

# Drinking Water Quality Management Plan (DWQMP) report

2022-2023

Version: 1  
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LGA covered by this plan	South Burnett Regional Council
Water Supply Schemes covered by this plan	Blackbutt, Kingaroy, Murgon, Nanango, Proston, Wondai, Yallakool, Boondooma Dam

## Glossary of terms

<b>ADWG 2011</b>	Australian Drinking Water Guidelines (2011). Published by the National Health and Medical Research Council of Australia
<b>DWQMP</b>	Drinking Water Quality Management Plan
<b><i>E. coli</i></b>	<i>Escherichia coli</i> , a bacterium which is considered to indicate the presence of faecal contamination and therefore potential health risk
<b>HACCP</b>	Hazard Analysis and Critical Control Points certification for protecting drinking water quality.
<b>mg/L</b>	Milligrams per litre
<b>SBRC</b>	South Burnett Regional Council
<b>NTU</b>	Nephelometric Turbidity Units
<b>MPN/100mL</b>	Most probable number per 100 millilitres
<b>CFU/100mL</b>	Colony forming units per 100 millilitres
<b>&lt;</b>	Less than
<b>&gt;</b>	Greater than
<b>WTP</b>	Water Treatment Plant

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## 1. Introduction

This report documents the performance of South Burnett Regional 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 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.

This report has been prepared in accordance with the *Water Industry Regulatory Reform – drinking water quality management plan report factsheet* published by the Department of Energy and Water Supply, Queensland, accessible at [www.dews.qld.gov.au](http://www.dews.qld.gov.au).

## 2. Overview of Operations

South Burnett Regional Council water reticulation schemes service the townships of Blackbutt, Kingaroy, Murgon, Nanango, Proston and Wondai, with two smaller drinking water systems at Yallakool and Boondooma Dam tourist parks also operated under the approved DWQMP. The following table provides operational information for each scheme.

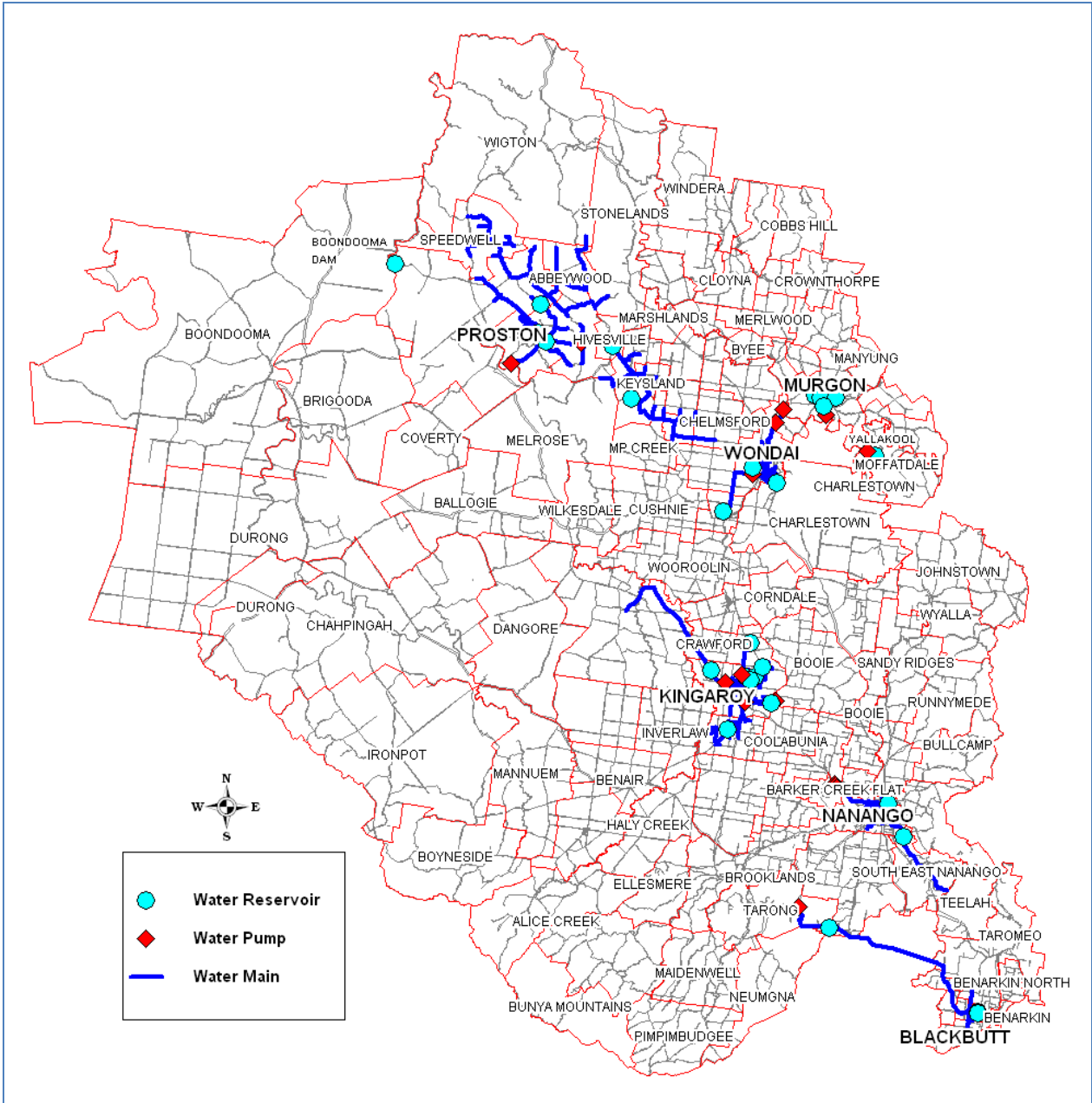
<b>WATER SUPPLY SCHEME</b>	<b>TREATMENT PLANT</b>	<b>WATER TREATMENT PROCESS</b>	<b>CAPACITY</b>
<b>Blackbutt</b>	Blackbutt WTP	<ul style="list-style-type: none"> <li>• Flocculation</li> <li>• Sedimentation</li> <li>• Filtration</li> <li>• Disinfection</li> </ul>	1.15 ML/day
<b>Kingaroy</b>	Gordonbrook WTP	<ul style="list-style-type: none"> <li>• PAC Dosing</li> <li>• Coagulation</li> <li>• Settling</li> <li>• Clarification</li> <li>• Floatation</li> <li>• Filtration</li> <li>• Disinfection</li> </ul>	9.72 ML/day
<b>Murgon</b>	Murgon WTP	<ul style="list-style-type: none"> <li>• Flocculation</li> <li>• Sedimentation</li> <li>• Filtration</li> <li>• Disinfection</li> </ul>	2.8 ML/day
<b>Nanango</b>	Nanango WTP	<ul style="list-style-type: none"> <li>• Disinfection</li> </ul>	1.4 ML/day
<b>Proston</b>	Proston WTP	<ul style="list-style-type: none"> <li>• Flocculation</li> <li>• Sedimentation</li> <li>• Filtration</li> <li>• Disinfection</li> </ul>	0.5 ML/day
<b>Wondai</b>	Wondai WTP	<ul style="list-style-type: none"> <li>• Flocculation</li> <li>• Dissolved Air Flotation</li> <li>• Filtration</li> <li>• Disinfection</li> </ul>	3.3 ML/day
<b>Yallakool</b>	Yallakool WTP	<ul style="list-style-type: none"> <li>• Flocculation</li> <li>• Filtration</li> <li>• Disinfection</li> </ul>	0.2 ML/day
<b>Boondooma Dam</b>	Boondooma Dam WTP	<ul style="list-style-type: none"> <li>• Flocculation</li> <li>• Sedimentation</li> <li>• Filtration</li> <li>• Disinfection</li> </ul>	0.12 ML/day

Water is disinfected with chlorine (liquid sodium hypochlorite) before entering the reticulation system and is transferred from the treatment plants to storage reservoirs through the reticulation systems.

SBRC provided fluoridated water for five schemes, those being Blackbutt, Kingaroy, Murgon, Nanango and Wondai. However, Council voted to cease fluoridation of all water supplies from January 2013. The fluoride plants have been decommissioned, and no fluoride has been stored onsite since the decision to cease fluoridation.

South Burnett Regional Council maintains in excess of 550 kilometres of water mains supplying approximately 9,730 properties through the South Burnett. The networks also comprise a total of 31 pump stations and 31 reservoirs with a total capacity of approximately 21.21 ML, and 10 re-chlorination stations. Figure 1 shows the extent of the South Burnett Regional Councils potable water distribution system; including areas serviced and the location of drinking water infrastructure.

**Figure 1: Overview Map of South Burnett Regional Council's Potable Water Distribution Network**



### 3. Actions taken to implement the DWQMP

#### 3.1 Progress in implementing the risk management improvement program.

The current approved DWQMP is Version 8.3 2021. The approved RMIP can be located in Appendix B to compare with the completed tasks in the below tables.

Version 8.3.2021 was approved 30/7/2021. The last regular audit was completed 15/10/2020.

The DWQMP recently has undertaken a holistic amendment, and this was submitted to the regulator for approval. All of the risks identified during the risk assessment workshop were reduced to either a low or medium level with the mitigation measures in place and risk reduction actions identified.

Completed risk reduction actions are detailed in Table 1.

All remaining tasks from the RMIAP are located below in Table 2.

**Table 1 Implementation of Risk Management Improvement Program (Version 8.3 2021)**

Ref	Scheme component / Sub-component	Hazard / Hazardous event	Priority	Action(s)			Target date(s)	Estimated cost	Responsibility	Comments
				Interim	Short-term	Long Term				
<b>Current Tasks</b>										
S11	All Areas	High THM's	Low	Secure budget allocation to complete a review.			Jul-23	N/A	MWW	THM review by external water quality expert or auditor to ensure best practices are adopted.
S13	Proston WTP	Water Quality, plant under-performing.	Low	Operators are trained on site	Jar Tests performed off site.	Jar testing and formal training of operators	Jun-23	N/A	MWW	
S14	Proston weir and pump station	Loss of supply to Proston scheme	Low	Pump hire		Procurement of Pumps and water licences	Jun-23	N/A	MWW	Align with Strategic Water Security approach to possible regionalisation and MIPP outcomes
S15	All Areas	Drifting analysers / water quality	Low	Calibration sheets		Instrument service agreements	Jun-23	N/A	MWW	
S16	Blackbutt WTP, Wondai WTP and Nanango WTP	PLC Failure / loss of supply	Medium	Operation operations		SCADA and PLC upgrades	Jun-24	N/A	MWW	Tenders awarded to complete the significant upgrades to Regional SCADA and PLC upgrades as a multiple year project.
S17	All Areas	General reservoir risks and hazards	Low			Develop formal inspection and reporting program.	Dec-21	N/A	MWW	Reservoir inspections are currently adhoc. Improvement is to formally inspect record and report defects.
S18	All areas	Dirty water / High turbidity / poor disinfection	Low			Investigate turbidity testing on site for water main repairs	Jun-23	N/A	MWW	
S19	QA system	Water Quality, plant under-performing.	Low			Implement additional quality controls for water quality	Jun-23	N/A	MWW	Implement better controls for capturing calibration data and jar testing results.
S20	Wondai WTP	High turbidity/dirty water	Low	Slow plant flow rate during turbid events		Clarifier requested through MIPP project		N/A	MWW	
S21	SCADA All schemes	Change to set points/ water quality	Low	System checks against set point summary		SCADA and PLC upgrades with built in prevention	Jun-23	N/A	MWW	
S22	All Areas	Water Quality, Operator error	Low	Develop Training		SOP for all procedures	Jun-23	N/A	MWW	Create a SOP for operators to locate and be trained
S24	All Areas	Water Quality	Low	Check all instruments		Implement Reagent and instrument calibration program	Jun-23	N/A	MWW	Implement routine program for calibrating, inspecting, bench top instruments and reagents.
S25	Kingaroy	THM	High			Design and Construct off site storage to store Boondooma Dam Raw Water	Jun-24	TBA	MWW	Off site storage dam will maintain continuity of supply from Boondooma Dam reducing the need to use 100% Gordonbrook supply.
S27	All Schemes	Water Quality / Disinfection	Medium			Develop a disinfection strategy to reduce water age and maintain fire fighting capacity.	Jun-24	TBA	MWW	This is an item requested by the regulator to develop. Water age historically was managed by reducing reservoir storages at outer reservoirs.
S28	All Treatment Plants	Turbidity	Medium	Continue to optimise jar testing and filter performance		Develop long term turbidity reduction plan for all WTP's	Jun-24	TBA	MWW	
S30	All Schemes	Blue Green Algae, Pesticides and Herbicides	Low	Continue to review results as received		Develop a data management system with and output reporting mechanism	Jun-23	TBA	MWW	



**Table 2 Implementation of Risk Management Improvement Program (Version 8.1 2021)**

Ref	Scheme component / Sub-component	Hazard / Hazardous event	Priority	Action(s)			Target date(s)	Estimated cost	Responsibility	Comments
				Interim	Short-term	Long Term				
<b>Completed Tasks</b>										
S1	Catchment and Operations	Loss of Key staff, operational knowledge	Medium	Review O&M manuals to ensure they are sufficient for the purpose. (See S2)		Complete O&M's for Nanango, Proston and Yallakool WTP's. See below	Complete	N/A	N/A	Operational staff has now either been formally trained to Certificate II & III levels or are actively being trained to complete this training. All operators/team members are utilised in a staff roster rotations. Operators/team members are confident in operating all plants. The large water treatment plants, and reticulation now have operation - maintenance manuals and procedures. This risk is now deemed complete.
S2	Catchment and Operations	Loss of Key staff, operational knowledge	High	Review all operation and maintenance manuals, including sampling data, handling, and communication procedures.		Complete O&M's for Nanango, Proston and Yallakool WTP's. See below	Complete	N/A	N/A	SBRC completed procedures for reticulation and all large water treatment plants Operation and Maintenance manuals as per section 5.2 The remainder O&M's required have now been identified in the below item.
S3	Catchment and Operations	Currently there is no promulgation of the Incident and Emergency Response Plan, and no linkage of it to the Regional Disaster Management Plan.	Medium	Review Incident and Emergency Response Plan and document the linkages into Regional Disaster Management Plan.			Completed 31 December 2013	N/A	N/A	SBRC endorsed Councils revised South Burnett Local Disaster Management Plan on 18 February 2014. Linkages to the SBLDMG and responsibilities have been added to the DWQMP Incident and Response Plan (refer Appendix 1). Promulgation of the Incident and Response Plan through the South Burnett Local Disaster Management Group (SBLDMG) was achieved during the SBLDMG meeting on the 16 June 2014. The linkages between the South Burnett Local Disaster Management Plan and Councils DWQMP were presented at this meeting by Russell Hood (General Manager –infrastructure) Minutes of the meeting are attached in Appendix B. This risk is now deemed complete.
S4	Kingaroy Scheme	Re-Chlorination	Medium	Engineer to investigate flow and dosing rates.			Completed	N/A	WE	Upon completion of the Gordonbrook Water Treatment Plant, organics removal has been increased allowing the redosing stations flow rates reduced. Future operational adjustments will be upon engineering recommendations. This risk is now considered acceptable.
S5	Yallakool WTP	Lack of significant Operation data	Low	Include verification, raw and treated water data in DWQMP		Include in plan	Completed	N/A	TC	Verification monitoring is now included in the DWQMP. This is now considered an acceptable risk.
S7	Boondooma and Proston Water Treatment Plant	No connection to SCADA	Low	For the Interim and short term existing operational visits will remain. These are considered satisfactory, however connection to SCADA will aid in operational procedures.		Complete project.	Nov-17	N/A	WE	SCADA projects completed November 2017
S8	All Areas	IT Systems damaged by network access or possible intrusion via external contractors Inc. scada programmers, electricians, process engineers, instrument technicians	Low	Existing preventative measures are considered suitable.			Cyber security complete	N/A	Manager ICT	to date no issues with this hazard however need to undertake a vulnerability assessment to be completed by 30th June 2020
S6	Nanango, Proston and Yallakool Water Treatment Plant	Lack of Operation and Maintenance Manual	Low	Operators are very familiar and well trained in the operation of this system.		Complete O&M's for this plant as mentioned in section 5.3	Jun-20	N/A	MWW, WE, TC	SBRC has prioritised the completion of O&M's for the larger water treatment plants. The small plants planned to be complete by the target date mentioned.
S9	All Areas	ICT patches and upgrades of hardware and software failure.	Low	Existing preventative measures are considered suitable.			Jul-20	N/A	Manager ICT	To date no issues with this hazard however process to be implemented for upgrades to be updated regularly
S10	All Areas	Loss of supply to drought	Low	Review any existing documentation and provide a plan.			Jun-21	N/A	MWW	Consultants are currently reviewing the Drought Management Plan in final Draft.
S12	All Areas	Procedures	Low	Procedures are in draft mode	Operational staff have performed these tasks and formalising the process and training for new operators	Complete draft procedures and complete operational training.	Jan-22	N/A	MWW	
S26	All Schemes	Chlorate and Chlorite	High	Continue 6 monthly sampling as is and report as required.		Include in the verification monitoring plan at next review, and risk assess each scheme.	Jun-22	N/A	MWW	Most liquid sodium hypochlorite dosing station have a duty and standby tank. Old chlorine is completely depleted before new chlorine
S29	Nanango WTP	Turbidity	High	Implement turbidity monitoring at the Nanango WTP and scheme			Jun-22	N/A	MWW	
S23	All Areas	Water Quality, Operator error	Low	Develop Training		Develop Jar Testing Procedure to include frequency and document recording process	Jun-22	N/A	MWW	

### 3.2 Amendments made to the DWQMP.

Operational monitoring is conducted as per the DWQMP Version 8.3 2021. An increase in some additional water quality parameters have been implemented in a few locations. These minor changes have not influenced or required any changes to the risk evaluations.

South Burnett have recently submitted a full amendment to the DWQMP including a risk based approach to catchment management and health based target evaluations.

### 3.2 Amendments made to the DWQMP Risk Management Improvement Program.

The current approved RMIP is located in Appendix B.

An amended version of the DWQMP that is under review contains new items identified and will be reported in the next annual report.

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

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.

Results from water quality analysis is in Appendix A.

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

This financial year there was five instances where the Regulator was notified under sections 102 or 102A of the Act.

During the reporting period 2022/2023 two microbial incidents were reported to the regulator. One of a detection of E-coli and one for detection of elevated Cyanobacteria (BGA).

All other notifications are for elevated Trihalomethanes detected in the extremities of the water supply schemes.

Elevated levels of Bromide found in the raw water supply, results in elevated disinfection by-products.

Scheme	Microorganisms	Physical and Chemical Characteristics
Blackbutt	0	0
Kingaroy	2	1
Murgon	0	1
Nanango	0	0
Wondai	0	1
Boondooma Dam	0	0
Yallakool	0	0
Proston	0	0

### Non-compliances with the water quality criteria and corrective and preventive actions undertaken Incident Description: DWI-491-23-10216 Kingaroy Scheme.

The non-compliance was detection of E.coli reported 16/03/2023

### Non-compliances with a drinking water event and corrective and preventive actions undertaken Incident Description: DWI-491-23-10276 Kingaroy Scheme.

Elevated levels of Cyanobacteria detected in the network. Additional testing was conducted to ensure no samples of toxins detected. Reported 15/05/2023.

**Non-compliances with a drinking water event and corrective and preventive actions undertaken  
Incident Description: DWI-491-23-10282 Kingaroy Scheme.**

The non-compliance was detection of Trihalomethane >250µg/L, reported 22/05/2023.

**Non-compliances with a drinking water event and corrective and preventive actions undertaken  
Incident Description: DWI-491-23-10303 Murgon Scheme.**

The non-compliance was detection of Trihalomethane >250µg/L, reported 14/06/2023.

**Non-compliances with a drinking water event and corrective and preventive actions undertaken  
Incident Description: DWI-491-23-10305 Wondai Scheme.**

The non-compliance was detection of Trihalomethane >250µg/L, reported 14/06/2023.

**Customer complaints related to water quality.**

South Burnett Regional Council is required to report on the number of complaints, general details of complaints, and the responses undertaken.

SBRC has developed the record keeping process for water quality complaints. The increased number from previous years is a result of improved data management systems.

Throughout the year 22/23 the following complaints about water quality were received:

**Table 2 - complaints about water quality.**

	Health Concern	Discoloured water	Total
Blackbutt		24	24
Kingaroy		17	17
Murgon		2	2
Nanango		2	2
Wondai		1	1
Boondooma Dam			0
Yallakool			0
Proston		4	4
Total	0	50	50

**Health Concern:**

Complaints are sometimes received from customers who suspect their water may be associated with an illness they are experiencing. South Burnett Regional Council investigates each complaint relating to an alleged illness, typically by follow up testing of the customer's tap water and closed reticulation sampling point.

**Discoloured water:**

Fifty customer complaints were received by South Burnett Regional Council between July 2022 – June 2023 related to dirty water. Complaints received for dirty water were primarily the result of discoloured water due to sloughing in water main or white water due to the presence of entrapped air. Occasionally, complaints arise when there has been a failure within the reticulation system, such as a broken water main or fire hydrant testing. Oxidising iron and manganese within the reticulation network can also occur. Flushing and scouring is often used to resolve these issues.

## 5. Findings and recommendations of the DWQMP auditor

The DWQMP regular audit was conducted and completed October 2020. Following the Audit findings and recommendations a review of the DWQMP was conducted. This amendment was submitted to the regulator July 2021.

The next audit is due 30June 2025.

## Appendix A – Summary of compliance with water quality criteria

The results from the verification monitoring program have been compared against the levels of the water quality criteria specified by the Regulator in the *Water Quality and Reporting Guideline 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.

Verification monitoring was conducted as per DWQMP.

### E. coli verification monitoring totals:

Scheme	Population Receiving Water Services	Public Health Regulation Requirement	Public Health Regulation required number of samples	DWQMP Verification Samples Required	Number of Samples Taken	Number of positive samples	Required performance	Performance	Compliant
Blackbutt	880	1 sample / month	12	156	135	0	98%	100%	Yes
Boondooma	393	1 sample / month	12	12	12	0	98%	100%	Yes
Kingaroy	10772	1 sample / week + 2 additional / month	76	572	469	1	98%	99.8%	Yes
Murgon	2297	1 sample / week	52	364	264	0	98%	100%	Yes
Nanango	2624	1 sample / week	52	260	225	0	98%	100%	Yes
Proston	433	1 sample / month	12	36	31	0	98%	100%	Yes
Wondai	2294	1 sample / week	52	312	264	0	98%	100%	Yes
Yallakool	510	1 sample / month	12	12	11	0	98%	100%	Yes
<b>Total</b>	<b>20203</b>		<b>280</b>	<b>1724</b>	<b>1411</b>	<b>1</b>			

**E. coli verification monitoring: Blackbutt**

Drinking water scheme: Blackbutt Drinking Water Supply Scheme

Year	2022 to 2023											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>No. of samples collected</b>	12	12	12	12	12	6	15	12	12	6	12	12
<b>No. of samples collected in which <i>E. coli</i> is detected (i.e. a failure)</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>No. of samples collected in previous 12 month period</b>	136	136	136	133	133	131	140	140	141	138	135	135
<b>No. of failures for previous 12 month period</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>% of samples that comply</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Compliance with 98% annual value</b>	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

**E. coli verification monitoring: Boondooma**

Drinking water scheme: Boondooma Drinking Water Supply Scheme

Year	2022 to 2023											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>No. of samples collected</b>	1	1	1	1	1	1	1	1	1	1	1	1
<b>No. of samples collected in which <i>E. coli</i> is detected (i.e. a failure)</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>No. of samples collected in previous 12 month period</b>	18	18	18	16	13	12	12	12	12	12	12	12
<b>No. of failures for previous 12 month period</b>	1	1	1	0	0	0	0	0	0	0	0	0
<b>% of samples that comply</b>	94.4%	94.4%	94.4%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Compliance with 98% annual value</b>	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES

**E. coli verification monitoring: Kingaroy**

Drinking water scheme: Kingaroy Drinking Water Supply Scheme

Year	2022 to 2023											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>No. of samples collected</b>	40	40	40	30	40	30	40	39	40	40	40	50
<b>No. of samples collected in which <i>E. coli</i> is detected (i.e. a failure)</b>	0	0	0	0	0	0	0	0	1	0	0	0
<b>No. of samples collected in previous 12 month period</b>	472	472	473	453	457	460	480	479	469	469	469	469
<b>No. of failures for previous 12 month period</b>	0	0	0	0	0	0	0	0	1	1	1	1
<b>% of samples that comply</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.8%	99.8%	99.8%	99.8%
<b>Compliance with 98% annual value</b>	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES



**E. coli verification monitoring: Murgon**

Drinking water scheme: Murgon Drinking Water Supply Scheme

Year	2022 to 2023											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>No. of samples collected</b>	24	24	18	24	24	12	24	24	24	12	30	24
<b>No. of samples collected in which <i>E. coli</i> is detected (i.e. a failure)</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>No. of samples collected in previous 12 month period</b>	280	280	275	269	269	263	275	275	270	264	270	264
<b>No. of failures for previous 12 month period</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>% of samples that comply</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Compliance with 98% annual value</b>	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

**E. coli verification monitoring: Nanango**

Drinking water scheme: Nanango Drinking Water Supply Scheme

Year	2022 to 2023											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>No. of samples collected</b>	20	20	20	20	20	10	25	20	20	10	20	20
<b>No. of samples collected in which <i>E. coli</i> is detected (i.e. a failure)</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>No. of samples collected in previous 12 month period</b>	230	230	230	225	225	220	235	235	235	230	225	225
<b>No. of failures for previous 12 month period</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>% of samples that comply</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Compliance with 98% annual value</b>	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

**E. coli verification monitoring: Proston**

Drinking water scheme: Proston Drinking Water Supply Scheme

Year	2022 to 2023											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>No. of samples collected</b>	3	3	2	3	3	3	3	3	3	3	1	1
<b>No. of samples collected in which <i>E. coli</i> is detected (i.e. a failure)</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>No. of samples collected in previous 12 month period</b>	36	36	35	35	35	35	35	35	35	35	33	31
<b>No. of failures for previous 12 month period</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>% of samples that comply</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Compliance with 98% annual value</b>	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

**E. coli verification monitoring: Wondai**

Drinking water scheme: Wondai - Tingoora Drinking Water Supply Scheme

Year	2022 to 2023											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>No. of samples collected</b>	24	24	18	24	24	12	24	24	24	12	30	24
<b>No. of samples collected in which <i>E. coli</i> is detected (i.e. a failure)</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>No. of samples collected in previous 12 month period</b>	274	274	270	270	264	264	270	270	270	264	264	264
<b>No. of failures for previous 12 month period</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>% of samples that comply</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Compliance with 98% annual value</b>	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

**E. coli verification monitoring: Yallakool**

Drinking water scheme: Yallakool Drinking Water Supply Scheme

Year	2022 to 2023											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	1	1	1	1	1	1	1	1	1	0	1	1
No. of samples collected in which <i>E. coli</i> is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period	11	12	12	12	12	12	12	12	12	11	11	11
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compliance with 98% annual value	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

## Water quality analysis: Blackbutt Raw Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	WTP			5	355	0.42	139	4.64
Colour	Hazen	WTP			15	363	0	65	13.6
ph		WTP		6.5	8.5	346	5.5	7.82	7.35
Free Chlorine	mg/L	WTP				-	-	-	-
Bromide	mg/L	BLACK 9R				35	0.25	0.37	0.3
Conductivity	µs/cm	BLACK 6				4	450	530	490
pH		BLACK 6		6.5	8.5	4	6.74	7.8	7.14
Total Hardness	mg CaCO <sub>3</sub> /L	BLACK 6			200	4	83	153	119
Temp Hardness	mg CaCO <sub>3</sub> /L	BLACK 6				4	56	82	69.5
Alkalinity	mg CaCO <sub>3</sub> /L	BLACK 6				4	56	82	69.5
Residual Alkalinity	meq/L	BLACK 6				4	0	0	0
Silica	mg/L	BLACK 6			80	4	9.3	16	12.6
Total Dissolved Ions	mg/L	BLACK 6				4	216	382	300
Total Dissolved Solids	mg/L	BLACK 6			600	4	200	340	270
Colour	Hazen	BLACK 6			15	4	8	62	29
Turbidity	NTU	BLACK 6			5	4	1	12	3.75
pH Sat		BLACK 6				4	8.2	8.6	8.375
Saturation Index		BLACK 6				4	0.4	1.8	1.225
Mole ratio		BLACK 6				4	2.8	3.9	3.45
Sodium Absorption Ratio		BLACK 6				4	1.7	2.4	2.05
Figure of merit ratio		BLACK 6				4	1	1.1	1.05
Na Sodium	mg/L	BLACK 6			180	4	36	69	52.5
K Potassium	mg/L	BLACK 6				4	5.7	6.7	6.15
Ca Calcium	mg/L	BLACK 6				4	14	23	18.8
Mg Magnesium	mg/L	BLACK 6				4	12	23	17.5
H Hydrogen	mg/L	BLACK 6				4	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	BLACK 6				4	68	99	84.5
CO <sub>3</sub> Carbonate	mg/L	BLACK 6				4	0	0.4	0.125
OH Hydroxide	mg/L	BLACK 6				4	0	0	0
Cl Chloride	mg/L	BLACK 6			250	4	76	160	118
F Fluoride	mg/L	BLACK 6	1.5			4	0.12	0.18	0.15
No <sub>3</sub> Nitrate	mg/L	BLACK 6	50			4	0.36	0.97	0.645
SO <sub>4</sub> Sulphate	mg/L	BLACK 6	500		250	4	2.6	4.5	3.7
Fe Iron	mg/L	BLACK 6			0.3	4	0.01	0.28	0.0975
Mn Manganese	mg/L	BLACK 6	0.5		0.1	4	0.001	0.059	0.016
Zn Zinc	mg/L	BLACK 6			3	4	0.06	0.06	0.06
Al Aluminium	mg/L	BLACK 6			0.2	4	0.03	0.31	0.1
B Boron	mg/L	BLACK 6	4			4	0.03	0.04	0.0375
Cu Copper	mg/L	BLACK 6	2		1	4	0.003	0.006	0.0038
Aluminium	mg/L	BLACK 9R			0.2	3	0.044	0.25	0.1157
Arsenic	mg/L	BLACK 9R	0.01			3	0.0006	0.0008	0.0007
Cadmium	mg/L	BLACK 9R	0.002			3	0.0001	0.0001	0.0001
Chromium	mg/L	BLACK 9R	0.05			3	0.0001	0.0004	0.0002
Copper	mg/L	BLACK 9R	2		1	3	0.002	0.004	0.0027
Iron	mg/L	BLACK 9R			0.3	3	0.19	0.32	0.25
Lead	mg/L	BLACK 9R	0.01			3	0.0003	0.0023	0.0011
Manganese	mg/L	BLACK 9R	0.5		0.1	3	0.0068	0.074	0.0399
Nickel	mg/L	BLACK 9R	0.02			3	0.0012	0.0017	0.0015
Zinc	mg/L	BLACK 9R			3	3	0.009	0.035	0.0183

## Water quality analysis: Blackbutt Treated Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	WTP			5	347	0.07	4.43	0.45
Colour	Hazen	WTP			15	364	0	7	0.12
ph		WTP		6.5	8.5	349	6.52	7.82	7.36
Free Chlorine	mg/L	WTP				353	0.13	3.09	1.96
Total Trihalomethane	µg/L		250			129	43	320	144
Bromide	mg/L	BLACK 11				38	0.09	0.79	0.27
Conductivity	µs/cm	BLACK 6				63	400	1300	681
pH		BLACK 6		6.5	8.5	63	6.26	7.99	7.22
Total Hardness	mg CaCO <sub>3</sub> /L	BLACK 6			200	63	84	180	139
Temp Hardness	mg CaCO <sub>3</sub> /L	BLACK 6				63	13	87	67
Alkalinity	mg CaCO <sub>3</sub> /L	BLACK 6				63	13	87	67
Residual Alkalinity	meq/L	BLACK 6				63	0	0	0
Silica	mg/L	BLACK 6			80	63	7	16	11
Total Dissolved Ions	mg/L	BLACK 6				63	222	620	369
Total Dissolved Solids	mg/L	BLACK 6			600	63	210	630	339
Colour	Hazen	BLACK 6			15	63	1	8	5.13
Turbidity	NTU	BLACK 6			5	63	1	15	1.40
pH Sat		BLACK 6				63	8.1	9.5	8.371
Saturation Index		BLACK 6				63	0.1	3.2	1.151
Mole ratio		BLACK 6				63	2.6	5.6	3.538
Sodium Absorption Ratio		BLACK 6				63	1.8	6.5	2.652
Figure of merit ratio		BLACK 6				63	0.3	14	1.154
Na Sodium	mg/L	BLACK 6			180	63	39	180	71.8
K Potassium	mg/L	BLACK 6				63	2	7.1	5.94
Ca Calcium	mg/L	BLACK 6				63	7.4	27	20.77
Mg Magnesium	mg/L	BLACK 6				63	12	30	21.16
H Hydrogen	mg/L	BLACK 6				63	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	BLACK 6				63	16	104	80.9
CO <sub>3</sub> Carbonate	mg/L	BLACK 6				63	0	1	0.156
OH Hydroxide	mg/L	BLACK 6				63	0	0	0
Cl Chloride	mg/L	BLACK 6			250	63	86	370	163
F Fluoride	mg/L	BLACK 6	1.5			63	0.04	0.16	0.100
No <sub>3</sub> Nitrate	mg/L	BLACK 6	50			63	0.13	1.5	0.774
SO <sub>4</sub> Sulphate	mg/L	BLACK 6	500		250	63	2.2	45	4.70
Fe Iron	mg/L	BLACK 6			0.3	63	0.01	0.03	0.010
Mn Manganese	mg/L	BLACK 6	0.5		0.1	63	0.001	0.018	0.004
Zn Zinc	mg/L	BLACK 6			3	63	0.01	0.06	0.048
Al Aluminium	mg/L	BLACK 6			0.2	63	0.03	0.07	0.035
B Boron	mg/L	BLACK 6	4			63	0.03	0.1	0.042
Cu Copper	mg/L	BLACK 6	2		1	63	0.003	0.03	0.009
Aluminium	mg/L	BLACK 9R			0.2	3	0.044	0.25	0.116
Arsenic	mg/L	BLACK 9R	0.01			3	0.0006	0.0008	0.001
Cadmium	mg/L	BLACK 9R	0.002			3	0.0001	0.0001	0.000
Chromium	mg/L	BLACK 9R	0.05			3	0.0001	0.0004	0.000
Copper	mg/L	BLACK 9R	2		1	3	0.002	0.004	0.003
Iron	mg/L	BLACK 9R			0.3	3	0.19	0.32	0.25
Lead	mg/L	BLACK 9R	0.01			3	0.0003	0.0023	0.001
Manganese	mg/L	BLACK 9R	0.5		0.1	3	0.0068	0.074	0.040
Nickel	mg/L	BLACK 9R	0.02			3	0.0012	0.0017	0.002
Zinc	mg/L	BLACK 9R			3	3	0.009	0.035	0.018

## Water quality analysis: Boondooma Raw Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	WTP			5	332	0.36	4.48	0.83
Colour	Hazen	WTP			15				
ph		WTP		6.5	8.5				
Free Chlorine	mg/L	WTP							
Bromide	mg/L	WTP							
Conductivity	µs/cm	BOON R				12	420	560	501
pH		BOON R		6.5	8.5	12	6.76	7.55	6.98
Total Hardness	mg CaCO <sub>3</sub> /L	BOON R			200	12	95	125	112.3
Temp Hardness	mg CaCO <sub>3</sub> /L	BOON R				12	57	73	66.25
Alkalinity	mg CaCO <sub>3</sub> /L	BOON R				12	57	73	66.25
Residual Alkalinity	meq/L	BOON R				12	0	0	0
Silica	mg/L	BOON R			80	12	13	15	13.67
Total Dissolved Ions	mg/L	BOON R				12	240	315	282.08
Total Dissolved Solids	mg/L	BOON R			600	12	220	280	255
Colour	Hazen	BOON R			15	12	18	50	31
Turbidity	NTU	BOON R			5	12	1	10	4.08
pH Sat		BOON R				12	8.3	8.6	8.42
Saturation Index		BOON R				12	0.9	1.7	1.425
Mole ratio		BOON R				12	3	3.8	3.55
Sodium Absorption Ratio		BOON R				12	1.8	2.2	2.01
Figure of merit ratio		BOON R				12	1	1.1	1.04
Na Sodium	mg/L	BOON R			180	12	41	56	49.42
K Potassium	mg/L	BOON R				12	5	5.6	5.3
Ca Calcium	mg/L	BOON R				12	15	20	17.5
Mg Magnesium	mg/L	BOON R				12	14	19	16.75
H Hydrogen	mg/L	BOON R				12	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	BOON R				12	69	89	80.58
CO <sub>3</sub> Carbonate	mg/L	BOON R				12	0	0.2	0.06
OH Hydroxide	mg/L	BOON R				12	0	0	0
Cl Chloride	mg/L	BOON R			250	12	91	120	108.08
F Fluoride	mg/L	BOON R	1.5			12	0.1	0.14	0.13
No <sub>3</sub> Nitrate	mg/L	BOON R	50			12	0.06	1.3	0.52
SO <sub>4</sub> Sulphate	mg/L	BOON R	500		250	12	3.2	4.1	3.65
Fe Iron	mg/L	BOON R			0.3	12	0.001	0.22	0.07
Mn Manganese	mg/L	BOON R	0.5		0.1	12	0.001	0.002	0.00
Zn Zinc	mg/L	BOON R			3	12	0.06	0.06	0.06
Al Aluminium	mg/L	BOON R			0.2	12	0.03	0.27	0.085
B Boron	mg/L	BOON R	4			12	0.03	0.03	0.03
Cu Copper	mg/L	BOON R	2		1	12	0.003	0.003	0.003
Aluminium	mg/L	BOON R			0.2	13	0.02	0.3	0.106
Arsenic	mg/L	BOON R	0.01			13	0.0007	0.0009	0.0008
Cadmium	mg/L	BOON R	0.002			13	0.0001	0.0001	0.0001
Chromium	mg/L	BOON R	0.05			13	0.0001	0.0004	0.0002
Copper	mg/L	BOON R	2		1	13	0.002	0.005	0.0033
Iron	mg/L	BOON R			0.3	13	0.1	0.38	0.2377
Lead	mg/L	BOON R	0.01			13	0.0001	0.0002	0.0001
Manganese	mg/L	BOON R	0.5		0.1	13	0.017	0.15	0.0614
Nickel	mg/L	BOON R	0.02			13	0.0009	0.0021	0.0015
Zinc	mg/L	BOON R			3	13	0.001	0.007	0.0015



## Water quality analysis: Boondooma Treated Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	CW Res			5	343	0.36	3.4	0.78
Colour	Hazen	CW Res			15				
ph		CW Res		6.5	8.5	325	6.94	8.24	7.55
Free Chlorine	mg/L	CW Res				345	0.3	4.7	2.5
Conductivity	µs/cm	BOON 13				12	490	640	559
pH		BOON 13		6.5	8.5	12	7.15	7.92	7.39
Total Hardness	mg CaCO <sub>3</sub> /L	BOON 13			200	12	94	136	113
Temp Hardness	mg CaCO <sub>3</sub> /L	BOON 13				12	65	96	73
Alkalinity	mg CaCO <sub>3</sub> /L	BOON 13				12	65	96	73
Residual Alkalinity	meq/L	BOON 13				12	0	0	0
Silica	mg/L	BOON 13			80	12	12	14	13
Total Dissolved Ions	mg/L	BOON 13				12	280	358	317
Total Dissolved Solids	mg/L	BOON 13			600	12	250	320	284
Colour	Hazen	BOON 13			15	12	8	8	8.00
Turbidity	NTU	BOON 13			5	12	1	1	1.00
pH Sat		BOON 13				12	8.2	8.4	8.333
Saturation Index		BOON 13				12	0.5	1.3	0.967
Mole ratio		BOON 13				12	2.6	3.5	3.175
Sodium Absorption Ratio		BOON 13				12	2.3	3	2.525
Figure of merit ratio		BOON 13				12	0.7	0.9	0.833
Na Sodium	mg/L	BOON 13			180	12	52	73	61.08
K Potassium	mg/L	BOON 13				12	5.1	5.6	5.325
Ca Calcium	mg/L	BOON 13				12	15	23	18.5
Mg Magnesium	mg/L	BOON 13				12	14	19	16.08
H Hydrogen	mg/L	BOON 13				12	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	BOON 13				12	80	116	89.1
CO <sub>3</sub> Carbonate	mg/L	BOON 13				12	0.1	0.5	0.1917
OH Hydroxide	mg/L	BOON 13				12	0	0	0
Cl Chloride	mg/L	BOON 13			250	12	110	150	122.5
F Fluoride	mg/L	BOON 13	1.5			12	0.08	0.12	0.105
No <sub>3</sub> Nitrate	mg/L	BOON 13	50			12	0.09	1	0.323
SO <sub>4</sub> Sulphate	mg/L	BOON 13	500	250		12	2.8	4.1	3.633
Fe Iron	mg/L	BOON 13			0.3	12	0.01	0.03	0.013
Mn Manganese	mg/L	BOON 13	0.5		0.1	12	0.001	0.012	0.002
Zn Zinc	mg/L	BOON 13			3	12	0.06	0.06	0.06
Al Aluminium	mg/L	BOON 13			0.2	12	0.03	0.03	0.03
B Boron	mg/L	BOON 13	4			12	0.03	0.03	0.03
Cu Copper	mg/L	BOON 13	2		1	12	0.006	0.017	0.011

## Water quality analysis: Kingaroy Raw Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	GORD B			5	230	1.53	82.7	12.67
Colour	Hazen	GORD B			15	230	10	69	30
ph		GORD B		6.5	8.5	228	6.62	8.2	7.31
Free Chlorine	mg/L	GORD B							
Bromide	mg/L	GORD B				46	0.09	2	0.97
Conductivity	µs/cm	GORD B				12	420	740	580
pH		GORD B		6.5	8.5	12	6.78	7.54	7.04
Total Hardness	mg CaCO <sub>3</sub> /L	GORD B			200	12	95	170	131
Temp Hardness	mg CaCO <sub>3</sub> /L	GORD B				12	57	86	72.3
Alkalinity	mg CaCO <sub>3</sub> /L	GORD B				12	57	86	72.3
Residual Alkalinity	meq/L	GORD B				12	0	0	0
Silica	mg/L	GORD B			80	12	12	15	13.3
Total Dissolved Ions	mg/L	GORD B				12	240	414	322.3
Total Dissolved Solids	mg/L	GORD B			600	12	220	370	290.8
Colour	Hazen	GORD B			15	12	17	51	30.3
Turbidity	NTU	GORD B			5	12	1	19	5.75
pH Sat		GORD B				12	8.2	8.6	8.35
Saturation Index		GORD B				12	0.8	1.7	1.283
Mole ratio		GORD B				12	3.1	3.8	3.567
Sodium Absorption Ratio		GORD B				12	1.8	2.5	2.15
Figure of merit ratio		GORD B				12	1	1.1	1.058
Na Sodium	mg/L	GORD B			180	12	41	75	56.9
K Potassium	mg/L	GORD B				12	5.1	5.8	5.425
Ca Calcium	mg/L	GORD B				12	15	26	20.08
Mg Magnesium	mg/L	GORD B				12	14	26	19.5
H Hydrogen	mg/L	GORD B				12	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	GORD B				12	69	105	88.3
CO <sub>3</sub> Carbonate	mg/L	GORD B				12	0	0.2	0.075
OH Hydroxide	mg/L	GORD B				12	0	0	0
Cl Chloride	mg/L	GORD B			250	12	91	170	128
F Fluoride	mg/L	GORD B	1.5			12	0.11	0.15	0.133
No <sub>3</sub> Nitrate	mg/L	GORD B	50			12	0.05	1.7	0.758
SO <sub>4</sub> Sulphate	mg/L	GORD B	500		250	12	3.2	4.6	4.09
Fe Iron	mg/L	GORD B			0.3	12	0.01	0.24	0.061
Mn Manganese	mg/L	GORD B	0.5		0.1	12	0.001	0.002	0.001
Zn Zinc	mg/L	GORD B			3	12	0.06	0.06	0.06
Al Aluminium	mg/L	GORD B			0.2	12	0.03	0.27	0.078
B Boron	mg/L	GORD B	4			12	0.03	0.03	0.03
Cu Copper	mg/L	GORD B	2		1	12	0.003	0.003	0.003
Aluminium	mg/L	GORD B			0.2	13	0.036	0.3	0.132
Arsenic	mg/L	GORD B	0.01			13	0.0006	0.0021	0.001
Cadmium	mg/L	GORD B	0.002			13	0.00001	0.0001	0.0001
Chromium	mg/L	GORD B	0.05			13	0.00002	0.0006	0.000
Copper	mg/L	GORD B	2		1	13	0.001	0.002	0.001
Iron	mg/L	GORD B			0.3	13	0.025	2	0.423
Lead	mg/L	GORD B	0.01			13	0.0001	0.0008	0.000
Manganese	mg/L	GORD B	0.5		0.1	13	0.026	1.2	0.188
Nickel	mg/L	GORD B	0.02			13	0.001	0.0026	0.002
Zinc	mg/L	GORD B			3	13	0.001	0.003	0.001

## Water quality analysis: Kingaroy Treated Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	WTP			5	353	0.07	2.48	0.48
Colour	Hazen	WTP			15	267	0	3	0.17
ph		WTP		6.5	8.5	346	6.28	7.75	7.08
Free Chlorine	mg/L	WTP				352	0.56	3.5	2.18
Total Trihalomethane	µg/L		250			269	8	350	166
Bromide	mg/L	KING F				47	0.05	0.41	0.11
Conductivity	µs/cm	KING F				12	630	1000	827
pH		KING F		6.5	8.5	12	6.93	7.76	7.23
Total Hardness	mg CaCO <sub>3</sub> /L	KING F			200	12	108	207	160
Temp Hardness	mg CaCO <sub>3</sub> /L	KING F				12	71	106	85
Alkalinity	mg CaCO <sub>3</sub> /L	KING F				12	71	110	85.75
Residual Alkalinity	meq/L	KING F				12	0	0	0
Silica	mg/L	KING F			80	12	11	13	11.6
Total Dissolved Ions	mg/L	KING F				12	384	598	481
Total Dissolved Solids	mg/L	KING F			600	12	350	550	441
Colour	Hazen	KING F			15	12	8	8	8
Turbidity	NTU	KING F			5	12	1	1	1
pH Sat		KING F				12	8	8.3	8.175
Saturation Index		KING F				12	0.5	1.4	0.958
Mole ratio		KING F				12	2.9	3.9	3.42
Sodium Absorption Ratio		KING F				12	3.1	3.7	3.36
Figure of merit ratio		KING F				12	0.6	0.8	0.75
Na Sodium	mg/L	KING F			180	12	80	120	98
K Potassium	mg/L	KING F				12	5.3	6.2	5.7
Ca Calcium	mg/L	KING F				12	17	30	23.9
Mg Magnesium	mg/L	KING F				12	16	32	24.4
H Hydrogen	mg/L	KING F				12	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	KING F				12	86	128	104
CO <sub>3</sub> Carbonate	mg/L	KING F				12	0	0.3	0.125
OH Hydroxide	mg/L	KING F				12	0	0	0
Cl Chloride	mg/L	KING F			250	12	110	220	166
F Fluoride	mg/L	KING F	1.5			12	0.03	0.06	0.047
No <sub>3</sub> Nitrate	mg/L	KING F	50			12	0.1	1.8	0.529
SO <sub>4</sub> Sulphate	mg/L	KING F	500		250	12	53	70	60
Fe Iron	mg/L	KING F			0.3	12	0.01	0.01	0.010
Mn Manganese	mg/L	KING F	0.5		0.1	12	0.001	0.034	0.009
Zn Zinc	mg/L	KING F			3	12	0.06	0.06	0.060
Al Aluminium	mg/L	KING F			0.2	12	0.03	0.06	0.035
B Boron	mg/L	KING F	4			12	0.03	0.4	0.062
Cu Copper	mg/L	KING F	2		1	12	0.003	0.019	0.009

## Water quality analysis: Murgon Raw Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	Murg 7R			5	352	1.19	1437	15.04
Colour	Hazen	Murg 7R			15	350	4	69	22.76
ph		Murg 7R		6.5	8.5	351	6.04	7.94	7.94
Free Chlorine	mg/L	Murg 7R							
Bromide	mg/L	Murg 7R				12	0.22	0.8	0.52
Conductivity	µs/cm	Murg 7R				12	490	1300	904
pH		Murg 7R		6.5	8.5	12	7.41	8.14	7.73
Total Hardness	mg CaCO <sub>3</sub> /L	Murg 7R			200	12	137	366	257
Temp Hardness	mg CaCO <sub>3</sub> /L	Murg 7R				12	91	231	156
Alkalinity	mg CaCO <sub>3</sub> /L	Murg 7R				12	91	230	157
Residual Alkalinity	meq/L	Murg 7R				12	0	0	0
Silica	mg/L	Murg 7R			80	12	13	18	15.6
Total Dissolved Ions	mg/L	Murg 7R				12	298	789	549
Total Dissolved Solids	mg/L	Murg 7R			600	12	260	680	468
Colour	Hazen	Murg 7R			15	12	14	54	24.08
Turbidity	NTU	Murg 7R			5	12	1	16	3.58
pH Sat		Murg 7R				12	7.3	8.1	7.66
Saturation Index		Murg 7R				12	0.2	0.7	0.425
Mole ratio		Murg 7R				12	2.3	3	2.65
Sodium Absorption Ratio		Murg 7R				12	1.5	2.7	2.11
Figure of merit ratio		Murg 7R				12	1.3	1.7	1.51
Na Sodium	mg/L	Murg 7R			180	12	39	120	79
K Potassium	mg/L	Murg 7R				12	4	6.4	5.18
Ca Calcium	mg/L	Murg 7R				12	26	66	46.4
Mg Magnesium	mg/L	Murg 7R				12	17	50	34.3
H Hydrogen	mg/L	Murg 7R				12	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	Murg 7R				12	110	278	189
CO <sub>3</sub> Carbonate	mg/L	Murg 7R				12	0.2	2.3	0.875
OH Hydroxide	mg/L	Murg 7R				12	0	0	0
Cl Chloride	mg/L	Murg 7R			250	12	87	300	183
F Fluoride	mg/L	Murg 7R	1.5			12	0.12	0.19	0.164
No <sub>3</sub> Nitrate	mg/L	Murg 7R	50			12	0.1	1.4	0.773
SO <sub>4</sub> Sulphate	mg/L	Murg 7R	500		250	12	10	15	12.4
Fe Iron	mg/L	Murg 7R			0.3	12	0.01	0.11	0.019
Mn Manganese	mg/L	Murg 7R	0.5		0.1	12	0.001	0.002	0.001
Zn Zinc	mg/L	Murg 7R			3	12	0.06	0.06	0.06
Al Aluminium	mg/L	Murg 7R			0.2	12	0.03	0.09	0.035
B Boron	mg/L	Murg 7R	4			12	0.03	0.04	0.035
Cu Copper	mg/L	Murg 7R	2		1	12	0.009	0.058	0.033
Aluminium	mg/L	Murg 7R			0.2	4	0.062	0.31	0.206
Arsenic	mg/L	Murg 7R	0.01			4	0.0009	0.0017	0.001
Cadmium	mg/L	Murg 7R	0.002			4	0.0001	0.0001	0.000
Chromium	mg/L	Murg 7R	0.05			4	0.0001	0.0006	0.000
Copper	mg/L	Murg 7R	2		1	4	0.037	0.062	0.051
Iron	mg/L	Murg 7R			0.3	4	0.075	0.48	0.249
Lead	mg/L	Murg 7R	0.01			4	0.0001	0.0004	0.000
Manganese	mg/L	Murg 7R	0.5		0.1	4	0.038	0.073	0.053
Nickel	mg/L	Murg 7R	0.02			4	0.0012	0.0019	0.002
Zinc	mg/L	Murg 7R			3	4	0.004	0.005	0.005

## Water quality analysis: Murgon Treated Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	WTP			5	354	0.09	0.85	0.3
Colour	Hazen	WTP			15	354	0	6	0.96
ph		WTP		6.5	8.5	349	6.43	7.99	7.23
Free Chlorine	mg/L	WTP				350	0.18	8.9	2.07
Total Trihalomethane	µg/L		250			36	150	330	239
Bromide	mg/L	MURG 7				12	0.08	0.06	0.05
Conductivity	µs/cm	MURG 7				12	740	1400	998
pH		MURG 7		6.5	8.5	12	7.63	8.17	7.92
Total Hardness	mg CaCO <sub>3</sub> /L	MURG 7			200	12	178	354	254
Temp Hardness	mg CaCO <sub>3</sub> /L	MURG 7				12	117	214	160
Alkalinity	mg CaCO <sub>3</sub> /L	MURG 7				12	120	210	160
Residual Alkalinity	meq/L	MURG 7				12	0	0	0
Silica	mg/L	MURG 7			80	12	12	17	13.75
Total Dissolved Ions	mg/L	MURG 7				12	470	838	610
Total Dissolved Solids	mg/L	MURG 7			600	12	410	730	527
Colour	Hazen	MURG 7			15	12	8	8	8
Turbidity	NTU	MURG 7			5	12	1	1	1
pH Sat		MURG 7				12	7.4	7.9	7.65
Saturation Index		MURG 7				12	0.1	0.7	0.383
Mole ratio		MURG 7				12	2.2	2.8	2.458
Sodium Absorption Ratio		MURG 7				12	2.3	3.2	2.7
Figure of merit ratio		MURG 7				12	1	1.4	1.17
Na Sodium	mg/L	MURG 7			180	12	77	140	99
K Potassium	mg/L	MURG 7				12	4.2	6.4	5.21
Ca Calcium	mg/L	MURG 7				12	32	62	46
Mg Magnesium	mg/L	MURG 7				12	23	49	34
H Hydrogen	mg/L	MURG 7				12	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	MURG 7				12	141	257	192
CO <sub>3</sub> Carbonate	mg/L	MURG 7				12	0.4	2.4	1.233
OH Hydroxide	mg/L	MURG 7				12	0	0	0
Cl Chloride	mg/L	MURG 7			250	12	120	300	187
F Fluoride	mg/L	MURG 7	1.5			12	0.08	0.15	0.11
No <sub>3</sub> Nitrate	mg/L	MURG 7	50			12	0.33	1.1	0.648
SO <sub>4</sub> Sulphate	mg/L	MURG 7	500		250	12	38	53	46
Fe Iron	mg/L	MURG 7			0.3	12	0.01	0.01	0.010
Mn Manganese	mg/L	MURG 7	0.5		0.1	12	0.001	0.006	0.003
Zn Zinc	mg/L	MURG 7			3	12	0.06	0.06	0.060
Al Aluminium	mg/L	MURG 7			0.2	12	0.03	0.05	0.035
B Boron	mg/L	MURG 7	4			12	0.03	0.04	0.035
Cu Copper	mg/L	MURG 7	2		1	12	0.003	0.01	0.006

## Water quality analysis: Nanango Raw Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU				5				
Colour	Hazen				15				
ph				6.5	8.5				
Free Chlorine	mg/L								
Bromide	mg/L					23	1.2	2.1	1.66
Conductivity	µs/cm					33	2000	2200	2155
pH				6.5	8.5	33	6.72	7.57	7.15
Total Hardness	mg CaCO <sub>3</sub> /L				200	33	542	685	599
Temp Hardness	mg CaCO <sub>3</sub> /L					33	163	347	236
Alkalinity	mg CaCO <sub>3</sub> /L					33	160	350	237
Residual Alkalinity	meq/L					33	0	0	0
Silica	mg/L				80	33	49	55	51.2
Total Dissolved Ions	mg/L					33	1170	1330	1257
Total Dissolved Solids	mg/L				600	33	1100	1300	1170
Colour	Hazen				15	33	8	8	8
Turbidity	NTU				5	33	1	1	1
pH Sat						33	6.9	7.3	7.1
Saturation Index						33	0	0.7	0.342
Mole ratio						33	2.8	4	3.438
Sodium Absorption Ratio						33	3.1	3.8	3.526
Figure of merit ratio						33	1.3	1.7	1.4
Na Sodium	mg/L				180	33	180	210	199
K Potassium	mg/L					33	2.2	3.3	2.73
Ca Calcium	mg/L					33	99	130	111
Mg Magnesium	mg/L					33	71	87	77.3
H Hydrogen	mg/L					33	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L					33	199	421	287
CO <sub>3</sub> Carbonate	mg/L					33	0.1	1.2	0.439
OH Hydroxide	mg/L					33	0	0	0
Cl Chloride	mg/L				250	33	470	590	505
F Fluoride	mg/L		1.5			33	0.13	0.23	0.169
No <sub>3</sub> Nitrate	mg/L		50			33	0.25	6	3.675
SO <sub>4</sub> Sulphate	mg/L		500	250		33	23	130	70.1
Fe Iron	mg/L			0.3		33	0.01	0.01	0.01
Mn Manganese	mg/L		0.5	0.1		33	0.001	0.62	0.190
Zn Zinc	mg/L			3		33	0.06	0.06	0.06
Al Aluminium	mg/L			0.2		33	0.03	0.03	0.03
B Boron	mg/L		4			33	0.02	0.05	0.036
Cu Copper	mg/L		2	1		33	0.003	0.006	0.003
Aluminium	mg/L			0.2		35	0.003	0.003	0.003
Arsenic	mg/L		0.01			35	0.0002	0.0004	0.000
Cadmium	mg/L		0.002			35	0.0001	0.0001	0.000
Chromium	mg/L		0.05			35	0.0001	0.0002	0.000
Copper	mg/L		2	1		35	0.002	0.006	0.003
Iron	mg/L			0.3		35	0.005	0.021	0.013
Lead	mg/L		0.01			35	0.0002	0.0014	0.001
Manganese	mg/L		0.5	0.1		35	0.0014	0.61	0.381
Nickel	mg/L		0.02			35	0.0002	0.0012	0.001
Zinc	mg/L			3		35	0.002	0.019	0.007

## Water quality analysis: Nanango Treated Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU				5				
Colour	Hazen				15				
ph				6.5	8.5				
Free Chlorine	mg/L	WTP				288	0.32	1.62	0.88
Total Trihalomethane	µg/L		250			24	9	33	17.5
Bromide	mg/L	All				36	0.91	1.5	1.22
Conductivity	µs/cm	NAN 1				12	2100	2200	2142
pH		NAN 1		6.5	8.5	12	7.13	7.68	7.43
Total Hardness	mg CaCO <sub>3</sub> /L	NAN 1			200	12	576	600	587
Temp Hardness	mg CaCO <sub>3</sub> /L	NAN 1				12	277	291	285
Alkalinity	mg CaCO <sub>3</sub> /L	NAN 1				12	280	290	287
Residual Alkalinity	meq/L	NAN 1				12	0	0	0
Silica	mg/L	NAN 1			80	12	48	51	49.75
Total Dissolved Ions	mg/L	NAN 1				12	1280	1310	1288
Total Dissolved Solids	mg/L	NAN 1			600	12	1100	1200	1192
Colour	Hazen	NAN 1			15	12	8	8	8
Turbidity	NTU	NAN 1			5	12	1	1	1
pH Sat		NAN 1				12	7	7	7
Saturation Index		NAN 1				12	0.1	0.7	0.417
Mole ratio		NAN 1				12	2.9	3.5	3.167
Sodium Absorption Ratio		NAN 1				12	3.7	3.8	3.733
Figure of merit ratio		NAN 1				12	1.3	1.3	1.3
Na Sodium	mg/L	NAN 1			180	12	200	210	208
K Potassium	mg/L	NAN 1				12	2.6	2.7	2.617
Ca Calcium	mg/L	NAN 1				12	110	110	110
Mg Magnesium	mg/L	NAN 1				12	74	78	75.92
H Hydrogen	mg/L	NAN 1				12	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	NAN 1				12	337	354	346
CO <sub>3</sub> Carbonate	mg/L	NAN 1				12	0.3	1	0.608
OH Hydroxide	mg/L	NAN 1				12	0	0	0
Cl Chloride	mg/L	NAN 1			250	12	470	500	487
F Fluoride	mg/L	NAN 1	1.5			12	0.17	0.2	0.188
No <sub>3</sub> Nitrate	mg/L	NAN 1	50			12	4	4.6	4.3
SO <sub>4</sub> Sulphate	mg/L	NAN 1	500		250	12	52	56	54
Fe Iron	mg/L	NAN 1			0.3	12	0.01	0.01	0.010
Mn Manganese	mg/L	NAN 1	0.5		0.1	12	0.001	0.001	0.001
Zn Zinc	mg/L	NAN 1			3	12	0.06	0.06	0.060
Al Aluminium	mg/L	NAN 1			0.2	12	0.03	0.03	0.030
B Boron	mg/L	NAN 1	4			12	0.04	0.04	0.040
Cu Copper	mg/L	NAN 1	2		1	12	0.017	0.038	0.026

## Water quality analysis: Proston Raw Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU				5	242	0.82	17.6	4.9
Colour	Hazen				15				
ph				6.5	8.5	47	6.95	7.6	7.32
Free Chlorine	mg/L								
Bromide		PROS 15R				12	0.15	0.37	0.21
Conductivity	µs/cm	PROS 15R				4	460	560	505
pH		PROS 15R		6.5	8.5	4	6.89	7.05	6.98
Total Hardness	mg CaCO <sub>3</sub> /L	PROS 15R			200	4	103	124	112
Temp Hardness	mg CaCO <sub>3</sub> /L	PROS 15R				4	62	75	67.5
Alkalinity	mg CaCO <sub>3</sub> /L	PROS 15R				4	62	75	67.5
Residual Alkalinity	meq/L	PROS 15R				4	0	0	0
Silica	mg/L	PROS 15R			80	4	13	15	14
Total Dissolved Ions	mg/L	PROS 15R				4	260	316	285
Total Dissolved Solids	mg/L	PROS 15R			600	4	240	280	258
Colour	Hazen	PROS 15R			15	4	18	42	29.75
Turbidity	NTU	PROS 15R			5	4	2	10	5.5
pH Sat		PROS 15R				4	8.3	8.5	8.4
Saturation Index		PROS 15R				4	1.3	1.6	1.425
Mole ratio		PROS 15R				4	3.5	3.7	3.6
Sodium Absorption Ratio		PROS 15R				4	2	2.2	2.075
Figure of merit ratio		PROS 15R				4	1	1.1	1.025
Na Sodium	mg/L	PROS 15R			180	4	46	57	50.5
K Potassium	mg/L	PROS 15R				4	5.1	5.6	5.325
Ca Calcium	mg/L	PROS 15R				4	17	20	18
Mg Magnesium	mg/L	PROS 15R				4	15	18	16.25
H Hydrogen	mg/L	PROS 15R				4	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	PROS 15R				4	75	92	82.25
CO <sub>3</sub> Carbonate	mg/L	PROS 15R				4	0	0.1	0.025
OH Hydroxide	mg/L	PROS 15R				4	0	0	0
Cl Chloride	mg/L	PROS 15R			250	4	97	120	107
F Fluoride	mg/L	PROS 15R	1.5			4	0.12	0.13	0.125
No <sub>3</sub> Nitrate	mg/L	PROS 15R	50			4	0.05	1	0.475
SO <sub>4</sub> Sulphate	mg/L	PROS 15R	500		250	4	2.9	4.2	3.675
Fe Iron	mg/L	PROS 15R			0.3	4	0.01	0.41	0.17
Mn Manganese	mg/L	PROS 15R	0.5		0.1	4	0.001	0.49	0.124
Zn Zinc	mg/L	PROS 15R			3	4	0.06	0.06	0.06
Al Aluminium	mg/L	PROS 15R			0.2	4	0.03	0.15	0.08
B Boron	mg/L	PROS 15R	4			4	0.03	0.03	0.03
Cu Copper	mg/L	PROS 15R	2		1	4	0.004	0.007	0.005
Aluminium	mg/L	PROS 15R			0.2	4	0.037	0.18	0.109
Arsenic	mg/L	PROS 15R	0.01			4	0.0007	0.0012	0.001
Cadmium	mg/L	PROS 15R	0.002			4	0.0001	0.0001	0.000
Chromium	mg/L	PROS 15R	0.05			4	0.0001	0.0005	0.000
Copper	mg/L	PROS 15R	2		1	4	0.004	0.006	0.005
Iron	mg/L	PROS 15R			0.3	4	0.29	0.62	0.418
Lead	mg/L	PROS 15R	0.01			4	0.0002	0.0003	0.000
Manganese	mg/L	PROS 15R	0.5		0.1	4	0.021	0.67	0.271
Nickel	mg/L	PROS 15R	0.02			4	0.0015	0.0018	0.002
Zinc	mg/L	PROS 15R			3	4	0.008	0.015	0.010



## Water quality analysis: Proston Treated Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	WTP			5	348	0.13	2.49	0.43
Colour	Hazen	WTP			15				
ph		WTP		6.5	8.5	303	6.93	8.14	7.7
Free Chlorine	mg/L	WTP							
Total Trihalomethane	µg/L		250			9	120	240	185
Bromide	mg/L	PROS 15				11	0.04	0.06	0.05
Conductivity	µs/cm	PROS 16				4	470	590	528
pH		PROS 16		6.5	8.5	4	6.84	7.37	7.18
Total Hardness	mg CaCO <sub>3</sub> /L	PROS 16			200	4	104	123	112
Temp Hardness	mg CaCO <sub>3</sub> /L	PROS 16				4	60	70	65
Alkalinity	mg CaCO <sub>3</sub> /L	PROS 16				4	60	70	65
Residual Alkalinity	meq/L	PROS 16				4	0	0	0
Silica	mg/L	PROS 16			80	4	12	14	13
Total Dissolved Ions	mg/L	PROS 16				4	275	329	300
Total Dissolved Solids	mg/L	PROS 16			600	4	250	300	273
Colour	Hazen	PROS 16			15	4	8	8	8
Turbidity	NTU	PROS 16			5	4	1	2	1.25
pH Sat		PROS 16				4	8.3	8.5	8.4
Saturation Index		PROS 16				4	1	1.6	1.225
Mole ratio		PROS 16				4	3.3	3.8	3.475
Sodium Absorption Ratio		PROS 16				4	2.2	2.4	2.275
Figure of merit ratio		PROS 16				4	0.9	0.9	0.9
Na Sodium	mg/L	PROS 16			180	4	52	62	55.8
K Potassium	mg/L	PROS 16				4	5.1	5.7	5.325
Ca Calcium	mg/L	PROS 16				4	17	20	18.5
Mg Magnesium	mg/L	PROS 16				4	15	18	16.3
H Hydrogen	mg/L	PROS 16				4	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	PROS 16				4	72	85	78.5
CO <sub>3</sub> Carbonate	mg/L	PROS 16				4	0	0.1	0.075
OH Hydroxide	mg/L	PROS 16				4	0	0	0
Cl Chloride	mg/L	PROS 16			250	4	110	140	122.5
F Fluoride	mg/L	PROS 16	1.5			4	0.08	0.1	0.088
No <sub>3</sub> Nitrate	mg/L	PROS 16	50			4	0.08	1.1	0.478
SO <sub>4</sub> Sulphate	mg/L	PROS 16	500		250	4	2.7	3.9	3.475
Fe Iron	mg/L	PROS 16			0.3	4	0.01	0.04	0.018
Mn Manganese	mg/L	PROS 16	0.5		0.1	4	0.001	0.014	0.004
Zn Zinc	mg/L	PROS 16			3	4	0.06	0.06	0.060
Al Aluminium	mg/L	PROS 16			0.2	4	0.03	0.03	0.030
B Boron	mg/L	PROS 16	4			4	0.03	0.03	0.030
Cu Copper	mg/L	PROS 16	2		1	4	0.003	0.005	0.004

## Water quality analysis: Wondai Raw Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU				5	356	2.41	74	11.45
Colour	Hazen				15	358	5	75	23.16
ph				6.5	8.5	354	6.2	8.07	7.3
Free Chlorine	mg/L								
Bromide	mg/L	WOND 10R				12	0.24	0.72	0.52
Conductivity	µs/cm	WOND 10R				12	520	1200	923
pH		WOND 10R		6.5	8.5	12	7.44	7.98	7.79
Total Hardness	mg CaCO <sub>3</sub> /L	WOND 10R			200	12	148	360	258
Temp Hardness	mg CaCO <sub>3</sub> /L	WOND 10R				12	97	223	156
Alkalinity	mg CaCO <sub>3</sub> /L	WOND 10R				12	97	220	157
Residual Alkalinity	meq/L	WOND 10R				12	0	0	0
Silica	mg/L	WOND 10R			80	12	12	19	15.33
Total Dissolved Ions	mg/L	WOND 10R				12	318	754	552
Total Dissolved Solids	mg/L	WOND 10R			600	12	280	630	472
Colour	Hazen	WOND 10R			15	12	14	56	25
Turbidity	NTU	WOND 10R			5	12	1	23	6.833
pH Sat		WOND 10R				12	7.3	8	7.658
Saturation Index		WOND 10R				12	0.1	0.7	0.325
Mole ratio		WOND 10R				12	2.4	3	2.6
Sodium Absorption Ratio		WOND 10R				12	1.5	2.6	2.117
Figure of merit ratio		WOND 10R				12	1.4	1.7	1.517
Na Sodium	mg/L	WOND 10R			180	12	42	110	78.4
K Potassium	mg/L	WOND 10R				12	4.3	6.2	5.275
Ca Calcium	mg/L	WOND 10R				12	28	65	46.17
Mg Magnesium	mg/L	WOND 10R				12	19	48	34.67
H Hydrogen	mg/L	WOND 10R				12	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	WOND 10R				12	118	268	188
CO <sub>3</sub> Carbonate	mg/L	WOND 10R				12	0.3	1.8	0.867
OH Hydroxide	mg/L	WOND 10R				12	0	0	0
Cl Chloride	mg/L	WOND 10R			250	12	93	260	186
F Fluoride	mg/L	WOND 10R	1.5			12	0.12	0.19	0.158
No <sub>3</sub> Nitrate	mg/L	WOND 10R	50			12	0.1	1.2	0.421
SO <sub>4</sub> Sulphate	mg/L	WOND 10R	500		250	12	9.9	16	12.66
Fe Iron	mg/L	WOND 10R			0.3	12	0.01	0.12	0.02
Mn Manganese	mg/L	WOND 10R	0.5		0.1	12	0.001	0.009	0.002
Zn Zinc	mg/L	WOND 10R			3	12	0.06	0.06	0.060
Al Aluminium	mg/L	WOND 10R			0.2	12	0.03	0.08	0.034
B Boron	mg/L	WOND 10R	4			12	0.03	0.04	0.035
Cu Copper	mg/L	WOND 10R	2		1	12	0.059	0.23	0.108
Aluminium	mg/L	WOND 10R			0.2	4	0.12	0.38	0.245
Arsenic	mg/L	WOND 10R	0.01			4	0.0012	0.0018	0.001
Cadmium	mg/L	WOND 10R	0.002			4	0.0001	0.0001	0.000
Chromium	mg/L	WOND 10R	0.05			4	0.0002	0.0006	0.000
Copper	mg/L	WOND 10R	2		1	4	0.25	0.73	0.410
Iron	mg/L	WOND 10R			0.3	4	0.25	0.46	0.398
Lead	mg/L	WOND 10R	0.01			4	0.0004	0.0013	0.001
Manganese	mg/L	WOND 10R	0.5		0.1	4	0.043	0.21	0.113
Nickel	mg/L	WOND 10R	0.02			4	0.0013	0.002	0.002
Zinc	mg/L	WOND 10R			3	4	0.004	0.009	0.006

## Water quality analysis: Wondai Treated Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	WTP			5	352	0.12	3.7	0.58
Colour	Hazen	WTP			15	358	0	7	1.11
ph		WTP		6.5	8.5	353	6.51	8.46	7.27
Free Chlorine	mg/L	WTP				354	0.13	2.88	1.19
Total Treated	µg/L		250			48	62	280	154
Bromide	mg/L	WOND 10				12	0.11	0.34	0.22
Conductivity	µs/cm	WOND 10				12	640	1300	995
pH		WOND 10		6.5	8.5	12	7.09	8.04	7.611
Total Hardness	mg CaCO <sub>3</sub> /L	WOND 10			200	12	154	352	256
Temp Hardness	mg CaCO <sub>3</sub> /L	WOND 10				12	99	220	152
Alkalinity	mg CaCO <sub>3</sub> /L	WOND 10				12	99	220	152
Residual Alkalinity	meq/L	WOND 10				12	0	0	0
Silica	mg/L	WOND 10			80	12	11	16	12.83
Total Dissolved Ions	mg/L	WOND 10				12	409	785	600
Total Dissolved Solids	mg/L	WOND 10			600	12	360	660	520
Colour	Hazen	WOND 10			15	12	8	8	8
Turbidity	NTU	WOND 10			5	12	1	1	1
pH Sat		WOND 10				12	7.3	8	7.683
Saturation Index		WOND 10				12	0	0.8	0.342
Mole ratio		WOND 10				12	2.5	3.4	2.858
Sodium Absorption Ratio		WOND 10				12	2.2	2.9	2.575
Figure of merit ratio		WOND 10				12	1	1.4	1.208
Na Sodium	mg/L	WOND 10			180	12	68	120	94.83
K Potassium	mg/L	WOND 10				12	4.4	6.2	5.275
Ca Calcium	mg/L	WOND 10				12	29	64	46.08
Mg Magnesium	mg/L	WOND 10				12	20	47	34.33
H Hydrogen	mg/L	WOND 10				12	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	WOND 10				12	120	266	184
CO <sub>3</sub> Carbonate	mg/L	WOND 10				12	0.1	1.3	0.567
OH Hydroxide	mg/L	WOND 10				12	0	0	0
Cl Chloride	mg/L	WOND 10			250	12	100	270	189
F Fluoride	mg/L	WOND 10	1.5			12	0.06	0.18	0.112
No <sub>3</sub> Nitrate	mg/L	WOND 10	50			12	0.2	1.6	0.509
SO <sub>4</sub> Sulphate	mg/L	WOND 10	500		250	12	26	66	45.7
Fe Iron	mg/L	WOND 10			0.3	12	0.01	0.01	0.010
Mn Manganese	mg/L	WOND 10	0.5		0.1	12	0.001	0.009	0.004
Zn Zinc	mg/L	WOND 10			3	12	0.06	0.06	0.060
Al Aluminium	mg/L	WOND 10			0.2	12	0.03	0.09	0.055
B Boron	mg/L	WOND 10	4			12	0.03	0.04	0.035
Cu Copper	mg/L	WOND 10	2		1	12	0.005	0.037	0.011

## Water quality analysis: Yallakool Raw Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	YALLA 18			5	356	0.08	11	2.03
Colour	Hazen	YALLA 18			15	354	0	67	19.89
ph		YALLA 18		6.5	8.5	356	6.12	8.09	7.21
Free Chlorine	mg/L	YALLA 18							
Conductivity	µs/cm	YALLA 18				4	360	680	550
pH		YALLA 18		6.5	8.5	4	6.99	7.47	7.24
Total Hardness	mg CaCO <sub>3</sub> /L	YALLA 18			200	4	95	175	141
Temp Hardness	mg CaCO <sub>3</sub> /L	YALLA 18				4	67	106	86.25
Alkalinity	mg CaCO <sub>3</sub> /L	YALLA 18				4	67	110	87.25
Residual Alkalinity	meq/L	YALLA 18				4	0	0	0
Silica	mg/L	YALLA 18			80	4	12	16	13.75
Total Dissolved Ions	mg/L	YALLA 18				4	222	397	323
Total Dissolved Solids	mg/L	YALLA 18			600	4	200	350	285
Colour	Hazen	YALLA 18			15	4	13	27	18.5
Turbidity	NTU	YALLA 18			5	4	1	2	1.5
pH Sat		YALLA 18				4	8	8.3	8.125
Saturation Index		YALLA 18				4	0.5	1.4	0.9
Mole ratio		YALLA 18				4	3	3.4	3.2
Sodium Absorption Ratio		YALLA 18				4	1.3	2	1.725
Figure of merit ratio		YALLA 18				4	1.3	1.5	1.35
Na Sodium	mg/L	YALLA 18			180	4	29	61	47.75
K Potassium	mg/L	YALLA 18				4	5.9	6.5	6.15
Ca Calcium	mg/L	YALLA 18				4	19	31	25.75
Mg Magnesium	mg/L	YALLA 18				4	12	23	18.5
H Hydrogen	mg/L	YALLA 18				4	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	YALLA 18				4	82	129	105
CO <sub>3</sub> Carbonate	mg/L	YALLA 18				4	0	0.2	0.125
OH Hydroxide	mg/L	YALLA 18				4	0	0	0
Cl Chloride	mg/L	YALLA 18			250	4	64	140	108.5
F Fluoride	mg/L	YALLA 18	1.5			4	0.11	0.15	0.135
No <sub>3</sub> Nitrate	mg/L	YALLA 18	50			4	1.1	1.3	1.225
SO <sub>4</sub> Sulphate	mg/L	YALLA 18	500		250	4	8.7	12	9.9
Fe Iron	mg/L	YALLA 18			0.3	4	0.01	0.01	0.0100
Mn Manganese	mg/L	YALLA 18	0.5		0.1	4	0.001	0.001	0.0010
Zn Zinc	mg/L	YALLA 18			3	4	0.06	0.06	0.0600
Al Aluminium	mg/L	YALLA 18			0.2	4	0.03	0.6	0.1725
B Boron	mg/L	YALLA 18	4			4	0.03	0.04	0.0350
Cu Copper	mg/L	YALLA 18	2		1	4	0.003	0.003	0.0030

## Water quality analysis: Yallakool Treated Water

Parameter	Unit of measure	Location	Health	Aesthetic		Count	Min	Max	Average
				Lower	Upper				
Turbidity	NTU	WTP			5	354	0.14	1.06	0.32
Colour	Hazen	WTP			15	356	0	8	0.69
ph		WTP		6.5	8.5	353	6.3	8.14	7.21
Free Chlorine	mg/L	WTP				351	0.1	3.11	0.9
Total Trihalomethane	µg/L		250			4	140	230	177
Bromide	mg/L	YALLA 17				4	0.02	0.1	0.05
Conductivity	µs/cm	YALLA 17				4	410	710	583
pH		YALLA 17		6.5	8.5	4	7.46	7.8	7.68
Total Hardness	mg CaCO <sub>3</sub> /L	YALLA 17			200	4	105	180	146
Temp Hardness	mg CaCO <sub>3</sub> /L	YALLA 17				4	72	106	87.3
Alkalinity	mg CaCO <sub>3</sub> /L	YALLA 17				4	72	110	88.3
Residual Alkalinity	meq/L	YALLA 17				4	0	0	0
Silica	mg/L	YALLA 17			80	4	11	15	13
Total Dissolved Ions	mg/L	YALLA 17				4	250	412	340
Total Dissolved Solids	mg/L	YALLA 17			600	4	220	360	298
Colour	Hazen	YALLA 17			15	4	8	8	8
Turbidity	NTU	YALLA 17			5	4	1	2	1.25
pH Sat		YALLA 17				4	7.9	8.2	8.05
Saturation Index		YALLA 17				4	0.1	0.8	0.4
Mole ratio		YALLA 17				4	2.6	2.8	2.68
Sodium Absorption Ratio		YALLA 17				4	1.5	2.1	1.85
Figure of merit ratio		YALLA 17				4	1.3	1.4	1.33
Na Sodium	mg/L	YALLA 17			180	4	35	65	52
K Potassium	mg/L	YALLA 17				4	5.8	6.7	6.3
Ca Calcium	mg/L	YALLA 17				4	25	34	29.3
Mg Magnesium	mg/L	YALLA 17				4	10	23	17.5
H Hydrogen	mg/L	YALLA 17				4	0	0	0
HCO <sub>3</sub> Bicarbonate	mg/L	YALLA 17				4	88	128	106
CO <sub>3</sub> Carbonate	mg/L	YALLA 17				4	0.2	0.7	0.425
OH Hydroxide	mg/L	YALLA 17				4	0	0	0
Cl Chloride	mg/L	YALLA 17			250	4	77	150	119
F Fluoride	mg/L	YALLA 17	1.5			4	0.08	0.12	0.105
No <sub>3</sub> Nitrate	mg/L	YALLA 17	50			4	1	1.3	1.15
SO <sub>4</sub> Sulphate	mg/L	YALLA 17	500		250	4	7.8	11	9.3
Fe Iron	mg/L	YALLA 17			0.3	4	0.01	0.01	0.010
Mn Manganese	mg/L	YALLA 17	0.5		0.1	4	0.003	0.005	0.004
Zn Zinc	mg/L	YALLA 17			3	4	0.06	0.06	0.060
Al Aluminium	mg/L	YALLA 17			0.2	4	0.03	0.04	0.033
B Boron	mg/L	YALLA 17	4			4	0.03	0.04	0.035
Cu Copper	mg/L	YALLA 17	2		1	4	0.003	0.012	0.008

# Appendix B – Current approved RMIP

Version 8.3 2021

## Current

Ref	Scheme component / Sub-component	Hazard / Hazardous event	Priority	Action(s)			Target date(s)	Estimated cost	Responsibility	Comments
				Interim	Short-term	Long Term				
				<b>Current Tasks</b>						
S11	All Areas	High THMs	Low	Secure budget allocation to complete a review.			Jul-23	N/A	MWW	THM review by external water quality expert or auditor to ensure best practices are adopted.
S12	All Areas	Procedures	Low	Procedures are in draft mode	Operational staff have performed these tasks and formalising the process and training for new operational staff.	Complete draft procedures and complete operational training.	Jun-22	N/A	MWW	THM review by external water quality expert or auditor to ensure best practices are adopted.
S13	Proston WTP	Water Quality, plant under-performing.	Low	Operators are trained on site	Jar Tests performed off site.	Jar testing and formal training of operators	Jun-23	N/A	MWW	
S14	Proston weir and pump station	loss of supply to Proston scheme	Low	Pump hire		Procurement of Pumps and water licences	Jun-23	N/A	MWW	Align with Strategic Water Security approach to possible regionalisation and MPP outcomes
S15	All Areas	Drifting analysers / water quality	Low	Calibration sheets		Instrument service agreements	Jun-23	N/A	MWW	
S16	Blackbutt WTP, Wondai WTP and Nanango WTP	PLC Failure / loss of supply	Medium	Operation operations		SCADA and PLC upgrades	Jun-24	N/A	MWW	Tenders awarded to complete the significant upgrades to Regional SCADA and PLC upgrades as a multi-year project.
S17	All Areas	General reservoir risks and hazards	Low			Develop formal inspection and reporting program.	Dec-21	N/A	MWW	Reservoir inspections are currently adhoc. Improvement is to formally inspect record and report defects.
S18	All areas	Dirty water / High turbidity / poor disinfection	Low			Investigate turbidity testing on site for water main repairs	Jun-23	N/A	MWW	
S19	QA system	Water Quality, plant under-performing.	Low			Implement additional quality controls for water quality	Jun-23	N/A	MWW	Implement better controls for capturing calibration data and jar testing results.
S20	Wondai WTP	High turbidity/dirty water	Low	Slow plant flow rate during turbid events		Clarifier requested through MPP project		N/A	MWW	
S21	SCADA All schemes	Change to set points/ water quality	Low	System checks against set point summary		SCADA and PLC upgrades with built in prevention	Jun-23	N/A	MWW	
S22	All Areas	Water Quality, Operator error	Low	Develop Training		SOP for all procedures	Jun-23	N/A	MWW	Create a SOP for operators to locate and be trained
S23	All Areas	Water Quality, Operator error	Low	Develop Training		Develop Jar Testing Procedure to include frequency and document recording process	Jun-22	N/A	MWW	
S24	All Areas	Water Quality	Low	Check all instruments		Implement Reagent and instrument calibration program	Jun-22	N/A	MWW	Implement routine program for calibrating, inspecting, bench top instruments and reagents.
S25	Kingaroy	THM	High			Design and Construct off site storage to store Boondooma Dam Raw Water	Jun-24	TBA	MWW	Off site storage dam will maintain continuity of supply from Boondooma Dam reducing the need to use 100% Gordonbrook supply.
S26	All Schemes	Chlorate and Chlorite	High	Continue 6 monthly sampling as is and report as required.		Include in the verification monitoring plan at next review, and risk assess each scheme.	Jun-22	N/A	MWW	Most liquid sodium hypochlorite dosing stations have a duty and standby tank. Old chlorine is completely depleted before new chlorine
S27	All Schemes	Water Quality / Disinfection	Medium			Develop a disinfection strategy to reduce water age and maintain fire fighting capacity.	Jun-24	TBA	MWW	This is an item requested by the regulator to develop. Water age historically was managed by reducing reservoir storages at outer reservoirs.
S28	All Treatment Plants	Turbidity	Medium	Continue to optimise jar testing and filter performance		Develop long term turbidity reduction plan for all WTP's	Jun-24	TBA	MWW	
S29	Nanango WTP	Turbidity	High	Implement turbidity monitoring at the Nanango WTP and scheme			Jun-22	N/A	MWW	
S30	All Schemes	Blue Green Algae, Pesticides and Herbicides	Low	Continue to review results as received		Develop a data management system with an output reporting mechanism	Jun-23	TBA	MWW	

## Completed

Ref	Scheme component / Sub-component	Hazard / Hazardous event	Priority	Action(s)			Target date(s)	Estimated cost	Responsibility	Comments
				Interim	Short-term	Long Term				
<b>Completed Tasks</b>										
S1	Catchment and Operations	Loss of Key staff, operational knowledge	Medium	Review O&M manuals to ensure they are sufficient for the purpose. (See S2)		Complete O&M's for Nanango, Proston and Yallakool WTP's. See below	Complete	N/A	N/A	Operational staff has now either been formally trained to Certificate II & III levels or are actively being trained to complete this training. All operators/team members are utilised in a staff roster rotations. Operators/team members are confident in operating all plants. The large water treatment plants, and reticulation now have operation - maintenance manuals and procedures. This risk is now deemed complete.
S2	Catchment and Operations	Loss of Key staff, operational knowledge	High	Review all operation and maintenance manuals, including sampling data, handling, and communication procedures.		Complete O&M's for Nanango, Proston and Yallakool WTP's. See below	Complete	N/A	N/A	SBRC completed procedures for recalculation and all large water treatment plants Operation and Maintenance manuals as per section 5.2. The remainder O&M's required have now been identified in the below item.
S3	Catchment and Operations	Currently there is no promulgation of the Incident and Emergency Response Plan, and no linkage of it to the Regional Disaster Management Plan.	Medium	Review Incident and Emergency Response Plan and document the linkages into Regional Disaster Management Plan.			Completed 31 December 2013	N/A	N/A	SBRC endorsed Councils revised South Burnett Local Disaster Management Plan on 18 February 2014. Linkages to the SBDDMG and responsibilities have been added to the DWQMP Incident and Response Plan (refer Appendix 1). Promulgation of the Incident and Response Plan through the South Burnett Local Disaster Management Group (SBDDMG) was achieved during the SBDDMG meeting on the 16 June 2014. The linkages between the South Burnett Local Disaster Management Plan and Councils DWQMP were presented at this meeting by Russell Hood (General Manager - Infrastructure) Minutes of the meeting are attached in Appendix B. This risk is now deemed complete.
S4	Kingaroy Scheme	Re-Chlorination	Medium	Engineer to investigate flow and dosing rates.			Completed	N/A	WE	Upon completion of the Gardnbrook Water Treatment Plant, organics removal has been increased allowing the redosing stations flow rates reduced. Future operational adjustments will be upon engineering recommendations. This risk is now considered acceptable.
S5	Yallakool WTP	Lack of significant Operation data	Low	Include verification, raw and treated water data in DWQMP		Include in plan	Completed	N/A	TC	Verification monitoring is now included in the DWQMP. This is now considered an acceptable risk.
S7	Boondooma and Proston Water Treatment Plant	No connection to SCADA	Low	For the interim and short term existing operational visits will remain. These are considered satisfactory, however connection to SCADA will aid in operational procedures.		Complete project.	Nov-17	N/A	WE	SCADA projects completed November 2017
S8	All Areas	IT Systems damaged by network access or possible intrusion via external contractors Inc. scada programmers, electricians, process engineers, instrument technicians	Low	Existing preventative measures are considered suitable.			Cyber security complete	N/A	Manager ICT	to date no issues with this hazard however need to undertake a vulnerability assessment to be completed by 30th June 2020
S6	Nanango, Proston and Yallakool Water Treatment Plant	Lack of Operation and Maintenance Manual	Low	Operators are very familiar and well trained in the operation of this system.		Complete O&M's for this plant as mentioned in section 5.3	Jun-20	N/A	MWW, WE, TC	SBRC has prioritised the completion of O&M's for the larger water treatment plants. The small plants planned to be complete by the target date mentioned.
S9	All Areas	ICT patches and upgrades of hardware and software failure.	Low	Existing preventative measures are considered suitable.			Jul-20	N/A	Manager ICT	To date no issues with this hazard however process to be implemented for upgrades to be updated regularly
S10	All Areas	Loss of supply to draught	Low	Review any existing documentation and provide a plan.			Jun-21	N/A	MWW	Consultants are currently reviewing the Drought Management Plan in Final Draft.

# Appendix C – Current Verification Monitoring Program

Sample point ID	Description/Location	Access	Water source	Photo ID	Responsible Office	Weekly	Monthly	2 Monthly	Quarterly	Annually
<b>Blackbutt Water</b>										
BLACK 11	Blackbutt Water Treatment Plant	At the CL2 analyser drain point	Clear water		Compliance	Free and Total chlorine, Bacto, THM, Bromide,				
BLACK 6	Muller Park Blackbutt	Green sample box located on Hart St near the park.	Clear water		Compliance	Free and Total chlorine, Bacto, THM, Bromide,	SWA			
BEN 5	Settlers Park Benakin	Green sample box located in the park	Clear water		Compliance	Free and Total chlorine, Bacto, THM, Bromide,				
BLACK 8R	Boobir Dam raw water supply	Tap inside raw water line. Operator needs to start plant manually for sample	Raw		Compliance	BGA, Bromide			HM, SWA, Pesticides	
BLACK 9R	Boondooma Dam raw water supply	Tap on PRV outside the main building	Raw		Compliance	BGA, Bromide			HM, SWA, Pesticides	
<b>Boondooma Water</b>										
BOON 13	Boondooma Dam Kiosk		Clear water		Compliance		Free and Total chlorine, Bacto, SWA, THM, Bromide			
<b>Kingaroy Water</b>										
GORD R	Gordonbrook WTP/Gordonbrook Dam Raw	Large pipe next to round concrete tank	Raw		Compliance	Bromide, BGA	HM, Pesticides, SWA			
BOON R	Gordonbrook WTP/Boondooma Dam Raw	Large pipe next to round concrete tank	Raw		Compliance	Bromide, BGA	HM, Pesticides, SWA			
GORD B	Gordonbrook WTP/Blended Raw water	From wet rack out if the drain hose from the analyser.	Raw		Compliance	Bromide, BGA	HM, Pesticides, SWA		Bacto	
KING F	Gordonbrook WTP/Clear water	Sample from clear water analyser drain located at the bottom floor of clear water pump room	Clear Water		Compliance	Free and Total chlorine, Bacto, THM, Bromide,	SWA			
KING 1A	Haly St Pump station Tap 1	Tap 1 located inside the fence on the corner of the pump building closest to door.	Clear Water		Compliance	Free and Total chlorine, Bacto, BGA, THM, Bromide				
KING 1B	Haly St Pump station Tap 2	Tap 2 located inside the fence on the corner of the building fathers from the door.	Clear Water		Compliance	Free and Total chlorine, Bacto,				
KING 4	Drive In Pump station/Bunya Hwy, 100m north of Banksia Drive	Located on the Bunya Hwy, 100m north of Banksia Drive.	Clear Water		Compliance	Free and Total chlorine, Bacto,				
KING 5	Premier Drive Pump Station/Next to reservoir	Top of the Hill in the new estate. Large round green reservoir. Tap located inside wire fence near pump station shed.	Clear Water		Compliance	Free and Total chlorine, Bacto, BGA, THM, Bromide				
KING 7	Rotary park Tap/ Haly St	Green sample box located near the toilet block in Fisher St Park	Clear Water		Compliance	Free and Total chlorine, Bacto,	SWA			
KING 3	Drive in Reservoir/Couchmans Rd	Couchmans Rd, on right at the rear of the property. Tap located within the wire cage and under the tank on the right.	Clear Water		Compliance	Free and Total chlorine, Bacto, THM, Bromide,				
KING 8	Aderman Park	Park is located on the right hand side of Ivy St. Tap is the low on the wall of the brown brick amnesties building nearest the road edge.	Clear Water		Compliance	Free and Total chlorine, Bacto,				
KING 10	SBRC Council office tap	Rear tap, at the back of the Kingaroy Council office	Clear Water		Compliance	Free and Total chlorine, Bacto,				
King 9	Taabling Heights Reservoir	Located on the top of the rise on the corner of Bonneville and Ellsmere Rd Taabling. Tap located inside wire fence on the road side of the right reservoir.	Clear Water		Compliance	Free and Total chlorine, Bacto, THM, Bromide,				
KING 6	Kingaroy Heights Reservoir	Located at the reservoir at the top of the hill on the right side of Redmans rd, travelling from Haly St. End. Tap is between tanks at the top of the hill within the reservoir compound.	Clear Water		Compliance	Free and Total chlorine, Bacto, THM, Bromide,				
GOR 15R	Gordonbrook Dam Rest area	Turn right into Recreation Drive just past Memerambi. Follow this to the boat ramp which is past a right hand elbow on to an unsealed section. Sample is taken at the boat ramp area from the dam water.	Raw Water		Compliance	BGA				
KUM 19	Kumbia Park	Tap located in the park opposite police station.	Raw Water		Compliance				SWA	
<b>Murgon Water</b>										
MURG 7	Murgon Water Treatment Plant	Tap is located on the end of the Water treatment plant building, closest to Gore St. This water is supplied from the retic main in Gore Street.	Clear Water		Compliance	Free and Total chlorine, Bacto,	THM, SWA, Bromide			
MURG 5	Hospital Reservoir	Tap near the reservoir, near garden bed.	Clear Water		Compliance	Free and Total chlorine, Bacto,	THM, Bromide			
MURG 4	Golf Links Reservoir	Tap is located against the wall of the reservoir.	Clear Water		Compliance	Free and Total chlorine, Bacto,	THM, Bromide			
MURG 9	Industrial Estate Reservoir	Sample tap is located on the inside of the security fence attached to the pipe located against the wall of the pump building	Clear Water		Compliance	Free and Total chlorine, Bacto,				
MURG 6	Perkins Street and Lamb Street	Outside Perkins Stre Pump Station	Clear Water		Compliance	Free and Total chlorine, Bacto,				
MURG 8	Caravan Park - 3 Crabb St Murgon	Tap is located at the amenities building.	Clear Water		Compliance	Free and Total chlorine, Bacto,				
MURG 10	Town pump station	Sample tap located on analyser rack	Clear Water		Compliance	Free and Total chlorine, Bacto,				
MURG 7R	Murgon Water Treatment Plant Raw		Raw		Compliance		BGA, SWA, Bromide		HM, PEST	
<b>Nanango Water</b>										
NAN 8	Nanango Water Treatment Plant	Discharge from Chlorine analyser	Clear Water		Compliance	Free and Total chlorine, Bacto,	Bromide			
NAN 4	Hospital Reservoir		Clear Water		Compliance	Free and Total chlorine, Bacto,	THM, Bromide			
NAN 1	Nanango Lions Park	Tap located in the park in the middle of the lawn outside the public toilet block at BP end of the park.	Clear Water		Compliance	Free and Total chlorine, Bacto,	SWA, THM, Bromide			
NAN 2	Nanango Cemetery	Half way down the cemetery through the Main entrance on the right hand side via a track.	Clear Water		Compliance	Free and Total chlorine, Bacto,				
NAN 3	McCallum Park Nanango	Front corner of the building outside Nanango Office. Henry St side.	Clear Water		Compliance	Free and Total chlorine, Bacto,				
NAN 5R	Nanango Bore A	Bore A is at the Kingaroy End of the three bores	Raw		Compliance		HM, SWA, Pesticides, Bromide			
NAN 6R	Nanango Bore B	Bore B is located in the middle of the three bores	Raw		Compliance		HM, SWA, Pesticides, Bromide			
NAN 7R	Nanango Bore C	Bore C is located N nanango side nearest the treatment shed.	Raw		Compliance		HM, SWA, Pesticides, Bromide			
<b>Proston Water</b>										
PROS 17	Proston Water Treatment Plant		Clear water		Compliance		Free and Total chlorine, Bacto,			
PROS 15	Landfill Reservoir		Clear water		Compliance		Free and Total chlorine, Bacto, THM, Bromide			
PROS 16	Rodney Street Toilets	Rodney Street toilet block, tap is located near the garden bed at the entrance to the mens toilet.	Clear water		Compliance		Free and Total chlorine, Bacto,		SWA,	
PROS 15R	Proston Water Treatment Plant Raw		Raw		Compliance		BGA, Bromide		HM, SWA, PEST,	
<b>Wondai Water Scheme</b>										
WOND 10	Wondai Water Treatment plant	Sample taken from the outlet pump manifold located next to the clear water storage tank. Tap is located next to the reservoir on the town side.	Clear Water		Compliance	Free and Total chlorine, Bacto,	THM, SWA, Bromide			
WOND 3	Hines Rd Reservoir	Sample tap is located inside the security fence to the water pump station.	Clear Water		Compliance	Free and Total chlorine, Bacto,	THM, Bromide			
WOND 12	Scott Street Reservoir	Sample tap is located inside the security fence on the pump manifold.	Clear Water		Compliance	Free and Total chlorine, Bacto,	THM, Bromide			
WOND 11	Coronation Park/ Scott Street Park	Cnr of Scott and Mackenzie st. Tap located near the emu statue.	Clear Water		Compliance	Free and Total chlorine, Bacto,				
TING 1	Tingora Reservoir	Sample tap located inside the security fence on top of the discharge pipework manifold.	Clear Water		Compliance	Free and Total chlorine, Bacto,	THM, SWA, Bromide			
TING 2	Tingora Park Tap	Cnr High and Bunya Highway. Tap is located inside the toilet block on the basin.	Clear Water		Compliance	Free and Total chlorine, Bacto,				
WOND 10R	Wondai Water Treatment Plant Raw		Raw		Compliance		BGA, SWA		HM, PEST	
<b>Wooroolin Water</b>										
WOOR 1	Wooroolin bore water sample	Sample point located in the night stay tap near the park.	Raw water		Compliance				SWA	
<b>Yalakool Water</b>										
YALLA 17	Yalakool water treatment plant	Sample tap located near the shop.	Clear Water		Compliance		Free and Total chlorine, Bacto		SWA, THM, Bromide	
YALLA 18	Yalakool WTP Raw water supply	Sample tap located inside water treatment plant building	Raw Water		Compliance				SWA,	