



Environmental Forensics Report of Analysis

Project 20230149

Report #:

1658

Date Issued:

02-Jun-2023

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Client Project Reference: Menindee Fish Kill - 19 (IMT 6 May 2

Customer: Department of Planning & Environment

Attention:

[Redacted]

EF Project Contact:

[Redacted]

[Redacted]

[Redacted]

Report Date: 02 June 2023

Project Received: 08 May 2023



The following samples were analysed:

Sample ID	Client ID	Sample Type	Client Sampled Date/Time	Aliquot
232977	E1-1	Liquid	06/05/2023 11:45AM	
232993	E1-1	Liquid	06/05/2023 11:45AM	Laboratory Aliquot
232978	E1-2	Liquid	06/05/2023 11:45AM	
232979	E2-1	Liquid	06/05/2023 12:00PM	
232994	E2-1	Liquid	06/05/2023 12:00PM	Laboratory Aliquot
232980	E2-2	Liquid	06/05/2023 12:00PM	
232981	E3-1	Liquid	06/05/2023 1:40PM	
232995	E3-1	Liquid	06/05/2023 1:40PM	Laboratory Aliquot
232982	E3-2	Liquid	06/05/2023 1:40PM	
232983	E4-1	Liquid	06/05/2023 3:00PM	
232996	E4-1	Liquid	06/05/2023 3:00PM	Laboratory Aliquot
232984	E4-2	Liquid	06/05/2023 3:00PM	
232985	E5-1	Liquid	06/05/2023 4:00PM	
232997	E5-1	Liquid	06/05/2023 4:00PM	Laboratory Aliquot
232986	E5-2	Liquid	06/05/2023 4:00PM	
232987	B1-1	Liquid	06/05/2023 10:25AM	
232998	B1-1	Liquid	06/05/2023 10:25AM	Laboratory Aliquot
232988	B1-2	Liquid	06/05/2023 10:25AM	
232989	B2-1	Liquid	06/05/2023 11:00AM	
232999	B2-1	Liquid	06/05/2023 11:00AM	Laboratory Aliquot
232990	B2-2	Liquid	06/05/2023 11:00AM	
232991	B3-1	Liquid	06/05/2023 3:15PM	
233000	B3-1	Liquid	06/05/2023 3:15PM	Laboratory Aliquot
232992	B3-2	Liquid	06/05/2023 3:15PM	
233027	B1	Liquid	06/05/2023 1:00PM	
233028	B2	Liquid	06/05/2023 1:00PM	
233029	B3	Liquid	06/05/2023 1:00PM	
233030	E1	Liquid	06/05/2023 1:00PM	
233031	E2	Liquid	06/05/2023 1:00PM	

Tests not covered by NATA accreditation 3040 are denoted with *

Codes: SN = Sample Note
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233032	E3	Liquid	06/05/2023	1:00PM	
233033	E4	Liquid	06/05/2023	1:00PM	
233034	E5	Liquid	06/05/2023	1:00PM	
233191	MFK E1 BW	Liquid	06/05/2023	1:00AM	
233192	MFK E2 BW	Liquid	06/05/2023	1:00AM	
233193	MFK E3 BW	Liquid	06/05/2023	1:00AM	
233194	MFK E4 BW	Liquid	06/05/2023	1:00AM	
233195	MFK E5 BW	Liquid	06/05/2023	1:00AM	
233196	MFK B2 BW	Liquid	06/05/2023	1:00AM	
233197	MFK B3 BW	Liquid	06/05/2023	1:00AM	
233509	E1 Filtered 1	Liquid	06/05/2023		
233510	E1 Filtered 2	Liquid	06/05/2023		
233511	E1 Unfiltered	Liquid	06/05/2023		
233512	E2 Filtered 1	Liquid	06/05/2023		
233513	E2 Filtered 2	Liquid	06/05/2023		
233514	E2 Unfiltered	Liquid	06/05/2023		
233515	E3 Filtered 1	Liquid	06/05/2023		
233516	E3 Filtered 2	Liquid	06/05/2023		
233517	E3 Unfiltered	Liquid	06/05/2023		
233518	E4 Filtered 1	Liquid	06/05/2023		
233519	E4 Filtered 2	Liquid	06/05/2023		
233520	E4 Unfiltered	Liquid	06/05/2023		
233521	E5 Filtered 1	Liquid	06/05/2023		
233522	E5 Filtered 2	Liquid	06/05/2023		
233523	E5 Unfiltered	Liquid	06/05/2023		
233524	B1 Filtered 1	Liquid	06/05/2023		
233525	B1 Filtered 2	Liquid	06/05/2023		
233526	B1 Unfiltered	Liquid	06/05/2023		
233527	B2 Filtered 1	Liquid	06/05/2023		
233528	B2 Filtered 2	Liquid	06/05/2023		
233529	B2 Unfiltered	Liquid	06/05/2023		

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233530	B3 Filtered 1	Liquid	06/05/2023
233531	B3 Filtered 2	Liquid	06/05/2023
233532	B3 Unfiltered	Liquid	06/05/2023

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 232977, 232979, 232981, 232983, 232985, 232987, 232989, 232991 were sent to ALS Environmental Laboratory (NATA Accreditation no: 825) for the analysis of EP202A: Phenoxycetic-Acid Herbicides by LCMS, EP202S: Phenoxycetic Acid Herbicide Surrogate, EP204: Glyphosate and AMPA. This report summarises data from the attached external report: ES2315347, dated 16-May-2023.
- Samples 233509 to 233532 were sent to ALS Environmental Laboratory (NATA Accreditation no: 825) for the analysis of EK055G: Ammonia as N by Discrete Analyser, EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser, EK061G: Total Kjeldahl Nitrogen By Discrete Analyser, EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser, EK067 G: Total Phosphorus as P by Discrete Analyser, EK071G: Reactive Phosphorus as P by discrete analyser. This report summarises data from the attached external report: ES23162 51, dated 22-May-2023.
- Samples 232978, 232980, 232982, 232984, 232986, 232988, 232990, 232992, were sent to Sydney Water Laboratory Services (NATA Accreditation no: 63 and 610) for the analysis of Blue-Green Algal ID and Enumeration. Please see detailed results in the attached Phytoplankton Analysis Report no. 285314 dated 29 May 2023. Samples 232993 to 233000 were sent to Sydney Water Laboratory Services (NATA Accreditation no: 63 and 610) for the analysis of Algal Toxins. Please the attached Analytical Report No: 285314 dated 29 May 2023, which gives Algal Toxins analysis results and the Blue-Green Algal ID and Enumeration summary results.
- Samples 233191, 233192, 233193, 233194, 233195, 233196 and 233197 were analysed outside the method holding time for Total suspended solids .

Analysis Results - External Methods*
Area - EXTERNAL

Analyte	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID
Algal Enumeration	-			232993	12/05/2023	E1-1	232978	26/05/2023	E1-2	232994	12/05/2023	E2-1	232980	26/05/2023	E2-2
Algal Identification	-														
Algal Toxins	-														

Analysis Results - External Methods*
Area - EXTERNAL

Analyte	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID
Algal Enumeration	-			232992	26/05/2023	B3-2
Algal Identification	-					
Algal Toxins	-					

Analysis Results - External Methods*
Area - EXTERNAL

Analyte	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID
Ammonia as N				233509	17/05/2023	E1 Filtered 1	233510	17/05/2023	E1 Filtered 2	233511	17/05/2023	E1	233512	17/05/2023	E2 Filtered 1
Nitrite-Nitrate as N	mg/L	0.05													
Reactive Phosphorus as P	mg/L	<0.01													
Total Kjeldahl Nitrogen as N	mg/L	0.04													
Total Nitrogen as N	mg/L														
Total Phosphorus as P	mg/L														

Analysis Results - External Methods*
Area - EXTERNAL

Analyte	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID	Sample ID	Start Date	Client ID
Ammonia as N				233521	17/05/2023	E5 Filtered 1	233522	17/05/2023	E5 Filtered 2	233523	17/05/2023	E5	233524	17/05/2023	B1 Filtered 1
Nitrite-Nitrate as N	mg/L	0.04													
Reactive Phosphorus as P	mg/L	0.03													
Total Kjeldahl Nitrogen as N	mg/L	0.10													
Total Nitrogen as N	mg/L														
Total Phosphorus as P	mg/L														

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Analysis Results - External Methods*

Area - EXTERNAL

Analyte	Sample ID	Start Date	Client ID	232977	232979	232981	232983	232985	232987	232989	232991
				11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023
				E1-1	E2-1	E3-1	E4-1	E5-1	B1-1	B2-1	B3-1
2,4,5-T				<10	<10	<10	<10	<10	<10	<10	<10
2,4,6-T				<10	<10	<10	<10	<10	<10	<10	<10
2,4-D				<10	<10	<10	<10	<10	<10	<10	<10
2,4-DB				<10	<10	<10	<10	<10	<10	<10	<10
2,4-DP				<10	<10	<10	<10	<10	<10	<10	<10
2,6-D				<10	<10	<10	<10	<10	<10	<10	<10
4-Chlorophenoxy acetic acid				<10	<10	<10	<10	<10	<10	<10	<10
AMPA				<10	<10	<10	<10	<10	<10	<10	<10
Clopyralid				<10	<10	<10	<10	<10	<10	<10	<10
Dicamba				<10	<10	<10	<10	<10	<10	<10	<10
Fluroxypyr				<10	<10	<10	<10	<10	<10	<10	<10
Glyphosate				<10	<10	<10	<10	<10	<10	<10	<10
MCPA				<10	<10	<10	<10	<10	<10	<10	<10
MCPB				<10	<10	<10	<10	<10	<10	<10	<10
Mecoprop				<10	<10	<10	<10	<10	<10	<10	<10
Picloram				<10	<10	<10	<10	<10	<10	<10	<10
Silvex (2,4,5-TP/Fenoprop)				<10	<10	<10	<10	<10	<10	<10	<10
Tridopyr				<10	<10	<10	<10	<10	<10	<10	<10

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