



**TOWNSVILLE LABORATORY SERVICES
TOWNSVILLE CITY COUNCIL**

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CERTIFICATE OF ANALYSIS

Client: TCC Water Operations
Attention: Rob McCaig
Contact Number: 47278000

Job Reference: 21-0714
Job Description: House Run 4A 15/02/2021
Sample Condition: Samples intact and within holding time requirement

Registration Date: 15/02/21
Registration Time: 14:05
Report Date: 22/02/21
Purchase Order Number:

Accreditation Number 14698 - Accredited for compliance to ISO17025 - Testing
NATA is a signatory to the ILAC mutual recognition arrangement for the equivalence of testing and inspection reports.
Test names followed by an asterisk (*) are not yet part of the laboratory's scope of NATA accreditation. Results refer only to samples as received.
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Job Reference: 21-0714

Sample Number	Sample Description	Sample Date	Sample Time
1	R04 Bottom City Res	15/02/2021	10:30
2	R05 Top City	15/02/2021	11:11
3	R06 Yarrowonga Res	15/02/2021	11:30
4	H41 301 Bayswater Road	15/02/2021	11:47
5	H82 Bayswater Road,9-13 (Park Haven)	15/02/2021	9:27
6	H01 The Esplanade,2 (Pallaranda Park)	15/02/2021	12:38
7	H14 Yarrowonga Park	15/02/2021	11:56
8	H39, Riverside Adventist Christian Centre	15/02/2021	8:57
9	H40 Bayswater Road,606-616 (Crestbrook Park)	15/02/2021	13:15
10	H52 Sturt Street, 81-99 (PerfumeD Gardens)	15/02/2021	10:50

Job Reference: 21-0714

Procedure: Insitu Testing				Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H41 301 Bayswater Road
Analyte	Method	LOR	Units	ADWG Limits				
pH	APHA 4500 H+ B	1	pH units		7.58	7.40	7.41	7.44
Electrical Conductivity	APHA 2510 C	1	µS/cm		197	187	207	153
Turbidity	APHA 2130 B	0.1	NTU		0.4	0.2	0.4	0.4
Temperature	APHA 2550 B	0	°C		29.2	30.4	30.6	31.7
Chlorine, Free	APHA 4500CIG	0.05	mg/L		0.39	1.23	1.04	1.58
Chlorine, Total	APHA 4500CIG	0.05	mg/L		0.63	1.52	1.49	1.99

Procedure: Insitu Testing				Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)	6 H01 The Esplanade,2 (Pallaranda Park)	7 H14 Yarrowonga Park	8 H39, Riverside Adventist Christian Centre
Analyte	Method	LOR	Units	ADWG Limits				
pH	APHA 4500 H+ B	1	pH units		7.50	7.49	7.40	7.34
Electrical Conductivity	APHA 2510 C	1	µS/cm		151	189	198	168
Turbidity	APHA 2130 B	0.1	NTU		0.4	0.3	0.4	0.2
Temperature	APHA 2550 B	0	°C		29.5	32.8	32.1	28.2
Chlorine, Free	APHA 4500CIG	0.05	mg/L		1.42	0.41	1.06	1.56



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Procedure: Insitu Testing				Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)	6 H01 The Esplanade,2 (Pallaranda Park)	7 H14 Yarrowonga Park	8 H39, Riverside Adventist Christian Centre
Analyte	Method	LOR	Units	ADWG Limits				
Chlorine, Total	APHA 4500CIG	0.05	mg/L		0.17	0.74	1.39	1.90

Procedure: Insitu Testing				Sample Number: Sample Description:	9 H40 Bayswater Road,606-616 (Crestbrook Park)	10 H52 Sturt Street, 81-99 (Perfumed Gardens)
Analyte	Method	LOR	Units	ADWG Limits		
pH	APHA 4500 H+ B	1	pH units		7.40	7.47
Electrical Conductivity	APHA 2510 C	1	µS/cm		177	189
Turbidity	APHA 2130 B	0.1	NTU		0.2	0.4
Temperature	APHA 2550 B	0	°C		31.3	31.1
Chlorine, Free	APHA 4500CIG	0.05	mg/L		1.19	1.18
Chlorine, Total	APHA 4500CIG	0.05	mg/L		1.50	1.50



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Procedure: General Tests				Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H41 301 Bayswater Road
Analyte	Method	LOR	Units	ADWG Limits				
Alkalinity	APHA 2320 B	5	mgCaCO3/L		52.00	49.40	50.90	40.70
Colour, Apparent	APHA 2120 C	1	Pt-Co Units		13	6	11	5
Colour, True	APHA 2120 C	1	Pt-Co Units	Aes. - 15	<1	<1	<1	<1

Procedure: General Tests				Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)
Analyte	Method	LOR	Units	ADWG Limits	
Alkalinity	APHA 2320 B	5	mgCaCO3/L		42.80
Colour, Apparent	APHA 2120 C	1	Pt-Co Units		2
Colour, True	APHA 2120 C	1	Pt-Co Units	Aes. - 15	<1

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Procedure: Anions by Ion Chromatography					Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H41 301 Bayswater Road
Analyte	Method	LOR	Units	ADWG Limits					
Fluoride	APHA 4110 B	0.02	mg/L	Health - 1.5	0.65	0.63	0.65	0.66	

Procedure: Anions by Ion Chromatography					Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)
Analyte	Method	LOR	Units	ADWG Limits		
Fluoride	APHA 4110 B	0.02	mg/L	Health - 1.5	0.65	

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Procedure: Metals, Total Analysis				Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H41 301 Bayswater Road
Analyte	Method	LOR	Units	ADWG Limits				
Aluminium	APHA 3125	0.01	mg/L	Aes. - 0.2	0.032	0.027	0.030	0.019
Calcium	APHA 3125	0.7	mg/L		12.8	12.0	12.0	10.1
Copper	APHA 3125	0.002	mg/L	Health - 2, Aes. - 1	0.003	0.005	<0.002	0.017
Iron	APHA 3125	0.002	mg/L	Aes. - 0.3	0.005	0.002	0.004	0.007
Lead	APHA 3125	0.0006	mg/L	Health - 0.01	0.001	<0.0006	<0.0006	0.001
Magnesium	APHA 3125	0.5	mg/L		3.1	2.9	2.9	0.9
Manganese	APHA 3125	0.0003	mg/L	Health - 0.5, Aes. - 0.1	0.06	0.02	0.05	0.01
Zinc	APHA 3125	0.001	mg/L	Aes. - 3	0.009	0.002	<0.001	0.014

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Procedure: Metals, Total Analysis				Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)
Analyte	Method	LOR	Units	ADWG Limits	
Aluminium	APHA 3125	0.01	mg/L	Aes. - 0.2	0.019
Calcium	APHA 3125	0.7	mg/L		11.0
Copper	APHA 3125	0.002	mg/L	Health - 2, Aes. - 1	0.008
Iron	APHA 3125	0.002	mg/L	Aes. - 0.3	0.007
Lead	APHA 3125	0.0006	mg/L	Health - 0.01	0.0007
Magnesium	APHA 3125	0.5	mg/L		1.2
Manganese	APHA 3125	0.0003	mg/L	Health - 0.5, Aes. - 0.1	0.02
Zinc	APHA 3125	0.001	mg/L	Aes. - 3	0.006

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Procedure: Metals, Soluble Analysis					Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H41 301 Bayswater Road
Analyte	Method	LOR	Units	ADWG Limits					
Iron, soluble	APHA 3125	0.002	mg/L			0.003	<0.002	<0.002	0.002
Manganese, soluble	APHA 3125	0.0003	mg/L			0.001	0.0009	0.0007	0.0007

Procedure: Metals, Soluble Analysis					Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)
Analyte	Method	LOR	Units	ADWG Limits		
Iron, soluble	APHA 3125	0.002	mg/L			<0.002
Manganese, soluble	APHA 3125	0.0003	mg/L			0.0008

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Procedure: Trihalomethanes, Total				Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H41 301 Bayswater Road
Analyte	Method	LOR	Units	ADWG Limits				
Trihalomethanes, Total	APHA 6200C	5	µg/L		90	54	94	7

Procedure: Trihalomethanes, Total				Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)
Analyte	Method	LOR	Units	ADWG Limits	
Trihalomethanes, Total	APHA 6200C	5	µg/L		36

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Procedure: Microbiology (Potable)				Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H41 301 Bayswater Road
Analyte	Method	LOR	Units	ADWG Limits				
Total Coliform	AS/NZS 4276.23	1	MPN (100ml)		<1	<1	<1	<1
E. coli MPN	AS/NZS 4276.23	1	MPN (100ml)	Health - <1	<1	<1	<1	<1
Heterotrophic Plate Count, 36C	AS/NZS 4276.3	1	cfu/ml		<1	1	<1	<1

Procedure: Microbiology (Potable)				Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)	6 H01 The Esplanade,2 (Pallaranda Park)	7 H14 Yarrowonga Park	8 H39, Riverside Adventist Christian Centre
Analyte	Method	LOR	Units	ADWG Limits				
Total Coliform	AS/NZS 4276.23	1	MPN (100ml)		<1	<1	<1	<1
E. coli MPN	AS/NZS 4276.23	1	MPN (100ml)	Health - <1	<1	<1	<1	<1
Heterotrophic Plate Count, 36C	AS/NZS 4276.3	1	cfu/ml		1	<1	<1	1

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Procedure: Microbiology (Potable)				Sample Number: Sample Description:	9 H40 Bayswater Road,606-616 (Crestbrook Park)	10 H52 Sturt Street, 81-99 (Perfumed Gardens)
Analyte	Method	LOR	Units	ADWG Limits		
Total Coliform	AS/NZS 4276.23	1	MPN(100ml)		<1	<1
E. coli MPN	AS/NZS 4276.23	1	MPN(100ml)	Health - <1	<1	<1
Heterotrophic Plate Count, 36C	AS/NZS 4276.3	1	cfu/ml		<1	1

Procedure: Algae ID and Count*				Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H41 301 Bayswater Road
Analyte	Method	LOR	Units	ADWG Limits				
Blue Green Algae	TM_AID	20	cells/mL		<20	<20	<20	<20
Cylindrospermopsis (Cyanophyta)	TM_AID	20	cells/mL		<20	<20	<20	<20
Pseudoanabaena (Cyanophyta)	TM_AID	20	cells/mL		<20	<20	<20	<20
Anabaenopsis (Cyanophyta)	TM_AID	20	cells/mL		<20	<20	<20	<20
Dolichospermum sp. (Cyanophyta)*	TM_AID	20	cells/mL		<20	<20	<20	<20
Microcystis (Cyanophyta)	TM_AID	20	cells/mL		<20	<20	<20	<20
Algal ID Comments*					N/A	N/A	N/A	N/A
Blue-Green Algal Biovolume		0.01	mm3/L		<0.01	<0.01	<0.01	<0.01

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Procedure: Algae ID and Count*				Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)
Analyte	Method	LOR	Units	ADWG Limits	
Blue Green Algae	TM_AID	20	cells/mL		<20
<i>Cylindrospermopsis</i> (Cyanophyta)	TM_AID	20	cells/mL		<20
<i>Pseudoanabaena</i> (Cyanophyta)	TM_AID	20	cells/mL		<20
<i>Anabaenopsis</i> (Cyanophyta)	TM_AID	20	cells/mL		<20
<i>Dolichospermum sp.</i> (Cyanophyta)*	TM_AID	20	cells/mL		<20
<i>Microcystis</i> (Cyanophyta)	TM_AID	20	cells/mL		<20
Algal ID Comments*					Staurastrum ~5
Blue-Green Algal Biovolume		0.01	mm3/L		<0.01

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Procedure: Analysed Date				Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H41 301 Bayswater Road
Analyte	Method	LOR	Units	ADWG Limits				
Date Analysed, Microbiology					15/02/21	15/02/21	15/02/21	15/02/21
Date Analysed, Alkalinity					15/02/21	15/02/21	15/02/21	15/02/21
Date Analysed, Colour					15/02/21	15/02/21	15/02/21	15/02/21
Date Analysed, Anions					16/02/2021	16/02/2021	16/02/2021	16/02/2021
Date Analysed, Metals					16/02/2021	16/02/2021	16/02/2021	16/02/2021
Date Analysed, Trihalomethanes					16/02/2021	16/02/2021	16/02/2021	16/02/2021

Procedure: Analysed Date				Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)	6 H01 The Esplanade,2 (Pallaranda Park)	7 H14 Yarrowonga Park	8 H39, Riverside Adventist Christian Centre
Analyte	Method	LOR	Units	ADWG Limits				
Date Analysed, Microbiology					15/02/21	15/02/21	15/02/21	15/02/21
Date Analysed, Alkalinity					15/02/21	[NA]	[NA]	[NA]
Date Analysed, Colour					15/02/21	[NA]	[NA]	[NA]
Date Analysed, Anions					16/02/2021	[NA]	[NA]	[NA]
Date Analysed, Metals					16/02/2021	[NA]	[NA]	[NA]

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Procedure: Analysed Date				Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)	6 H01 The Esplanade,2 (Pallaranda Park)	7 H14 Yarrowonga Park	8 H39, Riverside Adventist Christian Centre
Analyte	Method	LOR	Units	ADWG Limits				
Date Analysed, Trihalomethanes					16/02/2021	[NA]	[NA]	[NA]

Procedure: Analysed Date				Sample Number: Sample Description:	9 H40 Bayswater Road,606-616 (Crestbrook Park)	10 H52 Sturt Street, 81-99 (PerfumeD Gardens)
Analyte	Method	LOR	Units	ADWG Limits		
Date Analysed, Microbiology					15/02/21	15/02/21