

Bulloo  
Shire

# Drinking Water Quality Management Plan Report (DWQMP) 2019 – 2020

Bulloo Shire Council  
PO Box 46, Thargomindah QLD 4492  
4621 8000  
[Council@bulloo.qld.gov.au](mailto:Council@bulloo.qld.gov.au)

## **Reconstruction of Cooling Pond -02**



Cooling manifold for Pond 02 being constructed, replacing existing failed manifold.



Pond 02 Cooling manifold showing expansion loop.

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## Glossary of terms

ADWG 2011	Australian Drinking Water Guidelines (2011). Published by the National Health and Medical Research Council of Australia
DNRME	Department of Natural Resources, Mines and Energy
DWQMP	Drinking Water Quality Management Plan
<i>E. coli</i>	<i>Escherichia coli</i> , a bacterium which is considered to indicate the presence of faecal contamination and therefore potential health risk
The Regulator	Department of Natural Resources, Mines and Energy
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
MPN/100mL	most probable number per 100 millilitres
CFU/100mL	Colony forming units per 100 millilitres
<	Less than
>	Greater than

## 1. Introduction

This report documents the performance of Bulloo Shire Council's drinking water service with respect to water quality and performance in implementing the actions detailed in the drinking water quality management plan (DWQMP) as required under the *Water Supply (Safety and Reliability) Act 2008* (the Act).

The goal of the DWQMP is the protection of public health through the identification and minimisation of any public health related risks associated with drinking water. The DWQMP for Bulloo Shire Council was approved by the Queensland Water Supply Regulator, Department of Natural Resources, Mines and Energy (QWSR, DNRME) October 2017.

The report assists the Regulator to determine whether the approved DWQMP and any approval conditions have been complied with and provides a mechanism for providers to report publicly on their performance in managing drinking water quality.

## 2. Overview of Operations

The Bulloo Shire incorporates the towns of Thargomindah and Hungerford, and covers an expanse of 73,807.6km<sup>2</sup>. The population within the shire is approximately 377. The administration centre of the Shire is Thargomindah, with the adjoining Shires being Barcoo, Quilpie and Paroo. The Bulloo Shire is approximately 1,004km west of Brisbane and 197km west of Cunnamulla.

The Bulloo Shire Council is a small drinking water service provider as defined under the Act and provides drinking water to a population of approximately 207 people. Reticulated water supply is provided to both Thargomindah and Hungerford, with a potable supply to Thargomindah by artesian supply, Hungerford receives a non-potable supply from a sub-artesian supply. The Bulloo Shire Council is responsible for the following supply schemes:

### **Thargomindah**

- The potable Supply delivered to Thargomindah is sourced from the Hooray aquafer. The town water is sourced from a depth of 820 metres in the Great Artesian Basin at a temperature of approximately 72°C. The bore was drilled in 1999 to a depth of 820 metres and was fully commissioned in 2001. The bore has a steel casing for its full depth with perforated or slotted casing for the last 96 metres.
- The bore water flows out under pressure and a pressure reducing valve at the bore decreases the natural pressure from 100m to 45m head. The bore water then flows into two cooling ponds, in parallel, where it circulates through an array of copper pipes to allow the heat of the bore water to be transferred to the pond water.
- The copper pipes in each of the cooling ponds is made up of two 150mm diameter manifolds with eight (8) parallel 50mm diameter copper lines submerged in the cooling pond water travelling back and forth three (3) times within the pond prior to exiting the ponds to the Thargomindah town reticulation network.
- The system is completely closed with pressure being provided by the bore. The design flow for sizing the cooling pipe system was 16L/s. The cooled bore water from the copper

pipes then flows from the cooling ponds and then into the reticulation system. This water is not treated or disinfected in any way.

- Details of the pipes in the reticulation system are as follows:

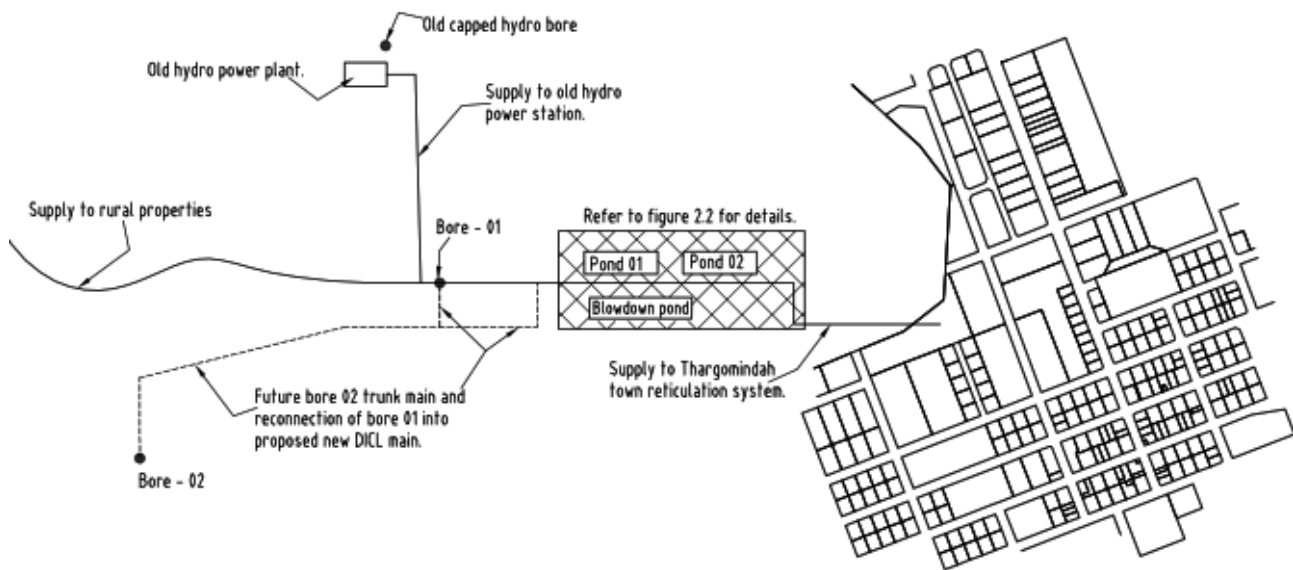
• <b>Material</b>	<b>Length</b>
• 100mm Copper	821.6 metres
• 100mm PVC	5,665.2 metres
• 150mm PVC	769.7 metres
• 200mm PVC	893.4 metres
• <b>Total</b>	<b>8,150 metres</b>

Table 1-1. Water Supply System and Infrastructure Details

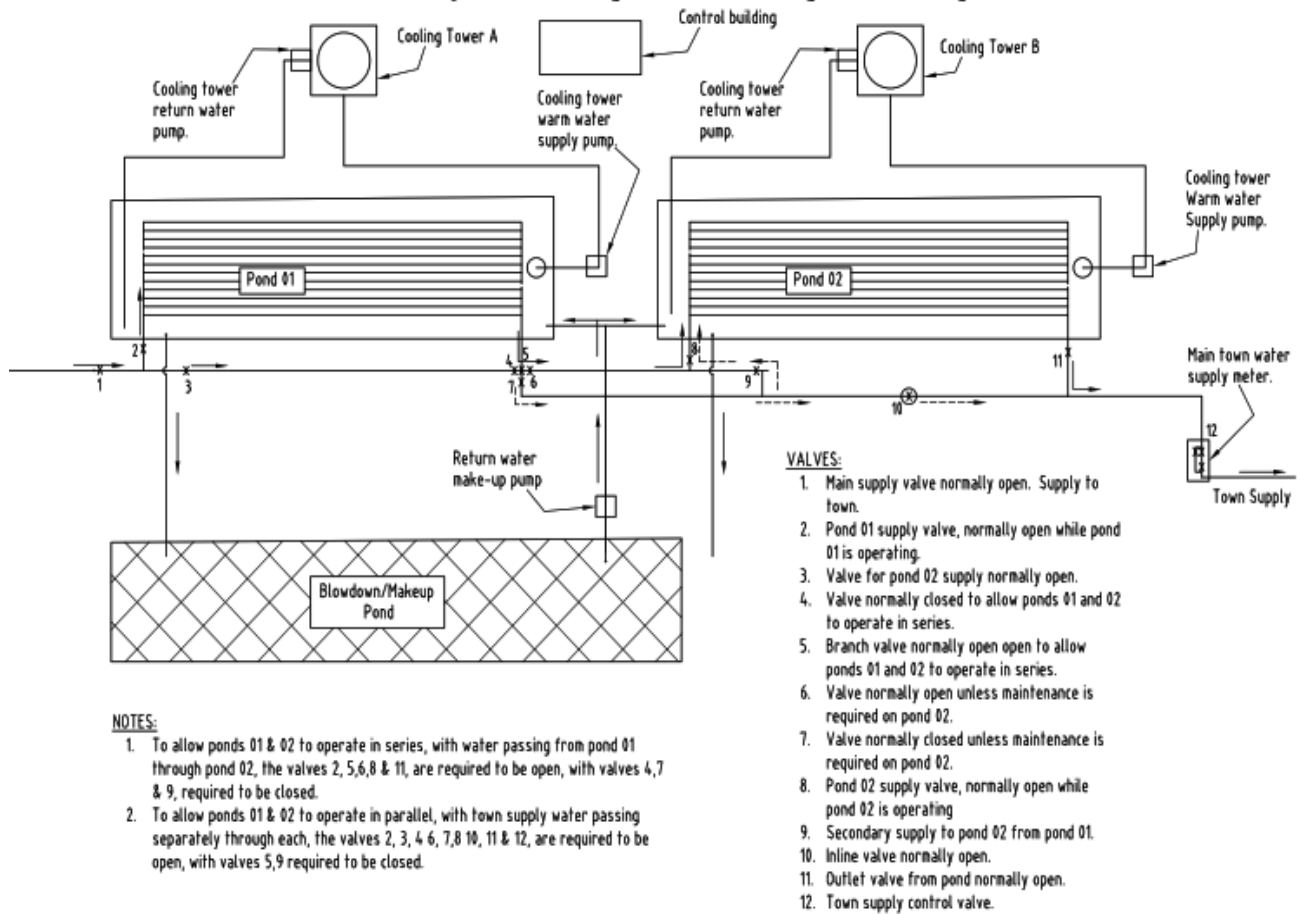
<b>COMPONENT</b>		<b>Scheme 1</b>
Sources	Name	Bore 01
	Type	Artesian Bore
	% of supply	100
	Reliability	Excellent
	Water quality issues	Total Dissolved Solids, Fluoride, Sodium
	Bore discharge Temperature	72°C (Maximum)
Sourcing Infrastructure	Type (pumped/gravity/equipped bore/ etc.	Free Flowing Bore. Due to pressure reduction is required prior to entry into Town Reticulation.
	Description	Bore Depth – 820m approx.
Sources that do not undergo treatment	Water is sourced from a deep bore and water quality information does not identify any water quality issues that require treatment.	
Sources that do not undergo disinfection	Water is from a deep artesian bore and flows directly into the reticulation system. Water quality information does not identify and water quality issues that require disinfection prior to supply.	
Distribution and Reticulation System	Pipe material	PVC
	Age range	15-27 years
	Approx. % of total length	100
	Areas where potential long detention periods could be expected	North-Western end of unnamed street off Frew Street
	Areas where low water pressure (e.g. <12m) could be expected during peak or other demand periods.	No Areas.



## Thargomindah Water Supply Schematic - Figure 2.1



## Schematic Layout of Thargomindah Cooling Ponds - Figure 2.2



## Hungerford

The Village of Hungerford has a twin supply to the Village. One supply is from a sub-artesian bore and the second is stored river water:

- The main supply is from a bore located approximately 6km. from Hungerford on the Thargomindah, Hungerford Road and is classed as non-potable
  - The water is pumped from the bore by use of a solar bore pump into an onsite storage tank.
  - The water is pumped into Hungerford by the use of a transfer pump where it is collected into two (2) Poly Tanks with a combined storage capacity of approximately of 44,000 litres.
  - Water is transferred to the reticulated supply for the resident of Hungerford by dual pumps.
  - Although there is no treatment carried out to the bore supply testing has been carried out on the bore supply as the supply is mainly used by the residents inside the buildings of the village. (refer to test results attached)
- The second reticulated supplied from two storage dams that receive water during high river flows.
  - The stored river water is pumped to Hungerford and stored in a 40,000 litre Poly tank where it is pumped into an elevated Tank;
  - The elevated tank is the supply to the secondary reticulation and is used by the residence for watering their yards and gardens.

### 3 Actions taken to implement the DWQMP

Program actions.

Council, during 2016, arranged for the development of the DWQMP that was submitted to the Department for review and approval. The Bulloo Council, during the 2016-2017 reporting period, reviewed the DWQMP which included risk assessment, improvement plan and water quality data.

### 4 Compliance with water quality criteria for drinking water

In 2019-2020, Bulloo Shire Council complied with all the water quality criteria as detailed in this report, with the exception of fluoride which is naturally occurring and is regularly above the ADWG health guideline. These results are reported to the Regulator.

### 5 Notifications to the Regulator under sections 102 and 102A of the Act

This financial year there was one (1) water quality incident reported to the Regulator under section 102 and 102A of the Act. Ongoing reports of fluoride results were made through the year.

The Thargomindah primary, and only, source of water supply is from the Hooray aquifer high. As is common with all western towns who's primary source of supply is from the artesian basin, their supply will fail to meet the water quality criteria mean health guideline values in the most current Australian Drinking Water Guidelines, as well as the standards in the Public Health Regulation 2018.



## **Detection of Fluoride**

### ***Incident Description:***

The Thargomindah bore water has long had levels of naturally occurring fluoride in the range of 1.6 to 1.9mg/L. This range of values is slightly above the ADWG value. Based on the above information, the levels of fluoride in the Thargomindah water supply are considered to be satisfactory.

### ***Corrective and Preventive Actions:***

In 2017 the Bulloo Shire Council conducted an intensive 3 months monitoring of fluoride in the Thargomindah water supply. Even with intensive monitoring and analysis, the fluoride result is very consistent and is considered to be satisfactory.

## **6 Customer complaints related to water quality**

Bulloo Shire Council did not receive any formal water quality complaints from its customers for the period.

Although there is a general acceptance of the quality of the supplied water within the township of Thargomindah, there is always a concern on the temperature supplied to the community during the summer months relating to the high temperature the water is being supplied to the residents during this period of time (in excess of 50°C).

# APPENDICES

## Appendix A: Summary of compliance with water quality criteria.

The Bulloo Shire Council Amended Drinking Water Quality Management Plan (DWQMP) was submitted to the Regulator on 23 November 2017 for review.

The results from the verification monitoring program have been compared against levels of the Reporting Guidelines for a Drinking Water Service.

The reported statistics do not include results derived from repeat samples, or from emergency or investigative samples undertaken in response to an elevated result.

Bulloo Shire Council has adopted a new record keeping system for all water & sewerage data which replaces all previous record keeping systems. This system is the SWIMLocal system created by **qldwater** - The Queensland Water Directorate. All data from previous years has been entered ensuring no loss of data will occur.

## Appendix B: Water Quality Frequency Monitoring

### Thargomindah Water

Location	Parameter	Suggested frequency after 6 months review from Nov 2016 (subject to adequate quality results)
Bore pre and post cooling ponds.	Fluoride	It is known that there is high fluoride in bore water. However, the results do not fluctuate and consistently exceed ADWG health guideline limits. Therefore, the frequency has been stretched out to 3 months.
	Radionuclides	Every 2 years and potentially less in the future
	Full metals suite	Every 12 months or event based
	Temperature	This must be done on-site in the field (not a laboratory measurement)
	pH	
	SAR	Every 6 months or event based
	EC	Every 6 months or event based
	Chloride	Every 12 months
	TDS	Every 12 months or event based
	Carbonate	Every 6 months or annually
	Hardness	Every 12 months or annually
	Nitrate	Every 12 months or event based
	Phosphorus	Every 12 months or event based
	Sulfate	Every 12 months or event based
	Langelier index	Every 12 months or event based
Reticulation	Fluoride	It is known that there is a high level of fluoride in the bore water. However, the results do not fluctuate and consistently exceed ADWG health guideline limits. Therefore, the frequency has been stretched out to 3 months.
	Full metals suite	Every 6 months or event based
	<i>E. coli</i>	Weekly in-house testing to be carried out using colilert, with samples cross checked with external lab quarterly. Where variation is noted external lab testing will recommence monthly for a period of three months without variation.
	HPC	
	<i>Legionella</i>	Positive results have been detected in past samples. Frequency can be reduced once <i>Legionella</i> is no longer detected.
	Temperature	This must be done on-site
	pH	

Location	Parameter	Suggested frequency after 6 months review from Nov 2016 (subject to adequate quality results)
	SAR	Every 6 months or event based
	EC	Every 6 months or event based
	Chloride	Every 12 months or event based
	TDS	Every 12 months or event based
	Carbonate	Every 12 months or event based
	Hardness	Every 12 months or annually
	Nitrate	Every 12 months or event based
	Phosphorus	Every 12 months or event based
	Sulfate	Every 6 months or annually
	Langelier index	Every 6 months or annually

## Appendix C: Details of Compliance with water quality criteria

The following results were obtained from samples submitted for analysis.

Parameter	Scheme component	Name of Scheme Component	Laboratory Name	Unit of measure	Limit of reporting (LOR) for chemical parameters	Total number of samples taken	Number of samples exceeding health guideline value or in which pathogens were detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count
Fluoride	R	Bore	Toowoomba Regional Council	mg/L	0.5	6	0	1.8	1.8	1.8
pH	R	Bore	Toowoomba Regional Council	Units		1	N/A	8.2	8.2	8.2
Conductivity	R	Bore	Toowoomba Regional Council	µs/cm	1	1	N/A	[NT]	[NT]	[NT]
Total Hardness	R	Bore	Toowoomba Regional Council	mg/L as CaCO <sub>3</sub>	1	1	N/A	8.0	8.0	8.0
Total Alkalinity	R	Bore	Toowoomba Regional Council	mg/L as CaCO <sub>3</sub>	2	1	N/A	448	448	448
Molybdate Reactive Silica	R	Bore	Toowoomba Regional Council	mg/L	1.0	1	N/A	41	41	41
Total Iron	R	Bore	Toowoomba Regional Council	mg/L	0.005	1	N/A	0.035	0.035	0.035

Parameter	Scheme component	Name of Scheme Component	Laboratory Name	Unit of measure	Limit of reporting (LOR) for chemical parameters	Total number of samples taken	Number of samples exceeding health guideline value or in which pathogens were detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count
Total Manganese	R	Bore	Toowoomba Regional Council	mg/L	0.002	1	0	0.013	0.013	0.013
Calcium	R	Bore	Toowoomba Regional Council	mg/L	0.03	1	N/A	3.30	3.30	3.30
Magnesium	R	Bore	Toowoomba Regional Council	mg/L	.002	1	N/A	0.042	0.042	0.042
Sodium	R	Bore	Toowoomba Regional Council	mg/L	0.5	1	N/A	236.0	236.0	236.0
Potassium	R	Bore	Toowoomba Regional Council	mg/L	0.03	1	N/A	3.9	3.9	3.9
Sulphate	R	Bore	Toowoomba Regional Council	mg/L as SO <sub>4</sub>	0.5	1	0	<0.5	<0.5	<0.5
Chloride	R	Bore	Toowoomba Regional Council	mg/L	0.5	1	N/A	67.0	67.0	67.0
Nitrate	R	Bore	Toowoomba Regional Council	mg/L as NO <sub>3</sub>	0.2	1	0	<0.2	<0.2	<0.2
Phosphate	R	Bore	Toowoomba Regional Council	mg/L as PO <sub>4</sub>	0.02	1	N/A	0.04	0.04	0.04

Parameter	Scheme component	Name of Scheme Component	Laboratory Name	Unit of measure	Limit of reporting (LOR) for chemical parameters	Total number of samples taken	Number of samples exceeding health guideline value or in which pathogens were detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count
Temporary Hardness	R	Bore	Toowoomba Regional Council	mg/L as CaCO <sub>3</sub>	1	1	N/A	8	8	8
Bicarbonate Alkalinity	R	Bore	Toowoomba Regional Council	mg/L as CaCO <sub>3</sub>	1	1	N/A	448	448	448
Carbonate Alkalinity	R	Bore	Toowoomba Regional Council	mg/L as CaCO <sub>3</sub>	2	1	N/A	<2	<2	<2
Hydroxide Alkalinity	R	Bore	Toowoomba Regional Council	mg/L as CaCO <sub>3</sub>	2	1	N/A	<2	<2	<2
Free Carbon Dioxide	R	Bore	Toowoomba Regional Council	mg/L	0.1	1	N/A	5.7	5.7	5.7
Total Dissolved Ions	R	Bore	Toowoomba Regional Council	mg/L	1	1	N/A	856	856	856
Total Dissolved Solids	R	Bore	Toowoomba Regional Council	mg/L	1	1	N/A	619	619	619
Figure of Merit	R	Bore	Toowoomba Regional Council		0.1	6	N/A	<0.1	<0.1	<0.1
Saturation Index	R	Bore	Toowoomba Regional Council			1	N/A	-0.22	-0.22	-0.22



Parameter	Scheme component	Name of Scheme Component	Laboratory Name	Unit of measure	Limit of reporting (LOR) for chemical parameters	Total number of samples taken	Number of samples exceeding health guideline value or in which pathogens were detected	Minimum concentration or count	Maximum concentration or count	Average (mean) concentration or count
Residual Alkalinity	R	Bore	Toowoomba Regional Council	mq/L as CaCO <sub>3</sub>		1	N/A	9.0	9.0	9.0
Sodium Adsorption Ratio	R	Bore	Toowoomba Regional Council		0.1	1	N/A	35.4	35.4	35.4

## Compliance with *Public Health Regulation 2018* for *Escherichia coli* (*E. coli*) monitoring in the reticulation system

As detailed in the Thargomindah Drinking Water Quality Management Plan, Council currently uses the “Colilert” field test kits which allow “in-house” testing for *E.Coli*. Appropriate validation of the field tests through duplicate samples on a three-monthly basis has been undertaken. One of the samples was forwarded to the Toowoomba Regional Council NATA accredited laboratory and the results have been compared with the field test kit results.

### **E.coli Field Test Kit Results (Colilert)**

Month of year	Number of samples collected each month	Results of samples collected in which <i>E.Coli</i> is detected		
		Most Probable Number (MPN)	95% Confidence Limits	
			Lower	Upper
July 2019	28	<1	0	0
August 2019	35	<1	0	0
September 2019	27	<1	0	0
October 2019	28	<1	0	0
November 2019	26	<1	0	0
December 2019	18	<1	0	0
January 2020	48	<1	0	0
February 2020	32	<1	0	0
March 2020	14	<1	0	0
April 2020	21	<1	0	0
May 2020	21	<1	0	0
June 2020	14	<1	0	0

### Comparison Sample Results

Month	Number of samples collected	Toowoomba Regional Council Laboratory	Results		
July 2019	6	E.Coli - <1 CFU/100mL	MPN	95% Confidence Limit	
				Lower	Upper
			<1	0	0
October 2019	7	E.Coli - <1 CFU/100mL	MPN	95% Confidence Limit	
				Lower	Upper
			<1	0	0
January 2020	18	E.Coli - <1 CFU/100mL	MPN	95% Confidence Limit	
				Lower	Upper
			<1	0	0
February 2020	7	E.Coli - <1 CFU/100mL	MPN	95% Confidence Limit	
				Lower	Upper
			<1	0	0
March 2020	7	E.Coli - <1 CFU/100mL	MPN	95% Confidence Limit	
				Lower	Upper
			<1	0	0

## Appendix D: Overview of Water Quality Sampling and Analysis Manual

### Overview:

This document has been prepared by GHD at the request of Bulloo Shire Council (Council) to provide guidance on:

- The methodology for the collection of water and wastewater quality samples in a structured way which demonstrates compliance with statutory reporting requirements
- Examples of field data collection sheets
- The submission process for samples for laboratory analysis
- The interpretation of the results

The development of this manual was triggered by the outcomes from the baseline water quality testing undertaken for the Thargomindah and Hungerford service areas in 2016 and the need identified to assist BSC with the formalisation and documentation of their water and wastewater monitoring.

### Water monitoring

Sampling of water quality is required to be undertaken from the Thargomindah and Hungerford water network. Both of these networks are provided with water from untreated bore sources.

Water samples collected shall be sent to a NATA accredited laboratory for analysis, with sampling at the frequency and locations noted in this document.

The results of the water sampling will be used to assess compliance with water quality criteria for drinking water. Water quality criteria are from the Australian Drinking Water Guidelines (2011, updated in February 2016).

### Sewerage monitoring

Sampling for sewerage effluent quality is required from the Thargomindah Sewage Treatment Plant (STP). The conditions stipulated in the Environmental Authority Permit No EPPR00545013 require the treated effluent to be tested at both the outlet to the treatment plant (STP effluent) and at a test point just prior to the discharge to land (STP irrigation effluent) to assess the suitability of this wastewater for irrigation at the Golf Club and/or Cemetery.

Sewerage samples collected shall be sent to a NATA accredited laboratory for analysis, with sampling at the frequency and locations noted in this document.

The results of the sewage effluent sampling will be used to assess compliance with sewerage effluent quality criteria in terms of the discharge permit conditions.

This document should be read in conjunction with the Bulloo Shire Council, Review of Water and Sewerage Systems, July 2016, Draft 0, to gain a full understanding of the extent of the water and sewerage schemes involved in this sampling program.

## Appendix E: External Testing Results .

### Symbio LABORATORIES

#### CERTIFICATE OF ANALYSIS

Certificate Number	B810278 [R00]	Page	1/4
Client	Toowoomba Regional Council	Registering Laboratory	Brisbane
Contact	Andrew Murray	Contact	Customer Service Team
Address	PO Box 3021 Toowoomba QLD 4350	Address	52 Brandl Street, Eight Mile Plains, QLD 4113
Telephone	07 4688 6270	Email	<a href="mailto:admin@symbiolabs.com.au">admin@symbiolabs.com.au</a>
Order Number	PU122398(July)	Telephone	1300 703 166
Project ID	Water - PU122398(July)	Date Samples Received	29/07/2019
Sampler	---	Date Analysis Commenced	29/07/2019
Client Job Reference	PU122398(July)	Issue Date	02/08/2019
Number of Samples Received	6	Receipt Temperature (°C)	3.0
Number of Samples Analysed	6	Storage Temperature (°C)	4
		Quote Number	---

**Symbio**  
LABORATORIES  
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ABN: 82 079 645 015



Accreditation No: 2455  
Accredited for compliance  
with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Samples were analysed as received and the results pertain only to the submitted samples. This document must not be reproduced, except in full. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Additional information related to this report can be found in the supplementary documents attached to the original email: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification. Measurement uncertainty is available on request or via [www.symbiolabs.com.au/login](http://www.symbiolabs.com.au/login). If customers acknowledge/authorise testing to occur in samples outside the specified conditions, results may be impacted depending on the nature of the deviation.

#### Definitions

| <: Less Than | >: Greater Than | RP: Result Pending | -: Estimated | MPN: Most Probable Number | CFU: Colony Forming Units | ---: Not Received/Not Requested | NA: Not Applicable | [ND]: Not Detected | LOR: Level of Reporting |  
| [NT]: Not Tested | ^ Subcontracted Analysis | DWB: Dry Weight Basis | TBA: To Be Advised | \* Test not covered by NATA scope of accreditation | # Result derived from a calculation and includes results equal to or greater than the LOR |

#### Authorised By

Name	Position	Accreditation Category
Hongmei Kuang	Chemistry Laboratory Manager, Brisbane	Environmental and Food Chemistry

#### Sample Information - Client Supplied

Sample ID	B810278/1	B810278/2	B810278/3	B810278/4	B810278/5
Sample Description	19/3147-1	19/3147-2	19/3147-3	19/3147-4	19/3147-5
Sample Date/Time	24/07/2019 08:45	24/07/2019 08:57	24/07/2019 10:31	24/07/2019 10:12	24/07/2019 10:45
Sample Matrix Enviro	Water - General	Water - General	Water - General	Water - General	Water - General


Client	Toowoomba Regional Council	Project ID	Water - PU122398(July)
Certificate Number	B810278 [R00]	Sampler	---
Page	2/4	Order Number	PU122398(July)

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LABORATORIES  
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#### Sample Information - Client Supplied


Sample ID	B810278/6
Sample Description	19/3147-7
Sample Date/Time	24/07/2019 09:17
Sample Matrix Enviro	Water - General

Client	Toowoomba Regional Council			Project ID	Water - PU122398(July)		
Certificate Number	B810278 [R00]			Sampler	---		
Page	3/4			Order Number	PU122398(July)		



Analytical Results				19/3147-1	19/3147-2	19/3147-3	19/3147-4	19/3147-5
Client Sample Description								
Client Sampling date/time				24/07/2019 08:45	24/07/2019 08:57	24/07/2019 10:31	24/07/2019 10:12	24/07/2019 10:45
Compound/Analyte	LOR	Units		B810278/1	B810278/2	B810278/3	B810278/4	B810278/5
				Results	Results	Results	Results	Results
General Tests								
EFF015 - Fluoride in Water Test Date: 01/08/2019								
Fluoride	0.05	mg/L		1.8	1.8	1.8	1.8	1.8

Client	Toowoomba Regional Council			Project ID	Water - PU122398(July)		
Certificate Number	B810278 [R00]			Sampler	---		
Page	4/4			Order Number	PU122398(July)		



Analytical Results				19/3147-7
Client Sample Description				
Client Sampling date/time				24/07/2019 09:17
Compound/Analyte	LOR	Units		B810278/6
				Results
General Tests				
EFF015 - Fluoride in Water Test Date: 01/08/2019				
Fluoride	0.05	mg/L		1.8

**Analysis Location**  
All in-house analysis was completed by Symbio Laboratories - Brisbane.

BEING WATERWISE  
ABN 99 788 505 360

**TOOWOOMBA REGIONAL WATER**

**LABORATORY SERVICES**  
Shufflewood Court Mt Allyn Toowoomba Qld 4350  
PO Box 3021  
Toowoomba Village Fair Qld 4350  
Email: [lab.services@toowoombaRGC.qld.gov.au](mailto:lab.services@toowoombaRGC.qld.gov.au)  
T: 07 4688 6270 F: 07 4688 6298

**TEST REPORT**

Page 1 of 6  
Issued: 5/08/19

**BATCH NO:** 19/3147  
**RECEIVED:** 25/07/19  
**APPROVED:** 5/08/19

**CLIENT:** The Chief Executive Officer  
Bulloo Shire Council (801596)  
PO Box 46  
Thargomindah QLD 4492  
**ATTENTION:** Chloe Tuite

**ORDER NO:**  
**REPORT NO:** 250719-3147-1

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	Thargomindah Bore 01 19/3147/1 24/07/2019 08.45	Thargomindah - Post Cooling Pool 19/3147/2 24/07/2019 08.57	Dowling/Dun e Street - Caravan Park 19/3147/3 24/07/2019 10.31	Powell/Staffor d Street - Old Caravan Park 19/3147/4 24/07/2019 10.12
QP-KYN-002	Conductivity	uS/cm	1	1,010	988	992	995
QP-KYN-001	pH	pH unit		8.0	8.0	8.2	8.1
Derived*	Total Hardness - ICP	mg/L CaCO <sub>3</sub>	1	9.0	9.0	9.0	9.0
QP-KYN-015	Total Alkalinity	mg/L CaCO <sub>3</sub>	2	459	450	452	451
QP-KYN-097	Calcium by ICP	mg/L	0.03	3.59	3.59	3.64	3.63
QP-KYN-097	Total Iron	mg/L	0.005	0.077	0.073	0.071	0.086
QP-KYN-097	Potassium	mg/L	0.03	4.3	4.5	4.4	4.4
QP-KYN-097	Magnesium by ICP	mg/L	0.002	0.043	0.042	0.040	0.040
QP-KYN-097	Total Manganese	mg/L	0.002	0.016	0.016	0.015	0.016
QP-KYN-097	Sodium	mg/L	0.5	246	254	257	257
QP-KYN-114*	Chloride	mg/L	0.5	65.7	64.9	65.0	64.5
QP-KYN-114*	Nitrate	mg/L	0.1	<0.1	<0.1	<0.1	<0.1
QP-KYN-114*	Sulphate	mg/L	0.5	<0.5	<0.5	<0.5	<0.5
QP-KYN-090	Phosphate	mg/L PO <sub>4</sub>	0.02	0.03	0.03	0.03	0.03
QP-KYN-090	Molybdate Reactive Silica	mg/L	1	40	40	40	40
Derived*	Temporary Hardness	mg/L CaCO <sub>3</sub>	1	9	9	9	9
QP-ADM-016*	Bicarbonate Alkalinity	mg/L CaCO <sub>3</sub>	1	459	450	452	451
QP-ADM-016*	Carbonate Alkalinity	mg/L CaCO <sub>3</sub>	2	<2	<2	<2	<2
QP-ADM-016*	Hydroxide Alkalinity	mg/L CaCO <sub>3</sub>	2	<2	<2	<2	<2
QP-ADM-016*	Free Carbon Dioxide	mg/L	0.1	9.2	9.0	5.7	7.2
QP-ADM-016*	Total Dissolved Ions	mg/L	1	879	876	881	879
QP-ADM-016*	Total Dissolved Solids	mg/L	1	635	637	641	640




NATA Accredited Laboratory  
Number 12099  
Accredited for compliance with ISO/IEC 17025 - Testing

**File Reference:** S-002289 (External)  
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LOR = Limit of Reporting  
If Measurement Uncertainty required refer to following  
hyperlink:  
<http://www.tr.qld.gov.au/environment-water-waste/water-supply-dams/water-treatment-testing/12052-water-analysis>  
"Derived" - Derived value.  
**Results apply to sample(s) as received at laboratory.**



BEING WATERWISE ABN 99 788 505 393



**LABORATORY SERVICES**  
 Shuffleswood Court Mt Allyn Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [lab.services@toowoombaREG.qld.gov.au](mailto:lab.services@toowoombaREG.qld.gov.au)  
 T: 07 4688 6270 F: 07 4688 6299

**TEST REPORT**

Page 2 of 6  
 Issued: 5/08/19

**BATCH NO:** 19/3147  
**RECEIVED:** 25/07/19  
**APPROVED:** 5/08/19

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 PO Box 46  
 Thargomindah QLD 4492  
**ATTENTION:** Chloe Tuile

**ORDER NO:**  
**REPORT NO:** 250719-3147-1

METHOD	Client Reference:  Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	Thargomindah Bore 01 19/3147/1 24/07/2019 08.45	Thargomindah - Post Cooling Pond 19/3147/2 24/07/2019 08.57	Dowling/Dunne Street - Caravan Park 19/3147/3 24/07/2019 10.31	Powell/Stafford Street - Old Caravan Park 19/3147/4 24/07/2019 10.12
QP-ADM-016*	Figure of Merit		0.1	<0.1	<0.1	<0.1	<0.1
QP-ADM-016*	Saturation Index			-0.37	-0.38	-0.18	-0.28
QP-ADM-016*	Residual Alkalinity	meq/L CaCO <sub>3</sub>		9.0	9.0	9.0	9.0
QP-ADM-016*	Sodium Adsorption Ratio		0.1	35.4	36.6	36.8	36.8
Symbio	Fluoride	mg/L	0.1	1.8	1.8	1.8	1.8



NATA Accredited Laboratory  
 Number 12009  
 Accredited for compliance with ISO/IEC 17025 - Testing

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 "Derived" - Derived value.  
**Results apply to sample(s) as received at laboratory.**

BEING WATERWISE ADN 99 788 505 300

**LABORATORY SERVICES**  
 Shuttlesford Court Mt Wynch Toowoomba Qld 4300  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [lab@toowoombaRGC.qld.gov.au](mailto:lab@toowoombaRGC.qld.gov.au)  
 T: 07 4688 6270 F: 07 4688 6258

**TEST REPORT**

Page 3 of 6  
 Issued: 5/08/19

**BATCH NO:** 19/3147  
**RECEIVED:** 25/07/19  
**APPROVED:** 5/08/19

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 PO Box 46  
 Thargomindah QLD 4492  
**ATTENTION:** Chloe Tuile

**ORDER NO:**  
**REPORT NO:** 250719-3147-1

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	Sams/Henry Street - 131 Sams Street 19/3147/5 24/07/2019 10.45	Stafford/Watts Street - 130 Stafford Street 19/3147/7 24/07/2019 09.17
QP-KYN-002	Conductivity	uS/cm	1	1,000	997
QP-KYN-001	pH	pH unit		8.2	8.2
Derived*	Total Hardness - ICP	mg/L CaCO <sub>3</sub>	1	9.0	9.0
QP-KYN-015	Total Alkalinity	mg/L CaCO <sub>3</sub>	2	454	451
QP-KYN-097	Calcium by ICP	mg/L	0.03	3.72	3.54
QP-KYN-097	Total Iron	mg/L	0.005	0.027	0.067
QP-KYN-097	Potassium	mg/L	0.03	4.4	4.4
QP-KYN-097	Magnesium by ICP	mg/L	0.002	0.040	0.040
QP-KYN-097	Total Manganese	mg/L	0.002	0.016	0.015
QP-KYN-097	Sodium	mg/L	0.5	261	261
QP-KYN-114*	Chloride	mg/L	0.5	64.9	65.1
QP-KYN-114*	Nitrate	mg/L	0.1	<0.1	<0.1
QP-KYN-114*	Sulphate	mg/L	0.5	<0.5	<0.5
QP-KYN-090	Phosphate	mg/L PO <sub>4</sub>	0.02	0.03	0.03
QP-KYN-090	Molybdate Reactive Silica	mg/L	1	40	40
Derived*	Temporary Hardness	mg/L CaCO <sub>3</sub>	1	9	9
QP-ADM-016*	Bicarbonate Alkalinity	mg/L CaCO <sub>3</sub>	1	454	451
QP-ADM-016*	Carbonate Alkalinity	mg/L CaCO <sub>3</sub>	2	<2	<2
QP-ADM-016*	Hydroxide Alkalinity	mg/L CaCO <sub>3</sub>	2	<2	<2
QP-ADM-016*	Free Carbon Dioxide	mg/L	0.1	5.7	5.7



NATA Accredited Laboratory  
 Number 12009  
 Accredited for compliance with ISO/IEC 17025 - Testing

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 If Measurement Uncertainty required refer to following hyperlink:  
<http://www.tr.qld.gov.au/environment-water-waste/water-supply-dams/water-treatment-testing/12052-water-analysis>  
 \*Derived\* - Derived value.  
**Results apply to sample(s) as received at laboratory.**

BEING WATERWISE ADV 99 788 205 560



**LABORATORY SERVICES**  
 Shuffeneard Court Mt Allyn Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [lab@toowoombaRC.qld.gov.au](mailto:lab@toowoombaRC.qld.gov.au)  
 T: 07 4688 6270 F: 07 4688 6259

**TEST REPORT**

Page 4 of 6  
 Issued: 5/08/19

**BATCH NO:** 19/3147  
**RECEIVED:** 25/07/19  
**APPROVED:** 5/08/19

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 PO Box 46  
 Thargomindah QLD 4492  
**ATTENTION:** Chloe Tuite

**ORDER NO:**  
**REPORT NO:** 250719-3147-1


METHOD	Client Reference:  Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	Sams/Henry Street - 131 Sams Street 19/3147/5  24/07/2019 10.45	Stafford/Watts Street - 130 Stafford Street 19/3147/7  24/07/2019 09.17
QP-ADM-016*	Total Dissolved Ions	mg/L	1	83.7	83.4
QP-ADM-016*	Total Dissolved Solids	mg/L	1	646	645
QP-ADM-016*	Figure of Merit		0.1	<0.1	<0.1
QP-ADM-016*	Saturation Index			-0.16	-0.19
QP-ADM-016*	Residual Alkalinity	mg/L CaCO <sub>3</sub>		9.0	9.0
QP-ADM-016*	Sodium Adsorption Ratio		0.1	36.9	37.9
Symbio	Fluoride	mg/L	0.1	1.8	1.8



NATA Accredited Laboratory  
 Number 11009  
 Accredited for compliance with ISO/IEC 17025 - Testing

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<http://www.tr.qld.gov.au/environment-water-waste/water-supply-dams/water-treatment-testing/12052-water-analysis>  
 \*Derived\* - Derived value.  
**Results apply to sample(s) as received at laboratory.**

BEING WATERWISE      ABN 99 788 305 393



**LABORATORY SERVICES**  
 Shuffeswood Court Mt Wynch Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [labervices@toowoombaRC.qld.gov.au](mailto:labervices@toowoombaRC.qld.gov.au)  
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**TEST REPORT**

Page 5 of 6  
 Issued: 5/08/19

**BATCH NO:** 19/3147  
**RECEIVED:** 25/07/19  
**APPROVED:** 5/08/19

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 PO Box 46  
 Thargomindah QLD 4492  
**ATTENTION:** Chloe Tuile

**ORDER NO:**  
**REPORT NO:** 250719-3147-1

METHOD	Client Reference:	UNITS	LOR	Thargomindah Bore 01	Thargomindah - Post Cooling Pond	Dowling/Duna e Street - Caravan Park	Powell/Staffor d Street - Old Caravan Park
	Laboratory Reference: Sample Date: Sample Time: ANALYSIS			19/3147/1  24/07/2019 08.45	19/3147/2  24/07/2019 08.57	19/3147/3  24/07/2019 10.31	19/3147/4  24/07/2019 10.12
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	10EST	40EST	35EST	20EST
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-105	<i>E.coli</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-057	Enterococci	CFU/100mL	1	<1	<1	<1	<1
Client*	Temperature-Client	°C		71.5	21.2	19.5	19.7



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 Number 12009  
 Accredited for compliance with ISO/IEC 17025 - Testing

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 \*Derived\* - Derived value.  
**Results apply to sample(s) as received at laboratory.**



BEING WATERWISE

ABN 99 788 305 380

**LABORATORY SERVICES**

Shuttlewood Court Mt Allynch Towoomba Qld 4860

PO Box 3021

Towoomba Village Fair Qld 4860

Email: [lab@towoombawater.com.au](mailto:lab@towoombawater.com.au)

T: 07 4688 6270 F: 07 4688 6258

TEST REPORT

Page 6 of 6  
Issued: 5/08/19

**BATCH NO:** 19/3147  
**RECEIVED:** 25/07/19  
**APPROVED:** 5/08/19

**CLIENT:** The Chief Executive Officer  
Bulloo Shire Council (801596)  
PO Box 46  
Thargomindah QLD 4492  
**ATTENTION:** Chloe Tuile

**ORDER NO:**  
**REPORT NO:** 250719-3147-1

METHOD	Client Reference:  Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	Sams/Heary Street - 131 Sams Street 19/3147/5  24/07/2019 10.45	Stafford/Watts Street - 130 Stafford Street 19/3147/7  24/07/2019 09.17
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	10EST	<10
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1
QP-KYN-105	<i>E. coli</i>	MPN/100mL	1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	<1	<1
QP-KYN-057	Enterococci	CFU/100mL	1	<1	<1
	Temperature on Arrival	°C		15	[NA]
Client*	Temperature-Client	°C		21.3	20.6

Comments

Time period between sample collection & laboratory receipt exceeds 24 hours for microbiology samples.  
EST - Estimated count  
*E. coli* results comply with the Australian Drinking Water Guidelines 6 2011.  
Enterococci results comply with the Australian Drinking Water Guidelines 6 2011.  
Fluoride results exceed the Australian Drinking Water Health Based Guidelines 6 2011 (Updated May 2019) of 1.5mg/L.  
Sodium results exceed the Australian Drinking Water Aesthetic Guidelines 6 2011 (Updated May 2019) of 180mg/L.  
Samples outsourced for Fluoride analysis to Symbio. Please refer to attached Report Number B810278 [R00].

  
John Osment  
Chemist



NATA Accredited Laboratory  
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**File Reference:** S-002289 (External)  
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"Derived" - Derived value.  
**Results apply to sample(s) as received at laboratory.**



BEING WATERWISE ABN 99 738 505 360



**LABORATORY SERVICES**  
 Shuttleswood Court Mt Nyrach Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [labservices@toowoomba.ric.qld.gov.au](mailto:labservices@toowoomba.ric.qld.gov.au)  
 T: 07 4688 6270 F: 07 4688 6259

**TEST REPORT**

Page 1 of 2  
 Issued: 9/10/19

**BATCH NO:** 19/4262  
**RECEIVED:** 3/10/19  
**APPROVED:** 9/10/19

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 PO Box 46  
 Thargomindah QLD 4492  
**ATTENTION:** Chloe Tuite

**ORDER NO:** 18391  
**REPORT NO:** 031019-4262-1

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	Thargomindah Bore 01 19/4262/1 2/10/2019 08.30	Thargomindah - Post Cooling Pond 19/4262/2 2/10/2019 08.45	Dowling/Dunn e Street - Caravan Park 19/4262/3 2/10/2019 09.00	Powell/Stafford Street - Old Caravan Park 19/4262/4 2/10/2019 09.15
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	<10	<10	<10	<10
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-105	<i>E. coli</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-057	Enterococci	CFU/100mL	1	<1	<1	<1	<1
	Temperature on Arrival	°C		12	[NA]	[NA]	[NA]

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	Sams/Henry Street - 131 Sams Street 19/4262/5 2/10/2019 09.30	McGregor Street - Old Hospital 19/4262/6 2/10/2019 09.45	Stafford/Watts Street - 130 Stafford 19/4262/7 2/10/2019 10.00
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	<10	80EST	15EST
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1	<1
QP-KYN-105	<i>E. coli</i>	MPN/100mL	1	<1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	<1	<1	<1
QP-KYN-057	Enterococci	CFU/100mL	1	<1	<1	<1



NATA Accredited Laboratory  
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 Accredited for compliance with ISO/IEC 17025 - Testing

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 If Measurement Uncertainty required refer to following  
 hyperlink:  
<http://www.tr.qld.gov.au/environment-water-waste/water-supply-dams/water-treatment-testing/12052-water-analysis>  
 "Derived" - Derived value.  
**Results apply to sample(s) as received at laboratory.**

BEING WATERWISE ABN 99 759 305 360

**TOOWOOMBA REGIONAL WATER**

**LABORATORY SERVICES**  
 Shuttlewood Court Mt Sproch Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fld Qld 4350  
 Email: [lab@toowoomba.rg.qld.gov.au](mailto:lab@toowoomba.rg.qld.gov.au)  
 T: 07 4688 6270 F: 07 4688 6259

**TEST REPORT**

Page 2 of 2  
 Issued: 9/10/19


**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 PO Box 46  
 Thargomindah QLD 4492  
**ATTENTION:** Chloe Tuile

**BATCH NO:** 19/4262  
**RECEIVED:** 3/10/19  
**APPROVED:** 9/10/19  
**ORDER NO:** 18391  
**REPORT NO:** 031019-4262-1

Comments

EST - Estimated count

*E. coli* results comply with the Australian Drinking Water Guidelines 6 2011 (<1 cfu or MPN/100mL).  
 Enterococci results comply with the Australian Drinking Water Guidelines 6 2011 (<1 cfu/100mL).

  
 Daniel Bishop  
 Microbiologist



NATA Accredited Laboratory  
 Number 12009  
 Accredited for compliance with ISO/IEC 17025 - Testing

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 "Derived" - Derived value.  
**Results apply to sample(s) as received at laboratory.**



BEING WATERWISE ABN 99 788 305 360

**TOOWOOMBA REGIONAL WATER**

**LABORATORY SERVICES**  
 Shuttlewood Court Mt Wynch Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [labservices@toowoombaRC.qld.gov.au](mailto:labservices@toowoombaRC.qld.gov.au)  
 T: 07 4688 6270 F: 07 4688 6299

**TEST REPORT**

Page 1 of 2  
 Issued: 20/01/20

**BATCH NO:** 20/0353  
**RECEIVED:** 16/01/20  
**APPROVED:** 20/01/20

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 PO Box 46  
 Thargomindah QLD 4492  
**ATTENTION:** Chloe Tuite

**ORDER NO:** 18391  
**REPORT NO:** 160120-0353-1

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	T- Post Cool Pond 20/0353/1 15/01/2020 09.00	T- New Caravan Park 20/0353/2 15/01/2020 09.26	T- Old Caravan Park 20/0353/3 15/01/2020 09.44	T- 131 Sams Street 20/0353/4 15/01/2020 09.35
Client*	Temperature-Client	°C		47.5	36.1	37.2	35.5
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	15EST	850	150	180
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-105	<i>E.coli</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-057	Enterococci	CFU/100mL	1	1EST	2EST	<1	<1

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	T- Old Hospital 20/0353/5 15/01/2020 09.50	T- 130 Stafford Street 20/0353/6 15/01/2020 09.10
Client*	Temperature-Client	°C		41.2	35.5
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	350	<10
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1
QP-KYN-105	<i>E.coli</i>	MPN/100mL	1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	<1	4
QP-KYN-057	Enterococci	CFU/100mL	1	<1	<1
	Temperature on Arrival	°C		27	[NA]



NATA Accredited Laboratory  
 Number 12009  
 Accredited for compliance with ISO/IEC 17025 - Testing

**File Reference:** S-002289 (External)  
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 If Measurement Uncertainty required refer to following hyperlink:  
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 "Derived" - Derived value.  
**Results apply to sample(s) as received at laboratory.**

BEING WATERWISE ABN 99 788 305 390



**LABORATORY SERVICES**  
 Shuffeswell Court Mt Morgan Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [lab@trw.com.au](mailto:lab@trw.com.au)  
 T: 07 4688 6270 F: 07 4688 6259

**TEST REPORT**

Page 2 of 2  
 Issued: 20/01/20

**BATCH NO:** 20/0353  
**RECEIVED:** 18/01/20  
**APPROVED:** 20/01/20  
  
**ORDER NO:** 18391  
**REPORT NO:** 160120-0353-1

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 PO Box 48  
 Thargomindah QLD 4492  
**ATTENTION:** Chloe Tuile

Comments

Enterococci results do not comply with the Australian Drinking Water Guidelines 6 2011 (<1 cfu/100mL).



John Osment  
 Chemist



NATA Accredited Laboratory  
 Number 12009  
 Accredited for compliance with ISO/IEC 17025 - Testing

**File Reference:** S-002289 (External)  
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 "Derived" - Derived value.  
**Results apply to sample(s) as received at laboratory.**

BEING WATERWISE

ABN 99 788 305 360

**LABORATORY SERVICES**  
 Shuttlewood Court Mt Wynch Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [lab@toowoomba.qld.gov.au](mailto:lab@toowoomba.qld.gov.au)  
 T: 07 4688 6270 F: 07 4688 6258

**TOOWOOMBA REGIONAL WATER**

**TEST REPORT**

Page 1 of 2  
 Issued: 28/01/20

**BATCH NO:** 20/0444  
**RECEIVED:** 23/01/20  
**APPROVED:** 28/01/20

**ORDER NO:** 18391

**REPORT NO:** 230120-0444-1

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 PO Box 46  
 Thargomindah QLD 4492  
**ATTENTION:** Wayne Mills

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	T-Post Cool Pond 20/0444/2 22/01/2020 08.12	T-New Caravan Park 20/0444/3 22/01/2020 10.13	T-Old Caravan Park 20/0444/4 22/01/2020 09.58	T-131 Sams Street 20/0444/5 22/01/2020 10.32
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	<10	<10	<10	<10
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-105	<i>E.coli</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-057	Enterococci	CFU/100mL	1	<1	<1	<1	<1
Client*	Temperature-Client	°C		44.0	36.0	32.0	33.0
	Temperature on Arrival	°C		[NA]	[NA]	22	[NA]

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	T-Old Hospital 20/0444/6 22/01/2020 08.58	T-130 Stafford Street 20/0444/7 22/01/2020 08.36
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	210	15 EST
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1
QP-KYN-105	<i>E.coli</i>	MPN/100mL	1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	1	<1
QP-KYN-057	Enterococci	CFU/100mL	1	<1	<1
Client*	Temperature-Client	°C		34.0	36.0



NATA Accredited Laboratory  
 Number 131000

**File Reference:** S-002289 (External)  
 \*not covered by NATA scope of accreditation  
 LOR = Limit of Reporting  
 If Measurement Uncertainty required refer to following hyperlink:  
<http://www.tr.qld.gov.au/environment-water-waste/water-supply-dams/water-treatment-testing/12052-water-analysis>

BEING WATERWISE ASN 99 788 305 300



**LABORATORY SERVICES**  
 Shuttlewood Court Mt Allynch Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [lab@toowoomba.rwa.qld.gov.au](mailto:lab@toowoomba.rwa.qld.gov.au)  
 T: 07 4688 6270 F: 07 4688 6259

**TEST REPORT**

Page 2 of 2  
 Issued: 28/01/20

**BATCH NO:** 20/0444  
**RECEIVED:** 23/01/20  
**APPROVED:** 28/01/20

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 PO Box 46  
 Thargomindah QLD 4492  
**ATTENTION:** Wayne Mills

**ORDER NO:** 18391  
**REPORT NO:** 230120-0444-1

Comments

EST - Estimated count

*E. coli* results comply with the Australian Drinking Water Guidelines 6 2011 (<1 cfu or MPN/100mL).

Enterococci results comply with the Australian Drinking Water Guidelines 6 2011 (<1 cfu/100mL).


  
 Daniel Bishop  
 Microbiologist



NATA Accredited Laboratory  
 Number 12009

**File Reference:** S-002289 (External)  
 \*not covered by NATA scope of accreditation  
 LOR = Limit of Reporting

If Measurement Uncertainty required refer to following hyperlink:  
<http://www.tr.qld.gov.au/environment-water-waste/water-supply-dams/water-treatment-testing/12052-water-analysis>

BEING WATERWISE  
  
 TOOWOOMBA  
 REGIONAL  
 WATER

ABN 99 788 305 360  
**LABORATORY SERVICES**  
 Shuttlewood Court Mt Allynch Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [lab@toowoomba.qld.gov.au](mailto:lab@toowoomba.qld.gov.au)  
 T: 07 4688 6270 F: 07 4688 6259

**TEST REPORT**

Page 1 of 2

Issued: 3/02/20

**BATCH NO:** 20/0529  
**RECEIVED:** 30/01/20  
**APPROVED:** 3/02/20

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 68 Dowling Street  
 Thargomindah QLD 4492  
**ATTENTION:** Wayne Mills

**ORDER NO:** 18391

**REPORT NO:** 300120-0529-1

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	T-Post CoolPond 20/0529/2 29/01/2020 0710	T-New Caravan Park 20/0529/3 29/01/2020 0810	T-Old Caravan Park 20/0529/4 29/01/2020 0755	T-131-Sams Street 20/0529/5 29/01/2020 0825
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	<10	<10	15 EST	10 EST
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-105	<i>E.coli</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-057	Enterococci	CFU/100mL	1	<1	<1	<1	<1
	Temperature on Arrival	°C		20	[NA]	[NA]	[NA]
Client*	Temperature-Client	°C		46.1	40.5	40.3	41.1

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	T-Old Hospital 20/0529/6 29/01/2020 0740	T-130-Stafford Street 20/0529/7 29/01/2020 0725
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	10 EST	<10
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1
QP-KYN-105	<i>E.coli</i>	MPN/100mL	1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	<1	<1
QP-KYN-057	Enterococci	CFU/100mL	1	<1	<1
Client*	Temperature-Client	°C		38.9	35.5



NATA Accredited Laboratory

Number 12009

Accredited for compliance with ISO/IEC 17025 - Testing

**File Reference:** S-002289 (External)

\*not covered by NATA scope of accreditation

LOR = Limit of Reporting

If Measurement Uncertainty required refer to following hyperlink:

<http://www.tr.qld.gov.au/environment-water-waste/water-supply-dams/water-treatment-testing/12052-water-analysis>

"Derived" - Derived value.

**Results apply to sample(s) as received at laboratory.**

BEING WATERWISE

ABN 99 788 305 360

**LABORATORY SERVICES**  
 Shuttlesend Court Mt Wynch Toowoomba Qld 4300  
 PO Box 3021  
 Toowoomba Village Fair Qld 4300  
 Email: [lab@toowoomba66.com.au](mailto:lab@toowoomba66.com.au)  
 T: 07 4688 6270 F: 07 4688 6298

**TOOWOOMBA  
REGIONAL  
WATER**

**TEST REPORT**

Page 2 of 2  
 Issued: 3/02/20

**BATCH NO:** 20/0529  
**RECEIVED:** 30/01/20  
**APPROVED:** 3/02/20

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 68 Dowling Street  
 Thargomindah QLD 4492  
**ATTENTION:** Wayne Mills

**ORDER NO:** 18391  
**REPORT NO:** 300120-0529-1

Comments

Time period between sample collection & laboratory receipt exceeds 24 hours for microbiology samples.  
 EST - Estimated count  
 E.coli results comply with the Australian Drinking Water Guidelines 6 2011 (<1 cfu or MPN/100mL).  
 Enterococci results comply with the Australian Drinking Water Guidelines 6 2011 (<1 cfu/100mL).

*D. Bishop*  
 Daniel Bishop  
 Microbiologist



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**File Reference:** S-002289 (External)  
 \*not covered by NATA scope of accreditation  
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 hyperlink:  
<http://www.tr.qld.gov.au/environment-water-waste/water-supply-dams/water-treatment-testing/12052-water-analysis>  
 "Derived" - Derived value.  
**Results apply to sample(s) as received at laboratory.**



BEING WATERISE ABN 99 788 505 560

**TOOWOOMBA REGIONAL WATER**

**LABORATORY SERVICES**  
 Shuttleswood Court Mt Wynch Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [labservices@toowoombawater.com.au](mailto:labservices@toowoombawater.com.au)  
 T: 07 4688 6270 F: 07 4688 6259

**TEST REPORT**

Page 1 of 2

Issued: 23/03/20

**BATCH NO:** 20/1244  
**RECEIVED:** 19/03/20  
**APPROVED:** 23/03/20

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 68 Dowling Street  
 Thargomindah QLD 4492  
**ATTENTION:** Wayne Mills

**ORDER NO:** 18391  
**REPORT NO:** 190320-1244-1

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	T-Bore-01 20/1244/1 18/03/2020 0748	T- Post Cool Pond 20/1244/2 18/03/2020 0810	T-New Caravan Park 20/1244/3 18/03/2020 0835	T- Old Caravan Park 20/1244/4 18/03/2020 0905
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	<10	<10	10EST	<10
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-105	<i>E.coli</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	<1	<1	<1	<1
QP-KYN-057	Enterococci	CFU/100mL	1	<1	<1	<1	<1
	Temperature on Arrival	°C		20	[NA]	[NA]	[NA]

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	T-131- Sams Street 20/1244/5 18/03/2020 0850	T-Old Hospital 20/1244/6 18/03/2020 1000	T-130 Stafford Street 20/1244/7 18/03/2020 0820
QP-KYN-051	Heterotrophic Plate Count	CFU/mL	1	30EST	<10	15EST
QP-KYN-105	Total Coliforms	MPN/100mL	1	<1	<1	<1
QP-KYN-105	<i>E.coli</i>	MPN/100mL	1	<1	<1	<1
QP-KYN-106	<i>Pseudomonas aeruginosa</i>	MPN/100mL	1	<1	<1	<1
QP-KYN-057	Enterococci	CFU/100mL	1	<1	<1	<1

**Comments**

EST - Estimated count

*E.coli* results comply with the Australian Drinking Water Guidelines 6 2011 (<1 cfu or MPN/100mL).

Enterococci results comply with the Australian Drinking Water Guidelines 6 2011 (<1 cfu/100mL).



NATA Accredited Laboratory

Number 12009

Accredited for compliance with ISO/IEC 17025 - Testing

**File Reference:** S-002289 (External)

\*not covered by NATA scope of accreditation

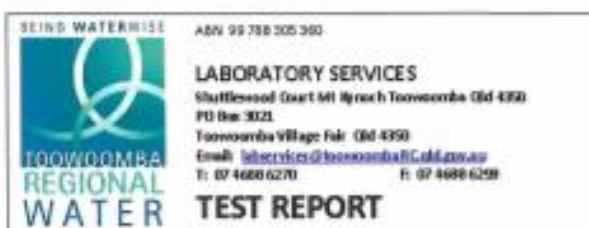
LOR = Limit of Reporting

If Measurement Uncertainty required refer to following hyperlink:

<http://www.tr.qld.gov.au/environment-water-waste/water-supply-dams/water-treatment-testing/12052-water-analysis>  
 "Derived" - Derived value.

**Results apply to sample(s) as received at laboratory.**





Issued: 23/03/20

BATCH NO: 20/1244  
RECEIVED: 19/03/20  
APPROVED: 23/03/20

ORDER NO: 18391

REPORT NO: 190320-1244-1

CLIENT: The Chief Executive Officer  
Bulloo Shire Council (801596)  
68 Dowling Street  
Thargomindah QLD 4492  
ATTENTION: Wayne Mills

  
Daniel Bishop  
Microbiologist



NATA Accredited Laboratory  
Number 12599  
Accredited for compliance with ISO/IEC 17025 - Testing

File Reference: S-002289 (External)

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LOR = Limit of Reporting

If Measurement Uncertainty required refer to following  
hyperlink:

<http://www.tr.qld.gov.au/environment-water-waste/water-supply-dams/water-treatment-testing/12052-water-analysis>  
"Derived" - Derived value.

Results apply to sample(s) as received at laboratory.

BEING WATERWISE

ADN 99 788 305 392

**LABORATORY SERVICES**  
 Shuttlewood Court Mt Mynah Toowoomba Qld 4350  
 PO Box 3021  
 Toowoomba Village Fair Qld 4350  
 Email: [lab@tr.qld.gov.au](mailto:lab@tr.qld.gov.au)  
 T: 07 4688 6270 F: 07 4688 6259

**TEST REPORT**

Page 1 of 2  
 Issued: 22/06/20

**BATCH NO:** 20/2400  
**RECEIVED:** 17/06/20  
**APPROVED:** 22/06/20

**ORDER NO:** 18391

**REPORT NO:** 170620-2400-1

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 68 Dowling Street  
 Thargomindah QLD 4492  
**ATTENTION:** Wayne Mills

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	T-Store-01 20/2400/1 17/06/2020 11.15
QP-KYN-002	Conductivity	uS/cm	1	[NT]
QP-KYN-001	pH	pH unit		8.2
QP-ADM-016*	Total Hardness - ICP	mg/L CaCO <sub>3</sub>	1	8.0
QP-KYN-015	Total Alkalinity	mg/L CaCO <sub>3</sub>	2	448
QP-KYN-097	Calcium by ICP	mg/L	0.03	3.30
QP-KYN-097	Iron	mg/L	0.005	0.035
QP-KYN-097	Potassium	mg/L	0.03	3.9
QP-KYN-097	Magnesium by ICP	mg/L	0.002	0.042
QP-KYN-097	Manganese	mg/L	0.002	0.013
QP-KYN-097	Sodium	mg/L	0.5	236
QP-KYN-114	Chloride	mg/L	0.5	67.0
QP-KYN-114	Nitrate	mg/L	0.2	<0.2
QP-KYN-114	Sulphate	mg/L	0.5	<0.5
QP-KYN-090	Phosphate	mg/L PO <sub>4</sub>	0.02	0.04
QP-KYN-090	Molybdate Reactive Silica	mg/L	1	41
QP-ADM-016*	Temporary Hardness	mg/L CaCO <sub>3</sub>	1	8
QP-ADM-016*	Bicarbonate Alkalinity	mg/L CaCO <sub>3</sub>	1	448
QP-ADM-016*	Carbonate Alkalinity	mg/L CaCO <sub>3</sub>	2	<2
QP-ADM-016*	Hydroxide Alkalinity	mg/L CaCO <sub>3</sub>	2	<2
QP-ADM-016*	Free Carbon Dioxide	mg/L	0.1	5.7
QP-ADM-016*	Total Dissolved Ions	mg/L	1	856
QP-ADM-016*	Total Dissolved Solids	mg/L	1	819
QP-ADM-016*	Figure of Merit		0.1	<0.1



NATA Accredited Laboratory  
 Number 12001  
 Accredited for compliance with ISO/IEC 17025 - Testing

**File Reference:** S-002289 (External)

\*not covered by NATA scope of accreditation

LOR = Limit of Reporting

If Measurement Uncertainty required refer to following hyperlink:

<http://www.tr.qld.gov.au/environment-water-waste/water-supply-dams/water-treatment-testing/12052-water-analysis>

"Derived" - Derived value.

Results apply to sample(s) as received at laboratory.

BEING WATERWISE AS/N 99 788 305 390

**LABORATORY SERVICES**  
 Shuttlewood Court Mt Sproch Toowoomba Qld 4300  
 PO Box 3021  
 Toowoomba Village Fair Qld 4300  
 Email: [lab@toowoombaRC.qld.gov.au](mailto:lab@toowoombaRC.qld.gov.au)  
 T: 07 4688 6270 F: 07 4688 6258

**TOOWOOMBA REGIONAL WATER**

**TEST REPORT**

Page 2 of 2  
 Issued: 22/06/20

**BATCH NO:** 20/2400  
**RECEIVED:** 17/06/20  
**APPROVED:** 22/06/20  
  
**ORDER NO:** 18391  
**REPORT NO:** 170620-2400-1

**CLIENT:** The Chief Executive Officer  
 Bulloo Shire Council (801596)  
 68 Dowling Street  
 Thargomindah QLD 4492  
**ATTENTION:** Wayne Mills

METHOD	Client Reference: Laboratory Reference: Sample Date: Sample Time: ANALYSIS	UNITS	LOR	T-Barc-01 20/2400/1  17/06/2020 11.15
QP-ADM-016*	Saturation Index			-0.22
QP-ADM-016*	Residual Alkalinity	mg/L CaCO <sub>3</sub>		9.0
QP-ADM-016*	Sodium Adsorption Ratio		0.1	35.4
	Temperature on Arrival	°C		10

Comments

Total Dissolved Solids results exceed the Australian Drinking Water Aesthetic Guideline 6 2011 (Updated May 2019) of 600mg/L.  
 Sodium results exceed the Australian Drinking Water Aesthetic Guidelines 6 2011 (Updated May 2019) of 180mg/L.  
 pH was tested outside the AWDG recommended preservation conditions of <8C and < 6 hours from sampling.

  
 John Osment  
 Chemist



NATA Accredited Laboratory  
 Number 13089  
 Accredited for compliance with ISO/IEC 17025 - Testing

**File Reference:** S-002289 (External)  
 \*not covered by NATA scope of accreditation  
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 hyperlink:  
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 "Derived" - Derived value.  
**Results apply to sample(s) as received at laboratory.**

## Appendix F: Key Performance Indicators from DNRME KPI report from SWIM

Organisation	Scheme	Scheme Type	SWIM (code)	KPI (code)	QG KPI category	Indicator title	Value	Units	Comments
Bulloo Shire Council	Thargomindah Water	Potable water scheme	AS2	QG1.1	General	Length of water mains (S)	7.8	km	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	AS2	QG1.1	General	Length of water mains (S)	3	km	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	AS2	QG1.1	General	Length of water mains (S)	10.8	km	
Bulloo Shire Council	Thargomindah Sewerage	Sewerage scheme	AS5	QG1.2	General	Length of sewerage mains (S)	8.1	km	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	AS5	QG1.2	General	Length of sewerage mains (S)	8.1	km	
Bulloo Shire Council	Thargomindah Sewerage	Sewerage scheme	AS4	QG1.3	General	Number of sewage treatment plants (S)	1	Count	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	AS4	QG1.3	General	Number of sewage treatment plants (S)	1	Count	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	AS1	QG1.4a	General	Number of water treatment plants (S)	0	Count	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	AS1	QG1.4a	General	Number of water treatment plants (S)	0	Count	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	AS47	QG1.4b	General	Capacity of water treatment plants (S)	NR	ML/day	Artesian basin supply - no water treatment required
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	AS47	QG1.4b	General	Capacity of water treatment plants (S)	NR	ML/day	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WA201	QG1.5	General	Maximum daily demand (S)	1.1	ML/day	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WA201	QG1.5	General	Maximum daily demand (S)	MD	ML/day	

Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA201	QG1.5	General	Maximum daily demand (S)	1.1	ML/day	Hungerford Raw not metered at this stage
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WA74	QG1.6	General	Total volume of potable water produced (S)	310	ML	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA74	QG1.6	General	Total volume of potable water produced (S)	310	ML	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	AS48	QG1.7	General	Total potable water storage (S)	NR	ML	Artesian basin supply - no storage needed
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	AS48	QG1.7	General	Total potable water storage (S)	NR	ML	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WA1	QG1.8	General	Volume of water sourced from surface water (S)	NR	ML	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WA1	QG1.8	General	Volume of water sourced from surface water (S)	NR	ML	Bore Supply, not surface supply
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA1	QG1.8	General	Volume of water sourced from surface water (S)	NR	ML	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WA2	QG1.9a	General	Volume of water sourced from groundwater (S)	140	ML	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WA2	QG1.9a	General	Volume of water sourced from groundwater (S)	0	ML	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA2	QG1.9a	General	Volume of water sourced from groundwater (S)	140	ML	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WA45	QG1.9b	General	Volume of water received from bulk supplier (S)	NR	ML	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WA45	QG1.9b	General	Volume of water received from bulk supplier (S)	NR	ML	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA45	QG1.9b	General	Volume of water received from bulk supplier (S)	NR	ML	



Bulloo Shire Council	Thargomindah Water	Potable water scheme	WA61	QG1.10	General	Volume of water sourced from desalination of marine water (S)	NR	ML	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WA61	QG1.10	General	Volume of water sourced from desalination of marine water (S)	NR	ML	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA61	QG1.10	General	Volume of water sourced from desalination of marine water (S)	NR	ML	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA26	QG1.11	General	Total recycled water supplied (S)	NR	ML	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WA7	QG1.12	General	Total water sourced (S)	140	ML	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WA7	QG1.12	General	Total water sourced (S)	0	ML	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA7	QG1.12	General	Total water sourced (S)	141	ML	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	CS2	QG1.13	General	Connected residential properties - water supply (S)	0.137	000s	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	CS2	QG1.13	General	Connected residential properties - water supply (S)	0.017	000s	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	CS2	QG1.13	General	Connected residential properties - water supply (S)	0.154	000s	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	CS3	QG1.14	General	Connected non-residential properties - water supply (S)	0.046	000s	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	CS3	QG1.14	General	Connected non-residential properties - water supply (S)	0.007	000s	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	CS3	QG1.14	General	Connected non-residential properties - water supply (S)	0.053	000s	
Bulloo Shire Council	Thargomindah Sewerage	Sewerage scheme	CS6	QG1.15	General	Connected residential properties - sewerage (S)	0.095	000s	

Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	CS6	QG1.15	General	Connected residential properties - sewerage (S)	0.095	000s	
Bulloo Shire Council	Thargomindah Sewerage	Sewerage scheme	CS7	QG1.16	General	Connected non-residential properties - sewerage (S)	0.005	000s	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	CS7	QG1.16	General	Connected non-residential properties - sewerage (S)	0.005	000s	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WA202	QG1.17a	General	Volume of potable water supplied - residential (S)	2.1	ML	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA202	QG1.17a	General	Volume of potable water supplied - residential (S)	2.1	ML	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WA204	QG1.17b	General	Volume of non-potable water supplied - residential (S)	NR	ML	No data collected due to no meters - meters to be installed
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA204	QG1.17b	General	Volume of non-potable water supplied - residential (S)	NR	ML	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WA203	QG1.18a	General	Volume of potable water supplied - commercial, municipal and industrial (S)	0.5	ML	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA203	QG1.18a	General	Volume of potable water supplied - commercial, municipal and industrial (S)	0.5	ML	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WA205	QG1.18b	General	Volume of non-potable water supplied - commercial, municipal and industrial (S)	NR	ML	No data collected due to no meters - meters to be installed
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA205	QG1.18b	General	Volume of non-potable water supplied - commercial, municipal and industrial (S)	NR	ML	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WA36	QG1.19	General	Volume of potable non-revenue water (S)	6.2	ML	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WA36	QG1.19	General	Volume of potable non-revenue water (S)	6.2	ML	Not recorded - no records separating industrial, commercial and residential
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WF1	QG1.20	General	Total Full-Time Equivalent water and sewerage services employees (W)	2	FTEs	2 staff members are part time as water and sewerage doesn't require full time

Bulloo Shire Council	Thargomindah Water	Potable water scheme	WS1	QG2.1	Water Security	Months of supply remaining at end of reporting period (30 June) (S)	NR	months	Artesian Basin - Supply unknown
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WS1	QG2.1	Water Security	Months of supply remaining at end of reporting period (30 June) (S)	NR	months	Artesian Basin - Supply unknown
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WS1	QG2.1	Water Security	Months of supply remaining at end of reporting period (30 June) (S)	NR	months	Artesian Basin - Supply unknown
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WS2	QG2.2	Water Security	Anticipated capacity to meet demand for next reporting year (at QG 2.4) (S)	ok	ok/not ok	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WS2	QG2.2	Water Security	Anticipated capacity to meet demand for next reporting year (at QG 2.4) (S)	ok	ok/not ok	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WS2	QG2.2	Water Security	Anticipated capacity to meet demand for next reporting year (at QG 2.4) (S)	ok	ok/not ok	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WS3	QG2.3	Water Security	Available contingency supplies (S)	yes	yes/no	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WS3	QG2.3	Water Security	Available contingency supplies (S)	yes	yes/no	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WS3	QG2.3	Water Security	Available contingency supplies (S)	yes	yes/no	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WS4	QG2.4	Water Security	Total anticipated water demand for next reporting year (S)	220	ML	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WS4	QG2.4	Water Security	Total anticipated water demand for next reporting year (S)	5	ML	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WS4	QG2.4	Water Security	Total anticipated water demand for next reporting year (S)	225	ML	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WS5	QG2.5	Water Security	Total anticipated annual water demand in five years' time (S)	220	ML	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WS5	QG2.5	Water Security	Total anticipated annual water demand in five years' time (S)	5	ML	



Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WS5	QG2.5	Water Security	Total anticipated annual water demand in five years' time (S)	225	ML	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WS6	QG2.6	Water Security	Anticipated capacity to meet demand in 5 years' time (at QG 2.5) (S)	ok	ok/not ok	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WS6	QG2.6	Water Security	Anticipated capacity to meet demand in 5 years' time (at QG 2.5) (S)	ok	ok/not ok	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WS6	QG2.6	Water Security	Anticipated capacity to meet demand in 5 years' time (at QG 2.5) (S)	ok	ok/not ok	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WS7	QG2.7	Water Security	Planned supply system response (S)	yes	yes/no	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WS7	QG2.7	Water Security	Planned supply system response (S)	yes	yes/no	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WS7	QG2.7	Water Security	Planned supply system response (S)	yes	yes/no	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WS10	QG2.8	Water Security	Water restrictions (duration) (S)	0	days	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WS10	QG2.8	Water Security	Water restrictions (duration) (S)	0	days	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WS10	QG2.8	Water Security	Water restrictions (duration) (S)	0	days	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	WS9	QG2.9	Water Security	Water restrictions (severity) (S)	0	%	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	WS9	QG2.9	Water Security	Water restrictions (severity) (S)	0	%	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	WS9	QG2.9	Water Security	Water restrictions (severity) (S)	0	%	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN14	QG3.1	Finance	Total water supply capital expenditure (W)	0	\$,000	

Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN15	QG3.2	Finance	Total sewerage capital expenditure (W)	0	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN26	QG3.3	Finance	Capital works grants - water (W)	0	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN27	QG3.4	Finance	Capital works grants - sewerage (W)	0	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN9	QG3.5	Finance	Nominal written-down replacement cost of fixed water supply assets (W)	5610.752	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN10	QG3.6	Finance	Nominal written-down replacement costs of fixed sewerage assets (W)	2311.792	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN74	QG3.7	Finance	Current replacement costs of fixed water supply assets (W)	7023.751	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN75	QG3.8	Finance	Current replacement costs of fixed sewerage assets (W)	3036.201	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN1	QG3.9	Finance	Total revenue - water (W)	101.53	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN2	QG3.10	Finance	Total revenue - sewerage (W)	84.705	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN11	QG3.11	Finance	Operating cost - water (W)	118.29	\$/ connection	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN12	QG3.12	Finance	Operating cost - sewerage (W)	914.68	\$/ connection	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN76	QG3.13	Finance	Annual maintenance costs - water (W)	39.122	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN77	QG3.14	Finance	Annual maintenance costs - sewerage (W)	136	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN78	QG3.15	Finance	Current cost depreciation - water (W)	120.878	\$,000	

Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN79	QG3.16	Finance	Current cost depreciation - sewerage (W)	50.815	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN80	QG3.17	Finance	Previous 5 year average annual renewals expenditure - water (W)	207.118	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN81	QG3.18	Finance	Previous 5 year average annual renewals expenditure - sewerage (W)	132.74	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN82	QG3.19	Finance	Forecast 5 year average annual renewals expenditure - water (W)	109.902	\$,000	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	FN83	QG3.20	Finance	Forecast 5 year average annual renewals expenditure - sewerage (W)	45.8	\$,000	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	PR3	QG4.1(value)	Customer	Fixed charge - water (S)	220.57	\$/annum	Do not have excess water charges
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	PR3	QG4.1(value)	Customer	Fixed charge - water (S)	368.9	\$/annum	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	PR3	QG4.1(value)	Customer	Fixed charge - water (S)	589.47	\$/annum	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	PR5	QG4.1(text)	Customer	Fixed charge - water (S) description	per dwelling	Text	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	PR5	QG4.1(text)	Customer	Fixed charge - water (S) description	per dwelling	Text	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	PR5	QG4.1(text)	Customer	Fixed charge - water (S) description	per dwelling	Text	
Bulloo Shire Council	Thargomindah Sewerage	Sewerage scheme	PR31	QG4.2(value)	Customer	Fixed charge - sewerage (S)	214.89	\$/annum	Flat rate for sewerage
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	PR31	QG4.2(value)	Customer	Fixed charge - sewerage (S)	214.89	\$/annum	
Bulloo Shire Council	Thargomindah Sewerage	Sewerage scheme	PR40	QG4.2(text)	Customer	Fixed charge - sewerage (S) description	per dwelling	Text	

Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	PR40	QG4.2(text)	Customer	Fixed charge - sewerage (S) description	per dwelling	Text	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	PR47	QG4.3	Customer	Annual bill based on 200 kL/annum (W)	804.36	\$	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	PR48	QG4.4	Customer	Typical residential bill (W)	804.36	\$	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	AS8	QG4.5	Customer	Total water main breaks (S)	0	per 100km water main	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	AS8	QG4.5	Customer	Total water main breaks (S)	0	per 100km water main	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	AS8	QG4.5	Customer	Total water main breaks (S)	0	per 100km water main	
Bulloo Shire Council	Thargomindah Sewerage	Sewerage scheme	AS39	QG4.6	Customer	Total sewerage main breaks and chokes (S)	0	per 100km sewer mains	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	AS39	QG4.6	Customer	Total sewerage main breaks and chokes (S)	0	per 100km sewer mains	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	CS17	QG4.7	Customer	Incidence of unplanned interruptions - water (S)	0	per 1000 connections	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	CS17	QG4.7	Customer	Incidence of unplanned interruptions - water (S)	0	per 1000 connections	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	CS66	QG4.8	Customer	Average response time for water incidents (bursts & leaks) (S)	93	%	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	CS66	QG4.8	Customer	Average response time for water incidents (bursts & leaks) (S)	NR	%	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	CS66	QG4.8	Customer	Average response time for water incidents (bursts & leaks) (S)	93	%	
Bulloo Shire Council	Thargomindah Sewerage	Sewerage scheme	CS65	QG4.9	Customer	Average response time for sewerage incidents (including main breaks and chokes) (S)	94	%	

Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	CS65	QG4.9	Customer	Average response time for sewerage incidents (including main breaks and chokes) (S)	94	%	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	CS9	QG4.10	Customer	Water quality complaints (S)	0	per 1000 connections	Population of Thargomindah: 249
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	CS9	QG4.10	Customer	Water quality complaints (S)	0	per 1000 connections	Population of Hungerford: 9
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	CS9	QG4.10	Customer	Water quality complaints (S)	0	per 1000 connections	
Bulloo Shire Council	Thargomindah Water	Potable water scheme	CS13	QG4.11	Customer	Total water and sewerage complaints (S)	0	per 1000 connections	
Bulloo Shire Council	Hungerford Raw	Raw-Partially treated water scheme	CS13	QG4.11	Customer	Total water and sewerage complaints (S)	0	per 1000 connections	
Bulloo Shire Council	Thargomindah Sewerage	Sewerage scheme	CS13	QG4.11	Customer	Total water and sewerage complaints (S)	0	per 1000 connections	
Bulloo Shire Council	Bulloo Shire Council WSP-wide	WSP	CS13	QG4.11	Customer	Total water and sewerage complaints (S)	19.3	per 1000 connections	