



CERTIFICATE OF ANALYSIS

Work Order	: ES2318508	Page	: 1 of 7
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	: 20230184	Date Samples Received	: 02-Jun-2023 15:30
Order number	: 4500806025	Date Analysis Commenced	: 02-Jun-2023
C-O-C number	: ----	Issue Date	: 06-Jun-2023 18:27
Sampler	: ----		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 21		
No. of samples analysed	: 21		



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.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	234446	234447	234448	234449	234450
Sampling date / time			24-May-2023 00:00					
Compound	CAS Number	LOR	Unit	ES2318508-001	ES2318508-002	ES2318508-003	ES2318508-004	ES2318508-005
				Result	Result	Result	Result	Result
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	0.05	----	----	0.05	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	0.04	0.05	0.04	0.05	0.06
EK061F: Filtered Total Kjeldahl Nitrogen as N (TKN)								
Dissolved TKN as N	----	0.1	mg/L	----	0.7	----	----	0.7
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	----	----	0.9	----	----
EK062F: Filtered Total Nitrogen as N								
^ Filtered Total Nitrogen as N	----	0.1	mg/L	----	0.8	----	----	0.8
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	----	----	0.9	----	----
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser								
Filtered Total Phosphorus as P	----	0.01	mg/L	----	0.14	----	----	0.13
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	----	----	0.23	----	----
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	0.11	----	----	0.14	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	234451	234452	234453	234454	234455
Sampling date / time			24-May-2023 00:00					
Compound	CAS Number	LOR	Unit	ES2318508-006	ES2318508-007	ES2318508-008	ES2318508-009	ES2318508-010
				Result	Result	Result	Result	Result
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	----	0.05	----	----	<0.01
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	0.06	0.06	0.07	0.06	0.01
EK061F: Filtered Total Kjeldahl Nitrogen as N (TKN)								
Dissolved TKN as N	----	0.1	mg/L	----	----	0.9	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.0	----	----	1.2	----
EK062F: Filtered Total Nitrogen as N								
^ Filtered Total Nitrogen as N	----	0.1	mg/L	----	----	1.0	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	1.1	----	----	1.3	----
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser								
Filtered Total Phosphorus as P	----	0.01	mg/L	----	----	0.12	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	0.23	----	----	0.22	----
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	----	0.09	----	----	0.24



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	234456	234457	234458	234459	234460
Sampling date / time			24-May-2023 00:00					
Compound	CAS Number	LOR	Unit	ES2318508-011	ES2318508-012	ES2318508-013	ES2318508-014	ES2318508-015
				Result	Result	Result	Result	Result
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	----	----	<0.01	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	0.02	<0.01	0.01	0.02	<0.01
EK061F: Filtered Total Kjeldahl Nitrogen as N (TKN)								
Dissolved TKN as N	----	0.1	mg/L	0.5	----	----	0.9	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	----	0.6	----	----	2.0
EK062F: Filtered Total Nitrogen as N								
^ Filtered Total Nitrogen as N	----	0.1	mg/L	0.5	----	----	0.9	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	----	0.6	----	----	2.0
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser								
Filtered Total Phosphorus as P	----	0.01	mg/L	0.23	----	----	0.05	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	----	0.30	----	----	0.24
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	----	----	0.01	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	234461	234462	234463	234464	234465
Sampling date / time			24-May-2023 00:00					
Compound	CAS Number	LOR	Unit	ES2318508-016	ES2318508-017	ES2318508-018	ES2318508-019	ES2318508-020
				Result	Result	Result	Result	Result
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	<0.01	----	----	0.06	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	0.06	0.02	0.01	0.01	0.02
EK061F: Filtered Total Kjeldahl Nitrogen as N (TKN)								
Dissolved TKN as N	----	0.1	mg/L	----	0.6	----	----	0.7
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	----	----	0.7	----	----
EK062F: Filtered Total Nitrogen as N								
^ Filtered Total Nitrogen as N	----	0.1	mg/L	----	0.6	----	----	0.7
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	----	----	0.7	----	----
EK067FG: Filtered Total Phosphorus as P by Discrete Analyser								
Filtered Total Phosphorus as P	----	0.01	mg/L	----	0.20	----	----	0.23
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	----	----	0.31	----	----
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	0.20	----	----	0.22	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	234466	----	----	----	----
Sampling date / time			24-May-2023 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2318508-021	-----	-----	-----	-----
Result				----	----	----	----	
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.3	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	1.3	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	0.37	----	----	----	----