Adelaide SA 5001

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Email: awqc@sawater.com.au

Tel: 1300 653 366

Fax: 1300 883 171



DEW - Department of Environment and Water

ATTN: Patrick Betham 24-26 Tikalara street Regency Park SA 5010 AUSTRALIA

15/08/2019

Dear Patrick

Please find attached the Final Analytical Report for

Customer Service Request: 143419-2019-CSR-1

143419 Account:

Project: AWQC-137396 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 +61 8 7424 2150



toria Square Tel: 1300 653 366 le SA 5000 Fax: 1300 883 171

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Report Information

Project Name AWQC-137396

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
 10/07/2019
 8:15:00AM

 Sample Received Date
 11/07/2019
 1:34:45PM

 Sample Analysis Completed
 23/07/2019
 11:59:14AM

 Sample ID
 2019-004-2577

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9.	.6°C		
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	79.9 μg/L	
Chlorophyll b	0.1	5.38 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)		11/07/2019
Chlorophyll a	0.1	68.7 μg/L	
Phaeophytin a	0.1	21.1 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9 Ammonia as N T0100-01(ADEL)	.6°C		22/07/2019
Ammonia as N	0.005	<0.005 mg/L	
Chloride T0104-02(ADEL)			17/07/2019
Chloride	4.0	41300 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)		-	12/07/2019
Nitrate + Nitrite as N	0.003	0.005 mg/L	
Nitrogen - Total TMZ-M06(ADEL)		5	11/07/2019
Nitrogen - Total		6.04 mg/L	
Phosphorus - Filterable Reactive as P T0	108-01(ADEL)	3	12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.005 mg/L	
Phosphorus - Total T0109-44(ADEL)		3	17/07/2019
Phosphorus - Total	0.005	0.254 mg/L	
Silica - Reactive T0111-01(ADEL)		· ·	15/07/2019
Silica - Reactive	0.05	2.33 mg/L	
TKN as N T0112-01(ADEL)		Ç	17/07/2019



AWOC

Test Start Date

15/07/2019

15/07/2019

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Analytical Results

Organic Chemistry

Sampling Point 31518-EPA - 12 South Salt Creek

 Sampled Date
 10/07/2019
 8:15:00AM

 Sample Received Date
 11/07/2019
 1:34:45PM

 Sample Analysis Completed
 23/07/2019
 11:59:14AM

 Sample ID
 2019-004-2577

 Status
 Endorsed

Collection Type Customer Collected

TKN as N T0112-01(ADEL) 17/07/2019

Result

TKN as Nitrogen 0.05 6.03 mg/L

LOR

1

Sample temperature at time of receipt			
Dissolved Organic Carbon T0158-07(Al	18/07/2019		
Dissolved Organic Carbon	1	18.9 mg/L	
Total Organic Carbon T0158-07(ADEL)	18/07/2019		
Total Organic Carbon	1	24.3 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt	9.6°C		
Alkalinity Carbonate Bicarbonate and		1(ADEL)	15/07/2019
Alkalinity as Calcium Carbonate	•	213 mg/L	
Bicarbonate		260 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids	T0016-01(ADEL)		15/07/2019

106000 μS/cm

92200 mg/L

8.0 pH units

<1 mg/L

remperature at which ph is measured		22.2 °C	45/97/9949
Turbidity T0018-01(ADEL) Turbidity	0.1	14 NTU	15/07/2019
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 9.	6°C		
Suspended Solids T0160-01(ADEL)			15/07/2019
Suspended Solids	1.0	30 ma/L	



Fixed Solids

Conductivity

рΗ

Total Dissolved Solids (by EC)

pH T0010-01(ADEL)

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

Volatile Suspended Solids T0160-01(ADEL)

PO Box 1751 250 Victoria Square Adelaide SA 5001 Adelaide SA 5000

oria Square Tel: 1300 653 366 e SA 5000 Fax: 1300 883 171 AWQC

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Analytical Results

Sampling Point 31518-EPA - 12 South Salt Creek

 Sampled Date
 10/07/2019
 8:15:00AM

 Sample Received Date
 11/07/2019
 1:34:45PM

 Sample Analysis Completed
 23/07/2019
 11:59:14AM

 Sample ID
 2019-004-2577

 Status
 Endorsed

Collection Type Customer Collected

Volatile Suspended Solids T0160-01(ADEL)

15/07/2019

Volatile Suspended Solids 1 30 mg/L



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Analytical Results

Sampling Point 31511-EPA - 3.2km South Salt Creek

 Sampled Date
 10/07/2019
 8:20:00AM

 Sample Received Date
 11/07/2019
 1:32:30PM

 Sample Analysis Completed
 23/07/2019
 11:59:06AM

 Sample ID
 2019-004-2579

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date	
Sample temperature at time of receipt 9.	.6°C			
Chlorophyll a & b T0380-02(ADEL)			11/07/2019	
Chlorophyll a	0.1	64.3 μg/L		
Chlorophyll b	0.1	4.58 μg/L		
Chlorophyll comment		Chlorophyll a & b results are the sum of		
		chlorophyll & their degradation by products (
O	(ABEL)	Phaeophytins)	11/07/2019	
Chlorophyll a & Phaeophytin a T0380-02	•		11/07/2019	
Chlorophyll a	0.1	59.9 μg/L		
Phaeophytin a	0.1	9.05 µg/L		
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date	
Sample temperature at time of receipt 9.	.6°C			
Ammonia as N T0100-01(ADEL)			22/07/2019	
Ammonia as N	0.005	0.089 mg/L		
Chloride T0104-02(ADEL)			17/07/2019	
Chloride	4.0	41200 mg/L		
Nitrate + Nitrite as N T0161-01(ADEL)			12/07/2019	
Nitrate + Nitrite as N	0.003	0.009 mg/L		
Nitrogen - Total TMZ-M06(ADEL)			11/07/2019	
Nitrogen - Total		5.74 mg/L		
Phosphorus - Filterable Reactive as P T0	108-01(ADEL)		12/07/2019	
Phosphorus - Filterable Reactive as P	0.003	0.015 mg/L		
Phosphorus - Total T0109-44(ADEL)		-	17/07/2019	
Phosphorus - Total	0.005	0.208 mg/L		
Silica - Reactive T0111-01(ADEL)		3	15/07/2019	
Silica - Reactive	0.05	2.16 mg/L		
TKN as N T0112-01(ADEL)			17/07/2019	
TKN as Nitrogen	0.05	5.73 mg/L		
Organic Chemistry	LOR	Result	Test Start Date	



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18/07/2019

16/07/2019

16/07/2019

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Analytical Results

Sampling Point 31511-EPA - 3.2km South Salt Creek

 Sampled Date
 10/07/2019
 8:20:00AM

 Sample Received Date
 11/07/2019
 1:32:30PM

 Sample Analysis Completed
 23/07/2019
 11:59:06AM

 Sample ID
 2019-004-2579

 Status
 Endorsed

Collection Type Customer Collected

Sample temperature	at time of receipt 9.6°C
--------------------	--------------------------

Total Organic Carbon T0158-07(ADEL)

Dissolved Organic Carbon T0158-07(ADEL)

Dissolved Organic Carbon 1 21.1 mg/L

Total Organic Carbon 1 27.0 mg/L

Inorganic Chemistry - Physical LOR Result Test Start Date

Sample temperature at time of receipt 9.6°C

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 219 mg/L
Bicarbonate 267 mg/L
Carbonate 0 mg/L
Hydroxide 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

15/07/2019

Conductivity 2 107000 μ S/cm Total Dissolved Solids (by EC) 1 93400 μ S/cm

pH T0010-01(ADEL) 15/07/2019

pH 7.9 pH units
Temperature at which pH is measured 22.2 °C

Turbidity T0018-01(ADEL) 15/07/2019

Turbidity 0.1 14 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Inorganic Chemistry - Waste Water LOR Result Test Start Da

Sample temperature at time of receipt 9.6°C

Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 48 mg/L

Volatile Suspended Solids T0160-01(ADEL)

 Fixed Solids
 1
 8 mg/L

 Volatile Suspended Solids
 1
 40 mg/L



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Analytical Results

Sampling Point 31517-EPA - 1.8km West Salt Creek

 Sampled Date
 10/07/2019
 8:40:00AM

 Sample Received Date
 11/07/2019
 1:34:27PM

 Sample Analysis Completed
 23/07/2019
 11:59:03AM

 Sample ID
 2019-004-2581

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	0.6°C		
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	84.6 μg/L	
Chlorophyll b	0.1	8.23 μg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of	
		chlorophyll & their degradation by products (
		Phaeophytins)	44/07/0040
Chlorophyll a & Phaeophytin a T0380-02	` '		11/07/2019
Chlorophyll a	0.1	78.0 μg/L	
Phaeophytin a	0.1	14.2 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	0.6°C		
Ammonia as N T0100-01(ADEL)			22/07/2019
Ammonia as N	0.005	<0.005 mg/L	
Chloride T0104-02(ADEL)			17/07/2019
Chloride	4.0	39500 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)			12/07/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/07/2019
Nitrogen - Total		5.66 mg/L	
Phosphorus - Filterable Reactive as P To	0108-01(ADEL)		12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.007 mg/L	
Phosphorus - Total T0109-44(ADEL)			17/07/2019
Phosphorus - Total	0.005	0.190 mg/L	
Silica - Reactive T0111-01(ADEL)		3	15/07/2019
Silica - Reactive	0.05	2.43 mg/L	
TKN as N T0112-01(ADEL)		g	17/07/2019
TKN as Nitrogen	0.05	5.66 mg/L	
Organic Chemistry	LOR	Result	Test Start Date



18/07/2019

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15/07/2019

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Analytical Results

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

10/07/2019 8:40:00AM Sampled Date 11/07/2019 1:34:27PM Sample Received Date 23/07/2019 11:59:03AM Sample Analysis Completed

2019-004-2581 Sample ID **Status** Endorsed

Customer Collected Collection Type

Sample temperature	at time	of receipt	9.6°C
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Dissolved Organic Carbon T0158-07(ADEL)

Dissolved Organic Carbon 1 20.2 mg/L **Total Organic Carbon T0158-07(ADEL)**

Total Organic Carbon 1 25.4 mg/L

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

Sample temperature at time of receipt 9.6°C

12/07/2019 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

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

12/07/2019 Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 107000 μS/cm Total Dissolved Solids (by EC) 1 93400 mg/L

12/07/2019 pH T0010-01(ADEL)

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

15/07/2019 **Turbidity T0018-01(ADEL)**

0.1

Turbidity 14 NTU

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

Sample temperature at time of receipt 9.6°C

15/07/2019 Suspended Solids T0160-01(ADEL)

1.0

Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 <1 mg/L

32 mg/L

32 mg/L

WORLD RECOGNISED
ACCREDITATION

Suspended Solids

Volatile Suspended Solids

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Analytical Results

 Sampling Point
 31515-EPA - Snipe Point

 Sampled Date
 10/07/2019
 9:05:00AM

 Sample Received Date
 11/07/2019
 1:33:49PM

 Sample Analysis Completed
 23/07/2019
 11:59:14AM

 Sample ID
 2019-004-2580

Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9.	.6°C		_
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	81.6 µg/L	
Chlorophyll b	0.1	7.63 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)	,	11/07/2019
Chlorophyll a	0.1	75.1 μg/L	
Phaeophytin a	0.1	13.8 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9.	.6°C		
Ammonia as N T0100-01(ADEL)			22/07/2019
Ammonia as N	0.005	<0.005 mg/L	
Chloride T0104-02(ADEL)			17/07/2019
Chloride	4.0	39000 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)			12/07/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/07/2019
Nitrogen - Total		5.79 mg/L	
Phosphorus - Filterable Reactive as P T0			12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.004 mg/L	
Phosphorus - Total T0109-44(ADEL)			17/07/2019
Phosphorus - Total	0.005	0.238 mg/L	
Silica - Reactive T0111-01(ADEL)			15/07/2019
Silica - Reactive	0.05	2.46 mg/L	
TKN as N T0112-01(ADEL)			17/07/2019
TKN as Nitrogen	0.05	5.79 mg/L	
Organic Chemistry	LOR	Result	Test Start Date



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18/07/2019

18/07/2019

15/07/2019

15/07/2019

15/07/2019

15/07/2019

15/07/2019

15/07/2019

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Analytical Results

Sampling Point 31515-EPA - Snipe Point 10/07/2019 9:05:00AM Sampled Date 11/07/2019 1:33:49PM Sample Received Date 23/07/2019 11:59:14AM Sample Analysis Completed

2019-004-2580 Sample ID **Status** Endorsed

Customer Collected Collection Type

Sample temperature	at time of	of receipt 9.6°C
--------------------	------------	------------------

Dissolved Organic Carbon T0158-07(ADEL) Dissolved Organic Carbon

1 20.0 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 25.3 mg/L

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

Sample temperature at time of receipt 9.6°C

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

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)

Conductivity 107000 μS/cm

Total Dissolved Solids (by EC) 1 93400 mg/L

рΗ 8.0 pH units

Temperature at which pH is measured 22.3 °C

Turbidity T0018-01(ADEL)

Turbidity 0.1 13 NTU

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

Sample temperature at time of receipt 9.6°C

Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 24 mg/L

Volatile Suspended Solids T0160-01(ADEL) Fixed Solids 1 <1 mg/L

Volatile Suspended Solids 24 mg/L



pH T0010-01(ADEL)

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Analytical Results

 Sampling Point
 31516-EPA - Seagull Island

 Sampled Date
 10/07/2019
 9:30:00AM

 Sample Received Date
 11/07/2019
 1:34:08PM

 Sample Analysis Completed
 23/07/2019
 11:59:06AM

 Sample ID
 2019-004-2578

Status 2019-004-2

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	0.6°C		
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	74.4 μg/L	
Chlorophyll b	0.1	6.66 µg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (
Chlorophyll a 8 Phacophytin a T0290 02	(ADEL)	Phaeophytins)	11/07/2019
Chlorophyll a & Phaeophytin a T0380-02 Chlorophyll a	0.1	67.5	11/0//2013
Phaeophytin a	0.1	67.5 µg/L	
гнаеорнушта -	0.1	14.1 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	0.6°C		
Ammonia as N T0100-01(ADEL)			22/07/2019
Ammonia as N	0.005	<0.005 mg/L	
Chloride T0104-02(ADEL)			17/07/2019
Chloride	4.0	40400 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)			12/07/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
Nitrogen - Total TMZ-M06(ADEL)		9	11/07/2019
Nitrogen - Total		5.41 mg/L	
Phosphorus - Filterable Reactive as P TO	0108-01(ADFL)	3	12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.011 mg/L	
Phosphorus - Total T0109-44(ADEL)		0.0 · · · · · · · · · · · · · · · · · ·	17/07/2019
Phosphorus - Total	0.005	0.195 mg/L	
Silica - Reactive T0111-01(ADEL)		0.100 mg/L	15/07/2019
Silica - Reactive	0.05	2.44 mg/L	
TKN as N T0112-01(ADEL)		g	17/07/2019
TKN as Nitrogen	0.05	5.41 mg/L	
Ourselie Observictor			
Organic Chemistry	LOR	Result	Test Start Date



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18/07/2019

18/07/2019

12/07/2019

Test Start Date

15/07/2019

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Analytical Results

 Sampling Point
 31516-EPA - Seagull Island

 Sampled Date
 10/07/2019
 9:30:00AM

 Sample Received Date
 11/07/2019
 1:34:08PM

 Sample Analysis Completed
 23/07/2019
 11:59:06AM

 Sample ID
 2019-004-2578

 Status
 Endorsed

Collection Type Customer Collected

Sample temperature at time of receipt 9.6°C

Dissolved Organic Carbon T0158-07(ADEL)

Dissolved Organic Carbon 1 18.7 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 24.7 mg/L

Inorganic Chemistry - Physical LOR Result Test Start Date

Sample temperature at time of receipt 9.6°C

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

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)

Conductivity 2 106000 μ S/cm

Total Dissolved Solids (by EC) 1 92200 mg/L

pH T0010-01(ADEL) 12/07/2019

pH 8.0 pH units Temperature at which pH is measured 21.9 $^{\circ}$ C

Turbidity T0018-01(ADEL) 15/07/2019

LOR

1.0

Turbidity 10010-01(ABEE)

Turbidity 0.1

13 NTU

Result

60 mg/L

Sample temperature at time of receipt 9.6°C

Inorganic Chemistry - Waste Water

Suspended Solids T0160-01(ADEL) 15/07/2019

Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 25 mg/L

Volatile Suspended Solids 1 35 mg/L



Suspended Solids

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Analytical Results

Sampling Point 300711-Tilley Swamp Drain U/S Morella

 Sampled Date
 10/07/2019
 9:30:00AM

 Sample Received Date
 11/07/2019
 1:31:49PM

 Sample Analysis Completed
 29/07/2019
 5:22:59PM

 Sample ID
 *2019-004-2586

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	.6°C		_
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	1.66 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)	. , ,	11/07/2019
Chlorophyll a	0.1	1.28 µg/L	
Phaeophytin a	0.1	0.64 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	.6°C		
Ammonia as N T0100-01(ADEL)			22/07/2019
Ammonia as N	0.005	0.134 mg/L	
Chloride T0104-02(ADEL)			15/07/2019
Chloride	4.0	2430 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)			12/07/2019
Nitrate + Nitrite as N	0.003	0.967 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/07/2019
Nitrogen - Total		1.44 mg/L	
Phosphorus - Filterable Reactive as P TO	108-01(ADEL)		12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.011 mg/L	
Phosphorus - Total T0109-44(ADEL)			17/07/2019
Phosphorus - Total	0.005	0.023 mg/L	
Silica - Reactive T0111-01(ADEL)			15/07/2019
Silica - Reactive	0.05	10.7 mg/L	
TKN as N T0112-01(ADEL)			17/07/2019
TKN as Nitrogen	0.05	0.47 mg/L	
Organic Chemistry	LOR	Result	Test Start Date



29/07/2019

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Analytical Results

300711-Tilley Swamp Drain U/S Morella **Sampling Point**

10/07/2019 9:30:00AM Sampled Date 11/07/2019 1:31:49PM Sample Received Date 29/07/2019 5:22:59PM Sample Analysis Completed *2019-004-2586 Sample ID

Status Endorsed

Customer Collected Collection Type

Sam	ple	te	mpei	rature	at ti	me of	rec	eipt 9.6°C	,

Total Organic Carbon T0158-09(ADEL)

29/07/2019 **Dissolved Organic Carbon T0158-09(ADEL)**

Dissolved Organic Carbon 1.0 3.6 mg/L

Total Organic Carbon 1.0 4.0 mg/L

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

Sample temperature at time of receipt 9.6°C

12/07/2019 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 399 mg/L Bicarbonate 487 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

12/07/2019 Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 8580 µS/cm Total Dissolved Solids (by EC) 1 4950 mg/L

12/07/2019 pH T0010-01(ADEL)

рΗ 8.3 pH units Temperature at which pH is measured 21.9 °C

15/07/2019 **Turbidity T0018-01(ADEL)**

Turbidity 0.1 1.1 NTU

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

Sample temperature at time of receipt 9.6°C

15/07/2019 Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 4 mg/L

15/07/2019 Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 3 mg/L

Volatile Suspended Solids 1 mg/L



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Analytical Results

31526-EPA - Nth Jack Point **Sampling Point** 10/07/2019 10:00:00AM **Sampled Date** 11/07/2019 1:35:59PM **Sample Received Date** 23/07/2019 11:59:13AM Sample Analysis Completed 2019-004-2576 Sample ID

Status Endorsed

Customer Collected Collection Type

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9.	.6°C		_
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	102 μg/L	
Chlorophyll b	0.1	5.18 μg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of	
		chlorophyll & their degradation by products (
		Phaeophytins)	11/07/2019
Chlorophyll a & Phaeophytin a T0380-02	•		11/07/2019
Chlorophyll a	0.1	87.9 μg/L	
Phaeophytin a	0.1	26.3 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	.6°C		
Ammonia as N T0100-01(ADEL)			22/07/2019
Ammonia as N	0.005	<0.005 mg/L	
Chloride T0104-02(ADEL)			17/07/2019
Chloride	4.0	36400 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)			12/07/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/07/2019
Nitrogen - Total		6.08 mg/L	
Phosphorus - Filterable Reactive as P T0	108-01(ADEL)	·	12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.003 mg/L	
Phosphorus - Total T0109-44(ADEL)		g	17/07/2019
Phosphorus - Total	0.005	0.275 mg/L	
Silica - Reactive T0111-01(ADEL)		0.2.0 mg/2	15/07/2019
Silica - Reactive	0.05	2.10 mg/L	
TKN as N T0112-01(ADEL)		2.10 mg/L	17/07/2019
TKN as Nitrogen	0.05	6.09 ma/l	
Trat do Malogon	0.00	6.08 mg/L	
Organic Chemistry	LOR	Result	Test Start Date



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Analytical Results

31526-EPA - Nth Jack Point **Sampling Point** 10/07/2019 10:00:00AM Sampled Date 11/07/2019 1:35:59PM Sample Received Date 23/07/2019 11:59:13AM Sample Analysis Completed 2019-004-2576

Sample ID **Status** Endorsed

Customer Collected Collection Type

Sample temperature	at time	of receipt 9.6°C
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Dissolved Organic Carbon T0158-07(ADEL)

Dissolved Organic Carbon 1 17.3 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 24.8 mg/L

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

Sample temperature at time of receipt 9.6°C

12/07/2019 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

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)

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

12/07/2019 pH T0010-01(ADEL)

рΗ 8.1 pH units Temperature at which pH is measured 21.9 °C

15/07/2019

Turbidity T0018-01(ADEL)

Turbidity 0.1 39 NTU

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

Sample temperature at time of receipt 9.6°C

15/07/2019 Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 64 mg/L

15/07/2019 Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 26 mg/L Volatile Suspended Solids 38 mg/L



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Analytical Results

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

 Sampled Date
 10/07/2019
 10:10:00AM

 Sample Received Date
 11/07/2019
 1:32:11PM

 Sample Analysis Completed
 29/07/2019
 5:22:59PM

 Sample ID
 *2019-004-2587

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9.	.6°C		
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	1.76 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)		11/07/2019
Chlorophyll a	0.1	1.48 μg/L	
Phaeophytin a	0.1	0.46 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9.	.6°C		
Ammonia as N T0100-01(ADEL)			22/07/2019
Ammonia as N	0.005	0.054 mg/L	
Chloride T0104-02(ADEL)			15/07/2019
Chloride	4.0	2360 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)			12/07/2019
Nitrate + Nitrite as N	0.003	0.843 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/07/2019
Nitrogen - Total		1.38 mg/L	
Phosphorus - Filterable Reactive as P T0	108-01(ADEL)		12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.009 mg/L	
Phosphorus - Total T0109-44(ADEL)			17/07/2019
Phosphorus - Total	0.005	0.015 mg/L	
Silica - Reactive T0111-01(ADEL)			15/07/2019
Silica - Reactive	0.05	11.4 mg/L	
TKN as N T0112-01(ADEL)			17/07/2019
TKN as Nitrogen	0.05	0.54 mg/L	
Organic Chemistry	LOR	Result	Test Start Date



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Analytical Results

Collection Type

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

10/07/2019 10:10:00AM Sampled Date 11/07/2019 1:32:11PM Sample Received Date 29/07/2019 5:22:59PM Sample Analysis Completed *2019-004-2587 Sample ID

Status Endorsed

Sample temperature at time of receipt 9.6°C

29/07/2019 **Dissolved Organic Carbon T0158-09(ADEL)**

Customer Collected

Dissolved Organic Carbon 1.0 3.8 mg/L

Total Organic Carbon T0158-09(ADEL) Total Organic Carbon 1.0 3.9 mg/L

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

Sample temperature at time of receipt 9.6°C

15/07/2019 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 402 mg/L Bicarbonate 490 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

15/07/2019 Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 8520 µS/cm Total Dissolved Solids (by EC) 1 4920 mg/L

15/07/2019 pH T0010-01(ADEL)

рΗ 8.3 pH units Temperature at which pH is measured 22.2 °C

15/07/2019 **Turbidity T0018-01(ADEL)**

Turbidity 0.1 1.1 NTU

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

Sample temperature at time of receipt 9.6°C

15/07/2019 Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 5 mg/L

15/07/2019 Volatile Suspended Solids T0160-01(ADEL)

3 mg/L

1

Volatile Suspended Solids 2 mg/L



Fixed Solids

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Analytical Results

 Sampling Point
 31514-EPA - Stoney Well

 Sampled Date
 10/07/2019 10:45:00AM

 Sample Received Date
 11/07/2019 1:33:28PM

 Sample Analysis Completed
 23/07/2019 11:59:05AM

 Sample ID
 2019-004-2582

Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	.6°C		
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	68.9 μg/L	
Chlorophyll b	0.1	6.55 μg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of	
		chlorophyll & their degradation by products (
011 1 11 0 51 1 11 7000 00	(ABEL)	Phaeophytins)	11/07/2019
Chlorophyll a & Phaeophytin a T0380-02	` '		11/07/2019
Chlorophyll a	0.1	59.4 μg/L	
Phaeophytin a	0.1	18.5 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	.6°C		
Ammonia as N T0100-01(ADEL)			22/07/2019
Ammonia as N	0.005	<0.005 mg/L	
Chloride T0104-02(ADEL)			17/07/2019
Chloride	4.0	36300 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)			12/07/2019
Nitrate + Nitrite as N	0.003	<0.003 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/07/2019
Nitrogen - Total		5.44 mg/L	
Phosphorus - Filterable Reactive as P T0	108-01(ADEL)		12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.003 mg/L	
Phosphorus - Total T0109-44(ADEL)		Ç	17/07/2019
Phosphorus - Total	0.005	0.240 mg/L	
Silica - Reactive T0111-01(ADEL)		0. 1 .0g.1	15/07/2019
Silica - Reactive	0.05	2.03 mg/L	
TKN as N T0112-01(ADEL)		2.00 mg/L	17/07/2019
TKN as Nitrogen	0.05	5.44 mg/L	
	0.00	S. TT INUIL	
Organic Chemistry	LOR	Result	Test Start Date



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Analytical Results

Sampling Point 31514-EPA - Stoney Well 10/07/2019 10:45:00AM Sampled Date 11/07/2019 1:33:28PM Sample Received Date 23/07/2019 11:59:05AM Sample Analysis Completed

2019-004-2582 Sample ID **Status** Endorsed

Customer Collected Collection Type

Sample temperature	at time of	of receipt s	9.6°C
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Dissolved Organic Carbon T0158-07(ADEL)

Dissolved Organic Carbon 1 18.8 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 23.8 mg/L

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

Sample temperature at time of receipt 9.6°C

15/07/2019 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 213 mg/L Bicarbonate 260 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 98700 µS/cm

Total Dissolved Solids (by EC) 1 83700 mg/L pH T0010-01(ADEL)

рΗ 8.1 pH units

Temperature at which pH is measured 22.3 °C

Turbidity T0018-01(ADEL) Turbidity 0.1 23 NTU

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

Result

110 mg/L

Sample temperature at time of receipt 9.6°C

15/07/2019 Suspended Solids T0160-01(ADEL)

Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 60 mg/L

Volatile Suspended Solids 50 mg/L

1.0



Suspended Solids

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Analytical Results

Sampling Point 31513-EPA - Parnka Point Boat Ramp

 Sampled Date
 10/07/2019
 12:30:00PM

 Sample Received Date
 11/07/2019
 1:33:08PM

 Sample Analysis Completed
 23/07/2019
 11:59:15AM

 Sample ID
 2019-004-2584

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	.6°C		
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	64.4 µg/L	
Chlorophyll b	0.1	4.50 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)	· nacepnyane,	11/07/2019
Chlorophyll a	0.1	54.7 μg/L	
Phaeophytin a	0.1	18.1 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	.6°C		22/07/2019
Ammonia as N T0100-01(ADEL) Ammonia as N	0.005	0.005	22/07/2019
	0.005	<0.005 mg/L	15/07/2019
Chloride T0104-02(ADEL) Chloride	4.0	00700 #	13/07/2019
	4.0	29700 mg/L	12/07/2019
Nitrate + Nitrite as N T0161-01(ADEL)	0.003	0.000 #	12/07/2019
Nitrate + Nitrite as N	0.003	0.003 mg/L	11/07/2019
Nitrogen - Total TMZ-M06(ADEL)			11/07/2019
Nitrogen - Total		4.88 mg/L	40/07/0040
Phosphorus - Filterable Reactive as P T0	• •		12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.005 mg/L	47/07/0040
Phosphorus - Total T0109-44(ADEL)	0.005		17/07/2019
Phosphorus - Total	0.005	0.249 mg/L	45/07/0040
Silica - Reactive T0111-01(ADEL)	0.05		15/07/2019
Silica - Reactive	0.05	1.19 mg/L	47/07/0040
TKN as N T0112-01(ADEL)	0.05		17/07/2019
TKN as Nitrogen	0.05	4.88 mg/L	
Organic Chemistry	LOR	Result	Test Start Date



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Analytical Results

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

10/07/2019 12:30:00PM Sampled Date 11/07/2019 1:33:08PM Sample Received Date 23/07/2019 11:59:15AM Sample Analysis Completed

2019-004-2584 Sample ID **Status** Endorsed

Customer Collected Collection Type

time of receipt 9.6°C

18/07/2019 **Dissolved Organic Carbon T0158-07(ADEL)**

Dissolved Organic Carbon 1 16.3 mg/L

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

1

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

21.4 mg/L

Sample temperature at time of receipt 9.6°C 15/07/2019 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL) Alkalinity as Calcium Carbonate 204 mg/L Bicarbonate

249 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

15/07/2019 Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 92200 µS/cm Total Dissolved Solids (by EC) 1 76400 mg/L

15/07/2019 pH T0010-01(ADEL)

рΗ 8.1 pH units Temperature at which pH is measured 22.2 °C

15/07/2019 **Turbidity T0018-01(ADEL)**

Turbidity 0.1 25 NTU

Inorganic Chemistry - Waste Water LOR **Test Start Date** Result Sample temperature at time of receipt 9.6°C

Suspended Solids T0160-01(ADEL) Suspended Solids 1.0 24 mg/L

15/07/2019 Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 <1 mg/L

Volatile Suspended Solids 24 mg/L



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Analytical Results

 Sampling Point
 31512-EPA - McGrath Flat North

 Sampled Date
 10/07/2019
 1:30:00PM

 Sample Received Date
 11/07/2019
 1:32:50PM

 Sample Analysis Completed
 23/07/2019
 11:59:05AM

 Sample ID
 2019-004-2583

Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9.	6°C		
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	38.7 μg/L	
Chlorophyll b	0.1	2.50 μg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (Phaeophytins)	
Chlorophyll a & Phaeophytin a T0380-02(ADFI)	r nacopnyuns)	11/07/2019
Chlorophyll a	0.1	32.0 µg/L	
Phaeophytin a	0.1	12.3 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9.	6°C		
Ammonia as N T0100-01(ADEL)			22/07/2019
Ammonia as N	0.005	<0.005 mg/L	
Chloride T0104-02(ADEL)			15/07/2019
Chloride	4.0	28800 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)		-	12/07/2019
Nitrate + Nitrite as N	0.003	0.004 mg/L	
Nitrogen - Total TMZ-M06(ADEL)		· ·	11/07/2019
Nitrogen - Total		3.79 mg/L	
Phosphorus - Filterable Reactive as P T0	108-01(ADFL)		12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.008 mg/L	
Phosphorus - Total T0109-44(ADEL)		0.000 mg/2	17/07/2019
Phosphorus - Total	0.005	0.172 mg/L	
Silica - Reactive T0111-01(ADEL)		o.mz mg/z	15/07/2019
Silica - Reactive	0.05	0.56 mg/L	
TKN as N T0112-01(ADEL)		3.33g/L	17/07/2019
TKN as Nitrogen	0.05	3.79 mg/L	
Ownerie Chemistre	LOD	5	T (0) (5)
Organic Chemistry	LOR	Result	Test Start Date



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Analytical Results

31512-EPA - McGrath Flat North **Sampling Point** 10/07/2019 1:30:00PM Sampled Date 11/07/2019 1:32:50PM Sample Received Date 23/07/2019 11:59:05AM Sample Analysis Completed 2019-004-2583 Sample ID

Status Endorsed

Customer Collected Collection Type

Sample temperature at time of receipt 9.6°C

Dissolved Organic Carbon T0158-07(ADEL) Dissolved Organic Carbon 1 15.7 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 19.0 mg/L

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

Sample temperature at time of receipt 9.6°C

15/07/2019 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

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

15/07/2019 Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 87500 µS/cm Total Dissolved Solids (by EC) 1 71200 mg/L

15/07/2019 pH T0010-01(ADEL)

рΗ 8.2 pH units Temperature at which pH is measured 22.2 °C

15/07/2019 **Turbidity T0018-01(ADEL)**

Turbidity 0.1 25 NTU

1.0

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

Sample temperature at time of receipt 9.6°C

12/07/2019 Suspended Solids T0160-01(ADEL)

65 mg/L

30 mg/L

Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 35 mg/L



Suspended Solids

Volatile Suspended Solids

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Analytical Results

 Sampling Point
 31523-EPA - Long Point

 Sampled Date
 10/07/2019 2:45:00PM

 Sample Received Date
 11/07/2019 1:35:22PM

 Sample Analysis Completed
 23/07/2019 11:59:16AM

 Sample ID
 *2019-004-2575

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	.6°C		_
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	28.7 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)	r nacopnymis)	11/07/2019
Chlorophyll a	0.1	16.9 µg/L	
Phaeophytin a	0.1	19.8 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9 Ammonia as N T0100-01(ADEL) Ammonia as N	. 6°C 0.005	<0.005 mg/L	22/07/2019
Chloride T0104-02(ADEL) Chloride	4.0	15500 mg/L	15/07/2019
Nitrate + Nitrite as N T0161-01(ADEL) Nitrate + Nitrite as N	0.003	0.009 mg/L	12/07/2019
Nitrogen - Total TMZ-M06(ADEL) Nitrogen - Total		1.30 mg/L	11/07/2019
Phosphorus - Filterable Reactive as P T0	108-01(ADEL)		12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.007 mg/L	
Phosphorus - Total T0109-44(ADEL) Phosphorus - Total	0.005	0.129 mg/L	17/07/2019
Silica - Reactive T0111-01(ADEL) Silica - Reactive	0.05	· ·	15/07/2019
	0.03	0.14 mg/L	17/07/2019
TKN as N T0112-01(ADEL) TKN as Nitrogen	0.05	1.29 mg/L	
Organic Chemistry	LOR	Result	Test Start Date



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Analytical I	Results
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31523-EPA - Long Point **Sampling Point** 10/07/2019 2:45:00PM Sampled Date 11/07/2019 1:35:22PM Sample Received Date 23/07/2019 11:59:16AM Sample Analysis Completed

*2019-004-2575 Sample ID Endorsed **Status**

Customer Collected Collection Type

Sample	temperature	at time of	of receipt 9.6°C
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Dissolved Organic Carbon T0158-07(ADEL)

Dissolved Organic Carbon 1 8.0 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 9.7 mg/L

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

Sample temperature at time of receipt 9.6°C

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

15/07/2019 Alkalinity as Calcium Carbonate

143 mg/L Bicarbonate 175 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 44700 µS/cm Total Dissolved Solids (by EC) 1 30700 mg/L

pH T0010-01(ADEL)

рΗ 8.1 pH units

Temperature at which pH is measured 22.3 °C

Turbidity T0018-01(ADEL)

Turbidity 0.1 29 NTU

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

61 mg/L

Sample temperature at time of receipt 9.6°C

15/07/2019 Suspended Solids T0160-01(ADEL) Suspended Solids 1.0

Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 47 mg/L

Volatile Suspended Solids 14 mg/L



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Analytical Results

 Sampling Point
 353180-EPA - Tauwitchere

 Sampled Date
 10/07/2019 3:55:00PM

 Sample Received Date
 11/07/2019 1:36:17PM

 Sample Analysis Completed
 23/07/2019 11:59:04AM

 Sample ID
 *2019-004-2574

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	.6°C		
Chlorophyll a & b T0380-02(ADEL)			11/07/2019
Chlorophyll a	0.1	73.5 μg/L	
Chlorophyll b	0.1	5.36 μg/L	
Chlorophyll comment		Chlorophyll a & b results are the sum of chlorophyll & their degradation by products (
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)	Phaeophytins)	11/07/2019
Chlorophyll a	(ADLL) 0.1	50.1 μg/L	
Phaeophytin a	0.1	41.7 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9 Ammonia as N T0100-01(ADEL) Ammonia as N	. .6°℃ 0.005	0.210 mg/L	22/07/2019
Chloride T0104-02(ADEL)			15/07/2019
Chloride	4.0	5090 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL) Nitrate + Nitrite as N	0.003	0.032 mg/L	12/07/2019
Nitrogen - Total TMZ-M06(ADEL) Nitrogen - Total		2.45 mg/L	11/07/2019
Phosphorus - Filterable Reactive as P TO	1108_01/ADEL\	2.40 mg/L	12/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.003 mg/L	
Phosphorus - Total T0109-44(ADEL)		•	17/07/2019
Phosphorus - Total	0.005	0.198 mg/L	
Silica - Reactive T0111-01(ADEL)	0.05		15/07/2019
Silica - Reactive	0.05	0.18 mg/L	47/07/0040
TKN as N T0112-01(ADEL)	0.05		17/07/2019
TKN as Nitrogen	0.05	2.42 mg/L	
Organic Chemistry	LOR	Result	Test Start Date



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18/07/2019

18/07/2019

15/07/2019

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Analytical Results

353180-EPA - Tauwitchere **Sampling Point** 10/07/2019 3:55:00PM Sampled Date 11/07/2019 1:36:17PM **Sample Received Date** 23/07/2019 11:59:04AM Sample Analysis Completed *2019-004-2574 Sample ID

Endorsed **Status**

Customer Collected Collection Type

Sample temperature	at time of	f receipt 9.6°C
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Dissolved Organic Carbon T0158-07(ADEL) Dissolved Organic Carbon 1 7.8 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 19.5 mg/L

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

Sample temperature at time of receipt 9.6°C

15/07/2019 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 113 mg/L Bicarbonate 138 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

15/07/2019 Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 4170 µS/cm Total Dissolved Solids (by EC) 1 2350 mg/L

15/07/2019 pH T0010-01(ADEL)

рΗ 7.9 pH units Temperature at which pH is measured 22.3 °C

15/07/2019 **Turbidity T0018-01(ADEL)**

Turbidity 0.1 62 NTU

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

Result

Sample temperature at time of receipt 9.6°C

15/07/2019 Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 290 mg/L Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 195 mg/L

Volatile Suspended Solids 95 mg/L



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Analytical Results

Sampling Point 300712-Tilley Swamp Watercourse Outlet Channel

 Sampled Date
 24/07/2019 10:00:00AM

 Sample Received Date
 25/07/2019 11:53:39AM

 Sample Analysis Completed
 8/08/2019 12:43:21PM

 Sample ID
 2019-004-2589

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	.6°C		_
Chlorophyll a & b T0380-02(ADEL)			25/07/2019
Chlorophyll a	0.1	3.81 µg/L	
Chlorophyll b	0.1	0.19 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)		25/07/2019
Chlorophyll a	0.1	3.03 µg/L	
Phaeophytin a	0.1	1.40 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 9	.6°C		
Ammonia as N T0100-01(ADEL)			31/07/2019
Ammonia as N	0.005	0.048 mg/L	
Chloride T0104-02(ADEL)			25/07/2019
Chloride	4.0	2800 mg/L	
Nitrate + Nitrite as N T0161-01(ADEL)			26/07/2019
Nitrate + Nitrite as N	0.003	1.00 mg/L	
Nitrogen - Total TMZ-M06(ADEL)			25/07/2019
Nitrogen - Total		1.45 mg/L	
Phosphorus - Filterable Reactive as P T0	108-01(ADEL)		26/07/2019
Phosphorus - Filterable Reactive as P	0.003	0.010 mg/L	
Phosphorus - Total T0109-44(ADEL)			29/07/2019
Phosphorus - Total	0.005	0.015 mg/L	
Silica - Reactive T0111-01(ADEL)			25/07/2019
Silica - Reactive	0.05	9.91 mg/L	
TKN as N T0112-01(ADEL)			29/07/2019
TKN as Nitrogen	0.05	0.45 mg/L	
Organic Chemistry	LOR	Result	Test Start Date



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01/08/2019

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Analytical Results

300712-Tilley Swamp Watercourse Outlet Channel **Sampling Point**

24/07/2019 10:00:00AM Sampled Date 25/07/2019 11:53:39AM Sample Received Date 8/08/2019 12:43:21PM Sample Analysis Completed 2019-004-2589 Sample ID

Status Endorsed

Customer Collected Collection Type

Sample temperature	at time	of receipt 9.6°C
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01/08/2019 **Dissolved Organic Carbon T0158-07(ADEL)**

Dissolved Organic Carbon 1 5.4 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 4.9 mg/L

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

Sample temperature at time of receipt 9.6°C

25/07/2019 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 395 mg/L Bicarbonate 453 mg/L Carbonate 14 mg/L Hydroxide 0 mg/L

25/07/2019 Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 9510 µS/cm Total Dissolved Solids (by EC) 1 5520 mg/L

25/07/2019 pH T0010-01(ADEL)

рΗ 8.5 pH units Temperature at which pH is measured 22.0 °C

25/07/2019

Turbidity T0018-01(ADEL)

Turbidity 0.1 5.3 NTU

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

Sample temperature at time of receipt 9.6°C

31/07/2019 Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 8 mg/L

31/07/2019 Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1

5 mg/L Volatile Suspended Solids 3 mg/L



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Incidents

Sample ID	S.Point	Description	Sampled Date	Analysis (where Applicable)	Incident Description
2019-004-2586	300711	Tilley Swamp Drain U/S Morella	10/07/2019	Dissolved Organic Carbon	DOC > TOC but within method uncertainty
2019-004-2587	300713	Tilley Swamp Drain D/S Northern Outlet	10/07/2019	Dissolved Organic Carbon	DOC > TOC but within method uncertainty

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
T0158-09	Total and Dissolved Organic Carbon (Shimadzu TOC VCSH)	SM5310B
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



- 1. The last figure of the result value is a significant figure
- # determination of the component is not covered by NATA Accreditation.
 * notice in the component is not covered by NATA Accreditation.
 * notice in the component is not covered by NATA Accreditation.
- 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 is available at https://www.awqc.com.au/our-services/analytical-services/
- 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.