

PORMPURA AW



ABORIGINAL
SHIRE COUNCIL

Drinking Water Quality Management Plan Annual Report

Financial Year 2022 – 2023

24 Thinraathin Street, Pormpuraaw Queensland 4892

Service Provider Number 148

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1. INTRODUCTION

1.1 About us

Pormpuraaw is on the west coast of Cape York about 500 kilometers from the tip of Australia, just south of the Edward River. It is the home of the Thaayore, Wik, Bakanh and Yir Yoront People. In the 2016 census, Pormpuraaw had a population of 749 people, 83% of whom were Aboriginal and/or Torres Strait Islander people

1.2 Purpose

This report documents the performance of Pormpuraaw Aboriginal Shire Council's drinking water service with respect to water quality and performance in implementing the actions detailed in the Drinking Water Quality Management Plan (DWQMP) as required under the Water Supply (Safety and Reliability) Act 2008.

The DWQMP has been established and is being adhered to, in order to protect public health through the identification and minimisation of public health-related risks associated with drinking water and has been approved by the Qld Government. To ensure a consistent supply of safe quality drinking water, council proactively identifies and minimizes those risks.

This DWQMP annual report purpose is to:

- Describe the activities undertaken over the financial year in operating our drinking water service to minimize risk and ensure safe and consistent supply
- Provide a summary of the drinking water quality information obtained for the scheme.
- Summarize council's performance in implementing its approved DWQMP

1.3 Scope

This document is the Drinking Water Quality Management Plan (DWQMP) annual report for Pormpuraaw Aboriginal Shire Council (PASC) for the financial year 2022–2023

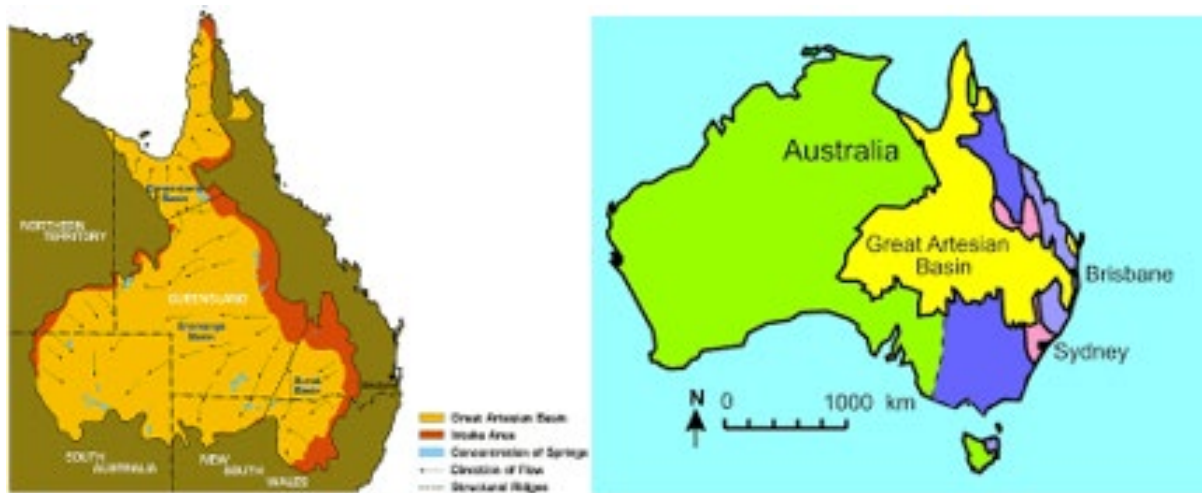
This report is submitted to the Regulator to fulfil our regulatory requirement for DWQMP reporting requirements set out in the Water Supply (Safety and Reliability) Act 2008.

This report is also made available to our customers via our website. This report is undertaken in accordance with the approved activities under council's 2018 DWQMP Revision B, which was current for the 2022-2023 financial year

2. SUMMARY OF SCHEME OPERATED

Pormpuraaw Aboriginal Shire Council is a registered drinking water service provider, with the service provider identification (SPID) number 148.

The Artesian bore water for Pormpuraaw is sourced from the sub-artesian from the deep Wyaaba bed hosted aquifer overlying the Carpentaria Basin. Maps showing this are below.



Water for Pormpuraaw is sourced from underground bore fields. There are two (2) main production bores currently in operation bores. We are in the process of expand our production base with and 3rd and 4th bore to ensure water security for the community

We have two older redundant non-potable bores are established in the town area; however, these bores are used for construction and irrigation purposes only.

Water is pumped using submersible pumps from the bores. The disinfection is done through chlorination and acid. Primary disinfection is done prior to the smaller of the two storage reservoirs, followed by trim dosing on the larger main reservoir. Both storage reservoirs and the chlorination system are in the water treatment site east of the town.

Treated water from the main reservoirs is pumped to two (2) high -level header tanks in water compound site in town. Water pressure is then boosted via a VSD booster pump set and distributed through the town reticulation system

PASC manages the Pormpuraaw drinking water supply scheme and distributes treated water to the Pormpuraaw community. The water supply scheme is comprised of infrastructure as described in table 2.1 on page 5 of this document.

Table 2.1 – Summary of the Pormpuraaw Scheme

Item	Details	
Scheme Name	Pormpuraaw Township	
Operator	Pormpuraaw Aboriginal Shire Council	
Water Sources	Bores 1 & 2	
Alternative Water Sources	Bores 3 & 4. This is not used and would require system augmentation and disinfection capability for them to be added to the system	
Towns supplied	1 - Pormpuraaw	
Treatment processes	Chlorination only with pump station	
Treatment Capacity	1.0 M/L per day	
Clear Water Storages	1 x 500kL 1 x 2ML	
Town Reservoirs	2 x 120kL elevated water tanks	
Reticulation Network	Approximately 35 kilometers	
Verification Sampling Points	12 located within the reticulation network	
Operational Sampling Points	3 – These are located at Bore 1, Bore 2, and the chlorine analyzer at the Water Treatment Plant	
Population	Current	611
	Projected in 10 yrs.	825
Residential Connections	Current	240
	Projected in 10 yrs.	270
Other connections	Current	35
	Projected in 10 yrs.	42
Demand ML/D	Current	0.9
	Projected in 10 yrs.	1.4

3. DWQMP IMPLEMENTATION

3.1 Risk Management

The process of keeping drinking water safe is one of risk management. Council has been working to consistently monitor and record water quality and provide ongoing support to its staff through training and supervision. These two risks are the primary areas of management identified in the current risk assessment. Regular toolbox meetings are held to discuss current reports and adherence to guidelines.

We identified several risks in the Drinking water risk assessment.

Process Step: Bore

- Containments

This risk is successfully mitigated with the control measures from very high to low

Process step: Chemical Dosing

- Chlorate- chemical breakdown
- Chlorine-Under or overdose
- DBPs- Elevated organics
- Bacterial/Virus-Issues around Chlorine mix/contact time/stock/low does

This risk is successfully mitigated with the control measures from very high to low

Process Step: Reticulation System

- Ingress of contaminated water – Pipe Breaks/Mains Break

Process Step: Whole of system

- Human error
- Cybersecurity

The risk was reduced with effective measures applied; security measures are implemented with IT controls in place to prevent cyber threats. Human error is mitigated as much as possible through various checks and due process.

A formal review of the current DWQMP was undertaken and identified relevant areas of improvement to strengthen water quality management. A drafted new DWQMP was approved and effective as at December 2023.

3.2 Monitoring

The council maintains a monitoring program to verify that the quality of water supplied to customers is safe. The monitoring program assists to identify any issue before it becomes a significant water quality incident.

This monitoring is the day-to-day inspections that are needed to maintain systems in good working order. It is also intended to check that the processes and equipment that have been put in place to protect and enhance water quality are working as intended.

All operational monitoring is undertaken by the water and sewerage operational team every workday and overseen by the Senior plumber. The samples are collected using standard water collection procedures.

The Senior Plumber assesses the water quality results as they become available while keeping an overview of all monitoring and frequent meetings with the operations team. Operational staff have received on the job training from the Senior Plumber in:

- Proper sampling procedures.
- In-house testing procedures.
- Analysing test result procedures

On top of the inhouse monitoring 6 samples are collected monthly and sent to an independent laboratory in Cairns to provide independent results to the operational department and ensure continued water quality.

Where possible the required checks are embedded into the SCADA system. This removes some of the risk that the procedure is not implemented as the SCADA system will send pages and alarms to operators or shut down processes automatically.

The results from the verification monitoring for the reporting period are discussed in Section 4

3.3 Improvement Plan

The actions undertaken to implement the DWQMP are mentioned below. A primary concern remains about obtaining and retaining competent water operations staff, and ensuring training occurs.

An external audit was undertaken of the DWQMP in November 2022. This identified a significant increase in actions required over the next few years to ensure system infrastructure is adequate and operated effectively. Table 3 outlined actions implemented improvements.

Table 3.4 – Summary of Improvements

Scheme	Component	Improvement actions	Due date	Actions taken to date	Responsible person
PASC SPID148	Training	Certificate III Water Course	Ongoing	Current staff to attend Certificate III training in water operations. Additional training on systems and reporting to be sought. Additional training in emergency response and working in confined spaces is being undertaken. Updated procedures and risk assessments is underway.	Exec Manager Operations /CEO
PASC SPID148	Gross Alpha Radioactivity	Further testing	June 2024	Further investigation to be conducted into whether ongoing testing is required. Follow up with Queensland Health Forensic and Scientific services will be completed.	Exec Manager Operations /CEO
PASC SPID148	Procedures	Update procedures and include additional ones such as Chlorine Gas Leaks	June 2024	Identify which procedures need to be updating and where we need additional ones.	Exec Manager Operations /WHS
PASC SPID148	Treatment Procedures	Look into viable long-term options to improve the water treatment process	June 2024	We have had an external business case written for an additional process in the water treatment cycle. Evaluation has been completed; options still being investigated.	Exec Manager Operations /CEO
PASC SPID148	Communication	Improve communication internally and externally	December 2024	Community message board to display alerts for Bore water alert, boil water alert.	Exec Manager Operations /CEO
PASC SPID148	Catchment-scaling and Alkalinity	Looking at additional water treatment options	June 2024	Independent review has occurred – awaiting report and decision on actions to be completed	Exec Manager Operations /CEO
PASC SPID148	Bore Containments	Bore head is raised and sealed to Australian and Queensland Government standards / Disinfection	Ongoing	Daily inspections of bore sites completed. Any concerns raised to the senior plumber.	Exec Manager Operations /CEO

PASC SPID148	Chemical Dosing 1.Chlorate- chemical breakdown 2.Chlorine-Under or overdose 3.DBPs- Elevated organics 4.Bacterial/Virus-Issues around Chlorine mix/contact time/stock/low does	SCADA monitoring and regular testing	December 2024	Utilization of SCADA program through mobile tablets to make monitoring easier. Looking at potential for improvements to accessibility of alerts and advance permissions in current system.	Exec Manager Operations /CEO
PASC SPID148	Reticulation System	Mains break procedure based on Australian Standards for water main break repairs, disinfection	June 2024	Implement an updated procedure and provide staff with additional training	Exec Manager Operations /CEO/WHS
PASC SPID148	Whole of system - Human error - Cybersecurity	Our SCADA provider has a framework information technology security. These include: - Information Systems (IS) Policy, - Computer Systems and Equipment Use Standard, - Information Systems Management Guidelines	Ongoing	Review and revise as required Next review due July 2024	Exec Manager Operations /CEO

4. VERIFICATION MONITORING- WATER QUALITY AND INFORMATION

4.1 Yearly Verification

This section discusses compliance with the monthly water quality criteria

Table 4.1 (a) – Drinking Water Quality Performance – Verification Monitoring Compliance Summary

Scheme Name	Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples collected and tested	No. of non-compliant samples	Water quality criteria (i.e., ADWG health guideline value)	Required Performance %	Actual Performance %	Comments
PASC SPID148	Coliforms E. coli	72	84	1	<1 CFU/100mL	98%	98.9%	Exceedance found at: ▪ TP 4 X 1 Action: Increased chlorine and flushing performed.
PASC SPID148	Coliforms Total Coliforms	72	62	0	<1 CFU/100mL (Additional limit added by PASC)	-	100%	No Issues
PASC SPID148	Heterotrophic Plate Count	72	84	13	≤10 CFU/mL (Additional limit added by PASC)	-	85.7%	Exceedance found at: ▪ TP 11 X 1 ▪ TP 10 X 4 ▪ TP 9 X 4 ▪ TP 8 X 2 ▪ TP 7 X 1 ▪ TP 3 X 1 Action: Flushing performed.

4.2 Monthly Verification

Table 4.2 (a) – E. coli Compliance with Annual Value Limit

Year	2022-2023											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	8	14	2	9	7	7	7	7	9	7	0	7
No. of samples collected in which E. coli is detected (i.e., a failure)	1	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12-month period	87	94	89	91	91	98	98	89	91	91	84	84
No. of failures for previous 12-month period*	1	1	1	1	1	1	1	1	1	1	1	1
% Of samples that comply	98.9%	98.9%	98.9%	98.9%	98.9%	99.0%	99.0%	98.9%	98.9%	98.9%	98.8%	98.8%
Compliance with 98% annual value	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

5. REPORTING TO THE REGULATOR

5.1 Non-compliances with Water Quality Criteria and Actions

100% compliance with the water quality criteria was achieved for the water supply scheme.

5.2 Prescribed Incidents or Events and Actions

There were no incidents.

Table 5.2 (a) – Incidents Reported to the Regulator

Incident date	Location	Parameter/Issue	Preventive Corrective actions
Nil incidents			

6. CUSTOMER COMPLAINTS

This section discusses the details of any complaints received about the drinking water service.

Table 6.1 – Customer Water Quality Complaints

Scheme	Health concern	Dirty water	Taste and odour	Other
Nil complaints				
Total				

7. DWQMP REVIEW OUTCOME

A revised DWQMP was submitted and approved early December 2023. Issues identified from the 2021-2022 audit (discussed in the 2021-2022 DWQMP Report Table 7.1) were rectified within the new DWQMP.

8. DOCUMENT HISTORY

	Author	Checked	Approved	Issue Purpose	Date
Draft	JW	TG/EN	TG	Draft Report for comment	15/12/2023
Final	JW	TG/EN	TG	Final	19/12/2023

9. PASC APPROVALS

This document is authorised for release once all Pormpuraaw Aboriginal Shire Council (PASC) delegated officer signatures have been obtained.

Signed.....

Senior Plumber – Jack Wiles

19/12/2023
Date.....

Signed.....

Executive Manager Finance – Tracey Graham

19/12/2023
Date.....