PHYTOPLANKTON ANALYSIS REPORT

Report no: 287711
Supercedes Report No:

Depth : N/A
Chlorophyll a: NA
Microcystin equivalents: NA
Date analysed: 10/07/2023
Analyst: [redacted]

Lims No: L23052682
Date Sampled: 21/06/2023
Client ID: 235516
Address: [redacted]
Site:

Client: Department of Planning and Environment

Method: MA70CENT

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Cyanophyta (Blue green)				
Coccoid Blue Green Picoplankton	586697	Filter clogging?	1,114.72	0.264
Subtotal	586697		1,114.72	0.264
Bacillariophyta (Diatom)				
Aulacoseira	604	Filter clogging	245.82	0.363
Cyclotella	3871	Filter clogging	263.22	0.301
Cyclotella/Stephanodiscus	2765	Filter clogging	147.92	0.219
Nitzschia	52		11.23	0.005
Synedra	17		10.09	0.009
Subtotal	7309		678.28	0.897
Euglenophyta (Euglenoid)				
Euglena	87	Discolouration of water	153.81	0.201
Subtotal	87		153.81	0.201
Chlorophyta (Green)				
Ankistrodesmus	2765		1,039.64	0.373
Chlamydomonas	553	Taste & Odour	44.24	0.047
Crucigenia	2212		17.69	0.042
Dictyosphaerium	6637		477.86	0.099
Kirchneriella	3318		165.90	0.063
Monoraphidium arcuatum	35		9.49	0.007
Monoraphidium cf	3318		88.92	0.064
Oocystis	1659		157.60	0.169
Planctonema	8800		730.40	0.994
Scenedesmus species 1	7301		569.47	0.400

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

PHYTOPLANKTON ANALYSIS REPORT

Report no: 287711
Supercedes Report No:

Depth : N/A
Chlorophyll a: NA
Microcystin equivalents: NA
Date analysed: 10/07/2023
Analyst: [redacted]

Lims No: L23052682
Date Sampled: 21/06/2023
Client ID: 235516
Address: [redacted]
Site:

Client: Department of Planning and Environment

Method: MA70CENT

Issued By : Sydney Water Laboratory Services
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TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Tetraedron	553		235.02	0.055
Subtotal	37151		3,536.23	2.313
Cryptophyta (Monad)				
Chroomonas	14380	Common after flood	3,451.20	3.566
Subtotal	14380		3,451.20	3.566

	Cells/ mL	ASU/ mL	Biovolume mm3/L
Total Blue Green	586700	1115.00	0.264
*** Potentially Toxic Blue Green**	0	0.00	0.000
*** Potentially Toxic Algae**	0	0.00	0.000
Total Algae	645600	8934.00	7.240

Comment:
Sample received unpreserved/ partially preserved, results may be compromised.Debris present in the sample.

*Taxa with potential to produce toxins.
ASU : One ASU (Area Standard Unit) equals 400µm² of algal cells (as cross sectional area)
Biovolume : Biovolume is calculated from cell linear dimensions. Guidelines based on Biovolume.
Coccoid Blue Green Picoplankton: *Aphanocapsa; Aphanothece; Cyanogranis; Cyanonephron; Cyanocatena; Gloeocapsa; Gloeothece ; Cyanodictyon*

Phycology

Sydney Water Approved Signatory:

[redacted], Supervisor

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.

Accreditation No.: 610 Biological testing
Accredited for compliance with ISO/IEC 17025

PHYTOPLANKTON ANALYSIS REPORT

Report no: 287711
Supercedes Report No:

Depth : N/A
Chlorophyll a: NA
Microcystin equivalents: NA
Date analysed: 10/07/2023
Analyst: [redacted]

Lims No: L23052683
Date Sampled: 21/06/2023
Client ID: 235517
Address: [redacted]
Site:

Client: Department of Planning and Environment

Method: MA70CENT

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Cyanophyta (Blue green)				
Anabaenopsis	278	Potentially toxic	19.18	0.032
Coccoid Blue Green Picoplankton	781156	Filter clogging?	1,484.19	0.352
Cuspidothrix issatschenkoi	2081		106.13	0.112
Dolichospermum affine	765		31.13	0.035
Dolichospermum cf planctonicum/smithii	607	Taste & Odour	69.38	0.153
Pseudanabaena	9178		73.42	0.091
Raphidiopsis raciborskii	1405	Potentially toxic, taste & odour	53.10	0.041
Sphaerospermopsis reniformis	278	Taste & Odour	11.14	0.012
Spirulina	1475		22.12	0.005
Subtotal	797223		1,869.79	0.833
Chrysophyta (Golden brown)				
Dichotomococcus	2950		36.87	0.024
Subtotal	2950		36.87	0.024
Bacillariophyta (Diatom)				
Aulacoseira	1202	Filter clogging	489.21	0.722
Cyclotella	5899	Filter clogging	401.13	0.460
Cyclotella/Stephanodiscus	737	Filter clogging	39.42	0.058
Cylindrotheca closterium	17		5.60	0.004
Gyrosigma	17		61.20	0.076
Nitzschia	35		7.56	0.003
Subtotal	7907		1,004.12	1.323
Euglenophyta (Euglenoid)				
Euglena	52	Discolouration of water	91.93	0.120

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

PHYTOPLANKTON ANALYSIS REPORT

Report no: 287711

Supercedes Report No:

Depth : N/A

Chlorophyll a: NA

Microcystin equivalents: NA

Date analysed: 10/07/2023

Lims No: L23052683

Date Sampled: 21/06/2023

Analyst: [redacted]

Client ID: 235517

Address: [redacted]

Site:

Client: Department of Planning and Environment

Method: MA70CENT

Issued By : Sydney Water Laboratory Services

Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Trachelomonas	17	Common after flood	47.70	0.038
Subtotal	69		139.63	0.158
Chlorophyta (Green)				
Actinastrum	5899		371.63	0.123
Ankistrodesmus	6637		2,495.51	0.895
Dictyosphaerium	8849		637.12	0.132
Kirchneriella	2212		110.60	0.042
Monoraphidium arcuatum	52		14.11	0.011
Monoraphidium cf	2950		79.06	0.057
Mougeotia	139	Filter clogging	496.09	1.137
Pediastrum	278		33.36	0.013
Planctonema	7135		592.20	0.806
Scenedesmus species 1	11946		931.78	0.655
Tetraedron	1475		626.87	0.147
Tetrastrum	2950		404.15	0.507
Subtotal	50522		6,792.48	4.525
Cryptophyta (Monad)				
Chroomonas	8849	Common after flood	2,123.76	2.194
Cryptomonas	1475	Common after flood, Taste & Odour	796.50	1.401
Subtotal	10324		2,920.26	3.595

	Cells/ mL	ASU/ mL	Biovolume mm3/L
Total Blue Green	**797200**	**1870.00**	**0.833**
*** Potentially Toxic Blue Green**	**1680**	**72.30**	**0.073**
*** Potentially Toxic Algae**	**1680**	**72.30**	**0.073**
Total Algae	**869000**	**12760.00**	**10.460**

Comment:

Sample received unpreserved/ partially preserved, results may be compromised.Debris present in the sample.

*Taxa with potential to produce toxins.
ASU : One ASU (Area Standard Unit) equals 400µm² of algal cells (as cross sectional area)
Biovolume : Biovolume is calculated from cell linear dimensions. Guidelines based on Biovolume.
Coccoid Blue Green Picoplankton: *Aphanocapsa; Aphanothece; Cyanogranis; Cyanonephron; Cyanocatena; Gloeocapsa; Gloeothece ; Cyanodictyon*

Phycology

Sydney Water Approved Signatory:

[redacted], Supervisor

NATA WORLD RECOGNISED ACCREDITATION

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.

Accreditation No.: 610 Biological testing
Accredited for compliance with ISO/IEC 17025

PHYTOPLANKTON ANALYSIS REPORT

Sydney WATER

Report no:	*287711*	*Depth :*	**N/A**
Supercedes Report No:		*Chlorophyll a:*	**NA**
		Microcystin equivalents:	**NA**
		Date analysed:	**11/07/2023**
Lims No: **L23052684**	***Date Sampled:***	**21/06/2023**	*Analyst:* [redacted]
Client ID: 235518	***Address:***	[redacted]	
Site:			

Client: **Department of Planning and Environment**

Method: **MA70CENT**

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Cyanophyta (Blue green)				
Anabaenopsis	1110	Potentially toxic	76.59	0.131
Coccoid Blue Green Picoplankton	936901	Filter clogging?	1,780.11	0.423
Cuspidothrix issatschenkoi	11724		597.92	0.636
Dolichospermum affine	10989		447.25	0.510
Dolichospermum cf planctonicum/smithii	5828	Taste & Odour	666.14	1.476
Non toxic Aphanizomenonaceae	1887	Taste & Odour	77.36	0.083
Planktolyngbya	10324	Filter clogging	103.24	0.825
Pseudanabaena	108503		868.02	1.085
Raphidiopsis raciborskii	10406	Potentially toxic, taste & odour	393.34	0.305
Sphaerospermopsis aphanizomenoides	11447		343.41	0.431
Subtotal	1109119		5,353.38	5.905
Bacillariophyta (Diatom)				
Aulacoseira	1804	Filter clogging	734.22	1.084
Cyclotella	21385	Filter clogging	1,454.18	1.668
Cyclotella species 4	69	Filter clogging	107.71	0.971
Cyclotella/Stephanodiscus	8923	Filter clogging	477.38	0.707
Cylindrotheca closterium	69		22.76	0.016
Nitzschia	347		74.95	0.035
Subtotal	32597		2,871.20	4.481
Euglenophyta (Euglenoid)				
Euglena	69	Discolouration of water	121.99	0.159
Subtotal	69		121.99	0.159
Chlorophyta (Green)				

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

PHYTOPLANKTON ANALYSIS REPORT

Sydney WATER

Report no:	*287711*	*Depth :*	**N/A**
Supercedes Report No:		*Chlorophyll a:*	**NA**
		Microcystin equivalents:	**NA**
		Date analysed:	**11/07/2023**
Lims No: **L23052684**	***Date Sampled:***	**21/06/2023**	*Analyst:* [redacted]
Client ID: 235518	***Address:***	[redacted]	
Site:			

Client: **Department of Planning and Environment**

Method: **MA70CENT**

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Actinastrum	**555**		**34.96**	**0.011**
Ankistrodesmus	**3687**		**1,386.31**	**0.497**
Dictyosphaerium	**17698**		**1,274.25**	**0.265**
Kirchneriella	**5088**		**254.40**	**0.096**
Koliella	**6489**	**Filter clogging**	**97.33**	**0.010**
Monoraphidium arcuatum	**69**		**18.72**	**0.014**
Monoraphidium cf	**6637**		**177.87**	**0.129**
Mougeotia	**1797**	**Filter clogging**	**6,413.49**	**14.706**
Oocystis	**2950**		**280.25**	**0.300**
Pediastrum	**208**		**24.96**	**0.009**
Planctonema	**8304**		**689.23**	**0.938**
Scenedesmus species 1	**8849**		**690.22**	**0.485**
Staurastrum	**139**		**735.44**	**0.288**
Tetraedron	**1475**		**626.87**	**0.147**
Subtotal	**63945**		**12,704.30**	**17.895**
Cryptophyta (Monad)				
Chroomonas	**2212**	**Common after flood**	**530.88**	**0.548**
Cryptomonas	**737**	**Common after flood, Taste & Odour**	**397.98**	**0.700**
Subtotal	**2949**		**928.86**	**1.248**

SWC, [redacted]d
(PO Box 73) West Ryde NSW 2114

	Cells/ mL	ASU/ mL	Biovolume mm3/L
Total Blue Green	**1109000**	**5353.00**	**5.910**
*** Potentially Toxic Blue Green**	**11520**	**469.90**	**0.436**
*** Potentially Toxic Algae**	**11520**	**469.90**	**0.436**
Total Algae	**1209000**	**21980.00**	**29.690**

Comment:

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ASU : One ASU (Area Standard Unit) equals 400µm² of algal cells (as cross sectional area)
Biovolume : Biovolume is calculated from cell linear dimensions. Guidelines based on Biovolume.
Coccoid Blue Green Picoplankton: *Aphanocapsa; Aphanothece; Cyanogranis; Cyanonephron; Cyanocatena; Gloeocapsa; Gloeothece ; Cyanodictyon*

Phycology

Sydney Water Approved Signatory:

[redacted], Supervisor

NATA
WORLD RECOGNISED ACCREDITATION

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PHYTOPLANKTON ANALYSIS REPORT

Sydney WATER

Report no:	*287711*	*Depth :*	**N/A**
Supercedes Report No:		*Chlorophyll a:*	**NA**
		Microcystin equivalents:	**NA**
		Date analysed:	**11/07/2023**
Lims No: **L23052685**	***Date Sampled:***	**21/06/2023**	*Analyst:* [redacted]
Client ID: 235519	***Address:***	[redacted]	
Site:			

Client: **Department of Planning and Environment**

Method: **MA70CENT**

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Cyanophyta (Blue green)				
Anabaenopsis	**869**	**Potentially toxic**	**59.96**	**0.103**
Coccoid Blue Green Picoplankton	**672976**	**Filter clogging?**	**1,278.65**	**0.303**
Cuspidothrix issatschenkoi	**50882**		**2,594.98**	**2.761**
Dolichospermum affine	**6637**		**270.12**	**0.308**
Dolichospermum cf planctonicum/smithii	**23764**	**Taste & Odour**	**2,716.22**	**6.020**
Dolichospermum circinale	**1509**	**Potentially toxic, taste & odour**	**131.13**	**0.262**
Merismopedia	**13274**		**13.27**	**0.111**
Microcystis	**1936**	**Potentially toxic, taste & odour**	**54.40**	**0.053**
Pseudanabaena	**68581**		**548.64**	**0.685**
Raphidiopsis raciborskii	**71844**	**Potentially toxic, taste & odour**	**2,715.70**	**2.107**
Sphaerospermopsis aphanizomenoides	**16592**		**497.76**	**0.625**
Subtotal	**928864**		**10,880.83**	**13.338**
Bacillariophyta (Diatom)				
Aulacoseira	**1478**	**Filter clogging**	**601.54**	**0.888**
Cyclotella	**11559**	**Filter clogging**	**786.01**	**0.901**
Cyclotella species 4	**121**	**Filter clogging**	**188.89**	**1.704**
Cyclotella/Stephanodiscus	**1659**	**Filter clogging**	**88.75**	**0.131**
Cylindrotheca closterium	**225**		**74.22**	**0.055**
Gyrosigma	**35**		**126.00**	**0.158**
Nitzschia	**125**		**27.00**	**0.012**
Synedra	**35**		**20.79**	**0.019**
Subtotal	**15237**		**1,913.20**	**3.868**
Euglenophyta (Euglenoid)				
Euglena	**52**	**Discolouration of water**	**91.93**	**0.120**

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

PHYTOPLANKTON ANALYSIS REPORT

Sydney WATER

Report no:	*287711*	*Depth :*	**N/A**
Supercedes Report No:		*Chlorophyll a:*	**NA**
		Microcystin equivalents:	**NA**
		Date analysed:	**11/07/2023**
Lims No: **L23052685**	***Date Sampled:***	**21/06/2023**	*Analyst:* [redacted]
Client ID: 235519	***Address:***	[redacted]	
Site:			

Client: **Department of Planning and Environment**

Method: **MA70CENT**

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Subtotal	**52**		**91.93**	**0.120**
Chlorophyta (Green)				
Actinastrum	**312**		**19.65**	**0.006**
Ankistrodesmus	**3318**		**1,247.56**	**0.447**
Closteriopsis	**52**		**424.32**	**0.272**
Dictyosphaerium	**22067**		**1,588.82**	**0.331**
Kirchneriella	**13440**		**672.00**	**0.255**
Koliella	**3871**	**Filter clogging**	**58.06**	**0.006**
Lagerheimia	**17**		**3.28**	**0.004**
Monoraphidium arcuatum	**104**		**28.22**	**0.022**
Monoraphidium cf	**4425**		**118.59**	**0.086**
Mougeotia	**1405**	**Filter clogging**	**5,014.44**	**11.498**
Oocystis	**3816**		**362.52**	**0.389**
Pediastrum	**208**		**24.96**	**0.009**
Planctonema	**4425**		**367.27**	**0.500**
Scenedesmus species 1	**10619**		**828.28**	**0.582**
Staurastrum	**83**		**439.15**	**0.172**
Tetraedron	**2212**		**940.10**	**0.221**
Subtotal	**70374**		**12,137.22**	**14.800**
Cryptophyta (Monad)				
Chroomonas	**7190**	**Common after flood**	**1,725.60**	**1.783**
Cryptomonas	**399**	**Common after flood, Taste & Odour**	**215.46**	**0.379**
Subtotal	**7589**		**1,941.06**	**2.162**

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

	Cells/ mL	ASU/ mL	Biovolume mm3/L
Total Blue Green	**928900**	**10880.00**	**13.340**
*** Potentially Toxic Blue Green**	**76160**	**2961.00**	**2.530**
*** Potentially Toxic Algae**	**76160**	**2961.00**	**2.530**
Total Algae	**1022000**	**26960.00**	**34.290**

Comment:

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Biovolume : Biovolume is calculated from cell linear dimensions. Guidelines based on Biovolume.
Coccoid Blue Green Picoplankton: *Aphanocapsa; Aphanothece; Cyanogranis; Cyanonephron; Cyanocatena; Gloeocapsa; Gloeothece ; Cyanodictyon*

Phycology

Sydney Water Approved Signatory:

[redacted], Supervisor

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Accredited for compliance with ISO/IEC 17025

PHYTOPLANKTON ANALYSIS REPORT

Sydney WATER

Report no:	*287711*	*Depth :*	**N/A**
Supercedes Report No:		*Chlorophyll a:*	**NA**
		Microcystin equivalents:	**NA**
		Date analysed:	**10/07/2023**
Lims No: **L23052686**	***Date Sampled:***	**21/06/2023**	*Analyst:* [redacted]
Client ID: 235520	***Address:***	[redacted]	
Site:			

Client: **Department of Planning and Environment**

Method: **MA70CENT**

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Cyanophyta (Blue green)				
Anagnostidinema	486		14.67	0.008
Coccoid Blue Green Picoplankton	966324	Filter clogging?	1,836.01	0.436
Dolichospermum affine	1041		42.36	0.048
Dolichospermum circinale	347	Potentially toxic, taste & odour	30.15	0.060
Myxobaktron	2212		38.93	0.011
Planktolyngbya	8849	Filter clogging	88.49	0.707
Pseudanabaena	1374		10.99	0.013
Raphidiopsis raciborskii	916	Potentially toxic, taste & odour	34.62	0.026
Sphaerospermopsis aphanizomenoides	3219		96.57	0.121
Sphaerospermopsis reniformis	104	Taste & Odour	4.17	0.004
Spirulina	2212		33.18	0.008
Subtotal	987084		2,230.14	1.442
Chrysophyta (Golden brown)				
Dichotomococcus	2950		36.87	0.024
Subtotal	2950		36.87	0.024
Bacillariophyta (Diatom)				
Aulacoseira	5240	Filter clogging	2,132.68	3.149
Cyclotella	7374	Filter clogging	501.43	0.575
Cyclotella species 4	156	Filter clogging	243.53	2.197
Cyclotella/Stephanodiscus	8112	Filter clogging	433.99	0.642
Cylindrotheca closterium	434		143.17	0.106
Navicula	278		373.91	0.469
Nitzschia	347		74.95	0.035

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

PHYTOPLANKTON ANALYSIS REPORT

Report no: 287711
Supercedes Report No:

Depth : N/A
Chlorophyll a: NA
Microcystin equivalents: NA
Date analysed: 10/07/2023
Analyst: [redacted]

Lims No: L23052686
Date Sampled: 21/06/2023
Client ID: 235520
Address: [redacted]
Site:

Client: Department of Planning and Environment

Method: MA70CENT

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Subtotal	21941		3,903.66	7.173
Dinophyta (Dinoflagellate)				
Peridinium species 2	121		526.71	6.256
Subtotal	121		526.71	6.256
Euglenophyta (Euglenoid)				
Euglena	87	Discolouration of water	153.81	0.201
Strombomonas	17		13.68	0.003
Subtotal	104		167.49	0.204
Chlorophyta (Green)				
Actinastrum	156		9.82	0.003
Ankistrodesmus	8849		3,327.22	1.194
Chlamydomonas	737	Taste & Odour	58.96	0.062
Crucigenia	2950		23.60	0.056
Dictyosphaerium	2950		212.40	0.044
Kirchneriella	5162		258.10	0.098
Koliella	2950	Filter clogging	44.25	0.004
Monoraphidium arcuatum	69		18.72	0.014
Monoraphidium cf	17698		474.30	0.346
Oocystis	1475		140.12	0.150
Pediastrum	312		37.44	0.014
Planctonema	3070		254.81	0.346
Scenedesmus species 1	13937		1,087.08	0.764
Staurastrum	35		185.18	0.072
Tetraedron	2950		1,253.75	0.295
Subtotal	63300		7,385.75	3.462

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

PHYTOPLANKTON ANALYSIS REPORT

Report no:	*287711*	*Depth :*	**N/A**
Supercedes Report No:		*Chlorophyll a:*	**NA**
		Microcystin equivalents:	**NA**
		Date analysed:	**10/07/2023**
Lims No: **L23052686**	***Date Sampled:***	**21/06/2023**	*Analyst:* [redacted]
Client ID: 235520	***Address:***	[redacted]	
Site:			

Client: **Department of Planning and Environment**

Method: **MA70CENT**

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Cryptophyta (Monad)				
Chroomonas	**2950**	**Common after flood**	**708.00**	**0.731**
Subtotal	**2950**		**708.00**	**0.731**

	Cells/ mL	ASU/ mL	Biovolume mm3/L
Total Blue Green	**987100**	**2230.00**	**1.440**
*** Potentially Toxic Blue Green**	**1260**	**64.80**	**0.086**
*** Potentially Toxic Algae**	**1260**	**64.80**	**0.086**
Total Algae	**1078000**	**14960.00**	**19.290**

Comment:
Sample received unpreserved/ partially preserved, results may be compromised.Debris present in the sample.

*Taxa with potential to produce toxins.
ASU : One ASU (Area Standard Unit) equals 400µm² of algal cells (as cross sectional area)
Biovolume : Biovolume is calculated from cell linear dimensions. Guidelines based on Biovolume.
Coccoid Blue Green Picoplankton: *Aphanocapsa; Aphanothece; Cyanogranis; Cyanonephron; Cyanocatena; Gloeocapsa; Gloeothece ; Cyanodictyon*

Phycology

Sydney Water Approved Signatory:

[redacted], Supervisor

Where a result is required to meet a compliance limit or specification the associated uncertainty must be considered.
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Accreditation No.: 610 Biological testing
Accredited for compliance with ISO/IEC 17025

PHYTOPLANKTON ANALYSIS REPORT

Sydney WATER

Report no:	*287711*	*Depth :*	**N/A**
Supercedes Report No:		*Chlorophyll a:*	**NA**
		Microcystin equivalents:	**NA**
		Date analysed:	**10/07/2023**
Lims No: **L23052687**	***Date Sampled:***	**21/06/2023**	*Analyst:* [redacted]
Client ID: 235521	***Address:***	[redacted]	
Site:			

Client: **Department of Planning and Environment**

Method: **MA70CENT**

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Cyanophyta (Blue green)				
Coccoid Blue Green Picoplankton	**1105698**	**Filter clogging?**	**2,100.82**	**0.499**
Merismopedia	**5899**		**5.89**	**0.049**
Microcystis	**1106**	**Potentially toxic, taste & odour**	**31.07**	**0.030**
Myxobaktron	**19173**		**337.44**	**0.096**
Non toxic Aphanizomenonaceae	**10101**	**Taste & Odour**	**414.14**	**0.449**
Planktolyngbya	**90851**	**Filter clogging**	**908.51**	**7.268**
Pseudanabaena	**23671**		**189.36**	**0.236**
Raphidiopsis raciborskii	**13736**	**Potentially toxic, taste & odour**	**519.22**	**0.402**
Sphaerospermopsis reniformis	**14749**	**Taste & Odour**	**591.43**	**0.684**
Spirulina	**5162**		**77.43**	**0.019**
Subtotal	**1290146**		**5,175.31**	**9.732**
Chrysophyta (Golden brown)				
Chrysochromulina	**8112**	**potentially ichthyotoxic - (?) toxic to fish**	**236.87**	**0.208**
Subtotal	**8112**		**236.87**	**0.208**
Bacillariophyta (Diatom)				
Aulacoseira	**562**	**Filter clogging**	**228.73**	**0.337**
Cyclotella	**5162**	**Filter clogging**	**351.01**	**0.402**
Cylindrotheca closterium	**486**		**160.33**	**0.119**
Nitzschia	**1457**		**314.71**	**0.147**
Synedra	**69**		**40.98**	**0.037**
Subtotal	**7736**		**1,095.76**	**1.042**
Dinophyta (Dinoflagellate)				
Peridinium species 1	**139**		**139.00**	**0.580**

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

PHYTOPLANKTON ANALYSIS REPORT

Report no: 287711

Supercedes Report No:

Depth : N/A

Chlorophyll a: NA

Microcystin equivalents: NA

Date analysed: 10/07/2023

Lims No: L23052687

Date Sampled: 21/06/2023

Analyst: [redacted]

Client ID: 235521

Address: [redacted]

Site:

Client: Department of Planning and Environment

Method: MA70CENT

Issued By : Sydney Water Laboratory Services

Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Subtotal	139		139.00	0.580
Euglenophyta (Euglenoid)				
Euglena	278	Discolouration of water	491.50	0.643
Trachelomonas	69	Common after flood	193.61	0.156
Subtotal	347		685.11	0.799
Chlorophyta (Green)				
Ankistrodesmus	2212		831.71	0.298
Koliella	9734	Filter clogging	146.01	0.015
Monoraphidium cf	5678		152.17	0.111
Oocystis	5088		483.36	0.518
Planctonema	5876		487.70	0.663
Staurastrum	69		365.07	0.143
Subtotal	28657		2,466.02	1.748

	Cells/ mL	ASU/ mL	Biovolume mm3/L
Total Blue Green	1290000	5175.00	9.730
*** Potentially Toxic Blue Green**	14840	550.30	0.432
*** Potentially Toxic Algae**	22950	787.20	0.640
Total Algae	1335000	9798.00	14.110

Comment:

Sample received unpreserved/ partially preserved, results may be compromised. Debris present.

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

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ASU : One ASU (Area Standard Unit) equals 400µm² of algal cells (as cross sectional area)
Biovolume : Biovolume is calculated from cell linear dimensions. Guidelines based on Biovolume.
Coccoid Blue Green Picoplankton: *Aphanocapsa; Aphanothece; Cyanogranis; Cyanonephron; Cyanocatena; Gloeocapsa; Gloeothece ; Cyanodictyon*

Phycology

Sydney Water Approved Signatory:

[redacted], Supervisor

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PHYTOPLANKTON ANALYSIS REPORT

Sydney WATER

Report no:	*287711*	*Depth :*	**N/A**
Supercedes Report No:		*Chlorophyll a:*	**NA**
		Microcystin equivalents:	**NA**
		Date analysed:	**10/07/2023**
Lims No: **L23052688**	***Date Sampled:***	**21/06/2023**	*Analyst:* [redacted]
Client ID: 235522	***Address:***	[redacted]	
Site:			

Client: **Department of Planning and Environment**

Method: **MA70CENT**

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Cyanophyta (Blue green)				
Coccoid Blue Green Picoplankton	**1288432**	**Filter clogging?**	**2,448.02**	**0.581**
Dolichospermum	**1596**	**Potentially toxic, taste & odour**	**145.87**	**0.258**
Dolichospermum circinale	**3538**	**Potentially toxic, taste & odour**	**307.45**	**0.614**
Subtotal	**1293566**		**2,901.34**	**1.453**
Chrysophyta (Golden brown)				
Chrysochromulina	**1475**	**potentially ichthyotoxic - (?) toxic to fish**	**43.07**	**0.037**
Subtotal	**1475**		**43.07**	**0.037**
Bacillariophyta (Diatom)				
Aulacoseira	**278**	**Filter clogging**	**113.14**	**0.167**
Subtotal	**278**		**113.14**	**0.167**
Chlorophyta (Green)				
Monoraphidium cf	**5162**		**138.34**	**0.100**
Planctonema	**13070**		**1,084.81**	**1.476**
Subtotal	**18232**		**1,223.15**	**1.576**

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

	Cells/ mL	ASU/ mL	Biovolume mm3/L
Total Blue Green	**1294000**	**2901.00**	**1.450**
*** Potentially Toxic Blue Green**	**5130**	**453.30**	**0.872**
*** Potentially Toxic Algae**	**6610**	**496.40**	**0.909**
Total Algae	**1314000**	**4281.00**	**3.230**

Comment:

Debris present in the sample.

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Coccoid Blue Green Picoplankton: *Aphanocapsa; Aphanothece; Cyanogranis; Cyanonephron; Cyanocatena; Gloeocapsa; Gloeothece ; Cyanodictyon*

Phycology

Sydney Water Approved Signatory:

[redacted], Supervisor

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PHYTOPLANKTON ANALYSIS REPORT

Report no: 287711
Supercedes Report No:

Depth : N/A
Chlorophyll a: NA
Microcystin equivalents: NA
Date analysed: 10/07/2023
Analyst: [redacted]

Lims No: L23052689
Date Sampled: 21/06/2023
Client ID: 235523
Address: [redacted]
Site:

Client: Department of Planning and Environment

Method: MA70CENT

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

Disclaimer: Samples analysed as received.

TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Cyanophyta (Blue green)				
Anabaenopsis	173	Potentially toxic	11.93	0.020
Coccoid Blue Green Picoplankton	329777	Filter clogging?	626.57	0.148
Cuspidothrix issatschenkoi	14011		714.56	0.760
Microcystis	1659	Potentially toxic, taste & odour	46.61	0.046
Subtotal	345620		1,399.67	0.974
Chrysophyta (Golden brown)				
Dichotomococcus	737		9.21	0.006
Subtotal	737		9.21	0.006
Bacillariophyta (Diatom)				
Aulacoseira	87	Filter clogging	35.40	0.052
Cyclotella	26547	Filter clogging	1,805.19	2.070
Cyclotella/Stephanodiscus	3982	Filter clogging	213.03	0.315
Nitzschia	173		37.36	0.017
Subtotal	30789		2,090.98	2.454
Euglenophyta (Euglenoid)				
Euglena	17	Discolouration of water	30.05	0.039
Subtotal	17		30.05	0.039
Chlorophyta (Green)				
Actinastrum	58294		3,672.52	1.224
Ankistrodesmus	3318		1,247.56	0.447
Chlamydomonas	17	Taste & Odour	1.36	0.001
Closteriopsis	17		138.72	0.089
Dictyosphaerium	5899		424.72	0.088

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

PHYTOPLANKTON ANALYSIS REPORT

Report no: 287711
Supercedes Report No:

Depth : N/A
Chlorophyll a: NA
Microcystin equivalents: NA
Date analysed: 10/07/2023
Analyst: [redacted]

Lims No: L23052689
Date Sampled: 21/06/2023
Client ID: 235523
Address: [redacted]
Site:

Client: Department of Planning and Environment

Method: MA70CENT

Issued By : Sydney Water Laboratory Services
Issued On : 12/07/2023

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TAXA

	Cells/ mL	Significance	ASU/ mL	Biovolum mm3/L
Kirchneriella	2950		147.50	0.056
Lagerheimia	369		71.21	0.088
Micractinium	2212		28.75	0.033
Monoraphidium cf	1844		49.41	0.036
Pediastrum	555		66.60	0.026
Planctonema	330		27.39	0.037
Scenedesmus species 1	11356		885.76	0.622
Schroederia	17		3.45	0.002
Sphaerocystis	1475		166.67	0.042
Staurastrum	35		185.18	0.072
Tetraedron	737		313.22	0.073
Subtotal	89425		7,430.02	2.936
Cryptophyta (Monad)				
Chroomonas	737	Common after flood	176.88	0.182
Cryptomonas	1475	Common after flood, Taste & Odour	796.50	1.401
Subtotal	2212		973.38	1.583

	Cells/ mL	ASU/ mL	Biovolume mm3/L
Total Blue Green	345600	1400.00	0.974
*** Potentially Toxic Blue Green**	1830	58.50	0.066
*** Potentially Toxic Algae**	1830	58.50	0.066
Total Algae	468800	11930.00	7.990

SWC, [redacted]
(PO Box 73) West Ryde NSW 2114

Comment:

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Coccoid Blue Green Picoplankton: *Aphanocapsa; Aphanothece; Cyanogranis; Cyanonephron; Cyanocatena; Gloeocapsa; Gloeothece ; Cyanodictyon*

Phycology

Sydney Water Approved Signatory:

[redacted], Supervisor

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