



DEW - Department of Environment and Water  
ATTN: Patrick Betham  
24-26 Tikalara street  
Regency Park  
SA 5010 AUSTRALIA

08/10/2019

Dear Patrick

Please find attached the Final Analytical Report for

**Customer Service Request:** 143419-2019-CSR-1  
**Account:** 143419  
**Project:** AWQC-138250 DEW - Healthy Coorong Healthy Basin Phase 0 - Non routine  
19/20

This report has also been sent to: Frank Mangeruca

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

Yours sincerely,

Darren Seebohm  
Customer Services Officer  
[Darren.Seebohm@sawater.com.au](mailto:Darren.Seebohm@sawater.com.au)  
+61 8 7424 2150





## FINAL REPORT: 260826

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## Report Information

Project Name	AWQC-138250
Customer	DEW - Department of Environment and Water
CSR_ID	143419-2019-CSR-1

## Analytical Results

Sampling Point	31518-EPA - 12 South Salt Creek
Sampled Date	29/08/2019 7:50:00AM
Sample Received Date	30/08/2019 9:17:05AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0212
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 4.8°C</b>			
<b>Chlorophyll a &amp; b T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	84.7 µg/L	
Chlorophyll b	0.1	7.80 µg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)	
<b>Chlorophyll a &amp; Phaeophytin a T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	79.2 µg/L	
Phaeophytin a	0.1	12.1 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 4.8°C</b>			
<b>Ammonia as N T0100-01(ADEL)</b>			12/09/2019
Ammonia as N	0.005	0.021 mg/L	
<b>Chloride T0104-02(ADEL)</b>			02/09/2019
Chloride	4.0	31100 mg/L	
<b>Nitrate + Nitrite as N T0161-01(ADEL)</b>			10/09/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
<b>Nitrogen - Total TMZ-M06(ADEL)</b>			30/08/2019
Nitrogen - Total		4.66 mg/L	
<b>Phosphorus - Filterable Reactive as P T0108-01(ADEL)</b>			10/09/2019
Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L	
<b>Phosphorus - Total T0109-44(ADEL)</b>			04/09/2019
Phosphorus - Total	0.005	0.059 mg/L	
<b>Silica - Reactive T0111-01(ADEL)</b>			02/09/2019
Silica - Reactive	0.05	3.70 mg/L	
<b>TKN as N T0112-01(ADEL)</b>			09/09/2019



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## Analytical Results

Sampling Point	31518-EPA - 12 South Salt Creek
Sampled Date	29/08/2019 7:50:00AM
Sample Received Date	30/08/2019 9:17:05AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0212
Status	Endorsed
Collection Type	Customer Collected

<b>TKN as N T0112-01(ADEL)</b>			09/09/2019
TKN as Nitrogen	0.05	4.66 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Dissolved Organic Carbon T0158-07(ADEL)</b>			03/09/2019
Dissolved Organic Carbon	1	19.8 mg/L	
<b>Total Organic Carbon T0158-07(ADEL)</b>			03/09/2019
Total Organic Carbon	1	26.7 mg/L	

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)</b>			30/08/2019
Alkalinity as Calcium Carbonate		243 mg/L	
Bicarbonate		296 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
<b>Conductivity &amp; Total Dissolved Solids T0016-01(ADEL)</b>			30/08/2019
Conductivity	2	84500 µS/cm	
Total Dissolved Solids (by EC)	1	68000 mg/L	
<b>pH T0010-01(ADEL)</b>			30/08/2019
pH		8.0 pH units	
Temperature at which pH is measured		22.3 °C	
<b>Turbidity T0018-01(ADEL)</b>			03/09/2019
Turbidity	0.1	13 NTU	

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Suspended Solids T0160-01(ADEL)</b>			04/09/2019
Suspended Solids	1.0	32 mg/L	
<b>Volatile Suspended Solids T0160-01(ADEL)</b>			04/09/2019
Fixed Solids	1	<1 mg/L	



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**Analytical Results**

Sampling Point	31518-EPA - 12 South Salt Creek
Sampled Date	29/08/2019 7:50:00AM
Sample Received Date	30/08/2019 9:17:05AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0212
Status	Endorsed
Collection Type	Customer Collected

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**Volatile Suspended Solids T0160-01(ADEL)**

04/09/2019

Volatile Suspended Solids	1	32 mg/L
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## Analytical Results

Sampling Point	315191-EPA - Morella Creek @ guage
Sampled Date	29/08/2019 8:00:00AM
Sample Received Date	30/08/2019 9:17:43AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	*2019-005-0223
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 4.8°C

#### Chlorophyll a & b T0380-02(ADEL) 30/08/2019

Chlorophyll a	0.1	89.1 µg/L
Chlorophyll b	0.1	9.49 µg/L
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)

#### Chlorophyll a & Phaeophytin a T0380-02(ADEL) 30/08/2019

Chlorophyll a	0.1	76.8 µg/L
Phaeophytin a	0.1	24.4 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 4.8°C

#### Ammonia as N T0100-01(ADEL) 12/09/2019

Ammonia as N	0.005	0.169 mg/L
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#### Chloride T0104-02(ADEL) 02/09/2019

Chloride	4.0	2520 mg/L
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#### Nitrate + Nitrite as N T0161-01(ADEL) 10/09/2019

Nitrate + Nitrite as N	0.003	0.008 mg/L
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#### Nitrogen - Total TMZ-M06(ADEL) 30/08/2019

Nitrogen - Total		2.34 mg/L
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#### Phosphorus - Filterable Reactive as P T0108-01(ADEL) 10/09/2019

Phosphorus - Filterable Reactive as P	0.003	0.009 mg/L
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#### Phosphorus - Total T0109-44(ADEL) 09/09/2019

Phosphorus - Total	0.005	0.292 mg/L
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#### Silica - Reactive T0111-01(ADEL) 02/09/2019

Silica - Reactive	0.05	14.3 mg/L
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#### TKN as N T0112-01(ADEL) 04/09/2019

TKN as Nitrogen	0.05	2.33 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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## Analytical Results

Sampling Point	315191-EPA - Morella Creek @ guage
Sampled Date	29/08/2019 8:00:00AM
Sample Received Date	30/08/2019 9:17:43AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	*2019-005-0223
Status	Endorsed
Collection Type	Customer Collected

### Sample temperature at time of receipt 4.8°C

#### Dissolved Organic Carbon T0158-07(ADEL) 03/09/2019

Dissolved Organic Carbon	1	15.5 mg/L
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#### Total Organic Carbon T0158-07(ADEL) 03/09/2019

Total Organic Carbon	1	21.2 mg/L
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### Inorganic Chemistry - Physical LOR Result Test Start Date

#### Sample temperature at time of receipt 4.8°C

#### Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL) 03/09/2019

Alkalinity as Calcium Carbonate	346 mg/L
Bicarbonate	423 mg/L
Carbonate	0 mg/L
Hydroxide	0 mg/L

#### Conductivity & Total Dissolved Solids T0016-01(ADEL) 03/09/2019

Conductivity	2	8890 µS/cm
Total Dissolved Solids (by EC)	1	5140 mg/L

#### pH T0010-01(ADEL) 03/09/2019

pH	8.0 pH units
Temperature at which pH is measured	22.4 °C

#### Turbidity T0018-01(ADEL) 03/09/2019

Turbidity	0.1	37 NTU
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### Inorganic Chemistry - Waste Water LOR Result Test Start Date

#### Sample temperature at time of receipt 4.8°C

#### Suspended Solids T0160-01(ADEL) 04/09/2019

Suspended Solids	1.0	38 mg/L
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#### Volatile Suspended Solids T0160-01(ADEL) 04/09/2019

Fixed Solids	1	13 mg/L
Volatile Suspended Solids	1	25 mg/L



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## Analytical Results

Sampling Point	31511-EPA - 3.2km South Salt Creek
Sampled Date	29/08/2019 8:20:00AM
Sample Received Date	30/08/2019 9:17:39AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0214
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Chlorophyll a &amp; b T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	89.9 µg/L	
Chlorophyll b	0.1	7.69 µg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)	
<b>Chlorophyll a &amp; Phaeophytin a T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	84.6 µg/L	
Phaeophytin a	0.1	11.8 µg/L	

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Ammonia as N T0100-01(ADEL)</b>			12/09/2019
Ammonia as N	0.005	<0.005 mg/L	
<b>Chloride T0104-02(ADEL)</b>			02/09/2019
Chloride	4.0	38000 mg/L	
<b>Nitrate + Nitrite as N T0161-01(ADEL)</b>			10/09/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
<b>Nitrogen - Total TMZ-M06(ADEL)</b>			30/08/2019
Nitrogen - Total		<0.05 mg/L	
<b>Phosphorus - Filterable Reactive as P T0108-01(ADEL)</b>			10/09/2019
Phosphorus - Filterable Reactive as P	0.003	0.003 mg/L	
<b>Phosphorus - Total T0109-44(ADEL)</b>			04/09/2019
Phosphorus - Total	0.005	<0.005 mg/L	
<b>Silica - Reactive T0111-01(ADEL)</b>			02/09/2019
Silica - Reactive	0.05	2.51 mg/L	
<b>TKN as N T0112-01(ADEL)</b>			04/09/2019
TKN as Nitrogen	0.05	<0.05 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
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**Analytical Results**

Sampling Point	31511-EPA - 3.2km South Salt Creek
Sampled Date	29/08/2019 8:20:00AM
Sample Received Date	30/08/2019 9:17:39AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0214
Status	Endorsed
Collection Type	Customer Collected

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**Sample temperature at time of receipt 4.8°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 03/09/2019

Dissolved Organic Carbon	1	21.8 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 03/09/2019

Total Organic Carbon	1	28.8 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 30/08/2019

Alkalinity as Calcium Carbonate	212 mg/L
Bicarbonate	258 mg/L
Carbonate	0 mg/L
Hydroxide	0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 30/08/2019

Conductivity	2	101000 µS/cm
Total Dissolved Solids (by EC)	1	86300 mg/L

**pH T0010-01(ADEL)** 30/08/2019

pH	8.0 pH units
Temperature at which pH is measured	22.3 °C

**Turbidity T0018-01(ADEL)** 03/09/2019

Turbidity	0.1	12 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Suspended Solids T0160-01(ADEL)** 04/09/2019

Suspended Solids	1.0	33 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 04/09/2019

Fixed Solids	1	<1 mg/L
Volatile Suspended Solids	1	33 mg/L



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**Analytical Results**

Sampling Point	300711-Tilley Swamp Drain U/S Morella
Sampled Date	29/08/2019 8:30:00AM
Sample Received Date	30/08/2019 9:18:36AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0221
Status	Endorsed
Collection Type	Customer Collected

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Biology Operations	LOR	Result	Test Start Date
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*Sample temperature at time of receipt 4.8°C*

**Chlorophyll a & b T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	8.10 µg/L
Chlorophyll b	0.1	0.93 µg/L
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)

**Chlorophyll a & Phaeophytin a T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	7.33 µg/L
Phaeophytin a	0.1	1.65 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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*Sample temperature at time of receipt 4.8°C*

**Ammonia as N T0100-01(ADEL)** 12/09/2019

Ammonia as N	0.005	0.167 mg/L
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**Chloride T0104-02(ADEL)** 02/09/2019

Chloride	4.0	3050 mg/L
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**Nitrate + Nitrite as N T0161-01(ADEL)** 10/09/2019

Nitrate + Nitrite as N	0.003	0.022 mg/L
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**Nitrogen - Total TMZ-M06(ADEL)** 30/08/2019

Nitrogen - Total		0.95 mg/L
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**Phosphorus - Filterable Reactive as P T0108-01(ADEL)** 10/09/2019

Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L
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**Phosphorus - Total T0109-44(ADEL)** 04/09/2019

Phosphorus - Total	0.005	0.051 mg/L
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**Silica - Reactive T0111-01(ADEL)** 02/09/2019

Silica - Reactive	0.05	4.02 mg/L
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**TKN as N T0112-01(ADEL)** 04/09/2019

TKN as Nitrogen	0.05	0.93 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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**Analytical Results**

Sampling Point	300711-Tilley Swamp Drain U/S Morella
Sampled Date	29/08/2019 8:30:00AM
Sample Received Date	30/08/2019 9:18:36AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0221
Status	Endorsed
Collection Type	Customer Collected

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*Sample temperature at time of receipt 4.8°C*

<b>Dissolved Organic Carbon T0158-07(ADEL)</b>			03/09/2019
Dissolved Organic Carbon	1	8.2 mg/L	
<b>Total Organic Carbon T0158-07(ADEL)</b>			03/09/2019
Total Organic Carbon	1	9.2 mg/L	

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
<hr/>			
<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)</b>			30/08/2019
Alkalinity as Calcium Carbonate		311 mg/L	
Bicarbonate		332 mg/L	
Carbonate		24 mg/L	
Hydroxide		0 mg/L	
<b>Conductivity &amp; Total Dissolved Solids T0016-01(ADEL)</b>			30/08/2019
Conductivity	2	11000 µS/cm	
Total Dissolved Solids (by EC)	1	6430 mg/L	
<b>pH T0010-01(ADEL)</b>			30/08/2019
pH		8.7 pH units	
Temperature at which pH is measured		22.3 °C	
<b>Turbidity T0018-01(ADEL)</b>			03/09/2019
Turbidity	0.1	3.1 NTU	

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
<hr/>			
<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Suspended Solids T0160-01(ADEL)</b>			04/09/2019
Suspended Solids	1.0	29 mg/L	
<b>Volatile Suspended Solids T0160-01(ADEL)</b>			04/09/2019
Fixed Solids	1	12 mg/L	
Volatile Suspended Solids	1	17 mg/L	



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## Analytical Results

Sampling Point	31517-EPA - 1.8km West Salt Creek
Sampled Date	29/08/2019 8:40:00AM
Sample Received Date	30/08/2019 9:18:17AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0216
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Chlorophyll a &amp; b T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	114 µg/L	
Chlorophyll b	0.1	10.9 µg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)	
<b>Chlorophyll a &amp; Phaeophytin a T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	107 µg/L	
Phaeophytin a	0.1	15.7 µg/L	

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Ammonia as N T0100-01(ADEL)</b>			12/09/2019
Ammonia as N	0.005	<0.005 mg/L	
<b>Chloride T0104-02(ADEL)</b>			02/09/2019
Chloride	4.0	38700 mg/L	
<b>Nitrate + Nitrite as N T0161-01(ADEL)</b>			10/09/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
<b>Nitrogen - Total TMZ-M06(ADEL)</b>			30/08/2019
Nitrogen - Total		4.94 mg/L	
<b>Phosphorus - Filterable Reactive as P T0108-01(ADEL)</b>			10/09/2019
Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L	
<b>Phosphorus - Total T0109-44(ADEL)</b>			02/09/2019
Phosphorus - Total	0.005	0.206 mg/L	
<b>Silica - Reactive T0111-01(ADEL)</b>			02/09/2019
Silica - Reactive	0.05	2.71 mg/L	
<b>TKN as N T0112-01(ADEL)</b>			02/09/2019
TKN as Nitrogen	0.05	4.94 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
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## Analytical Results

Sampling Point	31517-EPA - 1.8km West Salt Creek
Sampled Date	29/08/2019 8:40:00AM
Sample Received Date	30/08/2019 9:18:17AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0216
Status	Endorsed
Collection Type	Customer Collected

### Sample temperature at time of receipt 4.8°C

#### Dissolved Organic Carbon T0158-07(ADEL) 03/09/2019

Dissolved Organic Carbon	1	21.2 mg/L
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#### Total Organic Carbon T0158-07(ADEL) 03/09/2019

Total Organic Carbon	1	28.7 mg/L
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### Inorganic Chemistry - Physical LOR Result Test Start Date

#### Sample temperature at time of receipt 4.8°C

#### Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL) 30/08/2019

Alkalinity as Calcium Carbonate	211 mg/L
Bicarbonate	258 mg/L
Carbonate	0 mg/L
Hydroxide	0 mg/L

#### Conductivity & Total Dissolved Solids T0016-01(ADEL) 30/08/2019

Conductivity	2	99300 µS/cm
Total Dissolved Solids (by EC)	1	84400 mg/L

#### pH T0010-01(ADEL) 30/08/2019

pH	8.0 pH units
Temperature at which pH is measured	21.9 °C

#### Turbidity T0018-01(ADEL) 03/09/2019

Turbidity	0.1	13 NTU
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### Inorganic Chemistry - Waste Water LOR Result Test Start Date

#### Sample temperature at time of receipt 4.8°C

#### Suspended Solids T0160-01(ADEL) 04/09/2019

Suspended Solids	1.0	50 mg/L
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#### Volatile Suspended Solids T0160-01(ADEL) 04/09/2019

Fixed Solids	1	10 mg/L
Volatile Suspended Solids	1	40 mg/L



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## Analytical Results

Sampling Point	31515-EPA - Snipe Point
Sampled Date	29/08/2019 8:55:00AM
Sample Received Date	30/08/2019 9:17:57AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0215
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 4.8°C

#### Chlorophyll a & b T0380-02(ADEL) 30/08/2019

Chlorophyll a	0.1	115 µg/L
Chlorophyll b	0.1	11.1 µg/L
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)

#### Chlorophyll a & Phaeophytin a T0380-02(ADEL) 30/08/2019

Chlorophyll a	0.1	107 µg/L
Phaeophytin a	0.1	16.6 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 4.8°C

#### Ammonia as N T0100-01(ADEL) 12/09/2019

Ammonia as N	0.005	<0.005 mg/L
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#### Chloride T0104-02(ADEL) 02/09/2019

Chloride	4.0	38000 mg/L
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#### Nitrate + Nitrite as N T0161-01(ADEL) 10/09/2019

Nitrate + Nitrite as N	0.003	<0.003 mg/L
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#### Nitrogen - Total TMZ-M06(ADEL) 30/08/2019

Nitrogen - Total		4.98 mg/L
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#### Phosphorus - Filterable Reactive as P T0108-01(ADEL) 10/09/2019

Phosphorus - Filterable Reactive as P	0.003	0.005 mg/L
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#### Phosphorus - Total T0109-44(ADEL) 02/09/2019

Phosphorus - Total	0.005	0.196 mg/L
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#### Silica - Reactive T0111-01(ADEL) 02/09/2019

Silica - Reactive	0.05	2.66 mg/L
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#### TKN as N T0112-01(ADEL) 02/09/2019

TKN as Nitrogen	0.05	4.98 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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## Analytical Results

Sampling Point	31515-EPA - Snipe Point
Sampled Date	29/08/2019 8:55:00AM
Sample Received Date	30/08/2019 9:17:57AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0215
Status	Endorsed
Collection Type	Customer Collected

### Sample temperature at time of receipt 4.8°C

#### Dissolved Organic Carbon T0158-07(ADEL) 03/09/2019

Dissolved Organic Carbon	1	21.5 mg/L
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#### Total Organic Carbon T0158-07(ADEL) 03/09/2019

Total Organic Carbon	1	29.9 mg/L
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### Inorganic Chemistry - Physical LOR Result Test Start Date

#### Sample temperature at time of receipt 4.8°C

#### Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL) 30/08/2019

Alkalinity as Calcium Carbonate	211 mg/L
Bicarbonate	257 mg/L
Carbonate	0 mg/L
Hydroxide	0 mg/L

#### Conductivity & Total Dissolved Solids T0016-01(ADEL) 30/08/2019

Conductivity	2	99100 µS/cm
Total Dissolved Solids (by EC)	1	84100 mg/L

#### pH T0010-01(ADEL) 30/08/2019

pH	8.0 pH units
Temperature at which pH is measured	21.9 °C

#### Turbidity T0018-01(ADEL) 03/09/2019

Turbidity	0.1	13 NTU
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### Inorganic Chemistry - Waste Water LOR Result Test Start Date

#### Sample temperature at time of receipt 4.8°C

#### Suspended Solids T0160-01(ADEL) 04/09/2019

Suspended Solids	1.0	46 mg/L
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#### Volatile Suspended Solids T0160-01(ADEL) 04/09/2019

Fixed Solids	1	4 mg/L
Volatile Suspended Solids	1	42 mg/L



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**Analytical Results**

Sampling Point	31516-EPA - Seagull Island
Sampled Date	29/08/2019 9:05:00AM
Sample Received Date	30/08/2019 9:17:22AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0213
Status	Endorsed
Collection Type	Customer Collected

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Biology Operations	LOR	Result	Test Start Date
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*Sample temperature at time of receipt 4.8°C*

**Chlorophyll a & b T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	101 µg/L
Chlorophyll b	0.1	9.63 µg/L
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)

**Chlorophyll a & Phaeophytin a T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	93.7 µg/L
Phaeophytin a	0.1	16.1 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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*Sample temperature at time of receipt 4.8°C*

**Ammonia as N T0100-01(ADEL)** 12/09/2019

Ammonia as N	0.005	<0.005 mg/L
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**Chloride T0104-02(ADEL)** 02/09/2019

Chloride	4.0	38400 mg/L
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**Nitrate + Nitrite as N T0161-01(ADEL)** 10/09/2019

Nitrate + Nitrite as N	0.003	<0.003 mg/L
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**Nitrogen - Total TMZ-M06(ADEL)** 30/08/2019

Nitrogen - Total		4.89 mg/L
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**Phosphorus - Filterable Reactive as P T0108-01(ADEL)** 10/09/2019

Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L
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**Phosphorus - Total T0109-44(ADEL)** 04/09/2019

Phosphorus - Total	0.005	0.208 mg/L
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**Silica - Reactive T0111-01(ADEL)** 02/09/2019

Silica - Reactive	0.05	2.59 mg/L
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**TKN as N T0112-01(ADEL)** 04/09/2019

TKN as Nitrogen	0.05	4.89 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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**Analytical Results**

Sampling Point	31516-EPA - Seagull Island
Sampled Date	29/08/2019 9:05:00AM
Sample Received Date	30/08/2019 9:17:22AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0213
Status	Endorsed
Collection Type	Customer Collected

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**Sample temperature at time of receipt 4.8°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 03/09/2019

Dissolved Organic Carbon	1	20.6 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 03/09/2019

Total Organic Carbon	1	27.6 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 30/08/2019

Alkalinity as Calcium Carbonate	212 mg/L
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Bicarbonate	259 mg/L
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Carbonate	0 mg/L
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Hydroxide	0 mg/L
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**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 30/08/2019

Conductivity	2	97700 µS/cm
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Total Dissolved Solids (by EC)	1	82500 mg/L
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**pH T0010-01(ADEL)** 30/08/2019

pH	8.1 pH units
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Temperature at which pH is measured	22.0 °C
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**Turbidity T0018-01(ADEL)** 03/09/2019

Turbidity	0.1	14 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Suspended Solids T0160-01(ADEL)** 04/09/2019

Suspended Solids	1.0	37 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 04/09/2019

Fixed Solids	1	2 mg/L
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Volatile Suspended Solids	1	35 mg/L
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**Analytical Results**

Sampling Point	300712-Tilley Swamp Watercourse Outlet Channel
Sampled Date	29/08/2019 9:15:00AM
Sample Received Date	30/08/2019 9:17:36AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0224
Status	Endorsed
Collection Type	Customer Collected

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Biology Operations	LOR	Result	Test Start Date
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*Sample temperature at time of receipt 4.8°C*

**Chlorophyll a & b T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	0.42 µg/L
Chlorophyll b	0.1	<0.1 µg/L
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)

**Chlorophyll a & Phaeophytin a T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	0.35 µg/L
Phaeophytin a	0.1	<0.1 µg/L

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Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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*Sample temperature at time of receipt 4.8°C*

**Ammonia as N T0100-01(ADEL)** 12/09/2019

Ammonia as N	0.005	0.029 mg/L
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**Chloride T0104-02(ADEL)** 02/09/2019

Chloride	4.0	2580 mg/L
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**Nitrate + Nitrite as N T0161-01(ADEL)** 10/09/2019

Nitrate + Nitrite as N	0.003	0.006 mg/L
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**Nitrogen - Total TMZ-M06(ADEL)** 30/08/2019

Nitrogen - Total		1.05 mg/L
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**Phosphorus - Filterable Reactive as P T0108-01(ADEL)** 10/09/2019

Phosphorus - Filterable Reactive as P	0.003	0.008 mg/L
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**Phosphorus - Total T0109-44(ADEL)** 04/09/2019

Phosphorus - Total	0.005	0.045 mg/L
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**Silica - Reactive T0111-01(ADEL)** 02/09/2019

Silica - Reactive	0.05	14.3 mg/L
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**TKN as N T0112-01(ADEL)** 04/09/2019

TKN as Nitrogen	0.05	1.04 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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## Analytical Results

Sampling Point	300712-Tilley Swamp Watercourse Outlet Channel
Sampled Date	29/08/2019 9:15:00AM
Sample Received Date	30/08/2019 9:17:36AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0224
Status	Endorsed
Collection Type	Customer Collected

*Sample temperature at time of receipt 4.8°C*

<b>Dissolved Organic Carbon T0158-07(ADEL)</b>			03/09/2019
Dissolved Organic Carbon	1	17.0 mg/L	
<b>Total Organic Carbon T0158-07(ADEL)</b>			03/09/2019
Total Organic Carbon	1	17.2 mg/L	

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)</b>			03/09/2019
Alkalinity as Calcium Carbonate		374 mg/L	
Bicarbonate		451 mg/L	
Carbonate		2 mg/L	
Hydroxide		0 mg/L	
<b>Conductivity &amp; Total Dissolved Solids T0016-01(ADEL)</b>			03/09/2019
Conductivity	2	8900 µS/cm	
Total Dissolved Solids (by EC)	1	5150 mg/L	
<b>pH T0010-01(ADEL)</b>			03/09/2019
pH		8.3 pH units	
Temperature at which pH is measured		22.4 °C	
<b>Turbidity T0018-01(ADEL)</b>			03/09/2019
Turbidity	0.1	1.8 NTU	

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Suspended Solids T0160-01(ADEL)</b>			04/09/2019
Suspended Solids	1.0	12 mg/L	
<b>Volatile Suspended Solids T0160-01(ADEL)</b>			04/09/2019
Fixed Solids	1	8 mg/L	
Volatile Suspended Solids	1	4 mg/L	



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## Analytical Results

Sampling Point	300713-Tilley Swamp Drain D/S Northern Outlet
Sampled Date	29/08/2019 9:20:00AM
Sample Received Date	30/08/2019 9:17:50AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0222
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 4.8°C

#### Chlorophyll a & b T0380-02(ADEL) 30/08/2019

Chlorophyll a	0.1	1.59 µg/L
Chlorophyll b	0.1	<0.1 µg/L
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)

#### Chlorophyll a & Phaeophytin a T0380-02(ADEL) 30/08/2019

Chlorophyll a	0.1	1.28 µg/L
Phaeophytin a	0.1	0.56 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 4.8°C

#### Ammonia as N T0100-01(ADEL) 12/09/2019

Ammonia as N	0.005	0.046 mg/L
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#### Chloride T0104-02(ADEL) 02/09/2019

Chloride	4.0	4380 mg/L
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#### Nitrate + Nitrite as N T0161-01(ADEL) 10/09/2019

Nitrate + Nitrite as N	0.003	1.19 mg/L
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#### Nitrogen - Total TMZ-M06(ADEL) 30/08/2019

Nitrogen - Total		1.83 mg/L
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#### Phosphorus - Filterable Reactive as P T0108-01(ADEL) 10/09/2019

Phosphorus - Filterable Reactive as P	0.003	0.006 mg/L
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#### Phosphorus - Total T0109-44(ADEL) 02/09/2019

Phosphorus - Total	0.005	0.009 mg/L
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#### Silica - Reactive T0111-01(ADEL) 02/09/2019

Silica - Reactive	0.05	9.19 mg/L
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#### TKN as N T0112-01(ADEL) 02/09/2019

TKN as Nitrogen	0.05	0.64 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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## Analytical Results

Sampling Point	300713-Tilley Swamp Drain D/S Northern Outlet
Sampled Date	29/08/2019 9:20:00AM
Sample Received Date	30/08/2019 9:17:50AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0222
Status	Endorsed
Collection Type	Customer Collected

### Sample temperature at time of receipt 4.8°C

<b>Dissolved Organic Carbon T0158-07(ADEL)</b>			06/09/2019
Dissolved Organic Carbon	1	6.6 mg/L	
<b>Total Organic Carbon T0158-07(ADEL)</b>			06/09/2019
Total Organic Carbon	1	6.8 mg/L	

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 4.8°C</b>			
<b>Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)</b>			30/08/2019
Alkalinity as Calcium Carbonate		429 mg/L	
Bicarbonate		524 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
<b>Conductivity &amp; Total Dissolved Solids T0016-01(ADEL)</b>			30/08/2019
Conductivity	2	15500 µS/cm	
Total Dissolved Solids (by EC)	1	9270 mg/L	
<b>pH T0010-01(ADEL)</b>			30/08/2019
pH		8.3 pH units	
Temperature at which pH is measured		22.4 °C	
<b>Turbidity T0018-01(ADEL)</b>			03/09/2019
Turbidity	0.1	2.6 NTU	

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 4.8°C</b>			
<b>Suspended Solids T0160-01(ADEL)</b>			04/09/2019
Suspended Solids	1.0	9 mg/L	
<b>Volatile Suspended Solids T0160-01(ADEL)</b>			04/09/2019
Fixed Solids	1	6 mg/L	
Volatile Suspended Solids	1	3 mg/L	



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## Analytical Results

Sampling Point	31526-EPA - Nth Jack Point
Sampled Date	29/08/2019 9:30:00AM
Sample Received Date	30/08/2019 9:16:47AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0211
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 4.8°C</b>			
<b>Chlorophyll a &amp; b T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	102 µg/L	
Chlorophyll b	0.1	8.72 µg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)	
<b>Chlorophyll a &amp; Phaeophytin a T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	94.3 µg/L	
Phaeophytin a	0.1	15.7 µg/L	

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 4.8°C</b>			
<b>Ammonia as N T0100-01(ADEL)</b>			12/09/2019
Ammonia as N	0.005	<0.005 mg/L	
<b>Chloride T0104-02(ADEL)</b>			02/09/2019
Chloride	4.0	37200 mg/L	
<b>Nitrate + Nitrite as N T0161-01(ADEL)</b>			10/09/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
<b>Nitrogen - Total TMZ-M06(ADEL)</b>			30/08/2019
Nitrogen - Total		4.67 mg/L	
<b>Phosphorus - Filterable Reactive as P T0108-01(ADEL)</b>			10/09/2019
Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L	
<b>Phosphorus - Total T0109-44(ADEL)</b>			04/09/2019
Phosphorus - Total	0.005	0.217 mg/L	
<b>Silica - Reactive T0111-01(ADEL)</b>			02/09/2019
Silica - Reactive	0.05	2.24 mg/L	
<b>TKN as N T0112-01(ADEL)</b>			04/09/2019
TKN as Nitrogen	0.05	4.67 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
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## Analytical Results

Sampling Point	31526-EPA - Nth Jack Point
Sampled Date	29/08/2019 9:30:00AM
Sample Received Date	30/08/2019 9:16:47AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0211
Status	Endorsed
Collection Type	Customer Collected

*Sample temperature at time of receipt 4.8°C*

<b>Dissolved Organic Carbon T0158-07(ADEL)</b>			03/09/2019
Dissolved Organic Carbon	1	17.5 mg/L	
<b>Total Organic Carbon T0158-07(ADEL)</b>			03/09/2019
Total Organic Carbon	1	26.2 mg/L	

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)</b>			30/08/2019
Alkalinity as Calcium Carbonate		210 mg/L	
Bicarbonate		257 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
<b>Conductivity &amp; Total Dissolved Solids T0016-01(ADEL)</b>			30/08/2019
Conductivity	2	94900 µS/cm	
Total Dissolved Solids (by EC)	1	79400 mg/L	
<b>pH T0010-01(ADEL)</b>			30/08/2019
pH		8.1 pH units	
Temperature at which pH is measured		22.3 °C	
<b>Turbidity T0018-01(ADEL)</b>			03/09/2019
Turbidity	0.1	17 NTU	

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 4.8°C</i>			
<b>Suspended Solids T0160-01(ADEL)</b>			04/09/2019
Suspended Solids	1.0	32 mg/L	
<b>Volatile Suspended Solids T0160-01(ADEL)</b>			04/09/2019
Fixed Solids	1	<1 mg/L	
Volatile Suspended Solids	1	32 mg/L	



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## Analytical Results

Sampling Point	31514-EPA - Stoney Well
Sampled Date	29/08/2019 9:50:00AM
Sample Received Date	30/08/2019 9:18:34AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0217
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 4.8°C</b>			
<b>Chlorophyll a &amp; b T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	86.1 µg/L	
Chlorophyll b	0.1	8.30 µg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)	
<b>Chlorophyll a &amp; Phaeophytin a T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	78.8 µg/L	
Phaeophytin a	0.1	15.4 µg/L	

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 4.8°C</b>			
<b>Ammonia as N T0100-01(ADEL)</b>			12/09/2019
Ammonia as N	0.005	<0.005 mg/L	
<b>Chloride T0104-02(ADEL)</b>			02/09/2019
Chloride	4.0	35300 mg/L	
<b>Nitrate + Nitrite as N T0161-01(ADEL)</b>			10/09/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
<b>Nitrogen - Total TMZ-M06(ADEL)</b>			30/08/2019
Nitrogen - Total		5.00 mg/L	
<b>Phosphorus - Filterable Reactive as P T0108-01(ADEL)</b>			10/09/2019
Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L	
<b>Phosphorus - Total T0109-44(ADEL)</b>			02/09/2019
Phosphorus - Total	0.005	0.227 mg/L	
<b>Silica - Reactive T0111-01(ADEL)</b>			02/09/2019
Silica - Reactive	0.05	1.94 mg/L	
<b>TKN as N T0112-01(ADEL)</b>			02/09/2019
TKN as Nitrogen	0.05	5.00 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
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**Analytical Results**

Sampling Point	31514-EPA - Stoney Well
Sampled Date	29/08/2019 9:50:00AM
Sample Received Date	30/08/2019 9:18:34AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0217
Status	Endorsed
Collection Type	Customer Collected

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**Sample temperature at time of receipt 4.8°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 03/09/2019

Dissolved Organic Carbon	1	16.8 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 03/09/2019

Total Organic Carbon	1	25.5 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 30/08/2019

Alkalinity as Calcium Carbonate	212 mg/L
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Bicarbonate	259 mg/L
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Carbonate	0 mg/L
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Hydroxide	0 mg/L
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**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 30/08/2019

Conductivity	2	91300 µS/cm
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Total Dissolved Solids (by EC)	1	75400 mg/L
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**pH T0010-01(ADEL)** 30/08/2019

pH	8.1 pH units
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Temperature at which pH is measured	21.9 °C
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**Turbidity T0018-01(ADEL)** 03/09/2019

Turbidity	0.1	21 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Suspended Solids T0160-01(ADEL)** 04/09/2019

Suspended Solids	1.0	68 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 04/09/2019

Fixed Solids	1	26 mg/L
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Volatile Suspended Solids	1	42 mg/L
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**Analytical Results**

Sampling Point	31525-EPA - Villa de Yumpa
Sampled Date	29/08/2019 10:10:00AM
Sample Received Date	30/08/2019 9:19:30AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-004-9933
Status	Endorsed
Collection Type	Customer Collected

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Biology Operations	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Chlorophyll a & b T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	70.3 µg/L
Chlorophyll b	0.1	7.43 µg/L
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)

**Chlorophyll a & Phaeophytin a T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	64.0 µg/L
Phaeophytin a	0.1	13.4 µg/L

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Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Ammonia as N T0100-01(ADEL)** 12/09/2019

Ammonia as N	0.005	<0.005 mg/L
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**Chloride T0104-02(ADEL)** 02/09/2019

Chloride	4.0	33700 mg/L
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**Nitrate + Nitrite as N T0161-01(ADEL)** 10/09/2019

Nitrate + Nitrite as N	0.003	<0.003 mg/L
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**Nitrogen - Total TMZ-M06(ADEL)** 30/08/2019

Nitrogen - Total		4.29 mg/L
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**Phosphorus - Filterable Reactive as P T0108-01(ADEL)** 10/09/2019

Phosphorus - Filterable Reactive as P	0.003	0.008 mg/L
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**Phosphorus - Total T0109-44(ADEL)** 02/09/2019

Phosphorus - Total	0.005	0.176 mg/L
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**Silica - Reactive T0111-01(ADEL)** 02/09/2019

Silica - Reactive	0.05	2.09 mg/L
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**TKN as N T0112-01(ADEL)** 02/09/2019

TKN as Nitrogen	0.05	4.29 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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**Analytical Results**

Sampling Point	31525-EPA - Villa de Yumpa
Sampled Date	29/08/2019 10:10:00AM
Sample Received Date	30/08/2019 9:19:30AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-004-9933
Status	Endorsed
Collection Type	Customer Collected

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**Sample temperature at time of receipt 4.8°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 03/09/2019

Dissolved Organic Carbon	1	18.5 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 03/09/2019

Total Organic Carbon	1	26.5 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 30/08/2019

Alkalinity as Calcium Carbonate	211 mg/L
Bicarbonate	257 mg/L
Carbonate	0 mg/L
Hydroxide	0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 30/08/2019

Conductivity	2	90500 µS/cm
Total Dissolved Solids (by EC)	1	74500 mg/L

**pH T0010-01(ADEL)** 30/08/2019

pH	8.1 pH units
Temperature at which pH is measured	22.3 °C

**Turbidity T0018-01(ADEL)** 03/09/2019

Turbidity	0.1	20 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Suspended Solids T0160-01(ADEL)** 04/09/2019

Suspended Solids	1.0	40 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 04/09/2019

Fixed Solids	1	9 mg/L
Volatile Suspended Solids	1	31 mg/L



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**Analytical Results**

Sampling Point	31513-EPA - Parnka Point Boat Ramp
Sampled Date	29/08/2019 10:40:00AM
Sample Received Date	30/08/2019 9:19:12AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0219
Status	Endorsed
Collection Type	Customer Collected

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Biology Operations	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 4.8°C</b>			
<b>Chlorophyll a &amp; b T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	19.3 µg/L	
Chlorophyll b	0.1	1.78 µg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)	
<b>Chlorophyll a &amp; Phaeophytin a T0380-02(ADEL)</b>			30/08/2019
Chlorophyll a	0.1	17.7 µg/L	
Phaeophytin a	0.1	3.35 µg/L	

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 4.8°C</b>			
<b>Ammonia as N T0100-01(ADEL)</b>			12/09/2019
Ammonia as N	0.005	<0.005 mg/L	
<b>Chloride T0104-02(ADEL)</b>			02/09/2019
Chloride	4.0	35400 mg/L	
<b>Nitrate + Nitrite as N T0161-01(ADEL)</b>			10/09/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
<b>Nitrogen - Total TMZ-M06(ADEL)</b>			30/08/2019
Nitrogen - Total		4.28 mg/L	
<b>Phosphorus - Filterable Reactive as P T0108-01(ADEL)</b>			10/09/2019
Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L	
<b>Phosphorus - Total T0109-44(ADEL)</b>			04/09/2019
Phosphorus - Total	0.005	0.216 mg/L	
<b>Silica - Reactive T0111-01(ADEL)</b>			02/09/2019
Silica - Reactive	0.05	1.66 mg/L	
<b>TKN as N T0112-01(ADEL)</b>			04/09/2019
TKN as Nitrogen	0.05	4.28 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
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## Analytical Results

Sampling Point	31513-EPA - Parnka Point Boat Ramp
Sampled Date	29/08/2019 10:40:00AM
Sample Received Date	30/08/2019 9:19:12AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0219
Status	Endorsed
Collection Type	Customer Collected

**Sample temperature at time of receipt 4.8°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 03/09/2019

Dissolved Organic Carbon	1	17.5 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 03/09/2019

Total Organic Carbon	1	25.2 mg/L
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### Inorganic Chemistry - Physical LOR Result Test Start Date

**Sample temperature at time of receipt 4.8°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 30/08/2019

Alkalinity as Calcium Carbonate	210 mg/L
Bicarbonate	257 mg/L
Carbonate	0 mg/L
Hydroxide	0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 30/08/2019

Conductivity	2	89200 µS/cm
Total Dissolved Solids (by EC)	1	73100 mg/L

**pH T0010-01(ADEL)** 30/08/2019

pH	8.2 pH units
Temperature at which pH is measured	22.3 °C

**Turbidity T0018-01(ADEL)** 03/09/2019

Turbidity	0.1	21 NTU
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### Inorganic Chemistry - Waste Water LOR Result Test Start Date

**Sample temperature at time of receipt 4.8°C**

**Suspended Solids T0160-01(ADEL)** 04/09/2019

Suspended Solids	1.0	38 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 04/09/2019

Fixed Solids	1	<1 mg/L
Volatile Suspended Solids	1	38 mg/L



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**Analytical Results**

Sampling Point	31512-EPA - McGrath Flat North
Sampled Date	29/08/2019 11:20:00AM
Sample Received Date	30/08/2019 9:18:51AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0218
Status	Endorsed
Collection Type	Customer Collected

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Biology Operations	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Chlorophyll a & b T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	64.5 µg/L
Chlorophyll b	0.1	6.24 µg/L
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)

**Chlorophyll a & Phaeophytin a T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	59.8 µg/L
Phaeophytin a	0.1	10.4 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Ammonia as N T0100-01(ADEL)** 12/09/2019

Ammonia as N	0.005	0.014 mg/L
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**Chloride T0104-02(ADEL)** 02/09/2019

Chloride	4.0	38400 mg/L
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**Nitrate + Nitrite as N T0161-01(ADEL)** 10/09/2019

Nitrate + Nitrite as N	0.003	0.005 mg/L
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**Nitrogen - Total TMZ-M06(ADEL)** 30/08/2019

Nitrogen - Total		4.42 mg/L
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**Phosphorus - Filterable Reactive as P T0108-01(ADEL)** 10/09/2019

Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L
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**Phosphorus - Total T0109-44(ADEL)** 04/09/2019

Phosphorus - Total	0.005	0.184 mg/L
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**Silica - Reactive T0111-01(ADEL)** 02/09/2019

Silica - Reactive	0.05	1.60 mg/L
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**TKN as N T0112-01(ADEL)** 04/09/2019

TKN as Nitrogen	0.05	4.41 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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**Analytical Results**

Sampling Point	31512-EPA - McGrath Flat North
Sampled Date	29/08/2019 11:20:00AM
Sample Received Date	30/08/2019 9:18:51AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-005-0218
Status	Endorsed
Collection Type	Customer Collected

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*Sample temperature at time of receipt 4.8°C*

**Dissolved Organic Carbon T0158-07(ADEL)** 03/09/2019

Dissolved Organic Carbon	1	18.0 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 03/09/2019

Total Organic Carbon	1	24.8 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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*Sample temperature at time of receipt 4.8°C*

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 30/08/2019

Alkalinity as Calcium Carbonate	211 mg/L
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Bicarbonate	257 mg/L
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Carbonate	0 mg/L
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Hydroxide	0 mg/L
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**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 30/08/2019

Conductivity	2	87800 µS/cm
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Total Dissolved Solids (by EC)	1	71600 mg/L
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**pH T0010-01(ADEL)** 30/08/2019

pH	8.2 pH units
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Temperature at which pH is measured	21.9 °C
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**Turbidity T0018-01(ADEL)** 03/09/2019

Turbidity	0.1	18 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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*Sample temperature at time of receipt 4.8°C*

**Suspended Solids T0160-01(ADEL)** 04/09/2019

Suspended Solids	1.0	68 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 04/09/2019

Fixed Solids	1	33 mg/L
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Volatile Suspended Solids	1	35 mg/L
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**Analytical Results**

Sampling Point	353180-EPA - Tauwitschere
Sampled Date	29/08/2019 1:30:00PM
Sample Received Date	30/08/2019 9:19:12AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-004-9934
Status	Endorsed
Collection Type	Customer Collected

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Biology Operations	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Chlorophyll a & b T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	26.6 µg/L
Chlorophyll b	0.1	1.82 µg/L
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)

**Chlorophyll a & Phaeophytin a T0380-02(ADEL)** 30/08/2019

Chlorophyll a	0.1	22.1 µg/L
Phaeophytin a	0.1	8.33 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 4.8°C**

**Ammonia as N T0100-01(ADEL)** 12/09/2019

Ammonia as N	0.005	0.091 mg/L
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**Chloride T0104-02(ADEL)** 02/09/2019

Chloride	4.0	3820 mg/L
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**Nitrate + Nitrite as N T0161-01(ADEL)** 10/09/2019

Nitrate + Nitrite as N	0.003	0.012 mg/L
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**Nitrogen - Total TMZ-M06(ADEL)** 30/08/2019

Nitrogen - Total		1.44 mg/L
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**Phosphorus - Filterable Reactive as P T0108-01(ADEL)** 10/09/2019

Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L
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**Phosphorus - Total T0109-44(ADEL)** 02/09/2019

Phosphorus - Total	0.005	0.096 mg/L
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**Silica - Reactive T0111-01(ADEL)** 02/09/2019

Silica - Reactive	0.05	0.19 mg/L
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**TKN as N T0112-01(ADEL)** 02/09/2019

TKN as Nitrogen	0.05	1.43 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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## Analytical Results

Sampling Point	353180-EPA - Tauwitschere
Sampled Date	29/08/2019 1:30:00PM
Sample Received Date	30/08/2019 9:19:12AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-004-9934
Status	Endorsed
Collection Type	Customer Collected

### Sample temperature at time of receipt 4.8°C

#### Dissolved Organic Carbon T0158-07(ADEL) 03/09/2019

Dissolved Organic Carbon	1	8.2 mg/L
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#### Total Organic Carbon T0158-07(ADEL) 03/09/2019

Total Organic Carbon	1	14.1 mg/L
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### Inorganic Chemistry - Physical LOR Result Test Start Date

#### Sample temperature at time of receipt 4.8°C

#### Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL) 30/08/2019

Alkalinity as Calcium Carbonate	112 mg/L
Bicarbonate	134 mg/L
Carbonate	1 mg/L
Hydroxide	0 mg/L

#### Conductivity & Total Dissolved Solids T0016-01(ADEL) 30/08/2019

Conductivity	2	13200 µS/cm
Total Dissolved Solids (by EC)	1	7810 mg/L

#### pH T0010-01(ADEL) 30/08/2019

pH	8.3 pH units
Temperature at which pH is measured	22.3 °C

#### Turbidity T0018-01(ADEL) 03/09/2019

Turbidity	0.1	23 NTU
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### Inorganic Chemistry - Waste Water LOR Result Test Start Date

#### Sample temperature at time of receipt 4.8°C

#### Suspended Solids T0160-01(ADEL) 04/09/2019

Suspended Solids	1.0	48 mg/L
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#### Volatile Suspended Solids T0160-01(ADEL) 04/09/2019

Fixed Solids	1	22 mg/L
Volatile Suspended Solids	1	26 mg/L



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## Analytical Results

Sampling Point	31523-EPA - Long Point
Sampled Date	29/08/2019 10:30:00PM
Sample Received Date	30/08/2019 9:18:54AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-004-9935
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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### *Sample temperature at time of receipt 4.8°C*

#### Chlorophyll a & b T0380-02(ADEL) 30/08/2019

Chlorophyll a	0.1	7.33 µg/L
Chlorophyll b	0.1	0.41 µg/L
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)

#### Chlorophyll a & Phaeophytin a T0380-02(ADEL) 30/08/2019

Chlorophyll a	0.1	5.99 µg/L
Phaeophytin a	0.1	2.41 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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### *Sample temperature at time of receipt 4.8°C*

#### Ammonia as N T0100-01(ADEL) 12/09/2019

Ammonia as N	0.005	0.005 mg/L
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#### Chloride T0104-02(ADEL) 02/09/2019

Chloride	4.0	19800 mg/L
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#### Nitrate + Nitrite as N T0161-01(ADEL) 10/09/2019

Nitrate + Nitrite as N	0.003	0.007 mg/L
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#### Nitrogen - Total TMZ-M06(ADEL) 30/08/2019

Nitrogen - Total		1.64 mg/L
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#### Phosphorus - Filterable Reactive as P T0108-01(ADEL) 10/09/2019

Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L
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#### Phosphorus - Total T0109-44(ADEL) 04/09/2019

Phosphorus - Total	0.005	0.143 mg/L
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#### Silica - Reactive T0111-01(ADEL) 02/09/2019

Silica - Reactive	0.05	0.81 mg/L
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#### TKN as N T0112-01(ADEL) 04/09/2019

TKN as Nitrogen	0.05	1.63 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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## Analytical Results

Sampling Point	31523-EPA - Long Point
Sampled Date	29/08/2019 10:30:00PM
Sample Received Date	30/08/2019 9:18:54AM
Sample Analysis Completed	13/09/2019 8:36:03AM
Sample ID	2019-004-9935
Status	Endorsed
Collection Type	Customer Collected

*Sample temperature at time of receipt 4.8°C*

**Dissolved Organic Carbon T0158-07(ADEL)** 03/09/2019

Dissolved Organic Carbon	1	11.3 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 03/09/2019

Total Organic Carbon	1	12.3 mg/L
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### Inorganic Chemistry - Physical LOR Result Test Start Date

*Sample temperature at time of receipt 4.8°C*

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 30/08/2019

Alkalinity as Calcium Carbonate	155 mg/L
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Bicarbonate	190 mg/L
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Carbonate	0 mg/L
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Hydroxide	0 mg/L
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**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 30/08/2019

Conductivity	2	56800 µS/cm
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Total Dissolved Solids (by EC)	1	41000 mg/L
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**pH T0010-01(ADEL)** 30/08/2019

pH	8.0 pH units
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Temperature at which pH is measured	22.4 °C
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**Turbidity T0018-01(ADEL)** 03/09/2019

Turbidity	0.1	8.0 NTU
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### Inorganic Chemistry - Waste Water LOR Result Test Start Date

*Sample temperature at time of receipt 4.8°C*

**Suspended Solids T0160-01(ADEL)** 04/09/2019

Suspended Solids	1.0	17 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 04/09/2019

Fixed Solids	1	11 mg/L
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Volatile Suspended Solids	1	6 mg/L
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**AWQC Signatories**

Dzung Bui - Supervisor Metals and Physical

Ivana Cech - Technical Officer Chemistry

Kerrie Jooste - Supervisor Nutrients and Waste

Thuy Diep - Technical Officer Chemistry

David Evans - Technical Officer Chemistry

John Martini - Method Development Coordinator

Andrew Mlynowskyj - Technical Officer Chemistry

Melissa Phillips - Technical Officer Chemistry

Kamilla Springer - Senior Technical Officer

Liam Warburton - Technical Officer Life Sciences



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### Samples Not Collected

Sample ID	S.Point	Description	Sampled Date	Non Collect Reason
2019-005-0220	31519	EPA - Morella Basin at Outlet Regulator	19/08/2019	Dry

### Bottles Not Collected

Sample ID	S.Point	Description	Sampled Date	Laboratory	Non Collect Reason
2019-005-0220-0	31519	EPA - Morella Basin at Outlet Regulator	19/08/2019	Inorganic Chemistry - Nutrients	Customer chose not to collect bottle
2019-005-0220-0	31519	EPA - Morella Basin at Outlet Regulator	19/08/2019	Biology Operations	Customer chose not to collect bottle
2019-005-0220-0	31519	EPA - Morella Basin at Outlet Regulator	19/08/2019	Inorganic Chemistry - Physical	Customer chose not to collect bottle
2019-005-0220-0	31519	EPA - Morella Basin at Outlet Regulator	19/08/2019	Organic Chemistry	Customer chose not to collect bottle
2019-005-0220-0	31519	EPA - Morella Basin at Outlet Regulator	19/08/2019	Inorganic Chemistry - Nutrients	Customer chose not to collect bottle
2019-005-0220-0	31519	EPA - Morella Basin at Outlet Regulator	19/08/2019	Inorganic Chemistry - Waste Water	Customer chose not to collect bottle
2019-005-0220-0	31519	EPA - Morella Basin at Outlet Regulator	19/08/2019	Inorganic Chemistry - Nutrients	Customer chose not to collect bottle
2019-005-0220-0	31519	EPA - Morella Basin at Outlet Regulator	19/08/2019	Inorganic Chemistry - Nutrients	Customer chose not to collect bottle

### Analytical Method

Analytical Method Code	Description	Reference Method
T0010-01	Determination of pH	AP4500HB
T0016-01	Determination of Conductivity - Corrected to 25C	AP2510B
T0018-01	Turbidity - Nephelometric Measurement	APAWWA-WEF
T0100-01	Ammonia/Ammonium - Automated Flow Colorimetry	AP4500NH3G
T0101-01	Alkalinity - Automated Acidimetric Titration	AP2320B
T0104-02	Chloride - Discrete Analyser	AP4500CLE
T0108-01	Filterable Reactive Phosphorus - Automated Flow Colorimetry	AP4500PG
T0109-44	Phosphorous -total Kjeldahl for seawater by automated flow colorimetry	AP4500PF
T0111-01	Silica by automated fow colorimetry	AP4500SI02
T0112-01	Nitrogen- Total Kjeldahl by discrete analyser	AP4500NORGA
T0158-07	Total and Dissolved Organic Carbon (OI Analytical)	SM5310C
T0160-01	Suspended Solids 103C to 105C	AP2540DE
T0160-01	Suspended Solids 103C to 105C	AP4500
T0161-01	Nitrate + Nitrate (NOx) - Automated Flow Colorimetry	AP4500NO3I
T0380-02	Chlorophyll a & b and phaeophytin	ISO10260
T0380-02	Chlorophyll a & b and phaeophytin	Wintermans
TMZ-M06	Derived Results and Data Checks	AP4500NORGA



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### Laboratory Information

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



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#### 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. 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.
7. 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.
8. Where applicable the [Measurement of Uncertainty](https://www.awqc.com.au/our-services/analytical-services/measurement-uncertainty) is available at <https://www.awqc.com.au/our-services/analytical-services/measurement-uncertainty>.
9. If pH has been tested then the pH will be outside of its holding time unless measured in the field.
10. (ADEL) indicates analysed in Adelaide, (MELB) indicates analysed in Melbourne.