



## CERTIFICATE OF ANALYSIS

Work Order	: ES2321881	Page	: 1 of 6
Client	: DEPARTMENT OF PLANNING AND ENVIRONMENT (NSW-DPE)	Laboratory	: Environmental Division Sydney
Contact	: OEH	Contact	: Customer Services ES
Address	: [REDACTED] Lidcombe 2141	Address	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Project	: 20230224	Date Samples Received	: 30-Jun-2023 14:45
Order number	: 4500806025	Date Analysis Commenced	: 03-Jul-2023
C-O-C number	: ----	Issue Date	: 07-Jul-2023 17:13
Sampler	: ----		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 19		
No. of samples analysed	: 18		



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



## 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.
- EK255A-CM: Insufficient sample has been provided for Ammonia on sample 12. Where applicable LOR values have been adjusted accordingly.



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	235937	235938	235939	235940	235941
Sampling date / time				22-Jun-2023 00:00					
Compound	CAS Number	LOR	Unit	ES2321881-002	ES2321881-003	ES2321881-004	ES2321881-005	ES2321881-006	
				Result	Result	Result	Result	Result	
<b>EK255A: Ammonia</b>									
Ammonia as N	7664-41-7	0.005	mg/L	0.019	0.013	----	----	----	
<b>EK259A: Nitrite and Nitrate (NOx)</b>									
Nitrite + Nitrate as N	----	0.002	mg/L	0.096	0.238	----	----	----	
<b>EK262A: Total Nitrogen</b>									
Dissolved Total Nitrogen as N	----	0.01	mg/L	----	----	1.06	1.13	1.11	
<b>EK267A: Total Phosphorus (Persulfate Digestion)</b>									
Dissolved Total Phosphorus as P	----	0.005	mg/L	----	----	0.096	0.111	0.146	
<b>EK271A: Reactive Phosphorus</b>									
Reactive Phosphorus as P	14265-44-2	0.001	mg/L	0.088	0.078	----	----	----	



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	235942	235943	235944	236021	236022
Sampling date / time				22-Jun-2023 00:00					
Compound	CAS Number	LOR	Unit	ES2321881-007	ES2321881-008	ES2321881-009	ES2321881-010	ES2321881-011	
				Result	Result	Result	Result	Result	
<b>EK255A: Ammonia</b>									
Ammonia as N	7664-41-7	0.005	mg/L	----	----	----	0.007	----	
<b>EK259A: Nitrite and Nitrate (NOx)</b>									
Nitrite + Nitrate as N	----	0.002	mg/L	----	----	----	0.016	----	
<b>EK262A: Total Nitrogen</b>									
Dissolved Total Nitrogen as N	----	0.01	mg/L	----	----	----	----	0.96	
Total Nitrogen as N	----	0.01	mg/L	0.82	1.42	1.40	----	----	
<b>EK267A: Total Phosphorus (Persulfate Digestion)</b>									
Dissolved Total Phosphorus as P	----	0.005	mg/L	----	----	----	----	0.015	
Total Phosphorus as P	----	0.005	mg/L	0.086	0.149	0.175	----	----	
<b>EK271A: Reactive Phosphorus</b>									
Reactive Phosphorus as P	14265-44-2	0.001	mg/L	----	----	----	<0.001	----	



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	236023	236024	236025	236026	236027
Sampling date / time				22-Jun-2023 00:00					
Compound	CAS Number	LOR	Unit	ES2321881-012	ES2321881-013	ES2321881-014	ES2321881-015	ES2321881-016	
				Result	Result	Result	Result	Result	
<b>EK255A: Ammonia</b>									
Ammonia as N	7664-41-7	0.005	mg/L	<0.010	----	----	0.140	----	
<b>EK259A: Nitrite and Nitrate (NOx)</b>									
Nitrite + Nitrate as N	----	0.002	mg/L	0.012	----	----	0.336	----	
<b>EK262A: Total Nitrogen</b>									
Dissolved Total Nitrogen as N	----	0.01	mg/L	----	0.25	----	----	1.33	
Total Nitrogen as N	----	0.01	mg/L	----	----	0.32	----	----	
<b>EK267A: Total Phosphorus (Persulfate Digestion)</b>									
Dissolved Total Phosphorus as P	----	0.005	mg/L	----	<0.005	----	----	0.126	
Total Phosphorus as P	----	0.005	mg/L	----	----	0.034	----	----	
<b>EK271A: Reactive Phosphorus</b>									
Reactive Phosphorus as P	14265-44-2	0.001	mg/L	<0.001	----	----	0.091	----	



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	236029	236030	236031	----	----
Sampling date / time				22-Jun-2023 00:00	22-Jun-2023 00:00	22-Jun-2023 00:00	----	----	
Compound	CAS Number	LOR	Unit	ES2321881-017	ES2321881-018	ES2321881-019	-----	-----	
				Result	Result	Result	----	----	
<b>EK255A: Ammonia</b>									
Ammonia as N	7664-41-7	0.005	mg/L	0.032	----	----	----	----	
<b>EK259A: Nitrite and Nitrate (NOx)</b>									
Nitrite + Nitrate as N	----	0.002	mg/L	0.322	----	----	----	----	
<b>EK262A: Total Nitrogen</b>									
Dissolved Total Nitrogen as N	----	0.01	mg/L	----	1.28	----	----	----	
Total Nitrogen as N	----	0.01	mg/L	----	----	1.15	----	----	
<b>EK267A: Total Phosphorus (Persulfate Digestion)</b>									
Dissolved Total Phosphorus as P	----	0.005	mg/L	----	0.142	----	----	----	
Total Phosphorus as P	----	0.005	mg/L	----	----	0.150	----	----	
<b>EK271A: Reactive Phosphorus</b>									
Reactive Phosphorus as P	14265-44-2	0.001	mg/L	0.118	----	----	----	----	