CERTIFICATE OF ANALYSIS

Work Order	: **ES2316253**	Page	: 1 of 5
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	: +61-2-8784 8555
Project	: 20230147	Date Samples Received	: 16-May-2023 16:05
Order number	: 4500806025	Date Analysis Commenced	: 17-May-2023
C-O-C number	: ----	Issue Date	: 22-May-2023 13:01
Sampler	: ----		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 15		
No. of samples analysed	: 15		

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

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	233494	233495	233496	233497	233498
				Sampling date / time	05-May-2023 00:00	05-May-2023 00:00	05-May-2023 00:00	05-May-2023 00:00	05-May-2023 00:00
Compound	CAS Number	LOR	Unit		ES2316253-001	ES2316253-002	ES2316253-003	ES2316253-004	ES2316253-005
					Result	Result	Result	Result	Result
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		0.02	----	----	0.05	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		0.06	0.10	0.07	0.12	0.12
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		----	0.9	1.6	----	1.0
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		----	1.0	1.7	----	1.1
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		----	0.10	0.28	----	0.11
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	14265-44-2	0.01	mg/L		0.09	----	----	0.08	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	233499	233500	233501	233502	233503
				Sampling date / time	05-May-2023 00:00	05-May-2023 00:00	05-May-2023 00:00	05-May-2023 00:00	05-May-2023 00:00
Compound	CAS Number	LOR	Unit		ES2316253-006	ES2316253-007	ES2316253-008	ES2316253-009	ES2316253-010
					Result	Result	Result	Result	Result
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		----	0.03	----	----	0.01
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		0.12	0.14	0.17	0.15	0.18
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		1.7	----	0.9	1.8	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		1.8	----	1.1	2.0	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		0.32	----	0.12	0.30	----
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	14265-44-2	0.01	mg/L		----	0.09	----	----	0.08

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	233504	233505	233506	233507	233508
				Sampling date / time	05-May-2023 00:00	05-May-2023 00:00	05-May-2023 00:00	05-May-2023 00:00	05-May-2023 00:00
Compound	CAS Number	LOR	Unit		ES2316253-011	ES2316253-012	ES2316253-013	ES2316253-014	ES2316253-015
					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		0.21	0.19	0.25	0.28	0.25
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		0.9	1.4	----	0.9	1.6
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		1.1	1.6	----	1.2	1.8
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		0.13	0.22	----	0.11	0.28
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	14265-44-2	0.01	mg/L		----	----	0.08	----	----