Internet: www.awqc.com.au

Email: awqc@sawater.com.au

Tel: 1300 653 366

Fax: 1300 883 171



**DEW - Department of Environment and Water** 

ATTN: Claire Sims 81-95 Waymouth Street

SA 5000 AUSTRALIA

02/02/2023

Dear Claire

Please find attached the Final Analytical Report for

**Customer Service Request:** 143419-2022-CSR-5

143419 Account:

Project:

AWQC-177431 DEW - Healthy Coorong Healthy Basin - Non Routine Event 3- 22/23

This report has also been sent to: Tim Branford

AWQC Sample Receipt hours are Monday and Tuesday 8:30am to 8pm and Wednesday, Thursday and Friday 8:30am to 4:30pm.

Yours sincerely,

Scott Kraft **Customer Services Officer** Scott.Kraft@sawater.com.au

Justo

+61 8 7424 1250



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FINAL REPORT: 354894

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#### **Report Information**

Project Name AWQC-177431

Customer DEW - Department of Environment and Water

**CSR\_ID** 143419-2022-CSR-5

# **Analytical Results**

 Sampling Point
 351213-EPA - Murray Mouth

 Sampled Date
 19/12/2022 12:00:00PM

 Sample Received Date
 20/12/2022 4:12:28PM

 Sample Analysis Completed
 13/01/2023 10:41:59AM

 Sample ID
 \*2022-009-9447

Status Endorsed

Collection Type Customer Collected

<b>Biology Operations</b>	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Algal Identification T0393(ADEL)			
Other Organisms		210 cells/mL	
Pseudodidymocystis		70 cells/mL	
BLUE GREEN ALGAE			
Planktolyngbya		22300 cells/mL	
Cyanodictyon		99500 cells/mL	
DIATOMS			
Aulacoseira		300 cells/mL	
Staurosira		870 cells/mL	
Fragilaria		580 cells/mL	
Nitzschia		100 cells/mL	
GREEN ALGAE			
Planctonema		3340 cells/mL	
Crucigenia		1240 cells/mL	
Oocystis		450 cells/mL	
Dictyosphaerium		200 cells/mL	
Scenedesmus		220 cells/mL	
Pediastrum		170 cells/mL	
Sample temperature at time of receipt	12.0°C		
Algal Biovolume T0393(ADEL)			19/12/2022
Pseudodidymocystis		<0.01 mm3/L	
BLUE GREEN ALGAE			
Planktolyngbya		0.11 mm3/L	
Cyanodictyon		0.05 mm3/L	



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#### **Analytical Results**

 Sampling Point
 351213-EPA - Murray Mouth

 Sampled Date
 19/12/2022
 12:00:00PM

 Sample Received Date
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 10:41:59AM

 Sample ID
 \*2022-009-9447

 Status
 Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL)

**DIATOMS** 

 Aulacoseira
 0.86 mm3/L

 Staurosira
 0.16 mm3/L

 Fragilaria
 0.37 mm3/L

 Nitzschia
 0.14 mm3/L

**GREEN ALGAE** 

 Crucigenia
 0.04 mm3/L

 Oocystis
 0.14 mm3/L

 Dictyosphaerium
 <0.01 mm3/L</td>

 Scenedesmus
 0.06 mm3/L

 Pediastrum
 0.20 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

# Total Algae Biovolume Not Calculated mm3/L

# Total Blue\_Green Algae Biovolume 0.16 mm3/L # Total Diatom Biovolume 1.53 mm3/L

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

# Sample temperature at time of receipt 12.0°C

Algal Count - Total T0393(ADEL) 19/12/2022

0 cells/mL

 Algae - Total
 129000 cells/mL

 Blue Green Algae - Total
 122000 cells/mL

 Diatoms - Total
 1850 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 5620 cells/mL

Sample temperature at time of receipt 12.0°C



Toxin producing BGA - Total

AWQC

20/12/2022

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# **Analytical Results**

 Sampling Point
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 Sample Received Date
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 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9447

 Status
 Endorsed

Collection Type Customer Collected

#### Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 35.8  $\,\mu g/L$  Phaeophytin a 0.1 25.4  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	41 µg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	53 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	30.2 μg/L	
# Nitrate + Nitrite as NO3	2.3	134 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		1.92 mg/L	
Phosphorus - Filterable Reactive as P (A	(DEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	142.025 μg/L	
Phosphorus-Filterable Reactive as P	0.5	47.5 μg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.281 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	3.00 mg/L	
TKN as N T0112-01(ADEL)			28/12/2022
TKN as Nitrogen	0.05	1.89 mg/L	
Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
Dissolved Organic Carbon T0158-07(AD			22/12/2022
Dissolved Organic Carbon	1	12.0 mg/L	
Total Organic Carbon T0158-07(ADEL)		-	22/12/2022



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# **Analytical Results**

 Sampling Point
 351213-EPA - Murray Mouth

 Sampled Date
 19/12/2022 12:00:00PM

 Sample Received Date
 20/12/2022 4:12:28PM

 Sample Analysis Completed
 13/01/2023 10:41:59AM

 Sample ID
 \*2022-009-9447

Status Endorsed

Collection Type Customer Collected

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 19.8 mg/L

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 12	2.0°C		
Alkalinity Carbonate Bicarbonate and Hy	droxide T0101-0	1(ADEL)	21/12/2022
Alkalinity as Calcium Carbonate		81 mg/L	
Bicarbonate		99 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids T0	016-01(ADEL)		21/12/2022
Conductivity	2	361 μS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	200 mg/L	
pH T0010-01(ADEL)			21/12/2022
pH		8.0 pH units	
Temperature at which pH is measured		23.0 °C	
Turbidity T0018-01(ADEL)			21/12/2022
Turbidity	0.1	87 NTU	
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 12	2.0°C		
Suspended Solids T0160-01(ADEL)			21/12/2022
Suspended Solids	1.0	68 mg/L	



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#### **Analytical Results**

Planktolyngbya

Sampling Point 353179-EPA - Tauwitchere Barrage Upstream

 Sampled Date
 19/12/2022
 1:18:00PM

 Sample Received Date
 20/12/2022
 4:12:54PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9450

Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Algal Identification T0393(ADEL)			
Other Organisms		100 cells/mL	
Pseudodidymocystis		140 cells/mL	
BLUE GREEN ALGAE			
Cyanodictyon		102000 cells/mL	

31400 cells/mL

 DIATOMS

 Aulacoseira
 1280 cells/mL

 Staurosira
 2000 cells/mL

 Fragilaria
 910 cells/mL

Fragilaria 910 cells/mL
Nitzschia 40 cells/mL
GREEN ALGAE

 Closterium
 4 cells/mL

 Closterium small\_spp
 4 cells/mL

 Planctonema
 3090 cells/mL

 Crucigenia
 520 cells/mL

 Scenedesmus
 300 cells/mL

 Scenedesmus
 300 cells/mL

 Monoraphidium
 140 cells/mL

 Oocystis
 420 cells/mL

# Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)

<0.01 mm3/L

, ,	0.0.
BLUE GREEN ALGAE	
Cyanodictyon	0.05 mm3/L
Planktolyngbya	0.16 mm3/L
DIATOMS	
Aulacoseira	3.66 mm3/L
Staurosira	0.38 mm3/L
Fragilaria	0.58 mm3/L



Pseudodidymocystis

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#### **Analytical Results**

Sampling Point 353179-EPA - Tauwitchere Barrage Upstream

 Sampled Date
 19/12/2022
 1:18:00PM

 Sample Received Date
 20/12/2022
 4:12:54PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9450

 Status
 Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 19/12/2022

Nitzschia 0.06 mm3/L

**GREEN ALGAE** 

 Closterium
 0.02 mm3/L

 Crucigenia
 0.02 mm3/L

 Scenedesmus
 0.08 mm3/L

 Monoraphidium
 0.13 mm3/L

 Oocystis
 0.13 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

# Total Algae Biovolume Not Calculated mm3/L

# Total Blue\_Green Algae Biovolume 0.21 mm3/L # Total Diatom Biovolume 4.68 mm3/L

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

# Sample temperature at time of receipt 12.0°C

Algal Count - Total T0393(ADEL) 19/12/2022

 Algae - Total
 142000 cells/mL

 Blue Green Algae - Total
 133000 cells/mL

 Diatoms - Total
 4230 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 4480 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Sample temperature at time of receipt 12.0°C

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 46.6  $\,\mu g/L$  Phaeophytin a 0.1 28.3  $\,\mu g/L$ 



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# **Analytical Results**

Sampling Point 353179-EPA - Tauwitchere Barrage Upstream

 Sampled Date
 19/12/2022
 1:18:00PM

 Sample Received Date
 20/12/2022
 4:12:54PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9450

 Status
 Endorsed

Collection Type Customer Collected

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.	.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	17 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	74 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	26.4 μg/L	
# Nitrate + Nitrite as NO3	2.3	117 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		2.83 mg/L	
Phosphorus - Filterable Reactive as P (AD	EL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	77.74 µg/L	
Phosphorus-Filterable Reactive as P	0.5	26.0 μg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.378 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	2.68 mg/L	
TKN as N T0112-01(ADEL)			28/12/2022
TKN as Nitrogen	0.05	2.80 mg/L	
Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 12	0°C		
Dissolved Organic Carbon T0158-07(ADEI			22/12/2022
Dissolved Organic Carbon	<b>-,</b> 1	13.0 mg/L	
Total Organic Carbon T0158-07(ADEL)		10.0 mg/L	22/12/2022
Total Organic Carbon	1	23.7 mg/L	
iotal organio otilizon	·	23.7 Hig/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date



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#### **Analytical Results**

Sampling Point 353179-EPA - Tauwitchere Barrage Upstream

 Sampled Date
 19/12/2022
 1:18:00PM

 Sample Received Date
 20/12/2022
 4:12:54PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9450

Status Endorsed

Collection Type Customer Collected

Cample	temperature	at timo	of rocain	12 N°C

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 81  $\,$  mg/L Bicarbonate 99  $\,$  mg/L Carbonate 0  $\,$  mg/L Hydroxide 0  $\,$  mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL) 21/12/2022

Conductivity 2 460 µS/cm

Note Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 254 mg/L

pH T0010-01(ADEL) 21/12/2022

pH 7.7 pH units Temperature at which pH is measured 23.0  $^{\circ}$ C

Turbidity T0018-01(ADEL) 21/12/2022

Turbidity 0.1 97 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 12.0°C Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 108 mg/L



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#### **Analytical Results**

353177-EPA - Tauwitchere Barrage DS **Sampling Point** 

19/12/2022 1:18:00PM **Sampled Date** 20/12/2022 4:12:41PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed

\*2022-009-9451 Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

Biology Operations	LOR	Result	Test Start Date
--------------------	-----	--------	-----------------

# Sample temperature at time of receipt 12.0°C

# Algal Identification T0393(ADEL)

Other Organisms 350 cells/mL

**BLUE GREEN ALGAE** 

Aphanizomenon 90 cells/mL Cyanodictyon 146000 cells/mL Cyanocatena 7300 cells/ml Planktolyngbya 29400 cells/mL

**DIATOMS** 

Cyclotella large\_spp 10 cells/mL Fragilaria 1150 cells/mL Aulacoseira 800 cells/mL Staurosira 1080 cells/mL

**GREEN ALGAE** 

Closterium 4 cells/mL Closterium small spp 12 cells/mL Pediastrum 20 cells/mL Planctonema 3580 cells/mL Crucigenia 1040 cells/mL Oocystis 290 cells/mL Monoraphidium 80 cells/mL Scenedesmus 400 cells/mL Dictyosphaerium 80 cells/mL

# Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)

#### **BLUE GREEN ALGAE**

Aphanizomenon <0.01 mm3/L Cyanodictyon 0.07 mm3/L Cyanocatena <0.01 mm3/L Planktolyngbya 0.15 mm3/L



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19/12/2022

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#### **Analytical Results**

Sampling Point 353177-EPA - Tauwitchere Barrage DS

 Sampled Date
 19/12/2022
 1:18:00PM

 Sample Received Date
 20/12/2022
 4:12:41PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9451

 Status
 Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL)

**DIATOMS** 

 Fragilaria
 0.74 mm3/L

 Aulacoseira
 2.29 mm3/L

 Staurosira
 0.20 mm3/L

**GREEN ALGAE** 

 Closterium
 0.02 mm3/L

 Pediastrum
 0.02 mm3/L

 Crucigenia
 0.03 mm3/L

 Oocystis
 0.09 mm3/L

 Monoraphidium
 0.07 mm3/L

 Scenedesmus
 0.10 mm3/L

 Dictyosphaerium
 <0.01 mm3/L</td>

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

# Total Algae Biovolume Not Calculated mm3/L

# Total Blue\_Green Algae Biovolume 0.22 mm3/L

# Total Diatom Biovolume Not Calculated mm3/L # Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

# Sample temperature at time of receipt 12.0°C

Algal Count - Total T0393(ADEL) 19/12/2022

 Algae - Total
 191000 cells/mL

 Blue Green Algae - Total
 183000 cells/mL

 Diatoms - Total
 3040 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 5510 cells/mL

 Toxin producing BGA - Total
 0 cells/mL



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#### **Analytical Results**

Sampling Point 353177-EPA - Tauwitchere Barrage DS

 Sampled Date
 19/12/2022
 1:18:00PM

 Sample Received Date
 20/12/2022
 4:12:41PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9451

 Status
 Endorsed

Collection Type Customer Collected

# Sample temperature at time of receipt 12.0°C

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 31.1  $\mu g/L$  Phaeophytin a 0.1 16.8  $\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	69 µg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	61 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	14.4 μg/L	
# Nitrate + Nitrite as NO3	2.3	63.8 µg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		2.55 mg/L	
Phosphorus - Filterable Reactive as P (A	DEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	118.703 μg/L	
Phosphorus-Filterable Reactive as P	0.5	39.7 μg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.342 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	2.62 mg/L	
TKN as N T0112-01(ADEL)			28/12/2022
TKN as Nitrogen	0.05	2.54 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Organic Chemistry LOR Result Test Start Date
Sample temperature at time of receipt 12.0°C

**Dissolved Organic Carbon T0158-07(ADEL)**Dissolved Organic Carbon 1 12.8 mg/L



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# **Analytical Results**

Sampling Point 353177-EPA - Tauwitchere Barrage DS

 Sampled Date
 19/12/2022
 1:18:00PM

 Sample Received Date
 20/12/2022
 4:12:41PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9451

Status Endorsed

Collection Type Customer Collected

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 22.6 mg/L

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 12	2.0°C		
Alkalinity Carbonate Bicarbonate and Hy	droxide T0101-0	1(ADEL)	21/12/2022
Alkalinity as Calcium Carbonate		82 mg/L	
Bicarbonate		100 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids T0	016-01(ADEL)		23/12/2022
Conductivity	2	375 μS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	207 mg/L	
pH T0010-01(ADEL)			21/12/2022
pH		8.0 pH units	
Temperature at which pH is measured		23.1 °C	
Turbidity T0018-01(ADEL)			21/12/2022
Turbidity	0.1	93 NTU	
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 12	2.0°C		
Suspended Solids T0160-01(ADEL)			21/12/2022
Suspended Solids	1.0	113 mg/L	



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# **Analytical Results**

 Sampling Point
 31522-EPA - Mark Point

 Sampled Date
 19/12/2022
 2:00:00PM

 Sample Received Date
 20/12/2022
 4:09:06PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9446

Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receip	ot 12.0°C		
Algal Identification T0393(ADEL)			
Other Organisms		160 cells/mL	
BLUE GREEN ALGAE			
Cyanodictyon		12000 cells/mL	
Cyanocatena		1800 cells/mL	
Planktolyngbya		270 cells/mL	
CRYPTOPHYTES			
Cryptomonas		70 cells/mL	
DIATOMS			
Staurosira		60 cells/mL	
Cyclotella small_spp		28200 cells/mL	
GREEN ALGAE			
Planctonema		196 cells/mL	
Monoraphidium		30 cells/mL	
Oocystis		150 cells/mL	

# Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)

40 cells/mL

360 cells/mL

80 cells/mL

#### **BLUE GREEN ALGAE**

Dictyosphaerium

Crucigenia

Scenedesmus

 Cyanodictyon
 <0.01 mm3/L</td>

 Cyanocatena
 <0.01 mm3/L</td>

 Planktolyngbya
 <0.01 mm3/L</td>

 CRYPTOPHYTES
 0.08 mm3/L

 Cryptomonas
 0.08 mm3/L

 DIATOMS
 Staurosira

 Cyclotella small spp
 1.38 mm3/L



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#### **Analytical Results**

31522-EPA - Mark Point **Sampling Point** 19/12/2022 2:00:00PM Sampled Date 20/12/2022 4:09:06PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9446 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

19/12/2022 Algal Biovolume T0393(ADEL)

**GREEN ALGAE** 

Monoraphidium 0.03 mm3/L Oocystis 0.04 mm3/L Dictyosphaerium <0.01 mm3/L Crucigenia 0.01 mm3/L Scenedesmus 0.02 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

> approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate. Not Calculated mm3/L

# Total Algae Biovolume # Total Blue Green Algae Biovolume <0.03 mm3/L

# Total Diatom Biovolume 1.39 mm3/L

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

Sample temperature at time of receipt 12.0°C Algal Count - Total T0393(ADEL)

19/12/2022

Algae - Total 43300 cells/mL Blue Green Algae - Total 14100 cells/ml Diatoms - Total 28300 cells/mL Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 856 cells/ml Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 12.0°C

20/12/2022 Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 29.2 µg/L Phaeophytin a 0.1 5.89 µg/L



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# **Analytical Results**

 Sampling Point
 31522-EPA - Mark Point

 Sampled Date
 19/12/2022 2:00:00PM

 Sample Received Date
 20/12/2022 4:09:06PM

 Sample Analysis Completed
 13/01/2023 10:41:59AM

 Sample ID
 \*2022-009-9446

 Status
 Endorsed

Collection Type Customer Collected

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	16 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	1600 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	2.2 μg/L	
# Nitrate + Nitrite as NO3	2.3	9.75 µg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		1.46 mg/L	
Phosphorus - Filterable Reactive as P (A	DEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	22.126 μg/L	
Phosphorus-Filterable Reactive as P	0.5	7.4 µg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.112 mg/L	
Silica - Reactive T0111-01(ADEL)		· ·	21/12/2022
Silica - Reactive	0.05	2.91 mg/L	
TKN as N T0112-01(ADEL)		G	28/12/2022
TKN as Nitrogen	0.05	1.46 mg/L	
Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
Dissolved Organic Carbon T0158-07(ADI	EL)		22/12/2022
Dissolved Organic Carbon	1	11.7 mg/L	
Total Organic Carbon T0158-07(ADEL)			22/12/2022
Total Organic Carbon	1	14.8 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date



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#### **Analytical Results**

 Sampling Point
 31522-EPA - Mark Point

 Sampled Date
 19/12/2022
 2:00:00PM

 Sample Received Date
 20/12/2022
 4:09:06PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9446

Status Endorsed

Collection Type Customer Collected

Sample te	mperature at	time of rece	ipt 12.0°C
-----------	--------------	--------------	------------

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

21/12/2022

 Alkalinity as Calcium Carbonate
 88 mg/L

 Bicarbonate
 107 mg/L

 Carbonate
 0 mg/L

 Hydroxide
 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

21/12/2022

21/12/2022

Conductivity 2 5240  $\mu$ S/cm

Note Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 2970 mg/L

pH T0010-01(ADEL) 21/12/2022

pH 7.9 pH units

Temperature at which pH is measured 21.8 °C

Turbidity T0018-01(ADEL) 21/12/2022

Turbidity 0.1 24 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 12.0°C Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 <1 mg/L



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#### **Analytical Results**

**Sampling Point** 31523-EPA - Long Point 19/12/2022 2:55:00PM **Sampled Date** 20/12/2022 4:09:22PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9433

Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

Biology Operations LOR Result	Test Start Date
-------------------------------	-----------------

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

#### **CRYPTOPHYTES**

Cryptomonas 160 cells/mL

DIATOMS

Cyclotella small spp 30 cells/ml

**DINOFLAGELLATES** 

Heterocapsa 6 cells/mL

**GREEN ALGAE** 

Monoraphidium 20 cells/mL Scenedesmus 40 cells/mL Planctonema 4 cells/mL

#### Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)

**CRYPTOPHYTES** 

Cryptomonas 0.17 mm3/L

**DIATOMS** 

Cyclotella small\_spp <0.01 mm3/L

**GREEN ALGAE** 

Monoraphidium 0.02 mm3/L Scenedesmus 0.01 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

Not Calculated mm3/L

0.00 mm3/L <0.01 mm3/L

Not Calculated mm3/L

# Total Blue\_Green Algae Biovolume # Total Diatom Biovolume # Total Green Algae Biovolume

# Total Algae Biovolume

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#### **Analytical Results**

**Sampling Point** 31523-EPA - Long Point 19/12/2022 2:55:00PM **Sampled Date** 20/12/2022 4:09:22PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9433 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

Algal Biovolume T0393(ADEL)	19/12/2022

Total Toxic BGA Biovolume 0.00 mm3/L

#### Sample temperature at time of receipt 12.0°C

19/12/2022 Algal Count - Total T0393(ADEL)

Algae - Total 260 cells/mL Blue Green Algae - Total 0 cells/mL Diatoms - Total 30 cells/ml Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 64 cells/mL Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 12.0°C

20/12/2022 Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 13.6 µg/L Phaeophytin a 0.1 3.37 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt to	12.0°C		

Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	99 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	6500 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	4.3 µg/L	
# Nitrate + Nitrite as NO3	2.3	19.0 µg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		1.72 mg/L	
Phosphorus - Filterable Reactive as P (Al	DEL)		06/01/2023
# Dhaanharus Filtarahla Dagatiya as DO4	1 E	10.550 "	

# Phosphorus -Filterable Reactive as PO4 1.5 12.558 µg/L Phosphorus-Filterable Reactive as P 0.5 4.2 µg/L

Phosphorus - Total T0109-44(ADEL)

28/12/2022



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Analytical Results				
Sampling Point	31523-EPA	- Long Point		
Sampled Date	19/12/2022			
Sample Received Date		20/12/2022 4:09:22PM 13/01/2023 10:41:59AM *2022-009-9433		
Sample Analysis Completed				
Sample ID	*2022-009-9 Endorsed			
Status Collection Type	Customer C	collected		
	- Oustonici O	onected		
Phosphorus - Total T0109-44(ADEL)			28/12/2022	
Phosphorus - Total	0.005	0.063 mg/L		
Silica - Reactive T0111-01(ADEL)			21/12/2022	
Silica - Reactive	0.05	3.44 mg/L		
TKN as N T0112-01(ADEL)			28/12/2022	
TKN as Nitrogen	0.05	1.72 mg/L		
Organic Chemistry	LOR	Result	Test Start Date	
Sample temperature at time of receipt 12.0°	С			
Dissolved Organic Carbon T0158-07(ADEL)			22/12/2022	
Dissolved Organic Carbon	1	11.1 mg/L		
Total Organic Carbon T0158-07(ADEL)			22/12/2022	
Total Organic Carbon	1	12.5 mg/L		
Inorganic Chemistry - Physical	LOR	Result	Test Start Date	
Sample temperature at time of receipt 12.0°	С			
Alkalinity Carbonate Bicarbonate and Hydro	oxide T0101-0	1(ADEL)	21/12/2022	
Alkalinity as Calcium Carbonate		108 mg/L		
Bicarbonate		132 mg/L		
Carbonate		0 mg/L		
Hydroxide		0 mg/L		
Conductivity & Total Dissolved Solids T0016	6-01(ADEL)		21/12/2022	
Conductivity	2	19600 μS/cm		
Note		Conductivity measurement is corrected to 25°C		
Total Dissolved Solids (by EC)	1	12000 mg/L		
pH T0010-01(ADEL)			21/12/2022	
pH		8.1 pH units		
Temperature at which pH is measured		23.0 °C	04/46/2222	
Turbidity T0018-01(ADEL)	0.4		21/12/2022	
Turbidity	0.1	8.4 NTU		



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# **Analytical Results**

Suspended Solids

 Sampling Point
 31523-EPA - Long Point

 Sampled Date
 19/12/2022
 2:55:00PM

 Sample Received Date
 20/12/2022
 4:09:22PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9433

Sample ID \*2022-009-Status Endorsed

Collection Type Customer Collected

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.0	)°C		
Suspended Solids T0160-01(ADEL)			21/12/2022

<1 mg/L

1.0



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#### **Analytical Results**

 Sampling Point
 53032-EPA - Noonameena

 Sampled Date
 19/12/2022 3:40:00PM

 Sample Received Date
 20/12/2022 4:08:51PM

 Sample Analysis Completed
 13/01/2023 10:41:59AM

 Sample ID
 \*2022-009-9453

Sample ID \*2022-009
Status Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

Sample temperature at time of receipt 12.0°C

Algal Identification T0393(ADEL)

**BLUE GREEN ALGAE** 

Cyanodictyon 160 cells/mL

**CRYPTOPHYTES** 

Cryptomonads 40 cells/mL
Cryptomonas 250 cells/mL

**DIATOMS** 

Chaetoceros 10 cells/mL

**GREEN ALGAE** 

Phytoflagellates 10 cells/mL

Sample temperature at time of receipt 12.0°C Algal Biovolume T0393(ADEL)

BLUE GREEN ALGAE

CRYPTOPHYTES

Cyanodictyon

Cryptomonads <0.01 mm3/L Cryptomonas 0.27 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

< 0.01 mm3/L

# Total Algae Biovolume Not Calculated mm3/L

# Total Blue\_Green Algae Biovolume <0.01 mm3/L

# Total Diatom Biovolume Not Calculated mm3/L
# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

#### Sample temperature at time of receipt 12.0°C



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#### **Analytical Results**

 Sampling Point
 53032-EPA - Noonameena

 Sampled Date
 19/12/2022
 3:40:00PM

 Sample Received Date
 20/12/2022
 4:08:51PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9453

Status Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)		19/12/2022
Algae - Total	470 cells/mL	
Blue Green Algae - Total	160 cells/mL	
Diatoms - Total	10 cells/mL	
Geosmin-MIB producing BGA - Total	0 cells/mL	
Green Algae - Total	10 cells/mL	
Toxin producing BGA - Total	0 cells/mL	

# Sample temperature at time of receipt 12.0°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 3.32  $\,\mu g/L$  Phaeophytin a 0.1 0.80  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	10 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	16100 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	5.9 μg/L	
# Nitrate + Nitrite as NO3	2.3	26.1 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		1.78 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	7.774 µg/L	
Phosphorus-Filterable Reactive as P	0.5	2.6 μg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.098 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	1.79 mg/L	
TKN as N T0112-01(ADEL)			28/12/2022
, ,			



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Analy	vtical	Results
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 Sampling Point
 53032-EPA - Noonameena

 Sampled Date
 19/12/2022
 3:40:00PM

 Sample Received Date
 20/12/2022
 4:08:51PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9453

Status Endorsed

Collection Type Customer Collected

TKN as N T0112-01(ADEL) 28/12/2022

TKN as Nitrogen 0.05 1.77 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Dissolved Organic Carbon T0158-07(A	DEL)		22/12/2022
Dissolved Organic Carbon	1	13.0 mg/L	
Total Organic Carbon T0158-07(ADEL)			22/12/2022
Total Organic Carbon	1	13.4 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date

Sample temperature at time of receipt 12.0°C		
Alkalinity Carbonate Bicarbonate and Hydroxide	e T0101-01(ADEL)	21/12/2022
Alkalinity as Calcium Carbonate	130 mg/L	
Bicarbonate	158 mg/L	

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity

2

43300 uS/cm

Conductivity 2 43300  $\,\mu$ S/cm Note Conductivity measurement is corrected to 25°C

LOR

Total Dissolved Solids (by EC) 1 29500 mg/L 21/12/2022

pH 8.1 pH units
Temperature at which pH is measured 22.9 °C

Turbidity T0018-01(ADEL)

Turbidity 0.1 2.9 NTU

Result

Sample temperature at time of receipt 12.0°C

**Inorganic Chemistry - Waste Water** 



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**Analytical Results** 

53032-EPA - Noonameena **Sampling Point** 19/12/2022 3:40:00PM **Sampled Date** 20/12/2022 4:08:51PM Sample Received Date 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9453 Sample ID

Endorsed Status

**Customer Collected Collection Type** 

Suspended Solids T0160-01(ADEL)

21/12/2022

Suspended Solids 1.0 <1 mg/L



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#### **Analytical Results**

 Sampling Point
 31524-EPA - Bonneys

 Sampled Date
 19/12/2022 4:00:00PM

 Sample Received Date
 20/12/2022 4:09:36PM

 Sample Analysis Completed
 13/01/2023 10:41:59AM

 Sample ID
 \*2022-009-9448

Status Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

#### **CRYPTOPHYTES**

Cryptomonads 50 cells/mL
Cryptomonas 80 cells/mL

**DIATOMS** 

Chaetoceros 20 cells/mL

**GREEN ALGAE** 

Unicellular green algae 6530 cells/mL

#### Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)

#### **CRYPTOPHYTES**

Cryptomonads 0.01 mm3/L Cryptomonas 0.09 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

Not Calculated mm3/L

Not Calculated II

0.00 mm3/L

Not Calculated mm3/L

Not Calculated mm3/L 0.00 mm3/L

# Sample temperature at time of receipt 12.0°C

Algal Count - Total T0393(ADEL) 19/12/2022

Algai Count - Total 10393(ADEL)
Algae - Total

Blue Green Algae - Total

# Total Algae Biovolume

# Total Diatom Biovolume

Total Toxic BGA Biovolume

# Total Green Algae Biovolume

# Total Blue\_Green Algae Biovolume

Diatoms - Total

6680 cells/mL 0 cells/mL 20 cells/mL



20/12/2022

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#### **Analytical Results**

**Sampling Point** 31524-EPA - Bonneys 19/12/2022 4:00:00PM **Sampled Date** 20/12/2022 4:09:36PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9448 Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

19/12/2022 Algal Count - Total T0393(ADEL)

Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 6530 cells/mL Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 12.0°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 2.15 µg/L

Phaeophytin a 0.1 1.03 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	84 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	22400 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	13.0 μg/L	
# Nitrate + Nitrite as NO3	2.3	57.6 µg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		2.47 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	9.568 µg/L	
Phosphorus-Filterable Reactive as P	0.5	3.2 µg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.082 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	1.28 mg/L	
TKN as N T0112-01(ADEL)		-	28/12/2022
TKN as Nitrogen	0.05	2.46 mg/L	



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# **Analytical Results**

 Sampling Point
 31524-EPA - Bonneys

 Sampled Date
 19/12/2022 4:00:00PM

 Sample Received Date
 20/12/2022 4:09:36PM

 Sample Analysis Completed
 13/01/2023 10:41:59AM

 Sample ID
 \*2022-009-9448

 Status
 Endorsed

 Collection Type
 Customer Collected

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
Dissolved Organic Carbon T0158-07(ADE	EL)		22/12/2022
Dissolved Organic Carbon	1	14.8 mg/L	
Total Organic Carbon T0158-07(ADEL)			22/12/2022
Total Organic Carbon	1	15.9 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
Alkalinity Carbonate Bicarbonate and H	ydroxide T0101-0	1(ADEL)	21/12/2022
Alkalinity as Calcium Carbonate		142 mg/L	
Bicarbonate		173 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids To	016-01(ADEL)		21/12/2022
Conductivity	2	54600 μS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	39100 mg/L	
pH T0010-01(ADEL)			21/12/2022
pH		8.3 pH units	
Temperature at which pH is measured		23.0 °C	
Turbidity T0018-01(ADEL)			21/12/2022
Turbidity	0.1	2.9 NTU	
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		04/40/2222
Suspended Solids T0160-01(ADEL)			21/12/2022
Suspended Solids	1.0	<1 mg/L	



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#### **Analytical Results**

 Sampling Point
 31512-EPA - McGrath Flat North

 Sampled Date
 19/12/2022
 4:25:00PM

 Sample Received Date
 20/12/2022
 4:10:46PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9440

Status Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

**CRYPTOPHYTES** 

Cryptomonads 20 cells/mL

DIATOMS

PENNALES 30 cells/mL

**GREEN ALGAE** 

Chlorella1250000 cells/mLUnicellular green algae471000 cells/mLPhytoflagellates3000 cells/mL

Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)

**CRYPTOPHYTES** 

Cryptomonads <0.01 mm3/L

**DIATOMS** 

PENNALES <0.01 mm3/L

**GREEN ALGAE** 

Chlorella

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

56.2 mm3/L

# Total Algae Biovolume Not Calculated mm3/L

# Total Blue\_Green Algae Biovolume 0.00 mm3/L

# Total Diatom Biovolume <0.01 mm3/L

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

#### Sample temperature at time of receipt 12.0°C



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20/12/2022

21/12/2022

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### **Analytical Results**

31512-EPA - McGrath Flat North **Sampling Point** 19/12/2022 4:25:00PM **Sampled Date** 20/12/2022 4:10:46PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9440 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

Algal Count - Total T0393(ADEL)	19/12/20	22
Algae - Total	1720000 cells/mL	

Blue Green Algae - Total 0 cells/mL Diatoms - Total 30 cells/mL Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 1720000 cells/mL Toxin producing BGA - Total 0 cells/mL

#### Sample temperature at time of receipt 12.0°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 33.1 µg/L Phaeophytin a 0.1 9.90 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	74 µg/L	

Chloride 4.0 31500 mg/L 06/01/2023 Nitrate + Nitrite as N (ADEL) # Nitrate + Nitrite as N 0.5 3.3 µg/L # Nitrate + Nitrite as NO3 2.3 14.6 µg/L 20/12/2022 Nitrogen - Total TMZ-M06(ADEL)

Nitrogen - Total 3.79 mg/L 06/01/2023 Phosphorus - Filterable Reactive as P (ADEL)

# Phosphorus -Filterable Reactive as PO4 1.5 <1.5 µg/L Phosphorus-Filterable Reactive as P 0.5 <0.5 µg/L 28/12/2022 Phosphorus - Total T0109-44(ADEL)

0.005 Phosphorus - Total 0.143 mg/L 21/12/2022 Silica - Reactive T0111-01(ADEL)

Silica - Reactive 0.05 0.24 mg/L 28/12/2022



TKN as N T0112-01(ADEL)

Chloride T0104-02(ADEL)

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 Sampling Point
 31512-EPA - McGrath Flat North

 Sampled Date
 19/12/2022
 4:25:00PM

 Sample Received Date
 20/12/2022
 4:10:46PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9440

 Status
 Endorsed

Collection Type Customer Collected

TKN as N T0112-01(ADEL) 28/12/2022

TKN as Nitrogen 0.05 3.79 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Dissolved Organic Carbon T0158-07(A	DEL)		22/12/2022
Dissolved Organic Carbon	1	19.5 mg/L	
Total Organic Carbon T0158-07(ADEL)			22/12/2022
Total Organic Carbon	1	22.9 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date

morganic onemistry - Physical	LOIX	Result	rest Start Date
Sample temperature at time of receipt	12.0°C		
<b>Alkalinity Carbonate Bicarbonate and</b>	Hydroxide T0101-0	1(ADEL)	21/12/2022
Alkalinity as Calcium Carbonate		204 mg/L	
Bicarbonate		249 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids	T0016-01(ADEL)		21/12/2022
Conductivity	2	78800 μS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	62100 mg/L	
pH T0010-01(ADEL)			21/12/2022
pH		8.2 pH units	
Temperature at which pH is measured		23.0 °C	
Turbidity T0018-01(ADEL)			21/12/2022

Inorganic Chemistry - Waste Water LOR Result Test Start Date

11 NTU

0.1

Sample temperature at time of receipt 12.0°C



Turbidity

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**Analytical Results** 

Sampling Point 31512-EPA - McGrath Flat North

 Sampled Date
 19/12/2022
 4:25:00PM

 Sample Received Date
 20/12/2022
 4:10:46PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

Sample ID \*2022-009-9440
Status Endorsed

Collection Type Customer Collected

Suspended Solids T0160-01(ADEL)

21/12/2022

Suspended Solids 1.0 <1 mg/L



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#### **Analytical Results**

31528-EPA - Salt Creek Outlet **Sampling Point** 20/12/2022 8:05:00AM Sampled Date 20/12/2022 4:12:15PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9449 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

LOR **Biology Operations** Result **Test Start Date** 

Sample temperature at time of receipt 12.0°C

Algal Identification T0393(ADEL)

**DINOFLAGELLATES** 

Glenodinium 50 cells/mL

**GREEN ALGAE** 

Unicellular green algae 640000 cells/ml Chlorella 792000 cells/mL Phytoflagellates 2800 cells/mL

Sample temperature at time of receipt 12.0°C

20/12/2022 Algal Biovolume T0393(ADEL)

**DINOFLAGELLATES** 

Glenodinium 0.05 mm3/L

**GREEN ALGAE** 

# Total Algae Biovolume

Chlorella 35.6 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are approximate values. Reported taxa and

calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate. Not Calculated mm3/L

# Total Blue\_Green Algae Biovolume 0.00 mm3/L

# Total Diatom Biovolume 0.00 mm3/l

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

Sample temperature at time of receipt 12.0°C

20/12/2022 Algal Count - Total T0393(ADEL)

Algae - Total 1430000 cells/mL Blue Green Algae - Total 0 cells/mL Diatoms - Total 0 cells/mL



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# **Analytical Results**

31528-EPA - Salt Creek Outlet **Sampling Point** 20/12/2022 8:05:00AM **Sampled Date** 20/12/2022 4:12:15PM Sample Received Date 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9449 Sample ID

Endorsed Status

**Customer Collected Collection Type** 

Algal Count - Total T0393(ADEL)		20/12/2022
Geosmin-MIB producing BGA - Total	0 cells/mL	
Green Algae - Total	1430000 cells/mL	
Toxin producing BGA - Total	0 cells/mL	
Sample temperature at time of receipt 12.0°C		20142/2022
Chlorophyll a & Phaeophytin a T0380-02(ADFL)		20/12/2022

# Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 33.3 µg/L Phaeophytin a 0.1 12.5 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	34 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	34300 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	6.8 μg/L	
# Nitrate + Nitrite as NO3	2.3	30.1 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		3.93 mg/L	
Phosphorus - Filterable Reactive as P (A	DEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	<1.5 µg/L	
Phosphorus-Filterable Reactive as P	0.5	<0.5 µg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.166 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	4.64 mg/L	
TKN as N T0112-01(ADEL)			28/12/2022
TKN as Nitrogen	0.05	3.92 mg/L	



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# **Analytical Results**

 Sampling Point
 31528-EPA - Salt Creek Outlet

 Sampled Date
 20/12/2022 8:05:00AM

 Sample Received Date
 20/12/2022 4:12:15PM

 Sample Analysis Completed
 13/01/2023 10:41:59AM

 Sample ID
 \*2022-009-9449

**Status** Endorsed

Collection Type Customer Collected

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
<b>Dissolved Organic Carbon T0158-07(ADE</b>	EL)		22/12/2022
Dissolved Organic Carbon	1	18.6 mg/L	
Total Organic Carbon T0158-07(ADEL)			22/12/2022
Total Organic Carbon	1	23.2 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
Alkalinity Carbonate Bicarbonate and H	ydroxide T0101-0	1(ADEL)	21/12/2022
Alkalinity as Calcium Carbonate		219 mg/L	
Bicarbonate		268 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids To	016-01(ADEL)		21/12/2022
Conductivity	2	83800 μS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	67300 mg/L	
pH T0010-01(ADEL)			21/12/2022
pH		8.2 pH units	
Temperature at which pH is measured		23.0 °C	
Turbidity T0018-01(ADEL)			21/12/2022
Turbidity	0.1	9.3 NTU	
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		00/46/2222
Suspended Solids T0160-01(ADEL)			23/12/2022
Suspended Solids	1.0	25 mg/L	



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#### **Analytical Results**

31511-EPA - 3.2km South Salt Creek **Sampling Point** 

20/12/2022 8:20:00AM Sampled Date 20/12/2022 4:10:34PM **Sample Received Date** 13/01/2023 10:42:17AM Sample Analysis Completed

\*2022-009-9437 Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

LOR **Biology Operations** Result **Test Start Date** 

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

#### **DINOFLAGELLATES**

Heterocapsa 500 cells/ml

#### **GREEN ALGAE**

224000 cells/ml Unicellular green algae small\_spp 349000 cells/mL Phytoflagellates 54000 cells/mL

#### Sample temperature at time of receipt 12.0°C Algal Biovolume T0393(ADEL)

**GREEN ALGAE** 

Chlorella 10.1 mm3/l Unicellular green algae small\_spp 4.92 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data Biovolume totals have specific criteria around

0 cells/mL

0 cells/mL

0 cells/mL

how they calculate. # Total Algae Biovolume Not Calculated mm3/L

# Total Blue\_Green Algae Biovolume 0.00 mm3/l # Total Diatom Biovolume 0.00 mm3/L

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/l

#### Sample temperature at time of receipt 12.0°C Algal Count - Total T0393(ADEL)

Algae - Total 628000 cells/ml

Blue Green Algae - Total

Diatoms - Total Geosmin-MIB producing BGA - Total



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20/12/2022

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Took Chart Date

**Test Start Date** 

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# **Analytical Results**

Sampling Point 31511-EPA - 3.2km South Salt Creek

 Sampled Date
 20/12/2022
 8:20:00AM

 Sample Received Date
 20/12/2022
 4:10:34PM

 Sample Analysis Completed
 13/01/2023
 10:42:17AM

 Sample ID
 \*2022-009-9437

**Status** Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)

Green Algae - Total 627000 cells/mL

Toxin producing BGA - Total 0 cells/mL

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LOR

Sample temperature at time of receipt 12.0°C

Increanic Chemistry Nutriento

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Decula

Chlorophyll a 0.1 23.5  $\,\mu g/L$  Phaeophytin a 0.1 6.45  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	58 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	40100 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	4.0 μg/L	
# Nitrate + Nitrite as NO3	2.3	17.7 µg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		4.15 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	<1.5 µg/L	
Phosphorus-Filterable Reactive as P	0.5	<0.5 µg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.152 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	4.08 mg/L	
TKN as N T0112-01(ADEL)			28/12/2022
TKN as Nitrogen	0.05	4.15 mg/L	

Result



**Organic Chemistry** 

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22/12/2022

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### **Analytical Results**

31511-EPA - 3.2km South Salt Creek **Sampling Point** 

20/12/2022 8:20:00AM **Sampled Date** 20/12/2022 4:10:34PM **Sample Received Date** 13/01/2023 10:42:17AM Sample Analysis Completed \*2022-009-9437

Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

San	nple	tempe	eratu	ıre	at ti	me of r	eceipt 12.0°	C
				_				

22/12/2022 **Dissolved Organic Carbon T0158-07(ADEL)** Dissolved Organic Carbon

20.0 mg/L

**Total Organic Carbon T0158-07(ADEL)** 

Total Organic Carbon 1 24.8 mg/L

#### **Inorganic Chemistry - Physical** LOR Result **Test Start Date**

# Sample temperature at time of receipt 12.0°C

21/12/2022 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 207 mg/L Bicarbonate 252 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

21/12/2022 Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 95000 µS/cm

Note Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 79500 mg/L

1.0

1

pH T0010-01(ADEL) 21/12/2022

8.1 pH units Temperature at which pH is measured 22.9 °C

21/12/2022 **Turbidity T0018-01(ADEL)** 

Turbidity 0.1 8.4 NTU

LOR **Inorganic Chemistry - Waste Water** Result **Test Start Date** 

Sample temperature at time of receipt 12.0°C

23/12/2022 Suspended Solids T0160-01(ADEL)

<1 mg/L



Suspended Solids

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### **Analytical Results**

31517-EPA - 1.8km West Salt Creek **Sampling Point** 

20/12/2022 8:25:00AM Sampled Date 20/12/2022 4:11:25PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed

\*2022-009-9438 Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

LOR **Biology Operations** Result **Test Start Date** 

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

**DIATOMS** 

Pennate diatoms small\_spp 20600 cells/ml

**GREEN ALGAE** 

Chlorella 462000 cells/ml Phytoflagellates 52300 cells/mL Unicellular green algae small\_spp 593000 cells/mL

# Sample temperature at time of receipt 12.0°C Algal Biovolume T0393(ADEL)

**GREEN ALGAE** Chlorella 20.8 mm3/l

Unicellular green algae small\_spp 8.36 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data Biovolume totals have specific criteria around

how they calculate. Not Calculated mm3/L

# Total Blue\_Green Algae Biovolume 0.00 mm3/l

# Total Diatom Biovolume Not Calculated mm3/L # Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/l

### Sample temperature at time of receipt 12.0°C Algal Count - Total T0393(ADEL)

Algae - Total 1130000 cells/mL

# Total Algae Biovolume

Geosmin-MIB producing BGA - Total

Blue Green Algae - Total 0 cells/mL Diatoms - Total 20600 cells/mL 0 cells/mL



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# **Analytical Results**

Sampling Point 31517-EPA - 1.8km West Salt Creek

 Sampled Date
 20/12/2022
 8:25:00AM

 Sample Received Date
 20/12/2022
 4:11:25PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9438

Status Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)

Green Algae - Total 1110000 cells/mL
Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 12.0°C

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 44.8  $\,\mu g/L$  Phaeophytin a 0.1 13.1  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	43 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	35400 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	3.8 µg/L	
# Nitrate + Nitrite as NO3	2.3	16.8 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		3.85 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	<1.5 μg/L	
Phosphorus-Filterable Reactive as P	0.5	<0.5 μg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.146 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	3.96 mg/L	
TKN as N T0112-01(ADEL)			28/12/2022
TKN as Nitrogen	0.05	3.85 mg/L	

Organic Chemistry

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Result

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No.1115 Chemical and Biological Testing Accredited for compliance with ISO/IEC 17025 -Testing **Test Start Date** 

22/12/2022

21/12/2022

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# **Analytical Results**

31517-EPA - 1.8km West Salt Creek **Sampling Point** 

20/12/2022 8:25:00AM **Sampled Date** 20/12/2022 4:11:25PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9438 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

Sar	nple	tempe	erature	e at t	ime of re	ceipt 12.0°	С

22/12/2022 **Dissolved Organic Carbon T0158-07(ADEL)** Dissolved Organic Carbon

18.6 mg/L

**Total Organic Carbon T0158-07(ADEL)** 

Total Organic Carbon 1 24.7 mg/L

#### **Inorganic Chemistry - Physical** LOR Result **Test Start Date**

### Sample temperature at time of receipt 12.0°C Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

21/12/2022

Alkalinity as Calcium Carbonate 214 mg/L Bicarbonate 261 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 86100 µS/cm

Note Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 69700 mg/L

1

pH T0010-01(ADEL) 21/12/2022

8.2 pH units Temperature at which pH is measured 23.0 °C

21/12/2022 **Turbidity T0018-01(ADEL)** 

Turbidity 0.1 10 NTU

LOR **Inorganic Chemistry - Waste Water** Result **Test Start Date** 

Sample temperature at time of receipt 12.0°C

23/12/2022 Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 15 mg/L



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### **Analytical Results**

Sampling Point 315191-EPA - Morella Creek @ guage

 Sampled Date
 20/12/2022
 8:39:00AM

 Sample Received Date
 20/12/2022
 4:11:50PM

 Sample Analysis Completed
 13/01/2023
 10:42:17AM

 Sample ID
 \*2022-009-9442

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations LOR Result	Test Start Date
-------------------------------	-----------------

### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

#### **DIATOMS**

 Synedra
 350 cells/mL

 Pennate diatoms
 50 cells/mL

 Navicula
 50 cells/mL

#### **GREEN ALGAE**

 Chodatella\_(Lagerheimia)
 100 cells/mL

 Phytoflagellates
 100 cells/mL

 Oocystis sp\_1\_(small\_cells)
 3200 cells/mL

 Chlorella
 10100 cells/mL

 Monoraphidium sp\_2\_(short)
 5200 cells/mL

# Sample temperature at time of receipt 12.0°C Algal Biovolume T0393(ADEL)

20/12/2022

### **DIATOMS**

 Synedra
 0.24 mm3/L

 Navicula
 0.06 mm3/L

#### **GREEN ALGAE**

# Total Algae Biovolume

# Total Diatom Biovolume

# Total Green Algae Biovolume

# Total Blue\_Green Algae Biovolume

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are approximate values. Reported taxa and

calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

Not Calculated mm3/L

0.00 mm3/L

Not Calculated mm3/L

Not Calculated mm3/L



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# **Analytical Results**

315191-EPA - Morella Creek @ guage **Sampling Point** 

20/12/2022 8:39:00AM **Sampled Date** 20/12/2022 4:11:50PM **Sample Received Date** 13/01/2023 10:42:17AM Sample Analysis Completed \*2022-009-9442 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

Algal Biovolume T0393(ADEL)	20/12/2022
-----------------------------	------------

Total Toxic BGA Biovolume 0.00 mm3/L

# Sample temperature at time of receipt 12.0°C

20/12/2022 Algal Count - Total T0393(ADEL)

Algae - Total 19200 cells/mL Blue Green Algae - Total 0 cells/mL Diatoms - Total 450 cells/mL Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 18700 cells/mL Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 12.0°C

20/12/2022 Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 3.78 µg/L Phaeophytin a 0.1 1.52 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	28 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	5240 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	3.6 µg/L	
# Nitrate + Nitrite as NO3	2.3	15.9 µg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		0.78 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	9.867 μg/L	
Phosphorus-Filterable Reactive as P	0.5	3.3 µg/L	



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Phosphorus - Total T0109-44(ADEL)

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Analytical	Results
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Sampling Point 315191-EPA - Morella Creek @ guage

 Sampled Date
 20/12/2022
 8:39:00AM

 Sample Received Date
 20/12/2022
 4:11:50PM

 Sample Analysis Completed
 13/01/2023
 10:42:17AM

 Sample ID
 \*2022-009-9442

Sample ID \*2022-009-Status Endorsed

Collection Type Customer Collected

Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.024 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	18.3 mg/L	
TKN as N T0112-01(ADEL)			28/12/2022
TKN as Nitrogen	0.05	0.78 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.0	0°C		
Dissolved Organic Carbon T0158-07(ADEL	.)		22/12/2022
Dissolved Organic Carbon	1	10.7 mg/L	
Total Organic Carbon T0158-07(ADEL)			22/12/2022
Total Organic Carbon	1	11.6 mg/L	

Result

1.6 NTU

LOR

0.1

morganio enomicaly i nyelear		Roodit	root Gtart Bato
Sample temperature at time of receipt	12.0°C		
Alkalinity Carbonate Bicarbonate and	Hydroxide T0101-01	I(ADEL)	21/12/2022
Alkalinity as Calcium Carbonate		341 mg/L	
Bicarbonate		314 mg/L	
Carbonate		50 mg/L	
Hydroxide		0 mg/L	
<b>Conductivity &amp; Total Dissolved Solids</b>	T0016-01(ADEL)		21/12/2022
Conductivity	2	16700 μS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	10100 mg/L	
pH T0010-01(ADEL)			21/12/2022
pH		8.8 pH units	
Temperature at which pH is measured		22.9 °C	
Turbidity T0018-01(ADEL)			21/12/2022



Turbidity

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Inorganic Chemistry - Physical

**Test Start Date** 

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**Analytical Results** 

Sampling Point 315191-EPA - Morella Creek @ guage

 Sampled Date
 20/12/2022
 8:39:00AM

 Sample Received Date
 20/12/2022
 4:11:50PM

 Sample Analysis Completed
 13/01/2023
 10:42:17AM

 Sample ID
 \*2022-009-9442

 Status
 Endorsed

Collection Type Customer Collected

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 12.0°C Suspended Solids T0160-01(ADEL)

28/12/2022

Suspended Solids 1.0 <1 mg/L



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### **Analytical Results**

**Sampling Point** 31515-EPA - Snipe Point 20/12/2022 8:50:00AM Sampled Date 20/12/2022 4:11:12PM **Sample Received Date** 13/01/2023 10:42:17AM Sample Analysis Completed \*2022-009-9435 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

LOR **Biology Operations** Result **Test Start Date** 

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

#### **CRYPTOPHYTES**

Cryptomonads 260 cells/ml

DIATOMS

Pennate diatoms small spp 3600 cells/ml

**DINOFLAGELLATES** 

Heterocapsa 4 cells/mL

**GREEN ALGAE** 

Phytoflagellates small\_spp 700 cells/mL Chlorella 648000 cells/mL Monoraphidium sp\_2\_(short) 200 cells/ml Unicellular green algae 510000 cells/mL

# Sample temperature at time of receipt 12.0°C

#### Algal Biovolume T0393(ADEL)

#### **CRYPTOPHYTES**

Cryptomonads 0.06 mm3/L

**GREEN ALGAE** 

Phytoflagellates small\_spp 0.05 mm3/L Chlorella 29.2 mm3/L 0.01 mm3/L

Monoraphidium sp 2 (short)

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data.

how they calculate.

Biovolume totals have specific criteria around

Not Calculated mm3/L

0.00 mm3/L

Not Calculated mm3/L Not Calculated mm3/L

# Total Algae Biovolume

# Total Blue Green Algae Biovolume

# Total Diatom Biovolume # Total Green Algae Biovolume

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# **Analytical Results**

31515-EPA - Snipe Point **Sampling Point** 20/12/2022 8:50:00AM **Sampled Date** 20/12/2022 4:11:12PM **Sample Received Date** 13/01/2023 10:42:17AM Sample Analysis Completed \*2022-009-9435

Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

Algal Biovolume T0393(ADEL)	20/12/2022

Total Toxic BGA Biovolume 0.00 mm3/L

# Sample temperature at time of receipt 12.0°C

20/12/2022 Algal Count - Total T0393(ADEL)

Algae - Total 1160000 cells/mL Blue Green Algae - Total 0 cells/mL Diatoms - Total 3600 cells/mL Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 1160000 cells/mL

Toxin producing BGA - Total 0 cells/mL

# Sample temperature at time of receipt 12.0°C

Incurrente Chemieter Mutriente

20/12/2022 Chlorophyll a & Phaeophytin a T0380-02(ADEL)

D - - - . . 14

Chlorophyll a 0.1 48.3 µg/L Phaeophytin a 0.1 14.3 µg/L

LOD

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	35 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	35000 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	2.9 μg/L	
# Nitrate + Nitrite as NO3	2.3	12.8 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		3.83 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	<1.5 µg/L	
Phosphorus-Filterable Reactive as P	0.5	<0.5 µg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022



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Analytical Results			
Sampling Point Sampled Date Sample Received Date Sample Analysis Completed	31515-EPA 20/12/2022 20/12/2022 13/01/2023		
Sample ID	*2022-009-9		
Status	Endorsed		
Collection Type	Customer C	follected	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.166 mg/L	
Silica - Reactive T0111-01(ADEL)	0.05		21/12/2022
Silica - Reactive	0.05	3.99 mg/L	28/12/2022
TKN as N T0112-01(ADEL) TKN as Nitrogen	0.05	2.92 ma/l	20/12/2022
TIM as Millogell	0.03	3.83 mg/L	
Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.0°	°C		
Dissolved Organic Carbon T0158-07(ADEL)			22/12/2022
Dissolved Organic Carbon	1	18.2 mg/L	22/12/2022
Total Organic Carbon T0158-07(ADEL)  Total Organic Carbon	1	22.0	22/12/2022
iotal Organic Carbon	ı	23.8 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.0°			
Alkalinity Carbonate Bicarbonate and Hydro	oxide T0101-0	•	21/12/2022
Alkalinity as Calcium Carbonate		214 mg/L	
Bicarbonate  Carbonate		262 mg/L	
Hydroxide		0 mg/L 0 mg/L	
Conductivity & Total Dissolved Solids T0016	S_01/ADEL)	o mg/L	21/12/2022
Conductivity	2 2	86600 μS/cm	_,,
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	70300 mg/L	
pH T0010-01(ADEL)		-	21/12/2022
pH		8.1 pH units	
Temperature at which pH is measured		22.9 °C	
Turbidity T0018-01(ADEL)			21/12/2022
Turbidity	0.1	10 NTU	



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# **Analytical Results**

 Sampling Point
 31515-EPA - Snipe Point

 Sampled Date
 20/12/2022
 8:50:00AM

 Sample Received Date
 20/12/2022
 4:11:12PM

 Sample Analysis Completed
 13/01/2023
 10:42:17AM

 Sample ID
 \*2022-009-9435

Status Endorsed

Collection Type Customer Collected

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.0 Suspended Solids T0160-01(ADEL)	)°C		23/12/2022
Suspended Solids	1.0	20 mg/L	



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# **Analytical Results**

Sampling Point 31519-EPA - Morella Basin at Outlet Regulator

 Sampled Date
 20/12/2022
 8:55:00AM

 Sample Received Date
 20/12/2022
 4:11:37PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9441

Sample ID \*2022-009
Status Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

#### **BLUE GREEN ALGAE**

Aphanocapsa 12000 cells/mL

**DIATOMS** 

Synedra 9 cells/mL

**GREEN ALGAE** 

Oocystis sp\_1\_(small\_cells)5000 cells/mLPhytoflagellates250 cells/mLMonoraphidium sp\_2\_(short)10000 cells/mLChlorella171000 cells/mLChodatella\_(Lagerheimia)950 cells/mL

# Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)

#### **BLUE GREEN ALGAE**

Aphanocapsa <0.01 mm3/L

DIATOMS

Synedra <0.01 mm3/L

**GREEN ALGAE** 

 Oocystis sp\_1\_(small\_cells)
 0.86 mm3/L

 Monoraphidium sp\_2\_(short)
 0.53 mm3/L

 Chlorella
 7.70 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

Not Calculated mm3/L

<0.01 mm3/L <0.01 mm3/L

# Total Algae Biovolume

# Total Blue\_Green Algae Biovolume # Total Diatom Biovolume



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# **Analytical Results**

31519-EPA - Morella Basin at Outlet Regulator **Sampling Point** 

20/12/2022 8:55:00AM **Sampled Date** 20/12/2022 4:11:37PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9441

Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

20/12/2022 Algal Biovolume T0393(ADEL)

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

Sample temperature at time of receipt 12.0°C

20/12/2022 Algal Count - Total T0393(ADEL)

Algae - Total 199000 cells/mL Blue Green Algae - Total 12000 cells/ml Diatoms - Total 9 cells/mL Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 187000 cells/mL Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 12.0°C

20/12/2022 Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1  $3.55 \mu g/L$ Phaeophytin a 0.1 0.86 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	25 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	5200 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	3.7 µg/L	
# Nitrate + Nitrite as NO3	2.3	16.4 µg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		1.16 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	8.97 µg/L	
Phosphorus-Filterable Reactive as P	0.5	3.0 µg/L	



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Analytical Results			
Sampling Point Sampled Date Sample Received Date Sample Analysis Completed Sample ID	20/12/2022 20/12/2022	4:11:37PM 10:41:59AM	
Status	Endorsed Customer C	allacted	
Collection Type	Customer C	Ollected	
Phosphorus - Total T0109-44(ADEL) Phosphorus - Total	0.005	0.004!!	28/12/2022
Silica - Reactive T0111-01(ADEL)	0.005	0.024 mg/L	21/12/2022
Silica - Reactive	0.05	18.5 mg/L	00/40/0000
TKN as N T0112-01(ADEL)	0.05		28/12/2022
TKN as Nitrogen	0.05	1.16 mg/L	
Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.0°C	2		
Dissolved Organic Carbon T0158-07(ADEL)			22/12/2022
Dissolved Organic Carbon	1	11.0 mg/L	22/42/222
Total Organic Carbon T0158-07(ADEL) Total Organic Carbon	1	12.0 mg/L	22/12/2022
Total Organio Carpon	·	12.0 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.0°C			
Alkalinity Carbonate Bicarbonate and Hydro	xide T0101-0	1(ADEL)	21/12/2022
Alkalinity as Calcium Carbonate		341 mg/L	
Bicarbonate		318 mg/L	
Carbonate		48 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids T0016-			21/12/2022
Conductivity	2	16500 μS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	9920 mg/L	04/40/0000
pH T0010-01(ADEL)			21/12/2022
pH		8.8 pH units	
Temperature at which pH is measured		23.0 °C	

1.8 NTU

0.1



Turbidity

**Turbidity T0018-01(ADEL)** 

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# **Analytical Results**

Sampling Point 31519-EPA - Morella Basin at Outlet Regulator

 Sampled Date
 20/12/2022
 8:55:00AM

 Sample Received Date
 20/12/2022
 4:11:37PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

Sample ID \*2022-009-9441
Status Endorsed

Collection Type Customer Collected

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.0° Suspended Solids T0160-01(ADEL)	°C		28/12/2022
Suspended Solids	1.0	<1 mg/L	



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### **Analytical Results**

Sampling Point 531012-EPA - Sth Policeman Point

 Sampled Date
 20/12/2022
 9:15:00AM

 Sample Received Date
 20/12/2022
 4:10:05PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9452

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

DIATOMS

Pennate diatoms small\_spp 26200 cells/mL

**DINOFLAGELLATES** 

Heterocapsa 130 cells/mL

**GREEN ALGAE** 

Chlorella616000 cells/mLUnicellular green algae small\_spp506000 cells/mLPhytoflagellates small\_spp74100 cells/mLPhytoflagellates1630 cells/mL

Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)
GREEN ALGAE

 Chlorella
 27.7 mm3/L

 Unicellular green algae small\_spp
 7.13 mm3/L

 Phytoflagellates small\_spp
 5.79 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

Not Calculated mm3/L

0.00 mm3/L

Not Calculated mm3/L Not Calculated mm3/L

0.00 mm3/L

# # Total Green Algae Biovolume

Total Toxic BGA Biovolume

# Total Blue\_Green Algae Biovolume

# Total Algae Biovolume

# Total Diatom Biovolume

# Sample temperature at time of receipt 12.0°C Algal Count - Total T0393(ADEL)



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20/12/2022

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# **Analytical Results**

531012-EPA - Sth Policeman Point **Sampling Point** 

20/12/2022 9:15:00AM **Sampled Date** 20/12/2022 4:10:05PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9452

Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

Algal Count - Total T0393(ADEL)		20/12/2022
Algae - Total	1220000 cells/mL	
Blue Green Algae - Total	0 cells/mL	

Diatoms - Total 26200 cells/mL Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 1200000 cells/mL Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 12.0°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 53.5 µg/L Phaeophytin a 0.1

15.9 µg/L ΙOP

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	48 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	42100 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	9.9 µg/L	
# Nitrate + Nitrite as NO3	2.3	43.9 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		4.01 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	<1.5 µg/L	
Phosphorus-Filterable Reactive as P	0.5	<0.5 µg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.176 mg/L	

21/12/2022 Silica - Reactive T0111-01(ADEL)

Silica - Reactive 0.05 3.70 mg/L TKN as N T0112-01(ADEL)

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# **Analytical Results**

Sampling Point 531012-EPA - Sth Policeman Point

 Sampled Date
 20/12/2022
 9:15:00AM

 Sample Received Date
 20/12/2022
 4:10:05PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9452

 Status
 Endorsed

Collection Type Customer Collected

TKN as N T0112-01(ADEL) 28/12/2022

TKN as Nitrogen 0.05 4.00 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Dissolved Organic Carbon T0158-07(AD			22/12/2022
Dissolved Organic Carbon	1	19.2 mg/L	
Total Organic Carbon T0158-07(ADEL)			22/12/2022
Total Organic Carbon	1	26.6 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt			
Alkalinity Carbonate Bicarbonate and H	Hydroxide T0101-0	1(ADEL)	21/12/2022
Alkalinity as Calcium Carbonate		216 mg/L	
Bicarbonate		263 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
<b>Conductivity &amp; Total Dissolved Solids T</b>	70016-01(ADEL)		21/12/2022
Conductivity	2	86800 µS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	70500 mg/L	
pH T0010-01(ADEL)			21/12/2022
pH		8.2 pH units	
Temperature at which pH is measured		23.0 °C	
Turbidity T0018-01(ADEL)			21/12/2022
Turbidity	0.1	12 NTU	

Result

LOR

Sample temperature at time of receipt 12.0°C

**Inorganic Chemistry - Waste Water** 



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**Analytical Results** 

Sampling Point 531012-EPA - Sth Policeman Point

 Sampled Date
 20/12/2022
 9:15:00AM

 Sample Received Date
 20/12/2022
 4:10:05PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9452

 Status
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Collection Type Customer Collected

Suspended Solids T0160-01(ADEL)

28/12/2022

Suspended Solids 1.0 20 mg/L



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### **Analytical Results**

Sampling Point 300712-Tilley Swamp Watercourse Outlet Channel

 Sampled Date
 20/12/2022
 9:40:00AM

 Sample Received Date
 20/12/2022
 4:10:08PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9445

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

#### DIATOMS

Cyclotella 2500 cells/mL

#### **DINOFLAGELLATES**

Oxyrrhis 22 cells/mL PERIDINIACEAE 2 cells/mL

#### **GREEN ALGAE**

 Monoraphidium sp\_2\_(short)
 3100 cells/mL

 Oocystis sp\_1\_(small\_cells)
 200 cells/mL

 Chlamydomonas
 250 cells/mL

 Chlorella
 12200 cells/mL

# Sample temperature at time of receipt 12.0°C Algal Biovolume T0393(ADEL)

20/12/2022

#### **DIATOMS**

Cyclotella 1.28 mm3/L

# **GREEN ALGAE**

 Monoraphidium sp\_2\_(short)
 0.16 mm3/L

 Oocystis sp\_1\_(small\_cells)
 0.03 mm3/L

 Chlamydomonas
 0.06 mm3/L

 Chlorella
 0.55 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

2.08 mm3/L 0.00 mm3/L 1.28 mm3/L 0.80 mm3/L

# Total Algae Biovolume

# Total Blue\_Green Algae Biovolume # Total Diatom Biovolume # Total Green Algae Biovolume

NATA

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# **Analytical Results**

Sampling Point 300712-Tilley Swamp Watercourse Outlet Channel

 Sampled Date
 20/12/2022
 9:40:00AM

 Sample Received Date
 20/12/2022
 4:10:08PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9445

Status Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL)	20/12/2022
Total Toxic BGA Biovolume	0.00 mm3/L

Sample temperature at time of receipt 12.0°C
Algal Count - Total T0393(ADEL)
20/12/2022

 Algae - Total
 18300 cells/mL

 Blue Green Algae - Total
 0 cells/mL

 Diatoms - Total
 2500 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 15800 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Sample temperature at time of receipt 12.0°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 1.98 μg/L

Phaeophytin a 0.1 1.98 μg/L 0.26 μg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	72 µg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	14000 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	5.0 μg/L	
# Nitrate + Nitrite as NO3	2.3	22.2 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		1.38 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	9.568 μg/L	
Phosphorus-Filterable Reactive as P	0.5	3.2 µg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022



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Ana	lytical	Results
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300712-Tilley Swamp Watercourse Outlet Channel **Sampling Point** 

Endorsed

20/12/2022 9:40:00AM **Sampled Date** 20/12/2022 4:10:08PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9445 Sample ID

Status **Customer Collected Collection Type** 

Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.024 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	5.52 mg/L	
TKN as N T0112-01(ADEL)			28/12/2022
TKN as Nitrogen	0.05	1.37 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.0°C Dissolved Organic Carbon T0158-07(ADEL) Dissolved Organic Carbon	1	12.7 mg/L	22/12/2022
Total Organic Carbon T0158-07(ADEL) Total Organic Carbon	1	13.3 mg/L	22/12/2022

LOR	Result	Test Start Date
12.0°C		_
Hydroxide T0101-0	1(ADEL)	21/12/2022
	357 mg/L	
	436 mg/L	
	0 mg/L	
	0 mg/L	
Γ0016-01(ADEL)		21/12/2022
2	37200 μS/cm	
	Conductivity measurement is corrected to 25°C	
1	24700 mg/L	
		21/12/2022
	8.3 pH units	
	23.4 °C	
		21/12/2022
	12.0°C Hydroxide T0101-0 F0016-01(ADEL)	12.0°C  Hydroxide T0101-01(ADEL)  357 mg/L  436 mg/L  0 mg/L  0 mg/L  T0016-01(ADEL)  2 37200 µS/cm  Conductivity measurement is corrected to 25°C  1 24700 mg/L  8.3 pH units

2.0 NTU

0.1



Turbidity

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**Analytical Results** 

Sampling Point 300712-Tilley Swamp Watercourse Outlet Channel

 Sampled Date
 20/12/2022
 9:40:00AM

 Sample Received Date
 20/12/2022
 4:10:08PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9445

 Status
 Endorsed

Collection Type Customer Collected

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 12.0°C Suspended Solids T0160-01(ADEL)

28/12/2022

Suspended Solids 1.0 <1 mg/L



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# **Analytical Results**

 Sampling Point
 31526-EPA - Nth Jack Point

 Sampled Date
 20/12/2022
 9:45:00AM

 Sample Received Date
 20/12/2022
 4:09:50PM

 Sample Analysis Completed
 13/01/2023
 10:42:17AM

 Sample ID
 \*2022-009-9434

Status Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

DIATOMS

Pennate diatoms small\_spp 34900 cells/mL

**DINOFLAGELLATES** 

Heterocapsa 120 cells/mL

**GREEN ALGAE** 

Chlorella1060000 cells/mLUnicellular green algae small\_spp709000 cells/mLPhytoflagellates small\_spp61000 cells/mLPhytoflagellates1250 cells/mL

Sample temperature at time of receipt 12.0°C Algal Biovolume T0393(ADEL)

**GREEN ALGAE** 

Chlorella47.7 mm3/LUnicellular green algae small\_spp10.00 mm3/LPhytoflagellates small\_spp4.77 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

Not Calculated mm3/L

0.00 mm3/L

Not Calculated mm3/L

Not Calculated mm3/L

0.00 mm3/L

# Total Blue\_Green Algae Biovolume # Total Diatom Biovolume

# Total Green Algae Biovolume

Total Toxic BGA Biovolume

# Total Algae Biovolume

Sample temperature at time of receipt 12.0°C Algal Count - Total T0393(ADEL)



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20/12/2022

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# **Analytical Results**

 Sampling Point
 31526-EPA - Nth Jack Point

 Sampled Date
 20/12/2022
 9:45:00AM

 Sample Received Date
 20/12/2022
 4:09:50PM

 Sample Analysis Completed
 13/01/2023
 10:42:17AM

 Sample ID
 \*2022-009-9434

Status Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)	20/12/2022
Alone Tetal	

 Algae - Total
 1870000 cells/mL

 Blue Green Algae - Total
 0 cells/mL

 Diatoms - Total
 34900 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 1830000 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Sample temperature at time of receipt 12.0°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 76.2 μg/L

Phaeophytin a	0.1	23.8 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	30 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	34000 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	2.7 μg/L	
# Nitrate + Nitrite as NO3	2.3	12.0 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		4.30 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	<1.5 µg/L	
Phosphorus-Filterable Reactive as P	0.5	<0.5 µg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.189 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	2.85 mg/L	
TKN as N T0112-01(ADEL)		•	28/12/2022





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 Sampling Point
 31526-EPA - Nth Jack Point

 Sampled Date
 20/12/2022
 9:45:00AM

 Sample Received Date
 20/12/2022
 4:09:50PM

 Sample Analysis Completed
 13/01/2023
 10:42:17AM

 Sample ID
 \*2022-009-9434

 Status
 Endorsed

Collection Type Customer Collected

TKN as N T0112-01(ADEL) 28/12/2022

TKN as Nitrogen 0.05 4.30 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Dissolved Organic Carbon T0158-07(Al	DEL)		22/12/2022
Dissolved Organic Carbon	1	18.0 mg/L	
Total Organic Carbon T0158-07(ADEL)			22/12/2022
Total Organic Carbon	1	28.8 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date

Sample temperature at time of receipt 12.0°C		
Alkalinity Carbonate Bicarbonate and Hydrox	ide T0101-01(ADEL)	21/12/2022
Alkalinity as Calaium Carbonata	040	

 Alkalinity as Calcium Carbonate
 218 mg/L

 Bicarbonate
 266 mg/L

 Carbonate
 0 mg/L

 Hydroxide
 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 2 82500 uS/cm

Conductivity 2 82500  $\,\mu$ S/cm Note Conductivity measurement is corrected to 25°C

Note Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 65900 mg/L

pH T0010-01(ADEL)

pH 8.2 pH units
Temperature at which pH is measured 23.0 °C

 Turbidity T0018-01(ADEL)
 21/12/2022

 Turbidity
 0.1
 16 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 12.0°C



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**Analytical Results** 

 Sampling Point
 31526-EPA - Nth Jack Point

 Sampled Date
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 9:45:00AM

 Sample Received Date
 20/12/2022
 4:09:50PM

 Sample Analysis Completed
 13/01/2023
 10:42:17AM

 Sample ID
 \*2022-009-9434

Status Endorsed

Collection Type Customer Collected

Suspended Solids T0160-01(ADEL)

23/12/2022

Suspended Solids 1.0 45 mg/L



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# **Analytical Results**

Sampling Point 300713-Tilley Swamp Drain D/S Northern Outlet

 Sampled Date
 20/12/2022
 9:53:00AM

 Sample Received Date
 20/12/2022
 4:10:21PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9443

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

#### DIATOMS

Synedra 6 cells/mL
Cyclotella 1500 cells/mL

#### **DINOFLAGELLATES**

PERIDINIACEAE 2 cells/mL
Oxyrrhis 2 cells/mL

#### **GREEN ALGAE**

 Phytoflagellates
 1200 cells/mL

 Chlorella
 8400 cells/mL

 Unicellular green algae
 6800 cells/mL

 Oocystis sp\_1\_(small\_cells)
 200 cells/mL

 Monoraphidium sp\_2\_(short)
 800 cells/mL

#### Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)

#### **DIATOMS**

 Synedra
 <0.01 mm3/L</td>

 Cyclotella
 0.76 mm3/L

#### **GREEN ALGAE**

 Chlorella
 0.38 mm3/L

 Oocystis sp\_1\_(small\_cells)
 0.03 mm3/L

 Monoraphidium sp\_2\_(short)
 0.04 mm3/L

# Algal Biovolume Comment

Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

Not Calculated mm3/L

0.00 mm3/L

NATA
WORLD RECOGNISED

# Total Algae Biovolume

# Total Blue\_Green Algae Biovolume

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# **Analytical Results**

300713-Tilley Swamp Drain D/S Northern Outlet **Sampling Point** 

20/12/2022 9:53:00AM **Sampled Date** 20/12/2022 4:10:21PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9443 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

20/12/2022 Algal Biovolume T0393(ADEL)

# Total Diatom Biovolume 0.76 mm3/L

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

### Sample temperature at time of receipt 12.0°C

20/12/2022 Algal Count - Total T0393(ADEL)

Algae - Total 18900 cells/ml Blue Green Algae - Total 0 cells/mL Diatoms - Total 1510 cells/mL Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 17400 cells/mL Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 12.0°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 1.75 µg/L Phaeophytin a 0.1 <0.1 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	82 µg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	14300 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	5.8 μg/L	
# Nitrate + Nitrite as NO3	2.3	25.7 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		1.39 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	8.372 µg/L	



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Analytical I	Results
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300713-Tilley Swamp Drain D/S Northern Outlet **Sampling Point** 

20/12/2022 9:53:00AM **Sampled Date** 20/12/2022 4:10:21PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9443 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

ADEL)		06/01/2023
0.5	2.8 μg/L	
		28/12/2022
0.005	0.022 mg/L	
		21/12/2022
0.05	5.23 mg/L	
		28/12/2022
0.05	1.38 mg/L	
	0.005	0.5 2.8 μg/L  0.005 0.022 mg/L  0.05 5.23 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.0° Dissolved Organic Carbon T0158-07(ADEL) Dissolved Organic Carbon	<b>°C</b>	13.4 mg/L	22/12/2022
Total Organic Carbon T0158-07(ADEL) Total Organic Carbon	1	13.5 mg/L	22/12/2022

Inorganic Chemistry - Physical	LOR	Result	Test Start Date

#### Sample temperature at time of receipt 12.0°C

### Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 349 mg/L Bicarbonate 426 mg/L Carbonate 0 mg/L 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 37700 µS/cm

Note Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 25100 mg/L

21/12/2022 pH T0010-01(ADEL) рΗ 8.2 pH units

23.0 °C



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Temperature at which pH is measured

21/12/2022

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28/12/2022

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**Analytical Results** 

Sampling Point 300713-Tilley Swamp Drain D/S Northern Outlet

 Sampled Date
 20/12/2022
 9:53:00AM

 Sample Received Date
 20/12/2022
 4:10:21PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9443

Status Endorsed

Collection Type Customer Collected

Turbidity T0018-01(ADEL) 21/12/2022

Turbidity 0.1 2.1 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 12.0°C Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 <1 mg/L



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# **Analytical Results**

 Sampling Point
 31514-EPA - Stoney Well

 Sampled Date
 20/12/2022 10:25:00AM

 Sample Received Date
 20/12/2022 4:10:20PM

 Sample Analysis Completed
 13/01/2023 10:41:59AM

 Sample ID
 \*2022-009-9439

Status Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

#### **DIATOMS**

 Gyrosigma
 2 cells/mL

 Nitzschia
 4 cells/mL

 Pennate diatoms small\_spp
 6540 cells/mL

#### **GREEN ALGAE**

Chlorella571000 cells/mLUnicellular green algae small\_spp475000 cells/mLPhytoflagellates small\_spp30500 cells/mLPhytoflagellates140 cells/mL

#### Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)

#### **DIATOMS**

Gyrosigma <0.01 mm3/L Nitzschia <0.01 mm3/L

#### **GREEN ALGAE**

 Chlorella
 25.7 mm3/L

 Unicellular green algae small\_spp
 6.70 mm3/L

 Phytoflagellates small\_spp
 2.39 mm3/L

# Algal Biovolume Comment Biovolumes for taxa reported at genus level are

approximate values. Reported taxa and calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.

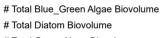
Not Calculated mm3/L

Not Calculated

0.00 mm3/L

Not Calculated mm3/L
Not Calculated mm3/L

0.00 mm3/L



# Total Algae Biovolume

# Total Green Algae Biovolume

Total Toxic BGA Biovolume

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### **Analytical Results**

**Status** 

31514-EPA - Stoney Well **Sampling Point** 20/12/2022 10:25:00AM **Sampled Date** 20/12/2022 4:10:20PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9439 Sample ID Endorsed

**Customer Collected Collection Type** 

# Sample temperature at time of receipt 12.0°C

20/12/2022 Algal Count - Total T0393(ADEL)

Algae - Total 1080000 cells/mL Blue Green Algae - Total 0 cells/mL Diatoms - Total 6550 cells/mL Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 1080000 cells/mL Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 12.0°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

20/12/2022

Chlorophyll a 80.0 µg/L Phaeophytin a 0.1 28.7 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	38 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	31700 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	3.2 μg/L	
# Nitrate + Nitrite as NO3	2.3	14.2 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		4.49 mg/L	
Phosphorus - Filterable Reactive as P (ADEL)			06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	<1.5 µg/L	
Phosphorus-Filterable Reactive as P	0.5	<0.5 µg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.184 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022



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Analytical Results					
Sampling Point	31514-EPA - Stoney Well				
Sampled Date	20/12/2022	20/12/2022 10:25:00AM			
Sample Received Date	20/12/2022 4:10:20PM				
Sample Analysis Completed	13/01/2023	13/01/2023 10:41:59AM *2022-009-9439			
Sample ID					
Status		Endorsed			
Collection Type	Customer Co	Customer Collected			
Silica - Reactive T0111-01(ADEL)			21/12/2022		
Silica - Reactive	0.05	2.16 mg/L			
TKN as N T0112-01(ADEL)			28/12/2022		
TKN as Nitrogen	0.05	4.49 mg/L			
Organic Chemistry	LOR	Result	Test Start Date		
Sample temperature at time of receipt 12.	0°C				
<b>Dissolved Organic Carbon T0158-07(ADEL</b>	.)		22/12/2022		
Dissolved Organic Carbon	1	18.6 mg/L			
Total Organic Carbon T0158-07(ADEL)			22/12/2022		
Total Organic Carbon	1	27.8 mg/L			
Inorganic Chemistry - Physical	LOR	Result	Test Start Date		
Sample temperature at time of receipt 12.	0°C				
Alkalinity Carbonate Bicarbonate and Hyd	Iroxide T0101-0	1(ADEL)	21/12/2022		
Alkalinity as Calcium Carbonate		219 mg/L			
Bicarbonate		267 mg/L			
Carbonate		0 mg/L			
Hydroxide		0 mg/L			
Conductivity & Total Dissolved Solids T00	16-01(ADEL)		21/12/2022		
Conductivity	2	80300 μS/cm			
Note		Conductivity measurement is corrected to 25°C			
Total Dissolved Solids (by EC)	1	63600 mg/L			
pH T0010-01(ADEL)			21/12/2022		
pH		8.3 pH units			
Temperature at which pH is measured		23.0 °C			
Turbidity T0018-01(ADEL)			21/12/2022		

19 NTU

0.1



Turbidity

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#### **Analytical Results**

 Sampling Point
 31514-EPA - Stoney Well

 Sampled Date
 20/12/2022 10:25:00AM

 Sample Received Date
 20/12/2022 4:10:20PM

 Sample Analysis Completed
 13/01/2023 10:41:59AM

 Sample ID
 \*2022-009-9439

Status Endorsed

Collection Type Customer Collected

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 12.0	)°C		
Suspended Solids T0160-01(ADEL)			23/12/2022
Suspended Solids	1.0	<1 mg/L	

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### **Analytical Results**

 Sampling Point
 31525-EPA - Villa de Yumpa

 Sampled Date
 20/12/2022 10:50:00AM

 Sample Received Date
 20/12/2022 4:12:03PM

 Sample Analysis Completed
 13/01/2023 10:41:59AM

 Sample ID
 \*2022-009-9432

 Sample ID
 \*2022-009-9

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 12.0°C

### Algal Identification T0393(ADEL)

DIATOMS

Pennate diatoms small\_spp 22500 cells/mL

**GREEN ALGAE** 

Chlorella756000 cells/mLUnicellular green algae small\_spp412000 cells/mLPhytoflagellates small\_spp19600 cells/mLPhytoflagellates450 cells/mL

Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)

**GREEN ALGAE** 

 Chlorella
 34.0 mm3/L

 Unicellular green algae small\_spp
 5.81 mm3/L

 Phytoflagellates small\_spp
 1.53 mm3/L

# Algal Biovolume Comment

Biovolumes for taxa reported at genus level are approximate values. Reported taxa and

calculated biovolume includes only those with taxon cell volume and associated cell count data. Biovolume totals have specific criteria around

how they calculate.
# Total Algae Biovolume Not Calculated mm3/L

# Total Blue\_Green Algae Biovolume 0.00 mm3/L

# Total Diatom Biovolume Not Calculated mm3/L # Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

# Sample temperature at time of receipt 12.0°C Algal Count - Total T0393(ADEL)

Algae - Total 1210000 cells/mL
Blue Green Algae - Total 0 cells/mL



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## **Analytical Results**

31525-EPA - Villa de Yumpa **Sampling Point** 20/12/2022 10:50:00AM **Sampled Date** 20/12/2022 4:12:03PM **Sample Received Date** 13/01/2023 10:41:59AM Sample Analysis Completed \*2022-009-9432 Sample ID

Endorsed Status

**Customer Collected Collection Type** 

Algal Count - Total T0393(ADEL)	20/12/2022
Diatoms - Total	22500 cells/mL

Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 1190000 cells/mL Toxin producing BGA - Total 0 cells/mL

## Sample temperature at time of receipt 12.0°C

Chlorophyll a & Phaeophytin a T0380-02(ADEL) 20/12/2022

Chlorophyll a 0.1 20.5 µg/L Phaeophytin a 0.1 7.17 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date				
Sample temperature at time of receipt 12.0°C							
Ammonia as N (ADEL)			06/01/2023				
# Ammonia as N	1	43 μg/L					
Chloride T0104-02(ADEL)			21/12/2022				
Chloride	4.0	30400 mg/L					
Nitrate + Nitrite as N (ADEL)			06/01/2023				
# Nitrate + Nitrite as N	0.5	16.4 μg/L					
# Nitrate + Nitrite as NO3	2.3	72.7 µg/L					
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022				
Nitrogen - Total		3.58 mg/L					
Phosphorus - Filterable Reactive as P (A	ADEL)		06/01/2023				
# Phosphorus -Filterable Reactive as PO4	1.5	<1.5 µg/L					
Phosphorus-Filterable Reactive as P	0.5	<0.5 µg/L					
Phosphorus - Total T0109-44(ADEL)			28/12/2022				
Phosphorus - Total	0.005	0.135 mg/L					
Silica - Reactive T0111-01(ADEL)			21/12/2022				
Silica - Reactive	0.05	0.49 mg/L					
TKN as N T0112-01(ADEL)		-	28/12/2022				
TKN as Nitrogen	0.05	3.56 mg/L					



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## **Analytical Results**

 Sampling Point
 31525-EPA - Villa de Yumpa

 Sampled Date
 20/12/2022 10:50:00AM

 Sample Received Date
 20/12/2022 4:12:03PM

 Sample Analysis Completed
 13/01/2023 10:41:59AM

 Sample ID
 \*2022-009-9432

**Status** Endorsed

Collection Type	Customer Collected
-----------------	--------------------

Organic Chemistry	LOR	Result	Test Start Date			
Sample temperature at time of receipt 1	2.0°C					
Dissolved Organic Carbon T0158-07(AD	EL)		22/12/2022			
Dissolved Organic Carbon	1	17.9 mg/L				
Total Organic Carbon T0158-07(ADEL)			22/12/2022			
Total Organic Carbon	1	22.2 mg/L				
Inorganic Chemistry - Physical	LOR	Result	Test Start Date			
Sample temperature at time of receipt 1	2.0°C					
Alkalinity Carbonate Bicarbonate and H	ydroxide T0101-0	1(ADEL)	21/12/2022			
Alkalinity as Calcium Carbonate		200 mg/L				
Bicarbonate		244 mg/L				
Carbonate		0 mg/L				
Hydroxide		0 mg/L				
Conductivity & Total Dissolved Solids To	Conductivity & Total Dissolved Solids T0016-01(ADEL)					
Conductivity	2	76800 μS/cm				
Note		Conductivity measurement is corrected to 25°C				
Total Dissolved Solids (by EC)	1	60100 mg/L				
pH T0010-01(ADEL)			21/12/2022			
pH		8.2 pH units				
Temperature at which pH is measured		23.2 °C				
Turbidity T0018-01(ADEL)			21/12/2022			
Turbidity	0.1	12 NTU				
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date			
Sample temperature at time of receipt 1	2.0°C					
Suspended Solids T0160-01(ADEL)			23/12/2022			
Suspended Solids	1.0	15 mg/L				



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#### **Analytical Results**

Sampling Point 31513-EPA - Parnka Point Boat Ramp

 Sampled Date
 20/12/2022
 11:40:00AM

 Sample Received Date
 20/12/2022
 4:11:01PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9436

Sample ID \*2022-009
Status Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 12.0°C

#### Algal Identification T0393(ADEL)

#### DIATOMS

Synedra 2 cells/mL
Chaetoceros 30 cells/mL

#### **GREEN ALGAE**

#### Sample temperature at time of receipt 12.0°C

Algal Biovolume T0393(ADEL)

**DIATOMS** 

Synedra <0.01 mm3/L

**GREEN ALGAE** 

Chlorella 25.3 mm3/L

# Algal Biovolume Comment

Biovolumes for taxa reported at genus level are approximate values. Reported taxa and calculated biovolume includes only those with

taxon cell volume and associated cell count data.
Biovolume totals have specific criteria around

# Total Algae Biovolume how they calculate.

# Total Algae Biovolume Not Calculated mm3/L

# Total Blue\_Green Algae Biovolume 0.00 mm3/L

# Total Diatom Biovolume Not Calculated mm3/L # Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

# Sample temperature at time of receipt 12.0°C Algal Count - Total T0393(ADEL)

Algae - Total

Blue Green Algae - Total

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800000 cells/mL 0 cells/mL

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#### **Analytical Results**

Sampling Point 31513-EPA - Parnka Point Boat Ramp

 Sampled Date
 20/12/2022
 11:40:00AM

 Sample Received Date
 20/12/2022
 4:11:01PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9436

Status Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)		20/12/2022
Diatoms - Total	32 cells/mL	
Geosmin-MIB producing BGA - Total	0 cells/mL	
Green Algae - Total	800000 cells/mL	
Toxin producing BGA - Total		

## Sample temperature at time of receipt 12.0°C

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 19.3  $\,\mu g/L$  Phaeophytin a 0.1 7.46  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	12.0°C		
Ammonia as N (ADEL)			06/01/2023
# Ammonia as N	1	28 μg/L	
Chloride T0104-02(ADEL)			21/12/2022
Chloride	4.0	25300 mg/L	
Nitrate + Nitrite as N (ADEL)			06/01/2023
# Nitrate + Nitrite as N	0.5	3.0 µg/L	
# Nitrate + Nitrite as NO3	2.3	13.3 µg/L	
Nitrogen - Total TMZ-M06(ADEL)			20/12/2022
Nitrogen - Total		2.74 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		06/01/2023
# Phosphorus -Filterable Reactive as PO4	1.5	<1.5 µg/L	
Phosphorus-Filterable Reactive as P	0.5	<0.5 µg/L	
Phosphorus - Total T0109-44(ADEL)			28/12/2022
Phosphorus - Total	0.005	0.090 mg/L	
Silica - Reactive T0111-01(ADEL)			21/12/2022
Silica - Reactive	0.05	0.50 mg/L	
TKN as N T0112-01(ADEL)			28/12/2022
TKN as Nitrogen	0.05	2.74 mg/L	



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## **Analytical Results**

Sampling Point 31513-EPA - Parnka Point Boat Ramp

 Sampled Date
 20/12/2022
 11:40:00AM

 Sample Received Date
 20/12/2022
 4:11:01PM

 Sample Analysis Completed
 13/01/2023
 10:41:59AM

 Sample ID
 \*2022-009-9436

**Status** Endorsed

Collection Type Customer Collected

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		
<b>Dissolved Organic Carbon T0158-07(ADE</b>	EL)		22/12/2022
Dissolved Organic Carbon	1	16.8 mg/L	
Total Organic Carbon T0158-07(ADEL)			22/12/2022
Total Organic Carbon	1	19.5 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		_
Alkalinity Carbonate Bicarbonate and H	ydroxide T0101-0	1(ADEL)	21/12/2022
Alkalinity as Calcium Carbonate		176 mg/L	
Bicarbonate		215 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids TO	016-01(ADEL)		21/12/2022
Conductivity	2	67600 μS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	51000 mg/L	
pH T0010-01(ADEL)			21/12/2022
рН		8.2 pH units	
Temperature at which pH is measured		23.2 °C	
Turbidity T0018-01(ADEL)			21/12/2022
Turbidity	0.1	7.6 NTU	
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 1	2.0°C		00/46/2000
Suspended Solids T0160-01(ADEL)			23/12/2022
Suspended Solids	1.0	20 mg/L	



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Thuy Diep - Technical Officer Chemistry

Andrew Ford - Acting Method Development Specialist

Sharon Helgeson - Technical Officer Life Sciences

Kerrie Jooste - Manager Chemistry Services

Chami Karunatilaka - Technical Officer Chemistry

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Gayle Polley - Supervisor Nutrients and Waste

Lyudmila Tsymbal - Technical Officer Life Sciences



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#### Incidents

Sample ID	S.Point	Description	Sampled Date	Analysis (where Applicable)	Incident Description
2022-009-9432	31525	EPA - Villa de Yumpa	20/12/2022	рН	Test not processed within holding time
2022-009-9432	31525	EPA - Villa de Yumpa	20/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9433	31523	EPA - Long Point	19/12/2022	pН	Test not processed within holding time
2022-009-9433	31523	EPA - Long Point	19/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9434	31526	EPA - Nth Jack Point	20/12/2022	pН	Test not processed within holding time
022-009-9434	31526	EPA - Nth Jack Point	20/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9435	31515	EPA - Snipe Point	20/12/2022	pН	Test not processed within holding time
022-009-9435	31515	EPA - Snipe Point	20/12/2022	Silica - Reactive	Test not processed within holding time
022-009-9436	31513	EPA - Parnka Point Boat Ramp	20/12/2022	рН	Test not processed within holding time
022-009-9436	31513	EPA - Parnka Point Boat Ramp	20/12/2022	Silica - Reactive	Test not processed within holding time
022-009-9437	31511	EPA - 3.2km South Salt Creek	20/12/2022	рН	Test not processed within holding time
022-009-9437	31511	EPA - 3.2km South Salt Creek	20/12/2022	Silica - Reactive	Test not processed within holding time
022-009-9438	31517	EPA - 1.8km West Salt Creek	20/12/2022	рН	Test not processed within holding time
022-009-9438	31517	EPA - 1.8km West Salt Creek	20/12/2022	Silica - Reactive	Test not processed within holding time
022-009-9439	31514	EPA - Stoney Well	20/12/2022	pН	Test not processed within holding time
022-009-9439	31514	EPA - Stoney Well	20/12/2022	Silica - Reactive	Test not processed within holding time
022-009-9440	31512	EPA - McGrath Flat North	19/12/2022	рН	Test not processed within holding time
022-009-9440	31512	EPA - McGrath Flat North	19/12/2022	Silica - Reactive	Test not processed within holding time
022-009-9441	31519	EPA - Morella Basin at Outlet Regulator	20/12/2022	рН	Test not processed within holding time
022-009-9441	31519	EPA - Morella Basin at Outlet Regulator	20/12/2022	Silica - Reactive	Test not processed within holding time



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#### Incidents

Sample ID	S.Point	Description	Sampled Date	Analysis (where Applicable)	Incident Description
2022-009-9441	31519	EPA - Morella Basin at Outlet Regulator	20/12/2022	Suspended Solids	Test not processed within holding time
2022-009-9442	315191	EPA - Morella Creek @ guage	20/12/2022	рН	Test not processed within holding time
2022-009-9442	315191	EPA - Morella Creek @ guage	20/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9442	315191	EPA - Morella Creek @ guage	20/12/2022	Suspended Solids	Test not processed within holding time
2022-009-9443	300713	Tilley Swamp Drain D/S Northern Outlet	20/12/2022	рН	Test not processed within holding time
2022-009-9443	300713	Tilley Swamp Drain D/S Northern Outlet	20/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9443	300713	Tilley Swamp Drain D/S Northern Outlet	20/12/2022	Suspended Solids	Test not processed within holding time
2022-009-9445	300712	Tilley Swamp Watercourse Outlet Channel	20/12/2022	рН	Test not processed within holding time
2022-009-9445	300712	Tilley Swamp Watercourse Outlet Channel	20/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9445	300712	Tilley Swamp Watercourse Outlet Channel	20/12/2022	Suspended Solids	Test not processed within holding time
2022-009-9446	31522	EPA - Mark Point	19/12/2022	pН	Test not processed within holding time
2022-009-9446	31522	EPA - Mark Point	19/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9447	351213	EPA - Murray Mouth	19/12/2022	pН	Test not processed within holding time
2022-009-9447	351213	EPA - Murray Mouth	19/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9448	31524	EPA - Bonneys	19/12/2022	pН	Test not processed within holding time
2022-009-9448	31524	EPA - Bonneys	19/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9449	31528	EPA - Salt Creek Outlet	20/12/2022	pН	Test not processed within holding time
2022-009-9449	31528	EPA - Salt Creek Outlet	20/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9450	353179	EPA - Tauwitchere Barrage Upstream	19/12/2022	рН	Test not processed within holding time
2022-009-9450	353179	EPA - Tauwitchere Barrage Upstream	19/12/2022	Silica - Reactive	Test not processed within holding time



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#### Incidents

Sample ID	S.Point	Description	Sampled Date	Analysis (where Applicable)	Incident Description
2022-009-9451	353177	EPA - Tauwitchere Barrage DS	19/12/2022	рН	Test not processed within holding time
2022-009-9451	353177	EPA - Tauwitchere Barrage DS	19/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9452	531012	EPA - Sth Policeman Point	20/12/2022	рН	Test not processed within holding time
2022-009-9452	531012	EPA - Sth Policeman Point	20/12/2022	Silica - Reactive	Test not processed within holding time
2022-009-9452	531012	EPA - Sth Policeman Point	20/12/2022	Suspended Solids	Test not processed within holding time
2022-009-9453	53032	EPA - Noonameena	19/12/2022	рН	Test not processed within holding time
2022-009-9453	53032	EPA - Noonameena	19/12/2022	Silica - Reactive	Test not processed within holding time

#### **Samples Not Collected**

Sample ID	S.Point	Description	Sampled Date	Non Collect Reason
2022-009-9444	300711	Tilley Swamp Drain U/S Morella	14/12/2022	Water too high

#### **Analytical Method**

Analytical Method Code	Description	Reference Method
T0010-01	Determination of pH	AP4500HB
T0016-01	Determination of Conductivity - Corrected to 25C	AP2510B
T0018-01	Turbidity - Nephelometric Measurement	APAWWA-WEF
T0101-01	Alkalinity - Automated Acidimetric Titration	AP2320B
T0104-02	Chloride - Discrete Analyser	AP4500CLE
T0109-44	Phosphorous -total Kjeldahl for seawater by automated flow colorimetry	AP4500PF
T0111-01	Silica by automated fow colorimetry	AP4500SI02
T0112-01	Nitrogen- Total Kjeldahl by discrete analyser	AP4500NORGA
T0158-07	Total and Dissolved Organic Carbon (Ol Analytical)	SM5310C
T0160-01	Suspended Solids 103C to 105C	AP4500
T0380-02	Chlorophyll a & b and phaeophytin	ISO10260
T0393	Microalgae & Cyanobacteria - Scan & Identification	
T0393	Microalgae & Cyanobacteria - Scan & Identification	Hotzel1999
TMZ-M06	Derived Results and Data Checks	AP4500NORGA



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#### **Laboratory Information**

Laboratory	NATA accreditation ID
Inorganic Chemistry - Physical	1115
Inorganic Chemistry - Waste Water	1115
Inorganic Chemistry - Nutrients	1115
Organic Chemistry	1115
Biology Operations	1115



Testing

Corporate Accreditation
No.1115 Chemical and
Biological Testing
Accredited for compliance
with ISO/IEC 17025 -

Notes 1. The last figure of the result value is a significant figure

- 2. # determination of the component is not covered by NATA Accreditation.
- 3. ^ indicates result is out of specification according to the reference guideline. Refer to report footer.
- 4. \* indicates an incident has been recorded against the sample. Refer to report footer.
- 5. & Indicates the results have changed since the last issued report.
- 6. Where a result is required to meet compliance limits the associated measurement uncertainty must be considered. Measurement uncertainty is available at <a href="https://www.awqc.com.au/our-services/Water-quality-testing-and-analysis/measurement-uncertainty">https://www.awqc.com.au/our-services/Water-quality-testing-and-analysis/measurement-uncertainty</a>
- 7. Uncertainty of Measurement is reported with a coverage factor of 2 providing approximately 95% confidence interval
- 8. The Limit of Reporting (LOR) is the lowest concentration of analyte which is reported at the AWQC and is based on the LOQ rounded up to a more readily used value. The Limit of Quantitation (LOQ) is the lowest concentration of analyte for which quantitative results may be obtained within a specified degree of confidence.
- 9. Where collection type is AWQC Collect, NATA has confirmed that due to a robust system in place for maintaining the temperature integrity for samples collected by AWQC's Field Laboratory Services, the recording of temperature when samples arrive at the AWQC is out of scope.
- 10. If pH has been tested then the pH will be outside of its holding time unless measured in the field.
- 11. (ADEL) indicates analysed in Adelaide, (MELB) indicates analysed in Melbourne.