

CERTIFICATE OF ANALYSIS

Work Order : EM2013637

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 : 06-Aug-2020 12:50

Date Analysis Commenced : 06-Aug-2020

Issue Date : 12-Aug-2020 12:47



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

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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, EP002: EM2013637: It is recognised that total organic carbon is less than dissolved organic carbon for sample #11. However, the difference is within experimental variation of the methods.
- EP008, Chlorophyll-a standard does not contained Pheoplytin-a standard.
- EP008, LOR raised for Pheophtytin-a and Chlorophyll-b for various due to sample matrix.
- EA015H: EM2013637 #4, #7-8, #17: 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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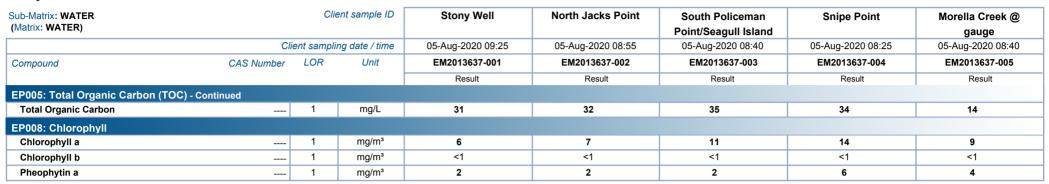




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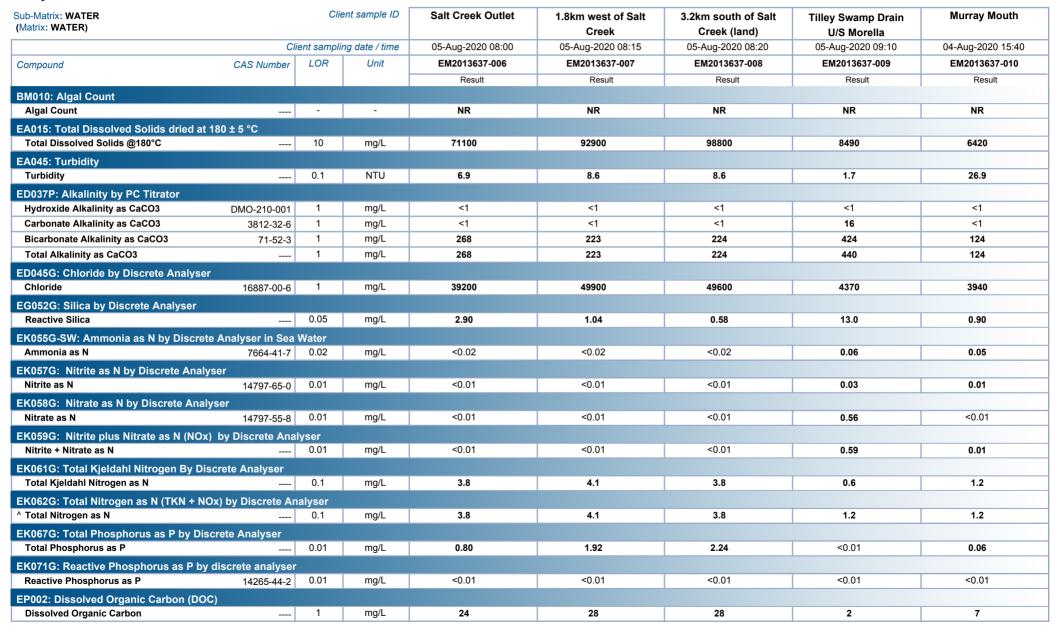




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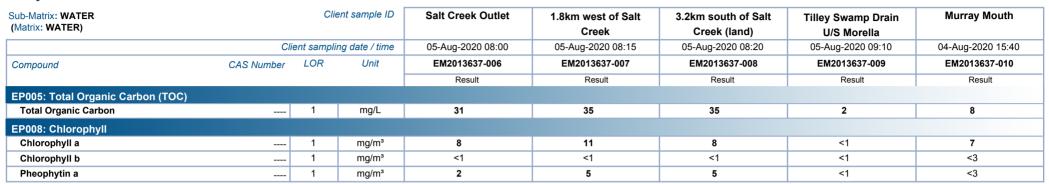




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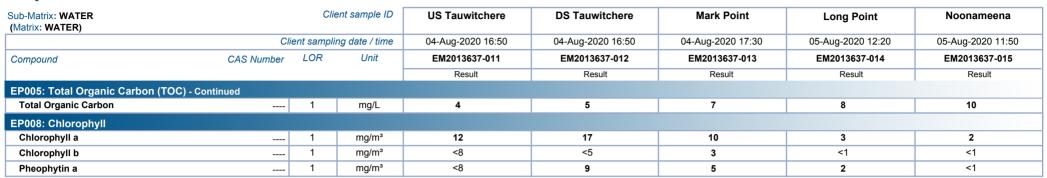


Sub-Matrix: WATER (Matrix: WATER)				US Tauwitchere	DS Tauwitchere	Mark Point	Long Point	Noonameena
·	Client sampling date		ing date / time	04-Aug-2020 16:50	04-Aug-2020 16:50	04-Aug-2020 17:30	05-Aug-2020 12:20	05-Aug-2020 11:50
Compound	CAS Number	LOR	Unit	EM2013637-011	EM2013637-012	EM2013637-013	EM2013637-014	EM2013637-015
				Result	Result	Result	Result	Result
BM010: Algal Count								
Algal Count		-	-	NR	NR	NR	NR	NR
EA015: Total Dissolved Solids dried a	t 180 ± 5 °C							
Total Dissolved Solids @180°C		10	mg/L	826	1320	21600	30100	51400
A045: Turbidity								
Turbidity		0.1	NTU	55.6	55.5	6.4	3.6	1.9
ED037P: 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	108	108	138	148	173
Total Alkalinity as CaCO3		1	mg/L	108	108	138	148	173
ED045G: Chloride by Discrete Analyse	er							
Chloride	16887-00-6	1	mg/L	254	714	13200	18100	25400
G052G: Silica by Discrete Analyser								
Reactive Silica		0.05	mg/L	0.40	0.46	0.96	0.81	<0.05
EK055G-SW: Ammonia as N by Discre	ete Analyser in Sea	Water						
Ammonia as N	7664-41-7	0.02	mg/L	0.04	0.04	0.05	0.18	0.04
EK057G: Nitrite as N by Discrete Ana	lyser							
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<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	<0.01
K059G: Nitrite plus Nitrate as N (NO	x) by Discrete Anal	lyser						
Nitrite + Nitrate as N		0.01	mg/L	<0.01	0.01	<0.01	<0.01	<0.01
EK061G: Total Kjeldahl Nitrogen By D	iscrete Analyser							
Total Kjeldahl Nitrogen as N		0.1	mg/L	1.0	0.6	1.2	1.4	1.8
EK062G: Total Nitrogen as N (TKN + N	IOx) by Discrete An	alvser						
Total Nitrogen as N		0.1	mg/L	1.0	0.6	1.2	1.4	1.8
EK067G: Total Phosphorus as P by D	screte Analyser							
Total Phosphorus as P		0.01	mg/L	0.06	0.04	0.04	0.07	0.12
EK071G: Reactive Phosphorus as P b	v discrete analyser							
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EP002: Dissolved Organic Carbon (D0								
Dissolved Organic Carbon		1	mg/L	5	5	7	7	9
EP005: Total Organic Carbon (TOC)			Ü		1			

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ub-Matrix: WATER Matrix: WATER)	Client sample ID			Bonneys	McGrath Flat North	Parnka Point	Villa de Yumpa	
	Cli	Client sampling date / time		05-Aug-2020 11:25	05-Aug-2020 10:20	05-Aug-2020 10:30	05-Aug-2020 09:45	
Compound	CAS Number	LOR	Unit	EM2013637-016	EM2013637-017	EM2013637-018	EM2013637-019	
				Result	Result	Result	Result	
BM010: Algal Count								
Algal Count		-	-	NR	NR	NR	NR	
EA015: Total Dissolved Solids dried at	t 180 ± 5 °C							
Total Dissolved Solids @180°C		10	mg/L	51200	85900	83700	85400	
EA045: Turbidity								
Turbidity		0.1	NTU	3.3	16.0	12.0	8.2	
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	4	<1	<1	<1	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	182	198	202	213	
Total Alkalinity as CaCO3		1	mg/L	187	198	202	213	
ED045G: Chloride by Discrete Analyse	er							
Chloride	16887-00-6	1	mg/L	31100	40600	45100	47600	
EG052G: Silica by Discrete Analyser								
Reactive Silica		0.05	mg/L	0.09	<0.05	<0.05	<0.05	
EK055G-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	0.03	<0.02	
EK057G: Nitrite as N by Discrete Anal								
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			, and the second					
Nitrate as N	14797-55-8	0.01	mg/L	<0.01	0.01	<0.01	<0.01	
EK059G: Nitrite plus Nitrate as N (NO)			<i>g</i> , =					
Nitrite + Nitrate as N	x) by Discrete Anal	0.01	mg/L	<0.01	0.01	<0.01	<0.01	
	ia avata Avahaav	0.01	mg/L	-0.01	V.V 1	-0.01	70.01	
EK061G: Total Kjeldahl Nitrogen By Di Total Kjeldahl Nitrogen as N	iscrete Analyser	0.1	mg/L	2.1	3.1	3.3	3.6	
			mg/L	4. I	J. I	J.J	3.0	
EK062G: Total Nitrogen as N (TKN + N ^ Total Nitrogen as N	OX) by Discrete An	alyser 0.1	ma/l	2.1	3.1	3.3	3.6	
		U. I	mg/L	2. 1	3.1	ა.ა	3.0	
EK067G: Total Phosphorus as P by Dis		0.04	ma"	0.00	0.07	4.04	4.00	
Total Phosphorus as P		0.01	mg/L	0.22	0.87	1.21	1.38	
EK071G: Reactive Phosphorus as P by		2.21			201	2.21	2.24	
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	
EP002: Dissolved Organic Carbon (DO								
Dissolved Organic Carbon		1	mg/L	14	20	24	24	

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