



## CERTIFICATE OF ANALYSIS

Work Order	: ES2418021	Page	: 1 of 6
Client	: Department of Climate Change, Energy, the Environment and Water	Laboratory	: Environmental Division Sydney
Contact	: [REDACTED]	Contact	: Customer Services ES
Address	: [REDACTED]	Address	: [REDACTED]
Telephone	: [REDACTED]	Telephone	: [REDACTED]
Project	: Darling Baaka River Health Program	Date Samples Received	: 31-May-2024 14:48
Order number	: [REDACTED]	Date Analysis Commenced	: 31-May-2024
C-O-C number	: [REDACTED]	Issue Date	: 03-Jun-2024 17:28
Sampler	: [REDACTED]		
Site	: [REDACTED]		
Quote number	: ES24DEPENWAT0001		
No. of samples received	: 7		
No. of samples analysed	: 7		



Accreditation No. 825  
Accredited for compliance with  
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW

right solutions. right partner.

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Project : Darling Baaka River Health Program



### General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.  
LOR = Limit of reporting  
^ = This result is computed from individual analyte detections at or above the level of reporting  
ø = ALS is not NATA accredited for these tests.  
~ = Indicates an estimated value.

- EG020: It is recognised that total concentration is less than dissolved for some metal analytes. However, the difference is within experimental variation of the methods.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	DBRH-Z-11	DBRH-Z-12	DBRH-Z-17	DBRH-Z-20	DBRH-Z-22
Sampling date / time					23-May-2024 00:00	23-May-2024 00:00	30-May-2024 00:00	21-May-2024 00:00	28-May-2024 00:00
Compound	CAS Number	LOR	Unit	ES2418021-001	ES2418021-002	ES2418021-003	ES2418021-004	ES2418021-005	
				Result	Result	Result	Result	Result	
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Arsenic	7440-38-2	0.001	mg/L	0.003	0.003	0.004	0.002	0.003	
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	
Copper	7440-50-8	0.001	mg/L	<0.001	0.002	0.001	0.002	0.002	
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	
Nickel	7440-02-0	0.001	mg/L	0.002	0.002	0.002	0.002	0.002	
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	
Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	
EG020T: Total Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L	1.17	0.58	0.44	----	0.26	
Arsenic	7440-38-2	0.001	mg/L	0.004	0.003	0.004	----	0.004	
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	----	<0.0001	
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	----	<0.001	
Copper	7440-50-8	0.001	mg/L	0.003	0.002	0.002	----	0.002	
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	----	<0.001	
Nickel	7440-02-0	0.001	mg/L	0.003	0.002	0.002	----	0.002	
Lead	7439-92-1	0.001	mg/L	0.002	0.002	<0.001	----	<0.001	
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	<0.005	----	0.005	
Manganese	7439-96-5	0.001	mg/L	0.090	0.097	0.117	----	0.140	
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	<0.01	----	<0.01	
Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	<0.001	----	<0.001	
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	DBRH-Z-11	DBRH-Z-12	DBRH-Z-17	DBRH-Z-20	DBRH-Z-22
Sampling date / time					23-May-2024 00:00	23-May-2024 00:00	30-May-2024 00:00	21-May-2024 00:00	28-May-2024 00:00
Compound	CAS Number	LOR	Unit	ES2418021-001	ES2418021-002	ES2418021-003	ES2418021-004	ES2418021-005	
				Result	Result	Result	Result	Result	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	----	<0.0001	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	DBRH-Z-23	DBRH-Z-24	----	----	----
Sampling date / time					30-May-2024 00:00	29-May-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2418021-006	ES2418021-007	-----	-----	-----	
				Result	Result	----	----	----	
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	----	----	----	
Arsenic	7440-38-2	0.001	mg/L	0.003	0.003	----	----	----	
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----	
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----	
Copper	7440-50-8	0.001	mg/L	0.002	0.001	----	----	----	
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	----	----	----	
Nickel	7440-02-0	0.001	mg/L	0.002	0.002	----	----	----	
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----	
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	----	----	----	
Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	----	----	----	
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	----	----	----	
Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	----	----	----	
EG020T: Total Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L	0.33	0.77	----	----	----	
Arsenic	7440-38-2	0.001	mg/L	0.003	0.003	----	----	----	
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----	
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----	
Copper	7440-50-8	0.001	mg/L	0.002	0.002	----	----	----	
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	----	----	----	
Nickel	7440-02-0	0.001	mg/L	0.002	0.001	----	----	----	
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----	
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	----	----	----	
Manganese	7439-96-5	0.001	mg/L	0.120	0.097	----	----	----	
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	----	----	----	
Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	----	----	----	
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----	

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Project

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: Department of Climate Change, Energy, the Environment and Water

: Darling Baaka River Health Program



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	DBRH-Z-23	DBRH-Z-24	---	---	---
Sampling date / time					30-May-2024 00:00	29-May-2024 00:00	---	---	---
Compound	CAS Number	LOR	Unit		ES2418021-006	ES2418021-007	-----	-----	-----
					Result	Result	---	---	---
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	---	---	---