



CERTIFICATE OF ANALYSIS

Work Order	: ES2404422	Page	: 1 of 8
Client	: DEPARTMENT OF PLANNING AND ENVIRONMENT (NSW-DPE)	Laboratory	: Environmental Division Sydney
Contact	[REDACTED]	Contact	: Customer Services ES
Address	[REDACTED]	Address	[REDACTED]
Telephone	: [REDACTED]	Telephone	: [REDACTED]
Project	: DARLING BARKARIVER HEALTH PROJECT	Date Samples Received	: 12-Feb-2024 17:30
Order number	: [REDACTED]	Date Analysis Commenced	: 13-Feb-2024
C-O-C number	: [REDACTED]	Issue Date	: 19-Feb-2024 12:09
Sampler	: [REDACTED]		
Site	: [REDACTED]		
Quote number	: ES23DEPENVPLA0006		
No. of samples received	: 29		
No. of samples analysed	: 29		



Accreditation No. 925
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.

Page : 2 of 8
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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.

- EK271A-CM: Samples for Ultra-Trace Reactive Phosphorus by FIA should be frozen upon sampling. If not, low-level results (below 0.01 mg/L) may bias low.
- EK262PA-CM/EK262PA-F-CM: It is recognised that Total Nitrogen is less than Dissolved Total Nitrogen for sample 1. However, the difference is confirmed from their respective bottles.
- EK257A-CM/EK259A-CM: It has been noted that Nitrite is greater than NOx on various samples, however this difference is confirmed by re-analysis.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	E15_29012024	E12_29012024	B1_29012024	B2_29012021	E14_30012024
Sampling date / time					29-Jan-2024 00:00	29-Jan-2024 00:00	29-Jan-2024 00:00	29-Jan-2024 00:00	30-Jan-2024 00:00
Compound	CAS Number	LOR	Unit	ES2404422-016	ES2404422-017	ES2404422-018	ES2404422-019	ES2404422-020	
				Result	Result	Result	Result	Result	
EK255A: Ammonia									
Ammonia as N	7664-41-7	0.005	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	
EK257A: Nitrite									
Nitrite as N	14797-65-0	0.002	mg/L	<0.002	<0.002	<0.002	0.003	<0.002	
EK258A: Nitrate									
Nitrate as N	14797-55-8	0.002	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	
EK259A: Nitrite and Nitrate (NOx)									
Nitrite + Nitrate as N	----	0.002	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	
EK261A: Total Kjeldahl Nitrogen									
Total Kjeldahl Nitrogen as N	----	0.01	mg/L	1.13	0.81	1.49	1.24	1.33	
EK262A: Total Nitrogen									
Dissolved Total Nitrogen as N	----	0.01	mg/L	0.85	0.81	0.78	0.82	0.88	
Total Nitrogen as N	----	0.01	mg/L	1.13	0.81	1.49	1.24	1.33	
EK267A: Total Phosphorus (Persulfate Digestion)									
Dissolved Total Phosphorus as P	----	0.005	mg/L	0.121	0.114	0.044	0.071	0.097	
Total Phosphorus as P	----	0.005	mg/L	0.201	0.244	0.157	0.214	0.223	
EK271A: Reactive Phosphorus									
Reactive Phosphorus as P	14265-44-2	0.001	mg/L	0.065	0.084	0.019	0.050	0.068	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	E13_30012024	E11_30012024	E7_30012024	E6.5_30012024	E6_30012024
Sampling date / time					30-Jan-2024 00:00	30-Jan-2024 00:00	30-Jan-2024 00:00	30-Jan-2024 00:00	30-Jan-2024 00:00
Compound	CAS Number	LOR	Unit	ES2404422-021	ES2404422-022	ES2404422-023	ES2404422-024	ES2404422-025	
				Result	Result	Result	Result	Result	
EK255A: Ammonia									
Ammonia as N	7664-41-7	0.005	mg/L	<0.005	0.006	0.009	<0.005	<0.005	
EK257A: Nitrite									
Nitrite as N	14797-65-0	0.002	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	
EK258A: Nitrate									
Nitrate as N	14797-55-8	0.002	mg/L	<0.002	<0.002	<0.002	<0.002	0.005	
EK259A: Nitrite and Nitrate (NOx)									
Nitrite + Nitrate as N	----	0.002	mg/L	<0.002	<0.002	<0.002	<0.002	0.005	
EK261A: Total Kjeldahl Nitrogen									
Total Kjeldahl Nitrogen as N	----	0.01	mg/L	1.02	0.88	1.54	1.16	1.92	
EK262A: Total Nitrogen									
Dissolved Total Nitrogen as N	----	0.01	mg/L	0.71	0.80	0.90	0.51	0.85	
Total Nitrogen as N	----	0.01	mg/L	1.02	0.88	1.54	1.16	1.92	
EK267A: Total Phosphorus (Persulfate Digestion)									
Dissolved Total Phosphorus as P	----	0.005	mg/L	0.131	0.152	0.072	0.046	0.030	
Total Phosphorus as P	----	0.005	mg/L	0.213	0.197	0.206	0.210	0.225	
EK271A: Reactive Phosphorus									
Reactive Phosphorus as P	14265-44-2	0.001	mg/L	0.111	0.077	0.041	0.011	0.007	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	E8_30012024	B4_31012024	B3_31012024	E931012024	----
Sampling date / time				30-Jan-2024 00:00		31-Jan-2024 00:00	31-Jan-2024 00:00	31-Jan-2024 00:00	----
Compound	CAS Number	LOR	Unit	ES2404422-026	ES2404422-027	ES2404422-028	ES2404422-029	-----	
				Result	Result	Result	Result	----	
EK255A: Ammonia									
Ammonia as N	7664-41-7	0.005	mg/L	<0.005	0.012	0.944	<0.005	----	
EK257A: Nitrite									
Nitrite as N	14797-65-0	0.002	mg/L	0.010	0.004	0.010	0.006	----	
EK258A: Nitrate									
Nitrate as N	14797-55-8	0.002	mg/L	0.003	0.004	<0.002	0.012	----	
EK259A: Nitrite and Nitrate (NOx)									
Nitrite + Nitrate as N	----	0.002	mg/L	0.013	0.008	0.010	0.018	----	
EK261A: Total Kjeldahl Nitrogen									
Total Kjeldahl Nitrogen as N	----	0.01	mg/L	1.19	1.18	3.98	1.17	----	
EK262A: Total Nitrogen									
Dissolved Total Nitrogen as N	----	0.01	mg/L	0.82	0.69	2.79	0.79	----	
Total Nitrogen as N	----	0.01	mg/L	1.20	1.19	3.99	1.19	----	
EK267A: Total Phosphorus (Persulfate Digestion)									
Dissolved Total Phosphorus as P	----	0.005	mg/L	0.094	0.062	0.124	0.119	----	
Total Phosphorus as P	----	0.005	mg/L	0.196	0.214	0.257	0.210	----	
EK271A: Reactive Phosphorus									
Reactive Phosphorus as P	14265-44-2	0.001	mg/L	0.056	0.031	0.054	0.104	----	