

CERTIFICATE OF ANALYSIS

Work Order : **EW2100615**
Client : **WOLLONGONG CITY COUNCIL**
Contact : **DELLA KUTZNER**
Address : **41 BURELLI STREET**
WOLLONGONG NSW, AUSTRALIA 2500

Telephone : **+61 02 4227 7111**
Project : **Stormwater adjacent to Pony Club**
Order number : **1021509**
C-O-C number : **---**
Sampler : **Robert DaLio**
Site : **---**
Quote number : **WO/005/18 TENDER**
No. of samples received : **1**
No. of samples analysed : **1**

Page : 1 of 3
Laboratory : Environmental Division NSW South Coast
Contact : Glenn Davies
Address : 1/19 Ralph Black Dr, North Wollongong 2500
4/13 Geary Pl, North Nowra 2541
Australia NSW Australia
Telephone : 02 42253125
Date Samples Received : 10-Feb-2021 14:40
Date Analysis Commenced : 10-Feb-2021
Issue Date : 17-Feb-2021 16:02



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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Robert DaLio	Sampler	Laboratory - Wollongong, NSW
Somlok Chai	Microbiologist	Sydney Microbiology, 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 Contact 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
∅ = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- **Analytical work for this work order will be conducted at ALS Sydney.**
- MF = membrane filtration
- CFU = colony forming unit
- Microbiological Comment: In accordance with ALS work instruction QWI-MIC/04, membrane filtration result is reported an approximate (~) when the count of colonies on the filtered membrane is outside the range of 10 - 100cfu.
- pH performed by ALS Wollongong via in-house method EA005FD and EN67 PK.
- Electrical conductivity performed by ALS Wollongong via in-house method EA010FD and EN67 PK.
- ORP (Oxidation Reduction Potential) performed by ALS Wollongong via in-house method EA075FD and EN67 PK.
- Sampling and groundwater depth measurements completed by ALS Wollongong via inhouse sampling method EN/67.11 Groundwater Sampling.
- Sampling completed by ALS Wollongong in accordance with in-house sampling method EN/67.6 Rivers and Streams.
- Dissolved oxygen (DO) performed by ALS Wollongong via in-house method EA025FD and EN67 PK.
- Membrane filtration results for MW006 are reported as an estimate (~) due to the presence of many non-target organism colonies that may have inhibited the growth of the target organisms on the filter membrane. It may be informative to record this fact.
- MW006 is ALS's internal code and is equivalent to AS4276.7.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		Stormwater adjacent to Ponyclub	----	----	----	----
		Sampling date / time		10-Feb-2021 13:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EW2100615-001	-----	-----	-----	-----
				Result	----	----	----	----
EA005FD: Field pH								
pH	----	0.1	pH Unit	9.8	----	----	----	----
EA010FD: Field Conductivity								
Electrical Conductivity (Non Compensated)	----	1	µS/cm	653	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	398	----	----	----	----
EA075FD: Field Redox Potential								
Redox Potential	----	0.1	mV	35.0	----	----	----	----
ED093T: Total Major Cations								
Potassium	7440-09-7	1	mg/L	23	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	0.03	----	----	----	----
EP005: Total Organic Carbon (TOC)								
Total Organic Carbon	----	1	mg/L	48	----	----	----	----
EP025FD: Field Dissolved Oxygen								
Dissolved Oxygen	----	0.01	mg/L	19.1	----	----	----	----
MW006: Faecal Coliforms & E.coli by MF								
Faecal Coliforms	----	1	CFU/100mL	~30	----	----	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP005: Total Organic Carbon (TOC)

(WATER) EK055G: Ammonia as N by Discrete Analyser

(WATER) MW006: Faecal Coliforms & E.coli by MF

(WATER) EA015: Total Dissolved Solids dried at 180 ± 5 °C

(WATER) ED093T: Total Major Cations