



Australian Laboratory Services Pty. Ltd.

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No: 825, Corporate Site No: 23001.

## QC CERTIFICATE AD17255501

Project: SC17-06

This report is for 273 Soil samples submitted to our lab in Adelaide, SA, Australia on  
21-NOV-2017.

The following have access to data associated with this certificate:

KIM GREY

GAVIN OTTO

CATH WETHERBY

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 \*\*\*\*\*

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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Plus Appendix Pages

Finalized Date: 22-DEC-2017

Account: TODRIV

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LEV-01	Waste Disposal Levy
PUL-31	Pulverize split to 85% <75 um
PUL-QC	Pulverizing QC Test

## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS91	ICP-MS Analysis - Sodium Peroxide Fusion	ICP-MS
Au-ICP22	Au 50g FA ICP-AES finish	ICP-AES
ME-ICP89	Peroxide Fusion by ICP-AES	ICP-AES

Signature:

Cameron Brosnan, Laboratory Manager, Perth



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## QC CERTIFICATE OF ANALYSIS AD17255501

Sample Description	Method Analyte Units LOR	Au-ICP22 Au ppm 0.001	ME-ICP89 Al2O3 % 0.02	ME-ICP89 As % 0.01	ME-ICP89 CaO % 0.01	ME-ICP89 Co % 0.005	ME-ICP89 Cr2O3 % 0.01	ME-ICP89 Cu % 0.01	ME-ICP89 Fe2O3 % 0.01	ME-ICP89 K2O % 0.01	ME-ICP89 Li % 0.001	ME-ICP89 MgO % 0.01	ME-ICP89 MnO % 0.01	ME-ICP89 Ni % 0.005	ME-ICP89 Pb % 0.01	ME-ICP89 S % 0.01
STANDARDS																
AMIS0282		0.187														
AMIS0282		0.189														
AMIS0282		0.202														
AMIS0282		0.182														
Target Range - Lower Bound		0.178														
Upper Bound		0.202														
AMIS0339			23.5	<0.01	0.66	<0.005	0.08	0.02	2.09	1.48	2.28	0.38	0.32	<0.005	0.01	0.03
AMIS0339			24.4	0.01	0.70	<0.005	0.09	0.02	2.30	1.48	2.42	0.41	0.35	<0.005	<0.01	0.02
AMIS0339			23.0	<0.01	0.66	<0.005	0.09	0.02	2.14	1.61	2.30	0.41	0.32	<0.005	<0.01	0.02
AMIS0339			23.2	0.01	0.71	<0.005	0.09	0.02	2.32	1.48	2.29	0.40	0.34	<0.005	<0.01	0.03
AMIS0339			23.5	0.01	0.70	<0.005	0.07	0.02	2.17	1.52	2.35	0.40	0.34	<0.005	<0.01	0.03
AMIS0339			23.6	0.02	0.66	<0.005	0.09	0.02	2.34	1.46	2.39	0.43	0.31	<0.005	<0.01	<0.01
AMIS0339			23.3	<0.01	0.62	<0.005	0.09	0.02	2.12	1.47	2.31	0.40	0.32	<0.005	<0.01	0.02
AMIS0339			22.6	0.01	0.69	<0.005	0.09	0.02	2.20	1.46	2.27	0.41	0.32	<0.005	<0.01	0.02
AMIS0339			22.0	<0.01	0.69	<0.005	0.07	0.02	2.12	1.46	2.22	0.40	0.30	<0.005	0.01	0.01
AMIS0339			23.1	<0.01	0.74	<0.005	0.06	0.02	2.20	1.54	2.32	0.40	0.33	<0.005	<0.01	0.02
AMIS0339			23.0	<0.01	0.70	<0.005	0.09	0.02	2.31	1.53	2.39	0.41	0.32	<0.005	<0.01	0.02
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
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
AMIS0354		0.685														
AMIS0354		0.734														
AMIS0354		0.717														
Target Range - Lower Bound		0.666														
Upper Bound		0.754														
LEA-16		0.493														
LEA-16		0.515														
LEA-16		0.506														
LEA-16		0.527														
LEA-16		0.517														
Target Range - Lower Bound		0.470														
Upper Bound		0.532														
NCSDC86304			20.2	0.01	0.08	<0.005	0.01	<0.01	0.30	4.95	1.110	0.03	0.26	<0.005	0.01	0.01
NCSDC86304			19.60	0.01	0.07	<0.005	<0.01	<0.01	0.33	4.89	1.110	0.03	0.25	<0.005	<0.01	<0.01
NCSDC86304			19.55	0.01	0.07	<0.005	0.01	<0.01	0.31	4.49	1.110	0.05	0.26	<0.005	<0.01	0.17
NCSDC86304			19.60	<0.01	0.08	<0.005	<0.01	<0.01	0.31	4.81	1.090	0.03	0.27	<0.005	<0.01	0.02
NCSDC86304			19.45	0.01	0.07	<0.005	0.01	<0.01	0.33	4.72	1.100	0.03	0.27	<0.005	<0.01	0.17
NCSDC86304			19.10	0.02	0.06	<0.005	0.01	<0.01	0.33	4.78	1.065	0.03	0.25	<0.005	<0.01	<0.01

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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



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**QC CERTIFICATE OF ANALYSIS AD17255501**

Sample Description	Method Analyte Units LOR	ME-ICP89 SiO2 %	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
		0.2	0.02	0.01	0.2	5	0.5	5	0.5	0.5	0.5
STANDARDS											
AMIS0282											
AMIS0282											
AMIS0282											
AMIS0282											
Target Range - Lower Bound											
Upper Bound											
AMIS0339		63.1	0.04	<0.01	270	100	1370	154	338	1.7	5.5
AMIS0339		68.5	0.04	0.01	271	111	1350	166	335	1.8	5.9
AMIS0339		65.5	0.04	0.01	271	110	1455	156	336	1.8	5.8
AMIS0339		64.6	0.04	0.01	274	109	1395	172	356	2.0	5.6
AMIS0339		68.0	0.04	<0.01	294	109	1450	164	343	1.8	5.9
AMIS0339		65.0	0.05	<0.01	284	109	1345	164	336	2.0	6.2
AMIS0339		64.2	0.04	0.01	280	100	1405	172	355	2.1	5.9
AMIS0339		64.8	0.04	0.01	250	110	1325	154	340	1.7	5.1
AMIS0339		59.5	0.04	<0.01	257	94	1345	151	306	1.9	5.6
AMIS0339		66.7	0.04	0.01	275	110	1385	164	347	2.0	5.5
AMIS0339		67.0	0.04	0.01	252	108	1405	165	348	2.0	6.0
Target Range - Lower Bound		59.0	<0.02	<0.01	247	87	1235	147	299	0.9	4.6
Upper Bound		69.0	0.08	0.02	302	117	1510	191	367	3.1	7.2
AMIS0354											
AMIS0354											
AMIS0354											
Target Range - Lower Bound											
Upper Bound											
LEA-16											
LEA-16											
LEA-16											
LEA-16											
LEA-16											
Target Range - Lower Bound											
Upper Bound											
NCSDC86304		66.1	0.03	<0.01	1765	52	7220	111	86.0	2.3	3.3
NCSDC86304		66.5	0.03	0.02	1750	57	6790	110	82.8	2.5	3.9
NCSDC86304		67.8	0.03	0.01	1730	57	7100	106	82.4	2.4	3.4
NCSDC86304		64.8	0.03	0.01	1605	54	6710	108	86.6	2.5	3.2
NCSDC86304		67.2	0.03	<0.01	1820	52	6930	106	82.1	2.5	3.1
NCSDC86304		65.2	0.03	0.01	1760	54	6610	106	81.7	2.5	3.6

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## QC CERTIFICATE OF ANALYSIS AD17255501

Sample Description	Method Analyte Units LOR	Au-ICP22 Au ppm	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 %
		0.001	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
STANDARDS																
NCSDC86304		20.2	<0.01	0.07	<0.005	0.01	<0.01	0.31	4.93	1.130	0.03	0.27	<0.005	0.01	0.01	
NCSDC86304		19.65	0.01	0.08	<0.005	0.02	<0.01	0.31	4.79	1.110	0.03	0.26	<0.005	0.01	0.01	
NCSDC86304		20.0	0.04	0.07	<0.005	0.01	<0.01	0.36	5.04	1.140	0.05	0.25	<0.005	<0.01	<0.01	
NCSDC86304		19.55	<0.01	0.08	<0.005	<0.01	<0.01	0.29	4.90	1.105	0.04	0.26	<0.005	0.01	0.02	
NCSDC86304		19.50	<0.01	0.06	<0.005	0.01	<0.01	0.31	4.95	1.095	0.05	0.26	<0.005	<0.01	<0.01	
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	
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	
OREAS 603	5.08															
OREAS 603	4.92															
OREAS 603	5.34															
Target Range - Lower Bound	4.87															
Upper Bound	5.49															
OREAS-45e	0.052															
OREAS-45e	0.055															
OREAS-45e	0.053															
OREAS-45e	0.054															
OREAS-45e	0.054															
OREAS-45e	0.055															
OREAS-45e	0.050															
Target Range - Lower Bound	0.049															
Upper Bound	0.057															
REE-1		6.95	0.03	3.43	<0.005	0.06	0.01	6.30	3.92	0.024	1.49	0.22	<0.005	0.12	0.02	
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	
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	
REE-1		7.22	0.02	3.37	<0.005	0.05	0.01	5.78	3.89	0.022	1.41	0.22	<0.005	0.12	0.03	
REE-1		6.91	0.02	3.29	<0.005	0.05	0.01	5.93	3.73	0.022	1.38	0.22	0.005	0.11	0.03	
REE-1		6.92	0.03	3.27	<0.005	0.06	0.01	5.92	3.87	0.023	1.46	0.22	0.005	0.11	0.03	
REE-1		7.12	0.03	3.44	<0.005	0.06	0.01	6.35	3.91	0.020	1.54	0.22	<0.005	0.13	0.02	
REE-1		7.09	0.02	3.40	<0.005	0.04	0.01	6.10	3.81	0.023	1.51	0.22	<0.005	0.13	0.03	
REE-1		6.83	0.02	3.20	<0.005	0.05	0.01	5.59	3.75	0.022	1.38	0.22	<0.005	0.12	0.04	
REE-1		6.33	0.02	3.01	<0.005	0.05	0.01	5.63	3.55	0.020	1.39	0.20	<0.005	0.11	0.04	
REE-1		7.22	0.10	3.04	<0.005	0.09	0.01	6.13	3.20	0.028	1.36	0.18	<0.005	0.08	0.02	
REE-1		6.69	<0.01	3.46	<0.005	0.01	0.01	6.05	3.83	0.022	1.41	0.22	<0.005	0.12	0.04	
REE-1		6.76	0.02	3.09	<0.005	0.06	0.01	6.07	3.71	0.029	1.43	0.21	<0.005	0.12	0.04	
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	
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	

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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Sample Description	Method Analyte Units LOR	ME-ICP89 SiO2 %	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
		0.2	0.02	0.01	0.2	5	0.5	5	0.5	0.5	0.5
STANDARDS											
NCSDC86304		65.7	0.03	0.01	1630	64	6370	106	80.7	2.9	3.1
NCSDC86304		67.2	0.03	0.01	1655	57	7010	113	91.7	2.5	3.2
NCSDC86304		63.7	0.03	0.01	1735	58	7340	110	85.5	2.6	3.8
NCSDC86304		67.6	0.03	0.01	1690	53	6780	106	89.0	2.5	3.2
NCSDC86304		66.7	0.03	0.01	1545	52	6880	108	82.6	2.6	3.3
Target Range - Lower Bound		59.6	<0.02	<0.01	1500	40	6120	82	75.7	1.4	2.0
Upper Bound		69.7	0.07	0.04	1835	66	7480	112	93.7	3.6	4.4
OREAS 603											
OREAS 603											
OREAS 603											
Target Range - Lower Bound											
Upper Bound											
OREAS-45e											
OREAS-45e											
OREAS-45e											
OREAS-45e											
OREAS-45e											
OREAS-45e											
OREAS-45e											
OREAS-45e											
Target Range - Lower Bound											
Upper Bound											
REE-1		68.4	0.66	0.20							
Target Range - Lower Bound		61.9	0.57	0.16							
Upper Bound		72.3	0.71	0.21							
REE-1		67.8	0.67	0.31	1.5	>2500	1055	498	215	720	131.0
REE-1		68.0	0.66	0.20	1.3	>2500	1035	515	230	739	141.0
REE-1		68.7	0.65	0.20	1.4	>2500	1110	519	229	750	146.0
REE-1		71.2	0.70	0.20	1.4	>2500	1095	530	234	785	144.5
REE-1		69.5	0.67	0.22	1.1	>2500	1055	524	233	769	138.5
REE-1		66.7	0.66	0.19	1.5	>2500	1070	505	215	753	134.5
REE-1		63.7	0.61	0.18	1.0	>2500	1080	507	244	716	131.0
REE-1		65.2	0.60	0.18	8.8	>2500	788	518	226	776	139.5
REE-1		69.5	0.66	0.20	1.4	>2500	1060	480	236	767	135.5
REE-1		69.1	0.64	0.20	1.4	>2500	1070	529	237	785	144.5
Target Range - Lower Bound		61.9	0.57	0.16	0.6	3640	942	443	207	647	123.0
Upper Bound		72.3	0.71	0.21	1.5	>2500	1150	553	255	791	151.0

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**QC CERTIFICATE OF ANALYSIS AD17255501**

Method Analyte Units LOR	Au-ICP22 Au ppm 0.001	ME-ICP89 Al2O3 % 0.02	ME-ICP89 As % 0.01	ME-ICP89 CaO % 0.01	ME-ICP89 Co % 0.005	ME-ICP89 Cr2O3 % 0.01	ME-ICP89 Cu % 0.01	ME-ICP89 Fe2O3 % 0.01	ME-ICP89 K2O % 0.01	ME-ICP89 Li % 0.001	ME-ICP89 MgO % 0.01	ME-ICP89 MnO % 0.01	ME-ICP89 Ni % 0.005	ME-ICP89 Pb % 0.01	ME-ICP89 S % 0.01
Sample Description															
STANDARDS															
RTS-3a		9.66	0.02	3.01	0.013	0.04	0.24	28.9	0.54	0.004	3.96	0.20	<0.005	0.03	10.00
RTS-3a		10.10	0.01	2.98	0.014	0.03	0.24	28.6	0.57	0.004	3.96	0.20	<0.005	0.03	9.99
RTS-3a		9.69	<0.01	3.04	0.014	0.04	0.25	28.2	0.61	0.002	3.96	0.21	0.006	0.02	9.62
RTS-3a		9.78	0.01	3.15	0.015	0.03	0.25	28.9	0.55	0.003	3.84	0.21	0.010	0.02	10.10
RTS-3a		9.94	0.02	3.12	0.013	0.01	0.24	29.5	0.54	0.003	4.13	0.21	<0.005	0.02	9.95
RTS-3a		9.92	0.02	3.01	0.012	0.04	0.23	29.3	0.58	0.003	4.05	0.19	<0.005	0.02	9.69
RTS-3a		9.99	<0.01	3.05	0.015	0.04	0.25	27.6	0.55	0.002	3.85	0.21	0.006	0.02	10.30
RTS-3a		9.98	0.01	3.22	0.014	0.04	0.24	30.2	0.59	0.003	4.26	0.21	0.007	0.02	9.91
RTS-3a		9.85	<0.01	3.19	0.015	0.01	0.23	29.7	0.59	0.004	4.00	0.21	0.006	0.04	9.99
RTS-3a		9.67	<0.01	3.20	0.014	0.01	0.24	29.5	0.59	0.004	3.93	0.21	0.006	0.02	9.59
RTS-3a		9.74	0.01	2.97	0.015	0.04	0.24	29.3	0.58	0.006	3.88	0.20	0.005	0.03	9.92
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
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
BLANKS															
BLANK		<0.001													
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BLANK		<0.001													
BLANK		<0.001													
BLANK		0.001													
BLANK		<0.001													
Target Range - Lower Bound		<0.001													
Upper Bound		0.002													
BLANK		<0.02	0.01	<0.01	<0.005	0.01	<0.01	0.03	0.02	0.001	0.02	<0.01	<0.005	0.01	<0.01
BLANK		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
BLANK		0.02	<0.01	0.03	<0.005	0.01	<0.01	<0.01	<0.01	0.001	0.02	<0.01	<0.005	0.01	<0.01
BLANK		0.21	0.02	0.15	<0.005	0.07	<0.01	0.49	0.02	0.002	0.03	<0.01	<0.005	<0.01	0.01
BLANK		0.02	0.01	0.01	<0.005	0.01	<0.01	<0.01	<0.01	<0.001	0.02	<0.01	<0.005	<0.01	<0.01
BLANK		0.04	0.01	0.03	<0.005	0.10	<0.01	0.53	0.01	0.001	0.02	<0.01	<0.005	<0.01	<0.01
BLANK		0.03	0.01	<0.01	<0.005	0.01	<0.01	0.03	0.01	0.001	0.02	<0.01	<0.005	<0.01	0.03
BLANK		0.02	0.01	0.04	<0.005	0.01	<0.01	0.01	<0.01	0.001	0.02	<0.01	<0.005	<0.01	<0.01
BLANK		0.08	<0.01	<0.01	<0.005	<0.01	<0.01	<0.01	<0.01	0.002	0.03	<0.01	<0.005	<0.01	0.02
BLANK		<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
BLANK		0.05	<0.01	<0.01	<0.005	0.03	<0.01	0.10	<0.01	0.002	0.01	<0.01	<0.005	0.01	<0.01
Target Range - Lower Bound		<0.02		<0.01				<0.01	<0.01		<0.01				<0.01
Upper Bound		0.04		0.02				0.02	0.02		0.02				0.02

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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



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**QC CERTIFICATE OF ANALYSIS AD17255501**

Method	ME-ICP89	ME-ICP89	ME-ICP89	ME-MS91	ME-MS91	ME-MS91	ME-MS91	ME-MS91	ME-MS91	ME-MS91
Analyte	SiO2	TiO2	Zn	Cs	Nb	Rb	Sn	Ta	Th	U
Units	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
LOR	0.2	0.02	0.01	0.2	5	0.5	5	0.5	0.5	0.5
Sample Description										
STANDARDS										
RTS-3a	40.4	0.62	0.31	2.2	<5	21.7	285	0.5	1.0	0.7
RTS-3a	41.3	0.64	0.31	5.1	7	18.0	252	0.6	0.9	1.0
RTS-3a	40.2	0.64	0.31	1.9	7	16.9	268	<0.5	0.9	0.5
RTS-3a	39.4	0.64	0.31	0.9	7	17.0	268	0.7	1.2	0.6
RTS-3a	41.5	0.65	0.31	0.8	7	13.7	245	0.7	0.9	<0.5
RTS-3a	41.3	0.63	0.31	1.4	9	14.3	292	0.5	1.1	0.9
RTS-3a	40.0	0.66	0.30	0.9	<5	14.0	280	<0.5	1.1	<0.5
RTS-3a	41.3	0.66	0.31	1.1	5	13.2	277	<0.5	1.0	<0.5
RTS-3a	39.6	0.62	0.31	1.4	<5	26.7	271	1.0	1.0	<0.5
RTS-3a	40.2	0.65	0.30	8.3	5	16.9	261	0.9	1.0	0.5
RTS-3a	39.6	0.61	0.31	4.2	8	19.1	234	1.3	1.1	0.6
Target Range - Lower Bound	36.0	0.58	0.26	0.6	<5	13.4	233	<0.5	<0.5	<0.5
Upper Bound	42.2	0.72	0.32	1.6	10	17.4	295	1.2	2.1	1.2
BLANKS										
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BLANK										
Target Range - Lower Bound										
Upper Bound										
BLANK	0.2	<0.02	<0.01	0.3	40	<0.5	<5	<0.5	<0.5	<0.5
BLANK	<0.2	<0.02	<0.01	0.7	<5	0.7	<5	<0.5	<0.5	<0.5
BLANK	<0.2	<0.02	<0.01	0.7	<5	0.9	<5	<0.5	<0.5	<0.5
BLANK	0.6	<0.02	<0.01	0.3	19	<0.5	<5	0.7	<0.5	0.9
BLANK	<0.2	<0.02	<0.01	<0.2	8	<0.5	<5	<0.5	<0.5	<0.5
BLANK	0.2	<0.02	<0.01	0.4	<5	1.7	<5	<0.5	<0.5	<0.5
BLANK	0.6	<0.02	<0.01	0.2	<5	1.0	<5	<0.5	<0.5	<0.5
BLANK	0.2	<0.02	<0.01	0.2	<5	<0.5	<5	<0.5	<0.5	<0.5
BLANK	0.2	<0.02	<0.01	0.2	16	<0.5	<5	0.9	<0.5	<0.5
BLANK	<0.2	<0.02	<0.01	<0.2	<5	<0.5	<5	<0.5	<0.5	<0.5
BLANK	0.2	<0.02	<0.01	<0.2	<5	0.9	<5	<0.5	<0.5	<0.5
Target Range - Lower Bound	<0.2	<0.02		<0.2	<5	<0.5	<5	<0.5	<0.5	<0.5
Upper Bound	0.4	0.04		0.4	10	1.0	10	1.0	1.0	1.0

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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## QC CERTIFICATE OF ANALYSIS AD17255501

Sample Description	Method Analyte Units LOR	Au-ICP22 Au ppm 0.001	ME-ICP89 Al2O3 % 0.02	ME-ICP89 As % 0.01	ME-ICP89 CaO % 0.01	ME-ICP89 Co % 0.005	ME-ICP89 Cr2O3 % 0.01	ME-ICP89 Cu % 0.01	ME-ICP89 Fe2O3 % 0.01	ME-ICP89 K2O % 0.01	ME-ICP89 Li % 0.001	ME-ICP89 MgO % 0.01	ME-ICP89 MnO % 0.01	ME-ICP89 Ni % 0.005	ME-ICP89 Pb % 0.01	ME-ICP89 S % 0.01
DUPLICATES																
SC17045			12.05	0.02	0.06	<0.005	0.02	<0.01	1.80	5.85	0.008	0.27	0.01	<0.005	0.02	<0.01
DUP			12.20	0.01	0.07	<0.005	0.01	<0.01	1.77	5.87	0.007	0.27	0.01	<0.005	0.01	<0.01
Target Range - Lower Bound			11.65	<0.01	0.05	<0.005	<0.01	<0.01	1.71	5.63	0.006	0.25	<0.01	<0.005	<0.01	<0.01
Upper Bound			12.60	0.02	0.08	0.010	0.02	0.02	1.86	6.09	0.009	0.29	0.02	0.010	0.02	0.02
SC17059			6.30	0.01	0.21	<0.005	0.02	<0.01	1.79	3.01	0.006	0.13	0.03	<0.005	0.01	0.01
DUP			6.10	<0.01	0.20	<0.005	0.02	<0.01	1.72	2.92	0.004	0.12	0.03	<0.005	0.01	0.01
Target Range - Lower Bound			5.95	<0.01	0.19	<0.005	<0.01	<0.01	1.68	2.84	0.004	0.11	0.02	<0.005	<0.01	<0.01
Upper Bound			6.45	0.02	0.22	0.010	0.03	0.02	1.83	3.09	0.006	0.14	0.04	0.010	0.02	0.02
SC17063			<0.001													
DUP			<0.001													
Target Range - Lower Bound			<0.001													
Upper Bound			0.002													
SC17076			11.30	0.01	0.10	<0.005	0.01	<0.01	2.13	5.91	0.003	0.27	0.01	<0.005	<0.01	0.01
DUP			11.20	0.01	<0.01	<0.005	0.01	<0.01	2.13	5.76	0.003	0.23	0.01	<0.005	0.01	<0.01
Target Range - Lower Bound			10.80	<0.01	0.04	<0.005	<0.01	<0.01	2.04	5.61	0.002	0.23	<0.01	<0.005	<0.01	<0.01
Upper Bound			11.70	0.02	0.07	0.010	0.02	0.02	2.22	6.06	0.004	0.27	0.02	0.010	0.02	0.02
SC17090			0.001													
DUP			0.001													
Target Range - Lower Bound			<0.001													
Upper Bound			0.002													
SC17097			11.00	0.02	0.04	<0.005	0.02	<0.01	2.07	4.96	0.004	0.28	0.01	<0.005	0.01	<0.01
DUP			10.35	0.01	<0.01	<0.005	0.01	<0.01	1.87	4.90	0.002	0.27	0.01	<0.005	<0.01	<0.01
Target Range - Lower Bound			10.25	<0.01	<0.01	<0.005	<0.01	<0.01	1.89	4.74	0.002	0.25	<0.01	<0.005	<0.01	<0.01
Upper Bound			11.10	0.02	0.04	0.010	0.02	0.02	2.05	5.12	0.004	0.30	0.02	0.010	0.02	0.02
SC17109			0.001													
DUP			0.002													
Target Range - Lower Bound			<0.001													
Upper Bound			0.002													
SC17114			16.15	0.03	0.13	<0.005	0.01	<0.01	3.36	7.01	0.006	0.67	0.01	<0.005	0.01	<0.01
DUP			15.55	0.03	0.10	<0.005	0.01	<0.01	3.23	6.95	0.006	0.66	0.01	<0.005	<0.01	<0.01
Target Range - Lower Bound			15.25	0.02	0.10	<0.005	<0.01	<0.01	3.16	6.71	0.005	0.63	<0.01	<0.005	<0.01	<0.01
Upper Bound			16.45	0.04	0.13	0.010	0.02	0.02	3.43	7.25	0.007	0.70	0.02	0.010	0.02	0.02

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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





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## QC CERTIFICATE OF ANALYSIS AD17255501

Sample Description	Method Analyte Units LOR	ME-ICP89 SiO2 %	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
		0.2	0.02	0.01	0.2	5	0.5	5	0.5	0.5	0.5
DUPLICATES											
SC17045		76.6	0.25	<0.01	55.2	24	399	156	22.0	34.3	8.2
DUP		76.6	0.25	<0.01	55.7	30	403	147	22.2	34.2	8.5
Target Range - Lower Bound		73.5	0.22	<0.01	52.5	21	380	139	20.5	32.0	7.4
Upper Bound		79.7	0.28	0.02	58.4	33	422	164	23.7	36.5	9.3
SC17059		82.6	0.29	<0.01	9.6	16	184.5	41	2.3	25.7	6.1
DUP		80.9	0.28	<0.01	9.6	13	179.0	44	2.8	25.4	6.0
Target Range - Lower Bound		78.5	0.25	<0.01	8.9	9	172.0	35	1.9	23.8	5.2
Upper Bound		85.0	0.32	0.02	10.3	20	191.5	50	3.2	27.3	6.9
SC17063											
DUP											
Target Range - Lower Bound											
Upper Bound											
SC17076		77.7	0.36	<0.01	19.0	20	332	48	4.9	38.9	7.5
DUP		75.9	0.35	<0.01	20.6	20	331	43	3.7	39.9	8.0
Target Range - Lower Bound		73.7	0.32	<0.01	18.6	14	314	38	3.6	36.9	6.9
Upper Bound		79.9	0.39	0.02	21.0	26	349	53	5.0	41.9	8.6
SC17090											
DUP											
Target Range - Lower Bound											
Upper Bound											
SC17097		77.0	0.27	<0.01	17.8	16	282	15	1.5	25.8	5.6
DUP		74.0	0.27	<0.01	15.6	16	278	14	1.5	28.0	5.5
Target Range - Lower Bound		72.5	0.24	<0.01	15.7	10	266	9	0.9	25.1	4.8
Upper Bound		78.5	0.30	0.02	17.7	22	295	20	2.1	28.7	6.3
SC17109											
DUP											
Target Range - Lower Bound											
Upper Bound											
SC17114		68.2	0.31	0.01	44.5	27	430	96	4.2	41.7	9.2
DUP		65.7	0.30	<0.01	45.6	28	439	112	4.2	41.8	9.5
Target Range - Lower Bound		64.2	0.27	<0.01	42.6	21	412	94	3.5	39.2	8.4
Upper Bound		69.7	0.34	0.02	47.5	34	457	114	4.9	44.3	10.3

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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## QC CERTIFICATE OF ANALYSIS AD17255501

Sample Description	Method Analyte Units LOR	Au-ICP22 Au ppm 0.001	ME-ICP89 Al2O3 % 0.02	ME-ICP89 As % 0.01	ME-ICP89 CaO % 0.01	ME-ICP89 Co % 0.005	ME-ICP89 Cr2O3 % 0.01	ME-ICP89 Cu % 0.01	ME-ICP89 Fe2O3 % 0.01	ME-ICP89 K2O % 0.01	ME-ICP89 Li % 0.001	ME-ICP89 MgO % 0.01	ME-ICP89 MnO % 0.01	ME-ICP89 Ni % 0.005	ME-ICP89 Pb % 0.01	ME-ICP89 S % 0.01
DUPLICATES																
SC17128			8.46	0.01	<0.01	<0.005	0.01	<0.01	1.29	4.84	0.003	0.14	0.01	<0.005	<0.01	<0.01
DUP			8.06	0.03	0.03	<0.005	0.02	<0.01	1.32	4.94	0.004	0.16	0.01	<0.005	<0.01	<0.01
Target Range - Lower Bound			7.93	<0.01	<0.01	<0.005	<0.01	<0.01	1.25	4.70	0.002	0.13	<0.01	<0.005	<0.01	<0.01
Upper Bound			8.59	0.03	0.03	0.010	0.02	0.02	1.36	5.08	0.005	0.17	0.02	0.010	0.02	0.02
SC17151		0.001	9.63	<0.01	0.04	<0.005	0.01	<0.01	1.63	4.20	0.005	0.27	0.01	<0.005	<0.01	0.04
DUP		0.002	9.91	<0.01	0.13	<0.005	0.02	<0.01	1.72	4.46	0.005	0.30	0.01	<0.005	<0.01	0.01
Target Range - Lower Bound		<0.001	9.38	<0.01	0.07	<0.005	<0.01	<0.01	1.60	4.16	0.004	0.26	<0.01	<0.005	<0.01	<0.01
Upper Bound		0.002	10.15	0.02	0.10	0.010	0.02	0.02	1.75	4.50	0.006	0.31	0.02	0.010	0.02	0.04
SC17166			12.35	<0.01	0.06	<0.005	0.01	<0.01	2.97	4.25	0.005	0.58	0.01	<0.005	<0.01	<0.01
DUP			12.45	0.02	0.07	<0.005	0.01	<0.01	3.05	4.32	0.005	0.60	0.01	<0.005	<0.01	<0.01
Target Range - Lower Bound			11.90	<0.01	0.05	<0.005	<0.01	<0.01	2.89	4.11	0.004	0.56	<0.01	<0.005	<0.01	<0.01
Upper Bound			12.90	0.02	0.08	0.010	0.02	0.02	3.13	4.46	0.006	0.62	0.02	0.010	0.02	0.02
SC17167		0.001														
DUP		0.001														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
SC17184			13.80	0.02	0.06	<0.005	<0.01	<0.01	2.16	6.50	0.005	0.42	0.01	<0.005	0.01	0.02
DUP			13.70	0.01	0.04	<0.005	<0.01	<0.01	2.14	6.53	0.004	0.41	0.02	<0.005	0.01	0.02
Target Range - Lower Bound			13.20	<0.01	0.04	<0.005	<0.01	<0.01	2.06	6.26	0.003	0.39	<0.01	<0.005	<0.01	<0.01
Upper Bound			14.30	0.02	0.06	0.010	0.02	0.02	2.24	6.77	0.006	0.44	0.02	0.010	0.02	0.03
SC17217			12.15	<0.01	0.03	<0.005	0.01	<0.01	2.29	5.42	<0.001	0.30	0.01	<0.005	<0.01	<0.01
DUP			12.00	<0.01	0.04	<0.005	0.01	<0.01	2.29	5.42	<0.001	0.30	0.01	<0.005	<0.01	<0.01
Target Range - Lower Bound			11.60	<0.01	0.02	<0.005	<0.01	<0.01	2.19	5.21	<0.001	0.28	<0.01	<0.005	<0.01	<0.01
Upper Bound			12.55	0.02	0.05	0.010	0.02	0.02	2.39	5.63	0.002	0.32	0.02	0.010	0.02	0.02
SC17231		0.001														
DUP		<0.001														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
SC17232			11.60	0.01	0.04	<0.005	0.01	<0.01	1.90	6.13	<0.001	0.17	0.01	<0.005	<0.01	<0.01
DUP			11.35	0.01	0.06	<0.005	0.01	<0.01	1.79	5.91	<0.001	0.17	0.01	<0.005	<0.01	<0.01
Target Range - Lower Bound			11.00	<0.01	0.04	<0.005	<0.01	<0.01	1.77	5.78	<0.001	0.15	<0.01	<0.005	<0.01	<0.01
Upper Bound			11.95	0.02	0.06	0.010	0.02	0.02	1.92	6.26	0.002	0.19	0.02	0.010	0.02	0.02

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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## QC CERTIFICATE OF ANALYSIS AD17255501

Sample Description	Method Analyte Units LOR	ME-ICP89 SiO2 %	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
		0.2	0.02	0.01	0.2	5	0.5	5	0.5	0.5	0.5
DUPLICATES											
SC17128		80.4	0.24	<0.01	12.7	20	255	862	15.5	25.7	6.1
DUP		75.7	0.24	<0.01	15.1	29	259	896	18.1	27.3	7.2
Target Range - Lower Bound		74.9	0.21	<0.01	13.0	18	244	830	15.5	24.7	5.8
Upper Bound		81.2	0.27	0.02	14.8	31	270	928	18.1	28.3	7.5
SC17151		82.8	0.25	<0.01	21.9	20	285	363	9.2	22.0	6.1
DUP		83.2	0.26	<0.01	32.8	20	293	370	7.4	22.3	6.3
Target Range - Lower Bound		79.7	0.23	<0.01	25.8	14	274	343	7.4	20.5	5.4
Upper Bound		86.3	0.28	0.02	28.9	26	304	390	9.2	23.8	7.0
SC17166		76.2	0.39	<0.01	24.1	25	279	165	7.0	29.8	6.7
DUP		76.2	0.40	<0.01	25.5	30	286	177	9.3	31.2	7.2
Target Range - Lower Bound		73.1	0.36	<0.01	23.4	21	268	157	7.2	28.5	6.1
Upper Bound		79.3	0.43	0.02	26.2	34	297	185	9.1	32.5	7.8
SC17167											
DUP											
Target Range - Lower Bound											
Upper Bound											
SC17184		72.1	0.31	<0.01	31.4	33	409	247	9.4	35.6	7.3
DUP		72.5	0.31	<0.01	28.7	25	393	212	7.9	36.7	6.8
Target Range - Lower Bound		69.4	0.28	<0.01	28.3	23	380	213	7.7	33.8	6.2
Upper Bound		75.2	0.34	0.02	31.8	35	422	246	9.6	38.5	7.9
SC17217		78.5	0.45	<0.01	22.5	23	306	93	4.5	37.7	6.5
DUP		76.2	0.45	<0.01	23.8	28	301	86	6.2	38.8	6.6
Target Range - Lower Bound		74.2	0.41	<0.01	21.8	19	288	80	4.6	35.8	5.7
Upper Bound		80.5	0.49	0.02	24.5	32	319	99	6.1	40.7	7.4
SC17231											
DUP											
Target Range - Lower Bound											
Upper Bound											
SC17232		76.4	0.35	<0.01	15.1	19	312	9	1.5	21.0	6.0
DUP		75.1	0.33	<0.01	13.5	24	308	8	1.5	20.7	5.5
Target Range - Lower Bound		72.7	0.31	<0.01	13.4	15	294	<5	0.9	19.3	5.0
Upper Bound		78.8	0.37	0.02	15.2	28	326	10	2.1	22.4	6.5

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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## QC CERTIFICATE OF ANALYSIS AD17255501

Sample Description	Method Analyte Units LOR	Au-ICP22 Au ppm 0.001	ME-ICP89 Al2O3 % 0.02	ME-ICP89 As % 0.01	ME-ICP89 CaO % 0.01	ME-ICP89 Co % 0.005	ME-ICP89 Cr2O3 % 0.01	ME-ICP89 Cu % 0.01	ME-ICP89 Fe2O3 % 0.01	ME-ICP89 K2O % 0.01	ME-ICP89 Li % 0.001	ME-ICP89 MgO % 0.01	ME-ICP89 MnO % 0.01	ME-ICP89 Ni % 0.005	ME-ICP89 Pb % 0.01	ME-ICP89 S % 0.01
DUPLICATES																
SC17251 DUP		0.001 0.001														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
SC17260 DUP		12.30 12.15	0.01 0.02	0.06 0.06	<0.005 <0.005	<0.01 0.01	<0.01 <0.01	2.43 2.49	5.08 5.12	0.005 0.005	0.32 0.33	0.01 0.01	<0.005 <0.005	<0.01 <0.01	<0.01 <0.01	
Target Range - Lower Bound		11.75	<0.01	0.05	<0.005	<0.01	<0.01	2.36	4.90	0.004	0.30	<0.01	<0.005	<0.01	<0.01	
Upper Bound		12.70	0.02	0.07	0.010	0.02	0.02	2.56	5.30	0.006	0.35	0.02	0.010	0.02	0.02	
SC17275 DUP		35.6 35.6	0.01 0.02	0.03 0.01	<0.005 <0.005	0.03 0.03	<0.01 <0.01	23.4 23.4	0.20 0.22	0.002 0.003	0.07 0.05	0.04 0.04	<0.005 <0.005	<0.01 <0.01	0.05 0.15	
Target Range - Lower Bound		34.2	<0.01	<0.01	<0.005	0.02	<0.01	22.5	0.19	<0.001	0.05	0.03	<0.005	<0.01	0.09	
Upper Bound		37.0	0.02	0.03	0.010	0.04	0.02	24.3	0.23	0.004	0.07	0.05	0.010	0.02	0.11	
SC17344 DUP		0.001 0.001														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
SC17355 DUP		8.79 8.85	<0.01 <0.01	0.03 0.03	<0.005 <0.005	0.01 0.01	<0.01 <0.01	2.03 2.04	4.07 4.13	0.003 0.003	0.30 0.30	0.02 0.02	<0.005 <0.005	<0.01 0.01	<0.01 0.01	
Target Range - Lower Bound		8.47	<0.01	0.02	<0.005	<0.01	<0.01	1.95	3.94	0.002	0.28	<0.01	<0.005	<0.01	<0.01	
Upper Bound		9.17	0.02	0.04	0.010	0.02	0.02	2.12	4.26	0.004	0.32	0.03	0.010	0.02	0.02	
SC17370 DUP		8.36 8.29	0.01 <0.01	0.01 0.01	<0.005 <0.005	0.01 0.01	<0.01 <0.01	1.62 1.60	3.99 3.99	0.003 0.003	0.23 0.23	0.01 0.01	<0.005 <0.005	0.01 <0.01	<0.01 0.01	
Target Range - Lower Bound		7.99	<0.01	<0.01	<0.005	<0.01	<0.01	1.54	3.83	0.002	0.21	<0.01	<0.005	<0.01	<0.01	
Upper Bound		8.66	0.02	0.02	0.010	0.02	0.02	1.68	4.15	0.004	0.25	0.02	0.010	0.02	0.02	
SC17141 DUP		0.001 0.001														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
ORIGINAL DUP		1.91 1.97	<0.01 <0.01	21.5 21.3	<0.005 <0.005	<0.01 <0.01	<0.01 <0.01	3.45 3.53	0.80 0.81	0.002 0.003	16.20 16.35	0.11 0.11	<0.005 <0.005	<0.01 0.01	0.01 <0.01	
Target Range - Lower Bound		1.85	<0.01	20.6	<0.005	<0.01	<0.01	3.35	0.76	<0.001	15.65	0.10	<0.005	<0.01	<0.01	
Upper Bound		2.03	0.02	22.2	0.010	0.02	0.02	3.63	0.85	0.004	16.90	0.12	0.010	0.02	0.02	

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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## QC CERTIFICATE OF ANALYSIS AD17255501

Sample Description	Method Analyte Units LOR	ME-ICP89 SiO2 %	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
		0.2	0.02	0.01	0.2	5	0.5	5	0.5	0.5	0.5
SC17251 DUP Target Range - Lower Bound Upper Bound		DUPLICATES									
SC17260 DUP Target Range - Lower Bound Upper Bound		77.4 76.8 74.0 80.2	0.45 0.43 0.40 0.48	<0.01 0.01 <0.01 0.02	16.7 16.3 15.5 17.5	26 25 19 32	313 314 297 330	78 72 66 84	3.8 3.5 3.0 4.3	52.3 52.8 49.4 55.7	9.2 9.3 8.3 10.2
SC17275 DUP Target Range - Lower Bound Upper Bound		22.2 22.2 21.2 23.2	1.60 1.58 1.51 1.67	<0.01 0.02 <0.01 0.02	1.8 0.9 1.1 1.6	26 27 20 33	12.4 11.9 11.0 13.3	6 6 <5 10	2.5 2.6 1.9 3.2	83.8 86.6 80.4 90.0	6.4 7.0 5.9 7.5
SC17344 DUP Target Range - Lower Bound Upper Bound											
SC17355 DUP Target Range - Lower Bound Upper Bound		81.1 81.3 78.0 84.4	0.30 0.30 0.27 0.33	<0.01 <0.01 <0.01 0.02	11.2 11.6 10.6 12.2	10 9 <5 10	210 223 205 228	113 99 96 116	3.7 3.0 2.7 4.0	34.5 34.6 32.3 36.8	8.4 8.9 7.7 9.6
SC17370 DUP Target Range - Lower Bound Upper Bound		84.7 84.1 81.0 87.8	0.25 0.25 0.22 0.28	<0.01 <0.01 <0.01 0.02	14.9 14.9 14.0 15.8	13 12 7 18	228 231 218 241	87 76 72 91	3.8 3.4 2.9 4.3	30.6 31.0 28.8 32.8	6.3 6.4 5.5 7.2
SC17141 DUP Target Range - Lower Bound Upper Bound											
ORIGINAL DUP Target Range - Lower Bound Upper Bound		23.1 23.3 22.1 24.3	0.09 0.10 0.07 0.12	<0.01 <0.01 <0.01 0.02	0.8 2.0 1.1 1.7	<5 9 <5 10	25.0 26.5 24.0 27.5	<5 <5 <5 10	<0.5 0.9 <0.5 1.0	2.5 2.8 2.0 3.3	0.7 0.9 <0.5 1.0

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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## QC CERTIFICATE OF ANALYSIS AD17255501

Sample Description	Method Analyte Units LOR	Au-ICP22 ppm	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 %
		0.001	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
DUPLICATES																
ORIGINAL			14.45	<0.01	0.87	<0.005	<0.01	0.01	1.64	4.94	0.070	0.40	0.03	<0.005	<0.01	0.01
DUP			14.25	<0.01	0.87	<0.005	<0.01	<0.01	1.59	4.95	0.069	0.39	0.03	<0.005	0.01	0.01
Target Range - Lower Bound			13.80	<0.01	0.83	<0.005	<0.01	<0.01	1.54	4.75	0.066	0.37	0.02	<0.005	<0.01	<0.01
Upper Bound			14.90	0.02	0.91	0.010	0.02	0.02	1.69	5.14	0.073	0.42	0.04	0.010	0.02	0.02
ORIGINAL		0.001														
DUP		0.001														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
ORIGINAL		0.001														
DUP		0.001														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
ORIGINAL		0.041														
DUP		0.034														
Target Range - Lower Bound		0.035														
Upper Bound		0.040														
ORIGINAL		0.006														
DUP		0.006														
Target Range - Lower Bound		0.005														
Upper Bound		0.007														
ORIGINAL		0.001														
DUP		0.001														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
ORIGINAL		<0.001														
DUP		0.001														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
ORIGINAL		7.10														
DUP		6.91														
Target Range - Lower Bound		6.65														
Upper Bound		7.36														

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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**QC CERTIFICATE OF ANALYSIS AD17255501**

Sample Description	Method Analyte Units LOR	ME-ICP89 SiO2 %	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
		0.2	0.02	0.01	0.2	5	0.5	5	0.5	0.5	0.5
DUPLICATES											
ORIGINAL		76.2	0.19	<0.01	64.9	14	325	11	3.4	19.6	8.7
DUP		74.7	0.18	<0.01	67.4	15	329	12	2.8	21.0	11.7
Target Range - Lower Bound		72.4	0.16	<0.01	62.6	9	310	6	2.4	18.8	9.2
Upper Bound		78.5	0.21	0.02	69.7	20	344	17	3.8	21.8	11.2
ORIGINAL											
DUP											
Target Range - Lower Bound											
Upper Bound											
ORIGINAL											
DUP											
Target Range - Lower Bound											
Upper Bound											
ORIGINAL											
DUP											
Target Range - Lower Bound											
Upper Bound											
ORIGINAL											
DUP											
Target Range - Lower Bound											
Upper Bound											
ORIGINAL											
DUP											
Target Range - Lower Bound											
Upper Bound											

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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## QC CERTIFICATE OF ANALYSIS AD17255501

Sample Description	Method Analyte Units LOR	Au-ICP22 Au ppm 0.001	ME-ICP89 Al2O3 % 0.02	ME-ICP89 As % 0.01	ME-ICP89 CaO % 0.01	ME-ICP89 Co % 0.005	ME-ICP89 Cr2O3 % 0.01	ME-ICP89 Cu % 0.01	ME-ICP89 Fe2O3 % 0.01	ME-ICP89 K2O % 0.01	ME-ICP89 Li % 0.001	ME-ICP89 MgO % 0.01	ME-ICP89 MnO % 0.01	ME-ICP89 Ni % 0.005	ME-ICP89 Pb % 0.01	ME-ICP89 S % 0.01
DUPLICATES																
ORIGINAL		0.001														
DUP		0.002														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
ORIGINAL		0.009														
DUP		0.007														
Target Range - Lower Bound		0.007														
Upper Bound		0.009														
ORIGINAL		0.008														
DUP		0.007														
Target Range - Lower Bound		0.006														
Upper Bound		0.009														
ORIGINAL		22.4	0.01	<0.01	<0.005	0.03	<0.01	1.00	0.71	0.032	0.10	0.02	0.006	<0.01	0.03	
DUP		22.3	0.01	<0.01	<0.005	0.02	<0.01	0.97	0.70	0.033	0.10	0.02	<0.005	<0.01	0.02	
Target Range - Lower Bound		21.5	<0.01	<0.01	<0.005	<0.01	<0.01	0.94	0.67	0.030	0.09	<0.01	<0.005	<0.01	<0.01	
Upper Bound		23.2	0.02	0.02	0.010	0.04	0.02	1.03	0.74	0.035	0.11	0.03	0.010	0.02	0.04	
ORIGINAL		13.45	0.01	8.41	0.005	0.07	0.01	11.10	0.12	0.019	7.66	0.15	0.019	<0.01	<0.01	
DUP		13.70	<0.01	8.20	0.005	0.06	0.01	11.25	0.11	0.019	7.77	0.15	0.022	<0.01	<0.01	
Target Range - Lower Bound		13.05	<0.01	7.98	<0.005	0.05	<0.01	10.75	0.10	0.017	7.42	0.13	0.015	<0.01	<0.01	
Upper Bound		14.10	0.02	8.63	0.010	0.08	0.02	11.60	0.13	0.021	8.01	0.17	0.026	0.02	0.02	
ORIGINAL		0.002														
DUP		0.001														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
ORIGINAL		0.001														
DUP		<0.001														
Target Range - Lower Bound		<0.001														
Upper Bound		0.002														
ORIGINAL		0.002														
DUP		0.002														
Target Range - Lower Bound		<0.001														
Upper Bound		0.003														

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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**QC CERTIFICATE OF ANALYSIS AD17255501**

Sample Description	Method Analyte Units LOR	ME-ICP89 SiO2 %	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
		0.2	0.02	0.01	0.2	5	0.5	5	0.5	0.5	0.5
ORIGINAL DUP Target Range - Lower Bound Upper Bound		DUPLICATES									
ORIGINAL DUP Target Range - Lower Bound Upper Bound											
ORIGINAL DUP Target Range - Lower Bound Upper Bound											
ORIGINAL DUP Target Range - Lower Bound Upper Bound		68.7 68.5 65.8 71.4	0.03 0.03 <0.02 0.04	<0.01 <0.01 <0.01 0.02	102.5 100.5 96.2 107.0	68 73 62 79	1355 1345 1280 1420	102 98 90 110	77.1 86.9 77.4 86.6	2.9 2.9 2.3 3.5	0.9 0.8 <0.5 1.0
ORIGINAL DUP Target Range - Lower Bound Upper Bound		51.8 53.1 50.3 54.6	0.55 0.54 0.50 0.59	0.01 0.01 <0.01 0.02	15.3 14.8 14.1 16.0	<5 <5 <5 10	24.8 24.6 23.0 26.4	<5 <5 <5 10	<0.5 0.8 <0.5 1.0	<0.5 <0.5 <0.5 1.0	0.6 0.6 <0.5 1.0
ORIGINAL DUP Target Range - Lower Bound Upper Bound											
ORIGINAL DUP Target Range - Lower Bound Upper Bound											
ORIGINAL DUP Target Range - Lower Bound Upper Bound											

Comments: Total sample weighed in some instances as indicated in Wt. Sample column.

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**QC CERTIFICATE OF ANALYSIS AD17255501**

	CERTIFICATE COMMENTS
	<b>ANALYTICAL COMMENTS</b>
Applies to Method:	NSS is non-sufficient sample. ALL METHODS
	<b>ACCREDITATION COMMENTS</b>
Applies to Method:	NATA Accredited. Corporate Accreditation No: 825, Corporate Site No: 23001. The Technical Signatory is Wendy Wong, Senior QC Chemist. Au-ICP22
	<b>LABORATORY ADDRESSES</b>
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-ICP89 ME-MS91
Applies to Method:	Processed at ALS Adelaide located at Unit 1, 1 Burma Road, Pooraka, Adelaide, SA, Australia. LEV-01 LOG-22 PUL-31 PUL-QC WEI-21