

### **QUALITY CONTROL REPORT**

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Accreditation No. 825

Accredited for compliance with ISO/IEC 17025 - Testing

Work Order : **EM2123012** 

Client : Dept for Environment & Water Laboratory : Environmental Division Melbourne

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 Project
 : HCHB - Phase 1
 Date Samples Received
 : 18-Nov-2021

Order number : ---- Date Analysis Commenced : 18-Nov-2021

C-O-C number : ---- Issue Date : 25-Nov-2021
Sampler : ----

Site · ----

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 Quality Control Report contains the following information:

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- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

: AD/052/20 V2

### **Signatories**

Quote number

No. of samples received

No. of samples analysed

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.

Key: Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot

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

RPD = Relative Percentage Difference

# = Indicates failed QC

### Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: WATER						Laboratory I	Duplicate (DUP) Report		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EK055G-SW: Ammo	nia as N by Discrete Analyse	er in Saline Water (QC Lot: 4026286)							
EM2123012-001	1.8km west of Salt Creek	EK055G-SW: Ammonia as N	7664-41-7	0.02	mg/L	<0.02	<0.02	0.0	No Limit
EM2123012-010	Noonameena	EK055G-SW: Ammonia as N	7664-41-7	0.02	mg/L	<0.02	<0.02	0.0	No Limit
EK055G-SW: Ammo	nia as N by Discrete Analyse	er in Saline Water (QC Lot: 4026288)							
EM2123012-021	Tilley Swamp Drain Watercourse Outlet	EK055G-SW: Ammonia as N	7664-41-7	0.02	mg/L	0.18	0.16	9.1	No Limit
EA015: Total Dissol	ved Solids dried at 180 ± 5 °C	C (QC Lot: 4030114)							
EM2123012-001	1.8km west of Salt Creek	EA015H: Total Dissolved Solids @180°C		10	mg/L	68200	67600	1.0	0% - 20%
EM2123012-016	Stoney Well	EA015H: Total Dissolved Solids @180°C		10	mg/L	85000	78600	7.8	0% - 20%
EM2123035-002	Anonymous	EA015H: Total Dissolved Solids @180°C		10	mg/L	1380	1420	2.7	0% - 20%
EM2123050-001	Anonymous	EA015H: Total Dissolved Solids @180°C		10	mg/L	14100	14300	1.4	0% - 20%
EA015: Total Dissolv	ved Solids dried at 180 ± 5 °C	C (QC Lot: 4032890)							
EM2122954-016	Anonymous	EA015H: Total Dissolved Solids @180°C		10	mg/L	9360	9910	5.7	0% - 20%
EM2123012-010	Noonameena	EA015H: Total Dissolved Solids @180°C		10	mg/L	51700	53200	2.9	0% - 20%
EM2123043-003	Anonymous	EA015H: Total Dissolved Solids @180°C		10	mg/L	944	1040	9.2	0% - 20%
EM2122851-001	Anonymous	EA015H: Total Dissolved Solids @180°C		10	mg/L	298	# 206	36.5	0% - 20%
EA045: Turbidity (Q	C Lot: 4023849)								
EM2122899-001	Anonymous	EA045: Turbidity		0.1	NTU	3.2	3.3	3.1	0% - 20%
EM2123012-002	3.2km south of Salt Creek (land)	EA045: Turbidity		0.1	NTU	14.2	14.0	1.4	0% - 20%
EA045: Turbidity (Q	C Lot: 4023850)								
EM2123012-013	Salt Creek Outlet	EA045: Turbidity		0.1	NTU	14.7	14.7	0.0	0% - 20%
EM2123012-022	Villa de Yumpa	EA045: Turbidity		0.1	NTU	16.0	16.3	1.9	0% - 20%
ED037P: Alkalinity b	y PC Titrator (QC Lot: 4030	457)							

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Sub-Matrix: WATER						Laboratory	Duplicate (DUP) Report		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
ED037P: Alkalinity b	by PC Titrator (QC Lot: 4030	457) - continued							
EM2123012-002	3.2km south of Salt Creek (land)	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	11	13	18.7	0% - 50%
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	222	219	1.3	0% - 20%
		ED037-P: Total Alkalinity as CaCO3		1	mg/L	233	232	0.0	0% - 20%
EM2123012-012	Parnka Point	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	8	10	23.8	0% - 50%
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	188	186	0.6	0% - 20%
		ED037-P: Total Alkalinity as CaCO3		1	mg/L	195	196	0.0	0% - 20%
ED037P: Alkalinity b	by PC Titrator (QC Lot: 4030	458)							
EM2123095-002	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	153	154	1.2	0% - 20%
		ED037-P: Total Alkalinity as CaCO3		1	mg/L	153	154	1.2	0% - 20%
EM2123064-002	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	17	18	0.0	0% - 50%
		ED037-P: Total Alkalinity as CaCO3		1	mg/L	17	18	0.0	0% - 50%
ED045G: Chloride by	y Discrete Analyser (QC Lo	t: 4023520)							
EM2122954-014	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	5470	5440	0.7	0% - 20%
EM2122954-006	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	9100	8570	6.0	0% - 20%
ED045G: Chloride b	y Discrete Analyser (QC Lo	t: 4023524)							
EM2123012-002	3.2km south of Salt Creek (land)	ED045G: Chloride	16887-00-6	1	mg/L	33800	34300	1.3	0% - 20%
EM2123012-010	Noonameena	ED045G: Chloride	16887-00-6	1	mg/L	24200	23800	1.5	0% - 20%
ED045G: Chloride b	y Discrete Analyser (QC Lo	t: 4023528)			_				
EM2123012-022	Villa de Yumpa	ED045G: Chloride	16887-00-6	1	mg/L	36700	36200	1.3	0% - 20%
EG052G: Silica by D	iscrete Analyser (QC Lot: 4								
EM2123012-001	1.8km west of Salt Creek	EG052G: Reactive Silica		0.05	mg/L	2.37	2.36	0.0	0% - 20%
EM2123012-011	North Jacks Point	EG052G: Reactive Silica		0.05	mg/L	2.11	2.01	4.8	0% - 20%
	iscrete Analyser (QC Lot: 4			0.00	9		2.0.		070 2070
EM2123012-021	Tilley Swamp Drain	EG052G: Reactive Silica		0.05	mg/L	1.02	0.97	5.0	0% - 20%
LIVIZ 1230 12-02 1	Watercourse Outlet	EG052G. Reactive Silica		0.03	IIIg/L	1.02	0.97	3.0	0 /0 - 20 /0
EK057G: Nitrito as I	N by Discrete Analyser (QC	Lot: 4023519)							
EM2122954-016	Anonymous	· · · · · · · · · · · · · · · · · · ·	14797-65-0	0.01	ma/l	<0.01	<0.01	0.0	No Limit
EM2122954-016 EM2122954-006	Anonymous	EK057G: Nitrite as N EK057G: Nitrite as N	14797-65-0	0.01	mg/L mg/L	<0.01	<0.01	0.0	No Limit
	•		14737-03-0	0.01	mg/L	-0.02	70.02	0.0	NO LIHIIL
	N by Discrete Analyser (QC		4 4707 05 5	0.61		.0.01	10.04	0.0	NI- 11 M
EM2123012-002	3.2km south of Salt Creek (land)	EK057G: Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	0.0	No Limit

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Sub-Matrix: WATER						Laboratory	boratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EK057G: Nitrite as	N by Discrete Analyser (QC	C Lot: 4023523) - continued									
EM2123012-011	North Jacks Point	EK057G: Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	0.0	No Limit		
EK057G: Nitrite as	N by Discrete Analyser (QC	C Lot: 4023527)									
EM2123012-022	Villa de Yumpa	EK057G: Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	0.0	No Limit		
EK059G: Nitrite plu	s Nitrate as N (NOx) by Dis	screte Analyser (QC Lot: 4026285)									
EM2122731-001	Anonymous	EK059G: Nitrite + Nitrate as N		0.01	mg/L	33.2	33.8	2.0	0% - 20%		
EM2122731-010	Anonymous	EK059G: Nitrite + Nitrate as N		0.01	mg/L	31.3	30.2	3.3	0% - 20%		
EK059G: Nitrite plu	s Nitrate as N (NOx) by Dis	screte Analyser (QC Lot: 4026287)									
EM2123012-011	North Jacks Point	EK059G: Nitrite + Nitrate as N		0.01	mg/L	0.02	0.03	0.0	No Limit		
EM2123012-020	Tilley Swamp Drain U/S	EK059G: Nitrite + Nitrate as N		0.01	mg/L	0.09	0.10	0.0	No Limit		
	Morella										
EK061G: Total Kjelo	lahl Nitrogen By Discrete A	nalyser (QC Lot: 4024548)									
EM2122997-013	Anonymous	EK061G: Total Kjeldahl Nitrogen as N		0.1	mg/L	0.3	0.8	94.8	No Limit		
EM2123012-008	Morella Creek @ gauge	EK061G: Total Kjeldahl Nitrogen as N		0.1	mg/L	0.2	0.9	114	No Limit		
EK061G: Total Kjelo	lahl Nitrogen By Discrete A	nalyser (QC Lot: 4024550)									
EM2123012-020	Tilley Swamp Drain U/S	EK061G: Total Kjeldahl Nitrogen as N		0.1	mg/L	0.2	0.1	0.0	No Limit		
	Morella										
EM2123063-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N		0.1	mg/L	0.1	0.4	101	No Limit		
EK067G: Total Phos	sphorus as P by Discrete Ai	nalyser (QC Lot: 4024547)									
EM2122961-001	Anonymous	EK067G: Total Phosphorus as P		0.01	mg/L	25.4	# 20.4	21.8	0% - 20%		
EM2123012-008	Morella Creek @ gauge	EK067G: Total Phosphorus as P		0.01	mg/L	<0.01	0.01	0.0	No Limit		
EK067G: Total Phos	sphorus as P by Discrete Ar	nalyser (QC Lot: 4024549)									
EM2123012-020	Tilley Swamp Drain U/S Morella	EK067G: Total Phosphorus as P		0.01	mg/L	0.02	0.01	0.0	No Limit		
EM2123063-001	Anonymous	EK067G: Total Phosphorus as P		0.01	mg/L	<0.01	<0.01	0.0	No Limit		
EK071G: Reactive P	Phosphorus as P by discrete	e analyser (QC Lot: 4023522)			_						
EM2123012-001	1.8km west of Salt Creek	EK071G: Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit		
EM2123012-010	Noonameena	EK071G: Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit		
EK071G: Reactive P	hosphorus as P by discrete	e analyser (QC Lot: 4023526)									
EM2123012-021	Tilley Swamp Drain Watercourse Outlet	EK071G: Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit		
EP002: Dissolved O	rganic Carbon (DOC) (QC I	Lot: 4025913)									
EM2123012-008	Morella Creek @ gauge	EP002: Dissolved Organic Carbon		1	mg/L	13	14	10.5	No Limit		
EM2123012-010	Noonameena	EP002: Dissolved Organic Carbon		1	mg/L	21	23	8.8	No Limit		
EP002: Dissolved O	rganic Carbon (DOC) (QC I								1		
EM2123012-012	Parnka Point	EP002: Dissolved Organic Carbon		1	mg/L	26	25	0.0	0% - 20%		
EM2123012-021	Tilley Swamp Drain	EP002: Dissolved Organic Carbon		1	mg/L	41	39	3.7	0% - 20%		
	Watercourse Outlet	E. 552. Disserved Organic Carbon		-					2.3 20,0		
	ic Carbon (TOC) (QC Lot: 4	1005040)				1			1		

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Client : Dept for Environment & Water



Sub-Matrix: WATER						Laboratory D	Ouplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP005: Total Organic	EP005: Total Organic Carbon (TOC) (QC Lot: 4025912) - continued										
EM2122954-001	Anonymous	EP005: Total Organic Carbon		1	mg/L	<1	1	0.0	No Limit		
EM2122954-011	Anonymous	EP005: Total Organic Carbon		1	mg/L	382	460	18.6	0% - 20%		
EP005: Total Organic	Carbon (TOC) (QC Lot: 402	25914)									
EM2123012-003	Bonneys	EP005: Total Organic Carbon		1	mg/L	24	26	7.3	0% - 20%		
EP005: Total Organic	Carbon (TOC) (QC Lot: 402	28478)									
EM2122731-001	Anonymous	EP005: Total Organic Carbon		1	mg/L	5	5	0.0	No Limit		
EM2122731-010	Anonymous	EP005: Total Organic Carbon		1	mg/L	5	5	0.0	No Limit		
EP005: Total Organic	P005: Total Organic Carbon (TOC) (QC Lot: 4028480)										
EM2123012-022	Villa de Yumpa	EP005: Total Organic Carbon		1	mg/L	34	33	3.9	0% - 20%		

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Project : HCHB - Phase 1



# Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

sub-Matrix: WATER				Method Blank (MB)	Laboratory Control Spike (LCS) Report					
				Report	Spike	Spike Recovery (%)	Acceptable	Limits (%)		
Method: Compound CAS	S Number	LOR	Unit	Result	Concentration	LCS	Low	High		
K055G-SW: Ammonia as N by Discrete Analyser in Saline Wate	r (QCLot: 4	026286)								
<u> </u>	64-41-7	0.02	mg/L	<0.02	0.5 mg/L	97.2	81.1	124		
K055G-SW: Ammonia as N by Discrete Analyser in Saline Wate	r (QCLot: 4	026288)								
	64-41-7	0.02	mg/L	<0.02	0.5 mg/L	110	81.1	124		
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 40301	14)									
EA015H: Total Dissolved Solids @180°C		10	mg/L	<10	2000 mg/L	101	91.0	110		
				<10	2460 mg/L	96.0	81.7	118		
				<10	293 mg/L	96.9	91.0	110		
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 40328	90)									
A015H: Total Dissolved Solids @180°C		10	mg/L	<10	2000 mg/L	97.0	91.0	110		
-				<10	2460 mg/L	99.3	81.7	118		
				<10	293 mg/L	91.8	91.0	110		
EA045: Turbidity (QCLot: 4023849)										
A045: Turbidity		0.1	NTU	<0.1	40 NTU	100	88.1	110		
:A045: Turbidity (QCLot: 4023850)										
A045: Turbidity		0.1	NTU	<0.1	40 NTU	100	88.1	110		
D037P: Alkalinity by PC Titrator (QCLot: 4030457)										
ED037-P: Total Alkalinity as CaCO3			mg/L		200 mg/L	99.3	85.0	116		
:D037P: Alkalinity by PC Titrator (QCLot: 4030458)										
ED037-P: Total Alkalinity as CaCO3			mg/L		200 mg/L	101	85.0	116		
:D045G: Chloride by Discrete Analyser (QCLot: 4023520)			, , , , , , , , , , , , , , , , , , ,		, , , ,					
<u> </u>	87-00-6	1	mg/L	<1	10 mg/L	104	85.0	115		
.bo45G. Chilohde		·	9/=	- <1	1000 mg/L	105	85.0	122		
ED045G: Chloride by Discrete Analyser (QCLot: 4023524)					, and the second					
	87-00-6	1	mg/L	<1	10 mg/L	97.6	85.0	115		
50400. Onlondo		•	9.=	<1	1000 mg/L	102	85.0	122		
:D045G: Chloride by Discrete Analyser (QCLot: 4023528)										
	87-00-6	1	mg/L	<1	10 mg/L	103	85.0	115		
50 ioc. Gillolido		-	<del></del>	<1	1000 mg/L	104	85.0	122		
G052G: Silica by Discrete Analyser (QCLot: 4023521)					<u> </u>					
G052G: Reactive Silica		0.05	mg/L	<0.05	5 mg/L	104	78.9	118		
G052G: Silica by Discrete Analyser (QCLot: 4023525)			.5				- 1-			
EG052G: Silica by Discrete Analyser (QCL0t: 4023525)		0.05	mg/L	<0.05	5 mg/L	109	78.9	118		
OUDZO. NEGOLIVE OIIICA		0.00	g, L	-0.00	o mg/ E	100	7 0.0	. 10		

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Sub-Matrix: WATER			Method Blank (MB)		Laboratory Control Spike (LCS) Report		
			Report	Spike	Spike Recovery (%)	Acceptable	Limits (%)
Method: Compound CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EK057G: Nitrite as N by Discrete Analyser (QCLot: 4023518) - continued							
EK057G: Nitrite as N 14797-65-0	0.01	mg/L	<0.01	0.5 mg/L	99.8	90.9	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 4023523)							
EK057G: Nitrite as N 14797-65-0	0.01	mg/L	<0.01	0.5 mg/L	100	90.9	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 4023527)							
EK057G: Nitrite as N 14797-65-0	0.01	mg/L	<0.01	0.5 mg/L	100	90.9	112
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 402	6285)						
EK059G: Nitrite + Nitrate as N	0.01	mg/L	<0.01	0.5 mg/L	114	90.0	117
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 402	(6287)						
EK059G: Nitrite + Nitrate as N	0.01	mg/L	<0.01	0.5 mg/L	115	90.0	117
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 4024548)							
EK061G: Total Kjeldahl Nitrogen as N	0.1	mg/L	<0.1	5 mg/L	93.8	70.0	117
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 4024550)							
EK061G: Total Kjeldahl Nitrogen as N	0.1	mg/L	<0.1	5 mg/L	88.8	70.0	117
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 4024547)							
EK067G: Total Phosphorus as P	0.01	mg/L	<0.01	2.21 mg/L	98.1	71.9	114
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 4024549)				_			
EK067G: Total Phosphorus as P	0.01	mg/L	<0.01	2.21 mg/L	96.0	71.9	114
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 4023522	)						
EK071G: Reactive Phosphorus as P 14265-44-2	0.01	mg/L	<0.01	0.5 mg/L	96.5	92.7	119
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 4023526	)						
EK071G: Reactive Phosphorus as P 14265-44-2	0.01	mg/L	<0.01	0.5 mg/L	96.7	92.7	119
EP002: Dissolved Organic Carbon (DOC) (QCLot: 4025913)							
EP002: Dissolved Organic Carbon (QCEOt. 4023313)	1	mg/L	<1	100 mg/L	110	83.0	115
EP002: Dissolved Organic Carbon (DOC) (QCLot: 4028479)		9-					114
EP002: Dissolved Organic Carbon (QCLot. 4020479)	1	mg/L	<1	100 mg/L	96.6	83.0	115
El 002. Bissolved Organic Garbon		9/ _		1009.2	00.0	00.0	
EP005: Total Organic Carbon (TOC) (QCLot: 4025912)  EP005: Total Organic Carbon	1	mg/L	<1	100 mg/L	108	81.2	110
El 000. Total Organio Odrbon		mg/L		100 mg/L	100	01.2	110
EP005: Total Organic Carbon (TOC) (QCLot: 4025914)	1	mg/L	<1	100 mg/L	99.7	81.2	110
El doc. Fotal organic curbon		mg/L		100 Hig/L	55.1	01.2	110
EP005: Total Organic Carbon (TOC) (QCLot: 4028478)	1	mg/L	<1	100 mg/L	97.0	81.2	110
21 000. Total Organio Garbon	<u>'</u>	illy/L	<u> </u>	100 Hig/L	97.0	01.2	110
EP005: Total Organic Carbon (TOC) (QCLot: 4028480)	4	ma/I		100 ma/l	06.2	01.0	110
EP005: Total Organic Carbon	1	mg/L	<1	100 mg/L	96.2	81.2	110
EP008: Chlorophyll (QCLot: 4032720)	4	me or hand					
EP008B: Chlorophyll b	1	mg/m³	<1				
EP008: Chlorophyll (QCLot: 4032727)							

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Work Order : EM2123012

Client : Dept for Environment & Water

Project : HCHB - Phase 1



Sub-Matrix: WATER	ub-Matrix: WATER					Laboratory Control Spike (LCS) Report				
				Report	Spike	Spike Recovery (%)	Acceptable Limits (%)			
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High		
EP008: Chlorophyll (QCLot: 4032727) - continued										
EP008: Chlorophyll a		1	mg/m³	<1	20 mg/m³	95.0	70.0	130		
EP008: Pheophytin a		1	mg/m³	<1						
EP008: Chlorophyll (QCLot: 4032728)										
EP008: Chlorophyll a		1	mg/m³	<1	20 mg/m³	93.8	70.0	130		
EP008: Pheophytin a		1	mg/m³	<1						

## Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: WATER				Ma	Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable	Limits (%)		
aboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High		
EK055G-SW: Amn	nonia as N by Discrete Analyser in Saline Water(C	QCLot: 4026286)							
EM2123012-002	3.2km south of Salt Creek (land)	EK055G-SW: Ammonia as N	7664-41-7	0.5 mg/L	104	70.0	130		
EK055G-SW: Amn	nonia as N by Discrete Analyser in Saline Water(C	QCLot: 4026288)							
EM2123012-022	Villa de Yumpa	EK055G-SW: Ammonia as N	7664-41-7	0.5 mg/L	80.2	70.0	130		
ED045G: Chloride	by Discrete Analyser (QCLot: 4023520)								
EM2122954-007	Anonymous	ED045G: Chloride	16887-00-6	400 mg/L	# Not Determined	70.0	142		
ED045G: Chloride	by Discrete Analyser (QCLot: 4023524)								
EM2123012-003	Bonneys	ED045G: Chloride	16887-00-6	400 mg/L	# Not Determined	70.0	142		
EG052G: Silica by	Discrete Analyser (QCLot: 4023521)								
EM2123012-002	3.2km south of Salt Creek (land)	EG052G: Reactive Silica		5 mg/L	88.7	80.0	120		
EG052G: Silica by	Discrete Analyser (QCLot: 4023525)								
EM2123012-022	Villa de Yumpa	EG052G: Reactive Silica		5 mg/L	90.7	80.0	120		
K057G: Nitrite a	s N by Discrete Analyser (QCLot: 4023518)								
EM2122954-007	Anonymous	EK057G: Nitrite as N	14797-65-0	1 mg/L	106	80.0	114		
EK057G: Nitrite a	s N by Discrete Analyser (QCLot: 4023523)								
EM2123012-003	Bonneys	EK057G: Nitrite as N	14797-65-0	0.5 mg/L	103	80.0	114		
EK059G: Nitrite p	lus Nitrate as N (NOx) by Discrete Analyser (QCL	ot: 4026285)							
EM2122731-002	Anonymous	EK059G: Nitrite + Nitrate as N		0.5 mg/L	# Not Determined	70.0	130		

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Sub-Matrix: WATER	ıb-Matrix: WATER				Matrix Spike (MS) Report					
				Spike	SpikeRecovery(%)	Acceptable Li	mits (%)			
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High			
EK059G: Nitrite p	lus Nitrate as N (NOx) by Discrete Analyser (QCLot: 40	26287) - continued								
EM2123012-012	Parnka Point	EK059G: Nitrite + Nitrate as N		0.5 mg/L	90.4	70.0	130			
EK061G: Total Kje	eldahl Nitrogen By Discrete Analyser (QCLot: 4024548)									
EM2123012-001	1.8km west of Salt Creek	EK061G: Total Kjeldahl Nitrogen as N		25 mg/L	105	70.0	130			
EK061G: Total Kje	eldahl Nitrogen By Discrete Analyser (QCLot: 4024550)									
EM2123012-021	Tilley Swamp Drain Watercourse Outlet	EK061G: Total Kjeldahl Nitrogen as N		5 mg/L	118	70.0	130			
EK067G: Total Ph	osphorus as P by Discrete Analyser (QCLot: 4024547)									
EM2122961-002	Anonymous	EK067G: Total Phosphorus as P		1 mg/L	117	70.0	130			
EK067G: Total Ph	osphorus as P by Discrete Analyser (QCLot: 4024549)									
EM2123012-021	Tilley Swamp Drain Watercourse Outlet	EK067G: Total Phosphorus as P		1 mg/L	# 66.2	70.0	130			
EK071G: Reactive	Phosphorus as P by discrete analyser (QCLot: 4023522	2)								
EM2123012-002	3.2km south of Salt Creek (land)	EK071G: Reactive Phosphorus as P	14265-44-2	0.5 mg/L	87.9	79.0	123			
EK071G: Reactive	Phosphorus as P by discrete analyser (QCLot: 4023526	5)								
EM2123012-022	Villa de Yumpa	EK071G: Reactive Phosphorus as P	14265-44-2	0.5 mg/L	88.6	79.0	123			
EP002: Dissolved	Organic Carbon (DOC) (QCLot: 4025913)									
EM2123012-002	3.2km south of Salt Creek (land)	EP002: Dissolved Organic Carbon		100 mg/L	101	75.0	117			
EP002: Dissolved	Organic Carbon (DOC) (QCLot: 4028479)									
EM2123012-013	Salt Creek Outlet	EP002: Dissolved Organic Carbon		100 mg/L	87.3	75.0	117			
EP005: Total Orga	inic Carbon (TOC) (QCLot: 4025912)									
EM2122954-002	Anonymous	EP005: Total Organic Carbon		100 mg/L	109	76.6	125			
EP005: Total Orga	nnic Carbon (TOC) (QCLot: 4025914)									
EM2123012-004	Long Point	EP005: Total Organic Carbon		100 mg/L	122	76.6	125			
EP005: Total Orga	nnic Carbon (TOC) (QCLot: 4028478)									
EM2122731-002	Anonymous	EP005: Total Organic Carbon		100 mg/L	104	76.6	125			
EP005: Total Orga	nnic Carbon (TOC) (QCLot: 4028480)									
EM2123097-001	Anonymous	EP005: Total Organic Carbon		100 mg/L	110	76.6	125			