



**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: 21-1145
Job Description: House Run 3A 09/03/2021
Sample Condition: Samples intact and within holding time requirement

Registration Date: 9/03/21
Registration Time: 13:32
Report Date: 25/03/21
Purchase Order Number:

Alicia Wood
Authorised test signatory

Cherian Karimpanal
Authorised Test Signatory

Edgar Salvador
Authorised test signatory

Heather Welladsen
Authorised test signatory

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: 21-1145

Sample Number	Sample Description	Sample Date	Sample Time
1	R04 Bottom City Res	9/03/2021	10:47
2	R05 Top City	9/03/2021	10:56
3	R06 Yarrawonga Res	9/03/2021	11:21
4	H57 Cranbrook State School	9/03/2021	08:51
5	H82 Bayswater Road,9-13 (Park Haven)	9/03/2021	09:54
6	H01 The Esplanade,2 (Pallaranda Park)	9/03/2021	12:15
7	H14 Yarrawonga Park	9/03/2021	11:37
8	H28 Hillside Crescent,21	9/03/2021	11:11
9	H30 Enterprise Street, 16-22 (Vinidex)	9/03/2021	12:50
10	H31, 36A Eleventh Avenue	9/03/2021	10:32
11	H58, 350 - 354 Ingham Road	9/03/2021	12:32

Job Reference: 21-1145

Procedure: Insitu Testing				Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H57 Cranbrook State School
Analyte	Method	LOR	Units	ADWG Limits				
pH	APHA 4500 H+ B	1	pH units		7.68	7.53	7.67	7.41
Electrical Conductivity	APHA 2510 C	1	µS/cm		176	159	167	161
Turbidity	APHA 2130 B	0.1	NTU		0.3	0.2	0.2	0.2
Temperature	APHA 2550 B	0	°C		28.4	29.6	29.7	27.5
Chlorine, Free	APHA 4500CIG	0.05	mg/L		1.33	1.33	2.39	1.46
Chlorine, Total	APHA 4500CIG	0.05	mg/L		1.47	1.49	2.55	1.73

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 H28 Hillside Crescent,21
Analyte	Method	LOR	Units	ADWG Limits				
pH	APHA 4500 H+ B	1	pH units		7.54	7.67	7.60	7.51
Electrical Conductivity	APHA 2510 C	1	µS/cm		125	159	170	162
Turbidity	APHA 2130 B	0.1	NTU		0.3	0.7	0.2	0.3
Temperature	APHA 2550 B	0	°C		29.0	31.6	31.0	30.6
Chlorine, Free	APHA 4500CIG	0.05	mg/L		0.97	<0.05	2.09	1.11
Chlorine, Total	APHA 4500CIG	0.05	mg/L		1.08	0.23	2.29	1.26



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Procedure: Insitu Testing				Sample Number: Sample Description:	9 H30 Enterprise Street, 16-22 (Vinidex)	10 H31, 36A Eleventh Avenue	11 H58, 350 - 354 Ingham Road
Analyte	Method	LOR	Units	ADWG Limits			
pH	APHA 4500 H+ B	1	pH units		7.56	7.52	7.56
Electrical Conductivity	APHA 2510 C	1	µS/cm		123	149	117
Turbidity	APHA 2130 B	0.1	NTU		0.3	0.2	0.3
Temperature	APHA 2550 B	0	°C		29.4	30.2	31.5
Chlorine, Free	APHA 4500CIG	0.05	mg/L		0.94	1.18	1.35
Chlorine, Total	APHA 4500CIG	0.05	mg/L		1.01	1.35	1.58

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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 H57 Cranbrook State School
Analyte	Method	LOR	Units	ADWG Limits				
Alkalinity	APHA 2320 B	5	mgCaCO3/L		50.20	48.20	49.70	50.30
Colour, Apparent	APHA 2120 C	1	Pt-CoUnits		8	2	4	2

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		43.90
Colour, Apparent	APHA 2120 C	1	Pt-CoUnits		2

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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 H57 Cranbrook State School
Analyte	Method	LOR	Units	ADWG Limits				
Fluoride	APHA 4110 B	0.02	mg/L	Health - 1.5	0.68	0.68	0.68	0.68

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	0.68

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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 H57 Cranbrook State School
Analyte	Method	LOR	Units	ADWG Limits				
Aluminium	APHA 3125	0.01	mg/L	Aes. - 0.2	0.029	0.024	0.024	0.025
Calcium	APHA 3125	0.7	mg/L		13.2	12.7	12.6	12.1
Copper	APHA 3125	0.002	mg/L	Health - 2, Aes. - 1	<0.002	0.009	<0.002	<0.002
Iron	APHA 3125	0.002	mg/L	Aes. - 0.3	0.002	<0.002	0.004	0.006
Lead	APHA 3125	0.0006	mg/L	Health - 0.01	<0.0006	<0.0006	<0.0006	0.001
Magnesium	APHA 3125	0.5	mg/L		3.0	3.0	2.7	2.7
Manganese	APHA 3125	0.0003	mg/L	Health - 0.5, Aes. - 0.1	0.02	0.009	0.009	0.005
Zinc	APHA 3125	0.001	mg/L	Aes. - 3	0.003	0.003	0.001	0.012

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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	0.017
Calcium	APHA 3125	0.7	mg/L		12.3
Copper	APHA 3125	0.002	mg/L	Health - 2, Aes. - 1	0.006
Iron	APHA 3125	0.002	mg/L	Aes. - 0.3	0.006
Lead	APHA 3125	0.0006	mg/L	Health - 0.01	0.0006
Magnesium	APHA 3125	0.5	mg/L		1.2
Manganese	APHA 3125	0.0003	mg/L	Health - 0.5, Aes. - 0.1	0.009
Zinc	APHA 3125	0.001	mg/L	Aes. - 3	0.008

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Procedure: Organic Carbon Analysis				Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H57 Cranbrook State School
Analyte	Method	LOR	Units	ADWG Limits				
Non Purgeable Organic Carbon	APHA 5310 B	0.5	mg/L		2.8	2.8	2.7	2.8

Procedure: Organic Carbon Analysis				Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)
Analyte	Method	LOR	Units	ADWG Limits	
Non Purgeable Organic Carbon	APHA 5310 B	0.5	mg/L		1.4

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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 H57 Cranbrook State School
Analyte	Method	LOR	Units	ADWG Limits				
Trihalomethanes, Total	APHA 6200C	5	µg/L		77	26	34	48

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		55

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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 H57 Cranbrook State School
Analyte	Method	LOR	Units	ADWG Limits				
<i>Total Coliform</i>	AS/NZS 4276.23	1	MPN (100ml)		<1	<1	<1	<1
<i>E. coli</i> 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 H28 Hillside Crescent,21
Analyte	Method	LOR	Units	ADWG Limits				
<i>Total Coliform</i>	AS/NZS 4276.23	1	MPN (100ml)		<1	<1	<1	<1
<i>E. coli</i> 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	4	<1	<1

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Procedure: Microbiology (Potable)				Sample Number: Sample Description:	9 H30 Enterprise Street, 16-22 (Vinidex)	10 H31, 36A Eleventh Avenue	11 H58, 350 - 354 Ingham Road
Analyte	Method	LOR	Units	ADWG Limits			
Total Coliform	AS/NZS 4276.23	1	MPN (100ml)		<1	<1	<1
E. coli MPN	AS/NZS 4276.23	1	MPN (100ml)	Health - <1	<1	<1	<1
Heterotrophic Plate Count, 36C	AS/NZS 4276.3	1	cfu/ml		<1	<1	<1

Procedure: Odour Compounds Suite				Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res
Analyte	Method	LOR	Units	ADWG Limits			
Methyl Isoborneol*	TM_MIBGEO	2	ng/L		10	2	10
Geosmin*	TM_MIBGEO	2	ng/L		8	8	8

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Procedure: Oxyhalides Suite				Sample Number: Sample Description:	1 R04 Bottom City Res	2 R05 Top City	3 R06 Yarrowonga Res	4 H57 Cranbrook State School
Analyte	Method	LOR	Units	ADWG Limits				
Chlorate		50	µg/L		652	425	530	372

Procedure: Oxyhalides Suite				Sample Number: Sample Description:	5 H82 Bayswater Road,9-13 (Park Haven)
Analyte	Method	LOR	Units	ADWG Limits	
Chlorate		50	µg/L		174

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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 H57 Cranbrook State School
Analyte	Method	LOR	Units	ADWG Limits				
Date Analysed, Microbiology					9/03/2021	9/03/2021	9/03/2021	9/03/2021
Date Analysed, Alkalinity					9/03/2021	9/03/2021	9/03/2021	9/03/2021
Date Analysed, Colour					9/03/2021	9/03/2021	9/03/2021	9/03/2021
Date Analysed, Anions					11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date Analysed, Metals					11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date Analysed, MIB and Geosmin					15/03/2021	15/03/2021	15/03/2021	[NA]
Date Analysed, Trihalomethanes					11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date Analysed, NPOC + DOC					10/03/2021	10/03/2021	10/03/2021	10/03/2021

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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 H28 Hillside Crescent,21
Analyte	Method	LOR	Units	ADWG Limits				
Date Analysed, Microbiology					9/03/2021	9/03/2021	9/03/2021	9/03/2021
Date Analysed, Alkalinity					9/03/2021	[NA]	[NA]	[NA]
Date Analysed, Colour					9/03/2021	[NA]	[NA]	[NA]
Date Analysed, Anions					11/03/2021	[NA]	[NA]	[NA]
Date Analysed, Metals					11/03/2021	[NA]	[NA]	[NA]
Date Analysed, Trihalomethanes					11/03/2021	[NA]	[NA]	[NA]
Date Analysed, NPOC + DOC					10/03/2021	[NA]	[NA]	[NA]

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Procedure: Analysed Date Analyte	Method	LOR	Units	Sample Number: Sample Description: ADWG Limits	9 H30 Enterprise Street, 16-22 (Vinidex)	10 H31, 36A Eleventh Avenue	11 H58, 350 - 354 Ingham Road
Date Analysed, Microbiology					9/03/2021	9/03/2021	9/03/2021