256	7.95	<10	0.10
W17632		2.89	<0.5	1.31	<5	30	<0.5	<2	10.95	0.6	86	1130	237	7.98	<10	0.10
W17633		1.57	<0.5	1.25	<5	30	<0.5	<2	10.25	0.7	79	1100	202	7.40	<10	0.10
W17634		1.75	<0.5	1.25	<5	20	<0.5	<2	10.70	0.6	87	973	296	7.97	<10	0.10
W17635		3.00	<0.5	1.24	<5	20	<0.5	<2	11.10	0.5	90	925	357	8.12	<10	0.09
W17636		1.20	<0.5	1.20	<5	20	<0.5	<2	10.90	<0.5	88	928	323	7.99	<10	0.09
W17637		2.84	<0.5	1.26	<5	20	<0.5	<2	11.15	0.6	90	921	281	8.24	<10	0.09
W17638		2.40	<0.5	1.37	<5	20	<0.5	<2	10.20	0.5	86	881	287	7.99	<10	0.09
W17639		3.01	<0.5	1.26	<5	20	<0.5	<2	10.95	0.6	85	933	226	7.78	<10	0.09
W17640		2.00	<0.5	1.25	<5	20	<0.5	<2	10.20	0.7	83	966	259	7.86	<10	0.08
W17641		2.08	<0.5	1.24	<5	20	<0.5	<2	10.65	<0.5	82	990	258	7.46	<10	0.09
W17642		1.08	<0.5	1.16	<5	20	<0.5	4	10.50	0.5	79	979	274	7.56	<10	0.07
W17643		1.56	<0.5	1.24	<5	20	<0.5	<2	11.20	0.6	84	996	280	7.93	<10	0.07
W17644		1.16	<0.5	1.29	<5	20	<0.5	<2	11.10	0.7	83	978	255	7.89	<10	0.08
W17645		2.20	<0.5	1.22	<5	20	<0.5	<2	10.20	0.6	87	960	373	7.64	<10	0.07
W17646		1.64	<0.5	1.30	<5	20	<0.5	<2	10.75	0.6	88	939	342	7.97	<10	0.07
W17647		1.88	<0.5	1.22	<5	20	<0.5	<2	10.25	0.7	106	877	457	8.83	<10	0.09
W17648		2.11	<0.5	1.13	6	10	<0.5	<2	9.53	0.7	84	759	536	8.67	10	0.05
W17649		2.18	<0.5	1.18	<5	20	<0.5	<2	11.20	0.7	91	846	420	8.43	<10	0.07
W17650		0.05	0.5	4.76	6	10	1.1	<2	0.14	0.6	<1	14	195	0.22	10	4.46
W17651		1.24	<0.5	1.11	<5	10	<0.5	<2	10.45	<0.5	82	773	293	7.58	<10	0.06
W17652		2.59	<0.5	1.18	<5	20	<0.5	<2	11.05	<0.5	86	836	287	8.03	<10	0.07
W17653		2.92	<0.5	1.16	<5	20	<0.5	<2	10.90	0.6	79	813	273	7.79	<10	0.06
W17654		1.81	<0.5	1.13	<5	10	<0.5	<2	11.10	0.7	81	799	274	7.65	<10	0.06
W17655		1.61	<0.5	1.19	<5	20	<0.5	<2	11.00	0.7	84	834	236	7.95	<10	0.06
W17656		1.05	<0.5	1.23	<5	20	<0.5	<2	10.95	0.6	87	868	263	7.92	<10	0.06
W17657		2.98	<0.5	1.25	<5	10	<0.5	<2	11.20	0.5	82	881	268	7.97	<10	0.05
W17658		3.14	<0.5	1.22	<5	10	<0.5	<2	11.05	<0.5	77	877	247	7.76	<10	0.05
W17659		3.73	<0.5	1.29	<5	10	<0.5	<2	11.80	0.9	81	921	258	7.79	<10	0.05
W17660		2.15	<0.5	1.28	<5	20	<0.5	<2	10.40	0.7	82	856	330	7.47	<10	0.08
W17661		2.56	<0.5	1.39	<5	20	<0.5	<2	10.20	0.7	77	877	172	8.30	<10	0.08
W17662		1.95	<0.5	1.50	<5	20	<0.5	<2	11.10	0.5	78	957	271	7.98	<10	0.09
W17663		2.70	<0.5	1.47	<5	20	<0.5	<2	11.10	0.7	74	892	256	7.84	<10	0.11



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## CERTIFICATE OF ANALYSIS AD17178512

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
W17623		<10	11.65	1540	2	0.23	260	80	2	0.32	<5	61	55	<20	0.20	<10
W17624		10	12.20	1580	3	0.22	275	70	4	0.33	<5	64	58	<20	0.19	<10
W17626		<10	11.65	1500	2	0.20	266	70	6	0.35	<5	61	45	<20	0.18	<10
W17627		<10	11.80	1540	3	0.21	256	60	2	0.36	<5	65	46	<20	0.19	<10
W17628		<10	11.95	1540	2	0.21	262	60	6	0.33	<5	63	47	<20	0.19	<10
W17629		<10	12.05	1560	3	0.20	270	50	5	0.33	<5	64	44	<20	0.19	<10
W17630		<10	11.90	1520	3	0.20	273	60	6	0.33	<5	63	46	<20	0.19	<10
W17631		<10	12.20	1540	3	0.20	280	60	3	0.29	<5	63	44	<20	0.18	<10
W17632		10	12.25	1550	2	0.21	282	50	4	0.31	<5	64	46	<20	0.19	<10
W17633		<10	11.50	1460	3	0.21	265	50	5	0.27	<5	59	45	<20	0.18	<10
W17634		<10	11.80	1530	2	0.20	304	50	6	0.40	<5	64	43	<20	0.18	<10
W17635		<10	11.95	1600	4	0.19	254	40	5	0.43	<5	68	43	<20	0.18	<10
W17636		<10	11.80	1590	2	0.19	242	50	2	0.42	<5	67	42	<20	0.18	<10
W17637		<10	11.90	1600	4	0.20	257	30	4	0.40	<5	69	43	<20	0.19	<10
W17638		<10	11.25	1540	3	0.19	249	60	6	0.40	<5	65	39	<20	0.19	<10
W17639		<10	11.60	1510	3	0.19	243	60	2	0.37	<5	67	42	<20	0.18	<10
W17640		<10	11.40	1430	2	0.17	255	70	3	0.29	<5	64	36	<20	0.18	<10
W17641		<10	10.95	1520	2	0.19	259	70	3	0.37	<5	64	43	<20	0.18	<10
W17642		<10	10.90	1500	2	0.17	259	60	6	0.42	<5	64	38	<20	0.17	<10
W17643		<10	11.45	1560	2	0.18	258	40	6	0.37	<5	68	38	<20	0.18	<10
W17644		<10	11.20	1520	3	0.19	258	60	7	0.34	<5	67	41	<20	0.18	<10
W17645		<10	11.00	1530	2	0.17	291	50	3	0.42	<5	63	36	<20	0.17	<10
W17646		<10	11.75	1650	3	0.17	283	70	4	0.40	<5	66	38	<20	0.18	<10
W17647		<10	11.45	1560	2	0.18	340	60	7	0.59	<5	63	41	<20	0.17	<10
W17648		<10	11.75	1690	3	0.14	250	40	6	0.32	<5	61	29	<20	0.15	<10
W17649		<10	11.80	1660	3	0.17	264	40	5	0.49	<5	72	39	<20	0.18	<10
W17650		<10	0.05	46	<1	1.19	10	480	25	0.06	<5	<1	20	<20	0.02	10
W17651		<10	11.10	1570	2	0.16	224	40	5	0.35	<5	67	33	<20	0.16	<10
W17652		<10	11.25	1610	3	0.18	233	40	4	0.44	<5	72	39	<20	0.18	<10
W17653		<10	11.10	1580	2	0.17	230	40	5	0.44	<5	72	37	<20	0.18	<10
W17654		<10	10.90	1580	3	0.16	223	40	4	0.47	<5	72	35	<20	0.18	<10
W17655		<10	11.10	1620	2	0.17	228	40	3	0.47	<5	73	37	<20	0.18	<10
W17656		<10	11.00	1590	2	0.17	237	50	3	0.52	<5	72	37	<20	0.18	<10
W17657		<10	11.45	1700	2	0.17	234	40	3	0.41	<5	76	34	<20	0.19	<10
W17658		<10	11.05	1660	3	0.18	231	50	5	0.45	<5	74	36	<20	0.19	<10
W17659		<10	11.70	1760	2	0.16	241	40	2	0.44	<5	80	33	<20	0.20	<10
W17660		<10	10.60	1610	3	0.19	263	70	2	0.58	<5	69	39	<20	0.18	<10
W17661		<10	11.65	1610	2	0.20	220	60	4	0.28	<5	69	42	<20	0.20	<10
W17662		<10	11.55	1700	2	0.21	252	70	5	0.43	<5	75	48	<20	0.22	<10
W17663		<10	11.15	1710	3	0.22	229	70	9	0.41	<5	74	49	<20	0.21	10



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**CERTIFICATE OF ANALYSIS AD17178512**

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
W17623		<10	185	<10	68	0.002	
W17624		<10	178	<10	70	0.002	
W17626		<10	173	<10	68	0.002	
W17627		<10	183	<10	80	0.001	
W17628		<10	175	<10	75	0.002	85.0
W17629		<10	183	<10	93	0.001	
W17630		<10	181	<10	66	0.002	
W17631		<10	177	<10	69	0.002	
W17632		<10	174	<10	71	0.002	
W17633		<10	177	<10	79	0.002	
W17634		<10	186	<10	75	0.002	
W17635		<10	181	<10	71	0.001	
W17636		<10	192	<10	79	0.001	
W17637		<10	189	<10	122	0.002	
W17638		<10	185	<10	114	0.001	
W17639		<10	182	<10	117	0.002	
W17640		<10	179	<10	102	0.023	
W17641		<10	190	<10	70	0.016	
W17642		<10	188	<10	69	0.003	
W17643		<10	194	<10	73	0.004	
W17644		<10	198	<10	67	0.003	
W17645		<10	176	<10	69	0.002	
W17646		<10	183	<10	75	0.002	
W17647		<10	184	<10	80	0.003	
W17648		<10	170	<10	100	0.011	
W17649		<10	193	<10	95	0.002	
W17650		<10	3	<10	306	0.339	
W17651		<10	193	<10	67	0.002	
W17652		<10	199	<10	73	0.002	
W17653		<10	195	<10	65	0.002	
W17654		<10	210	<10	60	0.003	
W17655		<10	212	<10	63	0.003	
W17656		<10	211	<10	90	0.004	
W17657		<10	206	<10	85	0.009	
W17658		<10	206	<10	77	0.001	
W17659		<10	223	<10	79	0.004	
W17660		<10	209	<10	64	0.002	
W17661		<10	207	<10	61	0.001	
W17662		<10	227	<10	60	0.003	
W17663		<10	219	<10	70	0.002	



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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
W17664		4.08	<0.5	1.64	<5	30	<0.5	<2	11.00	0.5	79	871	293	8.16	<10	0.13
W17665		2.84	<0.5	1.70	<5	30	<0.5	2	10.50	0.5	81	855	257	7.97	<10	0.14
W17666		2.54	<0.5	1.66	<5	30	<0.5	<2	10.40	0.6	82	768	281	8.33	<10	0.13
W17667		2.56	<0.5	1.73	<5	30	<0.5	2	9.98	0.5	76	654	255	8.05	<10	0.15
W17668		2.61	<0.5	1.75	<5	30	<0.5	2	10.25	0.6	76	720	230	7.97	<10	0.14
W17669		2.59	<0.5	1.92	<5	30	<0.5	<2	9.72	0.6	86	908	174	8.58	10	0.16
W17670		4.71	<0.5	1.88	<5	30	<0.5	<2	9.67	0.6	84	869	176	8.47	<10	0.15
W17671		2.03	<0.5	1.52	<5	20	<0.5	<2	10.50	0.7	83	824	221	8.61	<10	0.09
W17672		2.80	<0.5	1.64	<5	20	<0.5	<2	9.91	0.7	84	684	225	8.34	<10	0.12
W17673		2.03	<0.5	1.82	<5	30	<0.5	3	9.49	0.5	84	664	239	8.30	10	0.13
W17674		1.86	<0.5	1.70	<5	30	<0.5	<2	9.53	0.8	83	717	228	8.36	<10	0.14
W17675		0.05	2.8	7.03	52	1090	1.4	2	3.80	1.8	24	140	3530	5.47	20	2.08
W17676		2.03	<0.5	1.78	<5	30	<0.5	4	9.27	0.5	79	678	225	8.32	<10	0.13
W17677		2.81	<0.5	1.63	<5	30	<0.5	2	8.74	<0.5	76	657	243	8.24	10	0.14
W17678		1.11	<0.5	1.67	<5	40	<0.5	2	9.39	0.5	72	781	226	7.95	<10	0.15
W17679		3.17	<0.5	1.91	<5	20	<0.5	2	8.33	<0.5	66	770	228	7.87	<10	0.12
W17680		3.72	<0.5	1.84	<5	30	<0.5	3	10.00	0.7	75	879	209	8.25	<10	0.17
W17681		2.04	<0.5	1.71	<5	20	<0.5	<2	9.35	0.5	75	864	205	8.16	<10	0.14
W17682		2.11	<0.5	1.70	<5	30	<0.5	2	9.24	0.5	73	935	178	8.17	<10	0.16
W17685		2.05	<0.5	1.87	<5	20	<0.5	<2	8.80	0.5	65	867	157	7.98	<10	0.14
W17686		2.99	<0.5	1.74	5	30	<0.5	<2	9.30	0.7	74	844	183	7.91	<10	0.15
W17687		2.38	<0.5	1.82	<5	20	<0.5	2	9.43	0.6	80	749	210	8.11	<10	0.13
W17688		2.00	<0.5	1.67	<5	20	<0.5	3	9.25	0.5	77	788	225	7.70	<10	0.13
W17689		2.22	<0.5	1.82	<5	30	<0.5	2	9.36	0.7	78	865	189	7.94	<10	0.14
W17690		3.73	<0.5	1.85	<5	30	<0.5	2	10.00	0.5	79	886	202	7.90	10	0.13
W17691		1.70	<0.5	4.02	<5	210	<0.5	5	7.98	0.5	65	958	138	8.73	10	0.40
W17692		1.07	<0.5	4.98	<5	1000	0.5	<2	7.01	0.6	58	439	123	8.39	10	1.11
W17693		2.61	<0.5	2.30	<5	30	<0.5	4	9.17	0.5	74	756	175	8.14	10	0.19
W17694		2.50	<0.5	2.07	<5	30	<0.5	<2	9.19	<0.5	80	874	206	7.84	<10	0.17
W17695		2.70	<0.5	2.25	<5	30	<0.5	<2	8.51	0.7	72	806	152	8.61	10	0.17
W17696		1.30	<0.5	5.20	<5	530	0.6	2	7.61	<0.5	55	492	171	8.42	10	1.00
W17697		2.89	<0.5	6.52	<5	400	0.6	<2	4.97	<0.5	41	250	110	8.39	10	1.05
W17698		2.91	<0.5	2.05	<5	30	<0.5	<2	11.10	0.8	86	948	264	7.78	<10	0.15
W17699		4.18	<0.5	1.96	<5	30	<0.5	<2	9.97	0.7	81	872	241	7.91	<10	0.16
W17700		0.05	<0.5	6.06	14	30	1.1	<2	1.82	<0.5	28	47	41	2.88	20	3.91
W17701		2.57	<0.5	2.01	<5	30	<0.5	<2	8.84	<0.5	78	774	131	8.53	<10	0.14
W17702		2.85	<0.5	1.96	<5	30	<0.5	<2	10.05	0.5	95	884	318	8.12	10	0.14
W17703		4.16	<0.5	2.01	<5	40	<0.5	<2	9.32	0.7	88	856	222	8.06	10	0.17
W17704		1.76	<0.5	1.95	<5	30	<0.5	<2	9.70	0.5	82	1040	190	8.28	10	0.16
W17705		2.47	<0.5	2.03	<5	30	<0.5	<2	9.48	0.6	85	1080	174	8.53	10	0.17



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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	Ti
		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
W17664		<10	11.15	1700	3	0.27	272	90	<2	0.47	<5	75	56	<20	0.24	<10
W17665		10	10.70	1640	2	0.26	244	80	4	0.46	<5	69	57	<20	0.23	<10
W17666		<10	11.10	1690	2	0.24	228	50	3	0.45	<5	71	53	<20	0.23	<10
W17667		10	10.60	1720	2	0.25	192	100	4	0.49	<5	73	59	<20	0.24	<10
W17668		<10	10.50	1660	2	0.26	191	70	2	0.50	<5	72	57	<20	0.25	<10
W17669		<10	10.90	1650	3	0.28	208	70	3	0.33	<5	66	62	<20	0.27	10
W17670		<10	10.80	1640	2	0.28	206	60	2	0.32	<5	65	59	<20	0.26	<10
W17671		<10	11.20	1740	4	0.22	202	50	4	0.38	<5	71	45	<20	0.22	<10
W17672		<10	10.80	1660	4	0.24	208	70	4	0.41	<5	67	51	<20	0.23	<10
W17673		<10	10.50	1620	3	0.25	202	100	4	0.44	<5	63	53	<20	0.23	<10
W17674		<10	10.85	1670	2	0.24	189	100	4	0.46	<5	66	53	<20	0.22	<10
W17675		50	1.85	785	59	2.15	2260	990	2010	0.41	<5	17	293	20	0.67	<10
W17676		10	10.60	1620	3	0.24	176	90	4	0.40	<5	64	56	<20	0.22	<10
W17677		<10	10.70	1610	2	0.22	166	80	6	0.42	<5	66	48	<20	0.21	<10
W17678		10	10.70	1650	2	0.25	163	90	2	0.38	<5	66	52	<20	0.21	<10
W17679		10	10.50	1700	1	0.22	195	170	4	0.15	<5	60	37	<20	0.24	<10
W17680		10	11.05	1770	3	0.29	185	140	5	0.37	<5	69	56	<20	0.21	<10
W17681		10	10.85	1710	2	0.29	191	130	5	0.36	<5	64	51	<20	0.20	<10
W17682		10	10.80	1650	3	0.29	202	100	2	0.39	<5	66	51	<20	0.23	<10
W17685		10	10.60	1720	2	0.27	184	80	5	0.15	<5	64	39	<20	0.25	<10
W17686		10	10.75	1540	2	0.27	217	80	2	0.42	<5	66	47	<20	0.24	<10
W17687		<10	10.35	1460	2	0.24	232	50	5	0.46	<5	66	44	<20	0.24	<10
W17688		<10	9.95	1520	2	0.25	205	60	11	0.41	<5	63	42	<20	0.24	<10
W17689		<10	10.35	1460	1	0.26	203	60	7	0.49	<5	63	49	<20	0.26	<10
W17690		<10	10.10	1410	2	0.27	217	70	5	0.62	<5	65	48	<20	0.24	<10
W17691		10	9.19	1710	2	0.51	251	210	3	0.13	<5	53	98	<20	0.41	<10
W17692		10	7.21	1770	1	0.83	135	520	7	0.13	<5	47	272	<20	0.48	<10
W17693		10	9.98	1570	1	0.33	204	120	6	0.31	<5	63	64	<20	0.30	<10
W17694		<10	10.35	1480	1	0.30	191	80	<2	0.44	<5	62	59	<20	0.27	<10
W17695		10	10.25	1850	2	0.30	189	140	8	0.08	<5	62	47	<20	0.26	<10
W17696		10	7.85	1830	2	1.08	133	620	9	0.07	<5	52	243	<20	0.45	10
W17697		10	5.94	1750	1	2.01	62	810	4	0.03	<5	39	203	<20	0.60	<10
W17698		10	10.25	1720	2	0.29	200	130	29	0.42	<5	71	56	<20	0.25	<10
W17699		<10	10.05	1610	2	0.31	262	120	6	0.52	<5	64	58	<20	0.26	<10
W17700		<10	0.85	365	10	1.61	34	640	38	0.02	<5	9	79	<20	0.32	10
W17701		10	10.40	1810	1	0.28	268	110	6	0.12	<5	58	42	<20	0.27	<10
W17702		<10	10.45	1610	1	0.27	258	50	6	0.33	<5	60	52	<20	0.25	<10
W17703		10	10.25	1540	2	0.34	274	90	8	0.57	<5	62	59	<20	0.29	<10
W17704		<10	10.50	1570	2	0.32	259	90	2	0.62	<5	65	58	<20	0.28	<10
W17705		<10	10.50	1460	2	0.32	252	80	3	0.64	<5	57	59	<20	0.27	<10



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## CERTIFICATE OF ANALYSIS AD17178512

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 %
W17664		<10	228	<10	87	0.001	
W17665		<10	219	<10	76	0.003	
W17666		<10	228	<10	72	0.002	
W17667		<10	230	<10	74	0.003	
W17668		<10	231	<10	71	0.002	96.0
W17669		<10	228	<10	77	0.001	
W17670		<10	220	<10	76	<0.001	
W17671		<10	213	<10	79	0.001	
W17672		<10	215	<10	78	0.001	
W17673		<10	204	<10	78	0.001	
W17674		<10	207	<10	73	<0.001	
W17675		<10	140	<10	1030	NSS	
W17676		<10	199	<10	80	0.001	
W17677		<10	196	<10	73	0.002	
W17678		<10	202	<10	75	0.001	
W17679		<10	206	<10	84	0.001	
W17680		<10	218	<10	80	0.001	
W17681		<10	208	<10	125	0.001	
W17682		<10	225	<10	95	0.004	
W17685		<10	227	<10	96	<0.001	
W17686		<10	211	<10	72	0.006	
W17687		<10	220	<10	65	0.002	
W17688		<10	219	<10	75	0.001	
W17689		<10	211	<10	61	0.004	
W17690		<10	219	<10	75	0.007	
W17691		<10	257	<10	101	<0.001	
W17692		<10	239	<10	90	<0.001	
W17693		<10	232	<10	75	0.002	
W17694		<10	203	<10	67	0.002	
W17695		<10	199	<10	183	<0.001	
W17696		<10	223	<10	131	<0.001	
W17697		<10	243	<10	102	<0.001	
W17698		<10	217	<10	190	<0.001	
W17699		<10	222	<10	74	<0.001	
W17700		<10	69	<10	61	NSS	
W17701		<10	202	<10	87	<0.001	
W17702		<10	181	<10	69	<0.001	
W17703		<10	222	<10	105	<0.001	
W17704		<10	232	<10	82	0.014	
W17705		<10	194	<10	68	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
W17706		2.83	<0.5	2.85	<5	40	<0.5	<2	8.70	0.6	84	1110	182	8.56	10	0.20
W17707		2.58	<0.5	2.45	<5	40	<0.5	<2	10.25	0.8	90	1240	191	9.11	10	0.21
W17708		2.93	<0.5	2.94	<5	30	<0.5	<2	8.42	0.5	80	1010	124	8.92	10	0.16
W17709		2.67	<0.5	2.19	<5	50	<0.5	<2	8.91	0.5	89	1080	280	8.85	<10	0.22
W17710		4.49	<0.5	1.99	6	30	<0.5	<2	7.99	0.5	78	948	164	8.10	<10	0.17
W17711		3.49	<0.5	2.29	<5	50	<0.5	<2	8.70	0.5	88	1030	180	9.00	10	0.24
W17712		2.20	<0.5	2.12	<5	70	<0.5	<2	8.81	0.5	88	1070	188	9.04	10	0.29
W17713		2.61	<0.5	1.98	<5	40	<0.5	<2	8.73	0.5	83	1070	202	8.51	10	0.21
W17714		2.91	<0.5	1.95	<5	40	<0.5	<2	8.91	0.5	83	1070	212	8.59	<10	0.19
W17715		3.60	<0.5	2.21	<5	30	<0.5	<2	8.52	0.6	75	908	182	8.52	<10	0.19
W17716		2.87	<0.5	2.07	<5	30	<0.5	2	8.71	0.6	76	1100	177	8.60	10	0.19
W17717		1.79	<0.5	2.24	<5	40	<0.5	2	8.63	0.5	85	1150	199	9.40	<10	0.22
W17718		1.47	<0.5	2.61	<5	30	<0.5	2	8.05	<0.5	77	919	190	8.96	10	0.21
W17719		1.55	<0.5	2.05	<5	30	<0.5	<2	8.36	0.6	84	1030	191	8.84	10	0.17
W17720		2.67	<0.5	2.24	<5	60	<0.5	<2	9.22	0.5	90	1170	194	9.77	10	0.25
W17721		3.06	<0.5	2.36	<5	40	<0.5	<2	8.24	0.5	78	1060	174	9.05	10	0.20
W17722		2.52	<0.5	2.21	<5	70	<0.5	3	8.67	0.7	86	1100	178	9.34	<10	0.29
W17727		2.09	<0.5	2.24	<5	50	<0.5	<2	7.29	0.7	74	1120	143	8.72	<10	0.25
W17728		2.09	<0.5	2.28	<5	50	<0.5	<2	8.22	0.5	80	1040	173	8.65	<10	0.25
W17723		5.83	<0.5	2.25	<5	70	<0.5	<2	8.91	0.5	85	1160	162	9.51	10	0.30





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## CERTIFICATE OF ANALYSIS AD17178512

Sample Description	Method Analyte Units LOR	ME-ICP61 La ppm 10	ME-ICP61 Mg % 0.01	ME-ICP61 Mn ppm 5	ME-ICP61 Mo ppm 1	ME-ICP61 Na % 0.01	ME-ICP61 Ni ppm 1	ME-ICP61 P ppm 10	ME-ICP61 Pb ppm 2	ME-ICP61 S % 0.01	ME-ICP61 Sb ppm 5	ME-ICP61 Sc ppm 1	ME-ICP61 Sr ppm 1	ME-ICP61 Th ppm 20	ME-ICP61 Ti % 0.01	ME-ICP61 Tl ppm 10
W17706		<10	10.45	1490	2	0.37	295	90	3	0.36	<5	55	58	<20	0.31	<10
W17707		10	11.20	1520	2	0.37	305	100	6	0.36	<5	63	64	<20	0.30	<10
W17708		10	11.30	1760	2	0.32	288	220	7	0.19	<5	52	56	<20	0.29	<10
W17709		10	11.50	1510	2	0.34	276	130	<2	0.38	<5	59	64	<20	0.26	<10
W17710		10	10.45	1470	2	0.28	263	120	4	0.28	<5	52	47	<20	0.24	<10
W17711		10	11.15	1510	1	0.33	301	150	3	0.33	<5	54	62	<20	0.26	<10
W17712		10	11.00	1450	2	0.33	289	160	2	0.29	<5	55	66	<20	0.25	<10
W17713		10	10.50	1480	1	0.31	269	140	9	0.32	<5	57	62	<20	0.25	<10
W17714		10	11.10	1530	1	0.30	267	140	6	0.33	<5	57	57	<20	0.24	<10
W17715		10	10.40	1630	2	0.32	250	160	6	0.27	<5	54	56	<20	0.25	<10
W17716		10	10.65	1510	2	0.33	245	100	3	0.32	<5	58	58	<20	0.29	<10
W17717		10	11.85	1630	2	0.35	264	90	11	0.29	<5	60	61	<20	0.31	<10
W17718		10	11.35	1690	2	0.35	246	140	<2	0.22	<5	60	59	<20	0.39	<10
W17719		10	11.05	1510	1	0.30	272	90	6	0.33	<5	56	54	<20	0.29	<10
W17720		10	11.70	1600	2	0.35	290	90	6	0.29	<5	59	68	<20	0.30	<10
W17721		10	10.85	1630	1	0.35	268	140	<2	0.28	<5	53	61	<20	0.28	<10
W17722		10	10.80	1520	3	0.35	286	130	9	0.24	<5	52	72	<20	0.25	<10
W17727		10	10.90	1360	1	0.34	280	140	2	0.22	<5	49	70	<20	0.25	<10
W17728		10	10.75	1370	2	0.36	283	120	7	0.29	<5	52	73	<20	0.27	<10
W17723		10	11.10	1580	3	0.36	283	130	6	0.23	<5	53	73	<20	0.26	<10



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**CERTIFICATE OF ANALYSIS AD17178512**

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 %
W17706		<10	223	<10	81	0.002	
W17707		<10	221	<10	83	0.002	
W17708		<10	188	<10	94	<0.001	
W17709		<10	209	<10	101	<0.001	
W17710		<10	187	10	91	<0.001	98.0
W17711		<10	198	<10	81	<0.001	
W17712		<10	194	<10	79	0.001	
W17713		<10	196	<10	77	<0.001	
W17714		<10	188	<10	76	0.001	
W17715		<10	197	<10	137	0.005	
W17716		<10	221	<10	93	<0.001	
W17717		<10	225	<10	93	<0.001	
W17718		<10	257	<10	102	0.001	
W17719		<10	210	<10	86	<0.001	
W17720		<10	218	<10	92	<0.001	
W17721		<10	197	<10	192	0.001	
W17722		<10	186	<10	125	0.002	
W17727		<10	187	<10	95	<0.001	
W17728		<10	196	<10	82	0.001	
W17723		<10	194	<10	111	0.001	



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**CERTIFICATE OF ANALYSIS AD17178512**

**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.  
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