

CERTIFICATE OF ANALYSIS

Work Order : EM2108900

Client : Dept for Environment & Water

Contact : Mr FRANK MANGERUCA

Address : GPO BOX 2834

ADELAIDE SA, AUSTRALIA 5001

Telephone : ---

Project : Water Samples

 Order number
 : ---

 C-O-C number
 : ---

 Sampler
 : ---

 Site
 : ---

Quote number : AD/052/20 V2

No. of samples received : 20
No. of samples analysed : 20

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Laboratory : Environmental Division Melbourne

Contact : Kieren Burns

Address : 4 Westall Rd Springvale VIC Australia 3171

Telephone : +61881625130

Date Samples Received : 14-May-2021 10:30

Date Analysis Commenced : 14-May-2021

Issue Date : 21-May-2021 14:19



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		
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		
Nikki Stepniewski	Senior Inorganic Instrument 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.

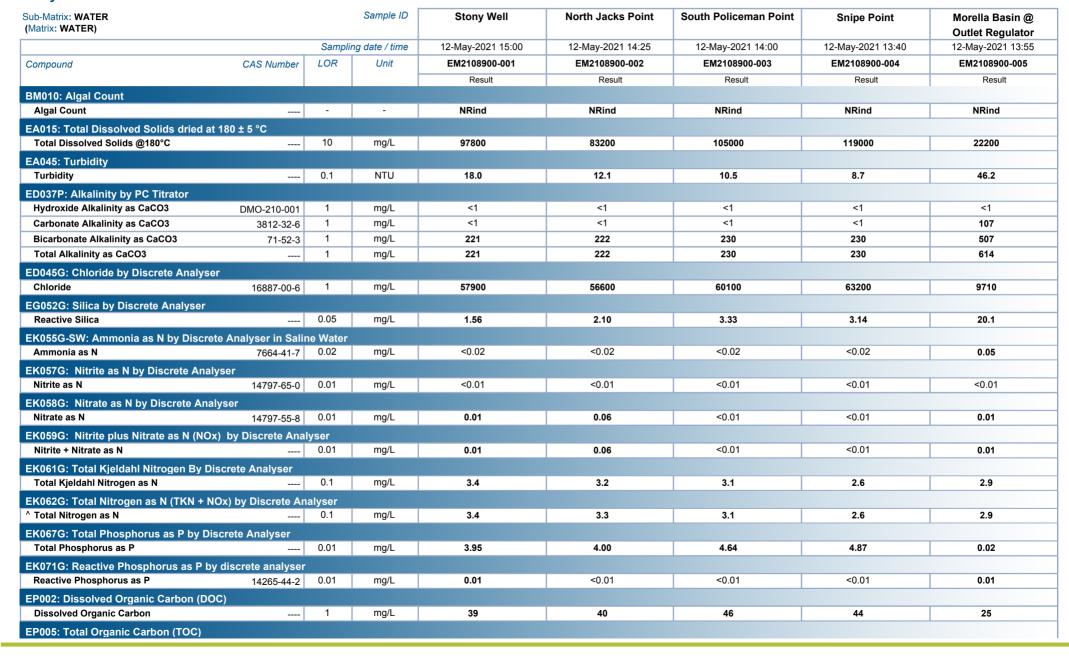
LOR = Limit of reporting

- ^ = 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.
- EP005:EM2108900 It is recognised that total organic carbon is less than dissolved dissolved organic carbon for samples #10 and #16. However, the difference is within experimental variation of the methods.
- EP008, Chlorohpyll-a standard does not contained Pheophytin-a standard.
- EP008/EP008B, LOR raised for various samples due to sample matrix.
- EK061G/EK067G: EM2108843 #2 Poor matrix spike recovery for TKN and Total phosphorus due to sample matrix. Confirmed by re-extraction and re-analysis.
- EA015H: EM2108900 #4, #8, #10, #12: 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.
- EG052G: EM2108900-002 Poor matrix spike recovery for reactive silica due to matrix effects.
- EK061G: EM2108900 #3 Poor matrix spike recovery for TKN due to sample matrix. Confirmed by re-extraction and re-analysis.
- 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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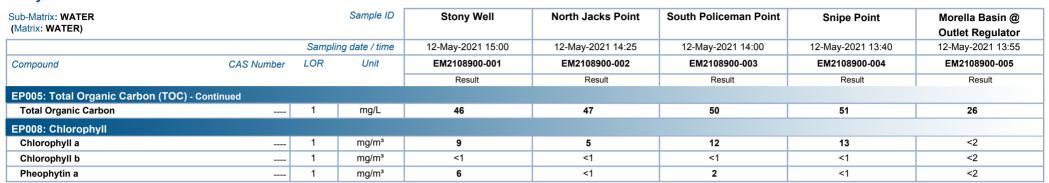




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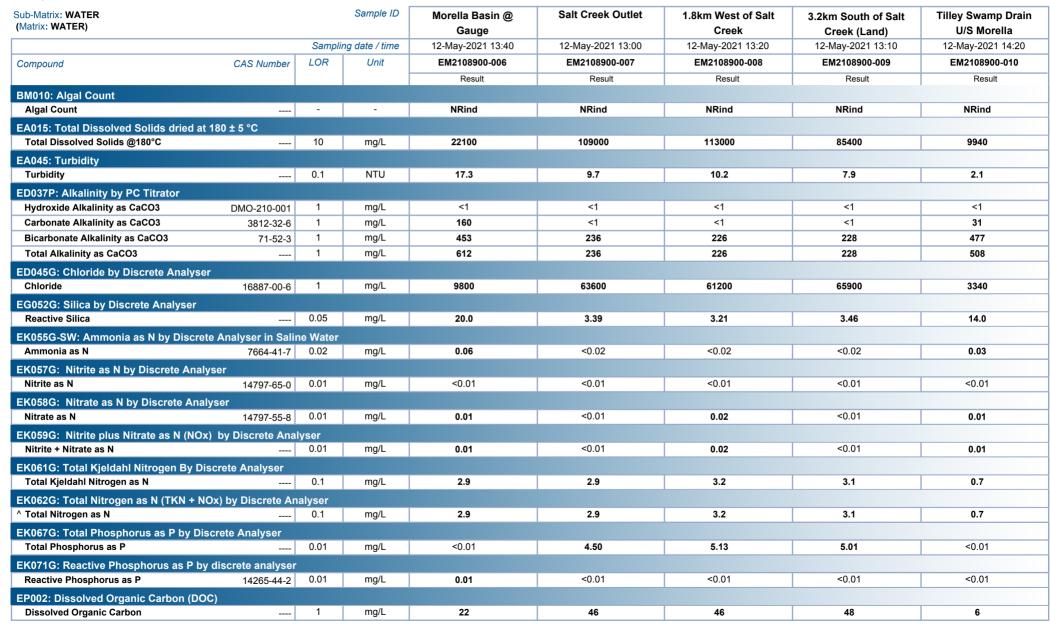




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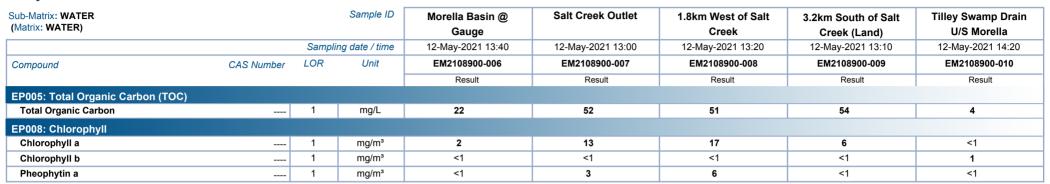




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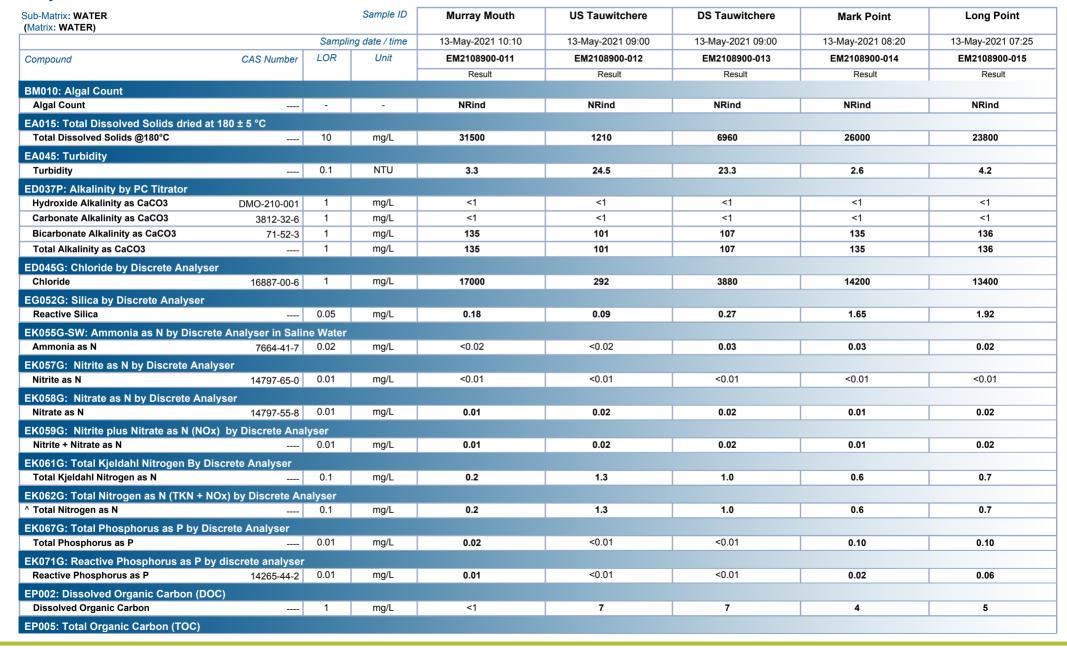




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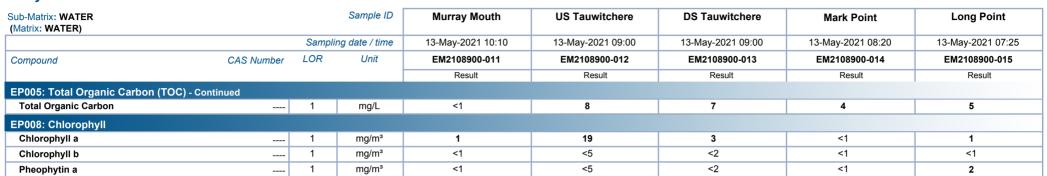




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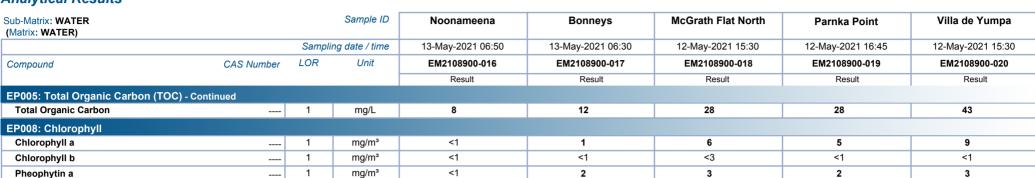
ub-Matrix: WATER Matrix: WATER)			Sample ID	Noonameena	Bonneys	McGrath Flat North	Parnka Point	Villa de Yumpa
	Sampling date / time			13-May-2021 06:50	13-May-2021 06:30	12-May-2021 15:30	12-May-2021 16:45	12-May-2021 15:30
Compound	CAS Number	LOR	Unit	EM2108900-016	EM2108900-017	EM2108900-018	EM2108900-019	EM2108900-020
				Result	Result	Result	Result	Result
BM010: Algal Count								
Algal Count		-	-	NRind	NRind	NRind	NRind	NRind
A015: Total Dissolved Solids dried a	at 180 ± 5 °C							
Total Dissolved Solids @180°C		10	mg/L	26600	32400	53000	52900	76100
A045: Turbidity								
Turbidity		0.1	NTU	2.6	4.8	46.0	13.2	16.1
D037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	162	175	194	197	215
Total Alkalinity as CaCO3		1	mg/L	162	175	194	197	215
:D045G: Chloride by Discrete Analys	er							
Chloride	16887-00-6	1	mg/L	14300	15400	33100	38500	53300
G052G: Silica by Discrete Analyser								
Reactive Silica		0.05	mg/L	0.36	0.55	0.42	0.53	1.01
K055G-SW: Ammonia as N by Discr	ete Analyser in Salir	ne Water						
Ammonia as N	7664-41-7	0.02	mg/L	0.08	0.02	<0.02	<0.02	<0.02
K057G: Nitrite as N by Discrete Ana	alyser							
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
K058G: Nitrate as N by Discrete An	alvser							
Nitrate as N	14797-55-8	0.01	mg/L	0.01	0.01	<0.01	0.01	<0.01
K059G: Nitrite plus Nitrate as N (NC	(Dx) by Discrete Anal	vser						
Nitrite + Nitrate as N		0.01	mg/L	0.01	0.01	<0.01	0.01	<0.01
:K061G: Total Kjeldahl Nitrogen By D	Discrete Analyser							
Total Kjeldahl Nitrogen as N		0.1	mg/L	1.2	1.4	2.8	2.4	3.0
:K062G: Total Nitrogen as N (TKN + I	NOx) by Discrete An	alvser_						
Total Nitrogen as N		0.1	mg/L	1.2	1.4	2.8	2.4	3.0
EK067G: Total Phosphorus as P by D	iscrete Analyser							
Total Phosphorus as P		0.01	mg/L	<0.01	0.04	0.50	0.92	3.34
K071G: Reactive Phosphorus as P b								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
P002: Dissolved Organic Carbon (D								1
Dissolved Organic Carbon (Di		1	mg/L	9	12	23	25	38
EP005: Total Organic Carbon (TOC)			J. –	-			-	

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Analytical Results



Inter-Laboratory Testing

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

(WATER) EP008: Chlorophyll

