

CERTIFICATE OF ANALYSIS

Work Order : EM2017172

Client : Dept for Environment & Water

Contact : Mr FRANK MANGERUCA

Address : GPO BOX 2834

ADELAIDE SA, AUSTRALIA 5001

Telephone : ---Project : HCHB
Order number : ----

C-O-C number : ----

Sampler : JOSHUA CASTLE

Site : ---

Quote number ; AD/052/20 V2

No. of samples received : 19
No. of samples analysed : 19

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Laboratory : Environmental Division Melbourne

Contact : Kieren Burns

Address : 4 Westall Rd Springvale VIC Australia 3171

Telephone : +61881625130

Date Samples Received : 02-Oct-2020 09:35

Date Analysis Commenced : 02-Oct-2020

Issue Date : 09-Oct-2020 14:35



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.

Signatories Position Accreditation Category

Ankit Joshi Inorganic Chemist Sydney Inorganics, Smithfield, NSW
Arenie Vijayaratnam Non-Metals Team Leader Melbourne Inorganics, Springvale, VIC
Dilani Fernando Senior Inorganic Chemist Melbourne Inorganics, Springvale, VIC
Samantha Smith Laboratory Coordinator WRG Subcontracting, Springvale, VIC

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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.

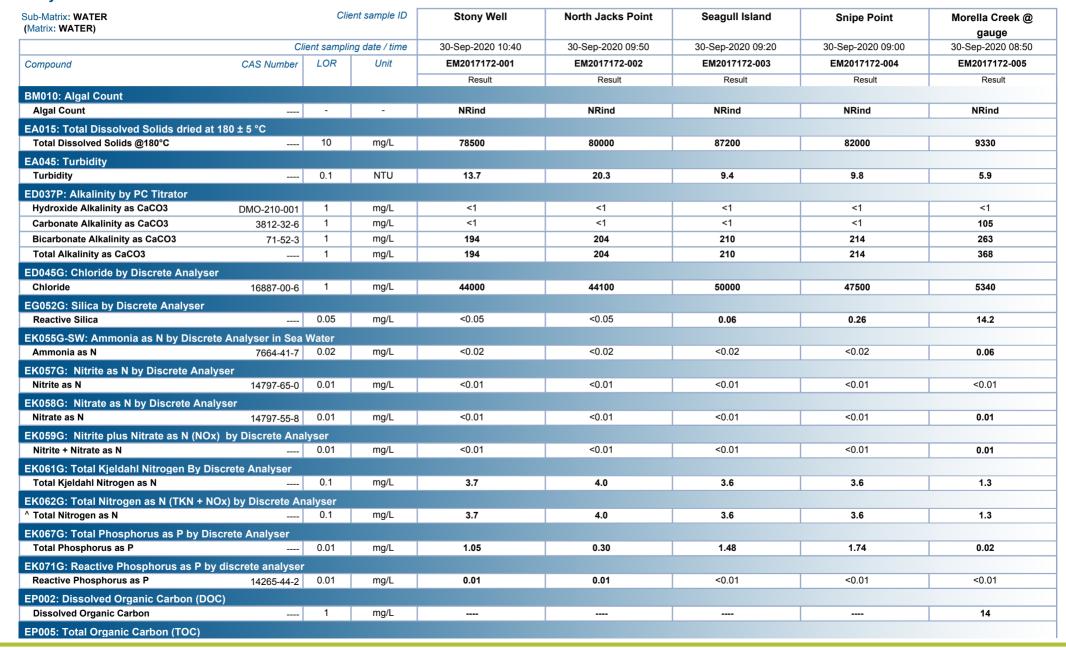
LOR = Limit of reporting

- ^ = This result is computed from individual analyte detections at or above the level of reporting
- ø = ALS is not NATA accredited for these tests.
- ~ = Indicates an estimated value.
- It is recognised that TOC is less than DOC for sample #5. However, the difference is within experimental variation of the methods.
- EP008, LOR raised for Chlorophyll b and Pheophytin-a for various samples due to sample matrix.
- EP008, Chlorophyll-a standard does not contained Pheophtyin-a standard.
- EA015H: EM2017172 #3, #7-8: TDS by method EA-015 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- ED045G: The presence of thiocyanate can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.
- NRind Reported in separate COA
- Algal Count (BM010) has been performed by ALS Water Resources Group, NATA Accreditation no. 992, Site no. 989.

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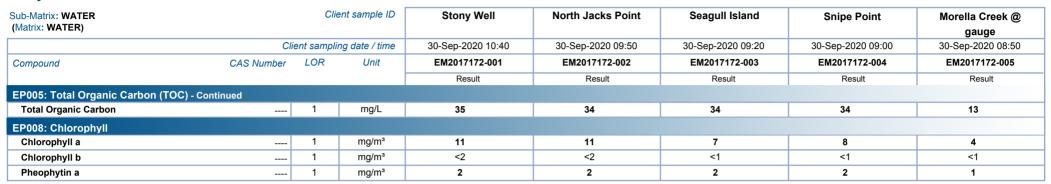




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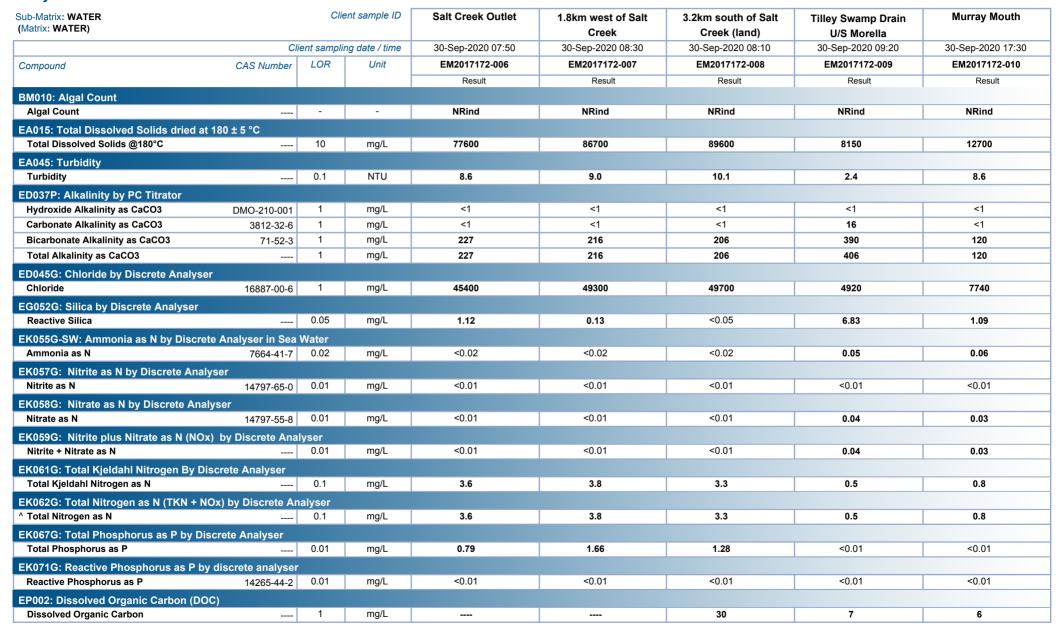




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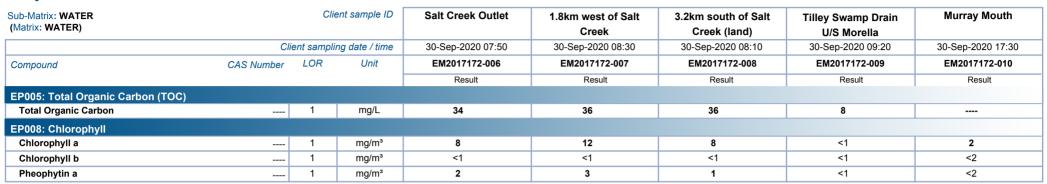




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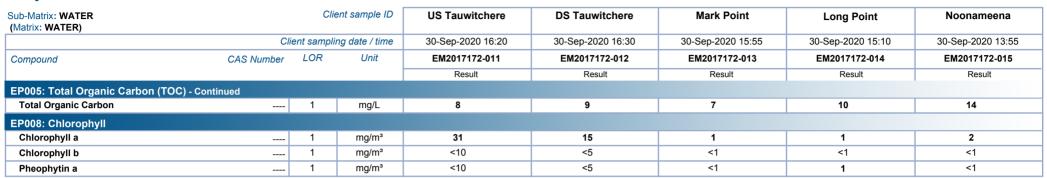




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ub-Matrix: WATER Matrix: WATER)	Client sample ID Client sampling date / time			Bonneys	McGrath Flat North	Parnka Point	Villa de Yumpa	
				30-Sep-2020 13:35	30-Sep-2020 10:45	30-Sep-2020 12:30	30-Sep-2020 11:25	
Compound	CAS Number	LOR	Unit	EM2017172-016	EM2017172-017	EM2017172-018	EM2017172-019	
				Result	Result	Result	Result	
M010: Algal Count								
Algal Count		-	-	NRind	NRind	NRind	NRind	
EA015: Total Dissolved Solids dried at	t 180 ± 5 °C							
Total Dissolved Solids @180°C		10	mg/L	49600	60900	74100	72000	
A045: Turbidity								
Turbidity		0.1	NTU	3.8	10.9	17.9	47.1	
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	172	178	201	202	
Total Alkalinity as CaCO3		1	mg/L	172	178	201	202	
ED045G: Chloride by Discrete Analyse	er							
Chloride	16887-00-6	1	mg/L	26300	35500	42500	43500	
G052G: Silica by Discrete Analyser								
Reactive Silica		0.05	mg/L	<0.05	<0.05	<0.05	<0.05	
K055G-SW: Ammonia as N by Discre	te Analyser in Sea	Water						
Ammonia as N	7664-41-7	0.02	mg/L	0.02	<0.02	<0.02	<0.02	
K057G: Nitrite as N by Discrete Anal	lyser							
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	
EK058G: Nitrate as N by Discrete Ana	llyser							
Nitrate as N	14797-55-8	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	
K059G: Nitrite plus Nitrate as N (NO	x) by Discrete Ana	lyser						
Nitrite + Nitrate as N		0.01	mg/L	<0.01	<0.01	<0.01	<0.01	
K061G: Total Kjeldahl Nitrogen By D	iscrete Analys <u>er</u>							
Total Kjeldahl Nitrogen as N		0.1	mg/L	2.3	3.1	3.3	3.5	
EK062G: Total Nitrogen as N (TKN + N	Ox) by Discrete An	alyser						
Total Nitrogen as N		0.1	mg/L	2.3	3.1	3.3	3.5	
EK067G: Total Phosphorus as P by Di	screte Analyser							
Total Phosphorus as P		0.01	mg/L	0.13	0.32	0.46	0.99	
EK071G: Reactive Phosphorus as P by	v discrete analyser							
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	
EP002: Dissolved Organic Carbon (DC								
Dissolved Organic Carbon		1	mg/L	16	22			
-			J					

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