Corporate Accreditation No 63

Accredited for compliance with ISO/IEC 17025 - Testing

Sydney WATER Laboratory Services

Analytical Report 288488

Delivery Address: Sydney Water Corporation
[redacted]
West Ryde NSW 2114

Telephone: [redacted]

Email: [redacted]

Issue Date: 26/07/2023

Issued By : [redacted], Commercial Client Representative

Attention: [redacted]

Customer: Department of Planning and Environment

Customer ID: ZOEH_1

Address: [redacted]

Telephone: [redacted]

Email: [redacted]

CONTENTS

Sydney Water Approved Signatory

[redacted], Phycology Analyst

[redacted], Phycology Analyst

[redacted], Organics Senior Analyst

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.

Sydney WATER Laboratory Services

SAMPLE SUMMARY

Client Sample ID	Sample Number	Sampling Procedure	Date Sampled	Date Received	Date Authorised	Description
235387	L23051614	1	15/06/2023	21/06/2023	29/06/2023	E12-3 (ENVIRONMENTAL WATER)
235388	L23051615	1	15/06/2023	21/06/2023	29/06/2023	E12-3 (ENVIRONMENTAL WATER)
235389	L23051616	1	15/06/2023	21/06/2023	29/06/2023	E12-3 (ENVIRONMENTAL WATER)
235396	L23051617	1	15/06/2023	21/06/2023	03/07/2023	E12-3 (ENVIRONMENTAL WATER)
235397	L23051618	1	15/06/2023	21/06/2023	03/07/2023	E12-3 (ENVIRONMENTAL WATER)
235398	L23051619	1	15/06/2023	21/06/2023	03/07/2023	E12-3 (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.

Sydney WATER Laboratory Services

ANALYTICAL RESULTS

Client Sample ID		235387	235388	235389	235396	235397	235398		
Sampled Date		15/06/2023 09:45:00 AM	15/06/2023 10:45:00 AM	15/06/2023 11:45:00 AM	15/06/2023 09:45:00 AM	15/06/2023 10:45:00 AM	15/06/2023 11:45:00 AM		
Sample Number		L23051614	L23051615	L23051616	L23051617	L23051618	L23051619		
ALGAL									
MA71CENT : Blue-Green ID & Enumeration, Including ASU & Biovolumes									
Blue Green ASU	ASU/mL	-	-	-	3591	473.2	1672		
Blue Green Biovol	mm3/L	-	-	-	4.59	0.294	1.21		
Potentially Toxic Blue Green	cells/mL	-	-	-	27920	537	3460		
Potentially Toxic Blue Green ASU	ASU/mL	-	-	-	1486	32.4	179.3		
Potentially Toxic Blue Green Biovol	mm3/L	-	-	-	1.98	0.046	0.244		
Total Blue Green	cells/mL	-	-	-	383000	201200	593600		
MA91 : Individual Species Total Count, Total BioVol, Total ASU									
Algae Source*	N/A	-	-	-	EXTERNAL	EXTERNAL	EXTERNAL		
Date of Performance	DD/MM/YY				03/07/23 00:00	03/07/23 00:00	03/07/23 00:00		
ORGANICS									
TC0049DW : Algal Toxins									

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

"-" = Not required or refer to Laboratory comment

Sydney WATER Laboratory Services

Client Sample ID		235387	235388	235389	235396	235397	235398		
Sampled Date		15/06/2023 09:45:00 AM	15/06/2023 10:45:00 AM	15/06/2023 11:45:00 AM	15/06/2023 09:45:00 AM	15/06/2023 10:45:00 AM	15/06/2023 11:45:00 AM		
Sample Number		L23051614	L23051615	L23051616	L23051617	L23051618	L23051619		
ORGANICS									
TC0049DW : Algal Toxins(Continued)									
Cylindrospermopsin (extra cellular)	ug/L	0.31	0.29	0.32	-	-	-		
Cylindrospermopsin (intra cellular)	ug/L	<0.05	<0.05	<0.05	-	-	-		
Anatoxin-a(extracellular)	ug/L	<0.1	<0.1	<0.1	-	-	-		
Anatoxin-a(intracellular)	ug/L	<0.1	<0.1	<0.1	-	-	-		
Nodularin (extracellular)	ug/L	<0.1	<0.1	<0.1	-	-	-		
Nodularin (intracellular)	ug/L	<0.1	<0.1	<0.1	-	-	-		
Microcystin RR(extracellular)	ug/L	<0.05	<0.05	<0.05	-	-	-		
Microcystin YR(extracellular)	ug/L	<0.05	<0.05	<0.05	-	-	-		
Microcystin LR(extracellular)	ug/L	<0.05	<0.05	<0.05	-	-	-		
Microcystin LR(intracellular)	ug/L	<0.05	<0.05	<0.05	-	-	-		

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Sample Number		L23051614	L23051615	L23051616	L23051617	L23051618	L23051619		
ORGANICS									
TC0049DW : Algal Toxins(Continued)									
Microcystin YR(intracellular)	ug/L	<0.05	<0.05	<0.05	-	-	-		
Microcystin RR(intracellular)	ug/L	<0.05	<0.05	<0.05	-	-	-		
Anatoxin-a(total)	ug/L	<0.1	<0.1	<0.1	-	-	-		
Cylindrospermopsin(total)	ug/L	0.33	0.30	0.34	-	-	-		
Microcystin LR(total)	ug/L	<0.05	<0.05	<0.05	-	-	-		
Microcystin RR(total)	ug/L	<0.05	<0.05	<0.05	-	-	-		
Microcystin YR(total)	ug/L	<0.05	<0.05	<0.05	-	-	-		
Nodularin (total)	ug/L	<0.1	<0.1	<0.1	-	-	-		
Date of Performance	DD/MM/YY	22/06/23	22/06/23	22/06/23					
TC0061DW : Paralytic Shellfish Toxins (PST) Analysis by UPLCMSMS									
Saxitoxin	ug/L	<0.4	<0.4	<0.4	-	-	-		
Neosaxitoxin	ug/L	<0.3	<0.3	<0.3	-	-	-		

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Sample Number		L23051614	L23051615	L23051616	L23051617	L23051618	L23051619		
ORGANICS									
TC0061DW : Paralytic Shellfish Toxins (PST) Analysis by UPLCMSMS(Continued)									
dcSTX	ug/L	<0.5	<0.5	<0.5	-	-	-		
C2	ug/L	<0.3	<0.3	<0.3	-	-	-		
GTX4	ug/L	<0.3	<0.3	<0.3	-	-	-		
GTX3	ug/L	<0.5	<0.5	<0.5	-	-	-		
GTX5	ug/L	<0.5	<0.5	<0.5	-	-	-		
dcNeo	ug/L	<0.5	<0.5	<0.5	-	-	-		
dcGTX3	ug/L	<0.3	<0.3	<0.3	-	-	-		
GTX6	ug/L	<0.3	<0.3	<0.3	-	-	-		
GTX2	ug/L	<1	<1	<1	-	-	-		
GTX1	ug/L	<0.5	<0.5	<0.5	-	-	-		
C1	ug/L	<0.5	<0.5	<0.5	-	-	-		
dcGTX2	ug/L	<0.5	<0.5	<0.5	-	-	-		

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Sample Number	L23051614	L23051615	L23051616	L23051617	L23051618	L23051619		
ORGANICS								
Date of Performance DD/MM/YY	27/06/23	27/06/23	27/06/23					

COMMENTS

Sample ID	Comment Level	Method	Test	Comment
L23051617	Method	MA91	-	Debris present in the sample.
L23051618	Method	MA91	-	Debris present in the sample.
L23051619	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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Sydney WATER Laboratory Services

LOQ	Blank	Control *Acceptance Criteria*	Spike *Acceptance Criteria*	Duplicate1	Duplicate2	RPD *Acceptance Criteria*
TC0049DW Anatoxin-a(extracellular)						
<0.1 ug/L	**<0.1**	**100** *50.0 - 120.0 ug/L*	**81 % Recovery** *50.0 - 130.0 % Recovery*	**<0.1**	**<0.1**	**B** *0.0 - 0.0 %*
TC0049DW Anatoxin-a(intracellular)						
<0.1 ug/L	**F**		**E**	**<0.1**	**<0.1**	**B** *0.0 - 0.0 %*
TC0049DW Anatoxin-a(total)						
<0.1 ug/L	**F**		**E**	**<0.1**	**<0.1**	**B** *0.0 - 0.0 %*
TC0049DW Cylindrospermopsin (extracellular)						
<0.05 ug/L	**<0.05**	**94** *50.0 - 120.0 ug/L*	**83 % Recovery** *50.0 - 130.0 % Recovery*	**0.37**	**0.34**	**B** *0.0 - 0.0 %*
TC0049DW Cylindrospermopsin (intracellular)						
<0.05 ug/L	**F**		**E**	**<0.05**	**<0.05**	**B** *0.0 - 0.0 %*
TC0049DW Cylindrospermopsin(total)						
<0.05 ug/L	**F**		**E**	**0.42**	**0.37**	**B** *0.0 - 0.0 %*

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Sydney WATER Laboratory Services

LOQ	Blank	Control *Acceptance Criteria*	Spike *Acceptance Criteria*	Duplicate1	Duplicate2	RPD *Acceptance Criteria*
TC0049DW Microcystin LR(extracellular)						
<0.05 ug/L	**<0.05**	**89** *50.0 - 120.0 ug/L*	**79 % Recovery** *50.0 - 130.0 % Recovery*	**<0.05**	**<0.05**	**B** *0.0 - 0.0 %*
TC0049DW Microcystin LR(intracellular)						
<0.05 ug/L	**F**		**E**	**<0.05**	**<0.05**	**B** *0.0 - 0.0 %*
TC0049DW Microcystin LR(total)						
<0.05 ug/L	**F**		**E**	**<0.05**	**<0.05**	**B** *0.0 - 0.0 %*
TC0049DW Microcystin RR(extracellular)						
<0.05 ug/L	**<0.05**	**100** *50.0 - 120.0 ug/L*	**75 % 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**	**<0.05**	**<0.05**	**B** *0.0 - 0.0 %*
TC0049DW Microcystin RR(total)						
<0.05 ug/L	**F**		**E**	**<0.05**	**<0.05**	**B** *0.0 - 0.0 %*
TC0049DW Microcystin YR(extracellular)						
<0.05 ug/L	**<0.05**	**100** *50.0 - 120.0 ug/L*	**85 % Recovery** *50.0 - 130.0 % Recovery*	**<0.05**	**<0.05**	**B** *0.0 - 0.0 %*

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Sydney WATER Laboratory Services

LOQ	Blank	Control *Acceptance Criteria*	Spike *Acceptance Criteria*	Duplicate1	Duplicate2	RPD *Acceptance Criteria*
TC0049DW Microcystin YR(intracellular)						
<0.05 ug/L	**F**		**E**	**<0.05**	**<0.05**	**B** *0.0 - 0.0 %*
TC0049DW Microcystin YR(total)						
<0.05 ug/L	**F**		**E**	**<0.05**	**<0.05**	**B** *0.0 - 0.0 %*
TC0049DW Nodularin (extracellular)						
<0.1 ug/L	**<0.1**	**96** *50.0 - 120.0 ug/L*	**89 % 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 %*
TC0049DW Nodularin (total)						
<0.1 ug/L	**F**		**E**	**<0.1**	**<0.1**	**B** *0.0 - 0.0 %*
TC0061DW C1						
<0.5 ug/L	**<0.5**	**110** *70.0 - 130.0 ug/L*	**81 % Recovery** *50.0 - 130.0 % Recovery*	**<0.5**	**<0.5**	**B** *0.0 - 0.0 %*
TC0061DW C2						
<0.3 ug/L	**<0.3**	**97** *70.0 - 130.0 ug/L*	**66 % Recovery** *50.0 - 130.0 % Recovery*	**<0.3**	**<0.3**	**B** *0.0 - 0.0 %*

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Sydney WATER Laboratory Services

LOQ	Blank	Control *Acceptance Criteria*	Spike *Acceptance Criteria*	Duplicate1	Duplicate2	RPD *Acceptance Criteria*
TC0061DW dcGTX2						
<0.5 ug/L	**<0.5**	**110** *70.0 - 130.0 ug/L*	**83 % Recovery** *50.0 - 130.0 % Recovery*	**<0.5**	**<0.5**	**B** *0.0 - 0.0 %*
TC0061DW dcGTX3						
<0.3 ug/L	**<0.3**	**120** *70.0 - 130.0 ug/L*	**63 % Recovery** *50.0 - 130.0 % Recovery*	**<0.3**	**<0.3**	**B** *0.0 - 0.0 %*
TC0061DW dcNeo						
<0.5 ug/L	**<0.5**	**110** *70.0 - 130.0 ug/L*	**57 % Recovery** *50.0 - 130.0 % Recovery*	**<0.5**	**<0.5**	**B** *0.0 - 0.0 %*
TC0061DW dcSTX						
<0.5 ug/L	**<0.5**	**110** *70.0 - 130.0 ug/L*	**68 % Recovery** *50.0 - 130.0 % Recovery*	**<0.5**	**<0.5**	**B** *0.0 - 0.0 %*
TC0061DW GTX1						
<0.5 ug/L	**<0.5**	**98** *70.0 - 130.0 ug/L*	**73 % Recovery** *50.0 - 130.0 % Recovery*	**<0.5**	**<0.5**	**B** *0.0 - 0.0 %*
TC0061DW GTX2						
<1 ug/L	**<1**	**100** *70.0 - 130.0 ug/L*	**79 % Recovery** *50.0 - 130.0 % Recovery*	**<1**	**<1**	**B** *0.0 - 0.0 %*
TC0061DW GTX3						
<0.5 ug/L	**<0.5**	**100** *70.0 - 130.0 ug/L*	**80 % Recovery** *50.0 - 130.0 % Recovery*	**<0.5**	**<0.5**	**B** *0.0 - 0.0 %*

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Sydney WATER Laboratory Services

LOQ	Blank	Control *Acceptance Criteria*	Spike *Acceptance Criteria*	Duplicate1	Duplicate2	RPD *Acceptance Criteria*
TC0061DW GTX4						
<0.3 ug/L	**<0.3**	**110** *70.0 - 130.0 ug/L*	**61 % Recovery** *50.0 - 130.0 % Recovery*	**<0.3**	**<0.3**	**B** *0.0 - 0.0 %*
TC0061DW GTX5						
<0.5 ug/L	**<0.5**	**130** *70.0 - 130.0 ug/L*	**78 % Recovery** *50.0 - 130.0 % Recovery*	**<0.5**	**<0.5**	**B** *0.0 - 0.0 %*
TC0061DW GTX6						
<0.3 ug/L	**<0.3**	**96** *70.0 - 130.0 ug/L*	**100 % Recovery** *50.0 - 130.0 % Recovery*	**<0.3**	**<0.3**	**B** *0.0 - 0.0 %*
TC0061DW Neosaxitoxin						
<0.3 ug/L	**<0.3**	**120** *70.0 - 130.0 ug/L*	**81 % Recovery** *50.0 - 130.0 % Recovery*	**<0.3**	**<0.3**	**B** *0.0 - 0.0 %*
TC0061DW Saxitoxin						
<0.4 ug/L	**<0.4**	**120** *70.0 - 130.0 ug/L*	**72 % Recovery** *50.0 - 130.0 % Recovery*	**<0.4**	**<0.4**	**B** *0.0 - 0.0 %*

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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 Anatoxin-a(total) 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 Cylindrospermopsin(total) 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 LR(total) 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 RR(total) 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 Microcystin YR(total) 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

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

DUPLICATE C1 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE C2 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE dcGTX2 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE dcGTX3 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE dcNeo B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE dcSTX B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX1 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX2 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX3 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX4 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX5 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX6 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Neosaxitoxin B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Saxitoxin B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

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