



Australian Laboratory Services Pty. Ltd.

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No: 825, Corporate Site No: 23001.

## QC CERTIFICATE AD17164503

P.O. No.: TRR17-005

This report is for 137 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

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 \*\*\*\*\*

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Account: TODRIV

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample 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

Signature:

Cameron Brosnan, Laboratory Manager, Perth



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## QC CERTIFICATE OF ANALYSIS AD17164503

Sample Description	Method Analyte Units LOR	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	ME-ICP61 La ppm 10
STANDARDS																
AMIS0282																
Target Range - Lower Bound																
Upper Bound																
AMIS0354																
Target Range - Lower Bound																
Upper Bound																
GBM908-10		3.0	7.27	63	1150	1.4	<2	3.92	1.5	27	141	3820	5.92	20	2.23	50
GBM908-10		2.8	7.34	54	1170	1.4	<2	3.96	1.2	26	138	3340	5.98	20	2.26	50
GBM908-10		3.2	7.30	57	1180	1.5	6	3.93	2.0	28	142	3830	5.65	20	2.20	50
Target Range - Lower Bound		1.9	6.40	44	980	<0.5	<2	3.36	0.6	22	125	3370	4.98	<10	1.87	20
Upper Bound		4.2	7.84	70	1220	2.5	5	4.12	2.8	30	155	3890	6.10	40	2.31	70
GLG912-5																
GLG912-5																
Target Range - Lower Bound																
Upper Bound																
LEA-16																
Target Range - Lower Bound																
Upper Bound																
MRGeo08		4.7	8.02	35	1160	3.4	<2	2.85	2.0	21	91	674	4.31	20	3.37	40
MRGeo08		4.5	7.63	32	1120	3.2	<2	2.73	2.1	20	90	656	4.18	20	3.27	30
MRGeo08		4.5	7.51	28	1130	3.3	2	2.64	2.3	19	90	629	3.87	20	3.14	30
Target Range - Lower Bound		3.2	6.64	21	980	2.2	<2	2.35	1.1	17	81	586	3.55	<10	2.79	<10
Upper Bound		5.7	8.14	45	1210	4.5	5	2.90	3.4	23	102	676	4.37	40	3.43	60
OGGeo08		20.5	6.84	120	370	2.8	11	2.24	18.8	97	84	8460	5.60	20	2.97	30
OGGeo08		21.5	7.14	124	320	3.1	13	2.32	20.9	106	88	8910	5.56	20	3.07	30
Target Range - Lower Bound		17.7	6.07	102	750	1.8	6	1.98	16.2	86	78	7800	4.81	<10	2.59	<10
Upper Bound		22.7	7.44	136	930	4.1	15	2.44	21.0	108	98	8980	5.91	40	3.19	60
OREAS 601		50.0	6.28	324	360	2.0	18	1.34	7.7	5	42	1030	2.54	20	2.10	30
OREAS 601		50.6	6.30	333	340	2.1	23	1.33	8.1	6	40	998	2.42	20	2.10	30
Target Range - Lower Bound		43.8	5.66	271	780	1.0	16	1.17	6.5	3	37	938	2.22	<10	1.88	<10
Upper Bound		54.6	6.94	343	980	3.2	26	1.45	9.3	7	47	1080	2.74	40	2.32	50
OREAS-45e																
OREAS-45e																
OREAS-45e																
Target Range - Lower Bound																
Upper Bound																



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## QC CERTIFICATE OF ANALYSIS AD17164503

Sample Description	Method Analyte Units LOR	ME-ICP61 Mg %	ME-ICP61 Mn ppm	ME-ICP61 Mo ppm	ME-ICP61 Na %	ME-ICP61 Ni ppm	ME-ICP61 P ppm	ME-ICP61 Pb ppm	ME-ICP61 S %	ME-ICP61 Sb ppm	ME-ICP61 Sc ppm	ME-ICP61 Sr ppm	ME-ICP61 Th ppm	ME-ICP61 Ti %	ME-ICP61 Tl ppm	ME-ICP61 U ppm
		0.01	5	1	0.01	1	10	2	0.01	5	1	1	20	0.01	10	10
STANDARDS																
AMIS0282																
Target Range - Lower Bound																
Upper Bound																
AMIS0354																
Target Range - Lower Bound																
Upper Bound																
GBM908-10		1.90	812	64	2.27	2370	1020	2140	0.38	6	18	302	20	0.66	10	<10
GBM908-10		1.92	827	54	2.31	2200	940	1950	0.34	5	18	306	20	0.69	10	<10
GBM908-10		1.91	851	64	2.23	2430	1050	2260	0.40	<5	19	295	20	0.69	10	<10
Target Range - Lower Bound		1.61	715	57	1.93	2030	880	1860	0.33	<5	14	260	<20	0.59	<10	<10
Upper Bound		1.99	885	72	2.38	2480	1100	2280	0.43	12	20	320	60	0.74	20	20
GLG912-5																
GLG912-5																
Target Range - Lower Bound																
Upper Bound																
LEA-16																
Target Range - Lower Bound																
Upper Bound																
MRGeo08		1.45	584	16	2.09	748	1110	1145	0.32	<5	12	324	20	0.52	<10	<10
MRGeo08		1.38	565	16	2.04	726	1060	1110	0.31	<5	12	313	20	0.50	<10	<10
MRGeo08		1.36	570	15	1.95	725	1040	1140	0.31	5	12	298	20	0.49	<10	<10
Target Range - Lower Bound		1.17	497	12	1.76	621	930	969	0.27	<5	10	276	<20	0.44	<10	<10
Upper Bound		1.45	619	18	2.18	761	1160	1190	0.35	15	15	340	60	0.56	20	30
OGGeo08		1.29	503	956	1.87	8940	850	7400	2.82	32	10	249	20	0.39	<10	<10
OGGeo08		1.34	550	984	1.92	9670	890	7960	2.98	29	11	257	20	0.42	<10	<10
Target Range - Lower Bound		1.11	447	841	1.62	8000	760	6510	2.51	16	8	223	<20	0.35	<10	<10
Upper Bound		1.38	557	1030	2.00	9770	950	7970	3.09	38	13	275	60	0.45	20	30
OREAS 601		0.38	477	4	1.46	26	460	337	1.07	33	5	230	<20	0.18	10	<10
OREAS 601		0.37	490	4	1.45	21	460	355	1.08	34	5	225	<20	0.18	<10	<10
Target Range - Lower Bound		0.34	427	2	1.30	21	410	294	0.95	19	3	206	<20	0.15	<10	<10
Upper Bound		0.44	533	6	1.61	28	530	364	1.19	42	7	254	50	0.21	20	20
OREAS-45e																
OREAS-45e																
OREAS-45e																
Target Range - Lower Bound																
Upper Bound																



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## QC CERTIFICATE OF ANALYSIS AD17164503

Sample Description	Method Analyte Units LOR	ME-ICP61 V ppm 1	ME-ICP61 W ppm 10	ME-ICP61 Zn ppm 2	Au-ICP22 Au ppm 0.001
STANDARDS					
AMIS0282					0.189
Target Range - Lower Bound					0.178
Upper Bound					0.202
AMIS0354					0.741
Target Range - Lower Bound					0.666
Upper Bound					0.754
GBM908-10		140	<10	1080	
GBM908-10		142	<10	957	
GBM908-10		148	<10	1140	
Target Range - Lower Bound		123	<10	939	
Upper Bound		153	20	1155	
GLG912-5					0.225
GLG912-5					0.225
Target Range - Lower Bound					0.210
Upper Bound					0.239
LEA-16					0.468
Target Range - Lower Bound					0.470
Upper Bound					0.532
MRGeo08		112	<10	853	
MRGeo08		110	<10	802	
MRGeo08		110	<10	815	
Target Range - Lower Bound		97	<10	722	
Upper Bound		121	30	886	
OGGeo08		87	<10	7060	
OGGeo08		93	<10	7420	
Target Range - Lower Bound		77	<10	6500	
Upper Bound		97	20	7950	
OREAS 601		25	<10	1365	
OREAS 601		26	<10	1380	
Target Range - Lower Bound		22	<10	1195	
Upper Bound		29	30	1465	
OREAS-45e					0.050
OREAS-45e					0.054
OREAS-45e					0.050
Target Range - Lower Bound					0.049
Upper Bound					0.057



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## QC CERTIFICATE OF ANALYSIS AD17164503

Sample Description	Method Analyte Units LOR	ME-ICP61 Ag ppm	ME-ICP61 Al %	ME-ICP61 As ppm	ME-ICP61 Ba ppm	ME-ICP61 Be ppm	ME-ICP61 Bi ppm	ME-ICP61 Ca %	ME-ICP61 Cd ppm	ME-ICP61 Co ppm	ME-ICP61 Cr ppm	ME-ICP61 Cu ppm	ME-ICP61 Fe %	ME-ICP61 Ga ppm	ME-ICP61 K %	ME-ICP61 La ppm
		0.5	0.01	5	10	0.5	2	0.01	0.5	1	1	1	0.01	10	0.01	10
BLANKS																
BLANK																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK		<0.5	<0.01	<5	<10	<0.5	2	<0.01	<0.5	<1	<1	<1	<0.01	<10	<0.01	<10
BLANK		<0.5	<0.01	<5	<10	<0.5	<2	<0.01	<0.5	<1	2	<1	<0.01	<10	<0.01	<10
BLANK		<0.5	<0.01	<5	<10	<0.5	<2	<0.01	<0.5	<1	1	<1	<0.01	<10	<0.01	<10
BLANK		<0.5	<0.01	<5	<10	<0.5	<2	<0.01	<0.5	<1	1	<1	<0.01	<10	<0.01	<10
BLANK		<0.5	0.01	<5	<10	<0.5	<2	<0.01	<0.5	<1	<1	<1	0.01	<10	<0.01	<10
Target Range - Lower Bound		<0.5	<0.01	<5	<10	<0.5	<2	<0.01	<0.5	<1	<1	<1	<0.01	<10	<0.01	<10
Upper Bound		1.0	0.02	10	20	1.0	4	0.02	1.0	2	2	2	0.02	20	0.02	20
DUPLICATES																
W17473																
DUP																
Target Range - Lower Bound																
Upper Bound																
W17497		0.9	8.83	29	590	4.3	<2	0.51	0.9	46	269	38	5.07	30	3.59	20
DUP		1.0	9.43	20	620	4.5	<2	0.54	0.9	45	267	40	5.25	30	3.70	30
Target Range - Lower Bound		<0.5	8.66	18	560	3.7	<2	0.49	<0.5	42	254	37	4.89	20	3.45	<10
Upper Bound		1.0	9.60	31	650	5.1	4	0.56	1.0	49	282	41	5.43	40	3.84	40
W17054																
DUP																
Target Range - Lower Bound																
Upper Bound																
W17059		<0.5	1.45	<5	20	<0.5	<2	8.48	<0.5	90	517	168	12.05	10	0.08	<10
DUP		<0.5	1.40	5	20	<0.5	<2	8.09	<0.5	84	496	160	11.60	10	0.08	<10
Target Range - Lower Bound		<0.5	1.34	<5	<10	<0.5	<2	7.86	<0.5	82	480	157	11.20	<10	0.07	<10
Upper Bound		1.0	1.51	10	30	1.0	4	8.71	1.0	92	533	171	12.45	20	0.09	20



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## QC CERTIFICATE OF ANALYSIS AD17164503

Sample Description	Method Analyte Units LOR	ME-ICP61 Mg %	ME-ICP61 Mn ppm	ME-ICP61 Mo ppm	ME-ICP61 Na %	ME-ICP61 Ni ppm	ME-ICP61 P ppm	ME-ICP61 Pb ppm	ME-ICP61 S %	ME-ICP61 Sb ppm	ME-ICP61 Sc ppm	ME-ICP61 Sr ppm	ME-ICP61 Th ppm	ME-ICP61 Ti %	ME-ICP61 Tl ppm	ME-ICP61 U ppm
		0.01	5	1	0.01	1	10	2	0.01	5	1	1	20	0.01	10	10
BLANKS																
BLANK																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK		<0.01	<5	<1	<0.01	<1	<10	<2	<0.01	<5	<1	<1	<20	<0.01	10	<10
BLANK		<0.01	<5	<1	<0.01	<1	<10	<2	<0.01	<5	<1	<1	<20	<0.01	<10	<10
BLANK		<0.01	<5	<1	<0.01	<1	<10	<2	<0.01	<5	<1	<1	<20	<0.01	<10	<10
BLANK		<0.01	<5	<1	<0.01	<1	<10	<2	<0.01	<5	<1	<1	<20	<0.01	<10	<10
BLANK		<0.01	<5	<1	<0.01	<1	<10	<2	<0.01	<5	<1	<1	<20	<0.01	<10	<10
Target Range - Lower Bound		<0.01	<5	<1	<0.01	<1	<10	<2	<0.01	<5	<1	<1	<20	<0.01	<10	<10
Upper Bound		0.02	10	2	0.02	2	20	4	0.02	10	2	2	40	0.02	20	20
DUPLICATES																
W17473																
DUP																
Target Range - Lower Bound																
Upper Bound																
W17497		3.53	381	1	0.80	75	560	4310	0.23	<5	20	54	<20	0.37	<10	<10
DUP		3.72	385	<1	0.82	76	550	4370	0.23	<5	21	56	<20	0.38	<10	<10
Target Range - Lower Bound		3.43	359	<1	0.76	71	520	4120	0.21	<5	18	51	<20	0.35	<10	<10
Upper Bound		3.82	407	2	0.86	80	590	4560	0.25	10	23	59	40	0.40	20	20
W17054																
DUP																
Target Range - Lower Bound																
Upper Bound																
W17059		11.15	2010	3	0.16	108	40	<2	0.32	<5	81	31	<20	0.39	<10	<10
DUP		10.65	1915	3	0.15	105	40	4	0.31	<5	78	29	<20	0.38	<10	<10
Target Range - Lower Bound		10.35	1860	2	0.14	100	30	<2	0.29	<5	75	28	<20	0.36	<10	<10
Upper Bound		11.45	2070	4	0.17	113	50	4	0.34	10	84	33	40	0.41	20	20



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## QC CERTIFICATE OF ANALYSIS AD17164503

Sample Description	Method Analyte Units LOR	ME-ICP61 V ppm 1	ME-ICP61 W ppm 10	ME-ICP61 Zn ppm 2	Au-ICP22 Au ppm 0.001
<b>BLANKS</b>					
BLANK					<0.001
BLANK					<0.001
BLANK					<0.001
Target Range - Lower Bound					<0.001
Upper Bound					0.002
BLANK		<1	<10	<2	
BLANK		<1	<10	<2	
BLANK		<1	<10	<2	
BLANK		<1	<10	<2	
BLANK		<1	<10	<2	
Target Range - Lower Bound		<1	<10	<2	
Upper Bound		2	20	4	
<b>DUPLICATES</b>					
W17473					0.001
DUP					0.001
Target Range - Lower Bound					<0.001
Upper Bound					0.002
W17497		127	<10	442	
DUP		127	<10	444	
Target Range - Lower Bound		120	<10	419	
Upper Bound		134	20	467	
W17054					0.001
DUP					0.001
Target Range - Lower Bound					<0.001
Upper Bound					0.002
W17059		489	<10	112	
DUP		480	<10	107	
Target Range - Lower Bound		459	<10	102	
Upper Bound		510	20	117	



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## QC CERTIFICATE OF ANALYSIS AD17164503

Sample Description	Method Analyte Units LOR	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	ME-ICP61 La ppm 10
DUPLICATES																
W17156		<0.5	1.24	<5	30	<0.5	<2	9.30	<0.5	75	1095	169	7.99	10	0.11	10
DUP		<0.5	1.23	<5	20	<0.5	<2	9.29	<0.5	76	1110	169	7.94	<10	0.11	10
Target Range - Lower Bound		<0.5	1.16	<5	<10	<0.5	<2	8.82	<0.5	71	1045	162	7.56	<10	0.09	<10
Upper Bound		1.0	1.31	10	40	1.0	4	9.77	1.0	80	1160	176	8.37	20	0.13	20
W17207		<0.5	0.95	<5	10	<0.5	<2	9.58	<0.5	92	1085	280	9.41	<10	0.03	<10
DUP		<0.5	0.91	<5	10	<0.5	<2	9.07	<0.5	88	1110	270	9.04	<10	0.03	<10
Target Range - Lower Bound		<0.5	0.87	<5	<10	<0.5	<2	8.85	<0.5	85	1040	264	8.75	<10	0.02	<10
Upper Bound		1.0	0.99	10	20	1.0	4	9.80	1.0	96	1155	286	9.70	20	0.04	20
W17214																
DUP																
Target Range - Lower Bound																
Upper Bound																
W17235		<0.5	6.50	<5	1420	1.3	<2	2.89	<0.5	111	526	161	9.59	10	1.88	110
DUP		<0.5	6.38	6	1380	1.3	<2	2.82	<0.5	110	524	158	9.46	10	1.84	110
Target Range - Lower Bound		<0.5	6.11	<5	1320	0.7	<2	2.70	<0.5	104	498	153	9.04	<10	1.76	90
Upper Bound		1.0	6.77	10	1480	1.9	4	3.01	1.0	117	552	166	10.00	20	1.96	130
W17256		<0.5	6.91	<5	230	1.7	<2	1.56	<0.5	65	837	235	12.75	20	0.68	50
DUP		<0.5	6.77	<5	220	1.7	<2	1.54	<0.5	64	812	228	12.50	20	0.66	50
Target Range - Lower Bound		<0.5	6.49	<5	200	1.1	<2	1.46	<0.5	60	782	222	12.00	<10	0.63	40
Upper Bound		1.0	7.19	10	250	2.3	4	1.64	1.0	69	867	241	13.25	30	0.71	60
W17260																
DUP																
Target Range - Lower Bound																
Upper Bound																
W17271		<0.5	7.96	<5	300	3.7	<2	2.11	0.5	42	107	87	9.05	20	1.73	20
DUP		<0.5	7.87	<5	300	3.7	3	2.08	0.5	40	106	86	8.96	20	1.73	20
Target Range - Lower Bound		<0.5	7.51	<5	280	3.0	<2	1.98	<0.5	38	100	82	8.54	<10	1.63	<10
Upper Bound		1.0	8.32	10	330	4.4	4	2.21	1.0	44	113	91	9.47	30	1.83	30
W17461		<0.5	8.65	8	640	4.2	<2	0.30	<0.5	15	73	16	4.78	30	3.04	20
DUP		<0.5	9.10	<5	650	4.2	<2	0.30	<0.5	16	73	16	4.83	30	3.12	20
Target Range - Lower Bound		<0.5	8.42	<5	600	3.5	<2	0.28	<0.5	14	68	14	4.55	20	2.92	<10
Upper Bound		1.0	9.33	10	690	4.9	4	0.33	1.0	17	78	18	5.06	40	3.24	30





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## QC CERTIFICATE OF ANALYSIS AD17164503

Sample Description	Method Analyte Units LOR	ME-ICP61 Mg %	ME-ICP61 Mn ppm	ME-ICP61 Mo ppm	ME-ICP61 Na %	ME-ICP61 Ni ppm	ME-ICP61 P ppm	ME-ICP61 Pb ppm	ME-ICP61 S %	ME-ICP61 Sb ppm	ME-ICP61 Sc ppm	ME-ICP61 Sr ppm	ME-ICP61 Th ppm	ME-ICP61 Ti %	ME-ICP61 Tl ppm	ME-ICP61 U ppm
		0.01	5	1	0.01	1	10	2	0.01	5	1	1	20	0.01	10	10
DUPLICATES																
W17156		12.35	1620	4	0.20	299	90	2	0.13	<5	57	36	<20	0.16	<10	<10
DUP		12.25	1610	3	0.20	295	90	2	0.12	<5	56	36	<20	0.16	<10	<10
Target Range - Lower Bound		11.70	1530	2	0.18	281	80	<2	0.11	<5	53	33	<20	0.14	<10	<10
Upper Bound		12.95	1700	5	0.22	313	100	4	0.14	10	60	39	40	0.18	20	20
W17207		13.45	1770	4	0.13	338	40	3	0.27	<5	64	25	<20	0.15	<10	<10
DUP		12.95	1705	4	0.12	323	40	<2	0.27	<5	62	24	<20	0.15	<10	<10
Target Range - Lower Bound		12.55	1645	3	0.11	313	30	<2	0.25	<5	59	22	<20	0.13	<10	<10
Upper Bound		13.85	1830	5	0.14	348	50	4	0.29	10	67	27	40	0.17	20	20
W17214																
DUP																
Target Range - Lower Bound																
Upper Bound																
W17235		4.10	3710	<1	1.27	163	130	115	0.04	<5	66	269	<20	0.37	<10	<10
DUP		4.03	3640	1	1.25	159	140	112	0.05	<5	65	263	<20	0.36	<10	<10
Target Range - Lower Bound		3.85	3490	<1	1.19	152	120	106	0.03	<5	61	252	<20	0.34	<10	<10
Upper Bound		4.28	3860	2	1.33	170	150	121	0.06	10	70	280	40	0.39	20	20
W17256		2.78	573	<1	0.67	157	160	<2	0.06	<5	69	141	<20	0.51	<10	<10
DUP		2.73	567	<1	0.66	154	200	5	0.06	<5	68	138	<20	0.52	<10	<10
Target Range - Lower Bound		2.61	537	<1	0.62	147	160	<2	0.05	<5	64	132	<20	0.48	<10	<10
Upper Bound		2.90	604	2	0.71	164	200	4	0.07	10	73	147	40	0.55	20	20
W17260																
DUP																
Target Range - Lower Bound																
Upper Bound																
W17271		2.18	844	1	1.25	78	1360	11	0.02	<5	34	207	<20	0.85	<10	<10
DUP		2.15	840	<1	1.23	79	1320	4	0.02	<5	34	208	<20	0.86	10	<10
Target Range - Lower Bound		2.05	795	<1	1.17	74	1260	5	<0.01	<5	31	196	<20	0.80	<10	<10
Upper Bound		2.28	889	2	1.31	83	1420	10	0.03	10	37	219	40	0.91	20	20
W17461		2.75	418	1	0.76	31	480	22	0.14	<5	14	42	<20	0.32	<10	<10
DUP		2.83	422	1	0.77	31	480	21	0.14	<5	15	44	<20	0.32	10	<10
Target Range - Lower Bound		2.64	394	<1	0.72	28	450	18	0.12	<5	13	40	<20	0.29	<10	<10
Upper Bound		2.94	446	2	0.81	34	510	25	0.16	10	16	46	40	0.35	20	20



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## QC CERTIFICATE OF ANALYSIS AD17164503

Sample Description	Method Analyte Units LOR	ME-ICP61 V ppm 1	ME-ICP61 W ppm 10	ME-ICP61 Zn ppm 2	Au-ICP22 Au ppm 0.001
DUPLICATES					
W17156		172	<10	77	
DUP		171	<10	76	
Target Range - Lower Bound		162	<10	71	
Upper Bound		181	20	82	
W17207		184	<10	84	
DUP		178	<10	81	
Target Range - Lower Bound		171	<10	76	
Upper Bound		191	20	89	
W17214					0.001
DUP					0.001
Target Range - Lower Bound					<0.001
Upper Bound					0.002
W17235		174	<10	447	
DUP		171	<10	440	
Target Range - Lower Bound		163	<10	419	
Upper Bound		182	20	468	
W17256		178	<10	169	
DUP		177	<10	167	
Target Range - Lower Bound		168	<10	158	
Upper Bound		187	20	178	
W17260					<0.001
DUP					<0.001
Target Range - Lower Bound					<0.001
Upper Bound					0.002
W17271		217	<10	145	
DUP		216	<10	142	
Target Range - Lower Bound		205	<10	134	
Upper Bound		228	20	153	
W17461		84	<10	118	
DUP		84	<10	119	
Target Range - Lower Bound		79	<10	111	
Upper Bound		89	20	126	



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## QC CERTIFICATE OF ANALYSIS AD17164503

Sample Description	Method Analyte Units LOR	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	ME-ICP61 La ppm 10
DUPLICATES																
W17095		<0.5	1.00	<5	20	<0.5	<2	9.49	0.8	98	1275	168	8.69	<10	0.07	<10
DUP		<0.5	1.02	<5	20	<0.5	2	9.81	0.6	99	1315	173	8.90	<10	0.07	<10
Target Range - Lower Bound		<0.5	0.95	<5	<10	<0.5	<2	9.16	<0.5	93	1230	164	8.35	<10	0.06	<10
Upper Bound		1.0	1.07	10	30	1.0	4	10.15	1.0	104	1360	177	9.24	20	0.08	20
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																



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Sample Description	Method Analyte Units LOR	ME-ICP61 Mg %	ME-ICP61 Mn ppm	ME-ICP61 Mo ppm	ME-ICP61 Na %	ME-ICP61 Ni ppm	ME-ICP61 P ppm	ME-ICP61 Pb ppm	ME-ICP61 S %	ME-ICP61 Sb ppm	ME-ICP61 Sc ppm	ME-ICP61 Sr ppm	ME-ICP61 Th ppm	ME-ICP61 Ti %	ME-ICP61 Tl ppm	ME-ICP61 U ppm
		0.01	5	1	0.01	1	10	2	0.01	5	1	1	20	0.01	10	10
DUPLICATES																
W17095		13.20	1700	3	0.15	343	40	6	0.18	<5	59	29	<20	0.16	<10	10
DUP		13.60	1750	3	0.15	353	50	3	0.18	<5	60	31	<20	0.16	<10	<10
Target Range - Lower Bound		12.70	1635	2	0.13	330	30	<2	0.16	<5	56	28	<20	0.14	<10	<10
Upper Bound		14.10	1815	4	0.17	366	60	7	0.20	10	63	33	40	0.18	20	20
ORIGINAL DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL DUP																
Target Range - Lower Bound																
Upper Bound																



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QC CERTIFICATE OF ANALYSIS AD17164503

Sample Description	Method Analyte Units LOR	ME-ICP61 V ppm 1	ME-ICP61 W ppm 10	ME-ICP61 Zn ppm 2	Au-ICP22 Au ppm 0.001
DUPLICATES					
W17095		175	<10	86	
DUP		175	<10	89	
Target Range - Lower Bound		165	<10	81	
Upper Bound		185	20	94	
ORIGINAL					<0.001
DUP					<0.001
Target Range - Lower Bound					<0.001
Upper Bound					0.002
ORIGINAL					<0.001
DUP					0.002
Target Range - Lower Bound					<0.001
Upper Bound					0.002



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**QC CERTIFICATE OF ANALYSIS AD17164503**

**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-QC SPL-21 WEI-21

PUL-23