



Corporate Accreditation No 63
Accredited for compliance with ISO/IEC 17025 - Testing



Analytical Report 284604

Issue Date: 16/05/2023
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CONTENTS

1. Sydney Water Approved Signatory
2. Sample Summary
3. Analytical results
4. Comments
5. Laboratory QC results

Sydney Water Approved Signatory

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Where a result is required to meet a compliance limit or specification the associated uncertainty must be considered. Uncertainty estimates are available for all accredited test results.

SAMPLE SUMMARY

<u>Client Sample ID</u>	<u>Sample Number</u>	<u>Sampling Procedure</u>	<u>Date Sampled</u>	<u>Date Received</u>	<u>Date Authorised</u>	<u>Description</u>
232653	L23036208	1	26/04/2023	01/05/2023	16/05/2023	B1 (ENVIRONMENTAL WATER)
232654	L23036209	1	26/04/2023	01/05/2023	03/05/2023	B1 (ENVIRONMENTAL WATER)
232657	L23036210	1	26/04/2023	01/05/2023	16/05/2023	B2 (ENVIRONMENTAL WATER)
232658	L23036211	1	26/04/2023	01/05/2023	03/05/2023	B2 (ENVIRONMENTAL WATER)
232661	L23036212	1	26/04/2023	01/05/2023	16/05/2023	E1 (ENVIRONMENTAL WATER)
232662	L23036213	1	26/04/2023	01/05/2023	03/05/2023	E1 (ENVIRONMENTAL WATER)
232665	L23036214	1	26/04/2023	01/05/2023	16/05/2023	E2 (ENVIRONMENTAL WATER)
232666	L23036215	1	26/04/2023	01/05/2023	03/05/2023	E2 (ENVIRONMENTAL WATER)
232669	L23036216	1	26/04/2023	01/05/2023	16/05/2023	E3 (ENVIRONMENTAL WATER)
232670	L23036217	1	26/04/2023	01/05/2023	03/05/2023	E3 (ENVIRONMENTAL WATER)
232673	L23036218	1	26/04/2023	01/05/2023	16/05/2023	E4 (ENVIRONMENTAL WATER)
232674	L23036219	1	26/04/2023	01/05/2023	03/05/2023	E4 (ENVIRONMENTAL WATER)
232677	L23036220	1	26/04/2023	01/05/2023	16/05/2023	E5 (ENVIRONMENTAL WATER)
232678	L23036221	1	26/04/2023	01/05/2023	03/05/2023	E5 (ENVIRONMENTAL WATER)
232681	L23036222	1	26/04/2023	01/05/2023	16/05/2023	B3 (ENVIRONMENTAL WATER)
232682	L23036223	1	26/04/2023	01/05/2023	03/05/2023	B3 (ENVIRONMENTAL WATER)

Sampling procedures

- 1 Samples analysed as received.
- 2 Samples collected as per FS procedures SAWI 070, Excluding Oil & Grease which is collected as per clients instructions.
- 3 Samples collected as per FS procedures SAWI 070.
- 4 Results reported as received from WNSW.

ANALYTICAL RESULTS

Client Sample ID	232653	232654	232657	232658	232661	232662	232665	232666
Sampled Date	26/04/2023 11:45:00 AM	26/04/2023 11:45:00 AM	26/04/2023 12:40:00 PM	26/04/2023 12:40:00 PM	26/04/2023 01:15:00 PM	26/04/2023 01:15:00 PM	26/04/2023 02:05:00 PM	26/04/2023 02:05:00 PM
Sample Number	L23036208	L23036209	L23036210	L23036211	L23036212	L23036213	L23036214	L23036215

ALGAL

MA71CENT : Blue-Green ID & Enumeration, Including ASU & Biovolumes

Blue Green ASU	ASU/mL	3858	-	3584	-	1091	-	2764	-
Blue Green Biovol	mm3/L	4.59	-	2.18	-	1.33	-	1.41	-
Potentially Toxic Blue Green	cells/mL	2480	-	3270	-	1340	-	5300	-
Potentially Toxic Blue Green ASU	ASU/mL	150.4	-	166.4	-	101.5	-	184.8	-
Potentially Toxic Blue Green Biovol	mm3/L	0.229	-	0.231	-	0.167	-	0.222	-
Total Blue Green	cells/mL	1610000	-	1642000	-	443300	-	1207000	-

MA91 : Individual Species Total Count, Total BioVol, Total ASU

Algae Source*	N/A	EXTERNAL	-	EXTERNAL	-	EXTERNAL	-	EXTERNAL	-
Date of Performance	DD/MM/YY	16/05/23 00:00		16/05/23 00:00		16/05/23 00:00		16/05/23 00:00	

ORGANICS

TC0049DW : Algal Toxins

* Indicates NATA accreditation does not cover the performance of this service

"-" = Not required or refer to Laboratory comment

Client Sample ID		232653	232654	232657	232658	232661	232662	232665	232666
Sampled Date		26/04/2023 11:45:00 AM	26/04/2023 11:45:00 AM	26/04/2023 12:40:00 PM	26/04/2023 12:40:00 PM	26/04/2023 01:15:00 PM	26/04/2023 01:15:00 PM	26/04/2023 02:05:00 PM	26/04/2023 02:05:00 PM
Sample Number		L23036208	L23036209	L23036210	L23036211	L23036212	L23036213	L23036214	L23036215
ORGANICS									
TC0049DW : Algal Toxins(Continued)									
Anatoxin-a(extracellular)	ug/L	-	<0.1	-	<0.1	-	<0.1	-	<0.1
Anatoxin-a(intracellular)	ug/L	-	<0.1	-	<0.1	-	<0.1	-	<0.1
Cylindrospermopsin (extracellular)	ug/L	-	0.17	-	0.10	-	0.10	-	0.09
Cylindrospermopsin (intracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Microcystin LR(extracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Microcystin LR(intracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Microcystin RR(extracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Microcystin RR(intracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Microcystin YR(extracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05

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Client Sample ID	232653	232654	232657	232658	232661	232662	232665	232666
Sampled Date	26/04/2023 11:45:00 AM	26/04/2023 11:45:00 AM	26/04/2023 12:40:00 PM	26/04/2023 12:40:00 PM	26/04/2023 01:15:00 PM	26/04/2023 01:15:00 PM	26/04/2023 02:05:00 PM	26/04/2023 02:05:00 PM
Sample Number	L23036208	L23036209	L23036210	L23036211	L23036212	L23036213	L23036214	L23036215

ORGANICS

TC0049DW : Algal Toxins(Continued)

Microcystin YR(intracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Nodularin (extracellular)	ug/L	-	<0.1	-	<0.1	-	<0.1	-	<0.1
Nodularin (intracellular)	ug/L	-	<0.1	-	<0.1	-	<0.1	-	<0.1
Date of Performance	DD/MM/YY		02/05/23		02/05/23		02/05/23		02/05/23

Client Sample ID	232669	232670	232673	232674	232677	232678	232681	232682
Sampled Date	26/04/2023 02:45:00 PM	26/04/2023 02:45:00 PM	26/04/2023 03:35:00 PM	26/04/2023 03:35:00 PM	26/04/2023 04:05:00 PM	26/04/2023 04:05:00 PM	26/04/2023 03:45:00 PM	26/04/2023 03:45:00 PM
Sample Number	L23036216	L23036217	L23036218	L23036219	L23036220	L23036221	L23036222	L23036223

ALGAL

MA71CENT : Blue-Green ID & Enumeration, Including ASU & Biovolumes

Blue Green ASU	ASU/mL	2409	-	1970	-	1483	-	932.8	-
Blue Green Biovol	mm3/L	1.61	-	3.24	-	0.679	-	0.257	-

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Client Sample ID	232669	232670	232673	232674	232677	232678	232681	232682
Sampled Date	26/04/2023 02:45:00 PM	26/04/2023 02:45:00 PM	26/04/2023 03:35:00 PM	26/04/2023 03:35:00 PM	26/04/2023 04:05:00 PM	26/04/2023 04:05:00 PM	26/04/2023 03:45:00 PM	26/04/2023 03:45:00 PM
Sample Number	L23036216	L23036217	L23036218	L23036219	L23036220	L23036221	L23036222	L23036223

ALGAL

MA71CENT : Blue-Green ID & Enumeration, Including ASU & Biovolumes(Continued)

Potentially Toxic Blue Green	cells/mL	2610	-	2930	-	2310	-	0	-
Potentially Toxic Blue Green ASU	ASU/mL	111.8	-	105.3	-	80.9	-	0.00	-
Potentially Toxic Blue Green Biovol	mm3/L	0.147	-	0.119	-	0.087	-	0.000	-
Total Blue Green	cells/mL	877200	-	804400	-	682200	-	493100	-

MA91 : Individual Species Total Count, Total BioVol, Total ASU

Algae Source*	N/A	EXTERNAL	-	EXTERNAL	-	EXTERNAL	-	EXTERNAL	-
Date of Performance	DD/MM/YY	16/05/23 00:00		16/05/23 00:00		16/05/23 00:00		16/05/23 00:00	

ORGANICS

TC0049DW : Algal Toxins

Anatoxin-a(extracellular)	ug/L	-	<0.1	-	<0.1	-	<0.1	-	<0.1
Anatoxin-a(intracellular)	ug/L	-	<0.1	-	<0.1	-	<0.1	-	<0.1

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Client Sample ID	232669	232670	232673	232674	232677	232678	232681	232682
Sampled Date	26/04/2023 02:45:00 PM	26/04/2023 02:45:00 PM	26/04/2023 03:35:00 PM	26/04/2023 03:35:00 PM	26/04/2023 04:05:00 PM	26/04/2023 04:05:00 PM	26/04/2023 03:45:00 PM	26/04/2023 03:45:00 PM
Sample Number	L23036216	L23036217	L23036218	L23036219	L23036220	L23036221	L23036222	L23036223

ORGANICS

TC0049DW : Algal Toxins(Continued)

Cylindrospermopsin (extra cellular)	ug/L	-	0.08	-	0.07	-	0.05	-	<0.05
Cylindrospermopsin (intra cellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Microcystin LR(extracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Microcystin LR(intracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Microcystin RR(extracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Microcystin RR(intracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Microcystin YR(extracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Microcystin YR(intracellular)	ug/L	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Nodularin (extracellular)	ug/L	-	<0.1	-	<0.1	-	<0.1	-	<0.1

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Client Sample ID	232669	232670	232673	232674	232677	232678	232681	232682	
Sampled Date	26/04/2023 02:45:00 PM	26/04/2023 02:45:00 PM	26/04/2023 03:35:00 PM	26/04/2023 03:35:00 PM	26/04/2023 04:05:00 PM	26/04/2023 04:05:00 PM	26/04/2023 03:45:00 PM	26/04/2023 03:45:00 PM	
Sample Number	L23036216	L23036217	L23036218	L23036219	L23036220	L23036221	L23036222	L23036223	
ORGANICS									
TC0049DW : Algal Toxins(Continued)									
Nodularin (intracellular)	ug/L	-	<0.1	-	<0.1	-	<0.1	-	<0.1
Date of Performance	DD/MM/YY		02/05/23		02/05/23		02/05/23		02/05/23

COMMENTS

<u>Sample ID</u>	<u>Comment Level</u>	<u>Method</u>	<u>Test</u>	<u>Comment</u>
L23036208	Method	MA91	-	Debris present in the sample.
L23036210	Method	MA91	-	Debris present in the sample.
L23036212	Method	MA91	-	Debris present in the sample.
L23036214	Method	MA91	-	Debris present in the sample.
L23036216	Method	MA91	-	Debris present in the sample.
L23036218	Method	MA91	-	Debris present in the sample.
L23036220	Method	MA91	-	Debris present in the sample.
L23036222	Method	MA91	-	Debris present in the sample.

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LABORATORY QC RESULTS

N/A - Not Applicable

PQL - Practical Quantitation Limit

LOQ - Limit of Quantification

RPD - Relative Percent Difference

SPIKE/Positive Control - Addition of a known amount and concentration

Duplicate Precision = Accepted - Result 2 within 95% confidence limits of result 1

Duplicate Precision = Outlier - Result 2 outside 95% confidence limits of result 1

Duplicate Precision = Not calculated - Result is outside test range

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LOQ	Blank	Control <i>Acceptance Criteria</i>	Spike <i>Acceptance Criteria</i>	Duplicate1	Duplicate2	RPD <i>Acceptance Criteria</i>
TC0049DW Anatoxin-a(extracellular)						
<0.1 ug/L	<0.1	91 <i>50.0 - 120.0 ug/L</i>	94 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.1	<0.1	B <i>0.0 - 0.0 %</i>
TC0049DW Anatoxin-a(intracellular)						
<0.1 ug/L	F		E	<0.1	<0.1	B <i>0.0 - 0.0 %</i>
TC0049DW Cylindrospermopsin (extracellular)						
<0.05 ug/L	<0.05	88 <i>50.0 - 120.0 ug/L</i>	91 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.05	<0.05	B <i>0.0 - 0.0 %</i>
TC0049DW Cylindrospermopsin (intracellular)						
<0.05 ug/L	F		E	<0.05	<0.05	B <i>0.0 - 0.0 %</i>
TC0049DW Microcystin LR(extracellular)						
<0.05 ug/L	<0.05	70 <i>50.0 - 120.0 ug/L</i>	62 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.05	<0.05	B <i>0.0 - 0.0 %</i>
TC0049DW Microcystin LR(intracellular)						
<0.05 ug/L	F		E	0.08	0.08	B <i>0.0 - 0.0 %</i>

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LOQ	Blank	Control <i>Acceptance Criteria</i>	Spike <i>Acceptance Criteria</i>	Duplicate1	Duplicate2	RPD <i>Acceptance Criteria</i>
TC0049DW Microcystin RR(extracellular)						
<0.05 ug/L	<0.05	71 50.0 - 120.0 ug/L	70 % Recovery 50.0 - 130.0 % Recovery	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Microcystin RR(intracellular)						
<0.05 ug/L	F		E	0.08	0.08	B 0.0 - 0.0 %
TC0049DW Microcystin YR(extracellular)						
<0.05 ug/L	<0.05	74 50.0 - 120.0 ug/L	66 % Recovery 50.0 - 130.0 % Recovery	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Microcystin YR(intracellular)						
<0.05 ug/L	F		E	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Nodularin (extracellular)						
<0.1 ug/L	<0.1	71 50.0 - 120.0 ug/L	70 % Recovery 50.0 - 130.0 % Recovery	<0.1	<0.1	B 0.0 - 0.0 %
TC0049DW Nodularin (intracellular)						
<0.1 ug/L	F		E	<0.1	<0.1	B 0.0 - 0.0 %

* Indicates NATA accreditation does not cover the performance of this service

Extra Note:

F: Blank is not applicable for this analyte

E: Spike is not applicable for this analyte

DUPLICATE Anatoxin-a(extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Anatoxin-a(intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Cylindrospermopsin (extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Cylindrospermopsin (intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin LR(extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin LR(intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin RR(extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin RR(intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin YR(extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin YR(intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Nodularin (extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Nodularin (intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

* Indicates NATA accreditation does not cover the performance of this service