



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

02/09/2019

Dear Patrick

Please find attached the Final Analytical Report for

**Customer Service Request:** 143419-2019-CSR-1  
**Account:** 143419  
**Project:** AWQC-138249 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: 258329

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## Report Information

Project Name	AWQC-138249
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	13/08/2019 7:50:00AM
Sample Received Date	13/08/2019 5:28:29PM
Sample Analysis Completed	27/08/2019 2:59:39PM
Sample ID	2019-004-9920
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 0.1°C</b>			
<b>Chlorophyll a &amp; b T0380-02(ADEL)</b>			14/08/2019
Chlorophyll a	0.1	98.1 µg/L	
Chlorophyll b	0.1	10.4 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>			14/08/2019
Chlorophyll a	0.1	89.0 µg/L	
Phaeophytin a	0.1	19.3 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 0.1°C</b>			
<b>Ammonia as N T0100-01(ADEL)</b>			22/08/2019
Ammonia as N	0.005	<0.005 mg/L	
<b>Chloride T0104-02(ADEL)</b>			14/08/2019
Chloride	4.0	51700 mg/L	
<b>Nitrate + Nitrite as N T0161-01(ADEL)</b>			19/08/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
<b>Nitrogen - Total TMZ-M06(ADEL)</b>			14/08/2019
Nitrogen - Total		5.19 mg/L	
<b>Phosphorus - Filterable Reactive as P T0108-01(ADEL)</b>			19/08/2019
Phosphorus - Filterable Reactive as P	0.003	0.005 mg/L	
<b>Phosphorus - Total T0109-44(ADEL)</b>			19/08/2019
Phosphorus - Total	0.005	0.272 mg/L	
<b>Silica - Reactive T0111-01(ADEL)</b>			14/08/2019
Silica - Reactive	0.05	2.82 mg/L	
<b>TKN as N T0112-01(ADEL)</b>			19/08/2019



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**Analytical Results**

Sampling Point	31518-EPA - 12 South Salt Creek
Sampled Date	13/08/2019 7:50:00AM
Sample Received Date	13/08/2019 5:28:29PM
Sample Analysis Completed	27/08/2019 2:59:39PM
Sample ID	2019-004-9920
Status	Endorsed
Collection Type	Customer Collected

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<b>TKN as N T0112-01(ADEL)</b>			19/08/2019
TKN as Nitrogen	0.05	5.19 mg/L	

Organic Chemistry	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 0.1°C</b>			
<b>Dissolved Organic Carbon T0158-07(ADEL)</b>			20/08/2019
Dissolved Organic Carbon	1	21.3 mg/L	
<b>Total Organic Carbon T0158-07(ADEL)</b>			20/08/2019
Total Organic Carbon	1	28.5 mg/L	

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 0.1°C</b>			
<b>Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)</b>			15/08/2019
Alkalinity as Calcium Carbonate		202 mg/L	
Bicarbonate		246 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
<b>Conductivity &amp; Total Dissolved Solids T0016-01(ADEL)</b>			15/08/2019
Conductivity	2	101000 µS/cm	
Total Dissolved Solids (by EC)	1	86300 mg/L	
<b>pH T0010-01(ADEL)</b>			15/08/2019
pH		8.0 pH units	
Temperature at which pH is measured		22.7 °C	
<b>Turbidity T0018-01(ADEL)</b>			14/08/2019
Turbidity	0.1	14 NTU	

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 0.1°C</b>			
<b>Suspended Solids T0160-01(ADEL)</b>			15/08/2019
Suspended Solids	1.0	33 mg/L	
<b>Volatile Suspended Solids T0160-01(ADEL)</b>			15/08/2019
Fixed Solids	1	3 mg/L	



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**Analytical Results**

Sampling Point	31518-EPA - 12 South Salt Creek
Sampled Date	13/08/2019 7:50:00AM
Sample Received Date	13/08/2019 5:28:29PM
Sample Analysis Completed	27/08/2019 2:59:39PM
Sample ID	2019-004-9920
Status	Endorsed
Collection Type	Customer Collected

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

15/08/2019

Volatile Suspended Solids	1	30 mg/L
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**Analytical Results**

Sampling Point	31511-EPA - 3.2km South Salt Creek
Sampled Date	13/08/2019 8:00:00AM
Sample Received Date	13/08/2019 5:28:22PM
Sample Analysis Completed	27/08/2019 3:06:04PM
Sample ID	2019-004-9922
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 0.1°C**

**Chlorophyll a & b T0380-02(ADEL)** 14/08/2019

Chlorophyll a	0.1	86.2 µg/L
Chlorophyll b	0.1	8.12 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)** 14/08/2019

Chlorophyll a	0.1	78.6 µg/L
Phaeophytin a	0.1	15.9 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Ammonia as N T0100-01(ADEL)** 22/08/2019

Ammonia as N	0.005	<0.005 mg/L
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**Chloride T0104-02(ADEL)** 14/08/2019

Chloride	4.0	8900 mg/L
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**Nitrate + Nitrite as N T0161-01(ADEL)** 19/08/2019

Nitrate + Nitrite as N	0.003	0.008 mg/L
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**Nitrogen - Total TMZ-M06(ADEL)** 14/08/2019

Nitrogen - Total		5.39 mg/L
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**Phosphorus - Filterable Reactive as P T0108-01(ADEL)** 19/08/2019

Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L
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**Phosphorus - Total T0109-44(ADEL)** 19/08/2019

Phosphorus - Total	0.005	0.208 mg/L
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**Silica - Reactive T0111-01(ADEL)** 14/08/2019

Silica - Reactive	0.05	0.63 mg/L
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**TKN as N T0112-01(ADEL)** 19/08/2019

TKN as Nitrogen	0.05	5.38 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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**Analytical Results**

Sampling Point	31511-EPA - 3.2km South Salt Creek
Sampled Date	13/08/2019 8:00:00AM
Sample Received Date	13/08/2019 5:28:22PM
Sample Analysis Completed	27/08/2019 3:06:04PM
Sample ID	2019-004-9922
Status	Endorsed
Collection Type	Customer Collected

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**Sample temperature at time of receipt 0.1°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 20/08/2019

Dissolved Organic Carbon	1	20.0 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 20/08/2019

Total Organic Carbon	1	29.6 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 15/08/2019

Alkalinity as Calcium Carbonate		220 mg/L
Bicarbonate		268 mg/L
Carbonate		0 mg/L
Hydroxide		0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 15/08/2019

Conductivity	2	100000 µS/cm
Total Dissolved Solids (by EC)	1	85200 mg/L

**pH T0010-01(ADEL)** 15/08/2019

pH		8.0 pH units
Temperature at which pH is measured		22.8 °C

**Turbidity T0018-01(ADEL)** 14/08/2019

Turbidity	0.1	33 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Suspended Solids T0160-01(ADEL)** 15/08/2019

Suspended Solids	1.0	47 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 15/08/2019

Fixed Solids	1	14 mg/L
Volatile Suspended Solids	1	33 mg/L



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**Analytical Results**

Sampling Point	31517-EPA - 1.8km West Salt Creek
Sampled Date	13/08/2019 8:00:00AM
Sample Received Date	13/08/2019 5:28:36PM
Sample Analysis Completed	27/08/2019 3:09:53PM
Sample ID	2019-004-9924
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 0.1°C**

**Chlorophyll a & b T0380-02(ADEL)** 14/08/2019

Chlorophyll a	0.1	130 µg/L
Chlorophyll b	0.1	10.5 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)** 14/08/2019

Chlorophyll a	0.1	118 µg/L
Phaeophytin a	0.1	24.2 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Ammonia as N T0100-01(ADEL)** 22/08/2019

Ammonia as N	0.005	<0.005 mg/L
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**Chloride T0104-02(ADEL)** 14/08/2019

Chloride	4.0	52800 mg/L
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**Nitrate + Nitrite as N T0161-01(ADEL)** 19/08/2019

Nitrate + Nitrite as N	0.003	<0.003 mg/L
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**Nitrogen - Total TMZ-M06(ADEL)** 14/08/2019

Nitrogen - Total		4.44 mg/L
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**Phosphorus - Filterable Reactive as P T0108-01(ADEL)** 19/08/2019

Phosphorus - Filterable Reactive as P	0.003	0.007 mg/L
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**Phosphorus - Total T0109-44(ADEL)** 19/08/2019

Phosphorus - Total	0.005	0.147 mg/L
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**Silica - Reactive T0111-01(ADEL)** 14/08/2019

Silica - Reactive	0.05	3.13 mg/L
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**TKN as N T0112-01(ADEL)** 19/08/2019

TKN as Nitrogen	0.05	4.44 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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**Analytical Results**

Sampling Point	31517-EPA - 1.8km West Salt Creek
Sampled Date	13/08/2019 8:00:00AM
Sample Received Date	13/08/2019 5:28:36PM
Sample Analysis Completed	27/08/2019 3:09:53PM
Sample ID	2019-004-9924
Status	Endorsed
Collection Type	Customer Collected

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**Sample temperature at time of receipt 0.1°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 19/08/2019

Dissolved Organic Carbon	1	21.0 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 19/08/2019

Total Organic Carbon	1	28.4 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 15/08/2019

Alkalinity as Calcium Carbonate		208 mg/L
Bicarbonate		254 mg/L
Carbonate		0 mg/L
Hydroxide		0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 15/08/2019

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

**pH T0010-01(ADEL)** 15/08/2019

pH		8.0 pH units
Temperature at which pH is measured		22.9 °C

**Turbidity T0018-01(ADEL)** 14/08/2019

Turbidity	0.1	17 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Suspended Solids T0160-01(ADEL)** 15/08/2019

Suspended Solids	1.0	33 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 15/08/2019

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



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## Analytical Results

Sampling Point	31515-EPA - Snipe Point
Sampled Date	13/08/2019 8:15:00AM
Sample Received Date	13/08/2019 5:29:29PM
Sample Analysis Completed	27/08/2019 3:07:53PM
Sample ID	2019-004-9923
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 0.1°C</i>			
<b>Chlorophyll a &amp; b T0380-02(ADEL)</b>			14/08/2019
Chlorophyll a	0.1	114 µg/L	
Chlorophyll b	0.1	11.3 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>			14/08/2019
Chlorophyll a	0.1	102 µg/L	
Phaeophytin a	0.1	23.9 µg/L	
<b>Inorganic Chemistry - Nutrients</b>			
	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 0.1°C</i>			
<b>Ammonia as N T0100-01(ADEL)</b>			22/08/2019
Ammonia as N	0.005	<0.005 mg/L	
<b>Chloride T0104-02(ADEL)</b>			14/08/2019
Chloride	4.0	39200 mg/L	
<b>Nitrate + Nitrite as N T0161-01(ADEL)</b>			19/08/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
<b>Nitrogen - Total TMZ-M06(ADEL)</b>			14/08/2019
Nitrogen - Total		5.01 mg/L	
<b>Phosphorus - Filterable Reactive as P T0108-01(ADEL)</b>			19/08/2019
Phosphorus - Filterable Reactive as P	0.003	0.003 mg/L	
<b>Phosphorus - Total T0109-44(ADEL)</b>			19/08/2019
Phosphorus - Total	0.005	0.266 mg/L	
<b>Silica - Reactive T0111-01(ADEL)</b>			14/08/2019
Silica - Reactive	0.05	3.53 mg/L	
<b>TKN as N T0112-01(ADEL)</b>			19/08/2019
TKN as Nitrogen	0.05	5.01 mg/L	

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

Sampling Point	31515-EPA - Snipe Point
Sampled Date	13/08/2019 8:15:00AM
Sample Received Date	13/08/2019 5:29:29PM
Sample Analysis Completed	27/08/2019 3:07:53PM
Sample ID	2019-004-9923
Status	Endorsed
Collection Type	Customer Collected

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**Sample temperature at time of receipt 0.1°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 20/08/2019

Dissolved Organic Carbon	1	19.0 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 20/08/2019

Total Organic Carbon	1	29.3 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 14/08/2019

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

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 14/08/2019

Conductivity	2	99500 µS/cm
Total Dissolved Solids (by EC)	1	84600 mg/L

**pH T0010-01(ADEL)** 14/08/2019

pH		8.0 pH units
Temperature at which pH is measured		22.7 °C

**Turbidity T0018-01(ADEL)** 14/08/2019

Turbidity	0.1	16 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Suspended Solids T0160-01(ADEL)** 15/08/2019

Suspended Solids	1.0	52 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 15/08/2019

Fixed Solids	1	17 mg/L
Volatile Suspended Solids	1	35 mg/L



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## Analytical Results

Sampling Point	315191-EPA - Morella Creek @ guage
Sampled Date	13/08/2019 8:20:00AM
Sample Received Date	13/08/2019 5:28:16PM
Sample Analysis Completed	27/08/2019 3:21:45PM
Sample ID	2019-004-9931
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

Chlorophyll a & b T0380-02(ADEL)			14/08/2019
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Chlorophyll a	0.1	54.1 µg/L	
Chlorophyll b	0.1	7.83 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)			14/08/2019
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Chlorophyll a	0.1	46.7 µg/L	
Phaeophytin a	0.1	15.5 µg/L	

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

Ammonia as N T0100-01(ADEL)			22/08/2019
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Ammonia as N	0.005	0.033 mg/L	
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Chloride T0104-02(ADEL)			14/08/2019
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Chloride	4.0	2410 mg/L	
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Nitrate + Nitrite as N T0161-01(ADEL)			19/08/2019
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Nitrate + Nitrite as N	0.003	0.004 mg/L	
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Nitrogen - Total TMZ-M06(ADEL)			14/08/2019
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Nitrogen - Total		<0.05 mg/L	
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Phosphorus - Filterable Reactive as P T0108-01(ADEL)			19/08/2019
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Phosphorus - Filterable Reactive as P	0.003	0.011 mg/L	
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Phosphorus - Total T0109-44(ADEL)			19/08/2019
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Phosphorus - Total	0.005	0.029 mg/L	
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Silica - Reactive T0111-01(ADEL)			14/08/2019
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Silica - Reactive	0.05	8.89 mg/L	
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TKN as N T0112-01(ADEL)			19/08/2019
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TKN as Nitrogen	0.05	<0.05 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	13/08/2019 8:20:00AM
Sample Received Date	13/08/2019 5:28:16PM
Sample Analysis Completed	27/08/2019 3:21:45PM
Sample ID	2019-004-9931
Status	Endorsed
Collection Type	Customer Collected

**Sample temperature at time of receipt 0.1°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 20/08/2019

Dissolved Organic Carbon	1	11.2 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 20/08/2019

Total Organic Carbon	1	14.2 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 15/08/2019

Alkalinity as Calcium Carbonate		316 mg/L
Bicarbonate		367 mg/L
Carbonate		9 mg/L
Hydroxide		0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 15/08/2019

Conductivity	2	8030 µS/cm
Total Dissolved Solids (by EC)	1	4620 mg/L

**pH T0010-01(ADEL)** 15/08/2019

pH		8.4 pH units
Temperature at which pH is measured		22.7 °C

**Turbidity T0018-01(ADEL)** 14/08/2019

Turbidity	0.1	28 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Suspended Solids T0160-01(ADEL)** 15/08/2019

Suspended Solids	1.0	29 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 15/08/2019

Fixed Solids	1	15 mg/L
Volatile Suspended Solids	1	14 mg/L



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## Analytical Results

Sampling Point	31516-EPA - Seagull Island
Sampled Date	13/08/2019 8:35:00AM
Sample Received Date	13/08/2019 5:28:50PM
Sample Analysis Completed	27/08/2019 3:03:27PM
Sample ID	2019-004-9921
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Chlorophyll a & b T0380-02(ADEL) 14/08/2019

Chlorophyll a	0.1	107 µg/L
Chlorophyll b	0.1	9.71 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) 14/08/2019

Chlorophyll a	0.1	93.8 µg/L
Phaeophytin a	0.1	26.7 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Ammonia as N T0100-01(ADEL) 22/08/2019

Ammonia as N	0.005	<0.005 mg/L
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#### Chloride T0104-02(ADEL) 14/08/2019

Chloride	4.0	55800 mg/L
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#### Nitrate + Nitrite as N T0161-01(ADEL) 19/08/2019

Nitrate + Nitrite as N	0.003	<0.003 mg/L
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#### Nitrogen - Total TMZ-M06(ADEL) 14/08/2019

Nitrogen - Total		5.14 mg/L
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#### Phosphorus - Filterable Reactive as P T0108-01(ADEL) 19/08/2019

Phosphorus - Filterable Reactive as P	0.003	0.003 mg/L
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#### Phosphorus - Total T0109-44(ADEL) 19/08/2019

Phosphorus - Total	0.005	0.238 mg/L
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#### Silica - Reactive T0111-01(ADEL) 14/08/2019

Silica - Reactive	0.05	3.32 mg/L
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#### TKN as N T0112-01(ADEL) 19/08/2019

TKN as Nitrogen	0.05	5.14 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	13/08/2019 8:35:00AM
Sample Received Date	13/08/2019 5:28:50PM
Sample Analysis Completed	27/08/2019 3:03:27PM
Sample ID	2019-004-9921
Status	Endorsed
Collection Type	Customer Collected

**Sample temperature at time of receipt 0.1°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 20/08/2019

Dissolved Organic Carbon	1	19.1 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 20/08/2019

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 0.1°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 15/08/2019

Alkalinity as Calcium Carbonate		203 mg/L
Bicarbonate		248 mg/L
Carbonate		0 mg/L
Hydroxide		0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 15/08/2019

Conductivity	2	98600 µS/cm
Total Dissolved Solids (by EC)	1	83600 mg/L

**pH T0010-01(ADEL)** 15/08/2019

pH		8.0 pH units
Temperature at which pH is measured		22.7 °C

**Turbidity T0018-01(ADEL)** 14/08/2019

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 0.1°C**

**Suspended Solids T0160-01(ADEL)** 15/08/2019

Suspended Solids	1.0	32 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 15/08/2019

Fixed Solids	1	4 mg/L
Volatile Suspended Solids	1	28 mg/L



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**Analytical Results**

Sampling Point	300711-Tilley Swamp Drain U/S Morella
Sampled Date	13/08/2019 8:50:00AM
Sample Received Date	13/08/2019 5:29:51PM
Sample Analysis Completed	27/08/2019 3:17:52PM
Sample ID	2019-004-9929
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 0.1°C**

**Chlorophyll a & b T0380-02(ADEL)** 14/08/2019

Chlorophyll a	0.1	28.9 µg/L
Chlorophyll b	0.1	0.55 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)** 14/08/2019

Chlorophyll a	0.1	25.5 µg/L
Phaeophytin a	0.1	5.95 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Ammonia as N T0100-01(ADEL)** 22/08/2019

Ammonia as N	0.005	0.060 mg/L
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**Chloride T0104-02(ADEL)** 14/08/2019

Chloride	4.0	3080 mg/L
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**Nitrate + Nitrite as N T0161-01(ADEL)** 19/08/2019

Nitrate + Nitrite as N	0.003	0.160 mg/L
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**Nitrogen - Total TMZ-M06(ADEL)** 14/08/2019

Nitrogen - Total		1.41 mg/L
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**Phosphorus - Filterable Reactive as P T0108-01(ADEL)** 19/08/2019

Phosphorus - Filterable Reactive as P	0.003	0.005 mg/L
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**Phosphorus - Total T0109-44(ADEL)** 19/08/2019

Phosphorus - Total	0.005	0.035 mg/L
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**Silica - Reactive T0111-01(ADEL)** 14/08/2019

Silica - Reactive	0.05	5.53 mg/L
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**TKN as N T0112-01(ADEL)** 19/08/2019

TKN as Nitrogen	0.05	1.25 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	13/08/2019 8:50:00AM
Sample Received Date	13/08/2019 5:29:51PM
Sample Analysis Completed	27/08/2019 3:17:52PM
Sample ID	2019-004-9929
Status	Endorsed
Collection Type	Customer Collected

### Sample temperature at time of receipt 0.1°C

<b>Dissolved Organic Carbon T0158-07(ADEL)</b>			19/08/2019
Dissolved Organic Carbon	1	6.9 mg/L	
<b>Total Organic Carbon T0158-07(ADEL)</b>			19/08/2019
Total Organic Carbon	1	7.3 mg/L	

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 0.1°C</b>			
<b>Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)</b>			15/08/2019
Alkalinity as Calcium Carbonate		323 mg/L	
Bicarbonate		358 mg/L	
Carbonate		18 mg/L	
Hydroxide		0 mg/L	
<b>Conductivity &amp; Total Dissolved Solids T0016-01(ADEL)</b>			15/08/2019
Conductivity	2	9960 µS/cm	
Total Dissolved Solids (by EC)	1	5790 mg/L	
<b>pH T0010-01(ADEL)</b>			15/08/2019
pH		8.6 pH units	
Temperature at which pH is measured		22.7 °C	
<b>Turbidity T0018-01(ADEL)</b>			14/08/2019
Turbidity	0.1	14 NTU	

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
<b>Sample temperature at time of receipt 0.1°C</b>			
<b>Suspended Solids T0160-01(ADEL)</b>			15/08/2019
Suspended Solids	1.0	51 mg/L	
<b>Volatile Suspended Solids T0160-01(ADEL)</b>			15/08/2019
Fixed Solids	1	32 mg/L	
Volatile Suspended Solids	1	19 mg/L	



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**Analytical Results**

Sampling Point	31526-EPA - Nth Jack Point
Sampled Date	13/08/2019 8:55:00AM
Sample Received Date	13/08/2019 5:29:22PM
Sample Analysis Completed	27/08/2019 2:57:50PM
Sample ID	2019-004-9919
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 0.1°C**

**Chlorophyll a & b T0380-02(ADEL)** 14/08/2019

Chlorophyll a	0.1	99.7 µg/L
Chlorophyll b	0.1	8.75 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)** 14/08/2019

Chlorophyll a	0.1	87.1 µg/L
Phaeophytin a	0.1	24.6 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Ammonia as N T0100-01(ADEL)** 22/08/2019

Ammonia as N	0.005	<0.005 mg/L
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**Chloride T0104-02(ADEL)** 14/08/2019

Chloride	4.0	47500 mg/L
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**Nitrate + Nitrite as N T0161-01(ADEL)** 19/08/2019

Nitrate + Nitrite as N	0.003	<0.003 mg/L
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**Nitrogen - Total TMZ-M06(ADEL)** 14/08/2019

Nitrogen - Total		4.81 mg/L
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**Phosphorus - Filterable Reactive as P T0108-01(ADEL)** 19/08/2019

Phosphorus - Filterable Reactive as P	0.003	0.008 mg/L
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**Phosphorus - Total T0109-44(ADEL)** 19/08/2019

Phosphorus - Total	0.005	0.192 mg/L
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**Silica - Reactive T0111-01(ADEL)** 14/08/2019

Silica - Reactive	0.05	2.21 mg/L
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**TKN as N T0112-01(ADEL)** 19/08/2019

TKN as Nitrogen	0.05	4.81 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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## Analytical Results

Sampling Point	31526-EPA - Nth Jack Point
Sampled Date	13/08/2019 8:55:00AM
Sample Received Date	13/08/2019 5:29:22PM
Sample Analysis Completed	27/08/2019 2:57:50PM
Sample ID	2019-004-9919
Status	Endorsed
Collection Type	Customer Collected

### Sample temperature at time of receipt 0.1°C

#### Dissolved Organic Carbon T0158-07(ADEL) 19/08/2019

Dissolved Organic Carbon	1	19.9 mg/L
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#### Total Organic Carbon T0158-07(ADEL) 19/08/2019

Total Organic Carbon	1	27.0 mg/L
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### Inorganic Chemistry - Physical LOR Result Test Start Date

#### Sample temperature at time of receipt 0.1°C

#### Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL) 15/08/2019

Alkalinity as Calcium Carbonate	205 mg/L
Bicarbonate	250 mg/L
Carbonate	0 mg/L
Hydroxide	0 mg/L

#### Conductivity & Total Dissolved Solids T0016-01(ADEL) 15/08/2019

Conductivity	2	94000 µS/cm
Total Dissolved Solids (by EC)	1	78400 mg/L

#### pH T0010-01(ADEL) 15/08/2019

pH	8.0 pH units
Temperature at which pH is measured	22.8 °C

#### Turbidity T0018-01(ADEL) 14/08/2019

Turbidity	0.1	22 NTU
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### Inorganic Chemistry - Waste Water LOR Result Test Start Date

#### Sample temperature at time of receipt 0.1°C

#### Suspended Solids T0160-01(ADEL) 15/08/2019

Suspended Solids	1.0	53 mg/L
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#### Volatile Suspended Solids T0160-01(ADEL) 15/08/2019

Fixed Solids	1	23 mg/L
Volatile Suspended Solids	1	30 mg/L



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## Analytical Results

Sampling Point	31514-EPA - Stoney Well
Sampled Date	13/08/2019 9:18:00AM
Sample Received Date	13/08/2019 5:28:43PM
Sample Analysis Completed	27/08/2019 3:12:07PM
Sample ID	2019-004-9925
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Chlorophyll a & b T0380-02(ADEL) 14/08/2019

Chlorophyll a	0.1	88.9 µg/L
Chlorophyll b	0.1	9.47 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) 14/08/2019

Chlorophyll a	0.1	77.4 µg/L
Phaeophytin a	0.1	23.0 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Ammonia as N T0100-01(ADEL) 22/08/2019

Ammonia as N	0.005	<0.005 mg/L
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#### Chloride T0104-02(ADEL) 14/08/2019

Chloride	4.0	36400 mg/L
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#### Nitrate + Nitrite as N T0161-01(ADEL) 19/08/2019

Nitrate + Nitrite as N	0.003	<0.003 mg/L
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#### Nitrogen - Total TMZ-M06(ADEL) 14/08/2019

Nitrogen - Total		4.42 mg/L
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#### Phosphorus - Filterable Reactive as P T0108-01(ADEL) 19/08/2019

Phosphorus - Filterable Reactive as P	0.003	0.003 mg/L
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#### Phosphorus - Total T0109-44(ADEL) 19/08/2019

Phosphorus - Total	0.005	0.155 mg/L
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#### Silica - Reactive T0111-01(ADEL) 14/08/2019

Silica - Reactive	0.05	2.17 mg/L
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#### TKN as N T0112-01(ADEL) 19/08/2019

TKN as Nitrogen	0.05	4.42 mg/L
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Organic Chemistry	LOR	Result	Test Start Date
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**Analytical Results**

Sampling Point	31514-EPA - Stoney Well
Sampled Date	13/08/2019 9:18:00AM
Sample Received Date	13/08/2019 5:28:43PM
Sample Analysis Completed	27/08/2019 3:12:07PM
Sample ID	2019-004-9925
Status	Endorsed
Collection Type	Customer Collected

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**Sample temperature at time of receipt 0.1°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 20/08/2019

Dissolved Organic Carbon	1	18.2 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 20/08/2019

Total Organic Carbon	1	25.9 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 14/08/2019

Alkalinity as Calcium Carbonate		209 mg/L
Bicarbonate		254 mg/L
Carbonate		0 mg/L
Hydroxide		0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 14/08/2019

Conductivity	2	88900 µS/cm
Total Dissolved Solids (by EC)	1	72800 mg/L

**pH T0010-01(ADEL)** 14/08/2019

pH		8.0 pH units
Temperature at which pH is measured		22.7 °C

**Turbidity T0018-01(ADEL)** 14/08/2019

Turbidity	0.1	26 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Suspended Solids T0160-01(ADEL)** 15/08/2019

Suspended Solids	1.0	50 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 15/08/2019

Fixed Solids	1	18 mg/L
Volatile Suspended Solids	1	32 mg/L



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## Analytical Results

Sampling Point	300713-Tilley Swamp Drain D/S Northern Outlet
Sampled Date	13/08/2019 9:20:00AM
Sample Received Date	13/08/2019 5:29:59PM
Sample Analysis Completed	27/08/2019 3:19:41PM
Sample ID	2019-004-9930
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Chlorophyll a & b T0380-02(ADEL) 14/08/2019

Chlorophyll a	0.1	3.78 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) 14/08/2019

Chlorophyll a	0.1	3.26 µg/L
Phaeophytin a	0.1	0.74 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Ammonia as N T0100-01(ADEL) 22/08/2019

Ammonia as N	0.005	0.021 mg/L
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#### Chloride T0104-02(ADEL) 14/08/2019

Chloride	4.0	4460 mg/L
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#### Nitrate + Nitrite as N T0161-01(ADEL) 19/08/2019

Nitrate + Nitrite as N	0.003	0.999 mg/L
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#### Nitrogen - Total TMZ-M06(ADEL) 14/08/2019

Nitrogen - Total		1.16 mg/L
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#### Phosphorus - Filterable Reactive as P T0108-01(ADEL) 19/08/2019

Phosphorus - Filterable Reactive as P	0.003	0.009 mg/L
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#### Phosphorus - Total T0109-44(ADEL) 19/08/2019

Phosphorus - Total	0.005	0.033 mg/L
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#### Silica - Reactive T0111-01(ADEL) 14/08/2019

Silica - Reactive	0.05	9.97 mg/L
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#### TKN as N T0112-01(ADEL) 19/08/2019

TKN as Nitrogen	0.05	0.16 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	13/08/2019 9:20:00AM
Sample Received Date	13/08/2019 5:29:59PM
Sample Analysis Completed	27/08/2019 3:19:41PM
Sample ID	2019-004-9930
Status	Endorsed
Collection Type	Customer Collected

**Sample temperature at time of receipt 0.1°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 20/08/2019

Dissolved Organic Carbon	1	5.6 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 20/08/2019

Total Organic Carbon	1	5.7 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 14/08/2019

Alkalinity as Calcium Carbonate		404 mg/L
Bicarbonate		493 mg/L
Carbonate		0 mg/L
Hydroxide		0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 14/08/2019

Conductivity	2	15100 µS/cm
Total Dissolved Solids (by EC)	1	9010 mg/L

**pH T0010-01(ADEL)** 14/08/2019

pH		8.3 pH units
Temperature at which pH is measured		22.7 °C

**Turbidity T0018-01(ADEL)** 14/08/2019

Turbidity	0.1	3.9 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Suspended Solids T0160-01(ADEL)** 15/08/2019

Suspended Solids	1.0	25 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 15/08/2019

Fixed Solids	1	20 mg/L
Volatile Suspended Solids	1	5 mg/L

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## Analytical Results

Sampling Point	31525-EPA - Villa de Yumpa
Sampled Date	13/08/2019 9:40:00AM
Sample Received Date	13/08/2019 5:29:05PM
Sample Analysis Completed	27/08/2019 2:48:41PM
Sample ID	2019-004-9916
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Chlorophyll a & b T0380-02(ADEL)** 14/08/2019

Chlorophyll a	0.1	64.4 µg/L
Chlorophyll b	0.1	6.67 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)** 14/08/2019

Chlorophyll a	0.1	55.1 µg/L
Phaeophytin a	0.1	18.2 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Ammonia as N T0100-01(ADEL)** 22/08/2019

Ammonia as N	0.005	<0.005 mg/L
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**Chloride T0104-02(ADEL)** 14/08/2019

Chloride	4.0	42600 mg/L
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**Nitrate + Nitrite as N T0161-01(ADEL)** 19/08/2019

Nitrate + Nitrite as N	0.003	<0.003 mg/L
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**Nitrogen - Total TMZ-M06(ADEL)** 14/08/2019

Nitrogen - Total		4.07 mg/L
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**Phosphorus - Filterable Reactive as P T0108-01(ADEL)** 19/08/2019

Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L
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**Phosphorus - Total T0109-44(ADEL)** 19/08/2019

Phosphorus - Total	0.005	0.180 mg/L
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**Silica - Reactive T0111-01(ADEL)** 14/08/2019

Silica - Reactive	0.05	1.78 mg/L
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**TKN as N T0112-01(ADEL)** 19/08/2019

TKN as Nitrogen	0.05	4.07 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	13/08/2019 9:40:00AM
Sample Received Date	13/08/2019 5:29:05PM
Sample Analysis Completed	27/08/2019 2:48:41PM
Sample ID	2019-004-9916
Status	Endorsed
Collection Type	Customer Collected

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**Sample temperature at time of receipt 0.1°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 20/08/2019

Dissolved Organic Carbon	1	17.9 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 20/08/2019

Total Organic Carbon	1	25.1 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 15/08/2019

Alkalinity as Calcium Carbonate	197 mg/L
Bicarbonate	240 mg/L
Carbonate	0 mg/L
Hydroxide	0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 15/08/2019

Conductivity	2	86900 µS/cm
Total Dissolved Solids (by EC)	1	70600 mg/L

**pH T0010-01(ADEL)** 15/08/2019

pH	8.0 pH units
Temperature at which pH is measured	22.8 °C

**Turbidity T0018-01(ADEL)** 14/08/2019

Turbidity	0.1	22 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Suspended Solids T0160-01(ADEL)** 15/08/2019

Suspended Solids	1.0	39 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 15/08/2019

Fixed Solids	1	9 mg/L
Volatile Suspended Solids	1	30 mg/L



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## Analytical Results

Sampling Point	31513-EPA - Parnka Point Boat Ramp
Sampled Date	13/08/2019 10:12:00AM
Sample Received Date	13/08/2019 5:29:12PM
Sample Analysis Completed	27/08/2019 3:15:46PM
Sample ID	2019-004-9927
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 0.1°C</i>			
<b>Chlorophyll a &amp; b T0380-02(ADEL)</b>			14/08/2019
Chlorophyll a	0.1	63.6 µg/L	
Chlorophyll b	0.1	6.35 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>			14/08/2019
Chlorophyll a	0.1	56.3 µg/L	
Phaeophytin a	0.1	14.8 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
<i>Sample temperature at time of receipt 0.1°C</i>			
<b>Ammonia as N T0100-01(ADEL)</b>			22/08/2019
Ammonia as N	0.005	<0.005 mg/L	
<b>Chloride T0104-02(ADEL)</b>			14/08/2019
Chloride	4.0	36300 mg/L	
<b>Nitrate + Nitrite as N T0161-01(ADEL)</b>			19/08/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
<b>Nitrogen - Total TMZ-M06(ADEL)</b>			14/08/2019
Nitrogen - Total		3.94 mg/L	
<b>Phosphorus - Filterable Reactive as P T0108-01(ADEL)</b>			19/08/2019
Phosphorus - Filterable Reactive as P	0.003	0.003 mg/L	
<b>Phosphorus - Total T0109-44(ADEL)</b>			19/08/2019
Phosphorus - Total	0.005	0.185 mg/L	
<b>Silica - Reactive T0111-01(ADEL)</b>			14/08/2019
Silica - Reactive	0.05	2.08 mg/L	
<b>TKN as N T0112-01(ADEL)</b>			19/08/2019
TKN as Nitrogen	0.05	3.94 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	13/08/2019 10:12:00AM
Sample Received Date	13/08/2019 5:29:12PM
Sample Analysis Completed	27/08/2019 3:15:46PM
Sample ID	2019-004-9927
Status	Endorsed
Collection Type	Customer Collected

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**Sample temperature at time of receipt 0.1°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 19/08/2019

Dissolved Organic Carbon	1	16.4 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 19/08/2019

Total Organic Carbon	1	22.0 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 15/08/2019

Alkalinity as Calcium Carbonate		193 mg/L
Bicarbonate		235 mg/L
Carbonate		0 mg/L
Hydroxide		0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 15/08/2019

Conductivity	2	84600 µS/cm
Total Dissolved Solids (by EC)	1	68100 mg/L

**pH T0010-01(ADEL)** 15/08/2019

pH		8.0 pH units
Temperature at which pH is measured		22.8 °C

**Turbidity T0018-01(ADEL)** 14/08/2019

Turbidity	0.1	24 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Suspended Solids T0160-01(ADEL)** 15/08/2019

Suspended Solids	1.0	37 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 15/08/2019

Fixed Solids	1	7 mg/L
Volatile Suspended Solids	1	30 mg/L



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## Analytical Results

Sampling Point	31512-EPA - McGrath Flat North
Sampled Date	13/08/2019 11:46:00AM
Sample Received Date	13/08/2019 5:28:57PM
Sample Analysis Completed	27/08/2019 3:13:44PM
Sample ID	2019-004-9926
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Chlorophyll a & b T0380-02(ADEL) 14/08/2019

Chlorophyll a	0.1	99.5 µg/L
Chlorophyll b	0.1	8.45 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) 14/08/2019

Chlorophyll a	0.1	87.8 µg/L
Phaeophytin a	0.1	23.0 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Ammonia as N T0100-01(ADEL) 22/08/2019

Ammonia as N	0.005	<0.005 mg/L
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#### Chloride T0104-02(ADEL) 14/08/2019

Chloride	4.0	32600 mg/L
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#### Nitrate + Nitrite as N T0161-01(ADEL) 19/08/2019

Nitrate + Nitrite as N	0.003	0.006 mg/L
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#### Nitrogen - Total TMZ-M06(ADEL) 14/08/2019

Nitrogen - Total		5.83 mg/L
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#### Phosphorus - Filterable Reactive as P T0108-01(ADEL) 19/08/2019

Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L
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#### Phosphorus - Total T0109-44(ADEL) 19/08/2019

Phosphorus - Total	0.005	0.458 mg/L
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#### Silica - Reactive T0111-01(ADEL) 14/08/2019

Silica - Reactive	0.05	1.72 mg/L
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#### TKN as N T0112-01(ADEL) 19/08/2019

TKN as Nitrogen	0.05	5.82 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	13/08/2019 11:46:00AM
Sample Received Date	13/08/2019 5:28:57PM
Sample Analysis Completed	27/08/2019 3:13:44PM
Sample ID	2019-004-9926
Status	Endorsed
Collection Type	Customer Collected

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**Sample temperature at time of receipt 0.1°C**

**Dissolved Organic Carbon T0158-07(ADEL)** 20/08/2019

Dissolved Organic Carbon	1	15.3 mg/L
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**Total Organic Carbon T0158-07(ADEL)** 20/08/2019

Total Organic Carbon	1	24.1 mg/L
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Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)** 14/08/2019

Alkalinity as Calcium Carbonate		210 mg/L
Bicarbonate		256 mg/L
Carbonate		0 mg/L
Hydroxide		0 mg/L

**Conductivity & Total Dissolved Solids T0016-01(ADEL)** 14/08/2019

Conductivity	2	77500 µS/cm
Total Dissolved Solids (by EC)	1	60800 mg/L

**pH T0010-01(ADEL)** 14/08/2019

pH		8.1 pH units
Temperature at which pH is measured		22.7 °C

**Turbidity T0018-01(ADEL)** 14/08/2019

Turbidity	0.1	110 NTU
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Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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**Sample temperature at time of receipt 0.1°C**

**Suspended Solids T0160-01(ADEL)** 15/08/2019

Suspended Solids	1.0	160 mg/L
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**Volatile Suspended Solids T0160-01(ADEL)** 15/08/2019

Fixed Solids	1	100 mg/L
Volatile Suspended Solids	1	60 mg/L



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## Analytical Results

Sampling Point	31523-EPA - Long Point
Sampled Date	13/08/2019 1:00:00PM
Sample Received Date	13/08/2019 5:29:36PM
Sample Analysis Completed	27/08/2019 2:54:10PM
Sample ID	2019-004-9918
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Chlorophyll a & b T0380-02(ADEL) 14/08/2019

Chlorophyll a	0.1	28.4 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) 14/08/2019

Chlorophyll a	0.1	24.2 µg/L
Phaeophytin a	0.1	7.08 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Ammonia as N T0100-01(ADEL) 22/08/2019

Ammonia as N	0.005	0.079 mg/L
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#### Chloride T0104-02(ADEL) 14/08/2019

Chloride	4.0	12700 mg/L
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#### Nitrate + Nitrite as N T0161-01(ADEL) 19/08/2019

Nitrate + Nitrite as N	0.003	0.052 mg/L
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#### Nitrogen - Total TMZ-M06(ADEL) 14/08/2019

Nitrogen - Total		1.39 mg/L
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#### Phosphorus - Filterable Reactive as P T0108-01(ADEL) 19/08/2019

Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L
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#### Phosphorus - Total T0109-44(ADEL) 19/08/2019

Phosphorus - Total	0.005	0.069 mg/L
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#### Silica - Reactive T0111-01(ADEL) 14/08/2019

Silica - Reactive	0.05	0.54 mg/L
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#### TKN as N T0112-01(ADEL) 19/08/2019

TKN as Nitrogen	0.05	1.34 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	13/08/2019 1:00:00PM
Sample Received Date	13/08/2019 5:29:36PM
Sample Analysis Completed	27/08/2019 2:54:10PM
Sample ID	2019-004-9918
Status	Endorsed
Collection Type	Customer Collected

### Sample temperature at time of receipt 0.1°C

#### Dissolved Organic Carbon T0158-07(ADEL) 19/08/2019

Dissolved Organic Carbon	1	9.6 mg/L
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#### Total Organic Carbon T0158-07(ADEL) 19/08/2019

Total Organic Carbon	1	10.4 mg/L
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### Inorganic Chemistry - Physical LOR Result Test Start Date

#### Sample temperature at time of receipt 0.1°C

#### Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL) 15/08/2019

Alkalinity as Calcium Carbonate	129 mg/L
Bicarbonate	158 mg/L
Carbonate	0 mg/L
Hydroxide	0 mg/L

#### Conductivity & Total Dissolved Solids T0016-01(ADEL) 15/08/2019

Conductivity	2	35400 µS/cm
Total Dissolved Solids (by EC)	1	23300 mg/L

#### pH T0010-01(ADEL) 15/08/2019

pH	8.3 pH units
Temperature at which pH is measured	22.7 °C

#### Turbidity T0018-01(ADEL) 14/08/2019

Turbidity	0.1	14 NTU
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### Inorganic Chemistry - Waste Water LOR Result Test Start Date

#### Sample temperature at time of receipt 0.1°C

#### Suspended Solids T0160-01(ADEL) 15/08/2019

Suspended Solids	1.0	20 mg/L
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#### Volatile Suspended Solids T0160-01(ADEL) 15/08/2019

Fixed Solids	1	15 mg/L
Volatile Suspended Solids	1	5 mg/L



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## Analytical Results

Sampling Point	353180-EPA - Tauwitschere
Sampled Date	13/08/2019 2:00:00PM
Sample Received Date	13/08/2019 5:29:44PM
Sample Analysis Completed	27/08/2019 2:51:50PM
Sample ID	2019-004-9917
Status	Endorsed
Collection Type	Customer Collected

Biology Operations	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Chlorophyll a & b T0380-02(ADEL) 14/08/2019

Chlorophyll a	0.1	31.2 µg/L
Chlorophyll b	0.1	2.05 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) 14/08/2019

Chlorophyll a	0.1	26.4 µg/L
Phaeophytin a	0.1	8.92 µg/L

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
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### Sample temperature at time of receipt 0.1°C

#### Ammonia as N T0100-01(ADEL) 22/08/2019

Ammonia as N	0.005	0.115 mg/L
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#### Chloride T0104-02(ADEL) 14/08/2019

Chloride	4.0	2740 mg/L
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#### Nitrate + Nitrite as N T0161-01(ADEL) 19/08/2019

Nitrate + Nitrite as N	0.003	0.024 mg/L
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#### Nitrogen - Total TMZ-M06(ADEL) 14/08/2019

Nitrogen - Total		0.95 mg/L
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#### Phosphorus - Filterable Reactive as P T0108-01(ADEL) 19/08/2019

Phosphorus - Filterable Reactive as P	0.003	<0.003 mg/L
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#### Phosphorus - Total T0109-44(ADEL) 19/08/2019

Phosphorus - Total	0.005	0.041 mg/L
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#### Silica - Reactive T0111-01(ADEL) 14/08/2019

Silica - Reactive	0.05	0.34 mg/L
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#### TKN as N T0112-01(ADEL) 19/08/2019

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	353180-EPA - Tauwitschere
Sampled Date	13/08/2019 2:00:00PM
Sample Received Date	13/08/2019 5:29:44PM
Sample Analysis Completed	27/08/2019 2:51:50PM
Sample ID	2019-004-9917
Status	Endorsed
Collection Type	Customer Collected

### Sample temperature at time of receipt 0.1°C

#### Dissolved Organic Carbon T0158-07(ADEL) 20/08/2019

Dissolved Organic Carbon	1	7.1 mg/L
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#### Total Organic Carbon T0158-07(ADEL) 20/08/2019

Total Organic Carbon	1	12.7 mg/L
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### Inorganic Chemistry - Physical LOR Result Test Start Date

#### Sample temperature at time of receipt 0.1°C

#### Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL) 14/08/2019

Alkalinity as Calcium Carbonate	105 mg/L
Bicarbonate	128 mg/L
Carbonate	0 mg/L
Hydroxide	0 mg/L

#### Conductivity & Total Dissolved Solids T0016-01(ADEL) 14/08/2019

Conductivity	2	8490 µS/cm
Total Dissolved Solids (by EC)	1	4900 mg/L

#### pH T0010-01(ADEL) 14/08/2019

pH	8.2 pH units
Temperature at which pH is measured	22.6 °C

#### Turbidity T0018-01(ADEL) 14/08/2019

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

#### Sample temperature at time of receipt 0.1°C

#### Suspended Solids T0160-01(ADEL) 15/08/2019

Suspended Solids	1.0	35 mg/L
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#### Volatile Suspended Solids T0160-01(ADEL) 15/08/2019

Fixed Solids	1	17 mg/L
Volatile Suspended Solids	1	18 mg/L



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**AWQC Signatories**

Dzung Bui - Supervisor Metals and Physical  
Kerrie Davey - Supervisor Nutrients and Waste  
Thuy Diep - Technical Officer Chemistry  
David Evans - Technical Officer Chemistry  
Andrew Ford - Technical Officer Chemistry  
Sharon Helgeson - Technical Officer Life Science  
Qiong Huang - Senior Chemist  
Aji John - Technical Officer Chemistry  
Andrew Mlynowskyj - Technical Officer Chemistry  
Melissa Phillips - Technical Officer Chemistry  
Gayle Polley - Snr Technical Officer  
Kamilla Springer - Senior Technical Officer



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### Samples Not Collected

Sample ID	S.Point	Description	Sampled Date	Non Collect Reason
2019-004-9928	31519	EPA - Morella Basin at Outlet Regulator	5/08/2019	Dry
2019-004-9932	300712	Tilley Swamp Watercourse Outlet Channel	5/08/2019	Dry

### Bottles Not Collected

Sample ID	S.Point	Description	Sampled Date	Laboratory	Non Collect Reason
2019-004-9928-0	31519	EPA - Morella Basin at Outlet Regulator	5/08/2019	Inorganic Chemistry - Nutrients	Bottle not received at AWQC
2019-004-9928-0	31519	EPA - Morella Basin at Outlet Regulator	5/08/2019	Biology Operations	Bottle not received at AWQC
2019-004-9928-0	31519	EPA - Morella Basin at Outlet Regulator	5/08/2019	Inorganic Chemistry - Physical	Bottle not received at AWQC
2019-004-9928-0	31519	EPA - Morella Basin at Outlet Regulator	5/08/2019	Organic Chemistry	Bottle not received at AWQC
2019-004-9928-0	31519	EPA - Morella Basin at Outlet Regulator	5/08/2019	Inorganic Chemistry - Nutrients	Bottle not received at AWQC
2019-004-9928-0	31519	EPA - Morella Basin at Outlet Regulator	5/08/2019	Inorganic Chemistry - Waste Water	Bottle not received at AWQC
2019-004-9928-0	31519	EPA - Morella Basin at Outlet Regulator	5/08/2019	Inorganic Chemistry - Nutrients	Bottle not received at AWQC
2019-004-9928-0	31519	EPA - Morella Basin at Outlet Regulator	5/08/2019	Inorganic Chemistry - Nutrients	Bottle not received at AWQC
2019-004-9932-0	300712	Tilley Swamp Watercourse Outlet Channel	5/08/2019	Inorganic Chemistry - Nutrients	Bottle not received at AWQC
2019-004-9932-0	300712	Tilley Swamp Watercourse Outlet Channel	5/08/2019	Biology Operations	Bottle not received at AWQC
2019-004-9932-0	300712	Tilley Swamp Watercourse Outlet Channel	5/08/2019	Inorganic Chemistry - Physical	Bottle not received at AWQC
2019-004-9932-0	300712	Tilley Swamp Watercourse Outlet Channel	5/08/2019	Organic Chemistry	Bottle not received at AWQC
2019-004-9932-0	300712	Tilley Swamp Watercourse Outlet Channel	5/08/2019	Inorganic Chemistry - Nutrients	Bottle not received at AWQC
2019-004-9932-0	300712	Tilley Swamp Watercourse Outlet Channel	5/08/2019	Inorganic Chemistry - Waste Water	Bottle not received at AWQC
2019-004-9932-0	300712	Tilley Swamp Watercourse Outlet Channel	5/08/2019	Inorganic Chemistry - Nutrients	Bottle not received at AWQC
2019-004-9932-0	300712	Tilley Swamp Watercourse Outlet Channel	5/08/2019	Inorganic Chemistry - Nutrients	Bottle not received at AWQC



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### 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 flow 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

### 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. 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.