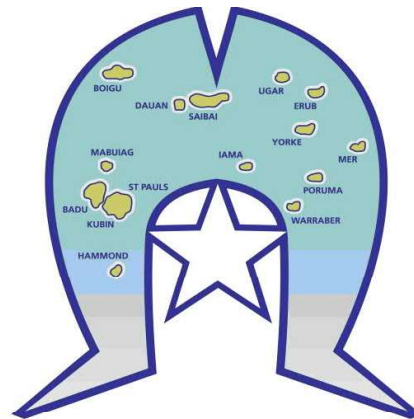




Torres Strait Island
REGIONAL COUNCIL

Engineering Services

DRINKING WATER QUALITY MANAGEMENT PLAN

ANNUAL REPORT FY2122

Torres Strait Island Regional Council
Service Provider SP500

This report has been prepared in accordance with the Drinking Water Quality Management Plan Report Guidance Note.

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1 Introduction

This is the Drinking Water Quality Management Plan (DWQMP) Annual Report for Torres Strait Island Regional Council (TSIRC) for the financial year 2021-2022.

TSIRC is a registered service provider, identification (SPID) number 500, serving 4,083 people across 15 communities on 14 islands in the Torres Strait. Implementation of the approved DWQMP ensures safe drinking water to protect public health. An overview of the water services provided by TSIRC are listed below:

Description	Metric
Population Served	4,083 people
No. of Raw Water Storage Facilities	12 lagoons
No. of Treated Water Storage Facilities	19 Reservoirs
Length of Delivery Mains	105km

This report summarises compliance with the approved plan over the financial year and includes:

- Activities undertaken during the year in operating the drinking water schemes
- Drinking water quality results for the year
- Summary of events that affected water quality during the year
- DWQMP review findings

This report is submitted to the Queensland Water Supply Regulator (Department of Regional Development, Manufacturing and Water - DRDMW) and is made available to the public through our website or for inspection upon request at council office.

2 Summary of Schemes Operated

The table below summarises the drinking water schemes operated by TSIRC.

Scheme Name	Population Served	Connections	Raw Water Source	Pre Treatment Process	Primary Treatment Process
01 - Boigu	199	82	3 x Desalination Units Lagoon (rainfall)	Clarifier Media Filtration RO Desalination	Media Filtration Chlorine Disinfection
02 - Dauan	131	58	4 x Wells Lagoon (rainfall)	-	Media Filtration Chlorine Disinfection
03 - Saibai	340	104	Lagoon (rainfall)	-	Media Filtration Bag Filtration Chlorine Disinfection
04 - Mabuiag	253	60	Lagoon (rainfall)	-	Media Filtration Chlorine Disinfection
05 - Badu	704	247	3 x Wells (Ground water)	Coagulation (Alum) pH adjustment	Ultra Filtration Chlorine Disinfection
06 - Kubin	151	84	1 x Well 1 x Weir Lagoon (rainfall)	-	Media Filtration Chlorine Disinfection
07 - St Pauls	242	118	3 x Well 1 x Weir	-	Media Filtration Chlorine Disinfection
08 - Hammond	253	100	1 x Well Torres Shire Council (TSC) Water Supply	Ultra-Filtration by TSC	Media Filtration Bag Filtration Chlorine Disinfection
09 - lama	275	82	2 x Desalination Units	Settling Tank Media Filtration RO Desalination	Chlorine Disinfection
10 - Warraber	287	81	Lagoon (rainfall) 2 x Desalination Unit	-	Media Filtration Chlorine Disinfection
11 - Poruma	164	77	2 x Desalination Unit Lagoon (rainfall)	Settling Tank Media Filtration RO Desalination	Media Filtration Chlorine Disinfection

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12 - Masig	283	106	2 x Desalination Unit Lagoon (rainfall)	Settling Tank Media Filtration RO Desalination	-
13 - Ugar	69	34	2 x Bores Lagoon (rainfall)	-	Media Filtration Chlorine Disinfection
14 - Erub	326	106	1 x Well Lagoon (rainfall)	-	Ultra Filtration Chlorine Disinfection
15 - Mer	406	111	3 x Desalination Unit Lagoon (rainfall)	Settling Tank Media Filtration RO Desalination	Media Filtration Bag filtration Chlorine Disinfection

3 Implementation of Drinking Water Quality Management Plan

The DWQMP was rewritten for the 2021-2022 reporting period. The DWQMP has been reshaped to reflect TSIRC's water management strategy more accurately as it incorporates TSIRC's shift away from paper-based reporting and towards data collection and sharing through SCADA, SWIMS and Smartsheets. The DWQMP Risk Management Improvement Plan (RMIP) has also been reviewed and improved.

TSIRC's latest version of the DWQMP Version No: 3.1 was conditionally approved on the 15/08/2022.

3.1 Risk Management Improvement Plan

The TSIRC's DWQMP Appendix K includes a Risk Management Improvement Plan (RMIP) which captures actions for improving the management of risks identified within the DWQMP. A copy of the current RMIP is included in Appendix A.

3.2 Water Operator Training

TSIRC did not put any of its Water Officers through Cert II or Cert III training between July 2021 - June 2022. The lack of training undertaken can be partially attributed to difficulties posed by the Covid-19 pandemic.

In late 2021, TSIRC conducted a water symposium on Poruma where training was provided to the water operations team in conjunction with the Tropical Public Health Service. This symposium covered topics such as: leak detection, water chemistry, computer skills, water test equipment use and calibration and desalination.

In May 2022, TSIRC in conjunction with representatives from the Tropical Public Health Service and the Water Industry Operators Association of Australia commenced an operator skills mapping process to create an online platform to provide targeted and tailored Cert III training to key staff across the organisation.

TSIRC's eLearning (online) platform is available and has been utilised for in-house training programs and includes specific training on the DWQMP. During 2021-2022 financial year training for the drinking water quality management plan was completed by multiple staff from across the business including engineering services, environmental and health services, and the executive office.

Since the roll out of the eLearning platform in 2018 additional modules have been included focusing on training in the key aspects of maintenance for filtration, disinfection monitoring, sampling and calibration, water treatment log sheet completion and details on the importance of safe water.

3.3 Projects to Improve Water Quality

In addition to items in the RMIP, the following capital projects have been undertaken in 2021-22 demonstrating TSIRC's commitment to improving water quality:

Table 1: Water quality improvement projects

Division	Project	Project Dates
02 - Dauan	WTP Upgrade - Increase media filter size to optimise treatment flow rate - Replace media to optimise filtration capacity - Install bag filters Construct New Rising Main - Redirect Well 1, 2 & 3 to lagoon, have 1 treatment location (WTP)	Construction phase
04 - Mabuiag	WTP Upgrade - Increase media filter size to optimise treatment flow rate - Replace media to optimise filtration capacity - Install bag filters	Construction phase
06 - Kubin	WTP Upgrade - Increase media filter size to optimise treatment flow rate - Replace media to optimise filtration capacity - Install bag filters	Construction phase
07 - St Pauls	WTP Upgrade - Increase media filter size to optimise treatment flow rate - Replace media to optimise filtration capacity - Install bag filters	Construction phase

4 Operational and Verification Monitoring

TSIRC's DWQMP Appendix B - Water Quality Management describes the operational and verification monitoring parameters which are applicable to the various sample points across each water scheme:

- Daily testing: free chlorine, turbidity, conductivity and pH
- Monthly testing: e. coli
- 6 Monthly testing: metals, nutrients, anions and physical properties

The results from water sample test matrix in Appendix B of the DWQMP are summarised in Appendix B, C, and D.

5 Incidents and Complaints

All incidents and complaints are managed in accordance with TSIRC's DWQMP Appendix G – Incidents and Complaints Management Plan. All known incidents and for this reporting period are summarised in Appendix E.

In the 2020-21 year only two formal complaints were received by TSIRC Management the lack of complaints is likely due to a lack of understanding and training in the area for water officers and other council staff.

Water Officers are prompted to notify management of complaints via email so they can be resolved and noted in the Incidents and Complaints Register.

5.1 Alleged Illness

Alleged illness complaints are received from customers who believe their water supply is the cause of an illness. In these cases, recent laboratory samples are reviewed to supply information to the customer to reassure the water supply is meeting the Australian Drinking Water guidelines for health-related parameters.

5.2 Colour Complaints

Discoloured water can predominantly be attributed to emergency works being conducted on the water mains in the area. A change in flow direction can cause sediment to be disturbed in the pipe and push this into legs of water meters at resident's properties. While Water and Wastewater team endeavours to plan works where possible and deliver letters to residents explaining works, duration of time without water and potential effects such as dirty/milky water after the water is returned to service, emergencies still occur that require urgent attention and cannot be planned.

Water and Wastewater staff advise residents to run external taps to flush any dirty water trapped in their connection and if the water is still discoloured, Water and Wastewater staff return to the area and flush the delivery mains again.

5.3 Taste and Odour Complaints

The taste and odour complaints received are often related to chlorine in the network. Individual customers have very different tolerance levels and while as low as possible, this can be detected by customers with very sensitive taste and smell.

Chlorine can also react with organics in the pipe network, be affected by periods of low flow and temperature in the pipe network.

Water and Wastewater staff investigate all chlorine complaints and if recent results are not available for that area from daily testing, officers will attend the location and take a chlorine reading using a handheld chlorine meter.

6 DWQMP Audit Findings

An external audit of TSIRC's DWQMP was completed in September 2022 outside of this reporting period. For completeness the findings from this external audit are included in Appendix F.

Appendix A - RMIP

Appendix B - Water Quality - SWIMS

Appendix C - Water Quality - Cairns Laboratories

Appendix D - Water Quality - E coli

Appendix E - Incidents and Complaints Register

Appendix F - DWQMP Audit Findings

K.6 RMIP

RMIP Items

ID	Description	Impact	Status / Expected Completion Date
WS-01	Automated water parameter logging and/or 7-day testing of water parameters by water officer	98	Unknown
WS-02	Install ultra filtration or UV for water scheme	54	Unknown
WS-03	Provide handstand or automated fire suppression system	29	Unknown
WS-04	Install escalated alarming system	43	Funding Available - Project Completion Date Mid 2022
WS-05	Install automated backwash system	15	Unknown
WS-06	Provide E.coli testing station on island	29	Unknown
WS-07	Increase testing frequency for crypto and giardia	14	Unknown
WS-08	Ensure all pipework is buried or SS316	15	Unknown
WS-09	Provide permanent desalination unit on island	35	Unknown
WS-10	Ensure spare booster pump set is available on island for emergency installation	1	Unknown
WS-11	GeosCADA (Individual logins regulated by active directory)	3	Funding Available - Project Completion Date Mid 2022
WS-12	DNP3 (Secures radio transmissions)	1	Unknown
WS-13	Upgrade supply and return line to Badu reservoir (remove push / pull water system)	4	Funding Requested - Awaiting Response from Funding Body
WS-14	Upgrade reservoir to increase useable lifespan	1	Unknown
WS-15	Develop procedurised stocklist and ordering methodology	1	Unknown
WS-16	Develop procedurised preventative maintenance plan	1	Unknown
WS-17	Ensure water supply scheme reservoirs are adequately sized	5	Unknown
WS-18	Develop ownership agreement with TSC for 08 - Hammond Water Supply Scheme	1	End of 2022

Extreme Risks

ID #	Location	Hazardous Event	Hazard	Scheme	Preventative Measures	RMIP
0.08	System	Abuse/corruption/ransomware/malware of cyber information	Data loss	All	Virusprotection Firewall	-
0.13	System	Climate Change	Lack of ability to supply drinking water Existential threat to operations	All	Nil	-

High Risks

ID #	Location	Hazardous Event	Hazard	Scheme	Preventative Measures	RMIP
0.04	System	Lack of skilled employees	Damage to plant Poor operation Incidents	All	DWQMP Appendix I - Training Management Plan SCADA monitoring and automated chlorine dosing Automation of plants to ensure continuous operation without operator input	-
0.07	System	Interference/disruption of SCADA - unauthorised access	Lack of maintenance Loss of monitoring ability and alarming Data loss Poor plant performance Incidents	All	Daily monitoring of SCADA system Physical presence at WTP and STP on week days Firewall / Penetration Testing Teamviewer Physical presence at WTP and STP on weekdays Minor physical security barriers such as fences to key assets Reporting of suspected incidents	WS-12
0.09	System	Lack of physical security over online assets	Damage to or loss of online assets	All	-	-
0.10	System	Lack of access control and identity management	Loss of monitoring ability and alarming, Data loss Loss of monitoring ability and alarming	All	-	WS-11
0.12	System	Lack of ability to detect if a cyber security event has occurred	Data loss Poor plant performance Incidents E.coli	All	Virusprotection, firewall, IT team managed	-
0.15	System	False Positive	Multiple Island based E.coli test stations	All	-	WS-06

K.6 RMIP

0.17	System	Environmental Hazards (Cyclone, Stormsurge)	Damage to assets, inability to operate	All	TSIRC Disaster Management Plan	-
0.18	System	Staff Errons	Water contamination, temporary inability to operate water	All	Ongoing training and mentorship of water supply scheme operators	-
1.08	WTP	Ineffective Treatment	Crypto, Giardia	1 - Boigu	6 monthly testing for crypto and giardia	WS-02, WS-07
1.11	System	Bushfire	Damage to Assets	1 - Boigu	Fire breaks around lagoon and WTP	WS-03, WS-08
1.15	Jetty	Jetty Collapse	Loss of critical supplies	1 - Boigu	Buried pipework	-
					Wells are located on vacant land away from residential septic tanks	
					Vermín proof lid to well locked gate and weir pump well.	
2.01	Wells 1, 2, 3, 4	Unsafe Water supply	E.coli, Crypto, Giardia	2 - Dauan	Operators to monitor area around well and weir for any signs of contamination. Chlorinated water supply (automated)	WS-01
					Week day chlorine monitoring in the network at 5 set locations	
					Monthly E.coli testing of drinking water supply	
					6 monthly testing for crypto and giardia	
					Lagoon catchment is fenced	
					Cleaning of covers pre wet season and post wetseason (and as needed during year)	
2.03	Lagoon	Unsafe Water supply	E.coli, Crypto, Giardia	2 - Dauan	Lagoon is located on western coast, away from STP and residential infrastructure	WS-02
					Chlorinated water supply (automated)	
					Week day chlorine monitoring in the network at 5 set locations	
					Monthly E.coli testing of drinking water supply	
2.09	WTP	Ineffective Treatment	Crypto, Giardia	2 - Dauan	6 monthly testing for crypto and giardia	WS-02, WS-07
					6 monthly testing for crypto and giardia	
					Operators to monitor area around lagoon for any signs of contamination.	
3.01	Lagoon Catchment	Unsafe Water supply	E.coli, Crypto, Giardia	3 - Salbai	Chlorinated water supply (automated)	WS-01
					Week day chlorine monitoring in the network at 5 set locations	
					Monthly E.coli testing of drinking water supply	
					6 monthly testing for crypto and giardia	
					Lagoon catchment is fenced	
3.03	Emergency Lagoons (Mud)	Unsafe Water supply	E.coli, Crypto, Giardia	3 - Salbai	Monthly E.coli testing of drinking water supply	WS-02
					6 monthly testing for crypto and giardia	
					Chlorinated water supply (automated)	
4.01	Weir - Catchment	Unsafe Water supply	E.coli, Crypto, Giardia	4 - Mabulag	Monthly E.coli testing of drinking water supply	WS-01
					6 monthly testing for crypto and giardia	
					Lagoon catchment is fenced	
					Cleaning of covers pre wet season and post wetseason (and as needed during year)	
4.03	Lagoon	Unsafe Water supply	E.coli, Crypto, Giardia	4 - Mabulag	Chlorinated water supply (automated)	WS-02
					Week day chlorine monitoring in the network at 5 set locations	
					Monthly E.coli testing of drinking water supply	
					6 monthly testing for crypto and giardia	
					Lagoon catchment is fenced	
4.09	WTP	Ineffective Treatment	Crypto, Giardia	4 - Mabulag	6 monthly testing for crypto and giardia	WS-02, WS-07
5.07	WTP	Ineffective Treatment	E.coli	5 - Badu	Monthly E.coli testing of drinking water supply	WS-01, WS-06, WS-13
5.08	WTP	Ineffective Treatment	Crypto, Giardia	5 - Badu	Chlorinated water supply (automated)	WS-02, WS-07, WS-13
5.10	System	Bushfire	Damage to Assets	5 - Badu	6 monthly testing for crypto and giardia	WS-02, WS-07, WS-13
					Fire breaks around wells and WTP	WS-03, WS-08
					Buried pipework	

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5.11	System	Loss of Critical Water Supply	Reservoir empty	5 - Badu	Nil	Operators to monitor area around well and wier for any signs of contamination.	WS-09
6.01	Twin Springs Well & Weir	Unsafe Water supply	E.coli, Crypto, Giardia	6 - Kubin	Chlorinated water supply (automated)	Chlorinated water supply (automated)	WS-01
					Week day chlorine monitoring in the network at 5 set locations	Week day chlorine monitoring in the network at 5 set locations	
					Monthly E.coli testing of drinking water supply	Monthly E.coli testing of drinking water supply	
					6 monthly testing for crypto and giardia Lagoon catchment is fenced	6 monthly testing for crypto and giardia Lagoon catchment is fenced	
6.03	Lagoon	Unsafe Water supply	E.coli, Crypto, Giardia	6 - Kubin	Cleaning of covers pre wet season and post wetseason (and as needed during year)	Cleaning of covers pre wet season and post wetseason (and as needed during year)	WS-02
					Chlorinated water supply (automated)	Chlorinated water supply (automated)	
					Week day chlorine monitoring in the network at 5 set locations	Week day chlorine monitoring in the network at 5 set locations	
					Monthly E.coli testing of drinking water supply	Monthly E.coli testing of drinking water supply	
6.09	WTP	Ineffective Treatment	Crypto, Giardia	6 - Kubin	6 monthly testing for crypto and giardia 6 monthly testing for crypto and giardia Vermir proof lid to well	6 monthly testing for crypto and giardia 6 monthly testing for crypto and giardia Vermir proof lid to well	WS-02, WS-07
					Locked gate and weir pump well.	Locked gate and weir pump well.	
7.01	Weir, Well 1, Well 4	Unsafe Water supply	E.coli, Crypto, Giardia	7 - St Pauls	Operators to monitor area around well and wier for any signs of contamination.	Operators to monitor area around well and wier for any signs of contamination.	WS-01
					Chlorinated water supply (automated)	Chlorinated water supply (automated)	
					Week day chlorine monitoring in the network at 5 set locations	Week day chlorine monitoring in the network at 5 set locations	
					Monthly E.coli testing of drinking water supply	Monthly E.coli testing of drinking water supply	
7.03	Lagoon	Unsafe Water supply	E.coli, Crypto, Giardia	7 - St Pauls	6 monthly testing for crypto and giardia Lagoon catchment is fenced	6 monthly testing for crypto and giardia Lagoon catchment is fenced	WS-02
					Cleaning of covers pre wet season and post wetseason (and as needed during year)	Cleaning of covers pre wet season and post wetseason (and as needed during year)	
					Chlorinated water supply (automated)	Chlorinated water supply (automated)	
					Week day chlorine monitoring in the network at 5 set locations	Week day chlorine monitoring in the network at 5 set locations	
7.09	WTP	Ineffective Treatment	Crypto, Giardia	7 - St Pauls	Monthly E.coli testing of drinking water supply	Monthly E.coli testing of drinking water supply	WS-02, WS-07
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					Fire breaks around lagoon and WTP	Fire breaks around lagoon and WTP	
8.08	System	Bushfire	Damage to Assets	8 - Hammond	Buried pipework	Buried pipework	WS-03, WS-08
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					Fire breaks around lagoon and WTP	Fire breaks around lagoon and WTP	
9.08	WTP	Ineffective Treatment	Crypto, Giardia	9 - Iana	Buried pipework	Buried pipework	WS-02, WS-07
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					Fire breaks around lagoon and WTP	Fire breaks around lagoon and WTP	
					Fire breaks around lagoon and WTP	Fire breaks around lagoon and WTP	
9.11	System	Bushfire	Damage to Assets	9 - Iana	Buried pipework	Buried pipework	WS-03, WS-08
					Multiple permanent desalination units installed on island	Multiple permanent desalination units installed on island	
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					Fire breaks around lagoon and WTP	Fire breaks around lagoon and WTP	
10.08	WTP	Ineffective Treatment	Crypto, Giardia	10 - Warraber	Buried pipework	Buried pipework	WS-09
					Nil	Nil	
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					Fire breaks around lagoon and WTP	Fire breaks around lagoon and WTP	
10.11	System	Bushfire	Damage to Assets	10 - Warraber	Buried pipework	Buried pipework	WS-03, WS-08
					Nil	Nil	
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					Fire breaks around lagoon and WTP	Fire breaks around lagoon and WTP	
11.08	WTP	Ineffective Treatment	Crypto, Giardia	11 - Poruma	Buried pipework	Buried pipework	WS-03, WS-08
					Nil	Nil	
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					Fire breaks around lagoon and WTP	Fire breaks around lagoon and WTP	
11.11	System	Bushfire	Damage to Assets	11 - Poruma	Buried pipework	Buried pipework	WS-03, WS-08
					Nil	Nil	
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					Fire breaks around lagoon and WTP	Fire breaks around lagoon and WTP	
12.08	WTP	Ineffective Treatment	Crypto, Giardia	12 - Masig	Buried pipework	Buried pipework	WS-02, WS-07
					Nil	Nil	
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					Fire breaks around lagoon and WTP	Fire breaks around lagoon and WTP	
12.11	System	Bushfire	Damage to Assets	12 - Masig	Buried pipework	Buried pipework	WS-03, WS-08
					Nil	Nil	
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	
					Fire breaks around lagoon and WTP	Fire breaks around lagoon and WTP	
12.14	Sea Wall	Salt Water Inundation	Contamination of storage supply	12 - Masig	Buried pipework	Buried pipework	-
					Nil	Nil	
13.08	WTP	Ineffective Treatment	Crypto, Giardia	13 - Ugar	6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	WS-02, WS-07
					6 monthly testing for crypto and giardia	6 monthly testing for crypto and giardia	

K.6 RMIP

13.11	System	Bushfire	Damage to Assets	13 - Ugar	Fire breaks around lagoon and WTP	WS-03, WS-08
13.15	Jetty	Jetty Collapse	Loss of critical supplies	13 - Ugar	Buried pipework	-
14.07	WTP	Ineffective Treatment	E.coli	14 - Erub	Monthly E.coli testing of drinking water supply	WS-01, WS-06, WS-13
14.08	WTP	Ineffective Treatment	Crypto, Giardia	14 - Erub	Chlorinated water supply (automated) 6 monthly testing for crypto and giardia	WS-02, WS-07, WS-13
14.10	System	Bushfire	Damage to Assets	14 - Erub	Fire breaks around wells and WTP	WS-03, WS-08
14.11	System	Loss of Critical Water Supply	Reservoir empty	14 - Erub	Buried pipework	WS-09
14.14	Reservoir	WTP Critical Failure	Failure of Reservoir	14 - Erub	Nil	WS-14
15.08	WTP	Ineffective Treatment	Crypto, Giardia	15 - Mer	6 monthly testing for crypto and giardia	WS-02, WS-07
15.11	System	Bushfire	Damage to Assets	15 - Mer	Fire breaks around lagoon and WTP	WS-03, WS-08
Buried pipework						

Scheme	Sample Location	Parameter Name	Units	Average	Number of Samples
01 - Boigu	Sample Point 1 - Church	Free Chlorine	mg/L	0.61	195
		Turbidity	NTU	0.22	195
	Sample Point 2 - School	Free Chlorine	mg/L	0.66	194
		Turbidity	NTU	0.56	194
	Sample Point 3 - Airport	Free Chlorine	mg/L	0.51	193
		Turbidity	NTU	0.21	194
	Sample Point 4 - STP	Free Chlorine	mg/L	0.48	192
		Turbidity	NTU	0.16	192
	Sample Point 5 - Health Centre	Free Chlorine	mg/L	0.70	194
		Turbidity	NTU	0.15	194
	Sample Point 6 - Reservoir Analyser	Conductivity	mg/L	386.65	192
		Free Chlorine	mg/L	0.82	193
	Sample Point 7 - Raw Water (Covered Storage Lagoon)	pH	#	8.08	190
		Turbidity	NTU	0.05	193
02 - Dauan	Sample Point 1 - N. Mooka	Conductivity	mg/L	347.21	81
		pH	#	7.70	79
	Sample Point 2 - School	Turbidity	NTU	0.20	81
		Free Chlorine	mg/L	0.28	225
	Sample Point 3 - Council	Turbidity	NTU	1.44	224
		Free Chlorine	mg/L	0.71	226
	Sample Point 4 - S. Mooka	Turbidity	NTU	1.31	224
		Free Chlorine	mg/L	0.78	225
	Sample Point 5 - AQIS	Turbidity	NTU	1.32	224
		Free Chlorine	mg/L	0.82	226
	Sample Point 6 - Reservoir Analyser	Turbidity	NTU	1.32	223
		Free Chlorine	mg/L	0.73	225
	Sample Point 7 - Raw Water (Covered Storage Lagoon)	Turbidity	NTU	1.43	223
		Conductivity	mg/L	127.52	224
03 - Saibai	Sample Point 8 - Eastern Side Reservoir	Free Chlorine	mg/L	0.75	222
		pH	#	6.11	222
	Sample Point 9 - Eastern Side Raw Water (Pre Filter)	Turbidity	NTU	1.65	219
		Conductivity	mg/L	74.79	221
	Sample Point 1 - Water Treatment Pitt	pH	#	6.24	159
		Turbidity	NTU	1.64	215
	Sample Point 2 - Council Office	Conductivity	mg/L	0.00	217
		Free Chlorine	mg/L	0.00	217
	Sample Point 3 - Public Hall	pH	#	0.00	217
		Turbidity	NTU	0.00	217
	Sample Point 4 - Sewage Pitt	Conductivity	mg/L	0.45	217
		pH	#	7.19	1
	Sample Point 5 - Singal House Airport Road	Turbidity	NTU	0.00	217
		Free Chlorine	mg/L	1.16	118
03 - Saibai	Sample Point 6 - Reservoir Analyser	Turbidity	NTU	0.70	94
		Free Chlorine	mg/L	1.06	121
	Sample Point 7 - Raw Water (Pre Filter)	Turbidity	NTU	0.41	94
		Free Chlorine	mg/L	1.04	117
	Sample Point 8 - Eastern Side Reservoir	Turbidity	NTU	0.44	89
		Free Chlorine	mg/L	0.81	113
	Sample Point 9 - Eastern Side Raw Water (Pre Filter)	Turbidity	NTU	0.85	89
		Free Chlorine	mg/L	0.73	120
	Sample Point 1 - Water Treatment Pitt	Turbidity	NTU	0.95	92
		Conductivity	mg/L	213.35	112
	Sample Point 2 - Council Office	Free Chlorine	mg/L	1.20	125
		pH	#	6.63	115
	Sample Point 3 - Public Hall	Turbidity	NTU	0.56	96
		Conductivity	mg/L	193.53	110
	Sample Point 4 - Sewage Pitt	pH	#	6.58	112
		Turbidity	NTU	0.88	89

	Sample Point 1 - Airport Camp	Free Chlorine	mg/L	0.77	222
		Turbidity	NTU	1.03	212
	Sample Point 2 - Council Office	Free Chlorine	mg/L	1.08	217
		Turbidity	NTU	0.78	211
	Sample Point 3 - IBIS Store	Free Chlorine	mg/L	1.12	219
		Turbidity	NTU	0.79	213
	Sample Point 4 - Medical Centre	Free Chlorine	mg/L	1.12	218
		Turbidity	NTU	0.83	213

04 - Mabuiaeg

04 - Mabuiaeg	Sample Point 5 - School Duplex	Free Chlorine Turbidity	mg/L NTU	0.92 0.78	218 213
	Sample Point 6 - Reservoir Analyser	Conductivity	mg/L	90.41	209
		Free Chlorine pH	mg/L #	1.27 6.25	216 208
		Turbidity	NTU	0.76	212
	Sample Point 7 - Raw Water (Pre Filter)	Conductivity	mg/L	72.05	208
	Sample Point 8 - Raw Water (Well 1)	pH	#	6.16	206
		Turbidity	NTU	1.00	215
		Conductivity	mg/L	137.34	116
		pH	#	6.30	115
		Turbidity	NTU	2.21	163
05 - Badu	Sample Point 1 - School	Free Chlorine Turbidity	mg/L NTU	0.87 0.43	312 312
	Sample Point 2 - Police Station	Free Chlorine Turbidity	mg/L NTU	0.78 0.48	308 308
	Sample Point 3 - Motel	Free Chlorine	mg/L	1.06	313
	Sample Point 4 - Dogai	Turbidity	NTU	0.69	313
		Free Chlorine	mg/L	0.27	308
	Sample Point 5 - Airport	Turbidity	NTU	0.53	310
		Free Chlorine	mg/L	0.42	310
		Turbidity	NTU	0.52	310
	Sample Point 6 - Reservoir Analyser	Conductivity	mg/L	105.60	315
		Free Chlorine	mg/L	0.33	316
06 - Kubin	Sample Point 7 - Clear Water Tank	pH	#	7.36	305
		Turbidity	NTU	0.52	314
		Conductivity	mg/L	99.12	238
		pH	#	7.06	235
		Turbidity	NTU	0.39	236
	Sample Point 8 - Raw Water (Raw Water Tank)	Conductivity	mg/L	68.40	240
		pH	#	6.58	234
		Turbidity	NTU	4.22	235
	Sample Point 9 - Well 1	pH	#	7.19	93
	Sample Point 10 - Well 2	pH	#	6.31	276
07 - St Pauls	Sample Point 11 - Well 3	pH	#	6.21	277
	Sample Point 1 - IBIS	Free Chlorine	mg/L	0.94	168
		Turbidity	NTU	0.85	168
		Free Chlorine	mg/L	1.02	167
	Sample Point 2 - School Sink	Turbidity	NTU	0.87	168
	Sample Point 3 - Airport	Free Chlorine	mg/L	1.44	168
		Turbidity	NTU	1.25	169
		Free Chlorine	mg/L	0.92	165
	Sample Point 4 - Tomsanas	Turbidity	NTU	0.87	165
		Conductivity	mg/L	0.88	41
		Free Chlorine	mg/L	1.00	155
07 - St Pauls	Sample Point 6 - Reservoir Analyser	pH	#	6.50	78
		Turbidity	NTU	0.87	165
		Conductivity	mg/L	9.25	43
	Sample Point 7 - Raw Water (Pre Filter)	pH	#	6.47	79
		Turbidity	NTU	1.82	160
		Free Chlorine	mg/L	0.92	208
	Sample Point 1 - S. Rosen	Turbidity	NTU	0.24	209
		Free Chlorine	mg/L	0.71	208
		Turbidity	NTU	0.26	208
	Sample Point 2 - Gospel Church	Free Chlorine	mg/L	0.89	207
		Turbidity	NTU	0.31	207
		Free Chlorine	mg/L	0.86	207
07 - St Pauls	Sample Point 3 - H. Mene	Turbidity	NTU	0.32	206
		Free Chlorine	mg/L	0.82	207
		Turbidity	NTU	0.32	206
07 - St Pauls	Sample Point 4 - School	Free Chlorine	mg/L	0.82	207
		Turbidity	NTU	0.32	206
		Free Chlorine	mg/L	0.82	207
07 - St Pauls	Sample Point 5 - Community Dalira	Free Chlorine	mg/L	0.92	218
		Turbidity	NTU	0.78	213
		Conductivity	mg/L	90.41	209
	Sample Point 6 - Reservoir Analyser	Free Chlorine pH	mg/L #	1.27 6.25	216 208
		Turbidity	NTU	0.76	212
		Conductivity	mg/L	72.05	208
	Sample Point 8 - Raw Water (Well 1)	pH	#	6.16	206
		Turbidity	NTU	1.00	215
		Conductivity	mg/L	137.34	116
		pH	#	6.30	115
		Turbidity	NTU	2.21	163
05 - Badu	Sample Point 1 - School	Free Chlorine Turbidity	mg/L NTU	0.87 0.43	312 312
	Sample Point 2 - Police Station	Free Chlorine Turbidity	mg/L NTU	0.78 0.48	308 308
	Sample Point 3 - Motel	Free Chlorine	mg/L	1.06	313
	Sample Point 4 - Dogai	Turbidity	NTU	0.69	313
		Free Chlorine	mg/L	0.27	308
	Sample Point 5 - Airport	Turbidity	NTU	0.53	310
		Free Chlorine	mg/L	0.42	310
		Turbidity	NTU	0.52	310
	Sample Point 6 - Reservoir Analyser	Conductivity	mg/L	105.60	315
		Free Chlorine	mg/L	0.33	316
06 - Kubin	Sample Point 7 - Clear Water Tank	pH	#	7.36	305
		Turbidity	NTU	0.52	314
		Conductivity	mg/L	99.12	238
		pH	#	7.06	235
		Turbidity	NTU	0.39	236
	Sample Point 8 - Raw Water (Raw Water Tank)	Conductivity	mg/L	68.40	240
		pH	#	6.58	234
		Turbidity	NTU	4.22	235
	Sample Point 9 - Well 1	pH	#	7.19	93
	Sample Point 10 - Well 2	pH	#	6.31	276
07 - St Pauls	Sample Point 11 - Well 3	pH	#	6.21	277
	Sample Point 1 - IBIS	Free Chlorine	mg/L	0.94	168
		Turbidity	NTU	0.85	168
		Free Chlorine	mg/L	1.02	167
	Sample Point 2 - School Sink	Turbidity	NTU	0.87	168
	Sample Point 3 - Airport	Free Chlorine	mg/L	1.44	168
		Turbidity	NTU	1.25	169
		Free Chlorine	mg/L	0.92	165
	Sample Point 4 - Tomsanas	Turbidity	NTU	0.87	165
		Conductivity	mg/L	0.88	41
		Free Chlorine	mg/L	1.00	155
07 - St Pauls	Sample Point 6 - Reservoir Analyser	pH	#	6.50	78
		Turbidity	NTU	0.87	165
		Conductivity	mg/L	9.25	43
	Sample Point 7 - Raw Water (Pre Filter)	pH	#	6.47	79
		Turbidity	NTU	1.82	160
		Free Chlorine	mg/L	0.92	208
	Sample Point 1 - S. Rosen	Turbidity	NTU	0.24	209
		Free Chlorine	mg/L	0.71	208
		Turbidity	NTU	0.26	208
	Sample Point 2 - Gospel Church	Free Chlorine	mg/L	0.89	207
		Turbidity	NTU	0.31	207
		Free Chlorine	mg/L	0.86	207
07 - St Pauls	Sample Point 3 - H. Mene	Turbidity	NTU	0.32	206
		Free Chlorine	mg/L	0.82	207
		Turbidity	NTU	0.32	206
07 - St Pauls	Sample Point 4 - School	Free Chlorine	mg/L	0.82	207
		Turbidity	NTU	0.32	206
		Free Chlorine	mg/L	0.82	207

08 - Hammond	Sample Point 6 - Reservoir Analyser	Sample Point 3 - Community Pond					Turbidity	NTU	0.29	207
							Conductivity	mg/L	81.28	199
							Free Chlorine	mg/L	1.19	193
							pH	#	6.51	198
							Turbidity	NTU	0.50	200
							Conductivity	mg/L	55.12	188
							pH	#	6.35	188
							Turbidity	NTU	0.79	188
							Free Chlorine	mg/L	1.57	223
							Turbidity	NTU	1.63	225
09 - Iama	Sample Point 1 - Compound						Free Chlorine	mg/L	1.50	227
							Turbidity	NTU	1.32	227
							Free Chlorine	mg/L	1.43	224
							Turbidity	NTU	1.37	227
							Free Chlorine	mg/L	1.56	224
							Turbidity	NTU	1.47	227
							Free Chlorine	mg/L	1.19	226
							Turbidity	NTU	1.27	227
							Free Chlorine	mg/L	1.42	227
							Turbidity	NTU	1.28	227
10 - Warraber	Sample Point 6 - Reservoir Analyser						Conductivity	mg/L	91.81	226
							Free Chlorine	mg/L	1.32	228
							pH	#	6.71	222
							Turbidity	NTU	1.01	226
							Free Chlorine	mg/L	0.71	151
							Turbidity	NTU	0.20	151
							Free Chlorine	mg/L	0.65	150
							Turbidity	NTU	0.23	148
							Free Chlorine	mg/L	0.49	141
							Turbidity	NTU	0.28	140
10 - Warraber	Sample Point 4 - Council						Free Chlorine	mg/L	0.52	151
							Turbidity	NTU	0.22	150
							Free Chlorine	mg/L	0.46	146
							Turbidity	NTU	0.30	145
							Conductivity	mg/L	561.04	82
							Free Chlorine	mg/L	0.65	90
							pH	#	7.42	62
							Turbidity	NTU	1.32	87
							Conductivity	mg/L	742.30	83
							pH	#	7.16	76
10 - Warraber	Sample Point 5 - Ben						Turbidity	NTU	0.29	80
							Free Chlorine	mg/L	1.33	188
							Turbidity	NTU	0.63	188
							Free Chlorine	mg/L	1.29	187
							Turbidity	NTU	0.45	188
							Free Chlorine	mg/L	1.21	188
							Turbidity	NTU	0.42	188
							Free Chlorine	mg/L	1.26	188
							Turbidity	NTU	0.70	188
							Free Chlorine	mg/L	1.55	103
10 - Warraber	Sample Point 2 - Jensen P						Turbidity	NTU	0.47	104
							Conductivity	mg/L	468.65	185
							Free Chlorine	mg/L	1.42	186
							pH	#	6.98	183
							Turbidity	NTU	0.47	185
							Conductivity	mg/L	446.63	177
							pH	#	6.76	174
							Turbidity	NTU	0.59	175
							Free Chlorine	mg/L	0.78	158
							Sample Point 1 - Diggers			

11 - Poruma	Sample Point 2 - Health Centre		Turbidity	NTU	0.13	151
			Free Chlorine	mg/L	0.81	158
	Sample Point 3 - Dick Billys House		Turbidity	NTU	0.12	156
			Free Chlorine	mg/L	0.84	158
	Sample Point 4 - School		Turbidity	NTU	0.13	156
			Free Chlorine	mg/L	0.77	158
	Sample Point 5 - Tourist Cabin		Turbidity	NTU	0.11	156
			Free Chlorine	mg/L	0.71	157
	Sample Point 6 - Reservoir Analyser		Turbidity	NTU	0.26	155
			Conductivity	mg/L	358.48	153
12 - Masig	Sample Point 7 - Raw Water (Covered Storage Lagoon)		Free Chlorine	mg/L	1.17	153
			pH	#	5.67	143
			Turbidity	NTU	0.25	141
			Conductivity	mg/L	426.73	147
	Sample Point 1 - School		pH	#	6.32	119
			Turbidity	NTU	1.31	143
	Sample Point 2 - Council Office		Free Chlorine	mg/L	0.85	228
			Turbidity	NTU	0.52	226
			Free Chlorine	mg/L	0.79	228
			Turbidity	NTU	0.62	226
13 - Ugar	Sample Point 3 - Freezer		Free Chlorine	mg/L	0.93	226
			Turbidity	NTU	0.57	225
	Sample Point 4 - Jack		Free Chlorine	mg/L	0.75	226
			Turbidity	NTU	0.54	226
	Sample Point 5 - Beatrice		Free Chlorine	mg/L	0.83	227
			Turbidity	NTU	0.58	225
	Sample Point 6 - Reservoir Analyser		Conductivity	mg/L	222.04	227
			Free Chlorine	mg/L	0.98	227
			pH	#	7.00	227
			Turbidity	NTU	0.53	227
	Sample Point 7 - Raw Water (Covered Storage Lagoon)		Conductivity	mg/L	237.99	228
			pH	#	7.11	221
	Sample Point 1 - Main Tank		Turbidity	NTU	0.77	227
			Free Chlorine	mg/L	0.59	227
	Sample Point 2 - Native Beach		Turbidity	NTU	0.61	225
			Free Chlorine	mg/L	0.43	227
	Sample Point 3 - Health Center		Turbidity	NTU	0.46	225
			Free Chlorine	mg/L	0.42	227
	Sample Point 4 - School		Turbidity	NTU	0.61	225
			Free Chlorine	mg/L	0.55	227
	Sample Point 5 - Front Beach		Turbidity	NTU	0.42	225
			Free Chlorine	mg/L	0.52	226
	Sample Point 6 - Reservoir Analyser		Turbidity	NTU	0.66	225
			Conductivity	mg/L	347.64	224
			Free Chlorine	mg/L	0.75	225
			pH	#	6.17	224
	Sample Point 7 - Raw Water (Covered Storage Lagoon)		Turbidity	NTU	0.39	225
			Conductivity	mg/L	361.20	226
			pH	#	6.15	225
			Turbidity	NTU	0.49	224
	Sample Point 1 - Bond House		Free Chlorine	mg/L	0.77	171
			Turbidity	NTU	0.75	169
	Sample Point 2 - Council Office		Free Chlorine	mg/L	0.71	176
			Turbidity	NTU	0.90	174
	Sample Point 3 - School		Free Chlorine	mg/L	0.75	42
			Turbidity	NTU	0.32	41
	Sample Point 4 - Medical Centre		Free Chlorine	mg/L	0.49	178
			Turbidity	NTU	0.90	176
			Free Chlorine	mg/L	0.70	174
			Free Chlorine	mg/L	0.70	174

14 - Erub	COMPILED UNIT 2 - FILL TROUGH				
	Sample Point 6 - Reservoir Analyser	Turbidity	NTU	1.25	172
		Conductivity	mg/L	161.07	127
		Free Chlorine	mg/L	0.64	125
		pH	#	7.10	126
	Sample Point 7 - Clear Water	Turbidity	NTU	0.90	131
		Conductivity	mg/L	126.99	131
		pH	#	7.26	128
		Turbidity	NTU	0.69	131
	Sample Point 8 - Raw Water (Pre UF)	Conductivity	mg/L	130.94	127
pH		#	7.26	126	
Turbidity		NTU	14.84	124	
Free Chlorine		mg/L	0.55	200	
15 - Mer	Sample Point 1 - Desalination	Turbidity	NTU	0.62	191
	Sample Point 2 - Old School	Free Chlorine	mg/L	0.91	200
		Turbidity	NTU	0.52	192
	Sample Point 3 - Dongas	Free Chlorine	mg/L	0.79	199
		Turbidity	NTU	0.72	192
	Sample Point 4 - Cemetery	Free Chlorine	mg/L	0.84	200
		Turbidity	NTU	0.63	193
	Sample Point 5 - Area 3 Annie Salee House	Free Chlorine	mg/L	0.75	199
		Turbidity	NTU	0.50	191
		Conductivity	mg/L	677.24	163
Free Chlorine		mg/L	1.16	172	
Sample Point 6 - Reservoir Analyser	pH	#	6.76	160	
	Turbidity	NTU	0.36	162	
	Conductivity	mg/L	656.57	188	
	Sample Point 7 - Raw Water (Covered Storage Lagoon)	pH	#	6.75	185
Turbidity		NTU	0.48	188	

Scheme	Sample Location	Parameter Name	Units	Min	Average	Max	Number of Samples
01 - Boigu	Sample Point 6 - Reservoir Analyser	Apparent Colour	Pt/Co	0.00	0.00	0.00	1
		Calcium	mg/L	0.66	0.66	0.66	1
		Chloride	mg/L	76.00	76.00	76.00	1
		Fluoride	mg/L	0.02	0.02	0.02	1
		Iron	mg/L	0.05	0.05	0.05	1
		Magnesium	mg/L	0.85	0.85	0.85	1
		Manganese	mg/L	0.00	0.00	0.00	1
		pH	#	6.60	6.60	6.60	1
		Potassium	mg/L	1.50	1.50	1.50	1
		Silicon	mg/L	0.20	0.20	0.20	1
		Sodium	mg/L	40.00	40.00	40.00	1
		Specific Conductance	uS/cm	280.00	280.00	280.00	1
		Sulphate	mg/L	2.10	2.10	2.10	1
		Total Alkalinity	mg/L	3.70	3.70	3.70	1
		Total Dissolved Salts	mg/L	120.00	120.00	120.00	1
		Total Hardness	mg/L	5.10	5.10	5.10	1
		Turbidity	NTU	0.10	0.10	0.10	1
		Apparent Colour	Pt/Co	0.00	0.00	0.00	1
		pH	#	5.80	5.80	5.80	1
		Specific Conductance	uS/cm	260.00	260.00	260.00	1
		Turbidity	NTU	0.30	0.30	0.30	1
		Apparent Colour	Pt/Co	11.00	11.00	11.00	1
		Calcium	mg/L	1.30	1.30	1.30	1
02 - Dauan	Sample Point 7 - Raw Water (Covered Storage Lagoon)	Chloride	mg/L	24.00	24.00	24.00	1
		Fluoride	mg/L	0.05	0.05	0.05	1
		Iron	mg/L	0.15	0.15	0.15	1
		Magnesium	mg/L	1.00	1.00	1.00	1
		Manganese	mg/L	0.01	0.01	0.01	1
		pH	#	6.20	6.20	6.20	1
		Potassium	mg/L	0.85	0.85	0.85	1
		Silicon	mg/L	19.00	19.00	19.00	1
		Sodium	mg/L	17.00	17.00	17.00	1
		Specific Conductance	uS/cm	110.00	110.00	110.00	1
		Sulphate	mg/L	3.60	3.60	3.60	1
		Total Alkalinity	mg/L	5.30	5.30	5.30	1
		Total Dissolved Salts	mg/L	70.00	70.00	70.00	1
		Total Hardness	mg/L	7.40	7.40	7.40	1
		Turbidity	NTU	1.40	1.40	1.40	1
		Apparent Colour	Pt/Co	7.40	7.40	7.40	1
		pH	#	6.10	6.10	6.10	1
		Specific Conductance	uS/cm	96.00	96.00	96.00	1
		Turbidity	NTU	0.60	0.60	0.60	1
		Apparent Colour	Pt/Co	53.00	53.00	53.00	1
		pH	#	5.50	5.50	5.50	1
		Specific Conductance	uS/cm	270.00	270.00	270.00	1
		Turbidity	NTU	12.00	12.00	12.00	1
	Sample Point 7 - Raw Water (Covered Storage Lagoon)	Apparent Colour	Pt/Co	59.00	59.00	59.00	1
		pH	#	5.90	5.90	5.90	1
		Specific Conductance	uS/cm	200.00	200.00	200.00	1
		Turbidity	NTU	15.00	15.00	15.00	1
		Apparent Colour	Pt/Co	76.00	76.00	76.00	1
		pH	#	6.30	6.30	6.30	1
		Specific Conductance	uS/cm	120.00	120.00	120.00	1
		Turbidity	NTU	16.00	16.00	16.00	1
		Apparent Colour	Pt/Co	5.90	5.90	5.90	1
		Calcium	mg/L	1.10	1.10	1.10	1
		Chloride	mg/L	21.00	21.00	21.00	1
		Fluoride	mg/L	0.02	0.02	0.02	1
		Iron	mg/L	0.06	0.06	0.06	1
		Magnesium	mg/L	1.10	1.10	1.10	1
		Manganese	mg/L	0.00	0.00	0.00	1
		pH	#	6.10	6.10	6.10	1
		Potassium	mg/L	1.20	1.20	1.20	1
		Silicon	mg/L	6.80	6.80	6.80	1
	Sample Point 8 - Raw Water (Well 1)	Apparent Colour	Pt/Co	53.00	53.00	53.00	1
		pH	#	5.50	5.50	5.50	1
		Specific Conductance	uS/cm	270.00	270.00	270.00	1
		Turbidity	NTU	12.00	12.00	12.00	1
	Sample Point 9 - Raw Water (Well 2)	Apparent Colour	Pt/Co	59.00	59.00	59.00	1
		pH	#	5.90	5.90	5.90	1
		Specific Conductance	uS/cm	200.00	200.00	200.00	1
		Turbidity	NTU	15.00	15.00	15.00	1
	Sample Point 11 - Raw Water (Well 4)	Apparent Colour	Pt/Co	76.00	76.00	76.00	1
		pH	#	6.30	6.30	6.30	1
		Specific Conductance	uS/cm	120.00	120.00	120.00	1
		Turbidity	NTU	16.00	16.00	16.00	1
		Apparent Colour	Pt/Co	5.90	5.90	5.90	1
		Calcium	mg/L	1.10	1.10	1.10	1
		Chloride	mg/L	21.00	21.00	21.00	1
		Fluoride	mg/L	0.02	0.02	0.02	1
		Iron	mg/L	0.06	0.06	0.06	1
		Magnesium	mg/L	1.10	1.10	1.10	1
		Manganese	mg/L	0.00	0.00	0.00	1
		pH	#	6.10	6.10	6.10	1
		Potassium	mg/L	1.20	1.20	1.20	1
		Silicon	mg/L	6.80	6.80	6.80	1
	Sample Point 6 - Reservoir Analyser	Apparent Colour	Pt/Co	0.00	0.00	0.00	1
		Calcium	mg/L	0.66	0.66	0.66	1
		Chloride	mg/L	76.00	76.00	76.00	1
		Fluoride	mg/L	0.02	0.02	0.02	1
		Iron	mg/L	0.05	0.05	0.05	1
		Magnesium	mg/L	0.85	0.85	0.85	1
		Manganese	mg/L	0.00	0.00	0.00	1
		pH	#	6.60	6.60	6.60	1
		Potassium	mg/L	1.50	1.50	1.50	1
		Silicon	mg/L	0.20	0.20	0.20	1
		Sodium	mg/L	40.00	40.00	40.00	1
		Specific Conductance	uS/cm	280.00	280.00	280.00	1
		Sulphate	mg/L	2.10	2.10	2.10	1
		Total Alkalinity	mg/L	3.70	3.70	3.70	1
		Total Dissolved Salts	mg/L	120.00	120.00	120.00	1
		Total Hardness	mg/L	5.10	5.10	5.10	1
		Turbidity	NTU	0.10	0.10	0.10	1
		Apparent Colour	Pt/Co	0.00	0.00	0.00	1
		pH	#	5.80	5.80	5.80	1
		Specific Conductance	uS/cm	260.00	260.00	260.00	1
		Turbidity	NTU	0.30	0.30	0.30	1
		Apparent Colour	Pt/Co	11.00	11.00	11.00	1
		Calcium	mg/L	1.30	1.30	1.30	1

04 - Mabuag	Sample Point 7 - Raw Water (Pre Filter)	Sodium	mg/L	10.00	10.00	10.00	10.00	1
		Specific Conductance	uS/cm	92.00	92.00	92.00	92.00	1
		Sulphate	mg/L	2.10	2.10	2.10	2.10	1
		Total Alkalinity	mg/L	4.10	4.10	4.10	4.10	1
		Total Dissolved Salts	mg/L	46.00	46.00	46.00	46.00	1
		Total Hardness	mg/L	7.30	7.30	7.30	7.30	1
		Turbidity	NTU	0.40	0.40	0.40	0.40	1
		Apparent Colour	Pt/Co	10.00	10.00	10.00	10.00	1
		pH	#	6.30	6.30	6.30	6.30	1
		Specific Conductance	uS/cm	87.00	87.00	87.00	87.00	1
Sample Point 8 - Well 1	Turbidity	NTU	0.50	0.50	0.50	0.50	1	
	Apparent Colour	Pt/Co	110.00	110.00	110.00	110.00	1	
	pH	#	6.20	6.20	6.20	6.20	1	
	Specific Conductance	uS/cm	240.00	240.00	240.00	240.00	1	
	Turbidity	NTU	33.00	33.00	33.00	33.00	1	
	Apparent Colour	Pt/Co	9.20	9.20	9.20	9.20	1	
	Calcium	mg/L	0.20	0.20	0.20	0.20	1	
	Chloride	mg/L	5.40	5.40	5.40	5.40	1	
	Fluoride	mg/L	0.02	0.02	0.02	0.02	1	
	Iron	mg/L	0.05	0.05	0.05	0.05	1	
Sample Point 7 - Clear Water Tank	Magnesium	mg/L	0.23	0.23	0.23	0.23	1	
	Manganese	mg/L	0.00	0.00	0.00	0.00	1	
	pH	#	7.20	7.20	7.20	7.20	1	
	Potassium	mg/L	0.15	0.15	0.15	0.15	1	
	Silicon	mg/L	1.40	1.40	1.40	1.40	1	
	Sodium	mg/L	20.00	20.00	20.00	20.00	1	
	Specific Conductance	uS/cm	110.00	110.00	110.00	110.00	1	
	Sulphate	mg/L	11.00	11.00	11.00	11.00	1	
	Total Alkalinity	mg/L	32.00	32.00	32.00	32.00	1	
	Total Dissolved Salts	mg/L	56.00	56.00	56.00	56.00	1	
Sample Point 9 - Well 1	Total Hardness	mg/L	1.40	1.40	1.40	1.40	1	
	Turbidity	NTU	0.10	0.10	0.10	0.10	1	
	Apparent Colour	Pt/Co	130.00	130.00	130.00	130.00	1	
	pH	#	7.20	7.20	7.20	7.20	1	
	Specific Conductance	uS/cm	160.00	160.00	160.00	160.00	1	
	Turbidity	NTU	1.60	1.60	1.60	1.60	1	
	Apparent Colour	Pt/Co	36.00	36.00	36.00	36.00	1	
	pH	#	5.10	5.10	5.10	5.10	1	
	Specific Conductance	uS/cm	23.00	23.00	23.00	23.00	1	
	Turbidity	NTU	0.50	0.50	0.50	0.50	1	
Sample Point 11 - Well 3	Apparent Colour	Pt/Co	74.00	74.00	74.00	74.00	1	
	pH	#	5.10	5.10	5.10	5.10	1	
	Specific Conductance	uS/cm	28.00	28.00	28.00	28.00	1	
	Turbidity	NTU	0.70	0.70	0.70	0.70	1	
	Apparent Colour	Pt/Co	1.50	1.50	1.50	1.50	1	
	Calcium	mg/L	0.93	0.93	0.93	0.93	1	
	Chloride	mg/L	30.00	30.00	30.00	30.00	1	
	Fluoride	mg/L	0.04	0.04	0.04	0.04	1	
	Iron	mg/L	0.06	0.06	0.06	0.06	1	
	Magnesium	mg/L	0.97	0.97	0.97	0.97	1	
Sample Point 6 - Reservoir Analyser	Manganese	mg/L	0.01	0.01	0.01	0.01	1	
	pH	#	6.60	6.60	6.60	6.60	1	
	Potassium	mg/L	0.86	0.86	0.86	0.86	1	
	Silicon	mg/L	8.60	8.60	8.60	8.60	1	
	Sodium	mg/L	33.00	33.00	33.00	33.00	1	
	Specific Conductance	uS/cm	130.00	130.00	130.00	130.00	1	
	Sulphate	mg/L	1.50	1.50	1.50	1.50	1	
	Total Alkalinity	mg/L	11.00	11.00	11.00	11.00	1	
	Total Dissolved Salts	mg/L	82.00	82.00	82.00	82.00	1	
	Total Hardness	mg/L	6.30	6.30	6.30	6.30	1	
Sample Point 7 - Raw Water (Pre Filter)	Turbidity	NTU	0.20	0.20	0.20	0.20	1	
	Apparent Colour	Pt/Co	7.00	7.00	7.00	7.00	1	
	pH	#	6.20	6.20	6.20	6.20	1	
	Specific Conductance	uS/cm	73.00	73.00				

08 - Hammond	Sample Point 8 - Well 1	Apparent Colour	PV/Co	40.00	40.00	40.00	40.00	1
		pH	#	6.00	6.00	6.00	6.00	1
		Specific Conductance	uS/cm	220.00	220.00	220.00	220.00	1
		Turbidity	NTU	6.10	6.10	6.10	6.10	1
		Apparent Colour	PV/Co	0.00	0.00	3.25	6.50	2
		Calcium	mg/L	3.60	6.80	10.00	10.00	2
		Chloride	mg/L	19.00	32.50	46.00	46.00	2
		Fluoride	mg/L	0.04	0.08	0.12	0.12	2
		Iron	mg/L	0.05	0.07	0.08	0.08	2
		Magnesium	mg/L	0.98	1.64	2.30	2.30	2
	Sample Point 6 - Reservoir Analyser	Manganese	mg/L	0.00	0.00	0.00	0.00	2
		pH	#	6.90	7.20	7.50	7.50	2
		Potassium	mg/L	1.70	1.90	2.10	2.10	2
		Silicon	mg/L	10.00	27.00	44.00	44.00	2
		Sodium	mg/L	13.00	33.00	33.00	33.00	2
		Specific Conductance	uS/cm	100.00	185.00	270.00	270.00	2
		Sulphate	mg/L	2.20	4.50	6.80	6.80	2
		Total Alkalinity	mg/L	14.00	27.50	41.00	41.00	2
		Total Dissolved Salts	mg/L	59.00	114.50	170.00	170.00	2
		Total Hardness	mg/L	13.00	23.50	34.00	34.00	2
09 - Iana	Sample Point 7 - Raw Water (Pre Filter)	Turbidity	NTU	0.10	1.15	2.20	2.20	2
		Apparent Colour	PV/Co	0.00	3.10	6.20	6.20	2
		pH	#	6.70	7.10	7.50	7.50	2
		Specific Conductance	uS/cm	100.00	240.00	380.00	380.00	2
		Turbidity	NTU	0.10	1.10	2.10	2.10	2
		Apparent Colour	PV/Co	0.00	1.00	2.00	2.00	2
		pH	#	6.80	7.15	7.50	7.50	2
		Specific Conductance	uS/cm	99.00	149.50	200.00	200.00	2
		Turbidity	NTU	0.10	0.40	0.70	0.70	2
		Apparent Colour	PV/Co	0.00	0.00	0.00	0.00	1
	Sample Point 6 - Reservoir Analyser	Calcium	mg/L	0.66	0.66	0.66	0.66	1
		Chloride	mg/L	230.00	230.00	230.00	230.00	1
		Fluoride	mg/L	0.02	0.02	0.02	0.02	1
		Iron	mg/L	0.05	0.05	0.05	0.05	1
		Magnesium	mg/L	1.80	1.80	1.80	1.80	1
		Manganese	mg/L	0.00	0.00	0.00	0.00	1
		pH	#	6.70	6.70	6.70	6.70	1
		Potassium	mg/L	6.80	6.80	6.80	6.80	1
		Silicon	mg/L	0.20	0.20	0.20	0.20	1
		Sodium	mg/L	150.00	150.00	150.00	150.00	1
10 - Warraber	Sample Point 1 - Reservoir	Specific Conductance	uS/cm	780.00	780.00	780.00	780.00	1
		Sulphate	mg/L	2.50	2.50	2.50	2.50	1
		Total Alkalinity	mg/L	2.50	2.50	2.50	2.50	1
		Total Dissolved Salts	mg/L	390.00	390.00	390.00	390.00	1
		Total Hardness	mg/L	9.10	9.10	9.10	9.10	1
		Turbidity	NTU	0.10	0.10	0.10	0.10	1
		Free Chlorine	mg/L	1.30	1.30	1.30	1.30	1
		Turbidity	NTU	0.50	0.50	0.50	0.50	1
		Free Chlorine	mg/L	1.20	1.20	1.20	1.20	1
		Turbidity	NTU	0.30	0.30	0.30	0.30	1
	Sample Point 2 - Jensen P.	Free Chlorine	mg/L	1.30	1.30	1.30	1.30	1
		Turbidity	NTU	0.50	0.50	0.50	0.50	1
		Free Chlorine	mg/L	1.20	1.20	1.20	1.20	1
		Turbidity	NTU	0.10	0.10	0.10	0.10	1
		Free Chlorine	mg/L	1.30	1.30	1.30	1.30	1
		Turbidity	NTU	0.50	0.50	0.50	0.50	1
		Free Chlorine	mg/L	1.20	1.20	1.20	1.20	1
		Turbidity	NTU	0.50	0.50	0.50	0.50	1
		Apparent Colour	PV/Co	0.00	0.00	0.00	0.00	1
		Calcium	mg/L	0.84	0.84	0.84	0.84	1
11 - Poruma	Sample Point 4 - School	Chloride	mg/L	98.00	98.00	98.00	98.00	1
		Fluoride	mg/L	0.02	0.02	0.02	0.02	1
		Iron	mg/L	0.05	0.05	0.05	0.05	1
		Magnesium	mg/L	1.00	1.00	1.00	1.00	1
		Manganese	mg/L	0.00	0.00	0.00	0.00	1
		pH	#	6.50	6.50	6.50	6.50	1
		Potassium	mg/L	2.30	2.30	2.30	2.30	1
		Silicon	mg/L	0.20	0.20	0.20	0.20	1
		Sodium	mg/L	54.00	54.00	54.00	54.00	1
	Sample Point 6 - Reservoir Analyser	Apparent Colour	PV/Co	0.00	0.00	0.00	0.00	1
		Calcium	mg/L	0.84	0.84	0.84	0.84	1
		Chloride	mg/L	98.00	98.00	98.00	98.00	1
		Fluoride	mg/L	0.02	0.02	0.02	0.02	1
		Iron	mg/L	0.05	0.05	0.05	0.05	1
		Magnesium	mg/L	1.00	1.00	1.00	1.00	1
		Manganese	mg/L	0.00	0.00	0.00	0.00	1
		pH	#	6.50	6.50	6.50	6.50	1
		Potassium	mg/L	2.30	2.30	2.30	2.30	1
		Silicon	mg/L	0.20	0.20	0.20	0.20	1

12 - Masig	Sample Point 7 - Raw Water (Covered Storage Lagoon)	Specific Conductance	uS/cm	370.00	370.00	370.00	370.00	1
		Sulphate	mg/L	2.80	2.80	2.80	2.80	1
		Total Alkalinity	mg/L	3.60	3.60	3.60	3.60	1
		Total Dissolved Salts	mg/L	160.00	160.00	160.00	160.00	1
		Total Hardness	mg/L	6.20	6.20	6.20	6.20	1
		Turbidity	NTU	0.10	0.10	0.10	0.10	1
		Apparent Colour	Pt/Co	0.00	0.00	0.00	0.00	1
		pH	#	6.20	6.20	6.20	6.20	1
		Specific Conductance	uS/cm	360.00	360.00	360.00	360.00	1
		Turbidity	NTU	0.10	0.10	0.10	0.10	1
		Apparent Colour	Pt/Co	0.00	0.80	1.60	1.60	2
		Calcium	mg/L	1.70	2.05	2.40	2.40	2
		Chloride	mg/L	110.00	120.00	130.00	130.00	2
12 - Masig	Sample Point 6 - Reservoir Analyser	Fluoride	mg/L	0.02	0.02	0.02	0.02	2
		Iron	mg/L	0.05	0.05	0.05	0.05	2
		Magnesium	mg/L	0.44	0.64	0.83	0.83	2
		Manganese	mg/L	0.00	0.00	0.00	0.00	2
		pH	#	6.60	7.40	8.20	8.20	2
		Potassium	mg/L	0.93	1.87	2.80	2.80	2
		Silicon	mg/L	0.20	0.21	0.21	0.21	2
		Sodium	mg/L	68.00	69.00	70.00	70.00	2
		Specific Conductance	uS/cm	390.00	435.00	480.00	480.00	2
		Sulphate	mg/L	3.40	4.60	5.80	5.80	2
		Total Alkalinity	mg/L	7.70	22.85	38.00	38.00	2
		Total Dissolved Salts	mg/L	190.00	210.00	230.00	230.00	2
		Total Hardness	mg/L	6.10	7.75	9.40	9.40	2
12 - Masig	Sample Point 7 - Raw Water (Covered Storage Lagoon)	Turbidity	NTU	0.10	0.20	0.30	0.30	2
		Apparent Colour	Pt/Co	1.10	1.65	2.20	2.20	2
		pH	#	6.30	6.35	6.40	6.40	2
		Specific Conductance	uS/cm	98.00	234.00	370.00	370.00	2
		Turbidity	NTU	0.20	0.30	0.40	0.40	2
		Aluminium	mg/L	0.02	0.02	0.02	0.02	2
		Apparent Colour	Pt/Co	4.30	5.10	6.20	6.20	3
		Calcium	mg/L	4.10	4.80	5.50	5.50	3
		Chloride	mg/L	20.00	22.67	26.00	26.00	3
		Copper	mg/L	0.00	0.00	0.00	0.00	2
		Fluoride	mg/L	0.04	0.05	0.06	0.06	3
		Iron	mg/L	0.03	0.04	0.05	0.05	3
		Lead	mg/L	0.00	0.00	0.00	0.00	2
14 - Erub	Sample Point 6 - Reservoir Analyser	Magnesium	mg/L	2.80	3.20	3.50	3.50	3
		Manganese	mg/L	0.00	0.02	0.06	0.06	3
		pH	#	6.90	7.03	7.10	7.10	3
		Potassium	mg/L	2.10	2.40	2.70	2.70	3
		Silicon	mg/L	17.00	19.00	21.00	21.00	3
		Sodium	mg/L	16.00	18.33	20.00	20.00	3
		Specific Conductance	uS/cm	130.00	146.67	170.00	170.00	3
		Sulphate	mg/L	2.60	2.83	3.10	3.10	3
		Total Alkalinity	mg/L	31.00	32.00	34.00	34.00	3
		Total Dissolved Salts	mg/L	100.00	100.00	100.00	100.00	1
		Total Dissolved Solids	mg/L	80.00	85.00	90.00	90.00	2
		Total Hardness	mg/L	22.00	25.33	28.00	28.00	3
		Turbidity	NTU	0.10	0.17	0.20	0.20	3
14 - Erub	Sample Point 7 - Raw Water (Pre UF)	Zinc	mg/L	0.01	0.01	0.01	0.01	2
		Aluminium	mg/L	1.59	1.62	1.65	1.65	2
		Apparent Colour	Pt/Co	53.00	94.33	120.00	120.00	3
		Calcium	mg/L	4.30	4.55	4.80	4.80	2
		Chloride	mg/L	15.00	15.50	16.00	16.00	2
		Copper	mg/L	0.00	0.00	0.00	0.00	2
		Fluoride	mg/L	0.04	0.05	0.05	0.05	2
		Iron	mg/L	2.45	2.46	2.47	2.47	2
		Lead	mg/L	0.00	0.00	0.00	0.00	2
		Magnesium	mg/L	3.00	3.20	3.40	3.40	2
		Manganese	mg/L	0.26	0.26	0.27	0.27	2
		pH	#	6.90	6.97	7.10	7.10	3
		Potassium	mg/L	2.20	2.30	2.40	2.40	2

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Scheme	2021-July		2021-August		2021-September		2021-October		2021-November		2021-December		2022-January		2022-February		2022-March		2022-April		2022-May		2022-June	
	Passed E coli Samples	Failed E coli Samples	Passed E coli Samples	Failed E coli Samples	Passed E coli Samples	Failed E coli Samples	Passed E coli Samples	Failed E coli Samples	Passed E coli Samples	Failed E coli Samples	Passed E coli Samples	Failed E coli Samples	Passed E coli Samples	Failed E coli Samples	Passed E coli Samples	Failed E coli Samples	Passed E coli Samples	Failed E coli Samples	Passed E coli Samples	Failed E coli Samples	Passed E coli Samples	Failed E coli Samples	Passed E coli Samples	Failed E coli Samples
01 - Boigu	6	0			5	0			5	0			5	0	5	0	5	0			5	0	5	0
02 - Dauan					4	0																		
03 - Saibai	10	0	5	0	5	0			5	0			5	0	0	5			5	0	5	0	5	0
04 - Warubag	6	0	5	0	5	0			5	0	5	0	5	0			5	0			5	0		
05 - Badu	5	0	5	0	5	0			5	0	5	0	5	0			5	0	5	0	5	0	5	0
06 - Kubin	6	0	5	0	5	0			5	0	5	0	5	0			5	0	5	0	5	0	5	0
07 - St Pauls																								
08 - Hammond	3	0	5	0					5	0					5	0	5	0	5	0	5	0	5	0
09 - Iama	6	0	5	0					5	0							5	0	5	0	5	0	5	0
10 - Warraber					5	0							5	0	5	0	5	0	5	0	5	0	5	0
11 - Ponuma	3	1	5	0	5	0									5	0	5	0	5	0	5	0	5	0
12 - Masig	6	0			5	0			5	0			11	0	5	0	5	0	5	0	5	0	5	0
13 - Ugar																								
14 - Erub	4	2	5	0	5	0	5	0	5	0					5	0			5	0	4	0	10	0
15 - Mer	11	0	5	0	5	0	5	0	1	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0

Sample taken pre chlorination at WTP

[illegible]

Incident ID	Incident Number	Island	Incident, Complaint or Community Notice	Date of Incident	Description of Incident	TPH Notified	Boiled Water Alert Status	BWA Start Date	BWA End Date	Incident Resolved	Incident Resolved Date
I-15	-	05 - Badu	Complaint	03/12/21	Colour and high turbidity in water caused by power outage. Water network flushed by WO and residents advised to flush affected tanks						06/12/21
I-16	-	15 - Mer	Community Notice	10/01/22	Chlorine lock resulted in low reservoir levels, intermittent supply						10/01/22
I-18	-	08 - Hammond	Community Notice	24/01/22	Intermittent water supply						19/01/22
I-19	DWI-500-22-09454	08 - Hammond	Incident	09/02/22	ADWG limit for turbidity exceeded - Boil Water Alert issued 09-Feb-2022.			09/02/22			14/04/22
I-20	-	07 - St Pauls	Community Notice	14/02/22	Temporary water supply interruptions						14/02/22
I-21	-	05 - Badu	Community Notice	21/02/22	Turbidity issues due to change in reservoir set points Reservoir setpoint changes required to increase chlorine residuals in reservoir			21/02/22	21/02/22		21/02/22
I-22	DWI-500-22-09483	03 - Saibai	Incident	22/02/22	Positive e. coli test at all 5 sample points			23/02/22	29/08/22		29/08/22
I-23	-	10 - Warraber	Complaint	28/02/22	Bad smelling water in community network.						28/02/22
I-24	DWI-500-22-09492	05 - Badu	Incident	01/03/22	Low chlorine levels in water network due to intermittent failure of clear water flow meter			01/03/22			
I-25	DWI-500-22-09641	10 - Warraber	Incident	14/06/22	Positive e. coli test			14/06/22	23/09/22		23/09/22