Adelaide SA 5001

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DEW - Department of Environment and Water

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

24/02/2020

Dear Patrick

Please find attached the Final Analytical Report for

Customer Service Request: 143419-2020-CSR-2

Account: 143419

Project: AWQC-144662 DEW - Healthy Coorong Healthy Basin Phase 0 - Adhoc

AWQC Morella sampling - 19/20

This report has also been sent to: Frank Mangeruca Peter Metten

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



ctoria Square Tel: 1300 653 366 ide SA 5000 Fax: 1300 883 171

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Report Information

Project Name AWQC-144662

Customer DEW - Department of Environment and Water

CSR_ID 143419-2020-CSR-2

Analytical Results

Collection Type

Phaeophytin a

Sampling Point 31518-EPA - 12 South Salt Creek

 Sampled Date
 21/01/2020
 8:50:00AM

 Sample Received Date
 22/01/2020
 12:37:25PM

 Sample Analysis Completed
 11/02/2020
 10:38:45AM

 Sample ID
 2020-000-6805

Status Endorsed

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of rec Chlorophyll a & Phaeophytin a T03	•		22/01/2020
Chlorophyll a	0.1	83.4 µg/L	

13.4 µg/L

Customer Collected

0.1

Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt a	8.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	47 μg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	59100 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			07/02/2020
# Nitrate + Nitrite as N	0.5	7.0 µg/L	
# Nitrate + Nitrite as NO3	2.3	31.0 μg/L	
# Nitrate as Nitrogen		4.18 μg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	2.8 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/02/2020
Nitrogen - Total		6.42 mg/L	
Phosphorus - Filterable Reactive as P T	MZ-M42(ADEL)		05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	15.249 µg/L	
Phosphorus-Filterable Reactive as P	0.5	5.1 μg/L	
Phosphorus - Total T0109-44(ADEL)			05/02/2020
Phosphorus - Total	0.005	0.256 mg/L	
Silica - Reactive T0111-01(ADEL)			28/01/2020
Silica - Reactive	0.05	4.91 mg/L	
TKN as N T0112-01(ADEL)			05/02/2020
TKN as Nitrogen	0.05	6.41 mg/L	
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Analytical Results

Sampling Point 31518-EPA - 12 South Salt Creek

 Sampled Date
 21/01/2020
 8:50:00AM

 Sample Received Date
 22/01/2020
 12:37:25PM

 Sample Analysis Completed
 11/02/2020
 10:38:45AM

 Sample ID
 2020-000-6805

 Status
 Endorsed

Collection Type Customer Collected

Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	.7°C		
Dissolved Organic Carbon T0158-07(ADE	≣L)		31/01/2020
Dissolved Organic Carbon	1	29.2 mg/L	
Total Organic Carbon T0158-07(ADEL)			31/01/2020
Total Organic Carbon	1	36.9 mg/L	
Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.			
Alkalinity Carbonate Bicarbonate and Hy	ydroxide T0101-0	1(ADEL)	23/01/2020
Alkalinity as Calcium Carbonate		226 mg/L	
Bicarbonate		275 mg/L	
Carbonate		0 mg/L	
Hydroxide		0 mg/L	
pH T0010-01(ADEL)			23/01/2020
pH		8.0 pH units	
Temperature at which pH is measured		22.9 °C	
Turbidity T0018-01(ADEL)			24/01/2020
Turbidity	0.1	16 NTU	
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	.7°C		
Suspended Solids T0160-01(ADEL)			24/01/2020
Suspended Solids	1.0	25 mg/L	
Total Dissolved Solids by Evaporation To	015-05(ADEL)		05/02/2020
Total Dissolved Solids (by evaporation)	1	117000 mg/L	
Volatile Suspended Solids T0160-01(ADE	EL)		24/01/2020
Fixed Solids	1	<1 mg/L	
Volatile Suspended Solids	1	25 mg/L	



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Analytical Results

Sampling Point 31511-EPA - 3.2km South Salt Creek

 Sampled Date
 21/01/2020
 9:00:00AM

 Sample Received Date
 22/01/2020
 12:36:13PM

 Sample Analysis Completed
 11/02/2020
 10:38:46AM

 Sample ID
 2020-000-6806

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8			
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)		22/01/2020
Chlorophyll a	0.1	47.2 μg/L	
Phaeophytin a	0.1	14.2 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	149 μg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	64700 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			07/02/2020
# Nitrate + Nitrite as N	0.5	6.9 µg/L	
# Nitrate + Nitrite as NO3	2.3	30.6 μg/L	
# Nitrate as Nitrogen		3.36 µg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	3.5 µg/L	
Nitrogen - Total TMZ-M06(ADEL)		10	11/02/2020
Nitrogen - Total		7.85 mg/L	
Phosphorus - Filterable Reactive as P T	MZ-M42(ADEL)	7.00 mg/L	05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	8.97 µg/L	
Phosphorus-Filterable Reactive as P	0.5	3.0 µg/L	
Phosphorus - Total T0109-44(ADEL)	2.0	0.0 µg/L	05/02/2020
Phosphorus - Total 10109-44(ADEL)	0.005	0.312 mg/L	36.62.2626
•	3.300	0.312 Hig/L	28/01/2020
Silica - Reactive T0111-01(ADEL) Silica - Reactive	0.05	F 62 mg/l	20/01/2020
	0.03	5.63 mg/L	05/02/2020
TKN as N T0112-01(ADEL)	0.05	7.04	05/02/2020
TKN as Nitrogen	0.05	7.84 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



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31/01/2020

23/01/2020

24/01/2020

03/02/2020

05/02/2020

03/02/2020

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Analytical Results

Sampling Point 31511-EPA - 3.2km South Salt Creek

 Sampled Date
 21/01/2020
 9:00:00AM

 Sample Received Date
 22/01/2020
 12:36:13PM

 Sample Analysis Completed
 11/02/2020
 10:38:46AM

 Sample ID
 2020-000-6806

 Status
 Endorsed

Collection Type Customer Collected

Dissolved Organic Carbon T0158-07(ADEL)	31/01/2020

Dissolved Organic Carbon 1 29.3 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 39.7 mg/L

Inorganic Chemistry - Physical LO	R Result	Test Start Date
-----------------------------------	----------	-----------------

Sample temperature at time of receipt 8.7°C Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

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

 Carbonate
 0 mg/L

 Hydroxide
 0 mg/L

pH T0010-01(ADEL) 23/01/2020

pH 7.6 pH units
Temperature at which pH is measured 22.9 °C

Turbidity T0018-01(ADEL)Turbidity 0.1 37 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 8.7°C

Suspended Solids T0160-01(ADEL)
Suspended Solids 1.0 45 mg/L

Total Dissolved Solids by Evaporation T015-05(ADEL)

Total Dissolved Solids (by evaporation) 1 134000 mg/L

Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 <1 mg/L

Volatile Suspended Solids 1 45 mg/L



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Analytical Results

Sampling Point 31517-EPA - 1.8km West Salt Creek

 Sampled Date
 21/01/2020
 9:00:00AM

 Sample Received Date
 22/01/2020
 12:37:33PM

 Sample Analysis Completed
 11/02/2020
 10:52:41AM

 Sample ID
 2020-000-6808

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8			
Chlorophyll a & Phaeophytin a T0380-02	P(ADEL)		22/01/2020
Chlorophyll a	0.1	79.7 μg/L	
Phaeophytin a	0.1	13.9 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	26 μg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	53400 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			07/02/2020
# Nitrate + Nitrite as N	0.5	3.7 μg/L	
# Nitrate + Nitrite as NO3	2.3	16.4 μg/L	
# Nitrate as Nitrogen		1.92 μg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	1.8 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/02/2020
Nitrogen - Total		6.00 mg/L	
Phosphorus - Filterable Reactive as P T	MZ-M42(ADEL)		05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	3.289 µg/L	
Phosphorus-Filterable Reactive as P	0.5	1.1 μg/L	
Phosphorus - Total T0109-44(ADEL)			05/02/2020
Phosphorus - Total	0.005	0.240 mg/L	
Silica - Reactive T0111-01(ADEL)		-	23/01/2020
Silica - Reactive	0.05	5.00 mg/L	
TKN as N T0112-01(ADEL)		-	05/02/2020
TKN as Nitrogen	0.05	6.00 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



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31/01/2020

03/02/2020

05/02/2020

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Analytical Results

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

21/01/2020 9:00:00AM **Sampled Date** 22/01/2020 12:37:33PM Sample Received Date 11/02/2020 10:52:41AM Sample Analysis Completed

2020-000-6808 Sample ID Endorsed **Status**

Customer Collected Collection Type

31/01/2020 **Dissolved Organic Carbon T0158-07(ADEL)**

Dissolved Organic Carbon 1 28.1 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 37.3 mg/L

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

Sample temperature at time of receipt 8.7°C

23/01/2020 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 226 mg/L Bicarbonate 275 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

23/01/2020 pH T0010-01(ADEL)

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

24/01/2020 **Turbidity T0018-01(ADEL)**

Turbidity 0.1 17 NTU

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

Sample temperature at time of receipt 8.7°C

Suspended Solids T0160-01(ADEL) Suspended Solids 1.0

55 mg/L

Total Dissolved Solids by Evaporation T015-05(ADEL)

Total Dissolved Solids (by evaporation) 116000 mg/L



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Analytical Results

 Sampling Point
 31515-EPA - Snipe Point

 Sampled Date
 21/01/2020
 9:20:00AM

 Sample Received Date
 22/01/2020
 12:37:41PM

 Sample Analysis Completed
 20/02/2020
 1:36:18PM

 Sample ID
 2020-000-6807

Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8			_
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)		22/01/2020
Chlorophyll a	0.1	75.1 μg/L	
Phaeophytin a	0.1	12.6 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	28 μg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	58300 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			07/02/2020
# Nitrate + Nitrite as N	0.5	3.5 µg/L	
# Nitrate + Nitrite as NO3	2.3	15.5 μg/L	
# Nitrate as Nitrogen		2.36 µg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	1.1 µg/L	
Nitrogen - Total TMZ-M06(ADEL)		73	20/02/2020
Nitrogen - Total		6.01 mg/L	
Phosphorus - Filterable Reactive as P T	MZ-MA2(ADEL)	0.01 mg/L	05/02/2020
# Phosphorus - Filterable Reactive as PO4	1.5	10.764 μg/L	
Phosphorus-Filterable Reactive as P	0.5	3.6 μg/L	
·	0.0	3.0 μg/L	05/02/2020
Phosphorus - Total T0109-44(ADEL) Phosphorus - Total	0.005	0.231 mg/L	00/02/2020
•	0.000	0.231 Hg/L	28/01/2020
Silica - Reactive T0111-01(ADEL) Silica - Reactive	0.05	4.05	20/01/2020
	0.05	4.95 mg/L	05/02/2020
TKN as N T0112-01(ADEL)	0.05	0.04	05/02/2020
TKN as Nitrogen	0.05	6.01 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



31/01/2020

24/01/2020

05/02/2020

24/01/2020

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Analytical Results

Sampling Point 31515-EPA - Snipe Point 21/01/2020 9:20:00AM **Sampled Date** 22/01/2020 12:37:41PM Sample Received Date 20/02/2020 1:36:18PM Sample Analysis Completed 2020-000-6807

Sample ID **Status** Endorsed

Customer Collected Collection Type

31/01/2020 **Dissolved Organic Carbon T0158-07(ADEL)**

Dissolved Organic Carbon 1 27.2 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 35.3 mg/L

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

Sample temperature at time of receipt 8.7°C

campio temperature at time or recorpt on c		
Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(AD	EL)	23/01/2020
Alkalinity as Calcium Carbonate	226 mg/L	

Bicarbonate 275 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

23/01/2020 pH T0010-01(ADEL)

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

Turbidity T0018-01(ADEL) Turbidity 0.1 14 NTU

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

Sample temperature at time of receipt 8.7°C 24/01/2020 Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 50 mg/L

Total Dissolved Solids by Evaporation T015-05(ADEL)

Total Dissolved Solids (by evaporation) 1 117000 mg/L

Volatile Suspended Solids T0160-01(ADEL) Fixed Solids

1 15 mg/L

Volatile Suspended Solids 1 35 mg/L



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Analytical Results

Collection Type

Sampling Point 31516-EPA - Seagull Island 21/01/2020 9:30:00AM **Sampled Date** 22/01/2020 12:37:57PM Sample Received Date 12/02/2020 4:03:08PM Sample Analysis Completed 2020-000-6809 Sample ID Endorsed Status **Customer Collected**

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)		22/01/2020
Chlorophyll a	0.1	75.3 μg/L	
Phaeophytin a	0.1	13.5 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
#Ammonia as N	1	38 µg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	59000 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			07/02/2020
# Nitrate + Nitrite as N	0.5	3.9 µg/L	
# Nitrate + Nitrite as NO3	2.3	17.3 μg/L	
# Nitrate as Nitrogen		2.65 μg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	1.2 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/02/2020
Nitrogen - Total		6.16 mg/L	
Phosphorus - Filterable Reactive as P T	MZ-M42(ADEL)		05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	9.867 µg/L	
Phosphorus-Filterable Reactive as P	0.5	3.3 µg/L	
Phosphorus - Total T0109-44(ADEL)			11/02/2020
Phosphorus - Total	0.005	0.180 mg/L	
Silica - Reactive T0111-01(ADEL)		•	28/01/2020
Silica - Reactive	0.05	4.14 mg/L	
TKN as N T0112-01(ADEL)		2	11/02/2020
TKN as Nitrogen	0.05	6.16 mg/L	
Organic Chemistry	LOR	Result	Took Start Data
Organic Oneillistry	LUK	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



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31/01/2020

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24/01/2020

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Analytical Results

 Sampling Point
 31516-EPA - Seagull Island

 Sampled Date
 21/01/2020 9:30:00AM

 Sample Received Date
 22/01/2020 12:37:57PM

 Sample Analysis Completed
 12/02/2020 4:03:08PM

 Sample ID
 2020-000-6809

Status Endorsed

Collection Type Customer Collected

Dissolved Organic Carbon T0158-07(ADEL) 31/01/2020

Dissolved Organic Carbon 1 26.8 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 36.3 mg/L

Inorganic Chemistry - Physical LOR Result Test Start Date

Sample temperature at time of receipt 8.7°C

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate

23/01/2020

23/01/2020

 Bicarbonate
 264 mg/L

 Carbonate
 0 mg/L

 Hydroxide
 0 mg/L

pH T0010-01(ADEL) 23/01/2020

pH 7.9 pH units
Temperature at which pH is measured 22.9 °C

Turbidity T0018-01(ADEL) 24/01/2020

Turbidity 0.1 16 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 8.7°C
Suspended Solids T0160-01(ADEL)

Suspended Solids T0160-01(ADEL)
Suspended Solids

1.0
30 mg/L

Suspended Solids 1.0 30 mg/L **Total Dissolved Solids by Evaporation T015-05(ADEL)**

Total Dissolved Solids (by evaporation) 1 115000 mg/L

Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 4 1 mg/L

Volatile Suspended Solids 1 30 mg/L



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Analytical Results

Sampling Point 315191-EPA - Morella Creek @ guage

21/01/2020 9:30:00AM **Sampled Date** 22/01/2020 12:36:25PM Sample Received Date 11/02/2020 11:36:58AM Sample Analysis Completed

2020-000-6814 Sample ID Endorsed Status

Customer Collected Collection Type

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8			
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)		22/01/2020
Chlorophyll a	0.1	13.6 µg/L	
Phaeophytin a	0.1	6.80 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	92 µg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	8220 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			11/02/2020
# Nitrate + Nitrite as N	0.5	4.5 μg/L	
# Nitrate + Nitrite as NO3	2.3	19.9 μg/L	
# Nitrate as Nitrogen		1.87 µg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	2.6 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/02/2020
Nitrogen - Total		2.78 mg/L	
Phosphorus - Filterable Reactive as P T	M7-M42(ADEL)	2.70 mg/2	05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	14.053 μg/L	
Phosphorus-Filterable Reactive as P	0.5	4.7 µg/L	
Phosphorus - Total T0109-44(ADEL)		4.7 μg/L	05/02/2020
Phosphorus - Total To To 9-44 (ADEL)	0.005	0.049 mg/L	55/52/2525
•	0.000	0.049 Hig/L	23/01/2020
Silica - Reactive T0111-01(ADEL) Silica - Reactive	0.05	2.56 mg/l	23/01/2020
	0.03	2.56 mg/L	05/02/2020
TKN as N T0112-01(ADEL)	0.05	0.70	05/02/2020
TKN as Nitrogen	0.05	2.78 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



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31/01/2020

23/01/2020

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Analytical Results

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

21/01/2020 9:30:00AM **Sampled Date** 22/01/2020 12:36:25PM Sample Received Date 11/02/2020 11:36:58AM Sample Analysis Completed

2020-000-6814 Sample ID Endorsed **Status**

Customer Collected Collection Type

31/01/2020 **Dissolved Organic Carbon T0158-07(ADEL)**

Dissolved Organic Carbon 1 24.3 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 27.6 mg/L

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

Sample temperature at time of receipt 8.7°C

23/01/2020 Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate 295 mg/L Bicarbonate 229 mg/L Carbonate 65 mg/L Hydroxide 0 mg/L

23/01/2020 Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 2 22500 μS/cm Total Dissolved Solids (by EC) 1 13900 mg/L

pH T0010-01(ADEL)

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

24/01/2020 **Turbidity T0018-01(ADEL)**

Turbidity 0.1 5.2 NTU

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

Sample temperature at time of receipt 8.7°C

1.0

03/02/2020 Suspended Solids T0160-01(ADEL)

2 mg/L



Suspended Solids

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Analytical Results

 Sampling Point
 31526-EPA - Nth Jack Point

 Sampled Date
 21/01/2020 10:15:00AM

 Sample Received Date
 22/01/2020 12:37:49PM

 Sample Analysis Completed
 11/02/2020 10:52:42AM

 Sample ID
 2020-000-6804

Sample ID 2020-000-I Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.7°C		
Chlorophyll a & Phaeophytin a T0380-02	2(ADEL)		22/01/2020
Chlorophyll a	0.1	65.3 µg/L	
Phaeophytin a	0.1	13.2 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt	8.7°C		05/00/0000
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	29 μg/L	20/24/2020
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	52400 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			07/02/2020
# Nitrate + Nitrite as N	0.5	3.9 µg/L	
# Nitrate + Nitrite as NO3	2.3	17.3 μg/L	
# Nitrate as Nitrogen		1.96 µg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	1.9 µg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/02/2020
Nitrogen - Total		6.16 mg/L	
Phosphorus - Filterable Reactive as P T	MZ-M42(ADEL)		05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	9.867 μg/L	
Phosphorus-Filterable Reactive as P	0.5	3.3 µg/L	
Phosphorus - Total T0109-44(ADEL)			05/02/2020
Phosphorus - Total	0.005	0.189 mg/L	
Silica - Reactive T0111-01(ADEL)			23/01/2020
Silica - Reactive	0.05	1.34 mg/L	
TKN as N T0112-01(ADEL)			05/02/2020
TKN as Nitrogen	0.05	6.16 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



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31/01/2020

24/01/2020

24/01/2020

24/01/2020

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Analytical Results

31526-EPA - Nth Jack Point **Sampling Point** 21/01/2020 10:15:00AM **Sampled Date** 22/01/2020 12:37:49PM Sample Received Date 11/02/2020 10:52:42AM Sample Analysis Completed

2020-000-6804 Sample ID **Status** Endorsed

Customer Collected **Collection Type**

Dissolved Organic Carbon T0158-07(ADEL)	31/01/2020
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Dissolved Organic Carbon 1 28.1 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 37.0 mg/L

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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Sample temperature at time of receipt 8.7°C Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

23/01/2020 Alkalinity as Calcium Carbonate 207 mg/L

Bicarbonate 253 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

23/01/2020 pH T0010-01(ADEL)

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

Turbidity T0018-01(ADEL) Turbidity 0.1 27 NTU

LOR

Inorganic Chemistry - Waste Water Result **Test Start Date** Sample temperature at time of receipt 8.7°C

Suspended Solids T0160-01(ADEL) Suspended Solids 1.0

45 mg/L 05/02/2020 Total Dissolved Solids by Evaporation T015-05(ADEL)

Total Dissolved Solids (by evaporation) 1 114000 mg/L

Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 10 mg/L

Volatile Suspended Solids 1 35 mg/L



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Analytical Results

Sampling Point 300711-Tilley Swamp Drain U/S Morella

 Sampled Date
 21/01/2020
 10:15:00AM

 Sample Received Date
 22/01/2020
 12:36:34PM

 Sample Analysis Completed
 11/02/2020
 1:55:44PM

 Sample ID
 2020-000-6815

Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8			
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)		22/01/2020
Chlorophyll a	0.1	2.68 μg/L	
Phaeophytin a	0.1	1.40 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	124 μg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	3310 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			07/02/2020
# Nitrate + Nitrite as N	0.5	9.6 μg/L	
# Nitrate + Nitrite as NO3	2.3	42.5 μg/L	
# Nitrate as Nitrogen		6.86 µg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	2.7 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/02/2020
Nitrogen - Total		1.03 mg/L	
Phosphorus - Filterable Reactive as P T	M7-M42(ΔDFI)		05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	18.837 μg/L	
Phosphorus-Filterable Reactive as P	0.5	6.3 µg/L	
Phosphorus - Total T0109-44(ADEL)		0.0 μg/L	05/02/2020
Phosphorus - Total	0.005	0.018 mg/L	
	0.000	0.010 Hig/L	23/01/2020
Silica - Reactive T0111-01(ADEL) Silica - Reactive	0.05	13.8 mg/L	20.0 1/2020
	0.00	13.0 Mg/L	05/02/2020
TKN as N T0112-01(ADEL)	0.05	4.00	03/02/2020
TKN as Nitrogen	0.05	1.02 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



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24/01/2020

Test Start Date

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Analytical Results

Total Organic Carbon

Inorganic Chemistry - Physical

Sampling Point 300711-Tilley Swamp Drain U/S Morella

 Sampled Date
 21/01/2020
 10:15:00AM

 Sample Received Date
 22/01/2020
 12:36:34PM

 Sample Analysis Completed
 11/02/2020
 1:55:44PM

 Sample ID
 2020-000-6815

Status Endorsed

Collection Type Customer Collected

Dissolved Organic Carbon T0158-07(ADEL) 31/01/2020

Dissolved Organic Carbon 1 7.0 mg/L

1

LOR

Total Organic Carbon T0158-07(ADEL)

7.5 mg/L

Result

Sample temperature at time of receipt 8.7°C

Alkalinity Carbonat	Bicarbonate and Hydroxide	T0101-01(ADEL)		23/01/2020
----------------------------	---------------------------	----------------	--	------------

Alkalinity as Calcium Carbonate 346 mg/L
Bicarbonate 383 mg/L
Carbonate 19 mg/L
Hydroxide 0 mg/L

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 2 10200 μ S/cm Total Dissolved Solids (by EC) 1 5940 μ G/cm

pH T0010-01(ADEL)

pH 8.6 pH units
Temperature at which pH is measured 22.9 °C

Turbidity T0018-01(ADEL) 24/01/2020

Turbidity 0.1 2.5 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 8.7°C

Suspended Solids T0160-01(ADEL) 24/01/2020

Suspended Solids 1.0 8 mg/L

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Analytical Results

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

 Sampled Date
 21/01/2020
 10:30:00AM

 Sample Received Date
 22/01/2020
 12:36:42PM

 Sample Analysis Completed
 11/02/2020
 1:55:52PM

 Sample ID
 *2020-000-6816

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8			
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)		22/01/2020
Chlorophyll a	0.1	3.10 µg/L	
Phaeophytin a	0.1	0.79 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	30 μg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	2830 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			07/02/2020
# Nitrate + Nitrite as N	0.5	8.6 µg/L	
# Nitrate + Nitrite as NO3	2.3	38.1 μg/L	
# Nitrate as Nitrogen		7.78 µg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	0.8 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/02/2020
Nitrogen - Total		1.00 mg/L	
Phosphorus - Filterable Reactive as P T	MZ-M42(ADEL)		05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	16.146 μg/L	
Phosphorus-Filterable Reactive as P	0.5	5.4 μg/L	
Phosphorus - Total T0109-44(ADEL)			05/02/2020
Phosphorus - Total	0.005	0.020 mg/L	
Silica - Reactive T0111-01(ADEL)			23/01/2020
Silica - Reactive	0.05	13.8 mg/L	
TKN as N T0112-01(ADEL)			05/02/2020
TKN as Nitrogen	0.05	0.99 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



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Analytical Results

Status

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

21/01/2020 10:30:00AM **Sampled Date** 22/01/2020 12:36:42PM Sample Received Date 11/02/2020 1:55:52PM Sample Analysis Completed *2020-000-6816 Sample ID Endorsed

Customer Collected Collection Type

31/01/2020 **Dissolved Organic Carbon T0158-07(ADEL)**

Dissolved Organic Carbon 1 6.6 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 7.5 mg/L

lr	organic Chemistry - Physical	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C

e T0101-01(ADEL)	23/01/2020
351 mg/L	
е	,

Bicarbonate 372 mg/L Carbonate 28 mg/L Hydroxide 0 mg/L

24/01/2020 Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 2 9670 µS/cm Total Dissolved Solids (by EC) 1 5620 mg/L

24/01/2020 pH T0010-01(ADEL)

Ηα 8.7 pH units Temperature at which pH is measured 22.9 °C

24/01/2020 **Turbidity T0018-01(ADEL)**

Turbidity 0.1 29 NTU

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

Sample temperature at time of receipt 8.7°C

03/02/2020 Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 25 mg/L



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Analytical Results

 Sampling Point
 31514-EPA - Stoney Well

 Sampled Date
 21/01/2020 10:45:00AM

 Sample Received Date
 22/01/2020 12:38:06PM

 Sample Analysis Completed
 11/02/2020 10:38:43AM

 Sample ID
 2020-000-6811

Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)		22/01/2020
Chlorophyll a	0.1	58.6 μg/L	
Phaeophytin a	0.1	17.9 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	36 µg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	61800 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			07/02/2020
# Nitrate + Nitrite as N	0.5	4.3 μg/L	
# Nitrate + Nitrite as NO3	2.3	19.0 μg/L	
# Nitrate as Nitrogen		1.89 μg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	2.4 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/02/2020
Nitrogen - Total		6.15 mg/L	
Phosphorus - Filterable Reactive as P TI	MZ-M42(ADEL)		05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	18.239 μg/L	
Phosphorus-Filterable Reactive as P	0.5	6.1 μg/L	
Phosphorus - Total T0109-44(ADEL)			05/02/2020
Phosphorus - Total	0.005	0.248 mg/L	
Silica - Reactive T0111-01(ADEL)		Č	28/01/2020
Silica - Reactive	0.05	0.95 mg/L	
TKN as N T0112-01(ADEL)		3	05/02/2020
TKN as Nitrogen	0.05	6.15 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



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31/01/2020

23/01/2020

24/01/2020

05/02/2020

24/01/2020

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Analytical I	Results
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 Sampling Point
 31514-EPA - Stoney Well

 Sampled Date
 21/01/2020 10:45:00AM

 Sample Received Date
 22/01/2020 12:38:06PM

 Sample Analysis Completed
 11/02/2020 10:38:43AM

 Sample ID
 2020-000-6811

 Status
 Endorsed

Collection Type Customer Collected

Dissolved Organic Carbon T0158-07(ADEL) 31/01/2020

Dissolved Organic Carbon 1 27.3 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 35.9 mg/L

Inorganic Chemistry - Physical LOR Result Test Start Date

Sample temperature at time of receipt 8.7°C

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate

211 mg/L

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

Hydroxide 0 mg/L

pH T0010-01(ADEL) 23/01/2020

pH 8.0 pH units Temperature at which pH is measured 22.9 $^{\circ}$ C

Turbidity T0018-01(ADEL)Turbidity 0.1 30 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 8.7°C

Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 46 mg/L

Total Dissolved Solids by Evaporation T015-05(ADEL)

Total Dissolved Solids (by evaporation) 1 114000 mg/L

Volatile Suspended Solids T0160-01(ADEL)
Fixed Solids 1 39 ma/L

Fixed Solids 1 39 mg/L

Volatile Suspended Solids 1 7 mg/L



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Analytical Results

 Sampling Point
 31525-EPA - Villa de Yumpa

 Sampled Date
 21/01/2020 11:15:00AM

 Sample Received Date
 22/01/2020 12:38:14PM

 Sample Analysis Completed
 11/02/2020 11:04:06AM

 Sample ID
 2020-000-6801

Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8			
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)		22/01/2020
Chlorophyll a	0.1	65.8 μg/L	
Phaeophytin a	0.1	15.6 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	60 μg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	55100 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			11/02/2020
# Nitrate + Nitrite as N	0.5	15.5 μg/L	
# Nitrate + Nitrite as NO3	2.3	68.7 μg/L	
# Nitrate as Nitrogen		5.36 μg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	10.1 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/02/2020
Nitrogen - Total		6.38 mg/L	
Phosphorus - Filterable Reactive as P T	MZ-M42(ADEL)		05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	60.996 µg/L	
Phosphorus-Filterable Reactive as P	0.5	20.4 µg/L	
Phosphorus - Total T0109-44(ADEL)		-	05/02/2020
Phosphorus - Total	0.005	0.233 mg/L	
Silica - Reactive T0111-01(ADEL)		-	28/01/2020
Silica - Reactive	0.05	1.27 mg/L	
TKN as N T0112-01(ADEL)		Č	05/02/2020
TKN as Nitrogen	0.05	6.36 mg/L	
Overania Chamiatru	LOD	Decult	Took Office Date
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C





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Analytical Results

Sampling Point 31525-EPA - Villa de Yumpa 21/01/2020 11:15:00AM **Sampled Date** 22/01/2020 12:38:14PM Sample Received Date 11/02/2020 11:04:06AM Sample Analysis Completed

2020-000-6801 Sample ID **Status** Endorsed

Customer Collected Collection Type

Dissolved Organic Carbon T0158-07(ADEL)	31/01/2020
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Dissolved Organic Carbon 1 27.2 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 36.6 mg/L

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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Sample temperature at time of receipt 8.7°C Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

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

Carbonate 0 mg/L Hydroxide 0 mg/L

23/01/2020 pH T0010-01(ADEL)

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

24/01/2020 **Turbidity T0018-01(ADEL)**

Turbidity 0.1 30 NTU

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

Sample temperature at time of receipt 8.7°C 03/02/2020 Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 95 mg/L

05/02/2020 Total Dissolved Solids by Evaporation T015-05(ADEL) Total Dissolved Solids (by evaporation) 1

115000 mg/L

03/02/2020 Volatile Suspended Solids T0160-01(ADEL) Fixed Solids 1 30 mg/L

Volatile Suspended Solids 1 65 mg/L



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Analytical Results

Sampling Point 31513-EPA - Parnka Point Boat Ramp

 Sampled Date
 21/01/2020
 12:30:00PM

 Sample Received Date
 22/01/2020
 12:37:00PM

 Sample Analysis Completed
 11/02/2020
 10:38:44AM

 Sample ID
 2020-000-6810

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8			_
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)		22/01/2020
Chlorophyll a	0.1	45.4 μg/L	
Phaeophytin a	0.1	8.05 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	44 µg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	58700 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			07/02/2020
# Nitrate + Nitrite as N	0.5	30.6 μg/L	
# Nitrate + Nitrite as NO3	2.3	136 µg/L	
# Nitrate as Nitrogen		27.7 μg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	2.9 µg/L	
Nitrogen - Total TMZ-M06(ADEL)		10	11/02/2020
Nitrogen - Total		6.47 mg/L	
Phosphorus - Filterable Reactive as P T	MZ-M42(ADEL)	5.17 mg/L	05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	12.259 μg/L	
Phosphorus-Filterable Reactive as P	0.5	4.1 µg/L	
Phosphorus - Total T0109-44(ADEL)		4.1 pg/L	05/02/2020
Phosphorus - Total To To 9-44 (ADEL)	0.005	0.250 mg/L	55/52/2525
•	0.000	0.230 Hig/L	28/01/2020
Silica - Reactive T0111-01(ADEL) Silica - Reactive	0.05	1.20 mg/l	20/01/2020
	0.03	1.30 mg/L	05/02/2020
TKN as N T0112-01(ADEL)	0.05	0.44	03/02/2020
TKN as Nitrogen	0.05	6.44 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



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03/02/2020

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Analytical Results

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

21/01/2020 12:30:00PM **Sampled Date** 22/01/2020 12:37:00PM **Sample Received Date** 11/02/2020 10:38:44AM Sample Analysis Completed

2020-000-6810 Sample ID **Status** Endorsed

Customer Collected Collection Type

31/01/2020 **Dissolved Organic Carbon T0158-07(ADEL)**

Dissolved Organic Carbon 1 28.3 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 37.2 mg/L

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

Sample temperature at time of receipt 8.7°C

Alkalinity Carbonate	Bicarbonate and Hydroxide	T0101-01(ADEL)	23/01/2020
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Alkalinity as Calcium Carbonate 201 mg/L Bicarbonate 245 mg/L Carbonate 0 mg/L Hydroxide 0 mg/L

23/01/2020 pH T0010-01(ADEL)

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

24/01/2020 **Turbidity T0018-01(ADEL)**

Turbidity 0.1 27 NTU

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

Sample temperature at time of receipt 8.7°C

Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 50 mg/L

Total Dissolved Solids by Evaporation T015-05(ADEL)

05/02/2020 Total Dissolved Solids (by evaporation) 1 119000 mg/L

03/02/2020 Volatile Suspended Solids T0160-01(ADEL)

Fixed Solids 1 5 mg/L

Volatile Suspended Solids 1 45 mg/L



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Analytical Results

 Sampling Point
 31512-EPA - McGrath Flat North

 Sampled Date
 21/01/2020 1:00:00PM

 Sample Received Date
 22/01/2020 12:36:51PM

 Sample Analysis Completed
 11/02/2020 11:18:42AM

 Sample ID
 2020-000-6812

Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	8.7°C		
Chlorophyll a & Phaeophytin a T0380-02	2(ADEL)		22/01/2020
Chlorophyll a	0.1	41.9 μg/L	
Phaeophytin a	0.1	7.47 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	8.7°C		05/00/0000
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	56 μg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	62500 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			11/02/2020
# Nitrate + Nitrite as N	0.5	8.9 µg/L	
# Nitrate + Nitrite as NO3	2.3	39.4 μg/L	
# Nitrate as Nitrogen		5.18 μg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	3.7 μg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/02/2020
Nitrogen - Total		6.52 mg/L	
Phosphorus - Filterable Reactive as P T	MZ-M42(ADEL)		05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	27.209 μg/L	
Phosphorus-Filterable Reactive as P	0.5	9.1 μg/L	
Phosphorus - Total T0109-44(ADEL)			05/02/2020
Phosphorus - Total	0.005	0.258 mg/L	
Silica - Reactive T0111-01(ADEL)			28/01/2020
Silica - Reactive	0.05	1.46 mg/L	
TKN as N T0112-01(ADEL)		-	05/02/2020
TKN as Nitrogen	0.05	6.51 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



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31/01/2020

24/01/2020

05/02/2020

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Analytical Results

 Sampling Point
 31512-EPA - McGrath Flat North

 Sampled Date
 21/01/2020 1:00:00PM

 Sample Received Date
 22/01/2020 12:36:51PM

 Sample Analysis Completed
 11/02/2020 11:18:42AM

 Sample ID
 2020-000-6812

Status Endorsed

Collection Type Customer Collected

Dissolved Organic Carbon T0158-07(ADEL) 31/01/2020

Dissolved Organic Carbon 1 28.8 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 1 38.1 mg/L

Inorganic Chemistry - Physical LOR Result Test Start Date

Sample temperature at time of receipt 8.7°C

Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

Alkalinity as Calcium Carbonate

23/01/2020

23/01/2020

Bicarbonate 257 mg/L Carbonate 0 mg/L Hydroxide 257 mg/L

pH T0010-01(ADEL) 23/01/2020

pH 7.8 pH units
Temperature at which pH is measured 22.9 °C

Turbidity T0018-01(ADEL) 24/01/2020

Turbidity 0.1 29 NTU

Inorganic Chemistry - Waste Water LOR Result Test Start Date

Sample temperature at time of receipt 8.7°C

Suspended Solids T0160-01(ADEL)

Suspended Solids 1.0 75 mg/L

Total Dissolved Solids by Evaporation T015-05(ADEL)

Total Dissolved Solids (by evaporation) 1 125000 mg/L



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Analytical Results

 Sampling Point
 31523-EPA - Long Point

 Sampled Date
 21/01/2020
 2:35:00PM

 Sample Received Date
 22/01/2020
 12:37:09PM

 Sample Analysis Completed
 11/02/2020
 10:38:47AM

 Sample ID
 2020-000-6803

Sample ID 2020-000-6 Status Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8			
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)		22/01/2020
Chlorophyll a	0.1	6.46 µg/L	
Phaeophytin a	0.1	1.50 µg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	16 μg/L	
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	18200 mg/L	
Nitrate + Nitrite as N TMZ-M44(ADEL)			07/02/2020
# Nitrate + Nitrite as N	0.5	35.0 μg/L	
# Nitrate + Nitrite as NO3	2.3	155 μg/L	
# Nitrate as Nitrogen		22.1 µg/L	
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	12.9 µg/L	
Nitrogen - Total TMZ-M06(ADEL)			11/02/2020
Nitrogen - Total		1.91 mg/L	
Phosphorus - Filterable Reactive as P T	MZ-M42(ADEL)	1.51 mg/L	05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	7.475 µg/L	
Phosphorus-Filterable Reactive as P	0.5	2.5 µg/L	
Phosphorus - Total T0109-44(ADEL)		2.0 μg/L	05/02/2020
Phosphorus - Total To To 9-44 (ADEL)	0.005	0.071 mg/L	55/52/2525
•	0.000	0.071 Hig/L	23/01/2020
Silica - Reactive T0111-01(ADEL) Silica - Reactive	0.05	1.00 mg//	23/01/2020
	0.03	1.90 mg/L	05/02/2020
TKN as N T0112-01(ADEL)	0.05	4.07	05/02/2020
TKN as Nitrogen	0.05	1.87 mg/L	
Organic Chemistry	LOR	Result	Test Start Date

Sample temperature at time of receipt 8.7°C



31/01/2020

23/01/2020

23/01/2020

23/01/2020

24/01/2020

03/02/2020

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Analyt	ical	Resul	ts
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Sampling Point 31523-EPA - Long Point 21/01/2020 2:35:00PM **Sampled Date** 22/01/2020 12:37:09PM **Sample Received Date** 11/02/2020 10:38:47AM Sample Analysis Completed

2020-000-6803 Sample ID Endorsed **Status**

Customer Collected Collection Type

Dissolved Organic Carbon T0158-07(ADEL)	31/01/2020
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Dissolved Organic Carbon 1 12.6 mg/L

Total Organic Carbon T0158-07(ADEL)

Total Organic Carbon 13.9 mg/L

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
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0 mg/L

Sample temperature at time of receipt 8.7°C Alkalinity Carbonate Bicarbonate and Hydroxide T0101-01(ADEL)

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

Conductivity & Total Dissolved Solids T0016-01(ADEL)

Conductivity 2 51800 μS/cm Total Dissolved Solids (by EC) 1 36600 mg/L

pH T0010-01(ADEL)

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

Turbidity T0018-01(ADEL)

Turbidity 0.1 4.3 NTU

Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
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Sample temperature at time of receipt 8.7°C 03/02/2020 Suspended Solids T0160-01(ADEL) Suspended Solids 1.0 <1 mg/L

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

Volatile Suspended Solids 1 <1 mg/L



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Analytical Results

 Sampling Point
 353180-EPA - Tauwitchere

 Sampled Date
 21/01/2020 3:30:00PM

 Sample Received Date
 22/01/2020 12:37:17PM

 Sample Analysis Completed
 6/02/2020 4:44:16PM

 Sample ID
 2020-000-6802

 Status
 Endorsed

Collection Type Customer Collected

Biology Operations	LOR	Result	Test Start Date
Sample temperature at time of receipt 8			
Chlorophyll a & Phaeophytin a T0380-02	(ADEL)		22/01/2020
Chlorophyll a	0.1	6.98 µg/L	
Phaeophytin a	0.1	2.17 μg/L	
Inorganic Chemistry - Nutrients	LOR	Result	Test Start Date
Sample temperature at time of receipt 8	3.7°C		05/00/0000
Ammonia as N TMZ-M45(ADEL)			05/02/2020
# Ammonia as N	1	6 μg/L	00/04/0000
Chloride T0104-02(ADEL)			23/01/2020
Chloride	4.0	13800 mg/L	00/00/0000
Nitrate + Nitrite as N T0161-01(ADEL)	0.000		03/02/2020
Nitrate + Nitrite as N	0.003	0.462 mg/L	0.5/0.0/0.00
Nitrite as N TMZ-M43(ADEL)			05/02/2020
# Nitrite as N	0.5	3.9 µg/L	
Nitrogen - Total TMZ-M06(ADEL)			22/01/2020
Nitrogen - Total		1.67 mg/L	
Phosphorus - Filterable Reactive as P TI	• •		05/02/2020
# Phosphorus -Filterable Reactive as PO4	1.5	21.528 μg/L	
Phosphorus-Filterable Reactive as P	0.5	7.2 µg/L	
Phosphorus - Total T0109-44(ADEL)			05/02/2020
Phosphorus - Total	0.005	0.122 mg/L	
Silica - Reactive T0111-01(ADEL)			23/01/2020
Silica - Reactive	0.05	0.64 mg/L	
TKN as N T0112-01(ADEL)			05/02/2020
TKN as Nitrogen	0.05	1.21 mg/L	
Organic Chemistry	LOR	Result	Test Start Date
Sample temperature at time of receipt 8 Dissolved Organic Carbon T0158-07(AD			31/01/2020

6.3 mg/L

NATA

WORLD RECOGNISED ACCREDITATION

Dissolved Organic Carbon

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Analytical Results

 Sampling Point
 353180-EPA - Tauwitchere

 Sampled Date
 21/01/2020 3:30:00PM

 Sample Received Date
 22/01/2020 12:37:17PM

 Sample Analysis Completed
 6/02/2020 4:44:16PM

 Sample ID
 2020-000-6802

 Status
 Endorsed

Collection Type Customer Collected

Total Organic Carbon T0158-07(ADEL)

31/01/2020

Total Organic Carbon 1 8.5 mg/L

Inorganic Chemistry - Physical	LOR	Result	Test Start Date
Sample temperature at time of receipt 8.	.7°C		
Alkalinity Carbonate Bicarbonate and Hy	ydroxide T0101-0	1(ADEL)	23/01/2020
Alkalinity as Calcium Carbonate		139 mg/L	
Bicarbonate		157 mg/L	
Carbonate		6 mg/L	
Hydroxide		0 mg/L	
Conductivity & Total Dissolved Solids T0	016-01(ADEL)		23/01/2020
Conductivity	2	39100 μS/cm	
Total Dissolved Solids (by EC)	1	26200 mg/L	
pH T0010-01(ADEL)			23/01/2020
pH		8.4 pH units	
Temperature at which pH is measured		22.9 °C	
Turbidity T0018-01(ADEL)			24/01/2020
Turbidity	0.1	8.8 NTU	
Inorganic Chemistry - Waste Water	LOR	Result	Test Start Date
Sample temperature at time of receipt 8. Suspended Solids T0160-01(ADEL)	.7°C		03/02/2020

6 mg/L

1.0



Suspended Solids

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AWQC Signatories

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Ivana Cech - Technical Officer Chemistry

David Evans - Technical Officer Chemistry

Kerrie Jooste - Supervisor Nutrients and Waste

Aji John - Technical Officer Chemistry

Dean Newman - Algal Specialist

Gayle Polley - Snr Technical Officer

Kamilla Springer - Senior Technical Officer

Lyudmila Tsymbal - Technical Officer Life Science



Inorganic Chemistry -

Inorganic Chemistry -

Waste Water

Nutrients

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collect bottle

collect bottle

collect bottle

Customer chose not to

Customer chose not to

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2020-000-6813-0 31519

2020-000-6813-0 31519

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Regulator

Regulator

Regulator

EPA - Morella Basin at Outlet

EPA - Morella Basin at Outlet

Incidents					
Sample ID	S.Point	Description	Sampled Date	Analysis (where Applicable)	Incident Description
2020-000-6816	300713	Tilley Swamp Drain D/S Northern Outlet	21/01/2020	Turbidity	Test result has been checked and the result verified
Samples Not Co	llected				
Sample ID	S.Point	Description	Sampled Date	Non Collect Reason	
2020-000-6813	31519	EPA - Morella Basin at Outlet Regulator	21/01/2020	Water level too low to	take sample
2020-000-6817	300712	Tilley Swamp Watercourse Outlet Channel	21/01/2020	Customer chose not to	o collect sample
Bottles Not Coll	ected				
Sample ID	S.Point	Description	Sampled Date	Laboratory	Non Collect Reason
2020-000-6813-0	31519	EPA - Morella Basin at Outlet Regulator	21/01/2020	Inorganic Chemistry - Nutrients	Customer chose not to collect bottle
2020-000-6813-0	31519	EPA - Morella Basin at Outlet Regulator	21/01/2020	Biology Operations	Customer chose not to collect bottle
2020-000-6813-0	31519	EPA - Morella Basin at Outlet Regulator	21/01/2020	Inorganic Chemistry - Physical	Customer chose not to collect bottle
2020-000-6813-0	31519	EPA - Morella Basin at Outlet Regulator	21/01/2020	Inorganic Chemistry - Nutrients	Customer chose not to collect bottle
2020-000-6813-0	31519	EPA - Morella Basin at Outlet	21/01/2020	Organic Chemistry	Customer chose not to

21/01/2020

21/01/2020



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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
T0101-01	Alkalinity - Automated Acidimetric Titration	AP2320B
T0104-02	Chloride - Discrete Analyser	AP4500CLE
T0109-44	Phosphorous -total Kjeldahl for seawater by automated flow colorimetry	AP4500PF
T0111-01	Silica by automated fow colorimetry	AP4500SI02
T0112-01	Nitrogen- Total Kjeldahl by discrete analyser	AP4500NORGA
T015-05	Total Dissolved Solids by Evaporation	AP2540C
T0158-07	Total and Dissolved Organic Carbon (Ol 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
TMZ-M06	Derived Results and Data Checks	AP4500NORGA
TMZ-M42	Filterable Reactive Phosphorus - Trace Seawater	
TMZ-M43	Nitrite - Trace Seawater	
TMZ-M44	Nitrate + Nitrite (NOx) - Trace Seawater	
TMZ-M45	Ammonia - Trace Seawater	

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 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 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.