

BAUXITE & RARE EARTH ELEMENT ASSAY QAQC

Redacted & extracted from locked PDF certificate for BAUXITE & REE assays
BAUXITE QUALITY CONTROL CERTIFICATE "A4QC"



Australian Laboratory Services Pty. Ltd.
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 Plus Appendix Pages
 Finalized Date: 7-AUG-2023
 Account: AUSB AU

QC CERTIFICATE BR23215621

Project: [REDACTED]
 P.O. No: [REDACTED]
 This report is for 1 sample of Bauxite submitted to our lab in Brisbane, QLD, Australia on 3-AUG-2023.

The following have access to data associated with this certificate:

MARK COOKSEY IAN LEVY NATHAN TOWNS	PAUL GLOVER CONNOR MAGUIRE	LEON HAWKER ABX TASMANIAN LAB
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SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LEV-01	Waste Disposal Levy
PUL-21	Pulverize entire sample

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
ME-XRF13n	Bauxite By fusion XRF	XRF
ME-GRA05	H2O/LOI by TGA furnace	TGA



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Project: [REDACTED]

QC CERTIFICATE OF ANALYSIS BR23215621

Sample Description	Method Analyte Units LOD	ME-XRF13n Al2O3 %	ME-XRF13n SiO2 %	ME-XRF13n Fe2O3 %	ME-XRF13n TiO2 %	ME-XRF13n BaO %	ME-XRF13n CaO %	ME-XRF13n Cr2O3 %	ME-XRF13n K2O %	ME-XRF13n MgO %	ME-XRF13n MnO %	ME-XRF13n Na2O %	ME-XRF13n P2O5 %	ME-XRF13n SO3 %	ME-XRF13n SrO %	ME-XRF13n V2O5 %
Sample Description		0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
STANDARDS																
BAUX-CSS	Target Range - Lower Bound	52.29	1.24	16.30	1.90	<0.01	0.05	0.06	0.01	0.01	<0.01	0.01	0.14	0.10	<0.01	0.04
	Upper Bound	51.77	1.12	15.80	1.82	<0.01	0.03	0.04	<0.01	<0.01	<0.01	0.11	0.08	<0.01	0.03	
BCS395	Target Range - Lower Bound	53.03	1.36	16.80	2.04	0.02	0.07	0.09	0.04	0.04	0.03	0.04	0.17	0.13	0.02	0.08
	Upper Bound	58.95	34.7	2.03	1.88	0.01	0.13	0.06	0.18	0.16	0.02	0.07	0.10	0.02	<0.01	0.08
SARM-44	Target Range - Lower Bound	58.12	33.9	1.94	1.73	<0.01	0.12	0.03	0.16	0.12	<0.01	0.06	0.08	<0.01	<0.01	0.05
	Upper Bound	59.48	35.8	2.18	1.93	0.03	0.16	0.08	0.20	0.16	0.05	0.10	0.13	0.04	0.02	0.09
SRM-696	Target Range - Lower Bound	54.57	3.77	8.66	2.65	<0.01	0.01	0.03	0.01	0.01	<0.01	0.01	0.04	0.12	<0.01	0.07
	Upper Bound	53.86	3.57	8.37	2.50	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.03	0.12	<0.01	0.05
	Upper Bound	55.14	4.01	9.03	2.78	0.02	0.04	0.07	0.03	0.03	0.02	0.03	0.07	0.18	0.02	0.10
BLANKS																
BLANK	Target Range - Lower Bound	<0.01	100.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Upper Bound	0.02	100.0	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
DUPLICATES																
ORIGINAL DUP	Target Range - Lower Bound	45.74	4.47	18.40	5.80	<0.01	0.01	0.07	0.01	0.07	0.02	0.01	0.05	0.19	<0.01	0.08
	Upper Bound	45.88	4.48	18.30	5.80	<0.01	0.01	0.06	0.01	0.07	0.02	<0.01	0.05	0.19	<0.01	0.08
DUP	Target Range - Lower Bound	45.57	4.38	18.15	5.65	<0.01	<0.01	0.05	<0.01	0.06	<0.01	<0.01	0.04	0.17	<0.01	0.07
	Upper Bound	46.05	4.57	18.55	5.96	0.02	0.02	0.08	0.02	0.08	0.03	0.02	0.06	0.21	0.02	0.09



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Project: [REDACTED]

QC CERTIFICATE OF ANALYSIS BR23215621

Sample Description	Method Analyte Units LOD	ME-XRF13n Zn %	ME-XRF13n ZrO2 %	ME-XRF13n Total %	ME-GRA05 LOI %
Sample Description		0.01	0.01	0.01	0.01
STANDARDS					
BAUX-CSS	Target Range - Lower Bound			21.16	
	Upper Bound			20.78	
BCS395	Target Range - Lower Bound	<0.01	0.06	100.0	22.06
	Upper Bound	<0.01	0.04	99.0	
SARM-44	Target Range - Lower Bound	0.02	0.08	101.0	
	Upper Bound	0.03	0.06	100.0	
SRM-696	Target Range - Lower Bound	<0.01	0.03	99.0	
	Upper Bound	0.05	0.08	101.0	
	Upper Bound	<0.01	0.14	100.0	
	Upper Bound	<0.01	0.11	99.0	
	Upper Bound	0.02	0.17	101.0	
BLANKS					
BLANK	Target Range - Lower Bound	<0.01	<0.01	100.0	
	Upper Bound	<0.01	<0.01	99.0	
	Upper Bound	0.02	0.02	101.0	
DUPLICATES					
ORIGINAL DUP	Target Range - Lower Bound			24.76	
	Upper Bound			24.69	
DUP	Target Range - Lower Bound			24.10	
	Upper Bound			25.35	
	Upper Bound	<0.01	0.06	99.98	
DUP	Target Range - Lower Bound	<0.01	0.06	100.0	
	Upper Bound	<0.01	0.05	99.5	
	Upper Bound	0.02	0.07	100.5	



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Project: [REDACTED]

QC CERTIFICATE OF ANALYSIS BR23215621

CERTIFICATE COMMENTS	
ACCREDITATION COMMENTS	
Applies to Method:	NATA Accreditation covers the performance of this service but does not cover the performance of ALS Brisbane Sample Preparation. Corporate Accreditation No: 825, Corporate Site No: 818. The Technical Signatory is James Lo, XRF Supervising Chemist ME-GRA05 ME-XRF13n
LABORATORY ADDRESSES	
Applies to Method:	Processed at ALS Brisbane located at 32 Shand Street, Stafford, Brisbane, QLD, Australia. Processed at ALS Brisbane Sample Preparation at 23 Pineapple Street, Zillmere, QLD, 4034, Australia LEV-01 LOG-22 ME-GRA05 ME-XRF13n PUL-21 WEI-21

BAUXITE CERTIFICATE OF ANALYSIS "A4COA"



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CERTIFICATE BR23215621

Project: [REDACTED] Bauxite Project
P.O. No.: SF 292396
This report is for 1 sample of Bauxite submitted to our lab in Brisbane, QLD, Australia on 3-AUG-2023.

The following have access to data associated with this certificate:
MARK COCKSEY
IAN LEVY
NATHAN TOWNS
PAUL GLOVER
CONNOR MACUIRE
LEON HAWKER
ABX TASMANIAN LAB

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LEV-01	Waste Disposal Levy
PUL-21	Pulverize entire sample

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
ME-XRF13n	Bauxite By fusion XRF	XRF
ME-GRA05	H2O/LOI by TGA furnace	TGA



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Project: [REDACTED] Bauxite Project

CERTIFICATE OF ANALYSIS BR23215621

Method Analyte Units LOD	ME-XRF13n Al2O3 %	ME-XRF13n SiO2 %	ME-XRF13n Fe2O3 %	ME-XRF13n TiO2 %	ME-XRF13n BaO %	ME-XRF13n CaO %	ME-XRF13n Cr2O3 %	ME-XRF13n K2O %	ME-XRF13n MgO %	ME-XRF13n MnO %	ME-XRF13n Na2O %	ME-XRF13n P2O5 %	ME-XRF13n SO3 %	ME-XRF13n SrO %	ME-XRF13n V2O5 %
[REDACTED] Bauxite Project	45.74	4.47	18.40	5.80	<0.01	0.01	0.07	0.01	0.07	0.02	0.01	0.05	0.19	<0.01	0.08



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Project: [REDACTED] Bauxite Project

CERTIFICATE OF ANALYSIS BR23215621

Method Analyte Units LOD	ME-XRF13n Zn %	ME-XRF13n ZrO2 %	ME-XRF13n Total %	ME-GRA05 LOI %	WEI-21 Recvd Wt. kg
[REDACTED] Bauxite Project	<0.01	0.06	99.98	24.99	0.25



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Project: [REDACTED] Bauxite Project

CERTIFICATE OF ANALYSIS BR23215621

CERTIFICATE COMMENTS	
ACCREDITATION COMMENTS	
Applies to Method:	NATA Accreditation covers the performance of this service but does not cover the performance of ALS Brisbane Sample Preparation. Corporate Accreditation No: 825, Corporate Site No: 818. The Technical Signatory is James Lo, XRF Supervising Chemist ME-GRA05 ME-XRF13n
LABORATORY ADDRESSES	
Applies to Method:	Processed at ALS Brisbane located at 32 Shand Street, Stafford, Brisbane, QLD, Australia. Processed at ALS Brisbane Sample Preparation at 23 Pineapple Street, Zillmere, QLD, 4034, Australia LEV-01 LOG-22 ME-GRA05 ME-XRF13n PUL-21 WEI-21

RARE EARTH ELEMENTS QUALITY CONTROL CERTIFICATE "A4QC"



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QC CERTIFICATE BR23203753

Project: ABx REE
 P.O. No.: SSF 292395
 This report is for 1 sample of Bauxite submitted to our lab in Brisbane, QLD, Australia on 25-JUL-2023.
 The following have access to data associated with this certificate:

MARK COOKSEY IAN LEVY NATHAN TOWNS	PAUL GLOVER CONNOR MAGUIRE	LEON HAWKER ABX TASMANIAN LAB
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SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-31	Pulverize up to 250g 85% <75 um
LEV-01	Waste Disposal Levy
LOG-22	Sample login - Rcd w/o BarCode

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS81	Lithium Borate Fusion ICP-MS	ICP-MS



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Project: ABx REE
QC CERTIFICATE OF ANALYSIS BR23203753

Sample Description	Method Analyte Units LOD	ME-MS81															
		Ba ppm	Ce ppm	Cr ppm	Cs ppm	Dy ppm	Er ppm	Eu ppm	Ga ppm	Cd ppm	Hf ppm	Ho ppm	La ppm	Lu ppm	Nb ppm	Nd ppm	
STANDARDS																	
CGL 208		1040	93.4	55	15.90	6.30	3.64	1.30	25.3	6.78	3.30	1.30	43.3	0.48	12.55	37.5	
Target Range - Lower Bound		935	83.9	41	14.75	5.70	3.32	1.11	23.3	6.41	3.15	1.16	39.2	0.44	11.55	33.9	
Upper Bound		1145	103.0	67	18.05	7.08	4.12	1.40	28.7	7.95	3.97	1.44	48.2	0.56	14.20	41.7	
OREAS 460		851	1835	376	3.59	19.85	6.16	21.6	25.5	47.2	11.05	2.58	1345	0.56	691	819	
Target Range - Lower Bound		727	1620	349	3.30	17.75	5.38	20.4	23.8	45.0	10.55	2.48	1230	0.46	628	739	
Upper Bound		889	1980	437	4.06	21.8	6.64	25.0	29.3	55.1	13.05	3.06	1505	0.58	768	903	
BLANKS																	
BLANK		<0.5	<0.1	<5	<0.01	0.05	<0.03	0.02	<0.1	<0.05	<0.05	<0.01	<0.1	<0.01	<0.05	0.1	
Target Range - Lower Bound		<0.5	<0.1	<5	<0.01	<0.05	<0.03	<0.02	<0.1	<0.05	<0.05	<0.01	<0.1	<0.01	<0.05	<0.1	
Upper Bound		1.0	0.2	10	0.02	0.10	0.06	0.04	0.2	0.10	0.10	0.02	0.2	0.02	0.10	0.2	
DUPLICATES																	
HP Water Sample		190.5	77.7	61	3.13	33.1	16.85	11.55	24.0	36.2	4.26	6.05	93.6	2.10	6.74	159.5	
DUP		184.5	77.7	65	3.09	32.7	16.85	11.75	23.5	37.7	4.10	6.05	93.2	2.00	6.44	160.5	
Target Range - Lower Bound		177.5	73.7	55	2.94	31.2	16.00	11.05	22.5	35.1	3.92	5.74	88.6	1.94	6.21	152.0	
Upper Bound		197.5	81.7	71	3.28	34.6	17.70	12.25	25.0	38.8	4.44	6.36	98.2	2.16	6.97	168.0	



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Project: ABx REE
QC CERTIFICATE OF ANALYSIS BR23203753

Sample Description	Method Analyte Units LOD	ME-MS81															
		Ba ppm	Ce ppm	Cr ppm	Cs ppm	Dy ppm	Er ppm	Eu ppm	Ga ppm	Cd ppm	Hf ppm	Ho ppm	La ppm	Lu ppm	Nb ppm	Nd ppm	
STANDARDS																	
CGL 208		1040	93.4	55	15.90	6.30	3.64	1.30	25.3	6.78	3.30	1.30	43.3	0.48	12.55	37.5	
Target Range - Lower Bound		935	83.9	41	14.75	5.70	3.32	1.11	23.3	6.41	3.15	1.16	39.2	0.44	11.55	33.9	
Upper Bound		1145	103.0	67	18.05	7.08	4.12	1.40	28.7	7.95	3.97	1.44	48.2	0.56	14.20	41.7	
OREAS 460		851	1835	376	3.59	19.85	6.16	21.6	25.5	47.2	11.05	2.58	1345	0.56	691	819	
Target Range - Lower Bound		727	1620	349	3.30	17.75	5.38	20.4	23.8	45.0	10.55	2.48	1230	0.46	628	739	
Upper Bound		889	1980	437	4.06	21.8	6.64	25.0	29.3	55.1	13.05	3.06	1505	0.58	768	903	
BLANKS																	
BLANK		<0.5	<0.1	<5	<0.01	0.05	<0.03	0.02	<0.1	<0.05	<0.05	<0.01	<0.1	<0.01	<0.05	0.1	
Target Range - Lower Bound		<0.5	<0.1	<5	<0.01	<0.05	<0.03	<0.02	<0.1	<0.05	<0.05	<0.01	<0.1	<0.01	<0.05	<0.1	
Upper Bound		1.0	0.2	10	0.02	0.10	0.06	0.04	0.2	0.10	0.10	0.02	0.2	0.02	0.10	0.2	
DUPLICATES																	
HP Water Sample		190.5	77.7	61	3.13	33.1	16.85	11.55	24.0	36.2	4.26	6.05	93.6	2.10	6.74	159.5	
DUP		184.5	77.7	65	3.09	32.7	16.85	11.75	23.5	37.7	4.10	6.05	93.2	2.00	6.44	160.5	
Target Range - Lower Bound		177.5	73.7	55	2.94	31.2	16.00	11.05	22.5	35.1	3.92	5.74	88.6	1.94	6.21	152.0	
Upper Bound		197.5	81.7	71	3.28	34.6	17.70	12.25	25.0	38.8	4.44	6.36	98.2	2.16	6.97	168.0	



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QC CERTIFICATE OF ANALYSIS BR23203753

Sample Description	Method Analyte Units LOD	ME-MS81	ME-MS81
		Yb ppm	Zr ppm
STANDARDS			
CGL 208		3.13	125
Target Range - Lower Bound		2.99	117
Upper Bound		3.72	145
OREAS 460		3.62	473
Target Range - Lower Bound		3.49	424
Upper Bound		4.33	529
BLANKS			
BLANK		<0.03	<1
Target Range - Lower Bound		<0.03	<1
Upper Bound		0.06	2
DUPLICATES			
HP Water Sample		14.90	148
DUP		14.70	150
Target Range - Lower Bound		14.05	141
Upper Bound		15.55	157



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