

Environmental Forensics Report of Analysis
Project 20230429

Report #: 1975
Date Issued: 06-Nov-2023
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Client Project Reference: Darling-Barka River Health - 11 Octo

Customer: Department of Planning & Environment

Attention: [REDACTED]

Report Date: 06 November 2023

Project Received: 16 October 2023

EF Project Contact: [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]



The following samples were analysed:

<i>Sample ID</i>	<i>Client ID</i>	<i>Sample Type</i>	<i>Client Sampled Date/Time</i>	<i>Aliquot</i>
239154	MFK-Z-E1	Liquid	11/10/2023	
239167	MFK-Z-E1	Liquid	11/10/2023	Field Aliquot
239168	MFK-Z-E1	Liquid	11/10/2023	Field Aliquot
239169	MFK-Z-E1	Liquid	11/10/2023	Field Aliquot
239170	MFK-Z-E1	Liquid	11/10/2023	Field Aliquot
239171	MFK-Z-E1	Liquid	11/10/2023	Field Aliquot
239172	MFK-Z-E1	Liquid	11/10/2023	Field Aliquot
239155	MFK-BW-E1	Liquid	11/10/2023	
239197	MFK-BW-E1	Liquid	11/10/2023	Field Aliquot
239198	MFK-BW-E1	Liquid	11/10/2023	Field Aliquot
239156	MFK-Z-E2	Liquid	11/10/2023	
239173	MFK-Z-E2	Liquid	11/10/2023	Field Aliquot
239174	MFK-Z-E2	Liquid	11/10/2023	Field Aliquot
239175	MFK-Z-E2	Liquid	11/10/2023	Field Aliquot
239176	MFK-Z-E2	Liquid	11/10/2023	Field Aliquot
239177	MFK-Z-E2	Liquid	11/10/2023	Field Aliquot
239178	MFK-Z-E2	Liquid	11/10/2023	Field Aliquot
239157	MFK-BW-E2	Liquid	11/10/2023	
239199	MFK-BW-E2	Liquid	11/10/2023	Field Aliquot
239200	MFK-BW-E2	Liquid	11/10/2023	Field Aliquot
239158	MFK-Z-E3	Liquid	11/10/2023	
239179	MFK-Z-E3	Liquid	11/10/2023	Field Aliquot
239180	MFK-Z-E3	Liquid	11/10/2023	Field Aliquot
239181	MFK-Z-E3	Liquid	11/10/2023	Field Aliquot
239182	MFK-Z-E3	Liquid	11/10/2023	Field Aliquot
239183	MFK-Z-E3	Liquid	11/10/2023	Field Aliquot
239184	MFK-Z-E3	Liquid	11/10/2023	Field Aliquot
239159	MFK-BW-E3	Liquid	11/10/2023	
239201	MFK-BW-E3	Liquid	11/10/2023	Field Aliquot

Tests not covered by NATA accreditation 3040 are denoted with *

Codes: SN = Sample Note

RN = Result Note

RC = Project Comment



239202	MFK-BW-E3	Liquid	11/10/2023	Field Aliquot
239160	MFK-Z-E4	Liquid	11/10/2023	
239185	MFK-Z-E4	Liquid	11/10/2023	Field Aliquot
239186	MFK-Z-E4	Liquid	11/10/2023	Field Aliquot
239187	MFK-Z-E4	Liquid	11/10/2023	Field Aliquot
239188	MFK-Z-E4	Liquid	11/10/2023	Field Aliquot
239189	MFK-Z-E4	Liquid	11/10/2023	Field Aliquot
239190	MFK-Z-E4	Liquid	11/10/2023	Field Aliquot
239161	MFK-BW-E4	Liquid	11/10/2023	
239203	MFK-BW-E4	Liquid	11/10/2023	Field Aliquot
239204	MFK-BW-E4	Liquid	11/10/2023	Field Aliquot
239162	MFK-Z-E5	Liquid	11/10/2023	
239191	MFK-Z-E5	Liquid	11/10/2023	Field Aliquot
239192	MFK-Z-E5	Liquid	11/10/2023	Field Aliquot
239193	MFK-Z-E5	Liquid	11/10/2023	Field Aliquot
239194	MFK-Z-E5	Liquid	11/10/2023	Field Aliquot
239195	MFK-Z-E5	Liquid	11/10/2023	Field Aliquot
239196	MFK-Z-E5	Liquid	11/10/2023	Field Aliquot
239163	MFK-BW-E5	Liquid	11/10/2023	
239205	MFK-BW-E5	Liquid	11/10/2023	Field Aliquot
239206	MFK-BW-E5	Liquid	11/10/2023	Field Aliquot
239164	MFK-Z-B1	Liquid	11/10/2023	
239209	MFK-Z-B1	Liquid	11/10/2023	Field Aliquot
239210	MFK-Z-B1	Liquid	11/10/2023	Field Aliquot
239211	MFK-Z-B1	Liquid	11/10/2023	Field Aliquot
239212	MFK-Z-B1	Liquid	11/10/2023	Field Aliquot
239213	MFK-Z-B1	Liquid	11/10/2023	Field Aliquot
239214	MFK-Z-B1	Liquid	11/10/2023	Field Aliquot
239165	MFK-Z-B2	Liquid	11/10/2023	
239215	MFK-Z-B2	Liquid	11/10/2023	Field Aliquot
239216	MFK-Z-B2	Liquid	11/10/2023	Field Aliquot

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239217	MFK-Z-B2	Liquid	11/10/2023	Field Aliquot
239218	MFK-Z-B2	Liquid	11/10/2023	Field Aliquot
239219	MFK-Z-B2	Liquid	11/10/2023	Field Aliquot
239220	MFK-Z-B2	Liquid	11/10/2023	Field Aliquot
239166	MFK-Z-B3	Liquid	11/10/2023	
239221	MFK-Z-B3	Liquid	11/10/2023	Field Aliquot
239222	MFK-Z-B3	Liquid	11/10/2023	Field Aliquot
239223	MFK-Z-B3	Liquid	11/10/2023	Field Aliquot
239224	MFK-Z-B3	Liquid	11/10/2023	Field Aliquot
239225	MFK-Z-B3	Liquid	11/10/2023	Field Aliquot
239226	MFK-Z-B3	Liquid	11/10/2023	Field Aliquot

Report Notes

- This document has been authorised by the person whose name appears in this report.
- This report shall not be reproduced except in full. Samples analysed as received from the client.
- Results reported as 'less than' (<) indicates a result below the practical quantitation limit for the sample matrix and method used.

Project Comments

· Samples " 239154, 239167, 239169, 239168, 239170, 239171, 239172, 239155, 239156, 239157, 239158, 239159, 239160, 239161, 239162, 239163, 239164, 239166, 239173, 239174, 239175, 239176, 239177, 239178, 239179, 239180, 239181, 239182, 239183, 239184, 239185, 239186, 239187, 239188, 239189, 239190, 239191, 239192, 239193, 239194, 239195, 239196, 239197, 239198, 239199, 239200, 239201, 239202, 239203, 239204, 239205, 239206, 239209, 239210, 239211, 239212, 239213, 239214, 239215, 239216, 239217, 239218, 239219, 239220, 239221, 239222, 239223, 239224, 239225, 239226, 239165 were sent to Sydney Water Corporation (NATA Accreditation no: 63) for the analysis of NU102 : Total Nitrogen & Total Phosphorus, TC0049DW : Algal Toxins, TC0061DW : Paralytic Shellfish Toxins (PST) Analysis by UPLCMSMS, MA71CENT : Blue-Green ID & Enumeration, Including ASU & Biovolumes, MA91 : Individual Species Total Count, Total BioVol, T, WC97 : Organic Carbon - Dissolved, Total. This report summarises data from the attached external report: 293491, dated 01/11/2023.

Analysis Results - External Methods*

Area - EXTERNAL

	<i>Sample ID</i>	239154	239167	239156	239173	239158	239179	239160	239185	239162	239191	239164	239209
	<i>Start Date</i>	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023
	<i>Client ID</i>	MFK-Z-E1	MFK-Z-E1	MFK-Z-E2	MFK-Z-E2	MFK-Z-E3	MFK-Z-E3	MFK-Z-E4	MFK-Z-E4	MFK-Z-E5	MFK-Z-E5	MFK-Z-B1	MFK-Z-B1
Algal Enumeration	-		RC		RC		RC		RC		RC		RC
Algal Identification	-		RC		RC		RC		RC		RC		RC
Algal Toxins	-	RC		RC		RC		RC		RC		RC	
Saxitoxins and PST	-	RC		RC		RC		RC		RC		RC	

Analysis Results - External Methods*

Area - EXTERNAL

	<i>Sample ID</i>	239165	239215	239166	239221
	<i>Start Date</i>	19/10/2023	19/10/2023	19/10/2023	19/10/2023
	<i>Client ID</i>	MFK-Z-B2	MFK-Z-B2	MFK-Z-B3	MFK-Z-B3
Algal Enumeration	-		RC		RC
Algal Identification	-		RC		RC
Algal Toxins	-	RC		RC	
Saxitoxins and PST	-	RC		RC	

Analysis Results - External Methods*

Area - EXTERNAL

	<i>Sample ID</i>	239170	239171	239172	239155	239197	239198	239176	239177	239178	239157	239199	239200
	<i>Start Date</i>	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023
	<i>Client ID</i>	MFK-Z-E1	MFK-Z-E1	MFK-Z-E1	MFK-BW-E1	MFK-BW-E1	MFK-BW-E1	MFK-Z-E2	MFK-Z-E2	MFK-Z-E2	MFK-BW-E2	MFK-BW-E2	MFK-BW-E2
Ammonia	mg/L			0.02			0.01			0.01			<0.01
Free Reactive Phosphorus	mg/L			0.074			0.079			0.065			0.048
NOx	mg/L			<0.01			<0.01			<0.01			0.01
Total Dissolved Nitrogen	mg/L		0.67			0.66			0.68			0.69	
Total Dissolved Phosphorus	mg/L		0.098			0.104			0.1			0.075	
Total Nitrogen	mg/L	1.11			1.12			1.09			1.07		
Total Phosphorus	mg/L	0.184			0.194			0.189			0.151		

Tests not covered by NATA accreditation 3040 are denoted with *

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Analysis Results - External Methods*

Area - EXTERNAL

Analyte	mg/L	Sample ID	239182	239183	239184	239159	239201	239202	239188	239189	239190	239161	239203	239204
		Start Date	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023
		Client ID	MFK-Z-E3	MFK-Z-E3 filtered	MFK-Z-E3 filtered	MFK-BW-E3	MFK-BW-E3 filtered	MFK-BW-E3 filtered	MFK-Z-E4	MFK-Z-E4 filtered	MFK-Z-E4 filtered	MFK-BW-E4	MFK-BW-E4 filtered	MFK-BW-E4 filtered
Ammonia	mg/L				0.01			0.08			<0.01			0.01
Free Reactive Phosphorus	mg/L				0.032			0.081			0.044			0.066
NOx	mg/L				<0.01			<0.01			0.01			<0.01
Total Dissolved Nitrogen	mg/L			0.68			0.75			0.67			0.67	
Total Dissolved Phosphorus	mg/L			0.07			0.102			0.079			0.09	
Total Nitrogen	mg/L		1.08			1.25			1.07			1.26		
Total Phosphorus	mg/L		0.149			0.213			0.146			0.232		

Analysis Results - External Methods*

Area - EXTERNAL

Analyte	mg/L	Sample ID	239194	239195	239196	239163	239205	239206	239212	239213	239214	239218	239219	239220
		Start Date	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023
		Client ID	MFK-Z-E5	MFK-Z-E5 filtered	MFK-Z-E5 filtered	MFK-BW-E5	MFK-BW-E5 filtered	MFK-BW-E5 filtered	MFK-Z-B1	MFK-Z-B1 filtered	MFK-Z-B1 filtered	MFK-Z-B2	MFK-Z-B2 filtered	MFK-Z-B2 filtered
Ammonia	mg/L				<0.01			<0.01			<0.01			0.02
Free Reactive Phosphorus	mg/L				0.114			0.147			0.009			0.088
NOx	mg/L				0.01			0.01			0.01			0.01
Total Dissolved Nitrogen	mg/L			0.66			0.65			0.7			0.68	
Total Dissolved Phosphorus	mg/L			0.146			0.17			0.027			0.108	
Total Nitrogen	mg/L		0.99			1.04			1.94			1.02		
Total Phosphorus	mg/L		0.214			0.257			0.239			0.171		

Analysis Results - External Methods*

Area - EXTERNAL

Analyte	mg/L	Sample ID	239224	239225	239226
		Start Date	19/10/2023	19/10/2023	19/10/2023
		Client ID	MFK-Z-B3	MFK-Z-B3 filtered	MFK-Z-B3 filtered
Ammonia	mg/L				<0.01
Free Reactive Phosphorus	mg/L				0.243
NOx	mg/L				0.01
Total Dissolved Nitrogen	mg/L			0.62	
Total Dissolved Phosphorus	mg/L			0.261	
Total Nitrogen	mg/L		1.01		
Total Phosphorus	mg/L		0.348		

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Analysis Results - External Methods*

Area - EXTERNAL

		Sample ID	239168	239169	239174	239175	239180	239181	239186	239187	239192	239193	239210	239211
		Start Date	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023	19/10/2023
		Client ID	MFK-Z-E1	MFK-Z-E1	MFK-Z-E2	MFK-Z-E2	MFK-Z-E3	MFK-Z-E3	MFK-Z-E4	MFK-Z-E4	MFK-Z-E5	MFK-Z-E5	MFK-Z-B1	MFK-Z-B1
Dissolved Organic Carbon	mg/L			12.9		14.6		12.9		13.2		13.2		14.6
TOC	mg/L		15.3		15		13.2		12.8		14.5		17	

Analysis Results - External Methods*

Area - EXTERNAL

		Sample ID	239216	239217	239222	239223
		Start Date	19/10/2023	19/10/2023	19/10/2023	19/10/2023
		Client ID	MFK-Z-B2	MFK-Z-B2	MFK-Z-B3	MFK-Z-B3
Dissolved Organic Carbon	mg/L			13.9		13.3
TOC	mg/L		13.7		13.5	

The sample(s) referred to in this report were analysed by the following method(s):

Method code	Method description	Area
External Methods*	External Methods - Analysis completed externally	EXTERNAL
External Methods*	External Methods - Analysis completed externally	EXTERNAL
External Methods*	External Methods - Analysis completed externally	EXTERNAL

The results in this report were authorised by:

Name	Title	Area
[REDACTED]	Senior Scientist	EXTERNAL

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