

# **CERTIFICATE OF ANALYSIS**

Work Order : **EM2123012** 

Client : Dept for Environment & Water

Contact : Mr FRANK MANGERUCA

Address : GPO BOX 2834

ADELAIDE SA, AUSTRALIA 5001

Telephone : ---

Project : HCHB - Phase 1

 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 : 18-Nov-2021 11:10

Date Analysis Commenced : 18-Nov-2021

Issue Date : 25-Nov-2021 17:40



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		

Page : 2 of 12 Work Order : EM2123012

Client : Dept for Environment & Water

Project : HCHB - Phase 1

### **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

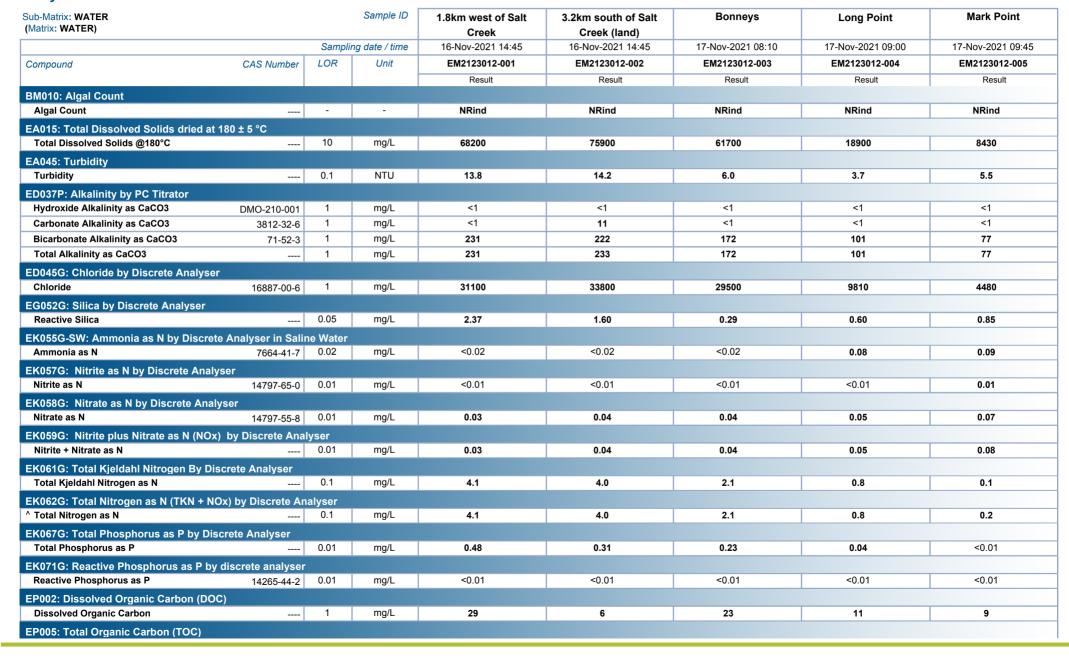
- ^ = This result is computed from individual analyte detections at or above the level of reporting
- ø = ALS is not NATA accredited for these tests.
- ~ = Indicates an estimated value.
- EM2123012 #2,12,13,15-18,22; TDS by method EA-015 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- EP002:EP005:It is recognised that total organic carbon is less than dissolved organic carbon for samples EM2123012 #5-#6, #8-#10, #17 and #18. However, the difference is within experimental variation of the methods.
- It is recognised that TKN is less than Ammonia as N(Saline water) for sample 20. However, the difference is within experimental variation of the methods.
- EP008, Chlorophyll-a standard does not contained Pheophytin-a standard.
- EP008, LOR raised for Chlorophyll-a, b and Pheophytin -a for various samples due to sample matrix.
- EA015H: EM2123012#3TDS by method EA-015 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- EA015H: EM2123012#10 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.
- EK067G: EM2123012 #21 Poor matrix spike recovery for Total phosphorus due to sample matrix. Confirmed by re-extraction and re-analysis.
- Algal Count (BM010) has been performed by ALS Water Resources Group, NATA Accreditation no. 992, Site no. 989.



Page : 3 of 12 Work Order : EM2123012

Client : Dept for Environment & Water

Project : HCHB - Phase 1

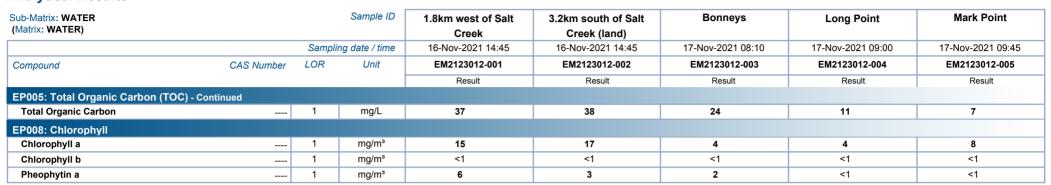




Page : 4 of 12 Work Order : EM2123012

Client : Dept for Environment & Water

Project : HCHB - Phase 1

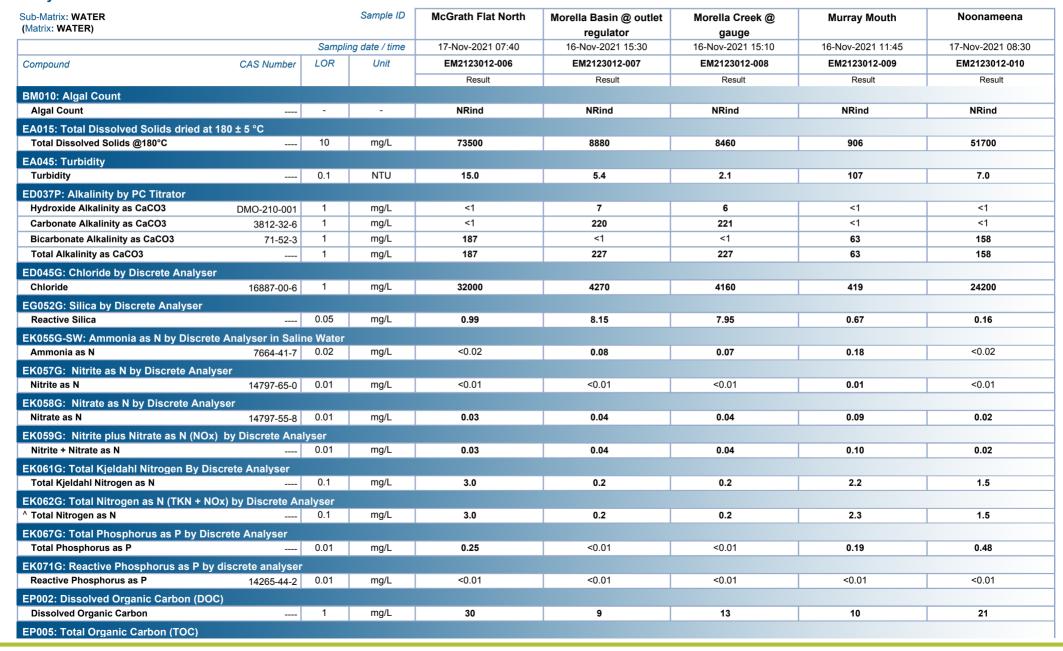




Page : 5 of 12 Work Order : EM2123012

Client : Dept for Environment & Water

Project : HCHB - Phase 1

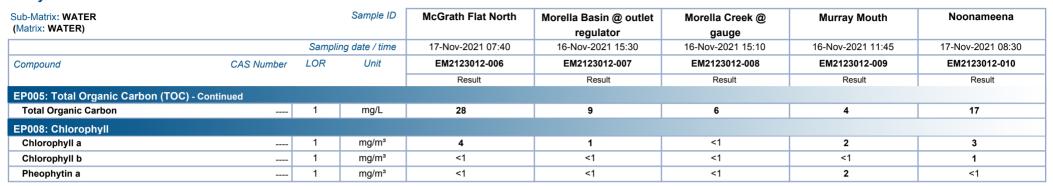




Page : 6 of 12 Work Order : EM2123012

Client : Dept for Environment & Water

Project : HCHB - Phase 1

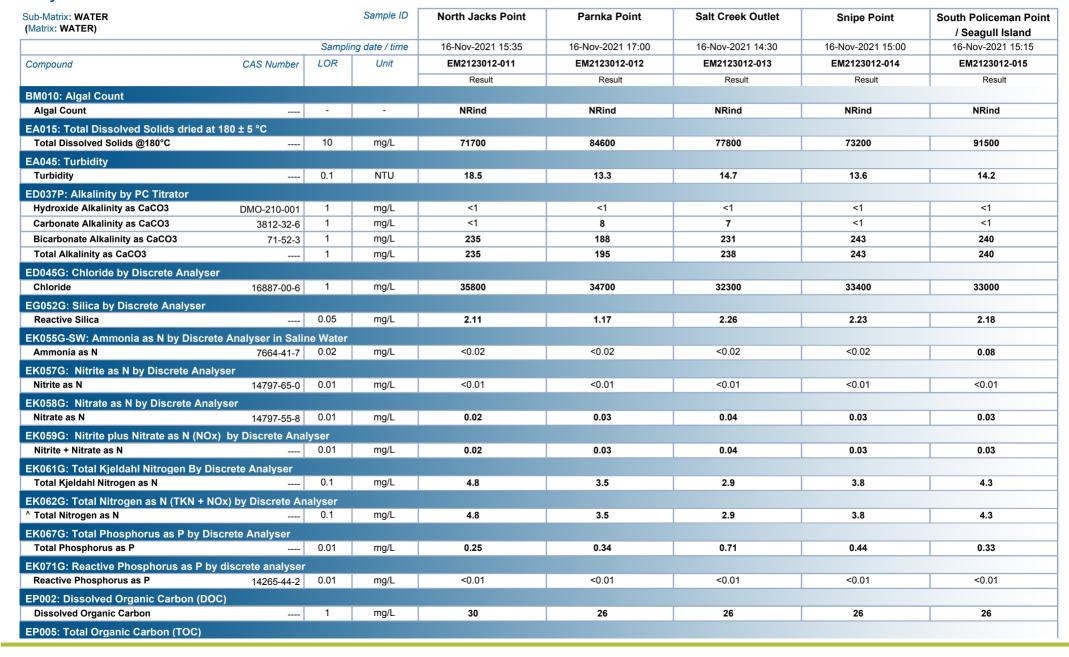




Page : 7 of 12 Work Order : EM2123012

Client : Dept for Environment & Water

Project : HCHB - Phase 1

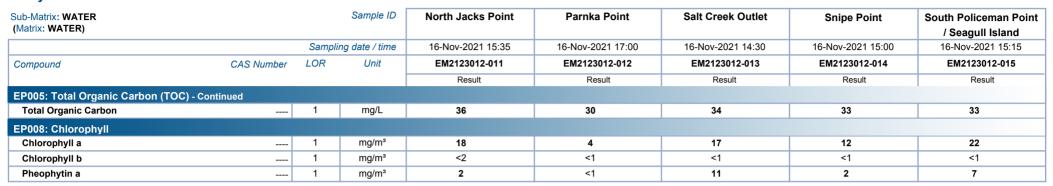




Page : 8 of 12 Work Order : EM2123012

Client : Dept for Environment & Water

Project : HCHB - Phase 1

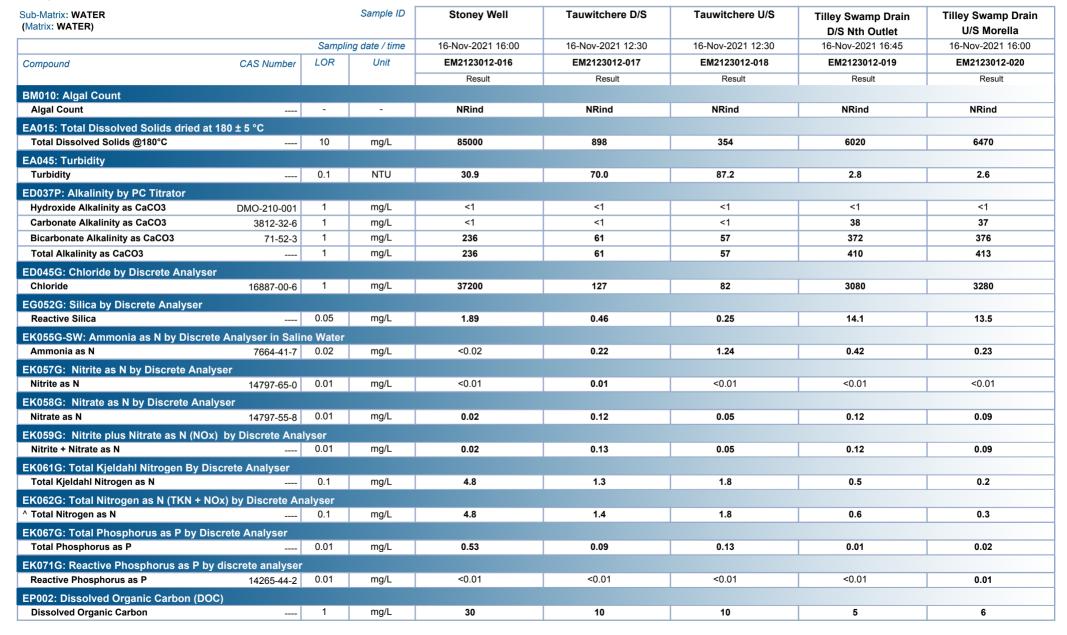




Page : 9 of 12 Work Order : EM2123012

Client : Dept for Environment & Water

Project : HCHB - Phase 1

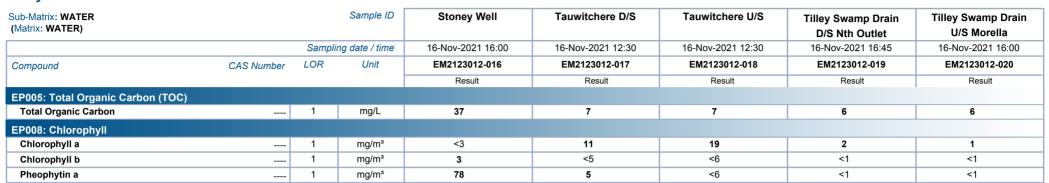




Page : 10 of 12 Work Order : EM2123012

Client : Dept for Environment & Water

Project : HCHB - Phase 1

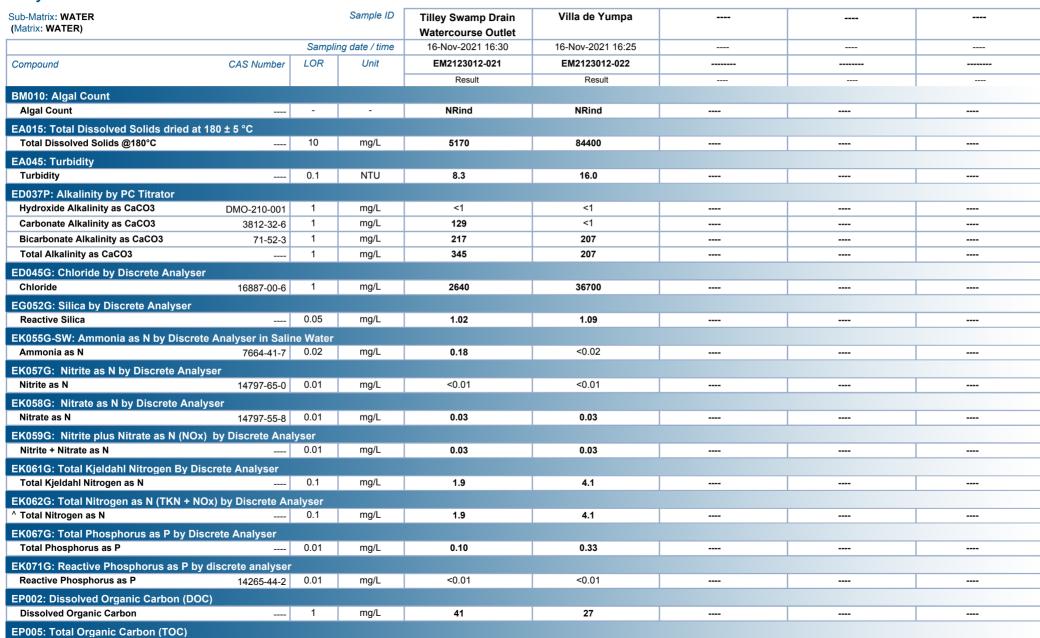




Page : 11 of 12 Work Order : EM2123012

Client : Dept for Environment & Water

Project : HCHB - Phase 1



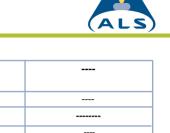


Page : 12 of 12 : EM2123012 Work Order

: Dept for Environment & Water Client

HCHB - Phase 1 Project

# Analytical Results



Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Tilley Swamp Drain Watercourse Outlet	Villa de Yumpa	 	
		Sampli	ing date / time	16-Nov-2021 16:30	16-Nov-2021 16:25	 	
Compound	CAS Number	LOR	Unit	EM2123012-021	EM2123012-022	 	
				Result	Result	 	
EP005: Total Organic Carbon (TOC) -	Continued						
Total Organic Carbon		1	mg/L	43	34	 	
EP008: Chlorophyll							
Chlorophyll a		1	mg/m³	5	10	 	
Chlorophyll b		1	mg/m³	<1	<1	 	
Pheophytin a		1	mg/m³	2	5	 	

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

(WATER) EP008: Chlorophyll