

Drinking Water Service

2024-25 Annual Report

11 DECEMBER 2025



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Introduction

The Port of Brisbane is located at the mouth of the Brisbane River. The port is managed by the Port of Brisbane Pty Ltd (PBPL).

PBPL is responsible for the site potable water reticulation network and is committed to ensuring that the water systems are managed so that the supply does not constitute a hazard to employees or the public. PBPL draws its drinking water supply from Urban Utilities' (UU) reticulated supply through metered supply points for Fisherman Islands, Port Gate, Port West, Port North and the Brisbane International Cruise Terminal (BICT). The management of water quality until it is supplied to PBPL is the responsibility of UU. The Australian Drinking Water Guidelines (ADWG) require management of drinking water quality through to the consumer and therefore PBPL is considered a Water Service Provider under Queensland legislation. PBPL is required to have a Drinking Water Quality Management Plan (DWQMP) in place to manage water quality within its reticulation system.

This report has been prepared in compliance with section 142 of the *Water Supply (Safety and Reliability) Act 2008 (the Act)*. It is the ninth annual DWQMP report and provides a summary of all relevant actions undertaken during the 2024–25 financial year.

Purpose and objectives of the DWQMP

The PBPL DWQMP contributes to maintaining a safe and reliable drinking water supply for consumers. The plan is based on the principles described in the Framework for Management of Drinking Water Quality contained in the Australian Drinking Water Guidelines 2011, version 4.0 updated June 2025 (ADWG).

The purpose of the DWQMP is to provide an overview of PBPL's current management system for achieving/maintaining drinking water quality and plans to develop and continually improve the water quality management systems. The management plan focuses on the section of the drinking water scheme over which PBPL has direct control (reticulation operation, maintenance, monitoring, and corrective action). The supply components over which PBPL has no control (catchment management, treatment, and storage) are the responsibility of UU and SEQWater and are considered by their respective DWQMP's.

The PBPL DWQMP addresses the 12 elements of the ADWG Framework in order to meet the required levels of service relating to drinking water quality and the legislative requirements of *the Act* and the *Queensland Public Health Regulation 2018*. The specific objectives of the Drinking Water Quality Management Plan are:

- To demonstrate due diligence and protect public health by implementing a management strategy to ensure high-quality water is supplied to consumers.
- To improve consumer confidence in water quality and the supplier.
- Clearly define current and future management procedures and strategies for maintaining water quality.
- Clearly define strategies for monitoring the quality of water supplied to consumers; and
- To implement a process for continual review, development, and improvement of the water quality management system.

Implementation of the DWQMP

Risk Assessment and Risk Management Measures

PBPL conducted a Risk assessment workshop with UU in June 2023 to identify risks associated with drinking water supply and quality. Following this workshop, the baseline risk assessment has been reviewed and updated. The revision incorporates the latest information available to PBPL, comprehensive data analysis, scientific principles, industry best practices, and general knowledge of the overall water supply system and its water quality characteristics.

Proposed improvements or controls to reduce the risk level or strengthen the effectiveness of control were identified during the risk assessment review process. These were recorded in the Risk Register.

An Improvement Plan was created to monitor and track the improvement action implementation.

Verification Monitoring Plan and Port Office Sample Point

Since July 2024, PBPL has implemented a new verification monitoring plan aimed at enhancing water quality monitoring and eliminating the need for in-house testing. This approach ensures compliance with regulatory requirements and aligns with industry best practices for water quality assurance.

On 10 February 2025, PBPL replaced the Port Office sample point with the QBH sample point due to ongoing issues with elevated coliform levels. The original Port Office sample point was connected to the Port Office water meter via a long one-inch copper pipe buried in soil. This configuration was identified as not being representative of the broader network, prompting the change to ensure more accurate water quality monitoring.

Critical documents review

PBPL's Customer Charter (Water and Sewerage Services) was reviewed in June 2025 to update water supply and sewerage charges for FY26. The PBPL Customer Service Standards were also reviewed in June 2025, and no changes were made. The latest revision of PBPL's customer charter and customer service standard can be accessed via link below.

[Water and Sewerage Services - Port of Brisbane - portbris.com.au](https://portbris.com.au)

Introduced Pressure Reducing Valves and District Metered Areas to Fisherman Islands

PBPL has experienced relatively high levels of Non-Revenue Water (NRW) across its operating precincts, particularly at Fisherman Islands. This issue is primarily attributed to high operating pressures and aging assets.

To address this, PBPL has been exploring opportunities to improve management of the water supply system at Fisherman Islands through targeted asset management initiatives. These include:

- **Pressure management** using Pressure Reducing Valves (PRVs)
- **Network sectorisation** into discrete District Metered Areas (DMAs) to enable more accurate leak identification

The detailed design for this project was finalized in FY25, and implementation commenced in January 2025.

Monitoring and Compliance

Verification Monitoring

Historically, PBPL undertook quarterly verification monitoring at six sites across the Port of Brisbane. This approach provided baseline data on water quality performance and compliance but has since been revised under the new verification monitoring plan to improve frequency and accuracy.

Under the updated plan, two distinct networks require monitoring:

- **Network 1:** Fisherman Islands, Port Gate, and Port West – supplied from Wellers Hill Reservoir
- **Network 2:** Port North (Pinkenba) and BICT – supplied from Bartleys Hill Reservoir

To ensure representative coverage, sampling will follow a rotational schedule:

- **Week 1:** Port Office (QBH) site and Port West site (Network 1), and Port North (Pinkenba) site (Network 2)
- **Week 2:** Reclamation site and Port Gate site (Network 1), and BICT (Network 2)

This rotation ensures compliance with the *Public Health Regulation 2018* requirement of one microbiological compliance sample per network per week, while maintaining comprehensive coverage of the PBPL water supply system.

The weeks should be alternated so 3 sites are sampled in any week as per above.

As part of the new verification monitoring plan introduced in July 2024, the frequency of analysis has been increased to **weekly** for seven major operational parameters, as outlined below:

- pH
- Total Chlorine
- Temperature
- Turbidity
- Monochloramine (as Cl₂)
- Escherichia coli
- Coliforms

This change aims to enable more proactive actions in managing potential water quality risks. Additionally, in-house *E. coli* testing has been outsourced to an accredited laboratory to ensure accuracy and compliance with regulatory standards.

Other parameters are monitored on a **quarterly** or **biannual** basis, depending on their criticality.

E. coli Monitoring

Weekly *E. coli* is also collected and tested by PBPL Sampling and Testing Contractor (ALS lab). Samples tested at the laboratory are sampled and transported by the laboratory staff.

Table 1: E. coli Compliance with annual value

Year: 2024-2025												
Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. samples collected	5	4	5	4	4	5	4	4	4	5	4	5
No. samples collected in which E.coli detected	0	0	0	0	0	0	0	0	0	0	0	0
No. detections in previous 12 months	0	0	0	0	0	0	0	0	0	0	0	0
% samples that comply	100	100	100	100	100	100	100	100	100	100	100	100
Compliance with 98% annual value	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Incidents reported to the regulator

Table 2: Incidents reported to the regulator

Date	Type	Description	Tenant/Location	Precinct	Immediate corrective action	Investigation outcomes and further actions	Close out date
8/10/2024	Event	Legionella detection	ABF/21 Whimbrel St	FI	flush the system (greater than 70 degrees)	Further sampling of the Buildings and Network, scheduled maintenance have been implemented for all relevant sites to conduct the pasteurization of shower heads inside buildings owned/maintained by PBPL.(PO#PB011829)	31/10/2024

Drinking water quality related customer complaints

Table 3: Customer Complaints about Water Quality

Date	Type	Tenant	Precinct	Root cause	Action
8/10/2024	Odours (smell like sewer)	Electrolux & Bridgestone Construction sites	Port West- Signal CI	A water tanker was filled up at Signal Close from 12 pm to 2 pm, might be a sign of backflow issues or a potential leak which is causing ingress of	Urban Utilities was informed to investigate; I engaged ALS lab to grab sample on the day. Results show the high level of HPC (>57000 cfu/ml), however, E. coli and Thermotolerant Coliforms <1. The line was

Date	Type	Tenant	Precinct	Root cause	Action
				sewerage into the water.	flushed as per WSAA instruction. Follow up sampling occurred on Friday 11th of October. HPC had been reduced to 7300 cfu/ml.

DWQMP Review and Audit

DWQMP Review

A review of the DWQMP was undertaken in October 2024 with the revised document submitted to the Regulator for approval in April 2025. DWQMP review outcomes are listed in Table 4.

Table 4: DWQMP Review Outcomes

Review Component	Findings	Outcomes	Status of Actions	Responsible Position
Review Date: October 2024 to June 2025				
Communities Supplied	Explanation to be included about transient populations due to cruise ship passengers and its impact on drinking water services	Required information extracted for PBPL's Sustainability report- FY24	completed	Utilities Engineer Manager Asset Services
	State the most current number of drinking water connections.	The number of connections has been updated in accordance with the asset register.	completed	Utilities Engineer
Details of infrastructure	Water reticulation developments in the Port West and Reclamation Area have been added	Table 1 Updated (Summary of Water Mains Material, Size, Length and Age)	Completed	Utilities Engineer GIS Officer
Key Stakeholders	State who the external lab and contractors are	Table2 updated (List of Key stakeholders)	Completed	Utilities Engineer
	Describe the experience and/or qualifications of persons/officers engaged in the operation of your drinking water service	Table2 updated	Completed	Utilities Engineer
Information Gathering for Hazard Identification	PBPL tests for E. coli in house to be reviewed.	Weekly E. coli testing to be outsourced to PBPL's external lab	Completed since 1st July 2024	Utilities Engineer
	How to register a complaint has been added	PBPL's External Communication Standard has been developed	Completed	Compliance team
	Include historical water quality information and Update these graphs with the most recent water quality data collected	Required information has been added to the PBPL-Data-Analysis provided in Appendix A	Completed	Utilities Engineer
	Provide a summary and appraisal of water quality complaints	Included in DWQMP sec 4.1.1 - Customer Complaints	Completed	Utilities Engineer
Documented Procedures	Online Chlorine analyzer to be set up in the new asset management system when TechOne is fully in use	TechOne was commissioned in July 2024	Chlorine analyzer (1024351) has been set up in TechOne	Asset Strategy Team

Review Component	Findings	Outcomes	Status of Actions	Responsible Position
Review Date: October 2024 to June 2025				
	A procedure describes the method to be used by personnel ensuring effective disinfection practices when working on potable bulk water supply and water networks is required	PBPL's Maintenance contractor has a procedure	Ventia SOP-Disinfection - TSAI-031020-OPS-PR-108	PBPL's Maintenance contractor
Risk management improvement Plan	Several improvement actions have been implemented and some are in progress.	Actions tracking-PBPL-DWQMP-Risk Management Improvement Plan to be developed	Actions tracking-PBPL-DWQMP-Risk Management Improvement Plan_v2.0 is developed. The action plan is reviewed, updated on an annual basis.	Utilities Engineer Manager Asset Services
	Include information about relevant improvement projects, studies/research and/or investigations into the RMIP.	Relevant information has been added to RMIP and provided in Appendix A	Completed	Utilities Engineer
Management of incidents & emergencies	Review and update the incident and emergency response protocol	Table 6 was updated to reflect recent changes and include all relevant response actions	Completed	Utilities Engineer
Operational and Verification monitoring	Sample points inside the buildings were not representative of the Network.	Sample points relocated to the water network	Completed	Utilities Engineer
	Operational target for total chlorine was not practical due to lack of reservoirs, pump stations or re-disinfection within the PBPL's precincts.	Operational target for total chlorine has changed from 0.5 ppm to 0.0 ppm	completed	Utilities Engineer
	Provide information on the routine operational monitoring/Inspections	SLA033-Operational Procedure Network was provided in Appendix B	completed	Utilities Engineer
	Consider updating the monitoring program to include information on parameters that undergo events-based testing.	Updated Sec 8-Monitoring Program	Completed	Utilities Engineer

DWQMP Audit

No audit was conducted in Financial Year 2025.

Appendix A: Weekly monitoring results

Month-Year			Jul-24																	
Sample date			01/07/2024	01/07/2024	01/07/2024	01/07/2024	01/07/2024	01/07/2024	08/07/2024	08/07/2024	08/07/2024	15/07/2024	15/07/2024	15/07/2024	22/07/2024	22/07/2024	22/07/2024	29/07/2024	29/07/2024	29/07/2024
Sample Sites			Port Office Site	Port West Site	Port North (Pinkenba)	Reclamation Site	Port Gate Site	BICT	Port Office Site	Port West site	Port North (Pinkenba)	Reclamation Site	Port Gate Site	BICT	Port Office Site	Port West site	Port North (Pinkenba)	Reclamation Site	Port Gate Site	BICT
Analyte	Unit	ADWG																		
pH	pH Unit	6.5-8.5	7.34	7.55	7.63	7.81	7.48	7.51	7.59	7.59	7.57	8.29	7.98	8.09	7.38	7.36	7.28	7.91	7.51	7.67
Total Chlorine	mg/L	5	0.07	0.25	0.07	0.03	0.05	0.16	0.22	0.11	0.02	0.08	0.2	0.87	0.06	0.46	0.02	0.04	0.42	0.17
Temperature	°C		22	21	22.4	21.6	20.2	20.2	20.4	19.6	21.4	21	18.2	18.3	20.8	18.4	19.6	19.1	16.4	16.6
Turbidity	NTU	5	0.4	0.2	0.3	0.3	0.4	0.5	0.3	0.3	0.2	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.4	0.4
Monochloramine as Cl2	mg/L		0.04	0.18	<0.04	<0.04	0.05	0.15	0.07	0.13	0.04	0.05	0.14	0.27	0.1	0.28	0.09	0.15	0.27	0.17
Escherichia coli	CFU/100mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Coliforms	CFU/100mL		~5	11	<1	48	<1	<1	17	<1	<1	56	<1	<1	25	<1	<1	31	<1	<1

Month-Year			Aug-24											
Sample date			05/08/2024	05/08/2024	05/08/2024	12/08/2024	12/08/2024	12/08/2024	19/08/2024	19/08/2024	19/08/2024	26/08/2024	26/08/2024	26/08/2024
Sample Sites			Port Office Site	Port West site	Port North (Pinkenba)	Reclamation Site	Port Gate Site	BICT	Port Office Site	Port West site	Port North (Pinkenba)	Reclamation Site	Port Gate Site	BICT
Analyte	Unit	ADWG												
pH	pH Unit	6.5-8.5	7.64	7.68	7.63	7.96	7.63	7.68	7.67	7.76	7.62	7.48	7.47	7.48
Total Chlorine	mg/L	5	0.07	0.29	0.04	0.04	0.15	0.73	0.05	0.07	<0.01	0.04	0.1	1.16
Temperature	°C		19.5	17	16.1	20.4	18.2	20.4	23.4	23.9	23.4	22.7	22.1	22.8
Turbidity	NTU	5	0.3	0.3	0.5	0.3	0.4	0.4	0.2	0.3	1.8	0.4	0.4	0.5
Monochloramine as Cl2	mg/L		0.06	0.19	0.04	0.04	0.08	0.42	<0.04	<0.04	<0.04	<0.04	0.06	1.06
Escherichia coli	CFU/100mL	nil	<1	<1	<1	<1	<1	<1	~<1	<1	<1	<1	<1	<1
Coliforms	CFU/100mL		18	<1	<1	92	<1	<1	1100	<1	<1	200	<1	<1

Month-Year			Sep-24														
Sample date			02/09/2024	02/09/2024 4	02/09/2024	09/09/2024	09/09/2024 4	09/09/2024 24	16/09/2024	16/09/2024	16/09/2024	23/09/2024	23/09/2024 4	23/09/2024 24	30/09/2024	30/09/2024	30/09/2024
Sample Sites			Port Office Site	Port West site	Port North (Pinkenba)	Reclamation Site	Port Gate Site	BICT	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	Port Gate Site	BICT	Port West Site	Port Office Site	Port North (Pinkenba)
Analyte	Unit	ADW G															
pH	pH Unit	6.5-8.5	7.55	7.82	7.38	7.9	7.56	7.65	7.02	7.59	7.7	7.77	7.71	7.69	7.56	7.5	7.37
Total Chlorine	mg/L	5	0.06	0.01	0.03	0.07	0.19	1.52	0.04	0.04	0.03	0.13	0.11	0.5	0.11	0.07	0.02
Temperature	°C		24.9	26.3	24.3	24.4	25	22.3	16.9	23.2	21.2	24	23.3	27.6	24.1	23.5	23.5
Turbidity	NTU	5	0.3	0.2	0.3	0.3	0.4	0.3	0.6	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.4
Monochloramine as Cl2	mg/L		0.05	0.08	0.1	0.07	0.08	1.47	0.11	0.08	<0.04	0.06	0.04	0.49	0.04	<0.04	0.09

Escherichia coli	CFU/100 mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Coliforms	CFU/100 mL		120	<1	<1	~200	<1	<1	<1	~190	<1	~860	<1	<1	<1	87	<1

Month-Year			Oct-24														
Sample date			08/10/2024	08/10/2024	08/10/2024	08/10/2024	08/10/2024	08/10/2024	14/10/2024	14/10/2024	14/10/2024	21/10/2024	21/10/2024	21/10/2024	28/10/2024	28/10/2024	28/10/2024
Sample Sites			BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	BICT	Port Gate Site	Reclamation Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	Port Gate Site	BICT
Analyte	Unit	ADW G															
pH	pH Unit	6.5-8.5	7.4	7.46	7.46	7.46	7.72	7.86	7.56	7.57	7.98	7.52	7.46	7.7	7.7	7.53	7.65
Total Chlorine	mg/L	5	0.11	0.1	0.04	0.05	0.06	0.03	0.12	0.09	0.03	0.03	0.06	0.06	0.05	0.02	0.79
Temperature	°C		28.2	28.1	27.7	26.5	28.7	26.2	18.2	21	23.2	21.6	23.8	22.9	25.9	25.5	25.1
Turbidity	NTU	5	0.3	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2
Monochloramine as Cl2	mg/L		0.04	0.08	<0.04	<0.04	<0.04	0.05	0.08	<0.04	<0.04	<0.04	0.04	0.05	<0.04	<0.04	0.56
Escherichia coli	CFU/100 mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Coliforms	CFU/100 mL		<1	<1	<1	360	<1	68	<1	<1	<1	<1	270	<1	~79	<1	<1

Month-Year			Nov-24											
Sample date			05/11/2024	05/11/2024	05/11/2024	11/11/2024	11/11/2024	11/11/2024	19/11/2024	19/11/2024	19/11/2024	25/11/2024	25/11/2024	25/11/2024
Sample Sites			Port North (Pinkenba)	Port Office Site	Port West Site	BICT	Port Gate Site	Reclamation Site	Port North (Pinkenba)	Port Office Site	Port West Site	BICT	Port Gate Site	Reclamation Site
Analyte	Unit	ADW G												
pH	pH Unit	6.5-8.5	7.57	7.49	7.69	7.52	7.42	7.9	7.64	7.61	7.81	7.39	7.59	7.85
Total Chlorine	mg/L	5	0.03	0.04	0.07	0.06	0.08	0.05	0.03	0.01	0.03	0.06	0.07	0.03
Temperature	°C		29.5	29	32.4	34.8	31.7	28.4	24.8	24.8	24.1	31.1	27.6	25.6
Turbidity	NTU	5	0.4	0.3	0.3	0.6	0.6	0.4	0.3	0.3	0.3	0.2	0.3	0.2
Monochloramine as Cl2	mg/L		0.06	<0.04	0.06	<0.04	0.08	0.04	<0.04	<0.04	<0.04	<0.04	0.14	0.07
Escherichia coli	CFU/100mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Coliforms	CFU/100mL		<1	~260	<1	<1	<1	~120	~1	73	~3	<1	<1	220

Month-Year			Dec-24													
Sample date			02/12/2024	02/12/2024	02/12/2024	10/12/2024	10/12/2024	10/12/2024	16/12/2024	16/12/2024	16/12/2024	24/12/2024	24/12/2024	31/12/2024	31/12/2024	31/12/2024
Sample Sites			Port North (Pinkenba)	Port Office Site	Port West Site	BICT	Port Gate Site	Reclamation Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	Port Gate Site	BICT	Port West Site	Port North (Pinkenba)
Analyte	Unit	ADW G														
pH	pH Unit	6.5-8.5	7.4	7.34	7.46	7.48	7.06	7.79	7.48	7.21	7.33	7.21	7.28	7.51	7.36	7.15
Total Chlorine	mg/L	5	0.12	0.06	0.08	0.11	0.1	0.06	0.4	0.05	0.1	0.04	0.08	0.06	0.05	0.02
Temperature	°C		29	27.7	29.9	27.2	28.1	29.1	29.4	29.7	29.9	27.6	29.4	31	27.8	28.4
Turbidity	NTU	5	0.2	0.2	0.2	0.2	0.8	0.7	0.4	0.5	0.3	0.2	0.3	0.3	0.2	0.2
Monochloramine as Cl2	mg/L		0.08	<0.04	<0.04	<0.04	0.07	<0.04	0.4	0.04	<0.04	<0.04	<0.04	0.04	<0.04	<0.04

Escherichia coli	CFU/100 mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Coliforms	CFU/100 mL		<1	230	~4	<1	<1	170	~3	~350	10	120	<1	<1	41	~480	<1

Month-Year			Jan-25														
Sample date			06/01/2025	06/01/2025	06/01/2025	13/01/2025	13/01/2025	13/01/2025	13/01/2025	13/01/2025	13/01/2025	20/01/2025	20/01/2025	20/01/2025	28/01/2025	28/01/2025	28/01/2025
Sample Sites			BICT	Port Gate Site	Reclamation Site	BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	Reclamation Site	Port Gate Site	BICT	Port North (Pinkenba)	Port Office Site	Port West Site
Analyte	Unit	ADWG															
pH	pH Unit	6.5-8.5	7.28	7.37	7.78	7.5	7.38	7.48	7.22	7.44	7.97	7.75	7.53	7.4	7.45	7.41	7.78
Total Chlorine	mg/L	5	0.02	0.05	0.02	0.07	0.06	0.08	0.05	0.06	0.02	0.02	0.06	0.05	0.04	0.04	0.04
Temperature	°C		27.9	27.6	29.4	28.8	28.7	29.1	29.6	31.2	29	28.8	26.4	31.1	28.4	29.3	28.4
Turbidity	NTU	5	0.2	0.3	0.4	0.2	0.1	0.5	0.5	<0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.6
Monochloramine as Cl2	mg/L		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	0.08	0.04	<0.04	<0.04
Escherichia coli	CFU/100 mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Coliforms	CFU/100 mL		<1	<1	81	<1	<1	<1	1100	86	53	87	<1	<1	<1	1000	100

Month-Year			Feb-25														
Sample date			04/02/2025	04/02/2025	04/02/2025	04/02/2025	10/02/2025	10/02/2025	10/02/2025	18/02/2025	18/02/2025	18/02/2025	25/02/2025	25/02/2025	25/02/2025		
Sample Sites			Port Central	BMT	QBH	FI Head Meter	Port North (Pinkenba)	Port Office Site	Port West Site	BICT	Port Gate Site	Reclamation Site	Port West Site	QBH	Port North (Pinkenba)		
Analyte	Unit	ADWG															
pH	pH Unit	6.5-8.5	7.62	7.95	7.7	7.7	7.35	7.22	7.53	7.27	7.2	7.25	7.66	7.45	7.55		
Total Chlorine	mg/L	5	0.06	<0.01	0.07	0.07	0.03	0.05	0.04	0.07	0.08	0.03	0.04	0.09	0.04		
Temperature	°C		32.5	29.7	30	30	28.9	30.1	30.3	28.9	31.4	30.7	31.1	28.2	29.3		
Turbidity	NTU	5	0.3	0.4	0.4	0.4	<0.1	0.1	<0.1	0.74	0.29	0.28	0.15	0.23	0.74		
Monochloramine as Cl2	mg/L						0.09	<0.04	<0.04	<0.04	<0.04	0.04	<0.04	0.1	0.08		
Escherichia coli	CFU/100mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
Coliforms	CFU/100mL		~330	<10	<1	<1	<1	270	33	~1	<1	54	<1	<1	<1		

Month-Year			Mar-25														
Sample date			03/03/2025	03/03/2025	03/03/2025	11/03/2025	11/03/2025	11/03/2025	11/03/2025	11/03/2025	18/03/2025	18/03/2025	18/03/2025	24/03/2025	24/03/2025	24/03/2025	
Sample Sites			BICT	Port Gate Site	Reclamation Site	Port North (Pinkenba)	Port West Site	QBH	BICT	Port Gate Site	Reclamation Site	BICT	Port Gate Site	Reclamation Site	Port North (Pinkenba)	Port West Site	QBH
Analyte	Unit	ADWG															
pH	pH Unit	6.5-8.5	7.34	7.39	7.7	7.32	7.76	7.62	7.33	7.45	8.11	7.53	7.88	8.2	7.41	7.44	7.5
Total Chlorine	mg/L	5	0.05	0.06	0.03	0.03	0.04	0.07	0.05	0.1	0.03	0.05	0.06	0	0.06	0.16	0.08
Temperature	°C		30.8	28.1	26.2	25.1	28.2	27.6	27.8	28.2	28.5	27.9	27.6	28.1	26.5	26.8	26.5
Turbidity	NTU	5	0.53	0.4	0.42	0.536	0.178	0.403	0.361	0.279	0.171	0.1	0.1	0	0.13	0.14	0.17
Monochloramine as Cl2	mg/L		<0.04	0.04	0.06	0.04	0.04	<0.04	0.06	0.1	<0.04	<0.04	0.08	0.06	0.04	0.1	<0.04

Escherichia coli	CFU/100 mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Coliforms	CFU/100 mL		<1	<1	~1	<1	~150	~4	~1	<1	<1	<1	~4	64	<1	64	20

Month-Year			Apr-25																	
Sample date			01/04/2025	01/04/2025	01/04/2025	01/04/2025	01/04/2025	07/04/2025	07/04/2025	07/04/2025	15/04/2025	15/04/2025	15/04/2025	22/04/2025	22/04/2025	22/04/2025	28/04/2025	28/04/2025	28/04/2025	
Sample Sites			BICT	Reclamation Site	Port Gate Site	Port North (Pinkenba)	Port West Site	QBH	BICT	Port Gate Site	Reclamation Site	Port North (Pinkenba)	Port West Site	QBH	BICT	Port Gate Site	Reclamation Site	Port North (Pinkenba)	Port West Site	QBH
Analyte	Unit	ADWG																		
pH	pH Unit	6.5-8.5	7.59	7.79	7.57	7.54	7.69	7.35	7.24	7.21	7.91	7.34	7.61	7.53	7.54	7.47	7.85	7.46	7.78	7.58
Total Chlorine	mg/L	5	0.18	0.03	0.05	0.05	0.05	0.07	0.05	0.05	0.03	0.03	0.06	0.08	0.25	0.04	0.03	0.04	0.04	0.06
Temperature	°C		26.2	23.8	24.1	25.3	25.2	24.7	21.3	22.5	25.6	24.2	23.6	25.8	25.2	24.5	26	24.7	24.4	26.1
Turbidity	NTU	5	1.3	0	0	0	0	0.1	0.1	0.2	0	0.13	0.14	0.29	1.17	0.25	0.17	0.29	0.13	0.13
Monochloramine as Cl2	mg/L		<0.04	0.04	<0.04	0.05	<0.04	0.07	0.05	<0.04	<0.04	0.04	<0.04	<0.04	0.13	<0.04	<0.04	0.05	<0.04	0.04
Escherichia coli	CFU/100mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Coliforms	CFU/100mL		<1	52	15	<1	~130	10	<1	<1	<1	<1	<1	<1	~6	<1	~4	<1	84	39

Month-Year			May-25														
Sample date			06/05/2025	06/05/2025	06/05/2025	12/05/2025	12/05/2025	12/05/2025	19/05/2025	19/05/2025	19/05/2025	28/05/2025	28/05/2025	28/05/2025			
Sample Sites			BICT	Port Gate Site	Reclamation Site	Port North (Pinkenba)	Port West Site	QBH	BICT	Port Gate Site	Reclamation Site	Port North (Pinkenba)	Port West Site	QBH			
Analyte	Unit	ADWG															
pH	pH Unit	6.5-8.5	7.22	7.18	7.77	7.38	7.73	7.35	7.16	7.2	7.64	7.08	7.22	7.29			
Total Chlorine	mg/L	5	0.05	0.07	0.02	0.05	0.05	0.09	0.09	0.07	0.03	0.06	0.07	0.07			
Temperature	°C		25.3	23.5	25	24.1	20.7	22.1	22.5	23	23.1	25.6	22.5	26.5			
Turbidity	NTU	5	0.26	0.24	0.12	0	0	0.3	0.2	0.2	<0.1	<0.1	<0.1	<0.1			
Monochloramine as Cl ₂	mg/L		<0.04	<0.04	0	0.05	<0.04	0.07	0.06	<0.04	0.07	0.25	0.06	0.12			
Escherichia coli	CFU/100 mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
Coliforms	CFU/100 mL		<1	15	13	<1	~110	22	<1	<1	29	<1	18	~7			

Month-Year			Jun-25														
Sample date			03/06/2025	03/06/2025	03/06/2025	09/06/2025	09/06/2025	09/06/2025	16/06/2025	16/06/2025	16/06/2025	23/06/2025	23/06/2025	23/06/2025	30/06/2025	30/06/2025	30/06/2025
Sample Sites			BICT	Port Gate Site	Reclamation Site	Port North (Pinkenba)	Port West Site	QBH	BICT	Port Gate Site	Reclamation Site	Port West Site	QBH	Port North (Pinkenba)	BICT	Port Gate Site	Reclamation Site
Analyte	Unit	ADWG															
pH	pH Unit	6.5-8.5	7.28	6.92	7.67	7.3	6.9	6.57	6.99	7.07	7.39	7.64	7.28	7.53	7.18	7.31	7.7
Total Chlorine	mg/L	5	0.06	0.08	0.02	0.04	0.05	0.07	0.07	0.11	0.02	0.05	0.16	0.05	0.11	0.1	0.05
Temperature	°C		23.8	22.2	21.6	22.1	21.1	21	17.2	17.4	20.7	21.4	19.9	21.7	19.1	19.2	21.5
Turbidity	NTU	5	0.4	0.2	0.2	<0.1	<0.1	0.1	0.2	0.2	0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Monochloramine as Cl ₂	mg/L		0.09	0.09	<0.04	0.04	0.14	0.07	0.04	0.06	<0.04	0.04	0.15	0.04	0.11	0.08	0.05

Escherichia coli	CFU/100 mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Coliforms	CFU/100 mL		<1	<1	77	<1	<1	<1	<1	<1	<1	<1	<1	32	<1	<1	<1	<1	~1					23

Appendix B: Quarterly & Six-Monthly monitoring results

Year			2024												2025											
Sample Date:			01/07	01/07	01/07	01/07	01/07	01/07	08/10	08/10	08/10	08/10	08/10	08/10	13/01	13/01	13/01	13/01	13/01	13/01	01/04	01/04	01/04	01/04	01/04	01/04
Sample Sites			Port Office Site	Port West Site	Port North (Pinkenba)	Reclamation Site	Port Gate Site	BICT	BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	BICT	Reclamation Site	Port Gate Site	Port North (Pinkenba)	Port West Site	QBH
Analyte	Unit	ADWG																								
pH Value	pH Unit	6.5-8.5	7.92	7.97	7.94	8.08	7.98	7.95	7.4	7.46	7.46	7.46	7.72	7.86	7.85	7.76	7.83	7.75	7.79	7.97	7.59	7.79	7.57	7.54	7.69	7.35
Electrical Conductivity @ 25°C	µS/cm		512	523	524	538	519	513							498	489	488	480	487	481						
Total Dissolved Solids @180°C	mg/L		290	298	298	302	300	293							276	270	269	263	268	266						
Color (True)	PCU		2	2	2	2	2	2							2	2	2	2	2	2						
pH Color	pH Unit		7.67	7.91	8	8.24	7.96	7.91							7.92	7.73	7.81	7.87	7.8	8.28						
Turbidity	NTU	5	0.2	0.2	0.2	0.2	0.2	0.2							0.2	0.2	0.5	0.2	0.2	0.2						
Total Hardness as CaCO3	mg/L		147	147	144	152	147	147							140	138	140	131	140	134						
ED037P: Alkalinity by PC Titrator																										
Hydroxide Alkalinity as CaCO3	mg/L		<1	<1	<1	<1	<1	<1							<1	<1	<1	<1	<1	<1						
Carbonate Alkalinity as CaCO3	mg/L		<1	<1	<1	<1	<1	<1							<1	<1	<1	<1	<1	<1						
Bicarbonate Alkalinity as CaCO3	mg/L		112	111	112	118	112	110							106	104	105	103	106	105						
Total Alkalinity as CaCO3	mg/L		112	111	112	118	112	110							106	104	105	103	106	105						

Year		2024												2025											
Sample Date:		01/07	01/07	01/07	01/07	01/07	01/07	08/10	08/10	08/10	08/10	08/10	08/10	13/01	13/01	13/01	13/01	13/01	13/01	01/04	01/04	01/04	01/04	01/04	01/04
Sample Sites		Port Office Site	Port West Site	Port North (Pinkenba)	Reclamation Site	Port Gate Site	BICT	BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	BICT	Reclamation Site	Port Gate Site	Port North (Pinkenba)	Port West Site	QBH
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA																									
Sulfate as SO4 - Turbidimetric	mg/L	500	37	37	37	38	36	36						42	42	42	40	42	42						
ED045G: Chloride by Discrete Analyser																									
Chloride	mg/L	250	71	68	69	70	70	70						66	65	65	64	65	61						
ED093F: Dissolved Major Cations																									
Calcium	mg/L		34	34	33	36	34	34						33	32	33	31	33	34						
Magnesium	mg/L		15	15	15	15	15	15						14	14	14	13	14	12						
Sodium	mg/L		39	38	39	39	39	38						45	46	46	44	44	45						
Potassium	mg/L		4	4	4	4	4	4						4	4	4	4	4	4						
EG020T: Total Metals by ICP-MS																									
Aluminum	mg/L		0.03	0.04	0.04	0.03	0.03	0.05						0.06	0.06	0.06	0.04	0.06	0.06						
Antimony	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						
Arsenic	mg/L	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						
Barium	mg/L	2	0.029	0.029	0.03	0.031	0.031	0.028						0.032	0.033	0.033	0.033	0.034	0.034						
Cadmium	mg/L	0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001						<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001						
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						
Copper	mg/L	2	0.031	0.046	0.008	0.016	0.027	0.016						0.008	0.038	0.006	0.042	0.054	0.013						
Lead	mg/L	0.01	<0.001	0.002	0.002	0.001	0.002	<0.001						<0.001	<0.001	<0.001	<0.001	0.002	<0.001						
Manganese	mg/L	0.5	0.001	0.002	0.002	0.002	0.002	0.002						0.002	0.002	0.01	<0.001	0.002	<0.001						

Year			2024												2025											
Sample Date:			01/07	01/07	01/07	01/07	01/07	01/07	08/10	08/10	08/10	08/10	08/10	08/10	13/01	13/01	13/01	13/01	13/01	13/01	01/04	01/04	01/04	01/04	01/04	01/04
Sample Sites			Port Office Site	Port West Site	Port North (Pinkenba)	Reclamation Site	Port Gate Site	BICT	BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	BICT	Reclamation Site	Port Gate Site	Port North (Pinkenba)	Port West Site	QBH
Molybdenum	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001							<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						
Nickel	mg/L	0.02	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001							<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						
Selenium	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01						
Silver	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001							<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						
Zinc	mg/L	-	<0.005	0.016	0.013	0.012	0.024	0.01							0.021	0.018	0.01	0.005	0.034	0.01						
Boron	mg/L	4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							<0.05	<0.05	<0.05	0.06	<0.05	0.08						
Iron	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							<0.05	<0.05	0.06	<0.05	<0.05	<0.05						
EG035T: Total Recoverable Mercury by FIMS																										
Mercury	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001							<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001						
EK026SF: Total CN by Segmented Flow Analyser																										
Total Cyanide	mg/L		<0.004	<0.004	<0.004	<0.004	<0.004	<0.004							<0.004	<0.004	<0.004	<0.004	<0.004	<0.004						
EK040P: Fluoride by PC Titrator																										
Fluoride	mg/L	1.5	0.8	0.8	0.8	0.7	0.8	0.8							<0.1	<0.1	<0.1	0.1	<0.1	0.1						
EK055G: Ammonia as N by Discrete Analyser																										
Ammonia as N	mg/L		<0.01	0.05	0.13	<0.01	0.01	0.03	0.05	0.02	<0.01	<0.01	<0.01	0.01	0.02	0.04	0.06	<0.01	0.02	<0.01	0.1	<0.01	0.02	<0.01	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser																										
Nitrite as N	mg/L	3	<0.01	0.17	0.12	<0.01	0.04	0.2	0.27	0.20	<0.01	<0.01	0.06	<0.01	0.3	0.1	0.28	<0.01	<0.01	<0.01	0.31	<0.01	0.06	<0.01	0.02	0.06
EK058G: Nitrate as N by Discrete Analyser																										

Year			2024												2025											
Sample Date:			01/07	01/07	01/07	01/07	01/07	01/07	08/10	08/10	08/10	08/10	08/10	08/10	13/01	13/01	13/01	13/01	13/01	13/01	01/04	01/04	01/04	01/04	01/04	01/04
Sample Sites			Port Office Site	Port West Site	Port North (Pinkenba)	Reclamation Site	Port Gate Site	BICT	BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	BICT	Reclamation Site	Port Gate Site	Port North (Pinkenba)	Port West Site	QBH
Nitrate as N	mg/L	50	0.68	0.35	0.37	0.72	0.61	0.37	0.27	0.36	0.61	0.59	0.50	0.63	0.41	0.65	0.41	0.73	0.76	0.82	0.6	0.98	0.92	0.95	0.98	0.95
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser																										
Nitrite + Nitrate as N	mg/L		0.68	0.52	0.49	0.72	0.65	0.57							0.71	0.75	0.69	0.73	0.76	0.82						
EK085M: Sulfide as S2-																										
Sulfide as S2-	mg/L		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1						
EN055: Ionic Balance																										
Total Anions	meq/L		5.01	4.91	4.95	5.12	4.96	4.92							4.85	4.78	4.8	4.7	4.82	4.69						
Total Cations	meq/L		4.73	4.69	4.68	4.83	4.73	4.69							4.86	4.85	4.9	4.63	4.82	4.74						
Ionic Balance	%		2.88	2.29	2.85	2.95	2.39	2.45							0.05	0.69	0.99	0.68	0.11	0.54						
EN67: Field Tests																										
pH	pH Unit	6.5-8.5	7.34	7.55	7.63	7.81	7.48	7.51	7.4	7.46	7.46	7.46	7.72	7.86	7.5	7.38	7.48	7.22	7.44	7.97	7.59	7.79	7.57	7.54	7.69	7.35
Total Chlorine	mg/L	5	0.07	0.25	0.07	0.03	0.05	0.16	0.11	0.1	0.04	0.05	0.06	0.03	0.07	0.06	0.08	0.05	0.06	0.02	0.18	0.03	0.05	0.05	0.05	0.07
Temperature	°C		22	21	22.4	21.6	20.2	20.2	28.2	28.1	27.7	26.5	28.7	26.2	28.8	28.7	29.1	29.6	31.2	29	26.2	23.8	24.1	25.3	25.2	24.7
Turbidity	NTU	5	0.4	0.2	0.3	0.3	0.4	0.5	0.3	0.4	0.4	0.4	0.3	0.3	0.2	0.1	0.5	0.5	<0.1	0.1	1.3	0	0	0	0	0.1
Monochloramine as Cl2	mg/L		0.04	0.18	<0.04	<0.04	0.05	0.15	0.04	0.08	<0.04	<0.04	<0.04	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.04	<0.04	0.05	<0.04	0.07
EP074G: Trihalomethanes																										
Chloroform	µg/L		15	15	14	15	15	15							31	32	33	28	34	29						
Bromodichloromethane	µg/L		20	22	22	4	22	23							24	26	27	21	28	2						
Dibromochloromethane	µg/L		13	21	23	2	19	21							18	19	21	11	19	1						

Year			2024												2025											
Sample Date:			01/07	01/07	01/07	01/07	01/07	01/07	08/10	08/10	08/10	08/10	08/10	08/10	13/01	13/01	13/01	13/01	13/01	13/01	01/04	01/04	01/04	01/04	01/04	01/04
Sample Sites			Port Office Site	Port West Site	Port North (Pinkenba)	Reclamation Site	Port Gate Site	BICT	BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	BICT	Port Gate Site	Port North (Pinkenba)	Port Office Site	Port West Site	Reclamation Site	BICT	Reclamation Site	Port Gate Site	Port North (Pinkenba)	Port West Site	QBH
Bromoform	µg/L		2	4	5	<1	4	5							3	4	4	2	4	<1						
Total Trihalomethanes	µg/L	250	50	62	64	21	60	64							76	81	85	62	85	32						
MW002: Heterotrophic Plate Count																										
Heterotrophic Plate Count (22°C)	CFU/mL		67	~3	650	24	10	<1	17	71	25	120	120	69	62	23	42	280	300	110	~3	86	27	16	24	10
Heterotrophic Plate Count (36°C)	CFU/mL		65	~4	110	28	13	~2	20	93	39	93	79	42	100	120	110	18	350	97	20	120	48	52	22	26
MW006: Faecal Coliforms & E. coli by MF																										
Thermotolerant Coliforms	CFU/100 mL		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Escherichia coli	CFU/100 mL	nil	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW007: Coliforms by MF																										
Coliforms	CFU/100 mL		~5	11	<1	48	<1	<1	<1	<1	<1	360	<1	68	<1	<1	<1	1100	86	53	<1	52	15	<1	~130	10
EP074S: VOC Surrogates																										
1,2-Dichloroethane-D4	%		97	97.4	96.8	98.8	96.8	96.9							85.1	96.2	100	99.5	99.9	99.4						
Toluene-D8	%		98.1	97.3	98.7	97.3	98.7	97.7							98.1	96.9	98.7	98.5	100	99.8						
4-Bromofluorobenzene	%		99.1	99.5	105	102	102	99.2							99.1	105	105	103	109	106						

Parameters tested with ADWG health guideline value color-coded.

Within ADWG health guideline value

The network around the Port Office and Reclamation area was flushed for 10 minutes, and the Port Office sample point was disinfected using a chlorine solution and flamed.

