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Email: awqc@sawater.com.au

**DEW - Department of Environment and Water** 

ATTN: Claire Sims 81-95 Waymouth Street

SA 5000 AUSTRALIA

18/08/2023

Dear Claire

Please find attached the Final Analytical Report for

Customer Service Request: 143419-2022-CSR-12

**Account:** 143419

**Project:** AWQC-183487 DEW - Healthy Coorong Healthy Basin - Non Routine Event

10-22/23

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,

Corrina Smith
Customer Service Officer
Corrina.Smith@sawater.com.au



Email: awqc@sawater.com.au



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#### **Report Information**

**Project Name** AWQC-183487

Customer DEW - Department of Environment and Water

CSR\_ID 143419-2022-CSR-12

### **Analytical Results**

**Sampling Point** 351213-EPA - Murray Mouth Sampled Date 26/07/2023 12:40:00PM Sample Received Date 27/07/2023 4:26:09PM Sample Analysis Completed 16/08/2023 4:12:21PM Sample ID \*2023-004-3070 Status Endorsed

**Collection Type Customer Collected** 

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

## Sample temperature at time of receipt 8.1°C

Algal Identification T0393(ADEL)

Other Organisms 4400 cells/mL

**BLUE GREEN ALGAE** 

150 cells/ml Cyanodictyon 513000 cells/mL Cyanogranis 70300 cells/mL Phormidium narrow spp 506 cells/mL Anabaena 60 cells/mL Planktolyngbya 25800 cells/mL Pseudanabaena 10000 cells/ml Limnothrix 280 cells/mL

DIATOMS

Romeria

Cyclotella 30 cells/mL Aulacoseira 12 cells/mL

**GREEN ALGAE** 

Monoraphidium 1800 cells/mL Scenedesmus 1550 cells/mL Kirchneriella 1550 cells/mL Actinastrum 3150 cells/mL Planctonema 14900 cells/mL Crucigenia 4680 cells/mL

Organism - Comment Limnothrix - The identification for this organism is

tentative only.

### Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)





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### **Analytical Results**

351213-EPA - Murray Mouth **Sampling Point** 26/07/2023 12:40:00PM Sampled Date 27/07/2023 4:26:09PM **Sample Received Date** 16/08/2023 4:12:21PM Sample Analysis Completed \*2023-004-3070 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

26/07/2023 Algal Biovolume T0393(ADEL)

### **BLUE GREEN ALGAE**

Phormidium narrow spp 0.01 mm3/L Anabaena <0.01 mm3/L Planktolyngbya 0.13 mm3/L Pseudanabaena 0.13 mm3/L Limnothrix <0.01 mm3/L Romeria <0.01 mm3/L Cyanodictyon 0.26 mm3/L Cyanogranis 0.04 mm3/L

**DIATOMS** 

Aulacoseira 0.03 mm3/L Cyclotella 0.02 mm3/L

#### **GREEN ALGAE**

# Total Algae Biovolume

# Total Diatom Biovolume

# Total Green Algae Biovolume

# Total Blue\_Green Algae Biovolume

Monoraphidium 1.62 mm3/L Scenedesmus 0.39 mm3/L Kirchneriella 0.04 mm3/L Actinastrum 0.23 mm3/L Crucigenia 0.14 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

0.57 mm3/L 0.05 mm3/l

648000 cells/mL

Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

### Sample temperature at time of receipt 8.1°C

Algal Count - Total T0393(ADEL)

Algae - Total

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28/07/2023

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### **Analytical Results**

 Sampling Point
 351213-EPA - Murray Mouth

 Sampled Date
 26/07/2023 12:40:00PM

 Sample Received Date
 27/07/2023 4:26:09PM

 Sample Analysis Completed
 16/08/2023 4:12:21PM

 Sample ID
 \*2023-004-3070

 Status
 Endorsed

Status Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)		26/07/2023
Blue Green Algae - Total	620000 cells/mL	
Diatoms - Total	42 cells/mL	
Geosmin-MIB producing BGA - Total	10500_cells/ml	

 Geosmin-MIB producing BGA - Total
 10500 cells/mL

 Green Algae - Total
 27600 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Sample temperature at time of receipt 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 38.1  $\mu g/L$  Phaeophytin a 0.1 18.8  $\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	43 μg/L	
Chloride T0104-02(ADEL)			04/08/2023
Chloride	4.0	395 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	19.6 μg/L	
# Nitrate + Nitrite as NO3	2.3	86.8 µg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		1.74 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	14.651 μg/L	
Phosphorus-Filterable Reactive as P	0.5	4.9 µg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.114 mg/L	
Silica - Reactive T0111-01(ADEL)			04/08/2023
Silica - Reactive	0.05	0.74 mg/L	
TKN as N T0112-01(ADFL)		•	01/08/2023

TKN as N T0112-01(ADEL)



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### **Analytical Results**

 Sampling Point
 351213-EPA - Murray Mouth

 Sampled Date
 26/07/2023 12:40:00PM

 Sample Received Date
 27/07/2023 4:26:09PM

 Sample Analysis Completed
 16/08/2023 4:12:21PM

 Sample ID
 \*2023-004-3070

Status Endorsed

Collection Type Customer Collected

TKN as N T0112-01(ADEL) 01/08/2023

TKN as Nitrogen 0.05 1.72 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	.1°C		
<b>Dissolved Organic Carbon T0158-07(ADI</b>	≣L)		01/08/2023
Dissolved Organic Carbon	1	10.6 mg/L	
Total Organic Carbon T0158-07(ADEL)			01/08/2023
Total Organic Carbon	1	15.3 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	.1°C		
Alkalinity Carbonate Bicarbonate and H	ydroxide T0101-01	I(ADEL)	28/07/2023
Alkalinity as Calcium Carbonate		133 mg/L	
Bicarbonate		163 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids TO	016-01(ADEL)		28/07/2023
Conductivity	2	1630 µS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	907 mg/L	
pH T0010-01(ADEL)			28/07/2023
pH		8.1 pH units	
Temperature at which pH is measured		22.1 °C	
Turbidity T0018-01(ADEL)			28/07/2023

31 NTU

Result

0.1

LOR

Sample temperature at time of receipt 8.1°C

**Inorganic Chemistry - Waste Water** 



Turbidity

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

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**Analytical Results** 

 Sampling Point
 351213-EPA - Murray Mouth

 Sampled Date
 26/07/2023 12:40:00PM

 Sample Received Date
 27/07/2023 4:26:09PM

 Sample Analysis Completed
 16/08/2023 4:12:21PM

 Sample ID
 \*2023-004-3070

Status Endorsed

Collection Type Customer Collected

Suspended Solids T0160-01(ADEL)

01/08/2023

Suspended Solids 1.0 38 mg/L



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### **Analytical Results**

11504-DEW - Mundoo Upstream **Sampling Point** 

26/07/2023 1:35:00PM **Sampled Date** 27/07/2023 4:22:34PM **Sample Received Date** 15/08/2023 2:51:37PM Sample Analysis Completed

\*2023-004-3067 Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.1°C	C		
Algal Identification T0393(ADEL) Other Organisms		3700 cells/mL	
BLUE GREEN ALGAE			
Phormidium narrow spp		650 cells/mL	
Occupation to the filter control (Manager)			

Cyanobacterial Filaments (Narrow) 84 cells/mL Planktolyngbya 18900 cells/mL Cyanodictyon 347000 cells/mL Cyanogranis 127000 cells/mL Pseudanabaena 8620 cells/mL Limnothrix 1090 cells/ml Anabaena 186 cells/mL

**CRYPTOPHYTES** 

Chroomonas 75 cells/mL

**DIATOMS** 

Cyclotella 75 cells/mL Fragilaria 125 cells/mL Nitzschia 100 cells/mL Aulacoseira 98 cells/mL

**GREEN ALGAE** 

Monoraphidium 400 cells/mL Actinastrum 7620 cells/mL Crucigenia 4880 cells/mL Closterium 2 cells/mL Planctonema 32000 cells/mL

Organism - Comment Limnothrix - The identification for this organism is

tentative only.

Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL) **BLUE GREEN ALGAE** 

26/07/2023



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### **Analytical Results**

Sampling Point 11504-DEW - Mundoo Upstream

 Sampled Date
 26/07/2023
 1:35:00PM

 Sample Received Date
 27/07/2023
 4:22:34PM

 Sample Analysis Completed
 15/08/2023
 2:51:37PM

 Sample ID
 \*2023-004-3067

 Status
 Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 26/07/2023

Anahaena 0.01 mm3/L Phormidium narrow spp 0.02 mm3/L Cyanobacterial Filaments (Narrow) <0.01 mm3/L Planktolyngbya 0.09 mm3/L Cyanodictyon 0.17 mm3/L Cyanogranis 0.06 mm3/L Pseudanabaena 0.11 mm3/L Limnothrix 0.01 mm3/L

**CRYPTOPHYTES** 

Chroomonas <0.01 mm3/L

**DIATOMS** 

 Aulacoseira
 0.28 mm3/L

 Cyclotella
 0.04 mm3/L

 Fragilaria
 0.08 mm3/L

 Nitzschia
 0.14 mm3/L

**GREEN ALGAE** 

 Closterium
 0.01 mm3/L

 Monoraphidium
 0.36 mm3/L

 Actinastrum
 0.56 mm3/L

 Crucigenia
 0.15 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 0.47 mm3/L # Total Diatom Biovolume 0.54 mm3/L

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

### Sample temperature at time of receipt 8.1°C



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### **Analytical Results**

Sampling Point 11504-DEW - Mundoo Upstream

 Sampled Date
 26/07/2023
 1:35:00PM

 Sample Received Date
 27/07/2023
 4:22:34PM

 Sample Analysis Completed
 15/08/2023
 2:51:37PM

 Sample ID
 \*2023-004-3067

 Status
 Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)		26/07/2023
Algae - Total	549000 cells/mL	
Blue Green Algae - Total	504000 cells/mL	

 Diatoms - Total
 398 cells/mL

 Geosmin-MIB producing BGA - Total
 9270 cells/mL

 Green Algae - Total
 44900 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

# Sample temperature at time of receipt 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 38.4  $\,\mu g/L$  Phaeophytin a 0.1 18.7  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date

Sample temperature at time of receipt 8	3.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	15 μg/L	
Chloride T0104-02(ADEL)			04/08/2023
Chloride	4.0	98 mg/L	
Nitrate + Nitrite as N (ADEL)			08/08/2023
# Nitrate + Nitrite as N	0.5	5.0 μg/L	
# Nitrate + Nitrite as NO3	2.3	22.2 μg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		1.63 mg/L	
Phosphorus - Filterable Reactive as P (A	ADEL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	5.083 μg/L	
Phosphorus-Filterable Reactive as P	0.5	1.7 μg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.114 mg/L	
Silica - Reactive T0111-01(ADEL)			04/08/2023
Silica - Reactive	0.05	0.36 mg/L	



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### **Analytical Results**

Sampling Point 11504-DEW - Mundoo Upstream

 Sampled Date
 26/07/2023
 1:35:00PM

 Sample Received Date
 27/07/2023
 4:22:34PM

 Sample Analysis Completed
 15/08/2023
 2:51:37PM

Sample ID \*2023-004-3067 Status Endorsed

Collection Type Customer Collected

TKN as N T0112-01(ADEL) 01/08/2023

TKN as Nitrogen 0.05 1.62 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
Dissolved Organic Carbon T0158-07(A	DEL)		01/08/2023
Dissolved Organic Carbon	1	10.4 mg/L	
<b>Total Organic Carbon T0158-07(ADEL)</b>			01/08/2023
Total Organic Carbon	1	13.6 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
Alkalinity Carbonate Bicarbonate and	Hydroxide T0101-0	I(ADEL)	01/08/2023
Alkalinity as Calcium Carbonate		132 mg/L	
Bicarbonate		161 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids	T0016-01(ADEL)		01/08/2023
Conductivity	2	614 µS/cm	

014 positi

Note Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 340 mg/L

pH T0010-01(ADEL) 01/08/2023

pH 8.2 pH units

Temperature at which pH is measured 21.9 °C

Turbidity T0018-01(ADEL)

Turbidity 0.1 25 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 8.1°C



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**Analytical Results** 

Sampling Point 11504-DEW - Mundoo Upstream

 Sampled Date
 26/07/2023
 1:35:00PM

 Sample Received Date
 27/07/2023
 4:22:34PM

 Sample Analysis Completed
 15/08/2023
 2:51:37PM

Sample ID \*2023-004-3067
Status Endorsed

Collection Type Customer Collected

Suspended Solids T0160-01(ADEL)

01/08/2023

Suspended Solids 1.0 29 mg/L



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### **Analytical Results**

11505-DEW - Mundoo Downstream **Sampling Point** 

26/07/2023 1:35:00PM **Sampled Date** 27/07/2023 4:22:46PM **Sample Received Date** 15/08/2023 3:03:40PM Sample Analysis Completed

\*2023-004-3068 Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.1°C	С		
Algal Identification T0393(ADEL)			
Other Organisms		3050 cells/mL	
BLUE GREEN ALGAE			

Cyanodictyon 375000 cells/mL Cyanogranis 69000 cells/mL Merismopedia 240 cells/ml Microcystis wesenbergii 112 cells/mL Snowella 44 cells/mL Cylindrospermopsis raciborskii 38 cells/mL Planktolyngbya 12300 cells/mL Pseudanabaena 8230 cells/mL Limnothrix 880 cells/mL Phormidium narrow spp 994 cells/mL Anabaena 250 cells/mL

**DIATOMS** 

Nitzschia 75 cells/mL Fragilaria 62 cells/mL Aulacoseira 34 cells/mL

**GREEN ALGAE** 

Actinastrum 7200 cells/mL Crucigenia 3300 cells/mL Monoraphidium 475 cells/mL Kirchneriella 200 cells/mL Planctonema 16900 cells/mL

Organism - Comment Limnothrix - The identification for this organism is

tentative only.

Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL) **BLUE GREEN ALGAE** 

26/07/2023



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### **Analytical Results**

11505-DEW - Mundoo Downstream **Sampling Point** 

26/07/2023 1:35:00PM Sampled Date 27/07/2023 4:22:46PM **Sample Received Date** 15/08/2023 3:03:40PM Sample Analysis Completed

\*2023-004-3068 Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

26/07/2023 Algal Biovolume T0393(ADEL)

Phormidium narrow spp 0.02 mm3/L Anabaena 0.02 mm3/L Microcystis wesenbergii 0.01 mm3/L Snowella <0.01 mm3/L Cylindrospermopsis raciborskii <0.01 mm3/L Planktolyngbya 0.06 mm3/L Pseudanabaena 0.11 mm3/L Limnothrix 0.01 mm3/L Cyanodictyon 0.19 mm3/L Cyanogranis 0.03 mm3/L Merismopedia <0.01 mm3/L

**DIATOMS** 

Fragilaria 0.04 mm3/L Aulacoseira 0.10 mm3/l Nitzschia 0.10 mm3/L

**GREEN ALGAE** 

# Total Algae Biovolume

# Total Diatom Biovolume

Actinastrum 0.53 mm3/L Crucigenia 0.10 mm3/L Monoraphidium 0.43 mm3/L Kirchneriella <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

# Total Blue Green Algae Biovolume 0.45 mm3/l 0.24 mm3/l

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume <0.01 mm3/L

### Sample temperature at time of receipt 8.1°C



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### **Analytical Results**

Toxin producing BGA - Total

Sampling Point 11505-DEW - Mundoo Downstream

 Sampled Date
 26/07/2023
 1:35:00PM

 Sample Received Date
 27/07/2023
 4:22:46PM

 Sample Analysis Completed
 15/08/2023
 3:03:40PM

 Sample ID
 \*2023-004-3068

Status Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)	26/07/2023
Algae - Total	495000 cells/mL
Blue Green Algae - Total	467000 cells/mL
Diatoms - Total	171 cells/mL
Geosmin-MIB producing BGA - Total	9220 cells/mL
Green Algae - Total	28100 cells/mL

38 cells/mL

# Sample temperature at time of receipt 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 40.7  $\,\mu g/L$  Phaeophytin a 0.1 20.2  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	2 μg/L	
Chloride T0104-02(ADEL)			04/08/2023
Chloride	4.0	98 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	0.8 μg/L	
# Nitrate + Nitrite as NO3	2.3	3.54 µg/L	
# Nitrate as Nitrogen		false µg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		1.71 mg/L	
Phosphorus - Filterable Reactive as P (A	ADEL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	4.485 μg/L	
Phosphorus-Filterable Reactive as P	0.5	1.5 µg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.126 mg/L	
Silica - Reactive T0111-01(ADEL)			04/08/2023
Silica - Reactive	0.05	0.50 mg/L	



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### **Analytical Results**

Sampling Point 11505-DEW - Mundoo Downstream

 Sampled Date
 26/07/2023
 1:35:00PM

 Sample Received Date
 27/07/2023
 4:22:46PM

 Sample Analysis Completed
 15/08/2023
 3:03:40PM

 Sample ID
 \*2023-004-3068

Status Endorsed

Collection Type Customer Collected

TKN as N T0112-01(ADEL) 01/08/2023

TKN as Nitrogen 0.05 1.71 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	.1°C		
Dissolved Organic Carbon T0158-07(ADE	EL)		01/08/2023
Dissolved Organic Carbon	1	9.9 mg/L	
Total Organic Carbon T0158-07(ADEL)			01/08/2023
Total Organic Carbon	1	12.9 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	1°C		_
Alkalinity Carbonate Bicarbonate and Hy	droxide T0101-0	1(ADEL)	01/08/2023
Alkalinity as Calcium Carbonate		130 mg/L	
Bicarbonate		159 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids T0	016-01(ADEL)		01/08/2023
Conductivity	2	613 µS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	339 mg/L	
pH T0010-01(ADEL)			01/08/2023
pH		8.1 pH units	
Temperature at which pH is measured		22.0 °C	
Turbidity T0018-01(ADEL)			28/07/2023
Turbidity	0.1	30 NTU	

Result

LOR

Sample temperature at time of receipt 8.1°C

**Inorganic Chemistry - Waste Water** 



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

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**Analytical Results** 

Sampling Point 11505-DEW - Mundoo Downstream

 Sampled Date
 26/07/2023
 1:35:00PM

 Sample Received Date
 27/07/2023
 4:22:46PM

 Sample Analysis Completed
 15/08/2023
 3:03:40PM

Sample ID \*2023-004-3068
Status Endorsed

Collection Type Customer Collected

Suspended Solids T0160-01(ADEL)

01/08/2023

Suspended Solids 1.0 45 mg/L



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### **Analytical Results**

**Status** 

Sampling Point 353179-EPA - Tauwitchere Barrage Upstream

Endorsed

 Sampled Date
 26/07/2023
 2:10:00PM

 Sample Received Date
 27/07/2023
 4:26:34PM

 Sample Analysis Completed
 16/08/2023
 2:15:07PM

 Sample ID
 \*2023-004-3073

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

### Sample temperature at time of receipt 8.1°C

### Algal Identification T0393(ADEL)

Other Organisms 1020 cells/mL

### **BLUE GREEN ALGAE**

Limnothrix 170 cells/mL Planktolyngbya 31900 cells/mL Phormidium narrow spp 88 cells/ml Cyanodictyon 521000 cells/mL Cyanogranis 74000 cells/mL Cuspidothrix 24 cells/mL Anabaena 38 cells/ml Pseudanabaena 8290 cells/mL

### DIATOMS

 Aulacoseira
 62 cells/mL

 Nitzschia
 50 cells/mL

 Cyclotella
 20 cells/mL

### **GREEN ALGAE**

 Closterium
 4 cells/mL

 Scenedesmus
 400 cells/mL

 Actinastrum
 2500 cells/mL

 Crucigenia
 4500 cells/mL

 Monoraphidium
 700 cells/mL

 Planctonema
 24300 cells/mL

Organism - Comment Limnothrix - The identification for this organism is

tentative only.

## Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)

**BLUE GREEN ALGAE** 

Anabaena <0.01 mm3/L Phormidium narrow spp <0.01 mm3/L



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### **Analytical Results**

Sampling Point 353179-EPA - Tauwitchere Barrage Upstream

 Sampled Date
 26/07/2023
 2:10:00PM

 Sample Received Date
 27/07/2023
 4:26:34PM

 Sample Analysis Completed
 16/08/2023
 2:15:07PM

 Sample ID
 \*2023-004-3073

Status Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 26/07/2023

 Cuspidothrix
 <0.01 mm3/L</td>

 Planktolyngbya
 0.16 mm3/L

 Limnothrix
 <0.01 mm3/L</td>

 Pseudanabaena
 0.11 mm3/L

 Cyanogranis
 0.04 mm3/L

 Cyanodictyon
 0.26 mm3/L

DIATOMS

 Aulacoseira
 0.18 mm3/L

 Nitzschia
 0.07 mm3/L

 Cyclotella
 0.01 mm3/L

**GREEN ALGAE** 

 Closterium
 0.02 mm3/L

 Monoraphidium
 0.63 mm3/L

 Crucigenia
 0.14 mm3/L

 Actinastrum
 0.18 mm3/L

 Scenedesmus
 0.10 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 0.57 mm3/L # Total Diatom Biovolume 0.26 mm3/L

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

### Sample temperature at time of receipt 8.1°C

Algal Count - Total T0393(ADEL)

Algae - Total 668000 cells/mL



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28/07/2023

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### **Analytical Results**

Sampling Point 353179-EPA - Tauwitchere Barrage Upstream

 Sampled Date
 26/07/2023
 2:10:00PM

 Sample Received Date
 27/07/2023
 4:26:34PM

 Sample Analysis Completed
 16/08/2023
 2:15:07PM

 Sample ID
 \*2023-004-3073

 Status
 Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)		26/07/2023
Geosmin-MIB producing BGA - Total	8380 cells/mL	
One of Alexander Table		

Green Algae - Total 32400 cells/mL
Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 49.1  $\mu g/L$  Phaeophytin a 0.1 24.3  $\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	2 μg/L	
Chloride T0104-02(ADEL)			04/08/2023
Chloride	4.0	105 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	8.7 µg/L	
# Nitrate + Nitrite as NO3	2.3	38.5 μg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		1.98 mg/L	
Phosphorus - Filterable Reactive as P (A	ADEL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	11.661 µg/L	
Phosphorus-Filterable Reactive as P	0.5	3.9 µg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.174 mg/L	
Silica - Reactive T0111-01(ADEL)			04/08/2023
Silica - Reactive	0.05	0.38 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023
TKN as Nitrogen	0.05	1.97 mg/L	



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### **Analytical Results**

Sampling Point 353179-EPA - Tauwitchere Barrage Upstream

 Sampled Date
 26/07/2023
 2:10:00PM

 Sample Received Date
 27/07/2023
 4:26:34PM

 Sample Analysis Completed
 16/08/2023
 2:15:07PM

 Sample ID
 \*2023-004-3073

 Status
 Endorsed

Collection Type Customer Collected

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	.1°C		_
Dissolved Organic Carbon T0158-07(ADE	EL)		01/08/2023
Dissolved Organic Carbon	1	10.8 mg/L	
Total Organic Carbon T0158-07(ADEL)			01/08/2023
Total Organic Carbon	1	16.8 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	.1°C		
Alkalinity Carbonate Bicarbonate and H	ydroxide T0101-0	1(ADEL)	28/07/2023
Alkalinity as Calcium Carbonate		137 mg/L	
Bicarbonate		168 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids TO	016-01(ADEL)		28/07/2023
Conductivity	2	655 μS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	363 mg/L	
pH T0010-01(ADEL)			28/07/2023
pН		8.2 pH units	
Temperature at which pH is measured		22.1 °C	
Turbidity T0018-01(ADEL)			28/07/2023
Turbidity	0.1	48 NTU	
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	.1°C		04/08/2022
Suspended Solids T0160-01(ADEL)	4.0		01/08/2023
Suspended Solids	1.0	72 mg/L	



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### **Analytical Results**

Sampling Point 353177-EPA - Tauwitchere Barrage DS

 Sampled Date
 26/07/2023
 2:10:00PM

 Sample Received Date
 27/07/2023
 4:26:22PM

 Sample Analysis Completed
 18/08/2023
 2:39:29PM

 Sample ID
 \*2023-004-3074

**Status** Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of recei	pt 8.1°C		
Algal Identification T0393(ADEL)			
Other Organisms		700 cells/mL	
BLUE GREEN ALGAE			
Snowella		60 cells/mL	

Phormidium narrow spp 488 cells/mL Anabaena 138 cells/ml Pseudanabaena 8110 cells/mL Limnothrix 1870 cells/mL Cyanogranis 50300 cells/mL Merismopedia 1710 cells/mL Cyanodictyon 459000 cells/mL Romeria 50 cells/mL Planktolyngbya 26600 cells/mL

DIATOMS

Staurosira10 cells/mLNitzschia20 cells/mLAulacoseira140 cells/mL

**GREEN ALGAE** 

 Monoraphidium
 900 cells/mL

 Actinastrum
 2380 cells/mL

 Scenedesmus
 775 cells/mL

 Planctonema
 15600 cells/mL

 Crucigenia
 4780 cells/mL

Organism - Comment Limnothrix - The identification for this organism is

tentative only.

Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)

**BLUE GREEN ALGAE** 

Phormidium narrow spp 0.01 mm3/L



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### **Analytical Results**

Sampling Point 353177-EPA - Tauwitchere Barrage DS

 Sampled Date
 26/07/2023
 2:10:00PM

 Sample Received Date
 27/07/2023
 4:26:22PM

 Sample Analysis Completed
 18/08/2023
 2:39:29PM

 Sample ID
 \*2023-004-3074

 Status
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Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 26/07/2023

Anabaena 0.01 mm3/L Planktolyngbya 0.13 mm3/L Pseudanabaena 0.11 mm3/L Limnothrix 0.02 mm3/L Snowella <0.01 mm3/L Romeria <0.01 mm3/L Cyanodictyon 0.23 mm3/L Merismopedia <0.01 mm3/L Cyanogranis 0.03 mm3/L

**DIATOMS** 

 Aulacoseira
 0.40 mm3/L

 Staurosira
 <0.01 mm3/L</td>

 Nitzschia
 0.03 mm3/L

**GREEN ALGAE** 

 Monoraphidium
 0.81 mm3/L

 Actinastrum
 0.18 mm3/L

 Scenedesmus
 0.19 mm3/L

 Crucigenia
 0.14 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 0.54 mm3/L # Total Diatom Biovolume 0.43 mm3/L

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

# Sample temperature at time of receipt 8.1°C Algal Count - Total T0393(ADEL)

 Algal Count - Total T0393(ADEL)
 26/07/2023

 Algae - Total
 573000 cells/mL



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28/07/2023

27/07/2023

01/08/2023

01/08/2023

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### **Analytical Results**

Sampling Point 353177-EPA - Tauwitchere Barrage DS

 Sampled Date
 26/07/2023
 2:10:00PM

 Sample Received Date
 27/07/2023
 4:26:22PM

 Sample Analysis Completed
 18/08/2023
 2:39:29PM

 Sample ID
 \*2023-004-3074

Status Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)		26/07/2023
Blue Green Algae - Total	548000 cells/mL	
Diatoms - Total	170 cells/mL	

 Geosmin-MIB producing BGA - Total
 8600 cells/mL

 Green Algae - Total
 24400 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Sample temperature at time of receipt 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 36.0  $\,\mu g/L$  Phaeophytin a 0.1 15.9  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.1	1°C		
Ammonia as N (ADEL)			07/08/2023

3 µg/L

Chloride T0104-02(ADEL)			04/08/2023
Chloride	4.0	1420 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	2.9 ug/L	

# Nitrate + Nitrite as NO3 2.3 12.8 µg/L

# Nitrate as Nitrogen false µg/L

Nitrogen - Total TMZ-M06(ADEL)

Nitrogen - Total 0.23 mg/L **Phosphorus - Filterable Reactive as P (ADEL)** 07/08/2023

# Phosphorus - Filterable Reactive as PO4
Phosphorus - Total T0109-44(ADEL)

1.5
16.146 μg/L
5.4 μg/L

Fhosphorus - Total T0109-44(ADEL)

1

Phosphorus - Total 0.005 0.055 mg/L

Silica - Reactive T0111-01(ADEL) 04/08/2023

Silica - Reactive 0.05 0.47 mg/L

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TKN as N T0112-01(ADEL)

ACCREDITATION

ABN 69336525019

# Ammonia as N

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### **Analytical Results**

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

26/07/2023 2:10:00PM **Sampled Date** 27/07/2023 4:26:22PM **Sample Received Date** 18/08/2023 2:39:29PM Sample Analysis Completed \*2023-004-3074 Sample ID Endorsed Status

**Customer Collected Collection Type** 

01/08/2023 TKN as N T0112-01(ADEL)

TKN as Nitrogen 0.05 0.23 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
Dissolved Organic Carbon T0158-07(AL	DEL)		01/08/2023
Dissolved Organic Carbon	1	10.9 mg/L	
<b>Total Organic Carbon T0158-07(ADEL)</b>			01/08/2023
Total Organic Carbon	1	15.0 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt			
Alkalinity Carbonate Bicarbonate and I	Hydroxide T0101-0	1(ADEL)	28/07/2023
Alkalinity as Calcium Carbonate		138 mg/L	
Bicarbonate		163 mg/L	
Carbonate		2 mg/L	
I budancida		0 mg/L	
Hydroxide		o mg/L	
Conductivity & Total Dissolved Solids 1	Γ0016-01(ADEL)	o mg/L	28/07/2023
•	<b>Γ0016-01(ADEL)</b> <sup>2</sup>	5030 μS/cm	28/07/2023
Conductivity & Total Dissolved Solids 7	` ,	· ·	28/07/2023
Conductivity & Total Dissolved Solids Total Conductivity	` ,	5030 μS/cm	28/07/2023
Conductivity & Total Dissolved Solids Tonductivity  Note	2	5030 μS/cm Conductivity measurement is corrected to 25°C	
Conductivity & Total Dissolved Solids Total Dissolved Solids Total Dissolved Solids (by EC)	2	5030 μS/cm Conductivity measurement is corrected to 25°C	
Conductivity & Total Dissolved Solids Total Dissolved Solids Total Dissolved Solids (by EC)  pH T0010-01(ADEL)	2	5030 μS/cm Conductivity measurement is corrected to 25°C 2850 mg/L	28/07/2023 28/07/2023
Conductivity & Total Dissolved Solids Total Dissolved Solids Total Dissolved Solids (by EC)  pH T0010-01(ADEL)  pH	2	5030 μS/cm Conductivity measurement is corrected to 25°C 2850 mg/L 8.3 pH units	

Result

LOR

Sample temperature at time of receipt 8.1°C

**Inorganic Chemistry - Waste Water** 



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**Test Start Date** 

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**Analytical Results** 

Sampling Point 353177-EPA - Tauwitchere Barrage DS

 Sampled Date
 26/07/2023
 2:10:00PM

 Sample Received Date
 27/07/2023
 4:26:22PM

 Sample Analysis Completed
 18/08/2023
 2:39:29PM

 Sample ID
 \*2023-004-3074

Status Endorsed

Collection Type Customer Collected

Suspended Solids T0160-01(ADEL)

01/08/2023

Suspended Solids 1.0 66 mg/L



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Guinardia - This organism appeared to be in poor

Leptocylindrus - This organism appeared to be in

condition or unhealthy.

poor condition or unhealthy.



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### **Analytical Results**

 Sampling Point
 31522-EPA - Mark Point

 Sampled Date
 26/07/2023
 2:40:00PM

 Sample Received Date
 27/07/2023
 4:24:56PM

 Sample Analysis Completed
 14/08/2023
 2:11:26PM

 Sample ID
 \*2023-004-3069

Status Endorsed

Collection Type Customer Collected

<b>Biology Operations</b>	LOR	Result	Test Start Date
Sample temperature at time of rece	ipt 8.1°C		
Algal Identification T0393(ADEL)			
Pseudodidymocystis		75 cells/mL	
Other Organisms		675 cells/mL	
BLUE GREEN ALGAE			
Cyanodictyon		3700 cells/mL	
Sphaerospermopsis		30 cells/mL	
CRYPTOPHYTES			
Cryptomonads		750 cells/mL	
Chroomonas		150 cells/mL	
DIATOMS			
Guinardia		206 cells/mL	
Leptocylindrus		44 cells/mL	
GREEN ALGAE			
Monoraphidium		275 cells/mL	
Phytoflagellates small_spp		675 cells/mL	
Schroederia		225 cells/mL	
Chodatella_(Lagerheimia)		50 cells/mL	
Tetrastrum		100 cells/mL	
Crucigenia		1500 cells/mL	
Planctonema		690 cells/mL	

Sample temperature at time of receipt 8.1°C

Pseudodidymocystis <0.01 mm3/L

**BLUE GREEN ALGAE** 

Algal Biovolume T0393(ADEL)

Organism - Comment

Organism - Comment

Sphaerospermopsis <0.01 mm3/L



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### **Analytical Results**

 Sampling Point
 31522-EPA - Mark Point

 Sampled Date
 26/07/2023
 2:40:00PM

 Sample Received Date
 27/07/2023
 4:24:56PM

 Sample Analysis Completed
 14/08/2023
 2:11:26PM

 Sample ID
 \*2023-004-3069

Sample ID \*2023-004-3
Status Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 26/07/2023

Cyanodictyon <0.01 mm3/L

**CRYPTOPHYTES** 

 Cryptomonads
 0.16 mm3/L

 Chroomonas
 <0.01 mm3/L</td>

**GREEN ALGAE** 

 Monoraphidium
 0.25 mm3/L

 Phytoflagellates small\_spp
 0.05 mm3/L

 Schroederia
 0.01 mm3/L

 Crucigenia
 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

# Total Algae Biovolume Not Calculated mm3

# Total Blue\_Green Algae Biovolume <0.02 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 8.1°C

Algal Count - Total T0393(ADEL) 26/07/2023

 Algae - Total
 8400 cells/mL

 Blue Green Algae - Total
 3730 cells/mL

 Diatoms - Total
 250 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 3520 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Sample temperature at time of receipt 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 5.99 μg/L



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28/07/2023

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### **Analytical Results**

 Sampling Point
 31522-EPA - Mark Point

 Sampled Date
 26/07/2023
 2:40:00PM

 Sample Received Date
 27/07/2023
 4:24:56PM

 Sample Analysis Completed
 14/08/2023
 2:11:26PM

 Sample ID
 \*2023-004-3069

 Status
 Endorsed

 Collection Type
 Customer Collected

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

1 2.90 μg/L

Phaeophytin a 0.1

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	17 μg/L	
Chloride T0104-02(ADEL)			04/08/2023
Chloride	4.0	8200 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	3.7 µg/L	
# Nitrate + Nitrite as NO3	2.3	16.4 μg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		1.08 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	5.98 μg/L	
Phosphorus-Filterable Reactive as P	0.5	2.0 μg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.064 mg/L	
Silica - Reactive T0111-01(ADEL)			04/08/2023
Silica - Reactive	0.05	0.23 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023
TKN as Nitrogen	0.05	1.08 mg/L	
Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
Dissolved Organic Carbon T0158-07(AE			01/08/2023
Dissolved Organic Carbon	1	11.8 mg/L	
Total Organic Carbon T0158-07(ADEL)			01/08/2023
Total Organic Garbon 10130-07 (ADLL)			31/00/2020



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### **Analytical Results**

 Sampling Point
 31522-EPA - Mark Point

 Sampled Date
 26/07/2023
 2:40:00PM

 Sample Received Date
 27/07/2023
 4:24:56PM

 Sample Analysis Completed
 14/08/2023
 2:11:26PM

 Sample ID
 \*2023-004-3069

 Status
 Endorsed

Collection Type Customer Collected

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

01/08/2023

Total Organic Carbon 1 12.2 mg/L

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	.1°C		
Alkalinity Carbonate Bicarbonate and H	ydroxide T0101-0	1(ADEL)	28/07/2023
Alkalinity as Calcium Carbonate		145 mg/L	
Bicarbonate		177 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids To	016-01(ADEL)		28/07/2023
Conductivity	2	24900 μS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	15600 mg/L	
pH T0010-01(ADEL)			28/07/2023
pH		8.0 pH units	
Temperature at which pH is measured		22.3 °C	
Turbidity T0018-01(ADEL)			28/07/2023
Turbidity	0.1	3.6 NTU	
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 8. Suspended Solids T0160-01(ADEL)	.1°C		01/08/2023

49 mg/L

1.0



Suspended Solids

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### **Analytical Results**

 Sampling Point
 31523-EPA - Long Point

 Sampled Date
 26/07/2023
 4:15:00PM

 Sample Received Date
 27/07/2023
 4:25:07PM

 Sample Analysis Completed
 14/08/2023
 3:44:25PM

 Sample ID
 \*2023-004-3056

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	1°C		
Algal Identification T0393(ADEL)			
Other Organisms		750 cells/mL	
BLUE GREEN ALGAE			
Planktolyngbya		1150 cells/mL	
CILIOPHORA			
CILIOPHORA		375 cells/mL	
CRYPTOPHYTES			
Cryptomonads		1220 cells/mL	
Chroomonas		375 cells/mL	
Cryptomonas		25 cells/mL	
DIATOMS			
Leptocylindrus		25 cells/mL	
GREEN ALGAE			
Phytoflagellates small_spp		400 cells/mL	
Crucigenia		75 cells/mL	
Sample temperature at time of receipt 8.	1°C		
Algal Biovolume T0393(ADEL)			26/07/2023
BLUE GREEN ALGAE			
Planktolyngbya		<0.01 mm3/L	
CRYPTOPHYTES			
Cryptomonads		0.26 mm3/L	
Chroomonas		0.02 mm3/L	
Cryptomonas		0.03 mm3/L	
GREEN ALGAE			
Phytoflagellates small_spp		0.03 mm3/L	
Crucigenia		<0.01 mm3/L	



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### **Analytical Results**

 Sampling Point
 31523-EPA - Long Point

 Sampled Date
 26/07/2023
 4:15:00PM

 Sample Received Date
 27/07/2023
 4:25:07PM

 Sample Analysis Completed
 14/08/2023
 3:44:25PM

 Sample ID
 \*2023-004-3056

Status Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 26/07/2023

# 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 <0.01 mm3/L

# Total Diatom Biovolume Not Calculated mm3/L

# Total Green Algae Biovolume 0.03 mm3/L
Total Toxic BGA Biovolume 0.00 mm3/L

### Sample temperature at time of receipt 8.1°C

Algal Count - Total T0393(ADEL) 26/07/2023

 Algae - Total
 3270 cells/mL

 Blue Green Algae - Total
 1150 cells/mL

 Diatoms - Total
 25 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 475 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Sample temperature at time of receipt 8.1°C

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 8.03  $\,\mu g/L$  Phaeophytin a 0.1 8.05  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients LOR Result Test Start Date

Sample temperature at time of receipt 8.1°C

Ammonia as N (ADEL)

07/08/2023

# Ammonia as N 1 13 µg/L

Chloride T0104-02(ADEL) 31/07/2023

Chloride 4.0 13000 mg/L

NATA WORLD RECOGNISED

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31523-EPA - Long Point **Sampling Point** 26/07/2023 4:15:00PM **Sampled Date** 27/07/2023 4:25:07PM Sample Received Date 14/08/2023 3:44:25PM Sample Analysis Completed \*2023-004-3056

Sample ID Status Endorsed

**Customer Collected Collection Type** 

Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	8.1 μg/L	
# Nitrate + Nitrite as NO3	2.3	35.9 μg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		1.86 mg/L	
Phosphorus - Filterable Reactive as P (ADEL)			07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	7.475 µg/L	
Phosphorus-Filterable Reactive as P	0.5	2.5 μg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.111 mg/L	
Silica - Reactive T0111-01(ADEL)			31/07/2023
Silica - Reactive	0.05	0.76 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023
TKN as Nitrogen	0.05	1.85 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.1°C			
Dissolved Organic Carbon T0158-07(ADEL)			01/08/2023
Dissolved Organic Carbon	1	13.2 mg/l	

**Total Organic Carbon T0158-07(ADEL)** Total Organic Carbon 13.7 mg/L

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

Sample temperature at time of receipt 8.1°C

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 151 mg/L 184 mg/L Bicarbonate Carbonate 0 mg/L Hydroxide 0 mg/L



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01/08/2023

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28/07/2023

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### **Analytical Results**

**Collection Type** 

31523-EPA - Long Point **Sampling Point** 26/07/2023 4:15:00PM **Sampled Date** 27/07/2023 4:25:07PM **Sample Received Date** 14/08/2023 3:44:25PM Sample Analysis Completed \*2023-004-3056 Sample ID

Endorsed **Status Customer Collected** 

28/07/2023 Conductivity & Total Dissolved Solids T0016-01(ADEL) 2 Conductivity 37900 μS/cm Note Conductivity measurement is corrected to 25°C Total Dissolved Solids (by EC) 1 25200 mg/L 28/07/2023 pH T0010-01(ADEL)

7.7 pH units

Temperature at which pH is measured 22.2 °C **Turbidity T0018-01(ADEL)** 

Turbidity 0.1 4.0 NTU

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

Sample temperature at time of receipt 8.1°C

01/08/2023 Suspended Solids T0160-01(ADEL) Suspended Solids 1.0

5 mg/L



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### **Analytical Results**

31524-EPA - Bonneys **Sampling Point** 26/07/2023 5:10:00PM **Sampled Date** 27/07/2023 4:25:21PM **Sample Received Date** 17/08/2023 3:54:55PM Sample Analysis Completed \*2023-004-3071 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

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

### Sample temperature at time of receipt 8.1°C

#### Algal Identification T0393(ADEL)

#### **CRYPTOPHYTES**

Chroomonas 100 cells/ml Cryptomonads 390 cells/mL

DIATOMS

Amphiprora\_(=\_Entomoneis) 2 cells/ml Guinardia 675 cells/mL Leptocylindrus 4 cells/mL Nitzschia 2 cells/mL

**GREEN ALGAE** 

Unicellular green algae 1880 cells/mL Chlorella 12900 cells/mL

Organism - Comment Leptocylindrus - This organism appeared to be in

poor condition or unhealthy.

Organism - Comment Guinardia - This organism appeared to be in poor

condition or unhealthy.

Organism - Comment Chlorella - The identification for this organism is

tentative only.

### Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)

**CRYPTOPHYTES** 

Chroomonas <0.01 mm3/L Cryptomonads 0.08 mm3/L

**DIATOMS** 

Nitzschia <0.01 mm3/L Amphiprora\_(=\_Entomoneis) 0.03 mm3/L

**GREEN ALGAE** 

Chlorella 0.58 mm3/L



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### **Analytical Results**

 Sampling Point
 31524-EPA - Bonneys

 Sampled Date
 26/07/2023
 5:10:00PM

 Sample Received Date
 27/07/2023
 4:25:21PM

 Sample Analysis Completed
 17/08/2023
 3:54:55PM

 Sample ID
 \*2023-004-3071

Status Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 26/07/2023

# 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 8.1°C

Algal Count - Total T0393(ADEL) 26/07/2023

 Algae - Total
 16000 cells/mL

 Blue Green Algae - Total
 0 cells/mL

 Diatoms - Total
 683 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 14800 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Sample temperature at time of receipt 8.1°C

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 13.0  $\,\mu g/L$  Phaeophytin a 0.1 4.11  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients LOR Result Test Start Date

Sample temperature at time of receipt 8.1°C

Ammonia as N (ADEL)

07/08/2023

# Ammonia as N 1 60 µg/L **Chloride T0104-02(ADEL)** 04/08/2023

Chloride 4.0 19300 mg/L



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Analyt	ical	Results	S
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 Sampling Point
 31524-EPA - Bonneys

 Sampled Date
 26/07/2023
 5:10:00PM

 Sample Received Date
 27/07/2023
 4:25:21PM

 Sample Analysis Completed
 17/08/2023
 3:54:55PM

 Sample ID
 \*2023-004-3071

Status Endorsed

Collection Type Customer Collected

Nitrate + Nitrite as N T0161-01(ADEL)			08/08/2023
Nitrate + Nitrite as N	0.003	0.123 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			
Nitrogen - Total		2.13 mg/L	
Phosphorus - Filterable Reactive as P (Al	DEL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	4.186 μg/L	
Phosphorus-Filterable Reactive as P	0.5	1.4 µg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.092 mg/L	
Silica - Reactive T0111-01(ADEL)			04/08/2023
Silica - Reactive	0.05	2.76 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023
TKN as Nitrogen	0.05	2.01 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.1°C	<u> </u>		
Dissolved Organic Carbon T0158-07(ADEL)			01/08/2023
Dissolved Organic Carbon	1	15.9 mg/L	
Total Organic Carbon T0158-07(ADEL)			01/08/2023
Total Organic Carbon	1	16.9 mg/L	

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 8.1°C

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

g/L

Alkalinity as Calcium Carbonate 172 mg/L
Bicarbonate 210 mg/L
Carbonate 0 mg/L
Hydroxide 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL) 28/07/2023

Conductivity 2 54600 µS/cm



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#### **Analytical Results**

Suspended Solids

**Sampling Point** 31524-EPA - Bonneys 26/07/2023 5:10:00PM **Sampled Date** 27/07/2023 4:25:21PM **Sample Received Date** 17/08/2023 3:54:55PM Sample Analysis Completed \*2023-004-3071 Sample ID

Endorsed Status

**Customer Collected Collection Type** 

Conductivity & Total Dissolved Solids T0016-01	(ADEL)		28/07/2023
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	39100 mg/L	
pH T0010-01(ADEL)			28/07/2023
pH		7.8 pH units	

Temperature at which pH is measured 22.2 °C

28/07/2023 **Turbidity T0018-01(ADEL)** Turbidity 0.1

**Inorganic Chemistry - Waste Water** LOR Result **Test Start Date** Sample temperature at time of receipt 8.1°C 01/08/2023 Suspended Solids T0160-01(ADEL)

4.7 NTU

10 mg/L

1.0



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#### **Analytical Results**

31512-EPA - McGrath Flat North **Sampling Point** 26/07/2023 5:38:00PM Sampled Date 27/07/2023 4:23:25PM **Sample Received Date** 14/08/2023 4:10:45PM Sample Analysis Completed \*2023-004-3063

Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

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

#### Sample temperature at time of receipt 8.1°C

#### Algal Identification T0393(ADEL)

#### **DIATOMS**

Naviculoids 2 cells/ml Thalassionema 26 cells/mL Pennate diatoms 8 cells/mL

**GREEN ALGAE** 

Chlorella 354000 cells/mL Unicellular green algae 53000 cells/mL

#### Sample temperature at time of receipt 8.1°C

## Algal Biovolume T0393(ADEL)

**GREEN ALGAE** 

Chlorella 15.9 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 8.1°C Algal Count - Total T0393(ADEL)

Algae - Total

Geosmin-MIB producing BGA - Total

407000 cells/ml Blue Green Algae - Total 0 cells/mL Diatoms - Total 36 cells/mL 0 cells/ml



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### **Analytical Results**

**Collection Type** 

31512-EPA - McGrath Flat North **Sampling Point** 26/07/2023 5:38:00PM **Sampled Date** 27/07/2023 4:23:25PM **Sample Received Date** 14/08/2023 4:10:45PM Sample Analysis Completed \*2023-004-3063 Sample ID

Endorsed **Status Customer Collected** 

Algal Count - Total T0393(ADEL)

Green Algae - Total 407000 cells/mL Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 8.1°C

28/07/2023 Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 29.4 µg/L Phaeophytin a 0.1 11.2 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	30 μg/L	
Chloride T0104-02(ADEL)			04/08/2023
Chloride	4.0	23900 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	10.8 μg/L	
# Nitrate + Nitrite as NO3	2.3	47.8 μg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		2.68 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		07/08/2023
# 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)			01/08/2023
Phosphorus - Total	0.005	0.096 mg/L	
Silica - Reactive T0111-01(ADEL)			04/08/2023
Silica - Reactive	0.05	3.38 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023
TKN as Nitrogen	0.05	2.67 mg/L	



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### **Analytical Results**

**Sampling Point** 31512-EPA - McGrath Flat North 26/07/2023 5:38:00PM **Sampled Date** 27/07/2023 4:23:25PM **Sample Received Date** 14/08/2023 4:10:45PM Sample Analysis Completed \*2023-004-3063 Sample ID Endorsed Status

**Customer Collected Collection Type** 

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	1°C		
Dissolved Organic Carbon T0158-07(ADE	EL)		01/08/2023
Dissolved Organic Carbon	1	17.9 mg/L	
Total Organic Carbon T0158-07(ADEL)			01/08/2023
Total Organic Carbon	1	19.8 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	.1°C		
Alkalinity Carbonate Bicarbonate and Hy		1(ADEL)	28/07/2023
Alkalinity as Calcium Carbonate		189 mg/L	
Bicarbonate		231 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids T0	016-01(ADEL)		28/07/2023
Conductivity	2	66400 μS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	49900 mg/L	
pH T0010-01(ADEL)			28/07/2023
pH		8.1 pH units	
Temperature at which pH is measured		22.2 °C	
Turbidity T0018-01(ADEL)			28/07/2023
Turbidity	0.1	5.6 NTU	
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	.1°C		
Suspended Solids T0160-01(ADEL)			01/08/2023
Suspended Solids	1.0	48 mg/L	



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#### **Analytical Results**

 Sampling Point
 31528-EPA - Salt Creek Outlet

 Sampled Date
 27/07/2023 8:10:00AM

 Sample Received Date
 27/07/2023 4:25:57PM

 Sample Analysis Completed
 16/08/2023 12:44:39PM

 Sample ID
 \*2023-004-3072

Status Endorsed

Collection Type Customer Collected

biology Operations Lon Result lest Statt Da	Biology Operations	LOR	Result	Test Start Date
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#### Sample temperature at time of receipt 8.1°C

#### Algal Identification T0393(ADEL)

#### **CRYPTOPHYTES**

Chroomonas 20 cells/mL

**DIATOMS** 

Nitzschia 20 cells/mL Cyclotella 20 cells/mL

**DINOFLAGELLATES** 

Heterocapsa 20 cells/mL

**GREEN ALGAE** 

 Monoraphidium
 30 cells/mL

 Chlorella
 657000 cells/mL

 Phytoflagellates
 90 cells/mL

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

 Unicellular green algae
 71000 cells/mL

Organism - Comment Chlorella - The identification for this organism is

tentative only.

#### Sample temperature at time of receipt 8.1°C

#### Algal Biovolume T0393(ADEL)

#### **CRYPTOPHYTES**

Chroomonas <0.01 mm3/L

**DIATOMS** 

Nitzschia 0.03 mm3/L Cyclotella 0.01 mm3/L

**GREEN ALGAE** 

 Chlorella
 29.6 mm3/L

 Monoraphidium
 0.03 mm3/L

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



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#### **Analytical Results**

 Sampling Point
 31528-EPA - Salt Creek Outlet

 Sampled Date
 27/07/2023 8:10:00AM

 Sample Received Date
 27/07/2023 4:25:57PM

 Sample Analysis Completed
 16/08/2023 12:44:39PM

 Sample ID
 \*2023-004-3072

Status Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 27/07/2023

# 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 0.04 mm3/L

# Total Green Algae Biovolume Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

### Sample temperature at time of receipt 8.1°C

Algal Count - Total T0393(ADEL) 27/07/2023

 Algae - Total
 728000 cells/mL

 Blue Green Algae - Total
 0 cells/mL

 Diatoms - Total
 40 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 728000 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Sample temperature at time of receipt 8.1°C

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 59.9  $\mu g/L$  Phaeophytin a 0.1 20.7  $\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
---------------------------------	-----	--------	-----------------

Sample temperature at time of receipt 8.1°C

Ammonia as N (ADEL)

07/08/2023

# Ammonia as N 1 100 µg/L **Chloride T0104-02(ADEL)** 04/08/2023

Chloride 4.0 15000 mg/L



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 Sampling Point
 31528-EPA - Salt Creek Outlet

 Sampled Date
 27/07/2023 8:10:00AM

 Sample Received Date
 27/07/2023 4:25:57PM

 Sample Analysis Completed
 16/08/2023 12:44:39PM

 Sample ID
 \*2023-004-3072

Status Endorsed

Collection Type Customer Collected

Nitrate + Nitrite as N T0161-01(ADEL)			08/08/2023
Nitrate + Nitrite as N	0.003	0.145 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		2.65 mg/L	
Phosphorus - Filterable Reactive as P (ADE	L)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	12.259 μg/L	
Phosphorus-Filterable Reactive as P	0.5	4.1 μg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.081 mg/L	
Silica - Reactive T0111-01(ADEL)			04/08/2023
Silica - Reactive	0.05	10.4 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023
TKN as Nitrogen	0.05	2.50 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.1	°C		
Dissolved Organic Carbon T0158-07(ADEL	_)		14/08/2023
Dissolved Organic Carbon	1	15.8 mg/L	
Total Organic Carbon T0158-07(ADEL)			14/08/2023
Total Organic Carbon	1	19.4 mg/L	

Inorganic Chemistry - Physical	LOR	Result	Test Start Date

#### Sample temperature at time of receipt 8.1°C

Alkalinity as Calcium Carbonate

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

291 mg/L 355 mg/L

45400 μS/cm

 Bicarbonate
 355 mg

 Carbonate
 0 mg/L

 Hydroxide
 0 mg/L

28/07/2023

NATA

Conductivity

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Conductivity & Total Dissolved Solids T0016-01(ADEL)

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#### **Analytical Results**

Turbidity

 Sampling Point
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 Sampled Date
 27/07/2023 8:10:00AM

 Sample Received Date
 27/07/2023 4:25:57PM

 Sample Analysis Completed
 16/08/2023 12:44:39PM

 Sample ID
 \*2023-004-3072

Status Endorsed

Collection Type Customer Collected

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Note

Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 31200 mg/L

0.1

pH T0010-01(ADEL) 28/07/2023

pH 8.2 pH units Temperature at which pH is measured 22.2  $^{\circ}$ C

Turbidity T0018-01(ADEL) 28/07/2023

6.9 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 8.1°C

Suspended Solids T0160-01(ADEL) 02/08/2023

Suspended Solids 1.0 23 mg/L



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#### **Analytical Results**

Sampling Point 31511-EPA - 3.2km South Salt Creek

 Sampled Date
 27/07/2023
 8:15:00AM

 Sample Received Date
 27/07/2023
 4:23:12PM

 Sample Analysis Completed
 16/08/2023
 12:44:39PM

 Sample ID
 \*2023-004-3060

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 8.1°C

#### Algal Identification T0393(ADEL)

#### **DINOFLAGELLATES**

Heterocapsa 250 cells/mL

**GREEN ALGAE** 

Phytoflagellates 1480 cells/mL
Chlorella 907000 cells/mL
Unicellular green algae 148000 cells/mL
Oocystis sp\_1\_(small\_cells) 125 cells/mL

Organism - Comment Chlorella - The identification for this organism is

tentative only.

## Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)

## GREEN ALGAE

# Total Algae Biovolume

# Total Diatom Biovolume

Total Toxic BGA Biovolume

# Total Green Algae Biovolume

# Total Blue Green Algae Biovolume

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

 Chlorella
 40.8 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 0.00 mm3/L

Not Calculated mm3/L

0.00 mm3/L

# Sample temperature at time of receipt 8.1°C Algal Count - Total T0393(ADEL)

Algae - Total 1060000 cells/mL

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#### **Analytical Results**

Sampling Point 31511-EPA - 3.2km South Salt Creek

 Sampled Date
 27/07/2023
 8:15:00AM

 Sample Received Date
 27/07/2023
 4:23:12PM

 Sample Analysis Completed
 16/08/2023
 12:44:39PM

Sample ID \*2023-004-3060
Status Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)		27/07/2023
Blue Green Algae - Total	0 cells/mL	
Diatoms - Total	0 cells/mL	
Geosmin-MIB producing BGA - Total	0 cells/mL	
Green Algae - Total	1060000 cells/mL	
Toxin producing BGA - Total	0 cells/mL	

# Sample temperature at time of receipt 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 67.8  $\,\mu g/L$  Phaeophytin a 0.1 25.0  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	18 μg/L	
Chloride T0104-02(ADEL)			31/07/2023
Chloride	4.0	23600 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	4.2 μg/L	
# Nitrate + Nitrite as NO3	2.3	18.6 μg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		2.96 mg/L	
Phosphorus - Filterable Reactive as P (A	DEL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	5.98 μg/L	
Phosphorus-Filterable Reactive as P	0.5	2.0 μg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.109 mg/L	
Silica - Reactive T0111-01(ADEL)			31/07/2023
Silica - Reactive	0.05	7.44 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023



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#### **Analytical Results**

Sampling Point 31511-EPA - 3.2km South Salt Creek

 Sampled Date
 27/07/2023
 8:15:00AM

 Sample Received Date
 27/07/2023
 4:23:12PM

 Sample Analysis Completed
 16/08/2023
 12:44:39PM

 Sample ID
 \*2023-004-3060

Status Endorsed

Collection Type Customer Collected

TKN as N T0112-01(ADEL) 01/08/2023

TKN as Nitrogen 0.05 2.96 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	1°C		
Dissolved Organic Carbon T0158-07(ADE	EL)		14/08/2023
Dissolved Organic Carbon	1	19.4 mg/L	
Total Organic Carbon T0158-07(ADEL)			14/08/2023
Total Organic Carbon	1	24.1 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	1°C		
Alkalinity Carbonate Bicarbonate and Hy	droxide T0101-01	I(ADEL)	28/07/2023
Alkalinity as Calcium Carbonate		249 mg/L	
Bicarbonate		304 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids T0	016-01(ADEL)		28/07/2023
Conductivity	2	63700 µS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	47300 mg/L	
pH T0010-01(ADEL)			28/07/2023
рН		8.0 pH units	
Temperature at which pH is measured		22.3 °C	
Turbidity T0018-01(ADEL)			28/07/2023
Turbidity	0.1	10 NTU	

Result

LOR

Sample temperature at time of receipt 8.1°C

**Inorganic Chemistry - Waste Water** 



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**Analytical Results** 

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 Sampled Date
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 8:15:00AM

 Sample Received Date
 27/07/2023
 4:23:12PM

 Sample Analysis Completed
 16/08/2023
 12:44:39PM

Sample ID \*2023-004-3060
Status Endorsed

Collection Type Customer Collected

Suspended Solids T0160-01(ADEL)

02/08/2023

Suspended Solids 1.0 20 mg/L



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#### **Analytical Results**

Sampling Point 31517-EPA - 1.8km West Salt Creek

 Sampled Date
 27/07/2023
 8:30:00AM

 Sample Received Date
 27/07/2023
 4:24:18PM

 Sample Analysis Completed
 16/08/2023
 12:44:39PM

 Sample ID
 \*2023-004-3061

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 8.1°C

#### Algal Identification T0393(ADEL)

**DIATOMS** 

Pseudo-nitzschia 2 cells/mL

**DINOFLAGELLATES** 

Heterocapsa 150 cells/mL

**GREEN ALGAE** 

 Phytoflagellates
 450 cells/mL

 Unicellular green algae
 110000 cells/mL

 Chlorella
 1050000 cells/mL

Organism - Comment Chlorella - The identification for this organism is

tentative only.

# Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)

**GREEN ALGAE** 

Chlorella 47.2 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 Not Calculated mm3/L

Total Toxic BGA Biovolume 0.00 mm3/L

## Sample temperature at time of receipt 8.1°C Algal Count - Total T0393(ADEL)

Algae - Total 1160000 cells/mL



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#### **Analytical Results**

Sampling Point 31517-EPA - 1.8km West Salt Creek

 Sampled Date
 27/07/2023
 8:30:00AM

 Sample Received Date
 27/07/2023
 4:24:18PM

 Sample Analysis Completed
 16/08/2023
 12:44:39PM

 Sample ID
 \*2023-004-3061

 Status
 Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)		27/07/2023
Blue Green Algae - Total	0 cells/mL	
Diatoms - Total	2 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 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 85.0  $\,\mu g/L$ 

Phaeophytin a	0.1	28.2 μg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	14 μg/L	
Chloride T0104-02(ADEL)			31/07/2023
Chloride	4.0	23500 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	4.7 μg/L	
# Nitrate + Nitrite as NO3	2.3	20.8 μg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		2.71 mg/L	
Phosphorus - Filterable Reactive as P (	ADEL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	3.887 µg/L	
Phosphorus-Filterable Reactive as P	0.5	1.3 µg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.107 mg/L	
Silica - Reactive T0111-01(ADEL)			31/07/2023
Silica - Reactive	0.05	7.65 mg/L	
TKN as N T0112-01(ΔDFI )			01/08/2023

TKN as N T0112-01(ADEL)



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01/08/2023

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#### **Analytical Results**

**Collection Type** 

Sampling Point 31517-EPA - 1.8km West Salt Creek

 Sampled Date
 27/07/2023
 8:30:00AM

 Sample Received Date
 27/07/2023
 4:24:18PM

 Sample Analysis Completed
 16/08/2023
 12:44:39PM

 Sample ID
 \*2023-004-3061

**Status** Endorsed

TKN as N T0112-01(ADEL)

LOR

**Customer Collected** 

TKN as Nitrogen 0.05 2.71 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
<b>Dissolved Organic Carbon T0158-07(Al</b>	DEL)		14/08/2023
Dissolved Organic Carbon	1	19.8 mg/L	
Total Organic Carbon T0158-07(ADEL)			14/08/2023
Total Organic Carbon	1	25.4 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt			
-		1(ADEL)	28/07/2023
<b>Alkalinity Carbonate Bicarbonate and</b> Alkalinity as Calcium Carbonate		1(ADEL) 242 mg/L	28/07/2023
Alkalinity Carbonate Bicarbonate and Alkalinity as Calcium Carbonate Bicarbonate			28/07/2023
<b>Alkalinity Carbonate Bicarbonate and</b> Alkalinity as Calcium Carbonate		242 mg/L	28/07/2023
<b>Alkalinity Carbonate Bicarbonate and</b> Alkalinity as Calcium Carbonate Bicarbonate		242 mg/L 295 mg/L	28/07/2023
Alkalinity Carbonate Bicarbonate and Alkalinity as Calcium Carbonate Bicarbonate Carbonate Hydroxide	Hydroxide T0101-0	242 mg/L 295 mg/L 0 mg/L	
Alkalinity Carbonate Bicarbonate and Alkalinity as Calcium Carbonate Bicarbonate Carbonate Hydroxide	Hydroxide T0101-0	242 mg/L 295 mg/L 0 mg/L	
Alkalinity Carbonate Bicarbonate and Alkalinity as Calcium Carbonate Bicarbonate Carbonate Hydroxide Conductivity & Total Dissolved Solids	Hydroxide T0101-0 <sup>.</sup> T0016-01(ADEL)	242 mg/L 295 mg/L 0 mg/L 0 mg/L	
Alkalinity Carbonate Bicarbonate and Alkalinity as Calcium Carbonate Bicarbonate Carbonate Hydroxide Conductivity & Total Dissolved Solids Conductivity	Hydroxide T0101-0 <sup>.</sup> T0016-01(ADEL)	242 mg/L 295 mg/L 0 mg/L 0 mg/L 62800 μS/cm	
Alkalinity Carbonate Bicarbonate and Alkalinity as Calcium Carbonate Bicarbonate Carbonate Hydroxide  Conductivity & Total Dissolved Solids Conductivity Note Total Dissolved Solids (by EC)	Hydroxide T0101-0 T0016-01(ADEL) 2	242 mg/L 295 mg/L 0 mg/L 0 mg/L 62800 μS/cm Conductivity measurement is corrected to 25°C	28/07/2023
Alkalinity Carbonate Bicarbonate and Alkalinity as Calcium Carbonate Bicarbonate Carbonate Hydroxide  Conductivity & Total Dissolved Solids Conductivity Note Total Dissolved Solids (by EC)	Hydroxide T0101-0 T0016-01(ADEL) 2	242 mg/L 295 mg/L 0 mg/L 0 mg/L 62800 μS/cm Conductivity measurement is corrected to 25°C	28/07/2023
Alkalinity Carbonate Bicarbonate and Alkalinity as Calcium Carbonate Bicarbonate Carbonate Hydroxide  Conductivity & Total Dissolved Solids Conductivity Note Total Dissolved Solids (by EC) pH T0010-01(ADEL)	Hydroxide T0101-0 T0016-01(ADEL) 2	242 mg/L 295 mg/L 0 mg/L 0 mg/L 62800 μS/cm Conductivity measurement is corrected to 25°C 46500 mg/L	28/07/2023
Alkalinity Carbonate Bicarbonate and Alkalinity as Calcium Carbonate Bicarbonate Carbonate Hydroxide  Conductivity & Total Dissolved Solids Conductivity Note Total Dissolved Solids (by EC) pH T0010-01(ADEL) pH	Hydroxide T0101-0 T0016-01(ADEL) 2	242 mg/L 295 mg/L 0 mg/L 0 mg/L 62800 μS/cm Conductivity measurement is corrected to 25°C 46500 mg/L 8.0 pH units	28/07/2023 28/07/2023 28/07/2023

Result

Sample temperature at time of receipt 8.1°C

**Inorganic Chemistry - Waste Water** 



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**Analytical Results** 

Sampling Point 31517-EPA - 1.8km West Salt Creek

 Sampled Date
 27/07/2023
 8:30:00AM

 Sample Received Date
 27/07/2023
 4:24:18PM

 Sample Analysis Completed
 16/08/2023
 12:44:39PM

 Sample ID
 \*2023-004-3061

 Status
 Endorsed

Collection Type Customer Collected

Suspended Solids T0160-01(ADEL)

02/08/2023

Suspended Solids 1.0 16 mg/L



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#### **Analytical Results**

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

27/07/2023 8:45:00AM **Sampled Date** 27/07/2023 4:24:44PM **Sample Received Date** 16/08/2023 12:44:39PM Sample Analysis Completed

\*2023-004-3065 Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.1 Algal Identification T0393(ADEL)	1°C		
Other Organisms		50 cells/mL	
DIATOMS			
Skeletonema		175 cells/mL	
Pannata diatama		0	

Pennate diatoms	2 cells/mL
Nitzschia	4 cells/mL
Synedra	10 cells/mL
Navicula	25 cells/mL
Naviculoids	2 cells/mL
Amphiprora_(=_Entomoneis)	2 cells/mL
Thalassiosira	25 cells/mL
DINOEL AGELLATES	

#### DINOFLAGELLATES

Heterocapsa 75 cells/ml

#### **GREEN ALGAE** Colonial green algae

Organism - Comment

Organism - Comment

Oocystis sp\_1\_(small\_cells) 1220 cells/mL Chodatella\_(Lagerheimia) 25 cells/mL Phytoflagellates small\_spp 1230 cells/mL Chlorella 7200 cells/mL Monoraphidium sp\_2\_(short) 1050 cells/mL

Organism - Comment Thalassiosira - The identification for this organism

is tentative only.

Chlorella - The identification for this organism is

tentative only.

1080 cells/mL

Skeletonema - The identification for this organism

is tentative only.

#### Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)

**DIATOMS** 

Synedra



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<0.01 mm3/L

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#### **Analytical Results**

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

27/07/2023 8:45:00AM Sampled Date 27/07/2023 4:24:44PM Sample Received Date 16/08/2023 12:44:39PM Sample Analysis Completed

\*2023-004-3065 Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

27/07/2023 Algal Biovolume T0393(ADEL)

Amphiprora\_(=\_Entomoneis) 0.03 mm3/L Nitzschia <0.01 mm3/L Navicula 0.03 mm3/L

**GREEN ALGAE** 

Colonial green algae 0.13 mm3/L Oocystis sp 1 (small cells) 0.21 mm3/L Phytoflagellates small spp 0.10 mm3/L Chlorella 0.32 mm3/L Monoraphidium sp\_2\_(short) 0.06 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 0.00 mm3/L

# Total Blue\_Green Algae Biovolume

# 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 8.1°C

27/07/2023 Algal Count - Total T0393(ADEL)

Algae - Total 12100 cells/mL Blue Green Algae - Total 0 cells/mL Diatoms - Total 245 cells/mL Geosmin-MIB producing BGA - Total 0 cells/mL Green Algae - Total 11800 cells/mL Toxin producing BGA - Total 0 cells/ml

Sample temperature at time of receipt 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a  $3.01 \mu g/L$ 

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28/07/2023

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#### **Analytical Results**

Sampling Point 315191-EPA - Morella Creek @ guage

 Sampled Date
 27/07/2023
 8:45:00AM

 Sample Received Date
 27/07/2023
 4:24:44PM

 Sample Analysis Completed
 16/08/2023
 12:44:39PM

 Sample ID
 \*2023-004-3065

Status Endorsed

Collection Type Customer Collected

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

Phaeophytin a 0.1 1.44  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	24 μg/L	
Chloride T0104-02(ADEL)			04/08/2023
Chloride	4.0	3600 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)			08/08/2023
Nitrate + Nitrite as N	0.003	0.395 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		1.32 mg/L	
Phosphorus - Filterable Reactive as P (A	ADEL)		07/08/2023
# 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)			01/08/2023
Phosphorus - Total	0.005	0.028 mg/L	
Silica - Reactive T0111-01(ADEL)			04/08/2023
Silica - Reactive	0.05	16.6 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023
TKN as Nitrogen	0.05	0.92 mg/L	
Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.1°C		
Dissolved Organic Carbon T0158-07(AD			14/08/2023
Dissolved Organic Carbon	1	10.0 mg/L	
Total Organic Carbon T0158-07(ADEL)		-	14/08/2023
Total Organic Carbon	1	9.5 mg/L	



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### **Analytical Results**

Sampling Point 315191-EPA - Morella Creek @ guage

 Sampled Date
 27/07/2023
 8:45:00AM

 Sample Received Date
 27/07/2023
 4:24:44PM

 Sample Analysis Completed
 16/08/2023
 12:44:39PM

 Sample ID
 \*2023-004-3065

Sample ID \*2023-004-30
Status Endorsed

Collection Type Customer Collected

LOR	Result	Test Start Date
1°C		
droxide T0101-01	I(ADEL)	28/07/2023
	375 mg/L	
	417 mg/L	
	20 mg/L	
	0 mg/L	
016-01(ADEL)		28/07/2023
2	11900 μS/cm	
	Conductivity measurement is corrected to 25°C	
1	6990 mg/L	
		28/07/2023
	8.5 pH units	
	22.4 °C	
		28/07/2023
0.1	3.3 NTU	
LOR	Result	Test Start Date
<b>1°C</b>	2 ma/l	02/08/2023
	1°C rdroxide T0101-01 016-01(ADEL) 2 1 0.1 LOR	1°C rdroxide T0101-01(ADEL)  375 mg/L  417 mg/L  20 mg/L  0 mg/L  016-01(ADEL)  2 11900 μS/cm  Conductivity measurement is corrected to 25°C  1 6990 mg/L  8.5 pH units  22.4 °C  0.1 3.3 NTU  LOR Result



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#### **Analytical Results**

 Sampling Point
 31515-EPA - Snipe Point

 Sampled Date
 27/07/2023
 8:50:00AM

 Sample Received Date
 27/07/2023
 4:24:05PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3058

Status Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 8.1°C

#### Algal Identification T0393(ADEL)

#### **DINOFLAGELLATES**

Heterocapsa 125 cells/mL

#### **GREEN ALGAE**

 Phytoflagellates
 875 cells/mL

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

 Chlorella
 1060000 cells/mL

 Unicellular green algae
 126000 cells/mL

Organism - Comment Chlorella - The identification for this organism is

tentative only.

# Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)

#### **GREEN ALGAE**

# Total Algae Biovolume

# Total Diatom Biovolume

Total Toxic BGA Biovolume

# Total Green Algae Biovolume

# Total Blue Green Algae Biovolume

 Chlorella
 47.7 mm3/L

 Oocystis sp\_1\_(small\_cells)
 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

0.00 mm3/L 0.00 mm3/L

Not Calculated mm3/L

0.00 mm3/L

# Sample temperature at time of receipt 8.1°C Algal Count - Total T0393(ADEL)

Algae - Total 1190000 cells/mL

27/07/2023

27/07/2023



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#### **Analytical Results**

 Sampling Point
 31515-EPA - Snipe Point

 Sampled Date
 27/07/2023
 8:50:00AM

 Sample Received Date
 27/07/2023
 4:24:05PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3058

Status Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)	2	7/07/2023
Blue Green Algae - Total	0 cells/mL	
Diatoms - Total	0 cells/mL	

 Diatoms - Total
 0 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 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 90.2  $\,\mu g/L$  Phaeophytin a 0.1 35.9  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date

Sample temperature at time of receipt 8	3.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	15 μg/L	
Chloride T0104-02(ADEL)			31/07/2023
Chloride	4.0	24700 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	2.3 μg/L	
# Nitrate + Nitrite as NO3	2.3	10.2 μg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		3.21 mg/L	
Phosphorus - Filterable Reactive as P (A	(DEL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	4.186 μg/L	
Phosphorus-Filterable Reactive as P	0.5	1.4 μg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.098 mg/L	
Silica - Reactive T0111-01(ADEL)			31/07/2023

7.17 mg/L

0.05

TKN as N T0112-01(ADEL)



Silica - Reactive

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#### **Analytical Results**

31515-EPA - Snipe Point **Sampling Point** 27/07/2023 8:50:00AM **Sampled Date** 27/07/2023 4:24:05PM **Sample Received Date** 16/08/2023 12:48:06PM Sample Analysis Completed \*2023-004-3058 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

01/08/2023 TKN as N T0112-01(ADEL)

0.05 TKN as Nitrogen 3.21 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8 Dissolved Organic Carbon T0158-07(ADI			14/08/2023
Dissolved Organic Carbon	1	20.3 mg/L	
Total Organic Carbon T0158-07(ADEL)			14/08/2023
Total Organic Carbon	1	26.0 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.1°C	
Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADFL)	28/07/2023

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)				
Alkalinity as Calcium Carbonate	233 mg/L			
Bicarbonate	284 mg/L			
Carbonate	0 mg/L			
Hydroxide	0 mg/L			

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 65500 µS/cm

Note Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 49000 mg/L

LOR

28/07/2023 pH T0010-01(ADEL)

8.0 pH units

Temperature at which pH is measured 22.2 °C

28/07/2023 **Turbidity T0018-01(ADEL)** Turbidity 0.1 10 NTU

**Inorganic Chemistry - Waste Water** 

Result

Sample temperature at time of receipt 8.1°C



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**Test Start Date** 

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**Analytical Results** 

 Sampling Point
 31515-EPA - Snipe Point

 Sampled Date
 27/07/2023
 8:50:00AM

 Sample Received Date
 27/07/2023
 4:24:05PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3058

Sample ID \*2023-004-3 Status Endorsed

Collection Type Customer Collected

Suspended Solids T0160-01(ADEL)

02/08/2023

Suspended Solids 1.0 20 mg/L



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#### **Analytical Results**

Sampling Point 31519-EPA - Morella Basin at Outlet Regulator

 Sampled Date
 27/07/2023
 9:00:00AM

 Sample Received Date
 27/07/2023
 4:24:31PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3064

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receig	ot 8.1°C		
Algal Identification T0393(ADEL)			
BLUE GREEN ALGAE			
Cyanogranis		1750 cells/mL	
CRYPTOPHYTES			
Cryptomonads		50 cells/mL	

 Skeletonema
 50 cells/mL

 Synedra
 16 cells/mL

 Nitzschia
 6 cells/mL

 Pennate diatoms
 4 cells/mL

 Chaetoceros
 100 cells/mL

 Cyclotella
 125 cells/mL

**DINOFLAGELLATES** 

Heterocapsa 150 cells/mL Gymnodinioids 125 cells/mL

**GREEN ALGAE** 

**DIATOMS** 

Chodatella\_(Lagerheimia)50 cells/mLPhytoflagellates small\_spp1850 cells/mLColonial green algae1000 cells/mLCarteria75 cells/mLOocystis sp\_1\_(small\_cells)1080 cells/mLMonoraphidium sp\_2\_(short)1350 cells/mLChlorella21000 cells/mL

Organism - Comment Chlorella - The identification for this organism is

tentative only.

Organism - Comment Skeletonema - The identification for this organism

is tentative only.

Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)

27/07/2023



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#### **Analytical Results**

Sampling Point 31519-EPA - Morella Basin at Outlet Regulator

 Sampled Date
 27/07/2023
 9:00:00AM

 Sample Received Date
 27/07/2023
 4:24:31PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3064

 Status
 Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 27/07/2023

**BLUE GREEN ALGAE** 

Cyanogranis <0.01 mm3/L

**CRYPTOPHYTES** 

Cryptomonads 0.01 mm3/L

**DIATOMS** 

 Synedra
 0.01 mm3/L

 Nitzschia
 <0.01 mm3/L</td>

 Cyclotella
 0.06 mm3/L

**GREEN ALGAE** 

 Phytoflagellates small\_spp
 0.14 mm3/L

 Colonial green algae
 0.12 mm3/L

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

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

 Chlorella
 0.94 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 <0.01 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 8.1°C

Algal Count - Total T0393(ADEL) 27/07/2023

 Algae - Total
 28800 cells/mL

 Blue Green Algae - Total
 1750 cells/mL

 Diatoms - Total
 301 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 26400 cells/mL



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#### **Analytical Results**

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

27/07/2023 9:00:00AM **Sampled Date** 27/07/2023 4:24:31PM **Sample Received Date** 16/08/2023 12:48:06PM Sample Analysis Completed \*2023-004-3064 Sample ID

Status **Customer Collected Collection Type** 

Algal Count - Total T0393(ADEL)	27/07/2023
Toxin producing BGA - Total	0 cells/mL

Sample temperature at time of receipt 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 2.67 µg/L

Endorsed

Phaeophytin a 0.1 1.04 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	83 µg/L	
Chloride T0104-02(ADEL)			04/08/2023
Chloride	4.0	3600 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)			08/08/2023
Nitrate + Nitrite as N	0.003	0.368 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		1.32 mg/L	
Phosphorus - Filterable Reactive as P (A	DEL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	9.867 μg/L	
Phosphorus-Filterable Reactive as P	0.5	3.3 µg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.016 mg/L	
Silica - Reactive T0111-01(ADEL)			04/08/2023
Silica - Reactive	0.05	16.5 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023
TKN as Nitrogen	0.05	0.95 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.1°C



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#### **Analytical Results**

Sampling Point 31519-EPA - Morella Basin at Outlet Regulator

 Sampled Date
 27/07/2023
 9:00:00AM

 Sample Received Date
 27/07/2023
 4:24:31PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3064

Status Endorsed

Collection Type Customer Collected

Dissolved Organic Carbon T0158-07(ADEL) 14/08/2023

Dissolved Organic Carbon 1 9.3 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 9.4 mg/L

Inorganic Chemistry - Physical LOR Result Test Start Date

Sample temperature at time of receipt 8.1°C

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

28/07/2023

 Alkalinity as Calcium Carbonate
 376 mg/L

 Bicarbonate
 411 mg/L

 Carbonate
 24 mg/L

 Hydroxide
 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 2 11900  $\mu$ S/cm

Note Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 6990 mg/L

pH T0010-01(ADEL) 28/07/2023

pH 8.6 pH units Temperature at which pH is measured 22.2  $^{\circ}$ C

Turbidity T0018-01(ADEL)

Turbidity 0.1 2.1 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 8.1°C

Suspended Solids T0160-01(ADEL) 02/08/2023

Suspended Solids 1.0 22 mg/L



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#### **Analytical Results**

 Sampling Point
 31526-EPA - Nth Jack Point

 Sampled Date
 27/07/2023
 9:40:00AM

 Sample Received Date
 27/07/2023
 4:25:45PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3057

Sample ID \*2023-004 Status Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 8.1°C

#### Algal Identification T0393(ADEL)

**DIATOMS** 

Naviculoids 20 cells/mL

**DINOFLAGELLATES** 

Heterocapsa 20 cells/mL

**GREEN ALGAE** 

 Phytoflagellates
 390 cells/mL

 Unicellular green algae
 125000 cells/mL

 Chlorella
 1110000 cells/mL

Organism - Comment Chlorella - The identification for this organism is

tentative only.

# Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)

GREEN ALGAE

Chlorella 50.0 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.

how they calculate.

Biovolume totals have specific criteria around

# 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 8.1°C Algal Count - Total T0393(ADEL)

Algae - Total 1240000 cells/mL



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### **Analytical Results**

 Sampling Point
 31526-EPA - Nth Jack Point

 Sampled Date
 27/07/2023
 9:40:00AM

 Sample Received Date
 27/07/2023
 4:25:45PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3057

Status Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)		27/07/2023
Blue Green Algae - Total	0 cells/mL	

 Diatoms - Total
 20 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 1240000 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Sample temperature at time of receipt 8.1°C Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 109  $\,\mu g/L$  Phaeophytin a 0.1 39.3  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date

Sample temperature at time of receipt 8	3.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	13 μg/L	
Chloride T0104-02(ADEL)			31/07/2023
Chloride	4.0	27000 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	3.9 µg/L	
# Nitrate + Nitrite as NO3	2.3	17.3 μg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		3.22 mg/L	
Phosphorus - Filterable Reactive as P (A	(DEL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	4.186 μg/L	
Phosphorus-Filterable Reactive as P	0.5	1.4 µg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.129 mg/L	
Silica - Reactive T0111-01(ADEL)			31/07/2023

6.20 mg/L

0.05

Silica - Reactive
TKN as N T0112-01(ADEL)



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A	14!	I D	14-
Ana	ivtica	ıl Res	uits

31526-EPA - Nth Jack Point **Sampling Point** 27/07/2023 9:40:00AM **Sampled Date** 27/07/2023 4:25:45PM Sample Received Date 16/08/2023 12:48:06PM Sample Analysis Completed \*2023-004-3057 Sample ID

Endorsed **Status** 

**Customer Collected Collection Type** 

01/08/2023 TKN as N T0112-01(ADEL)

TKN as Nitrogen 0.05 3.22 mg/L

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
Dissolved Organic Carbon T0158-07(Al	DEL)		14/08/2023
Dissolved Organic Carbon	1	20.9 mg/L	
Total Organic Carbon T0158-07(ADEL)			14/08/2023
Total Organic Carbon	1	27.7 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
Alkalinity Carbonate Bicarbonate and	Hydroxide T0101-0	1(ADEL)	28/07/2023
Alkalinity as Calcium Carbonate		217 mg/L	
Bicarbonate		264 mg/L	
Carbonate		0 mg/L	
Hydroxida		0	

Hydroxide 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 69400 µS/cm

Note Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 52700 mg/L

28/07/2023 pH T0010-01(ADEL)

8.0 pH units

Temperature at which pH is measured 22.2 °C **Turbidity T0018-01(ADEL)** 

Turbidity 0.1 13 NTU

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

Sample temperature at time of receipt 8.1°C



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28/07/2023

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**Analytical Results** 

 Sampling Point
 31526-EPA - Nth Jack Point

 Sampled Date
 27/07/2023
 9:40:00AM

 Sample Received Date
 27/07/2023
 4:25:45PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3057

Sample ID \*2023-004 Status Endorsed

Collection Type Customer Collected

Suspended Solids T0160-01(ADEL)

02/08/2023

Suspended Solids 1.0 32 mg/L



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#### **Analytical Results**

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

 Sampled Date
 27/07/2023
 9:40:00AM

 Sample Received Date
 27/07/2023
 4:22:59PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

Sample ID \*2023-004-3066
Status Endorsed

Collection Type Customer Collected

Sample temperature at time of receipt 8.1°C	<b>Biology Operations</b>	LOR	Result	Test Start Date
CRYPTOPHYTES           Cryptomonads         1150 cells/mL           DIATOMS         250 cells/mL           Amphiprora_(=_Entomoneis)         2 cells/mL           Amphiprora_(=_Entomoneis)         42 cells/mL           Nitzschia         42 cells/mL           Naviculoids         78 cells/mL           Avaiculoids         8 cells/mL           EUGLENOPHYTES         10 cells/mL           EUGLENACEAE         10 cells/mL           GREEN ALGAE         725 cells/mL           Phytoflagellates         325 cells/mL           Monoraphidium         100 cells/mL           Chlamydomonas         20 cells/mL           Sample temperature at time of receipt 8.1°C           Algal Biovolume T0393(ADEL)         27/07/203           CRYPTOPHYTES         27/07/203           Cryptomonads         0.24 mm3/L           DIATOMS         0.03 mm3/L           Nitzschia         0.03 mm3/L           Amphiprora_(=_Entomoneis)         0.03 mm3/L           Cyclotella         0.13 mm3/L           GREEN ALGAE         40.01 mm3/L           Chlamydomonas         40.01 mm3/L	Sample temperature at time of receipt 8.1°C	,		
Cryptomonads         1150 cells/mL           DIATOMS         250 cells/mL           Cyclotella         250 cells/mL           Amphiprora_(= Entomoneis)         2 cells/mL           Pennate diatoms         42 cells/mL           Nitzschia         22 cells/mL           Naviculoids         78 cells/mL           EUGLENOPHYTES         EUGLENACEAE           EUGLENACEAE         10 cells/mL           GREEN ALGAE         725 cells/mL           Phytoflagellates         325 cells/mL           Monoraphidium         100 cells/mL           Chlamydomonas         20 cells/mL           Sample temperature at time of receipt 8.1°C         27/07/2023           CRYPTOPHYTES         27/07/2023           Cryptomonads         0.24 mm3/L           DIATOMS         0.03 mm3/L           Nitzschia         0.03 mm3/L           Amphiprora_(=_Entomoneis)         0.03 mm3/L           Cyclotella         0.03 mm3/L           GREEN ALGAE         40.01 mm3/L           Chlamydomonas         40.01 mm3/L	Algal Identification T0393(ADEL)			
DIATOMS  Cyclotella 250 cells/mL  Amphiprora_(= Entomoneis) 2 cells/mL  Pennate diatoms 42 cells/mL  Nitzschia 22 cells/mL  Naviculoids 22 cells/mL  Naviculoids 22 cells/mL  Naviculoids 22 cells/mL  EUGLENOPHYTES  EUGLENACEAE 10 cells/mL  GREEN ALGAE  Tetraselmis 725 cells/mL  Phytoflagellates 325 cells/mL  Monoraphidium 100 cells/mL  Chlamydomonas 20 cells/mL  Sample temperature at time of receipt 8.1°C  Algal Biovolume T0393(ADEL) 20 cells/mL  CRYPTOPHYTES  Cryptomonads 0.24 mm3/L  DIATOMS  Nitzschia 0.03 mm3/L  Amphiprora_(= Entomoneis) 0.03 mm3/L  Amphiprora_(= Entomoneis) 0.13 mm3/L  GREEN ALGAE  Chlamydomonas <0.01 mm3/L  GREEN ALGAE  Chlamydomonas <0.01 mm3/L	CRYPTOPHYTES			
Cyclotella         250 cells/mL           Amphiprora_(≡ Entomoneis)         2 cells/mL           Pennate diatoms         42 cells/mL           Nitzschia         22 cells/mL           Naviculoids         78 cells/mL           EUGLENOPHYTES         2 cells/mL           EUGLENACEAE         10 cells/mL           GREEN ALGAE         725 cells/mL           Phytoflagellates         325 cells/mL           Monoraphidium         100 cells/mL           Chlamydomonas         20 cells/mL           Sample temperature at time of receipt 8.1°C         27/07/2023           Algal Biovolume T0393(ADEL)         27/07/2023           CRYPTOPHYTES         27/07/2023           Cryptomonads         0.24 mm3/L           DIATOMS         0.03 mm3/L           Nitzschia         0.03 mm3/L           Amphiprora_(= Entomoneis)         0.03 mm3/L           Cyclotella         0.01 mm3/L           GREEN ALGAE         <0.01 mm3/L	Cryptomonads		1150 cells/mL	
Amphiprora_(=_Entomoneis)	DIATOMS			
Pennate diatoms         42 cells/mL           Nitzschia         22 cells/mL           Naviculoids         78 cells/mL           EUGLENOPHYTES         EUGLENACEAE           EUGLENACEAE         10 cells/mL           GREEN ALGAE         Tetraselmis           Phytoflagellates         325 cells/mL           Monoraphidium         100 cells/mL           Chlamydomonas         20 cells/mL           Sample temperature at time of receipt 8.1°C           Algal Biovolume T0393(ADEL)         27/07/2023           CRYPTOPHYTES         27/07/2023           Cryptomonads         0.24 mm3/L           DIATOMS         0.03 mm3/L           Nitzschia         0.03 mm3/L           Amphiprora (= Entomoneis)         0.03 mm3/L           Cyclotella         0.13 mm3/L           GREEN ALGAE         Chlamydomonas	Cyclotella		250 cells/mL	
Nitzschia   22 cells/mL     Naviculoids   78 cells/mL     EUGLENOPHYTES     EUGLENACEAE   10 cells/mL     GREEN ALGAE   725 cells/mL     Phytoflagellates   325 cells/mL     Monoraphidium   100 cells/mL     Chlamydomonas   20 cells/mL     Sample temperature at time of receipt 8.1°C     Algal Biovolume T0393(ADEL)   27/07/2023     CRYPTOPHYTES     Cryptomonads   0.24 mm3/L     DIATOMS     Nitzschia   0.03 mm3/L     Amphiprora (= Entomoneis)   0.03 mm3/L     Cyclotella   0.13 mm3/L     GREEN ALGAE     Chlamydomonas   <0.01 mm3/L     GREEN ALGAE     Chlamydomonas   <0.01 mm3/L     Cyclotella   0.13 mm3/L     GREEN ALGAE     Chlamydomonas   <0.01 mm3/L     Cyclotella   0.13 mm3/L     Cyclotella   0.10 mm3/L     Cyclotella	Amphiprora_(=_Entomoneis)		2 cells/mL	
Naviculoids 78 cells/mL  EUGLENOPHYTES  EUGLENACEAE 10 cells/mL  GREEN ALGAE  Tetraselmis 725 cells/mL  Phytoflagellates 325 cells/mL  Monoraphidium 100 cells/mL  Chlamydomonas 20 cells/mL  Sample temperature at time of receipt 8.1°C  Algal Biovolume T0393(ADEL) 27/07/2023  CRYPTOPHYTES  Cryptomonads 0.24 mm3/L  DIATOMS  Nitzschia 0.03 mm3/L  Amphiprora_(=_Entomoneis) 0.03 mm3/L  Cyclotella 0.13 mm3/L  GREEN ALGAE  Chlamydomonas <0.01 mm3/L	Pennate diatoms		42 cells/mL	
EUGLENOPHYTES  EUGLENACEAE 10 cells/mL  GREEN ALGAE  Tetraselmis 725 cells/mL  Phytoflagellates 325 cells/mL  Monoraphidium 100 cells/mL  Chlamydomonas 20 cells/mL  Sample temperature at time of receipt 8.1°C  Algal Biovolume T0393(ADEL) 27/07/2023  CRYPTOPHYTES  Cryptomonads 0.24 mm3/L  DIATOMS  Nitzschia 0.03 mm3/L  Amphiprora_(=_Entomoneis) 0.03 mm3/L  Cyclotella 0.13 mm3/L  GREEN ALGAE  Chlamydomonas <0.01 mm3/L	Nitzschia		22 cells/mL	
EUGLENACEAE         10 cells/mL           GREEN ALGAE         725 cells/mL           Tetraselmis         725 cells/mL           Phytoflagellates         325 cells/mL           Monoraphidium         100 cells/mL           Chlamydomonas         20 cells/mL           Sample temperature at time of receipt 8.1°C           Algal Biovolume T0393(ADEL)         27/07/2023           CRYPTOPHYTES         27/07/2023           Cryptomonads         0.24 mm3/L           DIATOMS         0.03 mm3/L           Amphiprora_(=_Entomoneis)         0.03 mm3/L           Cyclotella         0.13 mm3/L           GREEN ALGAE         <0.01 mm3/L	Naviculoids		78 cells/mL	
GREEN ALGAE  Tetraselmis 725 cells/mL Phytoflagellates 325 cells/mL Monoraphidium 100 cells/mL Chlamydomonas 20 cells/mL  Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL) 27/07/2023 CRYPTOPHYTES Cryptomonads 0.24 mm3/L DIATOMS Nitzschia 0.03 mm3/L Amphiprora_(=_Entomoneis) 0.03 mm3/L Cyclotella 0.13 mm3/L GREEN ALGAE Chlamydomonas <0.01 mm3/L	EUGLENOPHYTES			
Tetraselmis         725 cells/mL           Phytoflagellates         325 cells/mL           Monoraphidium         100 cells/mL           Chlamydomonas         20 cells/mL           Sample temperature at time of receipt 8.1°C           Algal Biovolume T0393(ADEL)           CRYPTOPHYTES           Cryptomonads         0.24 mm3/L           DIATOMS           Nitzschia         0.03 mm3/L           Amphiprora_(=_Entomoneis)         0.03 mm3/L           Cyclotella         0.13 mm3/L           GREEN ALGAE            Chlamydomonas         <0.01 mm3/L	EUGLENACEAE		10 cells/mL	
Phytoflagellates Monoraphidium Chlamydomonas  Sample temperature at time of receipt 8.1°C  Algal Biovolume T0393(ADEL) Cryptomonads Cryptomonads Cryptomonads DIATOMS Nitzschia Amphiprora_(=_Entomoneis) Cyclotella GREEN ALGAE Chlamydomonas  325 cells/mL 20 cells/mL 20 cells/mL 21/07/2023 27/07/2023	GREEN ALGAE			
Monoraphidium Chlamydomonas  Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL) CRYPTOPHYTES Cryptomonads Cryptomonads Ola mm3/L DIATOMS Nitzschia Amphiprora_(=_Entomoneis) Cyclotella Cyclotella GREEN ALGAE Chlamydomonas  100 cells/mL 100 cells/mL 20 cells/mL 210 210 211 211 211 211 211 211 211 211	Tetraselmis		725 cells/mL	
Chlamydomonas 20 cells/mL  Sample temperature at time of receipt 8.1°C  Algal Biovolume T0393(ADEL) 27/07/2023  CRYPTOPHYTES Cryptomonads 0.24 mm3/L  DIATOMS Nitzschia 0.03 mm3/L  Amphiprora_(=_Entomoneis) 0.03 mm3/L  Cyclotella 0.13 mm3/L  GREEN ALGAE Chlamydomonas <0.01 mm3/L	Phytoflagellates		325 cells/mL	
Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL) CRYPTOPHYTES Cryptomonads O.24 mm3/L DIATOMS Nitzschia Amphiprora_(=_Entomoneis) Cyclotella Cyclotella GREEN ALGAE Chlamydomonas  \$ 0.03 mm3/L \$ 0.03 mm3/	Monoraphidium		100 cells/mL	
Algal Biovolume T0393(ADEL) CRYPTOPHYTES Cryptomonads O.24 mm3/L DIATOMS Nitzschia Amphiprora_(=_Entomoneis) Cyclotella Cyclotella GREEN ALGAE Chlamydomonas  27/07/2023	Chlamydomonas		20 cells/mL	
CRYPTOPHYTES  Cryptomonads 0.24 mm3/L  DIATOMS  Nitzschia 0.03 mm3/L  Amphiprora_(=_Entomoneis) 0.03 mm3/L  Cyclotella 0.13 mm3/L  GREEN ALGAE  Chlamydomonas <0.01 mm3/L	Sample temperature at time of receipt 8.1°C	:		
DIATOMS  Nitzschia 0.03 mm3/L  Amphiprora_(=_Entomoneis) 0.03 mm3/L  Cyclotella 0.13 mm3/L  GREEN ALGAE  Chlamydomonas <0.01 mm3/L	• , , ,			27/07/2023
Nitzschia 0.03 mm3/L Amphiprora_(=_Entomoneis) 0.03 mm3/L Cyclotella 0.13 mm3/L GREEN ALGAE Chlamydomonas <0.01 mm3/L	Cryptomonads		0.24 mm3/L	
Amphiprora_(=_Entomoneis)  Cyclotella  GREEN ALGAE  Chlamydomonas  O.03 mm3/L  0.13 mm3/L  < <0.01 mm3/L	DIATOMS			
Cyclotella 0.13 mm3/L  GREEN ALGAE  Chlamydomonas <0.01 mm3/L	Nitzschia		0.03 mm3/L	
GREEN ALGAE Chlamydomonas <0.01 mm3/L	Amphiprora_(=_Entomoneis)		0.03 mm3/L	
Chlamydomonas <0.01 mm3/L	Cyclotella		0.13 mm3/L	
·	GREEN ALGAE			
Monoraphidium 0.09 mm3/L	Chlamydomonas		<0.01 mm3/L	
	Monoraphidium		0.09 mm3/L	



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#### **Analytical Results**

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

 Sampled Date
 27/07/2023
 9:40:00AM

 Sample Received Date
 27/07/2023
 4:22:59PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3066

 Status
 Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 27/07/2023

# 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 8.1°C

Algal Count - Total T0393(ADEL) 27/07/2023

 Algae - Total
 2720 cells/mL

 Blue Green Algae - Total
 0 cells/mL

 Diatoms - Total
 394 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 1170 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Sample temperature at time of receipt 8.1°C

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 10.8  $\,\mu g/L$  Phaeophytin a 0.1 2.66  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients LOR Result Test Start Date

Sample temperature at time of receipt 8.1°C
Ammonia as N (ADEL)
07/08/2023

# Ammonia as N 1 2 µg/L

Chloride T0104-02(ADEL) 04/08/2023

Chloride 4.0 2480 mg/L



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<b>Analytical Result</b>	ts
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Sampling Point 300713-Tilley Swamp Drain D/S Northern Outlet

 Sampled Date
 27/07/2023
 9:40:00AM

 Sample Received Date
 27/07/2023
 4:22:59PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3066

Status Endorsed

Collection Type Customer Collected

Nitrate + Nitrite as N T0161-01(ADEL)			08/08/2023
Nitrate + Nitrite as N	0.003	0.616 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		1.57 mg/L	
Phosphorus - Filterable Reactive as P (AD	EL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	7.176 μg/L	
Phosphorus-Filterable Reactive as P	0.5	2.4 μg/L	
Phosphorus - Total T0109-44(ADEL)			01/08/2023
Phosphorus - Total	0.005	0.050 mg/L	
Silica - Reactive T0111-01(ADEL)			04/08/2023
Silica - Reactive	0.05	6.34 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023
TKN as Nitrogen	0.05	0.95 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.1	°C		
Dissolved Organic Carbon T0158-07(ADEL	.)		14/08/2023
Dissolved Organic Carbon	1	8.5 mg/L	
Total Organic Carbon T0158-07(ADEL)			14/08/2023
Total Organic Carbon	1	8.7 mg/L	

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

### Sample temperature at time of receipt 8.1°C

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 439 mg/L
Bicarbonate 535 mg/L
Carbonate 0 mg/L
Hydroxide 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 2 8580 µS/cm



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01/08/2023

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### **Analytical Results**

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

 Sampled Date
 27/07/2023
 9:40:00AM

 Sample Received Date
 27/07/2023
 4:22:59PM

 Sample Analysis Completed
 16/08/2023
 12:48:06PM

 Sample ID
 \*2023-004-3066

Sample ID \*2023-004 Status Endorsed

Collection Type Customer Collected

T0016-01(ADEL)		01/08/2023
,	Conductivity measurement is corrected to 25°C	
1	4950 mg/L	
		01/08/2023
	8.2 pH units	
	22.1 °C	
		28/07/2023
0.1	1.4 NTU	
	1 0.1	Conductivity measurement is corrected to 25°C  4950 mg/L  8.2 pH units  22.1 °C

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.1° Suspended Solids T0160-01(ADEL)	С		02/08/2023
Suspended Solids	1.0	17 mg/L	



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## **Analytical Results**

 Sampling Point
 31514-EPA - Stoney Well

 Sampled Date
 27/07/2023 10:15:00AM

 Sample Received Date
 27/07/2023 4:23:51PM

 Sample Analysis Completed
 17/08/2023 3:55:49PM

 Sample ID
 \*2023-004-3062

Status Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 8.1°C

#### Algal Identification T0393(ADEL)

#### DIATOMS

 Amphiprora\_(=\_Entomoneis)
 4 cells/mL

 Pennate diatoms
 10 cells/mL

 Nitzschia
 12 cells/mL

**DINOFLAGELLATES** 

Oxyrrhis 10 cells/mL

**GREEN ALGAE** 

Chlorella1240000 cells/mLPhytoflagellates140 cells/mLUnicellular green algae100000 cells/mL

Organism - Comment Chlorella - The identification for this organism is

tentative only.

# Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)

#### DIATOMS

Amphiprora\_(=\_Entomoneis) 0.06 mm3/L
Nitzschia 0.02 mm3/l

**GREEN ALGAE** 

Chlorella 55.8 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

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

# Total Algae Biovolume

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## **Analytical Results**

 Sampling Point
 31514-EPA - Stoney Well

 Sampled Date
 27/07/2023 10:15:00AM

 Sample Received Date
 27/07/2023 4:23:51PM

 Sample Analysis Completed
 17/08/2023 3:55:49PM

 Sample ID
 \*2023-004-3062

**Status** Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 27/07/2023

Total Toxic BGA Biovolume 0.00 mm3/L

Sample temperature at time of receipt 8.1°C

Algal Count - Total T0393(ADEL)

 Algae - Total
 1340000 cells/mL

 Blue Green Algae - Total
 0 cells/mL

 Diatoms - Total
 26 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 1340000 cells/mL

 Toxin producing BGA - Total
 0 cells/mL

Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 8.1  $^{\circ}$ C

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 152  $\,\mu g/L$  Phaeophytin a 0.1 54.0  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.1°C			

Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	16 μg/L	
Chloride T0104-02(ADEL)			31/07/2023
Chloride	4.0	26700 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	3.9 µg/L	
# Nitrate + Nitrite as NO3	2.3	17.3 µg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		3.76 mg/L	
Phosphorus - Filterable Reactive as P (ADE	EL)		07/08/2023
# Phosphorus -Filterable Reactive as PO4	1.5	<1.5 µg/L	

<0.5 µg/L

0.5



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Phosphorus-Filterable Reactive as P

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Analytical Results				
Sampling Point	31514-EPA -	- Stoney Well		
Sampled Date	27/07/2023	10:15:00AM		
Sample Received Date	27/07/2023	27/07/2023 4:23:51PM		
Sample Analysis Completed	17/08/2023			
Sample ID	*2023-004-3	3062		
Status	Endorsed	-No sko d		
Collection Type	Customer C	ollected		
Phosphorus - Total T0109-44(ADEL)			01/08/2023	
Phosphorus - Total	0.005	0.161 mg/L		
Silica - Reactive T0111-01(ADEL)			31/07/2023	
Silica - Reactive	0.05	5.25 mg/L		
TKN as N T0112-01(ADEL)		-	01/08/2023	
TKN as Nitrogen	0.05	3.76 mg/L		
		Ç		
Organic Chemistry	LOR	Result	Test Start Date	
Sample temperature at time of receipt 8.1°	°C			
Dissolved Organic Carbon T0158-07(ADEL)			16/08/2023	
Dissolved Organic Carbon	1	19.9 mg/L		
Total Organic Carbon T0158-07(ADEL)			16/08/2023	
Total Organic Carbon	1	28.0 mg/L		
		•		
Inorganic Chemistry - Physical	LOR	Result	Test Start Date	
Sample temperature at time of receipt 8.1°	°C			
Alkalinity Carbonate Bicarbonate and Hydronic		1(ADEL)	01/08/2023	
Alkalinity as Calcium Carbonate		200 mg/L		
Bicarbonate		244 mg/L		
Carbonate		0 mg/L		
Hydroxide		0 mg/L		
Conductivity & Total Dissolved Solids T001	6-01(ADEL)	-	01/08/2023	
Conductivity	2	68200 μS/cm		
Note		Conductivity measurement is corrected to 25°C		
Total Dissolved Solids (by EC)	1	51600 mg/L		
pH T0010-01(ADEL)		5	01/08/2023	
pH		8.0 pH units		
Temperature at which pH is measured		22.1 °C		

14 NTU

0.1



Turbidity

**Turbidity T0018-01(ADEL)** 

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## **Analytical Results**

 Sampling Point
 31514-EPA - Stoney Well

 Sampled Date
 27/07/2023
 10:15:00AM

 Sample Received Date
 27/07/2023
 4:23:51PM

 Sample Analysis Completed
 17/08/2023
 3:55:49PM

 Sample ID
 \*2023-004-3062

Status Endorsed

Collection Type Customer Collected

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.1°C	<b>C</b>		
Suspended Solids T0160-01(ADEL)			02/08/2023
Suspended Solids	1.0	32 mg/L	



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#### **Analytical Results**

 Sampling Point
 31525-EPA - Villa de Yumpa

 Sampled Date
 27/07/2023 10:45:00AM

 Sample Received Date
 27/07/2023 4:25:33PM

 Sample Analysis Completed
 17/08/2023 3:55:49PM

 Sample ID
 \*2023-004-3055

Sample ID \*2023-004 Status Endorsed

Collection Type Customer Collected

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

#### Sample temperature at time of receipt 8.1°C

#### Algal Identification T0393(ADEL)

#### **CRYPTOPHYTES**

Chroomonas 10 cells/mL

DIATOMS

Naviculoids10 cells/mLPennate diatoms20 cells/mLNitzschia10 cells/mL

**DINOFLAGELLATES** 

Heterocapsa 20 cells/mL

**GREEN ALGAE** 

Phytoflagellates 130 cells/mL
Chlorella 1420000 cells/mL
Unicellular green algae 125000 cells/mL

Organism - Comment Chlorella - The identification for this organism is

tentative only.

### Sample temperature at time of receipt 8.1°C

## Algal Biovolume T0393(ADEL)

### **CRYPTOPHYTES**

Chroomonas <0.01 mm3/L

DIATOMS

Nitzschia 0.01 mm3/L

**GREEN ALGAE** 

Chlorella 63.9 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



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#### **Analytical Results**

 Sampling Point
 31525-EPA - Villa de Yumpa

 Sampled Date
 27/07/2023 10:45:00AM

 Sample Received Date
 27/07/2023 4:25:33PM

 Sample Analysis Completed
 17/08/2023 3:55:49PM

 Sample ID
 \*2023-004-3055

Status Endorsed

Collection Type Customer Collected

Algal Biovolume T0393(ADEL) 27/07/2023

# 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 8.1°C

Algal Count - Total T0393(ADEL) 27/07/2023

 Algae - Total
 1550000 cells/mL

 Blue Green Algae - Total
 0 cells/mL

 Diatoms - Total
 40 cells/mL

 Geosmin-MIB producing BGA - Total
 0 cells/mL

 Green Algae - Total
 1550000 cells/mL

Toxin producing BGA - Total 0 cells/mL

Sample temperature at time of receipt 8.1°C

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 121  $\,\mu$ g/L Phaeophytin a 0.1 45.1  $\,\mu$ g/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	17 μg/L	
Chloride T0104-02(ADEL)			31/07/2023
Chloride	4.0	25600 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	3.0 µg/L	
# Nitrate + Nitrite as NO3	2.3	13.3 μg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		3.25 mg/L	



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Analy	vtical	Results
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 Sampling Point
 31525-EPA - Villa de Yumpa

 Sampled Date
 27/07/2023 10:45:00AM

 Sample Received Date
 27/07/2023 4:25:33PM

 Sample Analysis Completed
 17/08/2023 3:55:49PM

 Sample ID
 \*2023-004-3055

Status Endorsed

Collection Type Customer Collected

Phosphorus - Filterable Reactive as P (A	(DEL)		07/08/2023
# 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)			01/08/2023
Phosphorus - Total	0.005	0.134 mg/L	
Silica - Reactive T0111-01(ADEL)			31/07/2023
Silica - Reactive	0.05	5.55 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023
TKN as Nitrogen	0.05	3.25 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt a	8.1°C		
Dissolved Organic Carbon T0158-07(AD	EL)		16/08/2023
Dissolved Organic Carbon	1	21.0 mg/L	
Total Organic Carbon T0158-07(ADEL)			16/08/2023
Total Organic Carbon	1	26.8 mg/L	

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

## Sample temperature at time of receipt 8.1°C

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

01/08/2023

Alkalinity as Calcium Carbonate 199 mg/L Bicarbonate 242 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

01/08/2023

Conductivity 2 67400 µS/cm

Note Conductivity measurement is

Note Conductivity measurement is corrected to 25°C

Total Dissolved Solids (by EC) 1 50800 mg/L

01/08/2023

pH 8.0 pH units



pH T0010-01(ADEL)

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**Analytical Results** 

31525-EPA - Villa de Yumpa **Sampling Point** 27/07/2023 10:45:00AM **Sampled Date** 27/07/2023 4:25:33PM **Sample Received Date** 17/08/2023 3:55:49PM Sample Analysis Completed \*2023-004-3055

Sample ID Endorsed **Status** 

**Customer Collected Collection Type** 

01/08/2023 pH T0010-01(ADEL)

Temperature at which pH is measured 22.0 °C

**Turbidity T0018-01(ADEL)** 

Turbidity 0.1 14 NTU

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

Sample temperature at time of receipt 8.1°C Suspended Solids T0160-01(ADEL)

02/08/2023 Suspended Solids 1.0 16 mg/L

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## **Analytical Results**

Sampling Point 31513-EPA - Parnka Point Boat Ramp

 Sampled Date
 27/07/2023
 11:25:00AM

 Sample Received Date
 27/07/2023
 4:23:37PM

 Sample Analysis Completed
 17/08/2023
 3:55:49PM

 Sample ID
 \*2023-004-3059

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations LOR Result Test Start Date

#### Sample temperature at time of receipt 8.1°C

#### Algal Identification T0393(ADEL)

#### DIATOMS

Naviculoids 2 cells/mL
Pennate diatoms 2 cells/mL

#### **GREEN ALGAE**

 Phytoflagellates
 30 cells/mL

 Unicellular green algae
 98300 cells/mL

 Chlorella
 1220000 cells/mL

Organism - Comment Chlorella - The identification for this organism is

tentative only.

## Sample temperature at time of receipt 8.1°C Algal Biovolume T0393(ADEL)

#### **GREEN ALGAE**

Chlorella 54.9 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 8.1°C Algal Count - Total T0393(ADEL)

 Algae - Total
 1320000 cells/mL

 Blue Green Algae - Total
 0 cells/mL



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## **Analytical Results**

Sampling Point 31513-EPA - Parnka Point Boat Ramp

 Sampled Date
 27/07/2023
 11:25:00AM

 Sample Received Date
 27/07/2023
 4:23:37PM

 Sample Analysis Completed
 17/08/2023
 3:55:49PM

 Sample ID
 \*2023-004-3059

Status Endorsed

Collection Type Customer Collected

Algal Count - Total T0393(ADEL)		27/07/2023
Diatoms - Total	4 cells/mL	
Geosmin-MIB producing BGA - Total	0 cells/mL	
Green Algae - Total	1320000 cells/mL	
Toxin producing BGA - Total	0 cells/mL	

## Sample temperature at time of receipt 8.1°C

Chlorophyll a & Phaeophytin a T0380-02(ADEL)

Chlorophyll a 0.1 97.5  $\,\mu g/L$  Phaeophytin a 0.1 38.4  $\,\mu g/L$ 

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt a	8.1°C		
Ammonia as N (ADEL)			07/08/2023
# Ammonia as N	1	18 μg/L	
Chloride T0104-02(ADEL)			31/07/2023
Chloride	4.0	25200 mg/L	
Nitrate + Nitrite as N (ADEL)			07/08/2023
# Nitrate + Nitrite as N	0.5	3.3 µg/L	
# Nitrate + Nitrite as NO3	2.3	14.6 μg/L	
# Nitrate as Nitrogen		false μg/L	
Nitrogen - Total TMZ-M06(ADEL)			27/07/2023
Nitrogen - Total		3.32 mg/L	
Phosphorus - Filterable Reactive as P (A	ADEL)		07/08/2023
# 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)			01/08/2023
Phosphorus - Total	0.005	0.121 mg/L	
Silica - Reactive T0111-01(ADEL)			31/07/2023
Silica - Reactive	0.05	5.31 mg/L	
TKN as N T0112-01(ADEL)			01/08/2023
TKN as Nitrogen	0.05	3.32 mg/L	



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## **Analytical Results**

Sampling Point 31513-EPA - Parnka Point Boat Ramp

 Sampled Date
 27/07/2023
 11:25:00AM

 Sample Received Date
 27/07/2023
 4:23:37PM

 Sample Analysis Completed
 17/08/2023
 3:55:49PM

 Sample ID
 \*2023-004-3059

Status Endorsed

Collection Type Customer Collected

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	.1°C		
Dissolved Organic Carbon T0158-07(ADE	ĒL)		16/08/2023
Dissolved Organic Carbon	1	21.4 mg/L	
Total Organic Carbon T0158-07(ADEL)			16/08/2023
Total Organic Carbon	1	25.0 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	1°C		
Alkalinity Carbonate Bicarbonate and Hy	droxide T0101-01	1(ADEL)	01/08/2023
Alkalinity as Calcium Carbonate		193 mg/L	
Bicarbonate		236 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids T0	016-01(ADEL)		01/08/2023
Conductivity	2	66600 µS/cm	
Note		Conductivity measurement is corrected to 25°C	
Total Dissolved Solids (by EC)	1	50000 mg/L	
pH T0010-01(ADEL)			01/08/2023
pH		8.0 pH units	
Temperature at which pH is measured		22.0 °C	
Turbidity T0018-01(ADEL)			28/07/2023
Turbidity	0.1	8.9 NTU	
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	1°C		
Suspended Solids T0160-01(ADEL)	- <del>-</del>		02/08/2023
Suspended Solids	1.0	181 mg/L	
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## **Analytical Results**

31513-EPA - Parnka Point Boat Ramp **Sampling Point** 

27/07/2023 11:25:00AM **Sampled Date** 27/07/2023 4:23:37PM **Sample Received Date** 17/08/2023 3:55:49PM Sample Analysis Completed \*2023-004-3059

Sample ID Endorsed Status

Customer Collected **Collection Type** 



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## **AWQC Signatories**

Dzung Bui - Supervisor Metals and Physical

Ivana Cech - Technical Officer Chemistry

Thuy Diep - Technical Officer Chemistry

Sharon Helgeson - Technical Officer Life Sciences

Kerrie Jooste - Manager Chemistry Services

John Martini - Method Development Specialist

Dean Newman - Senior Technical Officer Biology

Melissa Phillips - Technical Officer Chemistry

Gayle Polley - Supervisor Nutrients and Waste



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## Incidents

Sample ID	S.Point	Description	Sampled Date	Analysis (where Applicable)	Incident Description
2023-004-3055	31525	EPA - Villa de Yumpa	27/07/2023	Silica - Reactive	Test not processed within holding time
023-004-3055	31525	EPA - Villa de Yumpa	27/07/2023	pН	Test not processed within holding time
2023-004-3055	31525	EPA - Villa de Yumpa	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
023-004-3055	31525	EPA - Villa de Yumpa	27/07/2023	Total Organic Carbon	Test not processed within holding time
023-004-3056	31523	EPA - Long Point	26/07/2023	pН	Test not processed within holding time
023-004-3056	31523	EPA - Long Point	26/07/2023	Silica - Reactive	Test not processed within holding time
023-004-3057	31526	EPA - Nth Jack Point	27/07/2023	рН	Test not processed within holding time
023-004-3057	31526	EPA - Nth Jack Point	27/07/2023	Silica - Reactive	Test not processed within holding time
023-004-3057	31526	EPA - Nth Jack Point	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
023-004-3057	31526	EPA - Nth Jack Point	27/07/2023	Total Organic Carbon	Test not processed within holding time
023-004-3057	31526	EPA - Nth Jack Point	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
023-004-3057	31526	EPA - Nth Jack Point	27/07/2023	Total Organic Carbon	Test not processed within holding time
023-004-3058	31515	EPA - Snipe Point	27/07/2023	рН	Test not processed within holding time
023-004-3058	31515	EPA - Snipe Point	27/07/2023	Silica - Reactive	Test not processed within holding time
023-004-3058	31515	EPA - Snipe Point	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
023-004-3058	31515	EPA - Snipe Point	27/07/2023	Total Organic Carbon	Test not processed within holding time
023-004-3059	31513	EPA - Parnka Point Boat Ramp	27/07/2023	Silica - Reactive	Test not processed within holding time
023-004-3059	31513	EPA - Parnka Point Boat Ramp	27/07/2023	рН	Test not processed within holding time
023-004-3059	31513	EPA - Parnka Point Boat Ramp	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
023-004-3059	31513	EPA - Parnka Point Boat Ramp	27/07/2023	Total Organic Carbon	Test not processed within holding time



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## Incidents

Sample ID	S.Point	Description	Sampled Date	Analysis (where Applicable)	Incident Description
2023-004-3060	31511	EPA - 3.2km South Salt Creek	27/07/2023	pН	Test not processed within holding time
023-004-3060	31511	EPA - 3.2km South Salt Creek	27/07/2023	Silica - Reactive	Test not processed within holding time
023-004-3060	31511	EPA - 3.2km South Salt Creek	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
023-004-3060	31511	EPA - 3.2km South Salt Creek	27/07/2023	Total Organic Carbon	Test not processed within holding time
023-004-3061	31517	EPA - 1.8km West Salt Creek	27/07/2023	pН	Test not processed within holding time
023-004-3061	31517	EPA - 1.8km West Salt Creek	27/07/2023	Silica - Reactive	Test not processed within holding time
2023-004-3061	31517	EPA - 1.8km West Salt Creek	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
023-004-3061	31517	EPA - 1.8km West Salt Creek	27/07/2023	Total Organic Carbon	Test not processed within holding time
023-004-3062	31514	EPA - Stoney Well	27/07/2023	Silica - Reactive	Test not processed within holding time
023-004-3062	31514	EPA - Stoney Well	27/07/2023	pН	Test not processed within holding time
023-004-3062	31514	EPA - Stoney Well	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
023-004-3062	31514	EPA - Stoney Well	27/07/2023	Total Organic Carbon	Test not processed within holding time
2023-004-3062	31514	EPA - Stoney Well	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
023-004-3062	31514	EPA - Stoney Well	27/07/2023	Total Organic Carbon	Test not processed within holding time
023-004-3063	31512	EPA - McGrath Flat North	26/07/2023	рН	Test not processed within holding time
023-004-3063	31512	EPA - McGrath Flat North	26/07/2023	Silica - Reactive	Test not processed within holding time
023-004-3064	31519	EPA - Morella Basin at Outlet Regulator	27/07/2023	рН	Test not processed within holding time
023-004-3064	31519	EPA - Morella Basin at Outlet Regulator	27/07/2023	Silica - Reactive	Test not processed within holding time
023-004-3064	31519	EPA - Morella Basin at Outlet Regulator	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
023-004-3064	31519	EPA - Morella Basin at Outlet Regulator	27/07/2023	Total Organic Carbon	Test not processed within holding time



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#### Incidents

Sample ID	S.Point	Description	Sampled Date	Analysis (where Applicable)	Incident Description
2023-004-3064	31519	EPA - Morella Basin at Outlet Regulator	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
2023-004-3064	31519	EPA - Morella Basin at Outlet Regulator	27/07/2023	Total Organic Carbon	Test not processed within holding time
2023-004-3065	315191	EPA - Morella Creek @ guage	27/07/2023	рН	Test not processed within holding time
2023-004-3065	315191	EPA - Morella Creek @ guage	27/07/2023	Silica - Reactive	Test not processed within holding time
2023-004-3065	315191	EPA - Morella Creek @ guage	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
2023-004-3065	315191	EPA - Morella Creek @ guage	27/07/2023	Total Organic Carbon	Test not processed within holding time
2023-004-3065	315191	EPA - Morella Creek @ guage	27/07/2023	Dissolved Organic Carbon	DOC > TOC but within method uncertainty
2023-004-3066	300713	Tilley Swamp Drain D/S Northern Outlet	27/07/2023	рН	Test not processed within holding time
2023-004-3066	300713	Tilley Swamp Drain D/S Northern Outlet	27/07/2023	Silica - Reactive	Test not processed within holding time
2023-004-3066	300713	Tilley Swamp Drain D/S Northern Outlet	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
2023-004-3066	300713	Tilley Swamp Drain D/S Northern Outlet	27/07/2023	Total Organic Carbon	Test not processed within holding time
2023-004-3066	300713	Tilley Swamp Drain D/S Northern Outlet	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
2023-004-3066	300713	Tilley Swamp Drain D/S Northern Outlet	27/07/2023	Total Organic Carbon	Test not processed within holding time
2023-004-3067	11504	DEW - Mundoo Upstream	26/07/2023	Turbidity	Test not processed within holding time
2023-004-3067	11504	DEW - Mundoo Upstream	26/07/2023	рН	Test not processed within holding time
2023-004-3067	11504	DEW - Mundoo Upstream	26/07/2023	Silica - Reactive	Test not processed within holding time
2023-004-3068	11505	DEW - Mundoo Downstream	26/07/2023	Turbidity	Test not processed within holding time
2023-004-3068	11505	DEW - Mundoo Downstream	26/07/2023	рН	Test not processed within holding time
2023-004-3068	11505	DEW - Mundoo Downstream	26/07/2023	Silica - Reactive	Test not processed within holding time
2023-004-3069	31522	EPA - Mark Point	26/07/2023	pН	Test not processed within holding time



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#### Incidents

Sample ID	S.Point	Description	Sampled Date	Analysis (where Applicable)	Incident Description
2023-004-3069	31522	EPA - Mark Point	26/07/2023	Silica - Reactive	Test not processed within holding time
2023-004-3070	351213	EPA - Murray Mouth	26/07/2023	pН	Test not processed within holding time
2023-004-3070	351213	EPA - Murray Mouth	26/07/2023	Turbidity	Test not processed within holding time
2023-004-3070	351213	EPA - Murray Mouth	26/07/2023	Silica - Reactive	Test not processed within holding time
2023-004-3071	31524	EPA - Bonneys	26/07/2023	рН	Test not processed within holding time
2023-004-3071	31524	EPA - Bonneys	26/07/2023	Silica - Reactive	Test not processed within holding time
2023-004-3072	31528	EPA - Salt Creek Outlet	27/07/2023	рН	Test not processed within holding time
2023-004-3072	31528	EPA - Salt Creek Outlet	27/07/2023	Silica - Reactive	Test not processed within holding time
2023-004-3072	31528	EPA - Salt Creek Outlet	27/07/2023	Dissolved Organic Carbon	Test not processed within holding time
2023-004-3072	31528	EPA - Salt Creek Outlet	27/07/2023	Total Organic Carbon	Test not processed within holding time
2023-004-3073	353179	EPA - Tauwitchere Barrage Upstream	26/07/2023	pН	Test not processed within holding time
2023-004-3073	353179	EPA - Tauwitchere Barrage Upstream	26/07/2023	Turbidity	Test not processed within holding time
2023-004-3073	353179	EPA - Tauwitchere Barrage Upstream	26/07/2023	Silica - Reactive	Test not processed within holding time
2023-004-3074	353177	EPA - Tauwitchere Barrage DS	26/07/2023	рН	Test not processed within holding time
2023-004-3074	353177	EPA - Tauwitchere Barrage DS	26/07/2023	Turbidity	Test not processed within holding time
2023-004-3074	353177	EPA - Tauwitchere Barrage DS	26/07/2023	Silica - Reactive	Test not processed within holding time



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#### **Analytical Method**

Analytical Method Code	Description	Reference Method	
TMZ-M06	Derived Results and Data Checks	AP4500NORGA	
T0393	Microalgae & Cyanobacteria - Scan & Identification	Hotzel1999	
T0393	Microalgae & Cyanobacteria - Scan & Identification		
T0380-02	Chlorophyll a & b and phaeophytin	ISO10260	
T0161-01	Nitrate + Nitrate (NOx) - Automated Flow Colorimetry	AP4500NO3I	
T0160-01	Suspended Solids 103C to 105C	AP4500	
T0158-07	Total and Dissolved Organic Carbon (Ol Analytical)	SM5310C	
T0112-01	Nitrogen- Total Kjeldahl by discrete analyser	AP4500NORGA	
T0111-01	Silica by automated fow colorimetry	AP4500SI02	
T0109-44	Phosphorous -total Kjeldahl for seawater by automated flow colorimetry	AP4500PF	
T0104-02	Chloride - Discrete Analyser	AP4500CLE	
T0101-01	Alkalinity - Automated Acidimetric Titration	AP2320B	
T0018-01	Turbidity - Nephelometric Measurement	APAWWA-WEF	
T0016-01	Determination of Conductivity - Corrected to 25C	AP2510B	
T0010-01	Determination of pH	AP4500HB	

#### **Sampling Method**

Sampling Method Code	Description
W09-023	Sampling Method for Chemical Analyses
W09-024	Sampling Method for Biological Analyses
	Sampling point and date sampled are provided when collected by customers. Validity of results are based on information and samples supplied by customers. Unless it is reported that sampling has been performed by AWQC, the samples have been analysed as received.

## **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



Corporate Accreditation No.1115 Chemical and Biological Testing Accredited for compliance with ISO/IEC 17025 -Testing 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.
- 12. AWQC Melbourne Laboratory are only NATA accredited for sampling of potable waters by inhouse method W 09-023.