

# **CERTIFICATE OF ANALYSIS**

: EM2201088 **Work Order** 

Client Dept for Environment & Water

: Mr FRANK MANGERUCA Contact

Address : GPO BOX 2834

ADELAIDE SA, AUSTRALIA 5001

Telephone

: HCHB - Phase 1 Project

Order number C-O-C number Sampler Site

Quote number : AD/052/20 V2

No. of samples received : 22 No. of samples analysed : 22 Page : 1 of 12

> Laboratory : Environmental Division Melbourne

Contact : Kieren Burns

Address : 4 Westall Rd Springvale VIC Australia 3171

Telephone : +61881625130 **Date Samples Received** : 28-Jan-2022 11:10 **Date Analysis Commenced** : 30-Jan-2022

Issue Date : 04-Feb-2022 15:22



ISO/IEC 17025 - Testing

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
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC
Samantha Smith	Assistant Laboratory Manager	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.

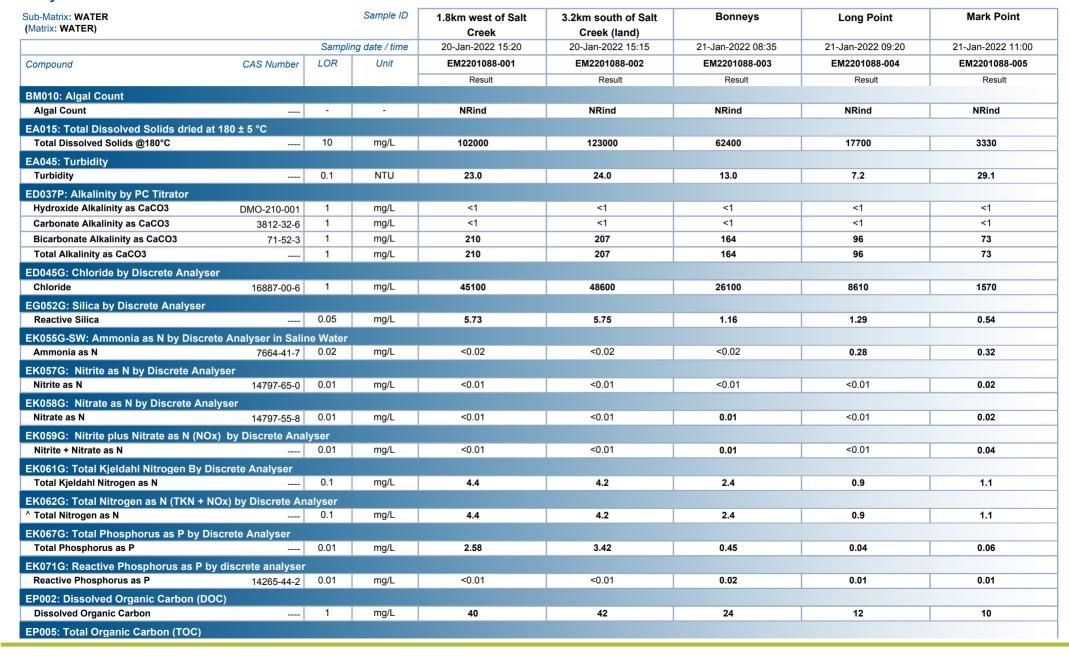
LOR = Limit of reporting

- ^ = 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.
- EP005/EP002:It is recognised that total organic carbon is less than dissolved organic carbon for samples EM2201088 #5, #8, #9, #17, #18, #19, #20. However, the difference is within experimental variation of the methods.
- EP008 : Chlorophyll-a standard does not contained Pheophytin-a standard.
- EP008, Chlorophyll-a standard does not contained Pheophytin-a standard.
- EA015H: EM2201088 #1-2, #6, #11-16, #22: 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.
- ED037P: EM2201088 #21 Poor duplicate precision for carbonate alkalinity as CaCO3 due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP002: EM2201088 #2 Poor matrix spike recovery for dissolved organic carbon due to sample matrix. Insufficient sample provided to confirm the results.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.
- Algal Count (BM010) has been performed by ALS Water Resources Group, NATA Accreditation no. 992, Site no. 989.

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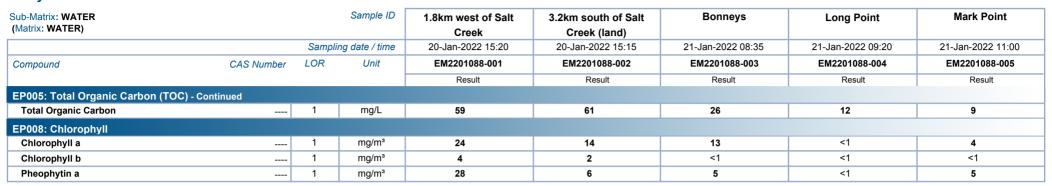




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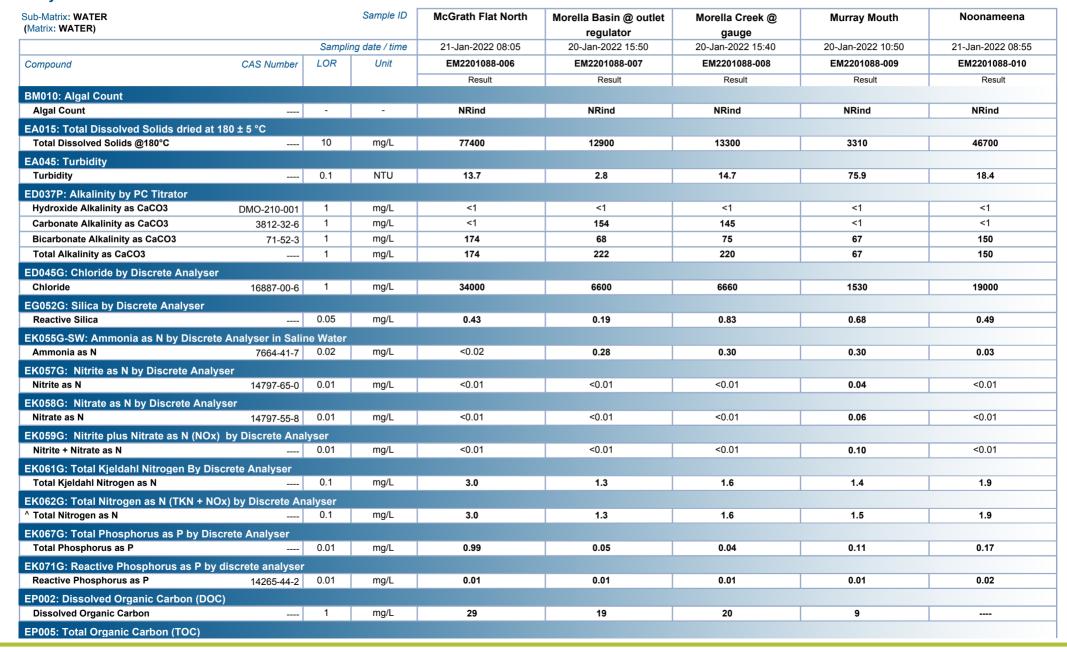




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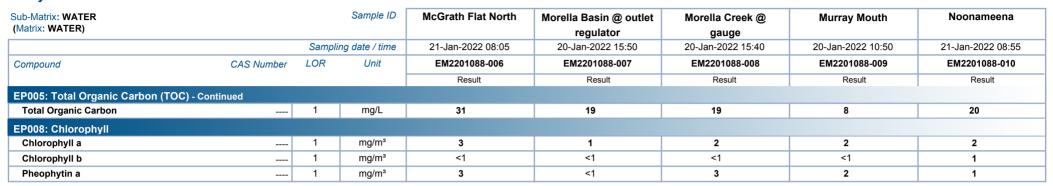




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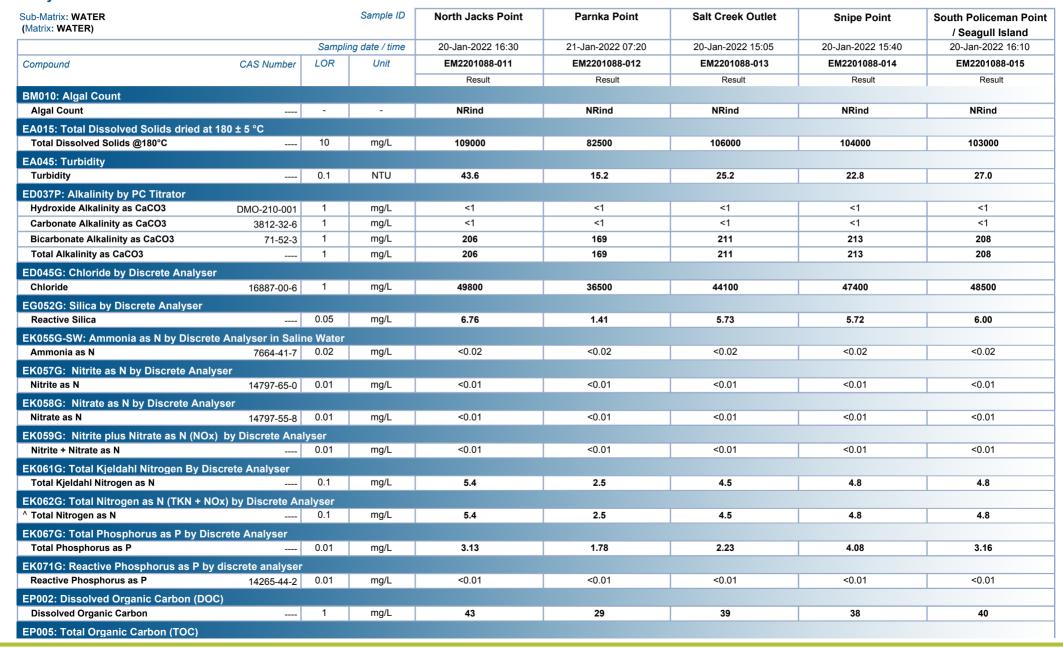




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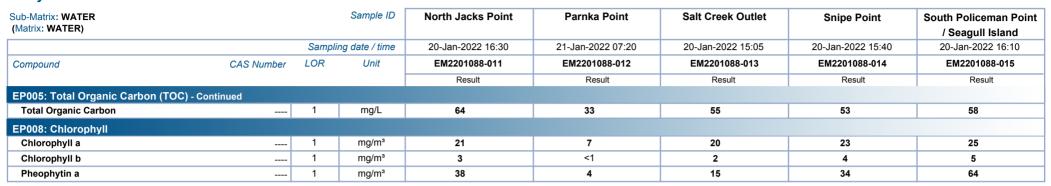




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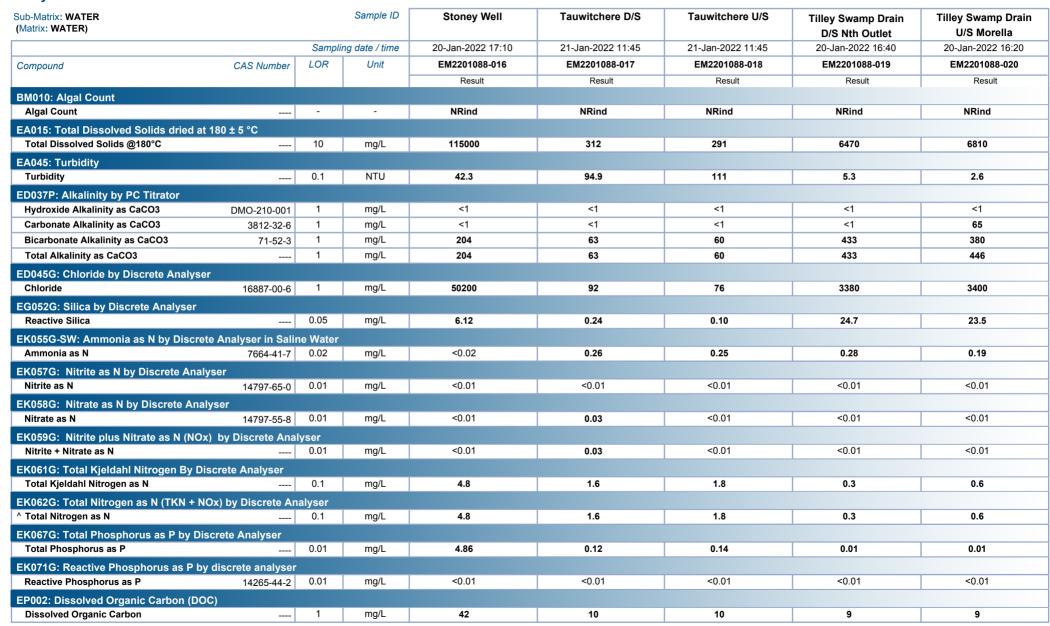




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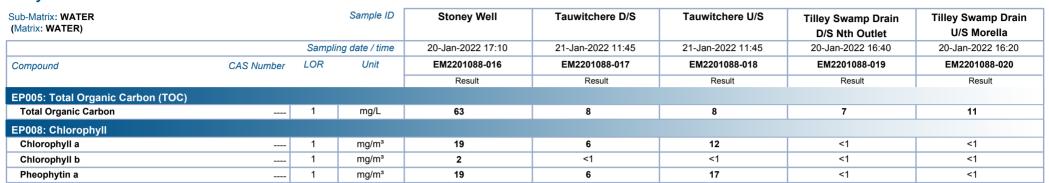




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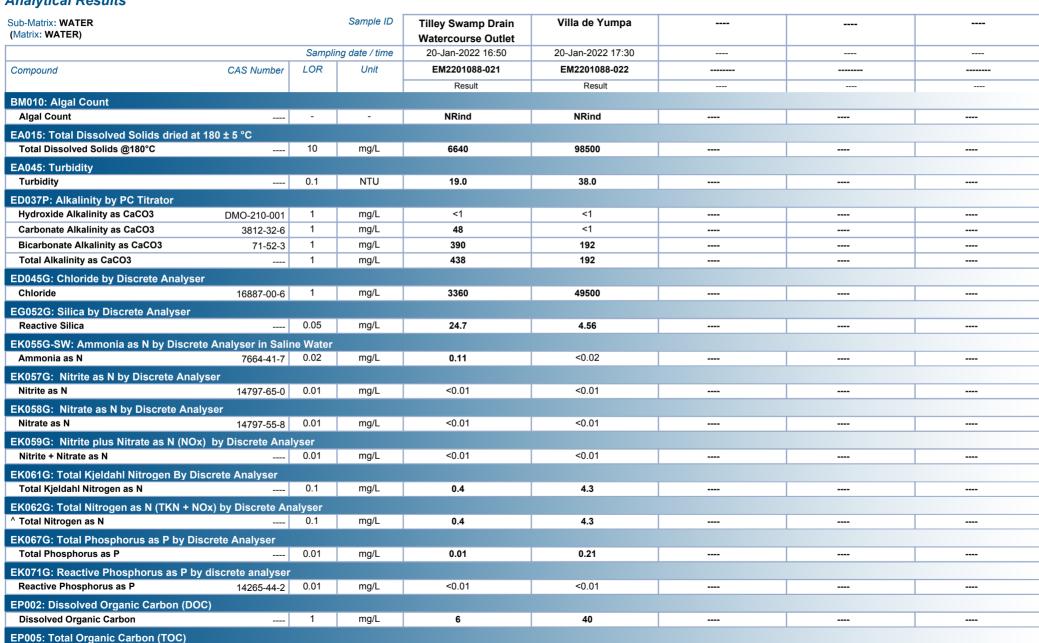




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# Analytical Results



Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Tilley Swamp Drain	Villa de Yumpa				
				Watercourse Outlet					
		Sampli	ng date / time	20-Jan-2022 16:50	20-Jan-2022 17:30				
Compound	CAS Number	LOR	Unit	EM2201088-021	EM2201088-022				
				Result	Result				
EP005: Total Organic Carbon (TOC) - Continued									
Total Organic Carbon		1	mg/L	7	57				
EP008: Chlorophyll									
Chlorophyll a		1	mg/m³	1	17				
Chlorophyll b		1	mg/m³	<1	2				
Pheophytin a		1	mg/m³	<1	32				

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

(WATER) EP008: Chlorophyll