

## **CERTIFICATE OF ANALYSIS**

Work Order : EM2015594

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 : 10-Sep-2020 10:40

Date Analysis Commenced : 10-Sep-2020

Issue Date : 16-Sep-2020 13:27



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
Dilani Fernando Senior Inorganic Chemist Melbourne Inorganics, Springvale, VIC
Samantha Smith Laboratory Coordinator WRG Subcontracting, Springvale, VIC

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# ALS

#### **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.

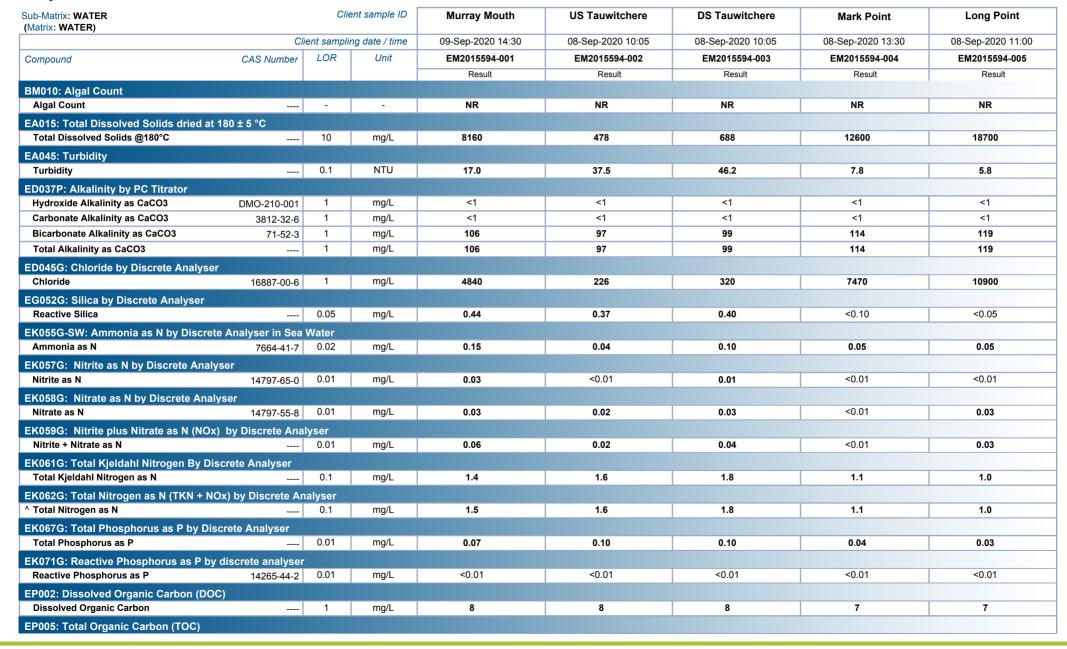
LOR = Limit of reporting

- ^ = 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.
- EP002, EP005: EM2015594: It is recognised that total organic carbon is less than dissolved organic carbon for sample #3. However, the difference is within experimental variation of the methods.
- ED037: EM2015583 #2 Poor duplicate precision for Alkalinity. Confirmed by re-extraction and re-analysis.
- EG052G: EM2015594 #4 & 6-12. Samples required dilution prior to analysis due to sample matrix. LOR has been raised accordingly.
- EP008, Chlorophyll-a standard does not contained Pheophytin-a standard.
- EP008, LOR raised for Pheophytin-a for sample 9 due to sample matrix.
- EA015H: EM2015594 #13: 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.
- NR 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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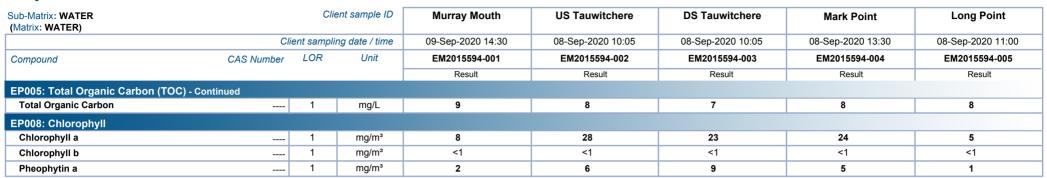




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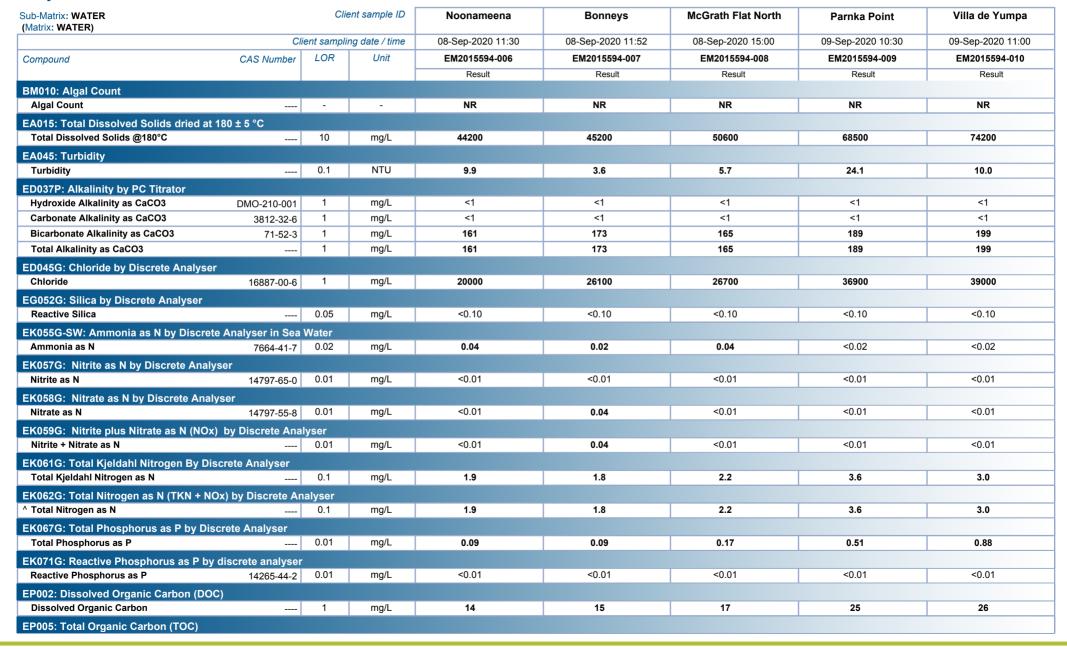




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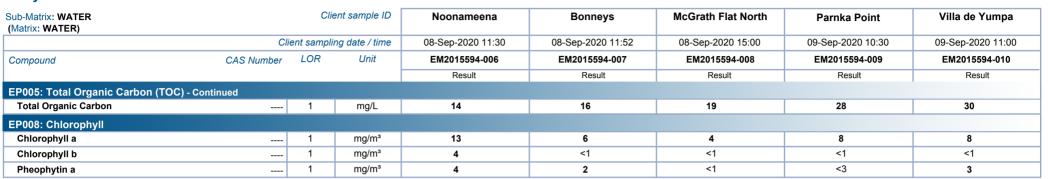




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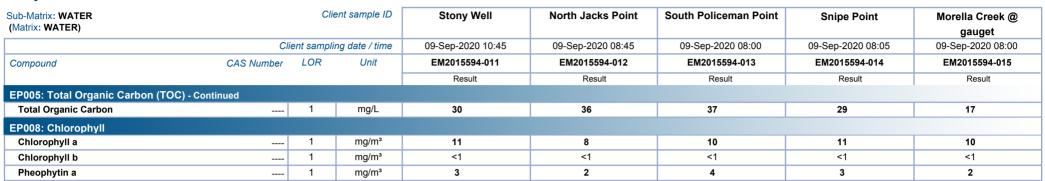




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Sub-Matrix: WATER (Matrix: WATER)		Client sample ID			1.8km west of Salt Creek	3.2km south of Salt Creek (land)	Tilley Swamp Drain U/S Morella	
	Client sampling date / time			09-Sep-2020 07:15	09-Sep-2020 07:50	09-Sep-2020 07:30	09-Sep-2020 08:50	
Compound	CAS Number	LOR	Unit	EM2015594-016	EM2015594-017	EM2015594-018	EM2015594-019	
and the second				Result	Result	Result	Result	
BM010: Algal Count								
Algal Count		-	-	NR	NR	NR	NR	
EA015: Total Dissolved Solids dried	at 180 ± 5 °C							
Total Dissolved Solids @180°C		10	mg/L	85100	84200	84600	7500	
EA045: Turbidity								
Turbidity		0.1	NTU	8.9	9.2	7.8	1.8	
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	16	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	212	211	215	379	
Total Alkalinity as CaCO3		1	mg/L	212	211	215	394	
ED045G: Chloride by Discrete Analys	ser							
Chloride	16887-00-6	1	mg/L	48100	48600	48800	4030	
EG052G: Silica by Discrete Analyser								
Reactive Silica		0.05	mg/L	0.32	0.31	0.42	7.33	
EK055G-SW: Ammonia as N by Discr	ete Analyser in Sea	Water						
Ammonia as N	7664-41-7		mg/L	<0.02	<0.02	<0.02	0.06	
EK057G: Nitrite as N by Discrete Ana	alvser							
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	<0.01	0.02	
EK058G: Nitrate as N by Discrete An								
Nitrate as N	14797-55-8	0.01	mg/L	<0.01	<0.01	<0.01	0.29	
EK059G: Nitrite plus Nitrate as N (NO	Dx) by Discrete Ana	lvser						
Nitrite + Nitrate as N		0.01	mg/L	<0.01	<0.01	<0.01	0.31	
EK061G: Total Kjeldahl Nitrogen By I	Discrete Analyser							
Total Kjeldahl Nitrogen as N		0.1	mg/L	3.5	3.6	3.8	0.6	
EK062G: Total Nitrogen as N (TKN +	NOv) by Discrete Ar		9					
^ Total Nitrogen as N		0.1	mg/L	3.5	3.6	3.8	0.9	
EK067G: Total Phosphorus as P by D	Discrete Analyser		J. –					
Total Phosphorus as P		0.01	mg/L	1.52	1.84	1.42	0.03	
·			9-			=	****	
EK071G: Reactive Phosphorus as P I Reactive Phosphorus as P	by discrete analyser 14265-44-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	
·		0.01	g/ L	-0.01	-0.01	-0.01	-0.01	
EP002: Dissolved Organic Carbon (D Dissolved Organic Carbon		1	mg/L	29	29	23	4	
Dissolved Organic Carbon		ı	mg/L	43	43	43	-	

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