



CERTIFICATE OF ANALYSIS

Work Order : **EW1700850**
Client : **WOLLONGONG CITY COUNCIL**
Contact : **MR WAYDE PETERSON**
Address : **41 BURELLI STREET**
WOLLONGONG NSW, AUSTRALIA 2500

Telephone : **+61 02 4227 7111**
Project : **Whytes Gully Storm Water Overflow**
Order number : **3058354**
C-O-C number : **----**
Sampler : **----**
Site : **----**
Quote number : **SY/454/14 Tender**
No. of samples received : **3**
No. of samples analysed : **3**

Page : **1 of 4**
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
Telephone : **02 42253125**
Date Samples Received : **27-Feb-2017 11:08**
Date Analysis Commenced : **27-Feb-2017**
Issue Date : **06-Mar-2017 16:35**



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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>
Ashesh Patel	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Glenn Davies	Environmental Services Representative	Laboratory - Wollongong



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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 no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component.

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
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	Point 1 (Point 1)	Point 4 (Point 33)	Point 6 (Point 34)	----	----
Client sampling date / time					27-Feb-2017 08:30	27-Feb-2017 08:45	27-Feb-2017 09:10	----	----
Compound	CAS Number	LOR	Unit	EW1700850-001	EW1700850-002	EW1700850-003	-----	-----	
				Result	Result	Result	---	---	
EA005FD: Field pH									
pH	----	0.1	pH Unit	7.7	7.2	7.0	----	----	
EA010FD: Field Conductivity									
Electrical Conductivity (Non Compensated)	----	1	µS/cm	755	388	269	----	----	
EA025: Suspended Solids									
Suspended Solids (SS)	----	5	mg/L	19	<5	24	----	----	
EA116: Temperature									
Temperature	----	0.1	°C	21.6	19.6	21.0	----	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO ₃	DMO-210-001	1	mg/L	<1	<1	<1	----	----	
Carbonate Alkalinity as CaCO ₃	3812-32-6	1	mg/L	<1	<1	<1	----	----	
Bicarbonate Alkalinity as CaCO ₃	71-52-3	1	mg/L	203	96	63	----	----	
Total Alkalinity as CaCO ₃	----	1	mg/L	203	96	63	----	----	
ED041G: Sulfate (Turbidimetric) as SO₄ 2- by DA									
Sulfate as SO ₄ - Turbidimetric	14808-79-8	1	mg/L	30	24	17	----	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	78	36	26	----	----	
ED093T: Total Major Cations									
Calcium	7440-70-2	1	mg/L	36	30	19	----	----	
Magnesium	7439-95-4	1	mg/L	20	13	8	----	----	
Sodium	7440-23-5	1	mg/L	97	31	26	----	----	
Potassium	7440-09-7	1	mg/L	16	3	4	----	----	
EG020F: Dissolved Metals by ICP-MS									
Iron	7439-89-6	0.05	mg/L	0.08	0.12	0.26	----	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	0.4	0.2	0.1	----	----	
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L	0.24	0.03	0.04	----	----	
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L	0.06	<0.01	<0.01	----	----	
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L	0.61	0.53	0.47	----	----	
EK059G: Nitrite plus Nitrate as N (NO_x) by Discrete Analyser									



Analytical Results

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Client sampling date / time					27-Feb-2017 08:30	27-Feb-2017 08:45	27-Feb-2017 09:10	----	----
Compound	CAS Number	LOR	Unit		EW1700850-001	EW1700850-002	EW1700850-003	-----	-----
					Result	Result	Result	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser - Continued									
Nitrite + Nitrate as N	----	0.01	mg/L		0.67	0.53	0.47	----	----
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L		17	4	6	----	----
EP025FD: Field Dissolved Oxygen									
Dissolved Oxygen	----	0.01	mg/L		7.66	8.87	7.71	----	----
EP035G: Total Phenol by Discrete Analyser									
Phenols (Total)	----	0.05	mg/L		<0.05	<0.05	<0.05	----	----