

A close-up photograph of a young child with dark skin and curly hair, smiling broadly. The child's face and hair are wet with water droplets. They are wearing a teal long-sleeved shirt and holding a large green coconut. In the background, a stainless steel sink with a running faucet is visible, and some green foliage is partially seen.

PowerWater

Annual Drinking Water Quality Report 2024



Darren – Water and Sewer Reticulation Coordinator, Alice Springs

Cover image credit: Jo Jamieson

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Glossary of Acronyms

Acronym	Description
ABCB	Australian Building Codes Board
ADWG	Australian Drinking Water Guidelines
AROWS	Adelaide River Off-stream Water Storage
AS/NZS	Australian/New Zealand Standards
AWA	Australian Water Association
CDU	Charles Darwin University
DLPE	Department of Lands, Planning and Environment
DAF	Department of Agriculture & Fisheries
DTF	Department Treasury and Finance
DHLGCD	Department Housing, Local Government and Community Development
DWQMS	Drinking Water Quality Management System
EDR	Electrodialysis Reversal
GW	Ground Water
HBT	Health-Based Targets
IES	Indigenous Essential Services
IMT	Incident Management Team
LT	Long-term assessment
mCDI	Membrane Capacitive De-Ionisation
MoU	Memorandum of understanding
NA	Not applicable
NM	Not measured
NHMRC	National Health and Medical Research Council
NT	Northern Territory
NTG	Northern Territory Government
NWGA	National Water Grid Authority
LSI	Langelier Saturation Index
PAM	Primary amoebic meningoencephalitis
PFAS	Per- and poly-fluoroalkyl substances
SCADA	Supervisory control and data acquisition
SW	Surface Water
TDS	Total dissolved solids
THMs	Trihalomethanes
USCW	Utilities Support Contract Worker
UV	Ultraviolet
WRA	Water Research Australia
WSP	Water Safety Plan
WTP	Water Treatment Plant

Units of Measurement

Abbreviation	Description
Bq/L	becquerels per litre
HU	Hazen unit
GL	gigalitres
mg/L	milligrams per litre
mSv/yr	millisieverts per year
ML	megalitres
MPN	most probable number
NTU	nephelometric turbidity unit
orgs/L	organisms per litre
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre

Scientific Abbreviations

Abbreviation	Description
<i>B. pseudomallei</i>	<i>Burkholderia pseudomallei</i>
CaCO_3	calcium carbonate
<i>E. coli</i>	<i>Escherichia coli</i>
<i>N. fowleri</i>	<i>Naegleria fowleri</i>

From the Chief Executive Officer



Customers are at the centre of everything we do at Power and Water, to make a difference to the lives of Territorians.

Our Annual Drinking Water Quality Report is a key element of our commitment, providing customers with transparent and accessible information about their drinking water, specific to their own community.

We understand that safe, secure and reliable drinking water is essential to the health and wellbeing of Territorians, and to supporting economic growth and development.

In May 2024, we awarded a \$134 million design and construction contract to Northern Territory company Exact Contracting to return Manton Dam to service and provide a significant boost to the water supply for the Greater Darwin region.

The project is due to be completed by mid-2026 and includes the refurbishment of the dam's intake tower, construction of a new pumping station and pipeline, and development of a new water treatment plant at Strauss.

Jointly funded by the Australian and Northern Territory governments, this strategic project is stage one of the Darwin Region Water Supply Infrastructure Program and will provide an additional 7,300 megalitres a year to the region.

We are also continuing to support the Northern Territory Government's planning for stage 2 of the program, the Adelaide River Off-stream Water Storage project, known as AROWS.

Good progress has also been made on the construction of a new pump station at the Darwin River Dam, which supplies about 85% of Darwin's water.

The \$25.4 million project is being delivered by McMahon Services. The new pump station will be hydraulically and economically more efficient, boosting water supply security and reliability for the future.

We also recognise the importance of supporting Territorians to reduce their water consumption to help secure our water future.

About 650 students from 8 Darwin schools took part in our award-winning 'That's My Water!' program in 2024. The program engages students to think about sustainable water use and inspire an interest in careers in STEM through innovation and creativity.

'That's My Water!' is delivered in collaboration with the Department of Education, with more than 5,000 students participating since it began in 2016.

In the bush, we are continuing demand management initiatives such as the rollout of smart water meters alongside leak detection, infrastructure repairs and targeted education programs.

I am proud to have been elected for a second term to the Board of Water Services Association of Australia. It is important the unique challenges of delivering safe and reliable water services in the Territory, and particularly in remote communities, informs the national water agenda.

The strengthening focus on closing the water gap for Aboriginal people and communities continued throughout 2024.

In partnership with the Northern Territory and Australian governments, Power and Water has a central role in delivering projects that will not only improve water security and quality but also enable communities to grow.

Amongst the jointly funded projects are the \$15.3 million Yuendumu water security strategy and the \$21 million Maningrida water security strategy that will deliver new water infrastructure, including bores and tanks, and upgrade existing infrastructure including reticulation and service mains.



Manton Dam return to service pipeline construction

We look forward to continuing this collaboration into 2025 and beyond, including the \$34.3 million 'Better Bores for Communities' program across 10 remote communities, and a continued focus on water source analysis to inform future projects.

Power and Water recognise the importance of engaging with, and learning from, our customers about their priorities.

When new advice on fluoride exposure was published in September 2024, the Chief Health Officer determined infants and children under 12, and pregnant women, in Alpururulam and Nyirripi should not drink tap water as a precaution. Working with the communities, we moved to supply 2 litres of drinking water a day for these customers, distributed in ways that best met the communities' needs.

We were also proud to receive the Infrastructure Project Innovation Award (Regional) at the 2024 Australian Water Awards for the innovative Laramba water treatment plant that uses ion-exchange technology to remove naturally occurring uranium from the groundwater source.

I acknowledge and thank Power and Water's team of experts for their hard work and commitment to giving our customers their best, often in challenging environments and conditions.

I am excited to continue to partner with our customers, government agencies and industry to develop and deliver new and enhanced projects and services so that Territorians have access to safe, reliable and secure drinking water, regardless of where they live.

Djuna Pollard
Chief Executive Officer,
Power and Water Corporation

Celebrating our People

2024 Australian Water Association's (AWA) Northern Territory Water Awards

Power and Water celebrated two wins at the Australian Water Association's (AWA) Northern Territory Water Awards, announced at the NT Water in the Bush Conference and Awards Dinner on 9 October 2024. The awards celebrate the achievements of AWA members in advancing leadership, innovation and infrastructure projects within the Northern Territory.

AWA Chief Executive Corinne Cheeseman praised the finalists and winners, acknowledging their remarkable contributions to overcoming water challenges in the Northern Territory.

Infrastructure Project Innovation Award (Regional) for the delivery of the Katherine PFAS Water Treatment Plant

'These award winners highlight the exceptional work being done in the Northern Territory to protect our vital groundwater sources and tackle complex issues, like PFAS contamination,' she said.

'Their leadership in finding innovative solutions demonstrates a steadfast commitment to sustainable water management. By setting new standards in environmental assessment and delivering safe drinking water, our winners are shaping a brighter future for all Australians.'

This was the second award for this project which also picked up the 2024 Engineers Australia Excellence Awards (NT) Northern Project of the Year.

Congratulations to the project delivery team of Liam Early, David Rossi, Geoff Bawden, John Chambers, Dan McIvor and Nazrul Islam.

NT Water Professional of the Year – Kylie Collins

Known for her strong leadership in water management, Kylie has driven change through advocacy, strategic collaborations, and a focus on improving essential services in remote communities.

'I'm passionate about making a difference and advocating for and implementing initiatives that address the unique challenges of service delivery across the vast expanse of the NT, and in particular in remote communities,' she said.



Power and Water CEO Djuna Pollard, Executive Director of Water Services Association of Australia Adam Lovell, Australian Water Association CEO Corinne Cheeseman and Power and Water Board Chair Peter Wilson.

'I'm grateful for the support and encouragement I have at Power and Water, and from my family. My role provides so many opportunities to have a lasting impact.'

The winners of the Northern Territory Water Awards will represent the Territory at the national AWA Awards as part of the annual water conference and exhibition, Ozwater'25, in May 2025.

Peter Cullen Water and Environment Trust Leadership Program

Liz Gadd, one of our very talented Water and Wastewater Treatment Engineers, has graduated from this competitive leadership program. The program aims to improve leadership skills through challenging experiential learning creating the next generation of water leaders. The course provides an opportunity to test your leadership skills and to provide feedback to others on their leadership styles and how they can improve.

Liz worked on challenging group assignments including:

- How the principles of subsidiarity are currently applied in Australia and what can be improved.
- How Australia's water and environment industry can effectively harness the opportunities of AI while minimising the threats.

Liz was nominated for the program by Power and Water for her excellent leadership of the Drinking Water Quality Management System. The system improvements between 2016 and 2021 have previously won an Organisational Excellence Award for Power and Water at the NT Water Awards in 2022.



Executive General Manager Water Services, Stephen Vlahovic (middle) and Senior Manager Strategic Water, Kylie Collins (second from right), collecting AWA awards at NT Water in the Bush.

Partnerships

Power and Water partnerships

Power and Water has a responsibility to provide customers with safe drinking water in accordance with sound commercial practices and its operating license through the *Water Supply and Sewerage Services Act 2000 (NT)*. Services to remote customers are delivered under the *Power and Water Corporation Act 1987 (NT)* and Indigenous Essential Services Agreement. The Northern Territory and Australian Government agencies partnering with Power and Water in protecting water quality are:

Northern Territory Health

A Memorandum of Understanding between NT Health and Power and Water Corporation for drinking water (MoU) formalises public health accountabilities and responsibilities. NT Health has important responsibilities in protecting public health under the *Public and Environmental Health Act 2011 (NT)* and other relevant legislation. The MoU defines the regulatory role of NT Health for drinking water quality in the Northern Territory and leading safe drinking water legislation under the Territory Water Plan.

Indigenous Essential Services (IES)

The delivery of water and sewerage services to remote communities is provided by Power and Water through its wholly-owned, not-for-profit subsidiary IES. Under a service level agreement, water is supplied to 72 communities with 57 communities also receiving sewerage services. In addition, 17 outstations or homelands are connected and have access to a water supply. Delivering safe drinking water is a key priority. Power and Water manages water quality through the Drinking Water Quality Management System. Based on risk, improvements are identified in our 6-year IES Statement of Corporate Intent and 10-year Asset Investment Plan. This information is used for developing funding applications through NTG departments.

Department of Housing, Local Government and Community Development (DHLG&CD)

DHLG&CD provide funding to IES through the service level agreement. For additional capital projects, IES requests funds through DHLG&CD and the Department of Treasury and Finance (DTF), which are balanced against other priorities.

Department of Lands Planning and Environment (DLPE)

Through planning, building and land management, the department facilitates sustainable economic development. The Office of Water Security sitting within DLPE, provides whole-of-government coordination across agencies, for the reform agenda inherent in the Territory Water Plan. DLPE also grant Water Extraction licences to Power and Water, where extraction occurs within water control districts.

Office of Water Security (OWS)

OWS's role is to deliver the Territory Water Plan, working with Power and Water and other partners to deliver water security for all Territorians now and into the future. Some key initiatives include; economic reform, community water infrastructure assessments, Adelaide River Off-stream Water Storage, Manton Dam Return to Service and Living Water Smart.

Department of Logistics and Infrastructure (DLI)

DLI works with community, business and government partners to regulate, construct, maintain and invest in integrated sustainable infrastructure, developments and services across the Territory. DLI has a key role in major infrastructure project delivery including the IES headworks program and is the lead agency for the delivery of the Darwin Region Water Supply Infrastructure Program, including AROWS.

Department of Agriculture & Fisheries (DAF)

DAF undertakes independent analyses of water samples at laboratories in Darwin and Alice Springs.

National Water Grid Authority (NWGA)

The NWGA is an investment fund for water infrastructure projects that ensure the long-term viability of communities and economy. The Australian Government is partnering with the Northern Territory Government to deliver water sources, pipelines, water treatment plants and other water storage, distribution and scientific solutions.

National Indigenous Australian Agency (NIAA)

NIAA funds projects aimed at helping indigenous Australians.



Joel at Voices from the Bush 2024



Ewyenper Atwatye – Power and Water hand fan
(Image credit: Jo Jamieson)



Cail and Ella at the Water in the Bush conference

Aboriginal Land Councils

The *Aboriginal Land Rights (Northern Territory) Act 1976* provides for the granting of Traditional Aboriginal land in the Northern Territory for the benefit of Aboriginal people, and for other purposes. Most of the remote communities serviced by IES are contained within land owned by land trusts established by the Act. Land trusts are formed by Traditional Owners who are typically represented by one of the four land councils. This form of land tenure is legally defined and referred to as Aboriginal land.

Executive Director Township Leasing

The Executive Director Township Leasing is also established under the *Aboriginal Land Rights (Northern Territory) Act 1976* and holds long term leases over some Townships on Aboriginal land on behalf of the Australian Government, the land council and land trust. The Executive Director also holds leases for other purposes, such as housing, over Aboriginal land in the Northern Territory.

Additional memberships and associations our people are a part of:

- **Water Services Association of Australia (WSAA)**
A peak body representing Australian and New Zealand water utilities, facilitating connections across the sector, collaboration, advocacy, working groups and knowledge sharing.
- **Australian Water Association (AWA)**
Australia's largest water network, supporting young water professionals and the water industry. AWA hosts OzWater, Australia's largest water conference and exhibition. The annual 3-day conference features a strong line-up of key note speakers, scientific and technical papers, case studies and workshops.
- **Water Industry Operators Association of Australia**
A national non-for-profit association with a primary role of facilitating the collection, development and exchange of quality information between people undertaking operational roles in the water, wastewater and recycled water industries.

- **Voices from the Bush national conference** – Jointly hosted by AWA and WSAA, the conference fosters an open dialogue on the pressing matters affecting regional and remote Australian communities.
- **NT Water in the Bush conference** – The Territory's premier annual water conference is hosted by AWA and connects water professionals, the community and industry from across Australia to share information and knowledge about the current and future state of the Territory's water and inspire positive change.



Web Resources

[Department of Health – Northern Territory](#)
[Department of Lands, Planning and Environment](#)
[Office of Water Security](#)
[Department of Logistics and Infrastructure](#)
[Department of Agriculture and Fisheries](#)
[National Water Grid Authority](#)
[National Indigenous Australian Agency](#)
[Northern Land Council](#)
[Central Land Council](#)
[Tiwi Land Council](#)
[Anindilyakwa Land Council](#)
[Water Services Association of Australia](#)
[Australian Water Association](#)
[Water Industry Operators Association of Australia](#)



Bass in the Grass



NAIDOC Week celebrations



Darwin Triple Crown Supercars

Territory Water Plan

Power and Water makes a difference to the lives of Territorians, by providing safe and reliable water services. Ensuring water security supports the well being and lifestyles of Territorians and enables economic development and growth. Effective water management creates more stable, prosperous and safe communities.

The Territory Water Plan is the Northern Territory's first whole-of-government strategic plan for water. Priority areas and actions under the plan aim to balance the needs for safe and reliable water for drinking and economic development with maintaining healthy country and ecosystems and improving liveability in the Territory.

Power and Water has a significant role to play in shaping the delivery of 6 of the 16 priority actions under the plan, where we are best placed to improve water security outcomes for all Territorians. By having an acceptable quantity and quality of water for people, economic opportunities, cultural and environmental needs, now and into the future.

- **Priority action 1** – New safe drinking water legislation – regulatory reform
- **Priority action 2** – Securing Darwin's future water supply – Manton Dam Return to Service and AROWS
- **Priority action 3** – Improved water security for remote communities – Remote Water Team
- **Priority action 5** – Government leadership on water efficiency – water demand (living water smart)
- **Priority action 11** – Contemporary water resource management legislation – regulatory reform
- **Priority action 14** – Ensure water supply and sewerage services meet customer needs – regulatory reform

Remote Water Team

Improved water security for remote communities is being delivered by the Remote Water Team, a cross-agency team with representation from multiple NTG agencies, with Power and Water playing a significant role in the delivery of 3 key pillars:

- Deliver information forums in priority communities.
- Develop and publish a prioritised infrastructure list.
- Partnering with the NWGA to fund infrastructure upgrades and accelerate delivery.

The primary intention of information forums is to address knowledge gaps, increase transparency, improve water stewardship and participation and to engage on water security more broadly for the purpose of infrastructure planning, prioritisation and demand management.

A number of informal visits were undertaken in 2023-24, at Finke, Titjikala, Hermannsburg, Yuendumu, Yuelamu, Gunyangara and Yirrkala. More water information forums are planned for 2024-25.

The NWGA and the Northern Territory Government are supporting the development of Community Infrastructure Assessments and Prioritisation framework. The project will provide an engineering analysis of essential water infrastructure for 55 remote Aboriginal communities in the Northern Territory, to better understand the essential services assets in these communities. It will also inform solutions to secure water supplies and development of a prioritisation framework, a priority program to support water security improvements including water quality outcomes. Power and Water, through the OWS, has partnered with the NWGA to secure Commonwealth contributions for a number of projects.

A total of \$37.7M has been secured from the NWGA as of 14 March 2024, for projects in Milingimbi, Yuendumu, Maningrida and Gove Peninsula (Yirrkala and Gunyangara).

A further 2 projects have been submitted for their consideration, with more in planning.



Manton Dam spillway

Water Demand

Using water sustainably protects the Territory's environmental and cultural assets, ensuring rivers, groundwater and water-dependant ecosystems remain healthy. Efficient and productive use across the water cycle maintains the Territory lifestyle.

In supporting government leadership in water efficiency, Power and Water's Demand Management team has developed a suite of non-infrastructure water efficiency resources to assist NTC agencies in meeting the targeted 20% water demand reduction by 2028. These resources include the use of smart metering to identify anomalous water use and leaks, the development of a comprehensive irrigation user guide and a native garden toolkit to encourage the transition from water intensive turf to native gardens as a low/no water alternative.

Using water sustainably protects the Territory's environmental and cultural assets, ensuring rivers, groundwater and water-dependant ecosystems remain healthy.

Water Security

Manton Dam Return to service

Work is underway to return Manton Dam to service as an operational drinking water supply for the Darwin region.

After years in care and maintenance, Power and Water is reviving Manton's supply to improve Darwin's water security and support growth in the region.

The \$190 million project is part of the Northern Territory Government's Darwin Region Water Supply Infrastructure Program and is being delivered over 2 years and targeting completion in 2026.

The scope of work involves:

- upgrades to the existing inlet tower,
- a new pumping station and 22 km of 600 mm steel pipe; and
- the development of a water treatment plant at Strauss.

Prior to the onset of the 2024-25 wet season the project made great progress including:

- 100% of pipe materials delivered
- 60% of pipeline constructed
- 60% of intake tower upgrade completed
- clearing completed at pumping station site and Strauss water treatment plant site
- washwater tank completed, and steel work erected for the water treatment plant.

Manton Dam will continue to be a recreational destination for the Darwin community to maintain the Territory lifestyle. Power and Water will apply additional treatment measures to ensure the dam meets stringent drinking water quality standards. A recreation management plan for the reservoir is being developed in collaboration with the Northern Territory Government.

The planning, development and implementation of the project has demonstrated Power and Water's strong commitment to effective stakeholder engagement, through regular engagement with recreational user groups including the Amateur Fishermen's Association of the Northern Territory, Litchfield Council, and landowners and stakeholders downstream on the Manton River.

Strauss Water Treatment Plant

Power and Water is working on a plan to use contemporary treatment solutions to improve water quality, reduce pathogen risks and reduce

the occurrence of discolored water being supplied to the Darwin region. The Strauss Water Treatment and Storage Facility will be strategically located at the intersection of transmission mains from Darwin River Dam and the planned transmission mains from Manton Dam and later, AROWS.

Stage 1 of the Strauss Water Treatment Plant is being designed with the Manton Dam return service project, so that the water from Manton Dam can be filtered.

Future expansion of the treatment is being planned for in stage 2, as part of the Darwin Region Water Supply Infrastructure Program in preparation for AROWS.

Adelaide River Off-stream Water Storage (AROWS)

The AROWS project, part of the Northern Territory Government's Darwin Region Water Supply Infrastructure Program, is an exciting, innovative water supply project that will provide long-term water security for Darwin and enabling water for economic development.

Located north of Lake Bennett, AROWS will take advantage of a natural geological feature that forms a basin shape next to the Adelaide River. Four dam walls will be constructed at low points in the ridgeline to complete the storage reservoir.

Water will be extracted for AROWS from the Adelaide River during the wet season in accordance with rules set by the environmental regulator designed to protect the river ecology. Water stored in the AROWS basin will then be pumped to the Strauss Water Treatment Plant for treatment and distribution.

Importantly, AROWS is a sustainable large scale water storage project that provides long term water security for Darwin without the need for an instream dam that would impede flows in the Adelaide River.

Concept design for AROWS is underway, and the environmental referral has recently been submitted to the Northern Territory EPA for public consultation: [Adelaide River Off-stream Water Storage \(AROWS\) - NTEPA](#). Power and Water is working closely with the Northern Territory Government to progress the development of the AROWS project for the benefit of current and future generations of Territorians.





Water source risks

Managing water security across 72 remote communities and 1.3 million square kilometres of the Northern Territory presents a critical and challenging task for Power and Water. In addition to addressing water quality and infrastructure risks, planners face a substantial challenge of managing the risk of water source failure.

The Northern Territory's vast area encompasses communities situated across diverse and often difficult geographic, geological and hydrological environments. These communities depend on water sources that differ significantly in both quantity and quality and face various pressures and risks. Many remote areas experience extreme water scarcity. In these areas, groundwater (aquifers) serve as the primary water source, but its capacity ('sustainable yield') is often restricted or uncertain, with very few alternative options available.

Failure of a community's water source could have severe consequences. To manage this risk, Power and Water conducts a range of activities, including an annual portfolio-wide assessment of water source failure risk across communities. This assessment offers a broad overview of potential failure risks, guiding various initiatives, such as drilling programs and water loss reduction efforts, to enhance water security and support community growth.

In 2024, the overall risk of water source failure has improved in most communities.

This improvement is due primarily to 2 factors: above-average rainfall and recharge over the past 2 years across much of the Northern Territory, and Power and Water's investments in advanced groundwater monitoring, comprehensive hydrogeological assessments, drilling programs, and other risk mitigation measures.

With funding support from the NWGA (\$27.8M) and the Northern Territory Government (\$6.5M), the Better Bores for Communities project (phase 1 package) aims to improve water security for 10 First Nations communities. The project includes bore drilling or equipping projects in the following communities:

- Atitjere
- Wugularr (Beswick)
- Finke
- Gapuwiyak
- Haasts Bluff
- Hermannsburg
- Robinson River
- Titjikala
- Waruwu
- Yuelamu

These communities experience water availability, quality and/or reliability issues, resulting in the communities having a high to extreme risk of water source failure. The project will bring 7 communities closer to water security by progressing investigations to secure water supply. This will involve drilling bores and testing water source viability.

If the drilled bores are viable, they may be equipped in a later phase of works. Three communities will have previously drilled bores equipped. This includes construction of mains and supporting electrical work to connect the bores to the water supply systems. This will directly result in a more reliable and secure water supply for these communities.

The Northern Territory's vast area encompasses communities situated across diverse and often difficult geographic, geological, and hydrological environments.

Customer Satisfaction

Urban Centres

Monitoring customer observations and complaints can provide valuable information on potential problems that may not be identified through performance monitoring of the water supply system.

Customers usually log observations and concerns on water quality through our call centre, which is attended as a priority by our field technicians. The majority of these observations are related to discoloured water, due to repairs in the local network or weather related impacts on the broader network. These usually clear up naturally or are assisted by our operators flushing the water supply system.

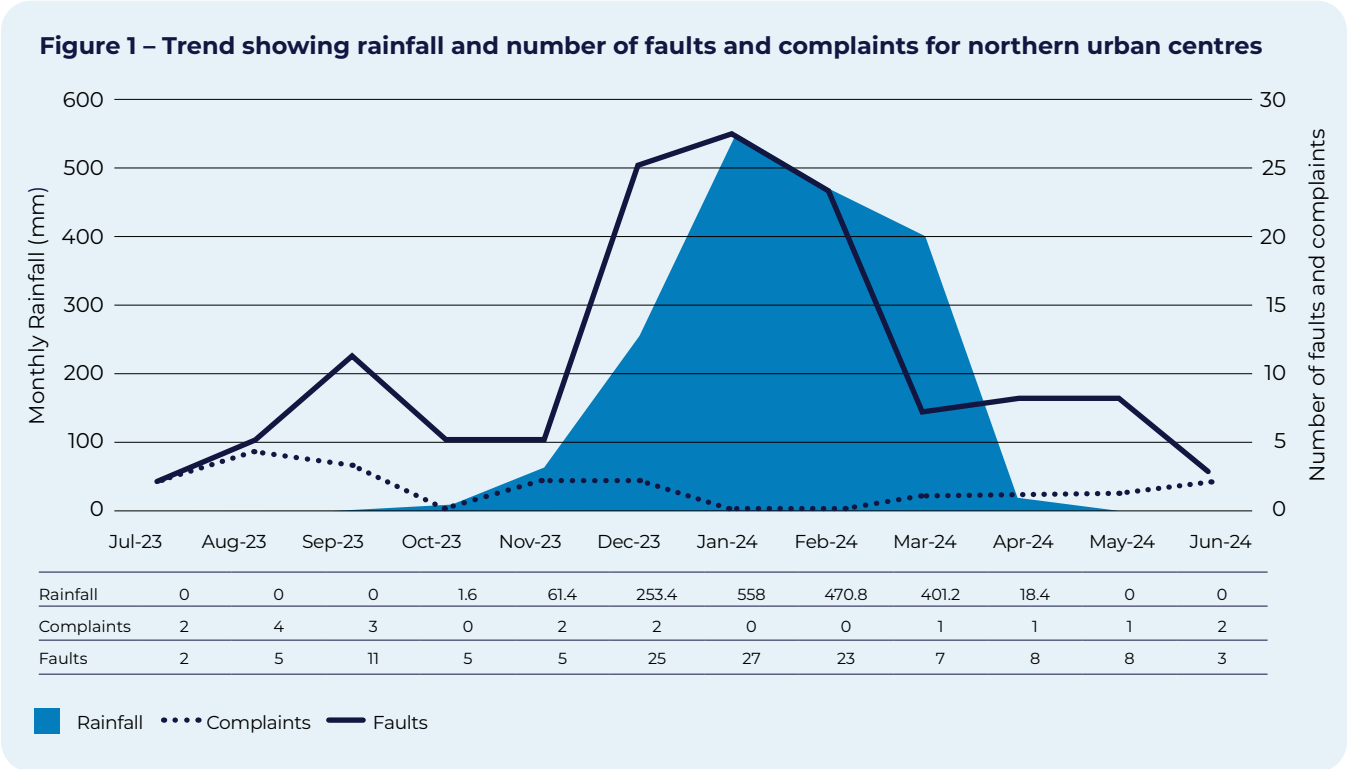
Where a customer raises a complaint, it is generally around the aesthetic quality of the water such as appearance, taste or odour. Typically, complaints relate to issues observed more than once, which are investigated by our water quality team. Water samples may be collected for analysis and results reported back to the customer. Like other Australian drinking water providers, Power and Water records all water quality complaints and reports them to the National Water Commission for the National Performance Report.

For 2023-24 there were 129 water quality faults and 18 complaints reported. The majority of these complaints were recorded in the Darwin region, with one in Alice Springs.

The trend for faults in **Figure 1** shows that most were recorded during the wet season, corresponding with increased rainfall. This is expected due to de-stratification, where layers within the dam, previously separated by temperature and density, mix suddenly, resulting in changed water quality.

For the Darwin River Reservoir, de-stratification occurs once the surface temperature cools during a monsoonal event or when dry season trade winds and cool nights arrive. This can result in discoloured water throughout the reservoir and distribution network. Lower quality anoxic water (no dissolved oxygen) from the bottom of the reservoir mixes with surface water and is then drawn into the supply. Typically when iron and manganese enter the distribution system and oxidise, they precipitate out of solution creating discoloured water. Impacts are aesthetic and usually short term. Improvements are expected with Stage 2 of the Strauss water treatment plant and AROWS project.

Notifications about de-stratification events are regularly posted on our website, Facebook and X (previously Twitter) to keep customers informed.





Jessica – customer service representative

Remote Communities

In 2024 Power and Water introduced a new dedicated number (1800 245 091) for customers in remote communities to register faults and complaints. Single complaints were registered in Wurrumiyanga and Peppimenarti.

Notifications about outages are regularly posted on our website and Facebook to keep customers informed.

Like other Australian drinking water providers, Power and Water records all water quality complaints and reports them to the National Water Commission for the National Performance Report.

Demand Management

Urban Centres

The Living Water Smart Program continues to support economic growth in the Darwin region by promoting sustainable water demand, with more than 500 ML of water savings achieved during 2023-24.

The school education program, That's My Water! continues to contribute to reducing water consumption and promoting sustainability through increasing awareness and instilling positive behaviors and attitudes. In the Darwin region, 8 Schools and 500 students engaged in a collaborative program and elsewhere across the Northern Territory, schools had the opportunity to take advantage of the online resources to deliver the messages with Power and Water's support.

A School Water Efficiency Pilot Program was completed and resulted in 15% water savings across participating schools. 28% of these schools saved 20% or more compared to their 5 year average.

A project to install smart meters on Department of Housing, Local Government and Community Development properties commenced in 2023-24 and has already resulted in a large number of leaks being found and fixed.

Remote Communities

Twelve of the 72 remote communities have either an extreme or very high inherent risk of water source failure. Demand management has helped to prevent all of these remote communities from experiencing water source failure over the past 12 months.

Network leak detection was completed in Numbulwar, Yuendumu and Yuelamu, resulting in the identification and subsequent repair, saving tens of thousands of litres of water.

Learning experiences derived from the 'That's My Water!' Bush Schools water efficiency education program were conducted in Engawala and Numbulwar. The program aims to reduce water demand in communities by improving water stewardship and educating and inspiring the next generation of water users to save water, report leaks and to be agents of change within their school and the broader community.

The school education program, That's My Water! continues to contribute to reducing water consumption and promoting sustainability through increasing awareness and instilling positive behaviors and attitudes.



Drinking Water Quality Report 2024

Power and Water's Drinking Water Quality Policy Statement commits to providing safe drinking water to our customers in line with the health and aesthetic values set out in the Australian Drinking Water Guidelines (ADWG). This annual drinking water quality report is published in accordance with the Memorandum of Understanding (MoU) with NT Health. The report provides a transparent assessment of drinking water quality in line with the ADWG for our customers no matter where they live.

The annual drinking water quality report assesses water quality for a total of 91 potable water supply schemes:

- 5 major urban centres
- 14 minor urban centres; and
- 72 remote communities.

Restricted services are also made available to additional customers, outstations and town camps. These are essentially providing access to a water supply by agreement e.g. non-potable agreement, alternative supply arrangement, or as stipulated in the IES agreement. For technical reasons, such as a customer's location, the connection point on the network and treatment limitations, a safe potable water supply cannot always be guaranteed.

This report is split into three sections:

Section 1 – Framework for Drinking Water Quality Management:

- Australian Drinking Water Guidelines
- Applying the ADWG Framework
- Preventative Risk Based Approach
- The Multiple Barrier Approach
- Verification of Drinking Water Quality
- Understanding the parameters

Section 2 – Drinking Water Quality and Performance:

- Part A Urban Centres
- Part B Remote Communities

Each part contain 2 components:

- Your Drinking Water Profile
- Your Drinking Water Characteristics

Section 3 – Assessment Trends and Water Quality Improvement Initiatives

- Health Assessment Trends
- Aesthetic Assessment Trends
- Box Plot Trends
- Water Quality Improvement Initiatives

Followed by appendices:

Appendix A: Description of Data

Appendix B: Urban Centres Data Assessments

Appendix C: Remote Communities Data Assessments



Senior Project Manager, Liam

Section 1

Framework for Drinking Water Quality Management



Australian Drinking Water Guidelines

The Australian Drinking Water Guidelines (ADWG) are the primary reference on drinking water quality in Australia, providing a framework for the good management of drinking water supplies. The implementation of the framework assures safety at point of supply.

The ADWG are published by the National Health and Medical Research Council in collaboration with the Natural Resource Management Ministerial Council. The ADWG are developed based on the best available scientific evidence regarding both the health and aesthetic aspects of drinking water quality.

The guidelines do not define mandatory legally enforceable standards for drinking water quality. Implementation of the guidelines is at the discretion of each State and Territory. No minimum standards for drinking water quality have been set for licensed areas pursuant to Section 45 of the *Water Supply and Sewerage Services Act 2000 (NT)* or for areas not subject to the Act. However an MoU between Northern Territory Health, Power and Water and IES for drinking water adopt the ADWG as the primary reference for quality and management of drinking water.

The ADWG describe a preventative, risk based approach that encompasses all steps in water supply, from catchment to consumer.

The ADWG Framework for Management of Drinking Water Quality defines this preventative, integrated approach.

The framework outlines 4 general areas for ensuring the provision of safe drinking water:

1. organisational commitment to drinking water quality management
2. system analysis and management
3. supporting requirements
4. review processes for continual improvement.

Across these 4 areas, the framework outlines 12 elements considered good practice for the integrated management of drinking water supplies.

In 2024 a review and benchmarking of Power and Water's drinking water quality management system against the 12 elements found Power and Water had strong performance when benchmarked against other water utilities across Australia.

Power and Water is considered to demonstrate national leading practice in:

1. Management commitment and governance of drinking water quality management.
2. Water quality monitoring program.
3. Annual reporting on drinking water quality.
4. Aspects of the scheme or risk assessment processes.

Together, these elements comprise a proactive approach for ensuring safe and reliable drinking water to the community. Rolling revisions (updates) ensure the ADWG represent the latest scientific evidence on good quality drinking water.

All assessments made in this report are made against ADWG 6, September 2011, updated in December 2024. New versions of the guidelines are adopted in a planned way with an agreed transition date in accordance with the MoU.

Power and Water has provided input to the Water Services Association of Australia's coordinated industry response to the NHMRCs invitation for feedback, on potential draft guidelines for public consultation. The proposed changes relate to PFAS, bismuth, silicon, selenium, lead and manganese. We are preparing for guideline changes anticipated in 2025, in consultation with NT Health in accordance with the MoU.

Applying the ADWG Framework

Power and Water apply the Framework for Management of Drinking Water Quality in accordance with the ADWG.

Table 1 – Framework for management of drinking water quality

ADWG elements	Drinking Water Quality Management System
1. Commitment to drinking water quality	• Power and Water's Drinking Water Quality Policy is in place stating the commitment to providing safe drinking water to consumers in line with the health and aesthetic values set out in the Australian Drinking Water Guidelines and to work towards achieving full compliance. The policy statement was reviewed and approved by the Board in 2024. • Power and Water collaborates with various stakeholders for the provision of safe drinking water to all customers and the protection of public health.
2. Assessment of the drinking water supply system	• A Barrier Risk Assessment for all 91 schemes is completed on a 3-year basis. • Water Safety Assessments, have been completed for all 91 schemes, inclusive of on ground HBT assessment.
3. Preventive measures for drinking water quality management	• Multiple barriers from catchment to meter exist across the water supply system. • Monitored critical limits are in place for critical control points. • Maintaining chlorine free residual through the distribution system, which provides protection against further contamination and limits regrowth problems, is a key focus for Power and Water.
4. Operational procedures and process control	• Water quality procedures are in place to support reliable achievement of the target criteria, critical limits and water quality objectives. • Supervisory Control and Data Acquisition (SCADA) is used to allow continuous monitoring and control of water assets and infrastructure. SCADA is fully implemented to manage water quality in urban centres and is being progressively implemented across remote communities (subject to funding). • Trigger Action Response Plans are established for all schemes. • Processes are in place to make sure that water infrastructure procurement complies with Australian Standard / New Zealand Standard 4020: Testing of products for use in contact with drinking water.
5. Verification of drinking water quality	• An annual drinking water quality monitoring program is developed and delivered in consultation with NT Health. • Water samples collected are submitted to laboratories that are accredited by the National Association of Testing Authorities or that are able to meet reporting limits agreed to with NT Health. • Drinking water quality data is managed systematically in the Envirosys database with trending and alerting functions. • Processes are in place to capture customer feedback and ensure appropriate responses are developed and delivered to customers.

ADWG elements	Drinking Water Quality Management System
6. Management of incidents and emergencies	• A Drinking Water Quality Incident Management Procedure guides Power and Water through all water quality incidents. • The Notification Protocol for Drinking Water Quality Incidents ensures NT Health is informed of critical events. • All high risk events are investigated and reviewed quarterly to ensure continuous improvement.
7. Employee awareness and training	• Ongoing training in water quality awareness is delivered for employees with Fluoride training carried out in 2023, with UV training scoped in 2024 and training scheduled for delivery in 2025. • Service delivery employees complete certification through the National Water Training Package. • Utilities Support Contract Worker (USCW) training is specified in our contracts.
8. Community involvement and awareness	• The Power and Water website contains information on water quality, including the Drinking Water Quality Policy statement, and information on water treatment methods and Annual Drinking Water Quality Reports. • Participate in interagency remote information forums under the Territory Water Plan. • The That's My Water! education program continued to be rolled out in urban and remote schools, to promote the safe and sustainable use of water.
9. Research and development	• Power and Water collaborates with universities, water utilities and external research providers to generate new knowledge and provide solutions to technology challenges in the NT.
10. Documentation and reporting	• The Annual Drinking Water Quality Report details performance against the ADWG and provides an objective account of the quality of water supplied to customers. • Power and Water manages documentation through the Drinking Water Quality Management System, document control framework, and an electronics record management system.
11. Evaluation and audit	• Independent audits of the Drinking Water Quality Management System are undertaken 3 yearly in accordance with the Safe Water Plan 2023-25. • Good Practice Guide audits of schemes are undertaken as actions under the water quality improvement plan or at design review. • Long term water quality is trended in the Envirosys system and reviewed as a component of the Barrier Risk Assessment. • Technical committee reviews drinking water quality events quarterly.
12. Review and Continual improvement	• The Drinking Water Security Steering Committee, which is chaired by the Chief Executive Officer, provides oversight of the Drinking Water Quality Management System. • The 3 year Safe Water Plan outlines our commitments to continuous improvement of our Drinking Water Quality Management System. • Power and Water delivered year 2 of the Safe Water Plan for 2023-25 that guides the drinking water quality management system improvements over a 3 year period.

Preventative Risk-Based Approach

Power and Water uses a suite of preventative risk assessments to assess the effectiveness of our management of the safety of drinking water supply systems.

These are shown in **Figure 2** below:

Figure 2 – Hierarchy of controls



Barrier Risk Assessment

The Barrier Risk Assessment (BRA) was completed in 2024 on all water supply schemes. The assessment looks at the sufficiency of barriers in place to reduce likelihood of hazards entering the final drinking water supply. There are 10 key hazards that are assessed that relate to either real or potential human health and aesthetic impacts. The hazards include pathogens – enteric and opportunistic, chemicals and aesthetics. The assessment is a structured, systematic way to assess water quality risk that provides a documented defensible record of priorities for water quality planning. The results allow the highest risks to be extracted and identified into Water Safety Plans and are used to plan improvements.

A component of the BRA uses current best practice for managing health risks from microorganisms found in drinking water. Power and Water pre-emptively adopted Health Based Targets in 2018.

Health Based Targets (HBT)

The guiding principle in the ADWG is:

“the greatest risk to consumers of drinking water are pathogenic organisms”

HBT provides a quantifiable way to assess pathogen risk.

The NHMRC revised the ADWG in September 2022 to include a microbial health-based target of 1×10^{-6} Disability Adjusted Life Years (DALYs) per person per year (pppy). This tolerable level of risk is the gastrointestinal disease in the community that can be attributed to drinking water supplied.



Alice Springs, Roe Creek Bore T1

HBT guidance was introduced in the ADWG to promote a preventative approach to managing risks from enteric pathogens, to ensure that drinking water treatment is proportional to the level of risk of contamination in the source water. That is, source water from heavily impacted catchments will require a higher level of treatment in comparison to source water from protected catchments in order to achieve microbial safe drinking water.

Specifically, the approach involves the following stages:

1. Completing a **source water assessment**.
2. Completing a **water treatment assessment**.
3. Reviewing the **water safety assessment** by comparing the source water assessment with the water treatment assessment.

The water safety assessment involves comparing the log reduction required from the source assessment with the log reduction values claimable from the water treatment assessment.

- Where treatment log reduction values exceed the source log reduction required then the HBT of 1 μ DALY is achieved.
- Where treatment log reduction values are less than the source log reduction required, then the HBT of 1 μ DALY is not achieved.

Where there is a shortfall, a water safety improvement plan is developed to address the shortfall.

The HBT assessment is considered along a water safety continuum (**Figure 3**).

Figure 3 – HBT Water Safety Continuum



The HBT process also supports the framework for the ADWG by:

1. identifying key risks
2. ensuring multiple barriers are in place.

Chlorine disinfection has the greatest impact on drinking water safety. It is highly effective against bacterial pathogens, and greatly reduces the numbers of viral and most protozoan pathogens. For this reason, ensuring the reliability of existing disinfection barriers continues to be of the utmost priority for the protection of public health.

This approach moves away from the reliance solely on the presence/absence of indicator microorganisms to verify safety of supply, recognizing that reliance on retrospective analysis of minute fractions of the total volume of water supplied has limitations with assuring the microbial safety of supply to customers at all times.

Power and Water has completed HBT assessments for all 91 drinking water supplies. At this time 11 of 19 urban supplies and 61 of 72 remote supplies meet HBT.

HBT assessments are an operational benchmark rather than a pass/fail metric requiring immediate compliance with tolerable health targets expected under the ADWG. Instead it should be used to prioritise improvements in pathogen removal, depending on the water source category. It recognises that it will be more challenging for some drinking water suppliers to meet this target, particularly when servicing regional and remote areas.

Good Practice Guide Assessment

The Good Practice Guide to Operation of Drinking Water Supply Systems (GPG), developed in 2015 and revised in 2020, provides guidance on how to practically implement microbial HBTs within water treatment plants. It provides a concise reference on the requirements for optimising processes that are used to produce microbially-safe drinking water. The guide was co-produced by Water Research Australia (WRA) and WSAA and is the companion document to the WSAA HBT Manual.

In effect, 3 core documents have formed the fundamental framework we utilise to achieve microbially-safe drinking water:

- **ADWG** – risk management framework.
- **WSAA Health Based Targets Manual** – treatment objectives required to achieve safe drinking water; that has since been formally integrated into the ADWG.
- **GPG** – advice on how to achieve the required treatment objectives.

The GPG focuses on optimisation, management and control of existing water supply systems. It allows water suppliers to identify where there are shortfalls in their systems and develop improvement plans to fill these gaps. The guide covers a range of treatment types and also covers generic aspects such as extraction, operations, distribution and information management. It provides specific advice on the required, supporting and desirable measures pertinent to each aspect. This in turn provides the hierarchy or prioritisation of measures to ensure microbially-safe drinking water.

Red – a required measure that must be carried out to effectively manage the risks to the water supply.

Amber – a supporting measure for one or more of the required measures.

Green – a desirable measure.

Some GPG measures need to be considered at the design phase i.e. during initial optimisation of a treatment plant or upon design review, while others require regular assessment and reporting. These assessment intervals are also defined against each measure in the GPG.

Chlorine disinfection has the greatest impact on drinking water safety. It is highly effective against bacterial pathogens, and greatly reduces the numbers of viral and most protozoan pathogens.



The Multiple Barrier Approach

The multiple barrier approach adopted by Power and Water requires ***‘the drinking water system must have, and continuously maintain, robust multiple barriers appropriate to the level of potential contamination facing the raw water supply’***. It is a guiding principle of the ADWG framework and universally recognised as the foundation for ensuring safe drinking water.

The strength of multiple barriers is that failure of one barrier may be compensated for by the remaining barriers, minimising the likelihood of contaminants passing through the entire treatment system.

The first barrier for the supply of safe drinking water is source protection. Advocating for the primacy of drinking water quality over other land uses is a key component of Power and Water's Drinking Water Quality Policy. Implementing effective measures to protect source waters from contamination avoids the need for expensive, complicated water treatment solutions.

Power and Water also maintains strict standards for assets used to supply customers to maintain a closed and protected system. Our Development Services team work with property developers to ensure appropriate materials and methods of construction are used for new assets that are gifted to Power and Water, for example in a new subdivision.

Backflow prevention forms a final barrier at the point of supply, protecting our treated drinking water from undesirable reverse flow from a potentially contaminated source. Backflow can occur when

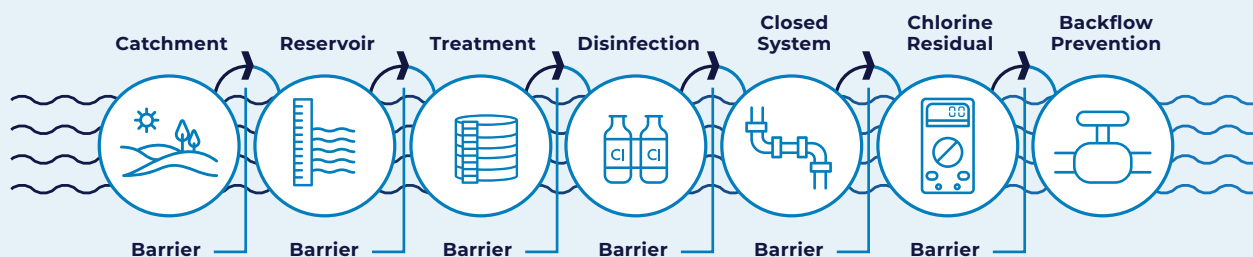
there is pressure differential between the Power and Water network and a customer's plumbing. Pressure differentials can arise from a loss of network pressure due to a main break, maintenance shut down, or if there is a large draw on the network, such as during a firefighting event.

Backflow can also occur when a cross-connection is made with bores, tanks, pressure pumps, and other equipment on the customer's side of the water connection.

Water treatment and disinfection

In conjunction with other barriers to protect the water source, chlorination is a vital barrier to microbiological contamination. Chlorine is a preferred disinfectant, which is very effective at killing bacteria, and reasonably effective at inactivating viruses and many protozoa. Maintaining a residual chlorine level throughout the distribution system can provide protection from contamination after treatment and limit regrowth problems.

Figure 4 – A typical multiple barrier system



From catchment to consumer multiple barriers to ensure safe drinking water



Quinton performing backflow prevention testing

Additional water treatment

In addition to the potential for microbiological contamination, the interaction between water stored for long periods in deep aquifers and the surrounding geology can result in a wide range of naturally occurring minerals and deposits being present in the water. Physical and chemical characteristics may exceed ADWG health or aesthetic guidelines in some communities.

Power and Water currently operates 9 advanced water treatment plants:

In the major and minor urban centres:

- Biological treatment (removal of iron and manganese) in Adelaide River.
- pH correction and mineral balancing in Borroloola.
- PFAS and conventional water treatment in Katherine.
- Reverse osmosis (membrane) filtration in Yulara.

In the remote communities:

- Three EDR (electrodialysis reversal) plants in;
 - > Ali Curung
 - > Kintore and
 - > Yuelamu.
- Iron and manganese filtration in Bulla.
- Ion exchange in Laramba.

Water quality barriers are shown in **Table 2** for urban centres and in **Table 3** for remote communities.

Table 2 – Water quality barriers in urban centres

Community	Source Water	Protected Catchment	Treatment	Disinfection	Fluoridation	Calgon
Adelaide River	GW	no	biological	sodium hypochlorite	no	no
Alice Springs	GW	yes	nil	chlorine gas	naturally occurring fluoride levels above 0.5 mg/L	no
Batchelor	GW	no	nil	sodium hypochlorite	no	no
Borroloola	GW	yes	pH correction	chlorine gas	no	no
Cox Peninsula	GW	yes	nil	sodium hypochlorite & UV	no	no
Daly Waters	GW	no	nil	sodium hypochlorite	no	no
Darwin	GW & SW	no	nil	chlorine gas & UV*	fluoride added to water supply	no
Elliott	GW	no	nil	sodium hypochlorite & UV	naturally occurring fluoride levels above 0.5 mg/L	yes
Gunn Point	GW	yes	nil	sodium hypochlorite	no	no
Katherine	GW & SW	no	IX (GW) & conventional (SW)	chlorine gas	fluoride added to water supply	yes
Kings Canyon	GW	yes	nil	sodium hypochlorite	naturally occurring fluoride levels above 0.5 mg/L	no
Larrimah	GW	yes	nil	sodium hypochlorite	no	no
Mataranka	GW	no	nil	chlorine gas	no	no
Newcastle Waters	GW	no	nil	sodium hypochlorite	naturally occurring fluoride levels above 0.5 mg/L	no
Pine Creek	GW	no	nil	chlorine gas	naturally occurring fluoride levels above 0.5 mg/L	no
Tennant Creek	GW	no	nil	chlorine gas	naturally occurring fluoride levels above 0.5 mg/L	no
Ti Tree	GW	yes	nil	sodium hypochlorite	naturally occurring fluoride levels above 0.5 mg/L	no
Timber Creek	GW	yes	nil	chlorine gas	naturally occurring fluoride levels above 0.5 mg/L	no
Yulara	GW	yes	RO	chlorine gas	no	no

*Only for one bore

GW	Groundwater
SW	Surface Water
nil	Water source does not require additional water treatment
biological	Sand filtration with Iron fixing bacteria for removal of Iron
conventional	Conventional water treatment (Coagulation, Flocculation and Filtration)
filtration	Process to remove contaminants
RO	Reverse Osmosis filtration
UV	Ultraviolet Disinfection
IX	Ion Exchange (IX) targeting removal of PFAS (poly-fluoroalkyl substances)
Calgon	Water Softener to reduce the impact of high hardness

Table 3 – Water quality barriers in remote communities

Community	Source Water	Protected Catchment	Treatment	Disinfection	Chlorine Analyser	Fluoridation	Calgon
Acacia Larrakia	GW	yes	nil	sodium hypochlorite	yes	no	no
Ali Curung	GW	yes	EDR	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Alpurrurulam	GW	yes	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	yes
Amanbidji	GW	yes	nil	sodium hypochlorite	yes	no	no
Amoonguna	GW	yes	nil	sodium hypochlorite	no	no	no
Ampilatwatja	GW	yes	nil	sodium hypochlorite	no	no	yes
Angurugu	GW	No	nil	chlorine gas	yes	fluoride added to water supply	no
Areyonga	GW	yes	nil	sodium hypochlorite	yes	no	no
Atitjere	GW	yes	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Barunga	GW	yes	nil	sodium hypochlorite	no	no	no
Belyuen	GW	yes	nil	sodium hypochlorite	yes	no	no
Binjari	GW	yes	nil	sodium hypochlorite	no	no	no
Bulla	GW & SW	no	filtration	UV & sodium hypochlorite	yes	naturally occurring fluoride levels above 0.5 mg/L	no
Bulman	GW	yes	nil	sodium hypochlorite	no	no	no
Canteen Creek	GW	no	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Daguragu	GW	no	nil	sodium hypochlorite	no	no	no
Engawala	GW	no	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Finke	GW	yes	nil	sodium hypochlorite	no	no	no
Galiwinku	GW	no	nil	chlorine gas	Yes	no	no
Gapuwiyak	GW	yes	nil	sodium hypochlorite	no	no	no
Gunbalanya	GW	yes	nil	chlorine gas	yes	no	no
Gunyangara	GW	yes	nil	sodium hypochlorite	yes	no	no
Haasts Bluff	GW	yes	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Hermannsburg	GW	yes	nil	sodium hypochlorite	no	no	no
Imangara	GW	yes	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Imanpa	GW	yes	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no

Community	Source Water	Protected Catchment	Treatment	Disinfection	Chlorine Analyser	Fluoridation	Calgon
Jilkminggan	GW	no	nil	sodium hypochlorite	yes	no	no
Kalkarindji	GW	no	nil	chlorine gas	no	no	no
Kaltukatjara	GW	yes	nil	sodium hypochlorite	no	no	no
Kintore	GW	no	EDR	sodium hypochlorite	no	no	no
Kybrook Farm	GW	yes	nil	sodium hypochlorite	yes	naturally occurring fluoride levels above 0.5 mg/L	no
Lajamanu	GW	yes	nil	sodium hypochlorite	yes	no	no
Laramba	GW	yes	IX	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Maningrida	GW	yes	nil	chlorine gas	yes	fluoride added to water supply	no
Manyallaluk	GW	yes	nil	sodium hypochlorite	no	no	no
Milikapiti	GW	yes	nil	sodium hypochlorite	yes	no	no
Milingimbi	GW	yes	nil	sodium hypochlorite	no	no	no
Milyakburra	GW	yes	nil	sodium hypochlorite	no	no	no
Minjilang	GW	yes	nil	sodium hypochlorite	no	no	no
Minyerri	GW	yes	nil	sodium hypochlorite	yes	no	no
Mt Liebig	GW	yes	nil	sodium hypochlorite	yes	naturally occurring fluoride levels above 0.5 mg/L	no
Naiuiyu	GW	yes	nil	sodium hypochlorite	yes	no	no
Nganmarriyanga	GW	yes	nil	sodium hypochlorite	no	no	no
Ngukurr	GW	yes	nil	chlorine gas	yes	no	no
Nitjpurru (Pigeon Hole)	GW	yes	nil	sodium hypochlorite	no	no	no
Nturiya	GW	yes	nil	UV	no	naturally occurring fluoride levels above 0.5 mg/L	no
Numbulwar	GW	no	nil	chlorine gas	yes	no	no
Nyirripi	GW	yes	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Papunya	GW	yes	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Peppimenarti	GW	yes	nil	sodium hypochlorite	yes	naturally occurring fluoride levels above 0.5 mg/L	no
Pirlangimpi	GW	yes	nil	UV & sodium hypochlorite	yes	no	no
Pmara Jutunta	GW	yes	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no

Community	Source Water	Protected Catchment	Treatment	Disinfection	Chlorine Analyser	Fluoridation	Calgon
Ramingining	GW	yes	nil	sodium hypochlorite	yes	no	no
Rittarangu	GW	yes	nil	sodium hypochlorite	yes	no	no
Robinson River	GW	no	nil	UV & sodium hypochlorite	yes	naturally occurring fluoride levels above 0.5 mg/L	no
Santa Teresa	GW	yes	nil	sodium hypochlorite	no	no	no
Tara	GW	yes	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Titjikala	GW	no	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Umbakumba	GW	yes	nil	sodium hypochlorite	yes	fluoride added to water supply	no
Wadeye	GW	yes	nil	chlorine gas	yes	fluoride added to water supply	no
Wallace Rockhole	GW	yes	nil	sodium hypochlorite	yes	naturally occurring fluoride levels above 0.5 mg/L	no
Warruwi	GW	no	nil	sodium hypochlorite	yes	no	no
Weemol	GW	no	nil	sodium hypochlorite	no	no	no
Willowra	GW	yes	nil	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Wilora	GW	yes	nil	UV	no	naturally occurring fluoride levels above 0.5 mg/L	no
Wugularr (Beswick)	GW	yes	nil	sodium hypochlorite	no	no	no
Wurrumiyanga	GW	yes	nil	chlorine gas	yes	fluoride added to water supply	no
Wutunugurra	GW	yes	nil	sodium hypochlorite	no	no	no
Yarralin	GW	yes	nil	sodium hypochlorite	yes	no	no
Yirrkala	GW	yes	nil	sodium hypochlorite	yes	no	no
Yuelamu	GW	yes	EDR	sodium hypochlorite	no	naturally occurring fluoride levels above 0.5 mg/L	no
Yuendumu	GW	yes	nil	sodium hypochlorite	yes	naturally occurring fluoride levels above 0.5 mg/L	no

GW	Ground water
SW	Surface water
nil	No additional treatment
filtration	Greensand filtration
UV	Ultraviolet Disinfection
EDR	Electrodialysis reversal
IX	Ion exchange (IX), targeting the removal of uranium
Calgon	Water Softener to reduce the impact of high hardness

Verification of Drinking Water Quality

Power and Water conducts a comprehensive drinking water quality verification program to assess the overall performance of the system and to ensure the ultimate quality of drinking water supplied to customers is safe. This entails monitoring of drinking water quality, verification of the data and assessing customer satisfaction.

The benefits of a robust verification process are that it provides:

- a useful indication of problems within the water supply system (particularly the distribution network) and necessity for any immediate short-term corrective actions or incident and emergency response.
- confidence for customers and regulators regarding the quality of water supplied.

Power and Water monitors a comprehensive range of parameters including microbial, physical, chemical and radiological and aesthetic characteristics to assess water quality against ADWG.

Water quality monitoring

Power and Water's drinking water quality monitoring program is developed in consultation with NT Health and approved by the Chief Health Officer. This incorporates a comprehensive description of the water quality monitoring to be undertaken and inclusive of all communities.

The program details the locations of water sampling points, the frequency of sampling, the types of samples to be collected, specifies sample preservation and bottle requirements and which accredited laboratories will be used to perform the water quality analysis.

The extensive monitoring program requires the collection of more than 8,700 operational and verification samples across the Northern Territory. Remote community water samples are primarily collected by USCW and transported back to Darwin or Alice Springs by light aircraft.

Operational monitoring

Operational monitoring is used to trigger immediate short-term corrective actions or to inform long term planning and evaluations. Source water and treatment performance monitoring are important components of operational monitoring as they provide an indication of treatment and disinfection performance. Detailed studies and investigations help increase the understanding of the drinking water quality for each supply system. The extensive data and information from our operational monitoring program is used internally and is not reported here.

Verification (compliance) monitoring

Verification monitoring of water quality parameters is a final check that barriers and preventative measures implemented to protect public health are working effectively.

Verification data measured during an assessment period (eg. for this assessment period 1 July 2023 to 30 June 2024) is used to assess conformance against the ADWG, compliance with agreed levels of service and as a trigger for short term corrective action if required.

Section 2 of this report provides an assessment of the verification data collected in this reporting period and introduces a new long term (LT) assessment value using 10 years' of assessment data.

Microbiological parameters

Most waterborne diseases are caused by organisms originating in the gut of humans or other animals (enteric pathogens). These organisms, or pathogens, pose an immediate risk to public health. The risk from pathogens in water supplies can vary significantly in a short period of time and therefore requires frequent microbiological monitoring. The analytical procedures used to detect pathogens are complex and specific for each pathogen, so indicator organisms are used to determine if any contamination has occurred.

The following indicator organisms are monitored:

- *Escherichia coli* (*E. coli*) – indicates faecal contamination from warm-blooded animals including humans and potential for the presence of other disease-causing micro-organisms.
- Total coliforms – indicate a range of bacteria found in many soil and aquatic environments and can provide a measure of disinfection performance and the cleanliness of the drinking water supply system more generally.

The ADWG stipulate that no *E. coli* should be detected in drinking water. The guidelines also require rigorous corrective action be undertaken and documented in response to an *E. coli* detection to prevent potential recurrences of faecal contamination.

The data assessment of monitoring for these indicator organisms and pathogens is presented in **Section 2**.

Other organisms of environmental origin that are not normally associated with the gastrointestinal system can also be found in water and some of these organisms may, under certain circumstances, cause disease in humans (opportunistic pathogens). Microorganisms such as *N. fowleri* and *B. pseudomallei* are 2 examples of organisms that Power and Water test for (refer to '**Understanding Your Results**', page 50 for further information).

To ensure adequate disinfection, Power and Water targets a chlorine free residual level of 1 mg/L at the point of disinfection and maintain levels >0.5 mg/L throughout the distribution network and to the point of supply.

Health parameters

Numerous chemical parameters are monitored to indicate the water quality supplied to customers. A wide range of measurable characteristics, compounds or constituents can be found in water, which may affect its quality. The assessment data for the typical health-related chemical parameters is presented in the tables found in **Appendix B and C**.

Aesthetic parameters

Aesthetic qualities (such as taste, odour, and colour) are evaluated by assessing compliance across a range of parameters. This segment focuses on the sensory characteristics, which, while not necessarily a risk to human health, are crucial for consumer acceptance and satisfaction. Aesthetic qualities can significantly influence public perception and confidence in water supplied. Ensuring that water is not only safe but meets aesthetic standards, is vital for maintaining public trust and ensuring water is appealing to consumers. Drinking water is essential for overall health and well-being, offering numerous benefits over unhealthy alternatives. The assessment data for typical aesthetic parameters are also presented in the tables found in **Appendix B and C**.

*The ADWG stipulate that no *E. coli* should be detected in drinking water. The guidelines also require rigorous corrective action be undertaken and documented in response to an *E. coli* detection to prevent potential recurrences of faecal contamination.*

Understanding the parameters

This section of the report provides some background on a selection of parameters Power and Water tests for and why.

Microbiological

N. fowleri

N. fowleri is an amoeboflagellate protozoan, that is naturally occurring in soil and aquatic environments of the Northern Territory. ADWG recommend controlling *N. fowleri* by maintaining a minimum chlorine free level of 0.5 mg/L. It can be found in lakes, hot springs, irrigation canals, poorly maintained swimming pools, spas and garden hoses or sprinklers that contain stagnant water. *N. fowleri* causes a usually fatal disease known as primary amoebic meningoencephalitis (PAM), when water contaminated with *N. fowleri* enters the body through the nose or, rarely, through a damaged eardrum. The disease cannot be contracted by drinking water containing *N. fowleri*. Detection of *N. fowleri* in the Darwin distribution system in 2005 prompted Power and Water to undertake extensive monitoring of water supplies and to implement procedures to control this amoeba.

B. pseudomallei

B. pseudomallei is the pathogen responsible for the infectious disease Melioidosis. Power and Water’s monitoring program has included *B. pseudomallei*, since its detection in private supplies in the Darwin rural area in 2010. Chlorination at 1 mg/L for 30 minutes is required to control this pathogen. Despite being ubiquitous in the tropics, understanding of *B. pseudomallei* in a drinking water context is still developing. Power and Water works closely with Menzies School of Health Research to identify water supplies at risk of contamination. Monitoring shows that *B. pseudomallei* was not detected in the Darwin region water supply within the monitoring period.

The detection of N. fowleri in the Darwin distribution system in 2005 prompted Power and Water to undertake extensive monitoring of water supplies and to implement procedures to control this amoeba.

Table 4 – Operational response to radiological dose assessments

Radiological Dose (mSv/year)	Operational Response	Response level
<0.3	1. Gross alpha and gross beta screening values (corrected for Potassium-40) and/or the operational dose value are not exceeded. Continue routine monitoring.	1
0.3 to 1	1. Evaluate dose and if required, perform assessments based on local conditions. 2. Consider the need to increase the frequency of monitoring in agreement with relevant health authorities or drinking water regulators based on if the operational dose value is exceeded.	2
1 to 10	1. Consult with relevant health authorities or drinking water regulators. 2. Assess in detail possible protective measures e.g. remedial/protective actions, taking into account potential cost-effectiveness of actions. 3. Implement appropriate remedial/protective measures on the basis of the cost-benefit evaluation.	3
>10	1. Water not suitable for consumption on the basis of radioactivity levels. 2. Consult with relevant health authorities or drinking water regulators. 3. Intervention is expected and protective measures must be taken to reduce doses to below the reference level of 1 mSv/year.	4

Radiological

Exposure to radiation generally comes from natural sources like uranium, thorium, and potassium, which are found naturally in the environment, including water sources. Some radioactive substances also come from human activities such as medical treatments, industry, and mining.

The ADWG provide clear procedures for calculating radiological doses and have set a reference level of 1 millisievert (mSv) per year as a safety benchmark. This reference level is not an immediate cause for concern but serves as a guideline. If radiation levels approach or exceed this level, further monitoring and assessment may be necessary.

The ADWG outlines how to calculate radiological doses by summing the contributions of each radionuclide found in the water. It also defines operational and monitoring responses based on dose level (refer **Table 4, page 50**). These responses depend on gross alpha and gross beta activity measurements or the estimated annual dose from all radionuclides present.

Radiological results can be found in **Table 5, page 65** for urban centres and **Table 7, page 90** for remote communities.

Health Parameters

Antimony

Antimony occurs naturally in groundwater through the dissolution of minerals and ores. Antimony concentrations in drinking water are recommended by the ADWG to not exceed 0.003 mg/L.

Barium

Barium occurs naturally in the ground and through the dissolution of minerals and ores in the water. Barium concentrations in drinking water are recommended in the ADWG to not exceed 2 mg/L.

Fluoride

Fluoride occurs naturally in most groundwater supplies and is also present in food and beverages and in toothpaste. In the correct amounts, fluoride in drinking water helps build strong, healthy teeth that resist decay. The majority of communities in the southern and Barkly regions have naturally occurring fluoride levels between 0.5 mg/L and 1.5 mg/L. In contrast, most water supplies in the northern and Katherine regions have low natural fluoride levels (less than 0.5 mg/L due to the nature of the shallow groundwater supplies and use of surface water in some communities).

Where water is fluoridated, NT Health has a position statement noting the optimal concentration for water fluoridation is dependent on the average maximum air temperature. For average maximum air temperatures between 26.3°C and 32°C, the optimal fluoride concentration is between 0.6 mg/L and 0.7 mg/L.

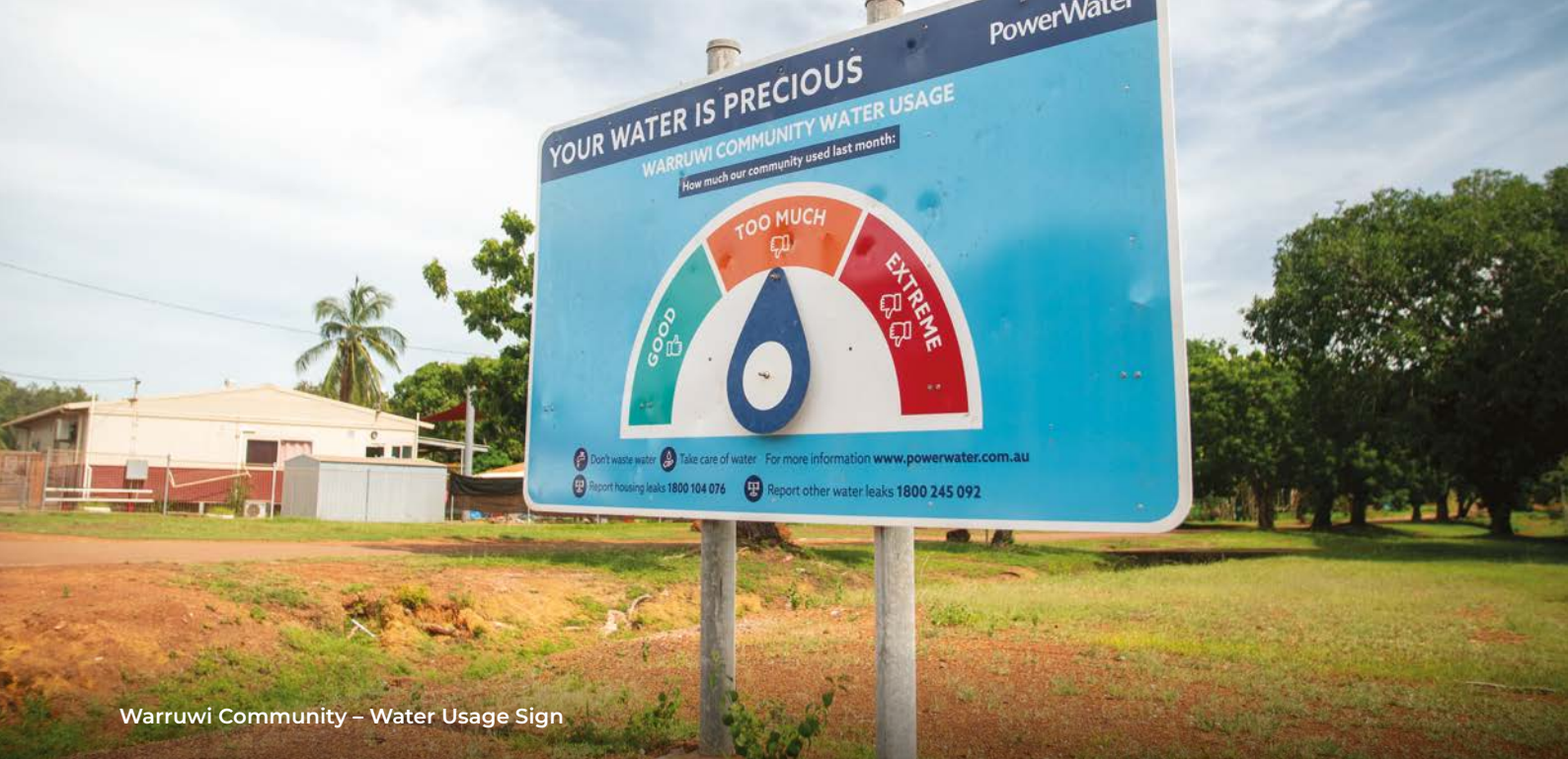
Power and Water operates fluoridation systems in Darwin, Katherine and 5 remote communities (Angurugu, Maningrida, Umbakumba, Wadeye and Wurrumiyanga), with naturally occurring fluoride <0.5 mg/L, to help improve oral health. Fluoridation systems target a concentration of 0.6 mg/L. Concentrations <0.4 mg/L and >1.5 mg/L are considered 'out of range' compared to ADWG and NT Health's position statement.

Concentrations above 1.5 mg/L can cause dental fluorosis ('mottling' of teeth) in children up to 6-8 years old and ADWG recommends fluoride should not exceed 1.5 mg/L.

In August 2024, the US National Toxicology Program review of published scientific literature found with moderate confidence that drinking water fluoride concentrations that exceed 1.5 mg/L are associated with lower IQ in children. The Northern Territory Chief Health Officer (CHO) has taken a precautionary approach to this emerging evidence and issued a 'declaration of unsuitable supply to vulnerable groups' on 30 September 2024 for Alpururulam and Nyirripi. This declaration of unsuitable water supply applies to children and infants aged 12 years and under and pregnant women. Alternative supply (bottled water) is being made available in these communities for this vulnerable group. The remote water team has engaged with these communities in relation to the health impact of this exceedance and the provision of bottled water for this vulnerable group.

Nitrate

Nitrate occurs naturally in the Northern Territory, with elevated levels often linked to nitrogen-fixing by native vegetation, cyanobacteria, and termite mounds, which contain nitrogen-fixing bacteria. While nitrate concentrations above 50 mg/L are a health concern for formula-fed infants under 3 months, water with up to 100 mg/L is safe for adults and children over 3 months. If levels exceed 50 mg/L, Power and Water notifies NT Health, who advise customers not to use the water for bottle-fed infants, and Power and Water provides an alternative water supply (e.g. bottled water).



Warruwi Community – Water Usage Sign

To manage exceeding nitrate levels, Power and Water operates advanced water treatment systems in Ali Curung, Yuelamu and Kintore, ensuring levels remain below the 50 mg/L guideline. Remote communities like Pmara Jutunta and Nturiya, which share the same water source as minor centre Ti Tree, are closely monitored, and for this reporting period, neither community exceeded the ADWG for nitrate.

Manganese

Manganese occurs naturally through the dissolution of minerals and ores in the groundwater. Manganese concentrations in drinking water are recommended by the ADWG to not exceed 0.5 mg/L based on health considerations. The WHO provisional guideline value was updated in 2021, prompting NT Health to progress factsheets advising the provision of bottled water for infants where this concentration is exceeded.

Lead

Lead is not routinely found in source water across the Northern Territory and therefore not detected in most of the water samples collected. Where it was detected, it did not exceed the ADWG 0.01 mg/L. Instead, lead can leach from common household plumbing materials due to corrosion of solder and brass fittings. A practical measure used to reduce lead contamination from internal fixtures is to run taps and fittings after long periods of inactivity for up to 30 seconds to flush them.

The Australian Building Codes Board (ABCB) agreed an allowable lead content limit in plumbing products and a 3-year transition period to allow industry to make the necessary changes. On 21 April 2023, the ABCB determined the commencement and completion dates for the 3-year transition period to

support Australia's path to reducing allowable lead levels in many plumbing products.

A new 'Lead Free WaterMark' trademark was registered in 2023, allowing a Notice of Direction to be issued. The 3-year transition period ceases on 30 April 2026. From 1 May 2026, copper alloy plumbing products containing more than 0.25% lead will no longer be authorised for installation in a plumbing system used to convey drinking water.

Per- and poly-fluoroalkyl substances (PFAS)

PFAS has been detected in 4 water sources since investigative sampling kicked off in 2016 – Katherine, Pine Creek, Adelaide River and Batchelor. As soon as Power and Water was aware of the presence of this emerging contaminant, efforts have been made to reduce the detected concentration to as low as reasonably practicable.

In the case of Katherine, the groundwater supply was completely removed from production until treatment options were introduced to ensure PFAS was below guideline levels. The Katherine PFAS treatment plant has now been operating since late 2023.

At Pine Creek, Adelaide River and Batchelor, bores have been taken offline to manage concentrations of PFAS. Bores with PFAS detected at elevated levels, approaching guideline values, have been removed from service, or are blended with other bores, with sampling undertaken at an increased frequency. In Batchelor a bore drilling program aims to secure a new PFAS free source and connect it to the supply.

While PFAS contamination risks in remote communities is low, Power and Water is assessing potential risks and where required, may undertake verification sampling in future monitoring programs.

Uranium

Uranium occurs naturally in the environment and is commonly found in groundwater aquifers within granite and sedimentary rock formations, such as sandstone. The ADWG recommend that uranium levels in drinking water not exceed 0.02 mg/L.

Since the ion exchange treatment plant in Laramba began operation in April 2023, uranium levels there have remained below the ADWG limit. In other communities, including Yuendumu, Wilora, and Willowra, uranium levels are close to the guideline value. However, uranium is only present in some bores, allowing Power and Water to manage levels through blending of different water sources to ensure compliance with the guidelines.

Aesthetic Parameters

Aluminium

Naturally occurring levels of aluminium occur across all Territory groundwater supplies, with the levels varying based on different soil geologies. Despite aluminium being a significant component of daily intake through food and beverages for Australian adults, its contribution from drinking water is minimal, comprising less than 2% of total daily intake. Aluminium has no noticeable taste or odour, however at levels above 0.2 mg/L can make water hazy or bluish in colour.

Chloride

Chloride ions are found naturally in both surface water and ground waters sources. Chloride is produced when various salts dissolve in water e.g. sodium chloride (table salt). Groundwater typically has higher levels of chloride which are not easily removed with conventional water treatment, often requiring expensive reverse osmosis processes.

The chloride ion is widespread in water due to the high solubility of salts and the abundance of mineral deposits in Northern Territory groundwater.

For palatability (taste) the aesthetic guideline is 250 mg/L. Chloride may also affect corrosion of pipes and fittings.

Chlorine free residual

Chlorine free has an odour threshold in drinking water of about 0.6 mg/L (used as the aesthetic ADWG). However, some people are particularly sensitive and can detect amounts as low as 0.2 mg/L.

Following initial disinfection, maintaining a chlorine free residual in the distribution system provides additional protection from potential contamination (e.g. backflow), pipeline breaks and opportunistic pathogens. In general, a chlorine free residual of between 0.2 and 0.5 mg/L is adequate. However control of *N. fowleri* and *B. pseudomallei* in warmer climates, requires a concentration of at least 0.5 mg/L and 1 mg/L respectively. For this reason Power and Water targets a chlorine free residual of at least 1 mg/L at the disinfection point to maintain adequate chlorine residual levels all the way to the point of supply.

Hardness

Public acceptance of hardness can vary considerably among centres/communities and is generally related to the hardness that the consumer has come to expect, which in turn is due to the source of the water.

Typically, across the Northern Territory, groundwater supplies close to the coast are described as 'soft', as the water is drawn from relatively shallow aquifers with naturally low pH and hardness levels. Inland water supplies are often described as 'hard', as the water is stored for long periods in deeper aquifers results in water with higher levels of minerals.

Hardness is primarily the amount of calcium in water, expressed as calcium carbonate (CaCO_3) equivalent. But chloride, magnesium and manganese can also contribute to hard water.

Soft water or water low in total calcium and magnesium ions may also cause corrosion in pipes, although this will depend on other physical and chemical characteristics such as pH, alkalinity and dissolved oxygen. The ADWG recommend hardness levels below 200 mg/L to minimise scaling in hot water systems.

Hard water or water with CaCO_3 levels above 500 mg/L may lead to excessive scaling of pipes, taps and fittings. High hardness requires more soap to achieve lather and can impact infrastructure and kitchen appliances such as kettles.



Imanpa, Water Storage Compound

Iron

Iron has a taste threshold of about 0.3 mg/L in water and becomes undesirable above 3 mg/L. High iron concentrations give water a rust-brown appearance and can stain laundry and plumbing fittings. Options for reducing iron levels include preference of water sources low in iron, blending, infrastructure changes to maximise iron oxidation and settling, as well as water treatment options such as filtration. Flushing of distribution systems can significantly impact the iron levels supplied to the community.

Manganese

The ADWG recommend concentrations not exceed 0.5 mg/L for health considerations and 0.1 mg/L for aesthetic considerations. Manganese occurs naturally through the dissolution of minerals and ores in the groundwater. Manganese imparts an undesirable taste to water and stains plumbing fixtures and laundry.

pH

Based on the need to reduce corrosion and encrustation in pipes and fittings, the pH of drinking water should be between the ideal range of 6.5 and 8.5 per ADWG. For comparison orange juice has a pH of 3.8 and some carbonated soft drinks have a pH as low as 2.5. Typically, groundwater supplies near the coast are described as corrosive, as the water is drawn from relatively shallow aquifers, naturally low in pH and hardness levels.

Whilst somewhat corrosive, the disinfection properties of chlorine tend to be more effective at low pH values.

Silica

Silica, or silicon dioxide, occurs naturally in groundwater. Dissolved silica can deposit on surfaces such as glass and metals resulting in silica build-up. To minimise this undesirable scale, the concentration of silica in drinking water is recommended by the ADWG to not exceed 80 mg/L.

Sodium

Sodium concentration in drinking water is recommended by the ADWG to not exceed 180 mg/L to avoid salty tasting water. The sodium ion is widespread in water due to the high solubility of sodium salts and the abundance of mineral deposits in groundwater and is a component of TDS.

Sulphate

Based on aesthetic considerations (taste), the concentration of sulfate in drinking water should not exceed 250 mg/L. Under low oxygen conditions, the reduction of sulfate to sulfide by sulfate-reducing bacteria can result in unpleasant taste and odour due to the release of hydrogen sulfide, and can increase corrosion in pipes and is also a component of TDS.

Total Dissolved Solids (TDS)

TDS can affect how water tastes i.e. palatability and varies among centres/communities, with acceptance related to what consumers have come to expect, which is in turn related to the source of the water. Low TDS water can taste flat, while water with high TDS can taste salty. For good palatability TDS should not exceed the ADWG of 600 mg/L. TDS is comprised of sodium, potassium, calcium, magnesium,



Tennant Creek – Two Tank Hill

chloride, sulphate, bicarbonate, carbonate and silica. TDS also has small amounts of organic matter, fluoride, iron, manganese, nitrate and phosphate. High TDS commonly occurs together with high hardness and can make water unpalatable, corrosive or associated with excessive scaling of pipes and fittings.

Turbidity

Based on aesthetic considerations the turbidity should not exceed 5 NTU, to avoid water having a milky appearance in a glass. High turbidity can impact the effectiveness of disinfection and clog filters.

Zinc

Although an essential element for humans, based on aesthetic considerations (taste), the concentration of zinc in drinking water should be less than 3 mg/L. Above 5 mg/L tends to be opalescent, develops a greasy film when boiled, and an undesirable dry 'metallic' taste.

Other Health Parameters

Trihalomethanes (THM)

For this reporting period, THMs in all urban major and minor centres water supplies were assessed, showing levels below the ADWG of 0.25 mg/L. Darwin's surface water supply had the highest THM levels of 0.06 mg/L, due to organic carbon reacting with chlorine. Centres relying on groundwater which are lower in organic compounds have lower THM concentrations, with a maximum of 0.0025 mg/L in this reporting period.

Pesticides

The pesticide monitoring program focuses on 50 commonly used pesticides, including glyphosate, organochlorine, organophosphate and triazine pesticides, insecticides and acidic herbicides. Although monitored for several years, pesticides have rarely been detected in Northern Territory water supplies, despite being used commonly. Power and Water only uses chemicals approved by NT Health as outlined in the MOU for maintaining catchments (e.g. weed control).

Pesticide monitoring for the 2023-24 was limited to Darwin and Katherine water supplies. These supplies are considered potentially vulnerable to pesticide contamination with agricultural activities and rubbish dumping close to production bores and surface water sources. Good management of surface water sources and bores reduces the risk of drinking water becoming contaminated with pesticides. Bores are required to be constructed to standards that ensure bore head integrity and prevent surface water (potentially containing pesticides) from entering the bore.

THM, PFAS and pesticides are not currently monitored across remote communities.

No pesticides were detected in treated water supplied to customers.

Other Aesthetic Parameters

Langelier Saturation Index

The corrosivity and scale-forming potential of water is important when it comes to providing safe and secure drinking water for consumers. It can influence the pipes and tanks used to store and transport water, by leaching or depositing material. It can also impact the effectiveness of chlorine disinfection. Currently, there is limited guidance on corrosivity in the ADWG.

To measure water's corrosivity and stability, one tool used is the Langelier Saturation Index (LSI). The LSI is a calculation of how saturated water is with calcium carbonate, using the following physical and chemical properties to determine whether water is likely to be scale-forming, corrosive, or balanced with the mineral content:

- Alkalinity (as CaCO_3)
- Total Dissolved Solids (TDS)
- Hardness (as CaCO_3)
- Water Temperature
- pH

Understanding LSI is crucial for Power and Water and our customers for several reasons:

- **Corrosion Control:** If water is corrosive (negative LSI), it can cause damage to pipes, infrastructure, and equipment by leaching metals like lead or copper, which can pose health risks to consumers.
- **Scaling Prevention:** If water is scale-forming (positive LSI), it can deposit calcium carbonate on pipes, valves and heating elements, leading to reduced flow, increased energy consumption and higher maintenance costs.
- **Water Quality:** The LSI gives Power and Water a guidance to adjust water treatment processes and improve water quality, ensuring it is safe, efficient and cost-effective for both the utility and the customer.

Power and Water's infrastructure is constructed to a standard using materials less prone to corrosive impacts. However, after water passes through the water meter, Power and Water can't directly measure the quality of water that comes out of customers taps. This means that if a building's internal plumbing isn't made from suitable materials, corrosion can occur and leach metals that can then be found in the water. Scale-forming can limit the flow available at the tap, resulting in low water pressure for our customers and increased maintenance requirements.

Due to the geological and meteorological differences between the Northern, Katherine, and Southern regions, many of the water sources in the Northern Territory have varying properties. For example, northern coastal regions are typically low pH, resulting in LSI values that indicate high corrosivity potential.

Corrosivity is a component of the barrier risk assessments, focusing on aggressive water corroding pipes and fixtures. Outcomes from this assessment are incorporated into the Barrier Improvement Plan, to implement scheme appropriate detailed investigations and solutions. Some sites identified in the plan include Angurugu, Galiwinku, Milingimbi, Minjilang, Wilora and Wurrumiyanga.

Power and Water has assessed the LSI for all 91 water supply systems (19 urban, 72 remote). This helps Power and Water understand how changes in water source (like switching to/installing a new bore or blending sources) affect water quality (corrosivity and scale-forming potential).



Section 2

Drinking Water Quality and Performance



Jess – Specialist Water Treatment Engineer (Image credit: Jo Jamieson)

Part A

Urban Centres

Figure 5 – Drinking water supply systems in urban centres



Your Drinking Water Profile

This section of the report provides a clear and transparent summary of drinking water quality for all urban centres during the 2023-24 reporting period.

The profiles offer a visual overview of water quality, showing how many parameters met the ADWG for both health and aesthetic. They also highlight any microbial detections or instances where a parameter exceeded an ADWG.

The urban centre profiles show:

- The drinking water quality monitoring program was fully implemented in all centres.
- 100% free of *E. coli* for all urban centres, with priority sampling not verifying an initial detection in Timber Creek.
- No health exceedances in the urban centres.

- Multiple aesthetic exceedances, most commonly chlorine free residual.

Centres with more than one aesthetic exceedance are; Alice Springs (2), Daly Waters (5), Elliott (3), Gunn Point (2), Kings Canyon (4), Larrimah (3), Mataranka (2), Newcastle Waters (2), Tennant Creek (2), Timber Creek (2), Ti Tree (3).

All exceedances are described in more detail in **Your Drinking Water Characteristics** or you can refer to the individual water quality assessments by centre in **Appendix B**.

No health exceedances in the urban centres.

Figure 6 – Adelaide River drinking water profile



Figure 7 – Alice Springs drinking water profile

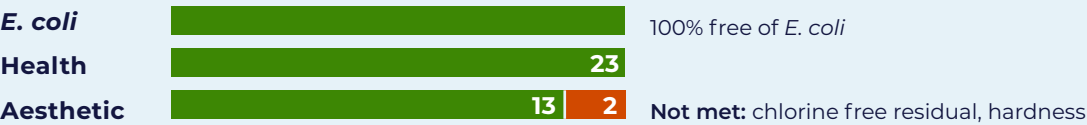


Figure 8 – Batchelor drinking water profile



Figure 9 – Borroloola drinking water profile



Figure 10 – Cox Peninsula drinking water profile



Figure 11 – Daly Waters drinking water profile



Figure 12 – Darwin drinking water profile



Figure 13 – Elliott drinking water profile

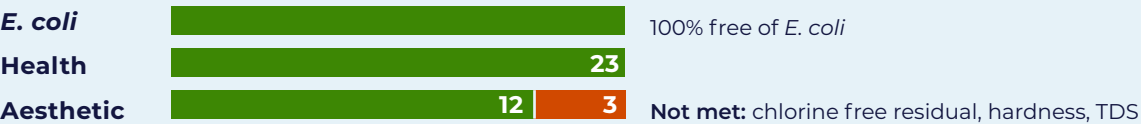


Figure 14 – Gunn Point drinking water profile

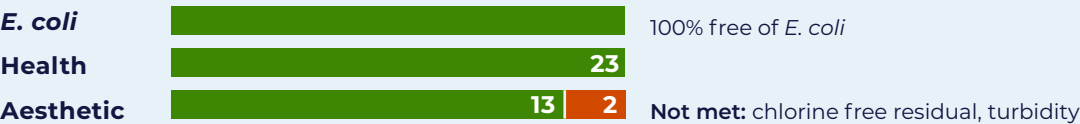


Figure 15 – Katherine drinking water profile



Figure 16 – Kings Canyon drinking water profile

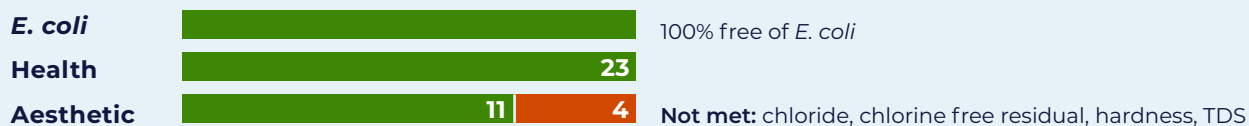


Figure 17 – Larrimah drinking water profile

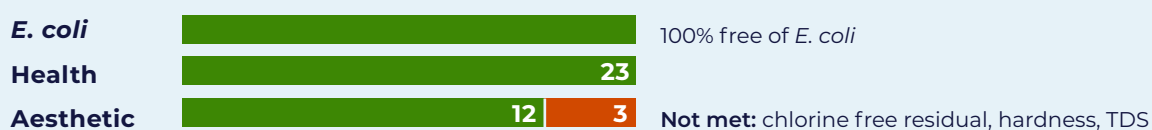


Figure 18 – Mataranka drinking water profile

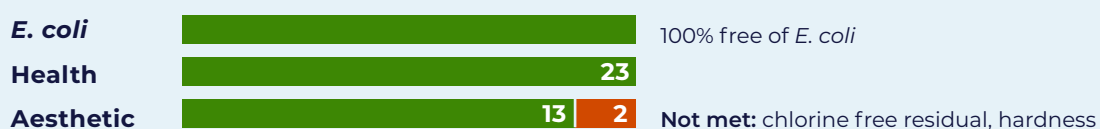


Figure 19 – Newcastle Waters drinking water profile

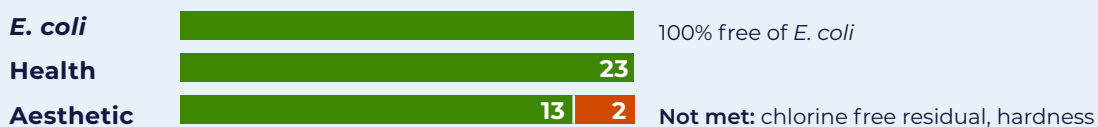


Figure 20 – Pine Creek drinking water profile



Figure 21 – Tennant Creek drinking water profile

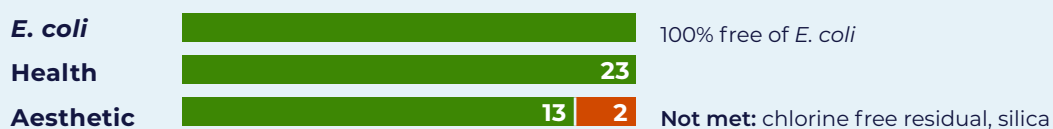


Figure 22 – Timber Creek drinking water profile

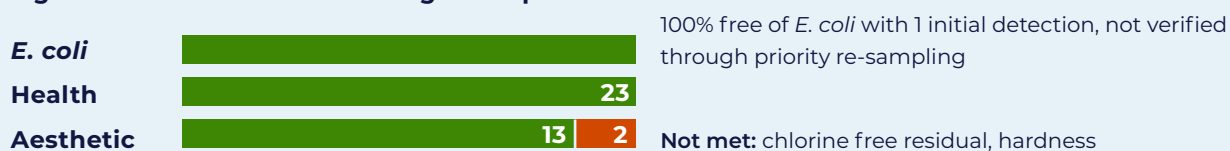


Figure 23 – Ti Tree drinking water profile

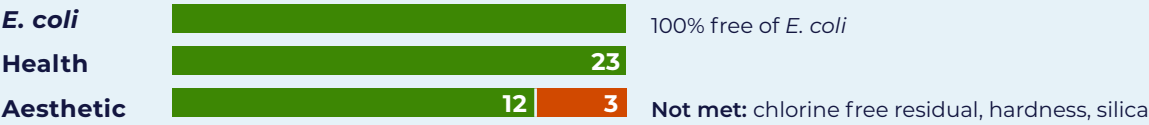


Figure 24 – Yulara drinking water profile



Met ADWG Not met ADWG Not measured



Craig – Water and sewer technician, Alice Springs

Your Drinking Water Characteristics

Microbiological

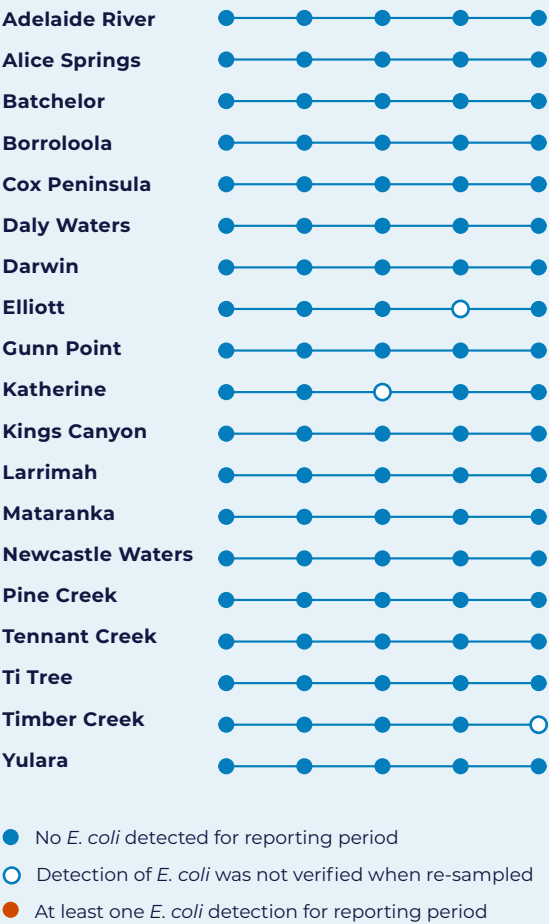
The sample collection performance for individual centres for the 2023-24 reporting period is presented in **Table 13 Appendix B**.

Figure 25 (right) shows *E. coli* detections by urban centre for the last 5 years.

During the 2023-24 period there was one detection from 2,238 collected samples, occurring in Timber Creek on 19th March 2024. With priority verification sampling occurring on 21st March 2024, resulting in no detection, indicating potential contamination during sampling. It is therefore considered as an unverified detection and represented by a white dot.

*There have been no confirmed *E.coli* detections in the urban centres in the past 5 years.*

Figure 25 – *E. coli* detections by urban centre from 2020 (left dot) to 2024 (right dot)





Mark, Lennon, Oliver and Sharon – SCADA Room

Radiological

Radiological dose assessments for all centres can be found in **Table 5**.

The results show that all urban centres except Kings Canyon were below the 1mSv/year reference level set as a safety benchmark in ADWG.

The majority of urban centres are in response level 1 (dose level < 0.3 mSv/year). The response is to continue with routine annual monitoring.

The exceptions are Alice Springs (dose 0.31 mS/year; response level 2) and Kings Canyon (1.04 mSv/year; response level 3). The frequency of monitoring is increased to monthly in consultation with NT Health for these 2 centres. All urban centres are well below 10 mSv/year; response level 4 (see **Table 4, page 50**).

The Borroloola dose level has decreased from 0.32 mSv/year (response level 2) in 2022-23 to 0.27 mSv/year (response level 1) in 2023-24.

Health Exceedances

A summary of the health data can be found in **Table 14** and **Tables 16-34** in **Appendix B**. No urban centre exceeded ADWG health guidelines during this reporting period. However there has been a history of chemical health exceedances for parameters such as nitrate, fluoride and PFAS in previous years.

No urban centre exceeded ADWG health guidelines during this reporting period.

Table 5 – Urban centre radiological dose assessment

Centre	Radiological dose mSv/year	Response Level
Adelaide River	0.03	1
Alice Springs	0.31	2
Batchelor	0.03	1
Borroloola	0.27	1
Cox Peninsula	0.03	1
Daly Waters	0.06	1
Darwin	0.03	1
Elliott	0.13	1
Gunn Point	0.03	1
Katherine	0.03	1
Kings Canyon	1.04	3
Larrimah	0.06	1
Mataranka	0.04	1
Newcastle Waters	0.13	1
Pine Creek	0.03	1
Tennant Creek	0.1	1
Timber Creek	0.18	1
Ti Tree	0.07	1
Yulara	0.03	1

Aesthetic Exceedances

Aesthetic parameters are characteristics associated with the acceptability of water to the consumer in terms of appearance (colour), taste and odour.

Table 6 – Number of centres with aesthetic exceedances

Parameter	Centres with exceedances
Chloride	2 of 19
Chlorine free residual	19 of 19
Hardness	9 of 19
Silica	2 of 19
Sodium	1 of 19
TDS	4 of 19
Turbidity	1 of 19

Chloride

Figure 26, page 67 shows 2 centres – Daly Waters (293 mg/L) and Kings Canyon (265 mg/L) – exceed the ADWG (250 mg/L) for chloride. Daly Waters also has high levels of TDS (poor palatability) and hardness (severe scaling), whilst Kings Canyon has a fair TDS level of palatability and hardness likely to increase scaling. See **'Understanding the parameters', page 53** for information on chloride.

Chlorine free residual

All urban centres exceed the aesthetic ADWG (0.6 mg/L). The priority for Power and Water is provision of drinking water free of pathogens. See **'Understanding the parameters' page 50**, Microbiological for information on *N. fowleri* and *B. pseudomallei*.

Hardness

Figure 30, page 68 shows most centres in the Katherine and Southern regions, such as Mataranka, Timber Creek, Larrimah, Daly Waters, Elliot, Ti Tree, Kings Canyon and Alice Springs that rely on groundwater, have elevated hardness above the ADWG (200 mg/L). Yulara is an exception, where a reverse osmosis system is in place to reduce hardness.

By comparison, coastal centres like Darwin, Cox Peninsula, Gunn Point and Borroloola typically have soft water. Centres located between these

areas such as Batchelor, Adelaide River, Pine Creek, Katherine and Tennant Creek have good quality. See **'Understanding the parameters', page 53** for information about hardness.

Langelier Saturation Index (LSI)

LSI does not have an ADWG value. Rather it is a calculation incorporating pH, hardness, TDS and temperature to estimate the corrosivity or scale forming potential of water.

Figure 31, page 69 shows 14 out of 19 urban centres have balanced water (LSI value -1 to 1), that is neither corrosive or scale forming. Yulara (LSI value -1.35), which incorporates reverse osmosis in its treatment and Darwin (LSI value -1.46) which sources 80% of its supply from surface water (Darwin River Dam) are moderately corrosive aligning with their low hardness levels (Darwin 35 mg/L, Yulara 73 mg/L). Cox Peninsula (LSI value -3.10) is severely corrosive as it is both soft (hardness of 2.3 mg/L) and low in pH (6.5).

By comparison, Elliot (LSI value 1.13) and Larrimah (LSI value 1.21) in the Katherine region are scale forming due to a combination of high hardness (530-570 mg/L), high TDS (680-950 mg/L) and pH (7.7-7.8).

pH

Figure 32, page 70 shows all urban centres had an ideal average pH ranging between 6.5-8.5 meeting ADWG. Along with hardness and TDS, pH plays an important role in the corrosivity and scale forming potential of the water supplied. See **'Langelier Saturation Index' page 56** for more information.

Silica

Figure 28, page 67 shows 2 centres, Tennant Creek and Ti Tree, exceed the ADWG (80 mg/L). They are located within the Barkly and Southern region where higher hardness and TDS are common, which reduces palatability and increases the likelihood of scaling. See **'Understanding the parameters', page 55** for information on silica.

Sodium

Figure 27, page 67 shows Daly Waters had an average sodium result of 211 mg/L, exceeding ADWG (180 mg/L). This centre also exceeds ADWG for TDS (poor palatability) and hardness (severe scaling). See **'Understanding the parameters', page 54** for information about sodium.

TDS

Figure 33, page 71 shows 15 out of 19 of centres have good to fair palatability. Centres exceeding ADWG (600 mg/L) for TDS include Elliot (680 mg/L) and Kings Canyon (840 mg/L), where palatability is fair, as well as Larrimah (950 mg/L) and Daly Waters (1200 mg/L) in the Katherine region that have poor palatability.

Larrimah and Daly Waters have elevated hardness, sodium and chloride compared to other centres,

with some of these parameters also exceeding ADWG. Additionally Larrimah has an LSI (**Figure 31, page 69**) indicating it is likely to be scale forming. See '**Understanding the parameters**', page 54 for information about TDS.

Turbidity

Figure 29, page 67 shows Gunn Point had a average turbidity of 8.3 NTU exceeding ADWG (5 NTU).

Gunn Point has been on a non-potable agreement since May 2023.

Figure 26 – Centres with chloride levels greater than ADWG (250 mg/L)

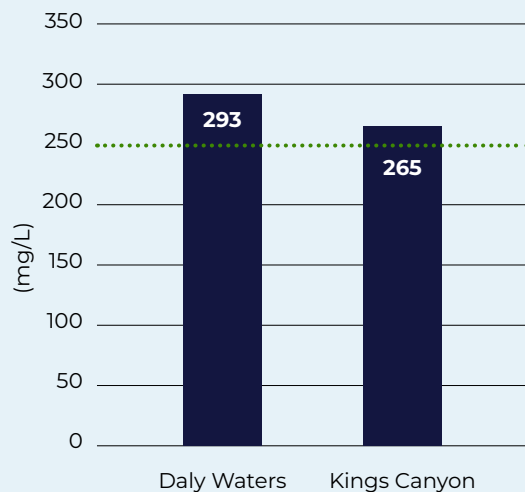


Figure 27 – Centres with sodium levels greater than ADWG (180 mg/L)

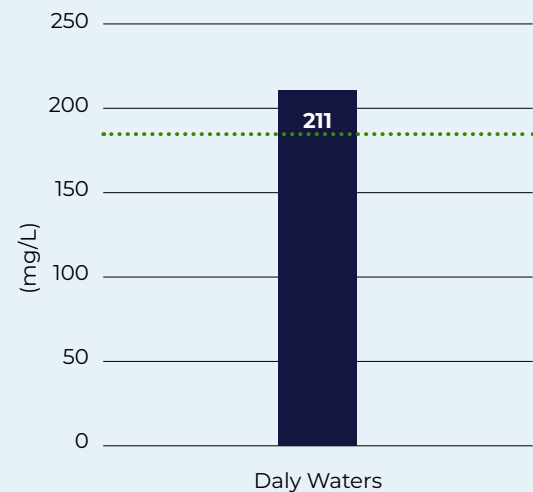


Figure 28 – Centres with silica levels greater than ADWG (80 mg/L)

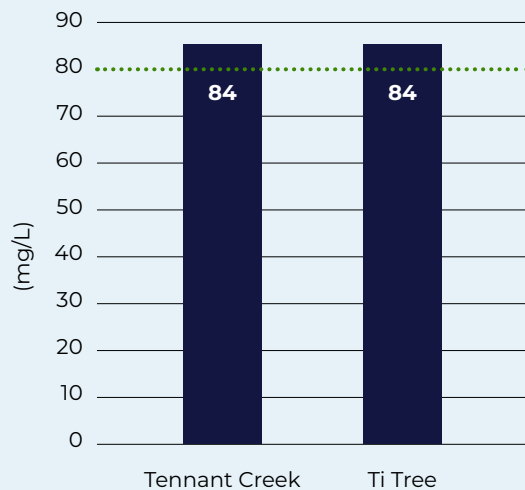
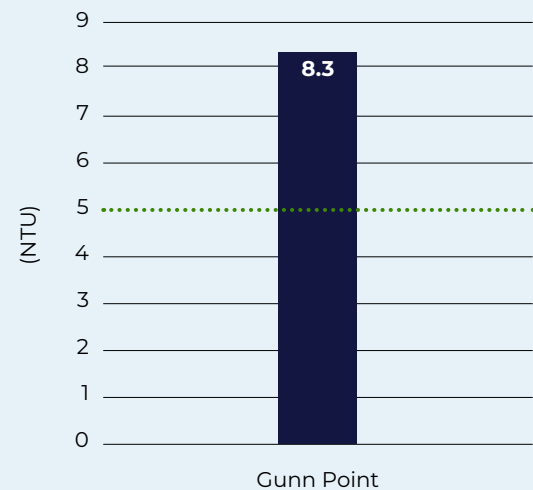
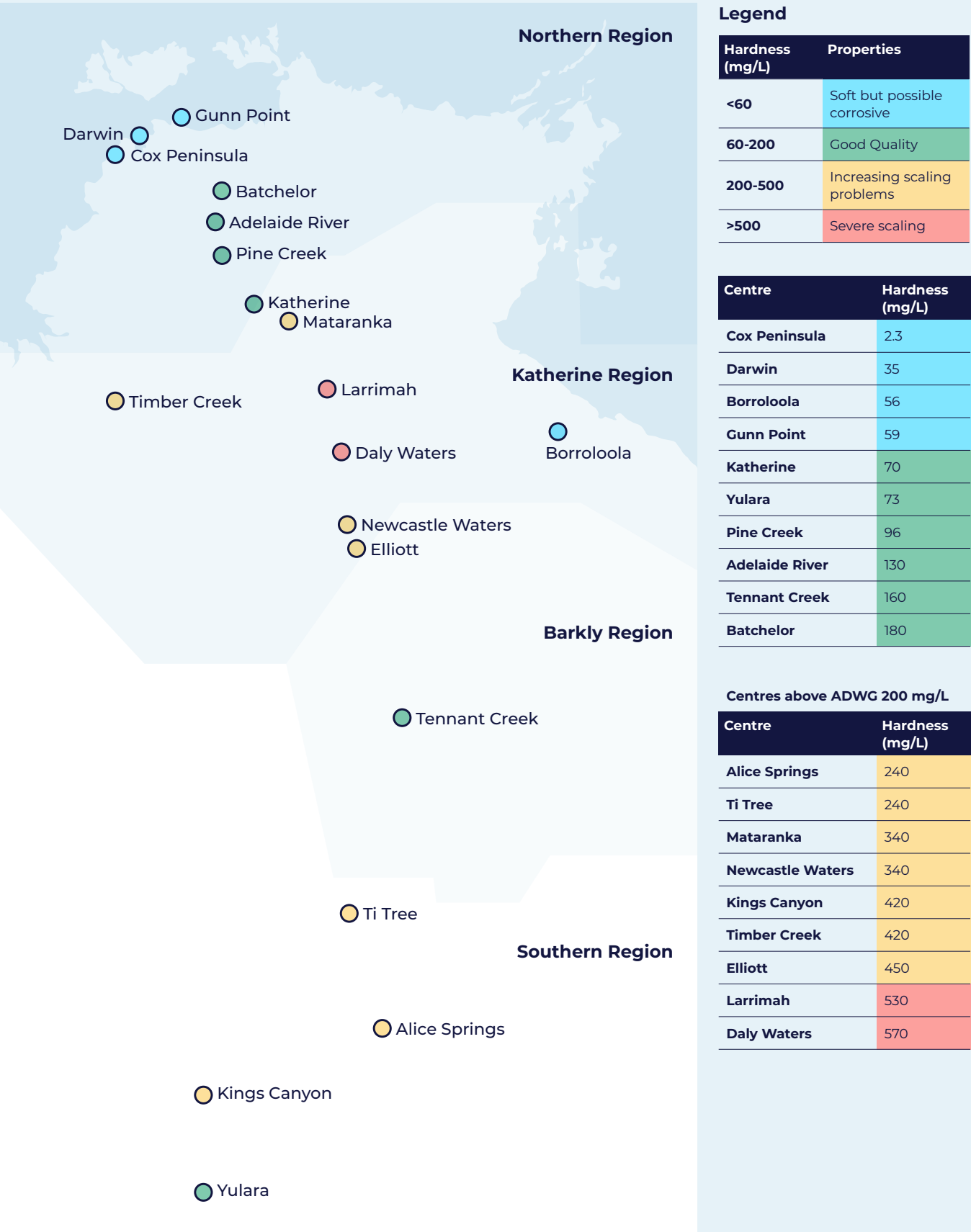


Figure 29 – Centres with turbidity greater than ADWG (5 NTU)



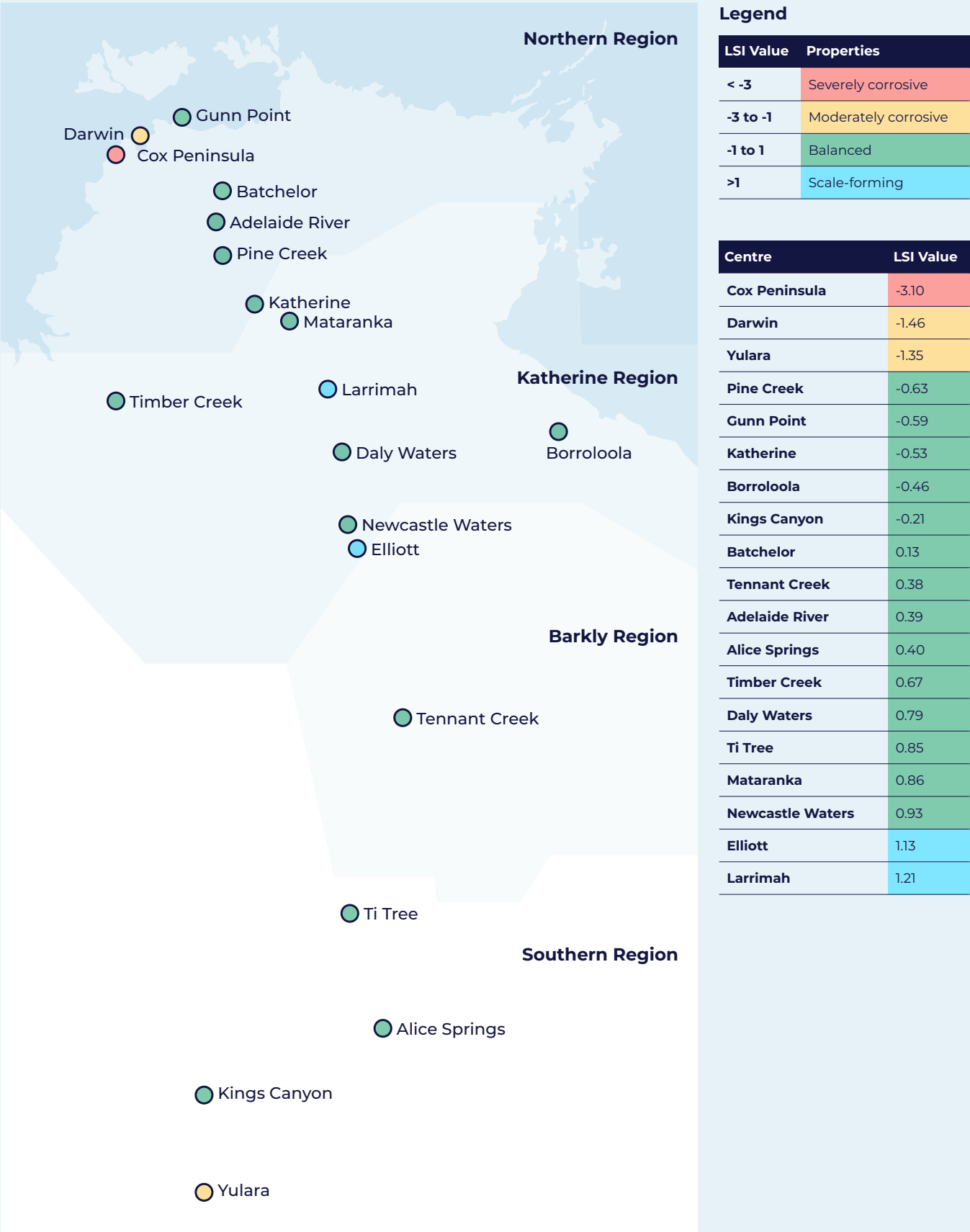
Hardness

Figure 30 – Urban centre degrees of hardness compared to ADWG (200 mg/L)



LSI

Figure 31 – LSI in urban centres map



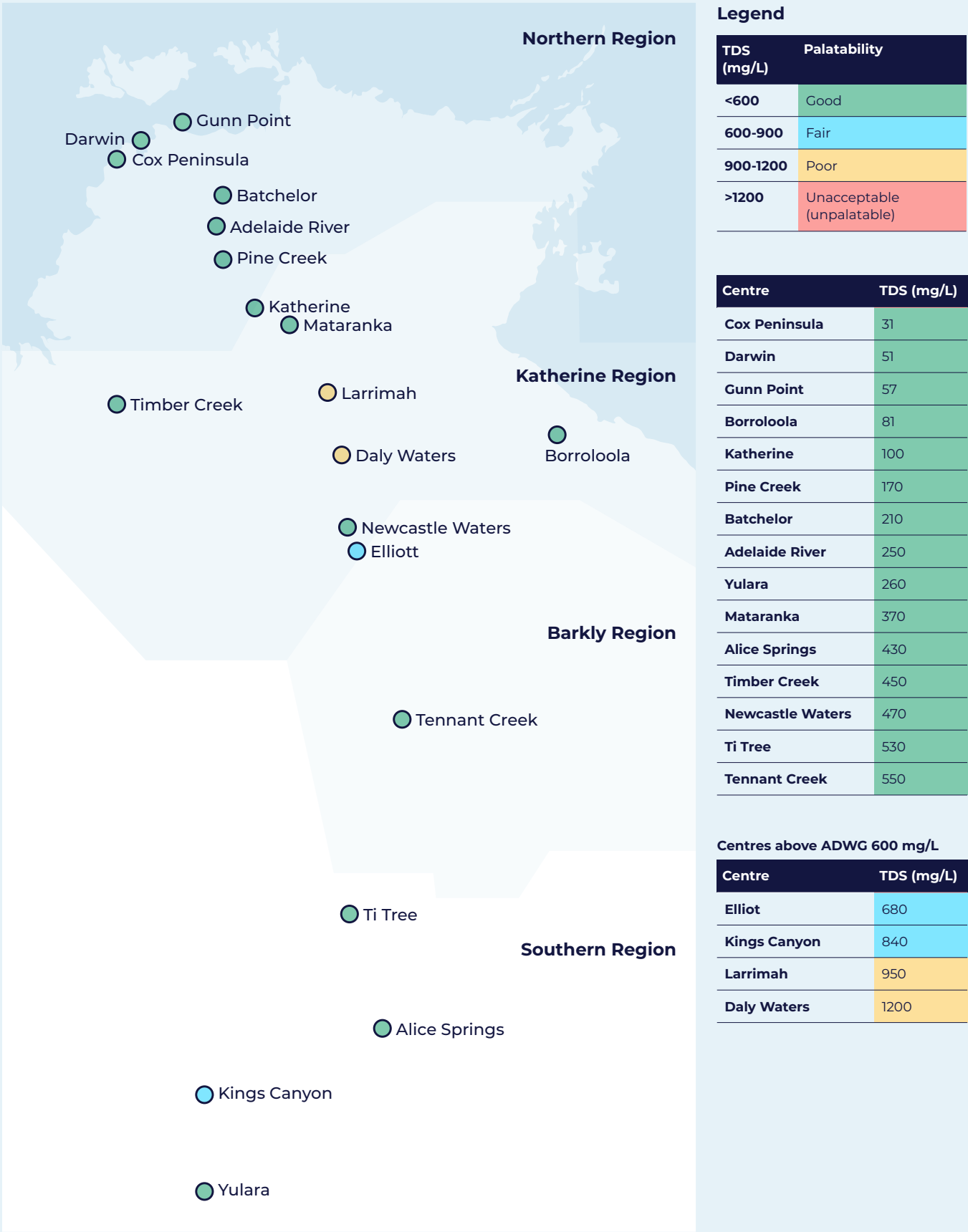
pH

Figure 32 – Map showing pH levels across urban centres compared to ADWG (6.5-8.5)



TDS

Figure 33 – Urban centre TDS levels of palatability compared to ADWG (600 mg/L)



Section 2

Drinking Water Quality and Performance

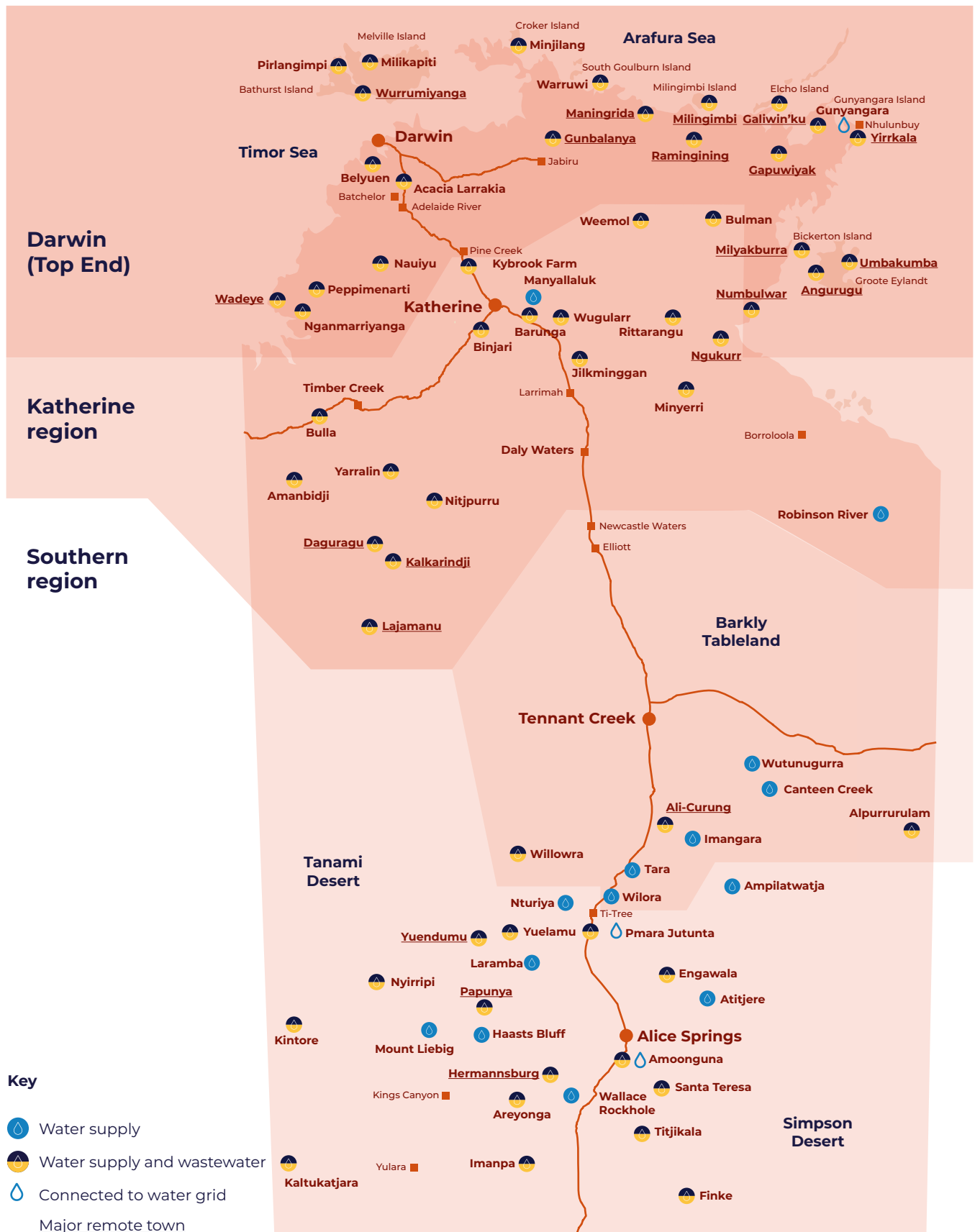


Ben – Utility Support Contract Worker

Part B

Remote communities

Figure 34 – Map of remote community water with drinking water supplies



Your Drinking Water Profile

This section of the report provides a clear and transparent summary of drinking water quality for all remote communities during the 2023-24 reporting period.

The profiles offer a visual overview of water quality, showing how many parameters met the ADWG for both health and aesthetic. They also highlight any microbial detections or instances where a parameter exceeded the ADWG.

For the 2023-24 period, sample collection and testing of all parameters across the 72 remote communities was undertaken in line with our monitoring program.

This reflects a significant improvement compared to 2022-23, where 9 remote communities had some water quality parameters missed, requiring assessment based on historical data.

The remote community profiles show:

- i. Two *E. coli* detections in Haasts Bluff and Wallace Rockhole. Both detections were unverified in priority responsive verification sampling.
- ii. Health parameters with ADWG 'not met' include: Alpurrurulam (fluoride 1.7 mg/L), Wugularr (Beswick) (antimony 0.009 mg/L), Bulla (barium 20 mg/L), Nauiyu (manganese 2 mg/L), Nyirripi (fluoride 1.7 mg/L).
- iii. Across the 72 remote communities multiple aesthetic parameters were not met, most commonly chlorine.

All exceedances are described in more detail in 'your drinking water characteristics' or refer to individual community water quality assessments in **Appendix C**.



Figure 35 – Acacia Larrakia drinking water profile

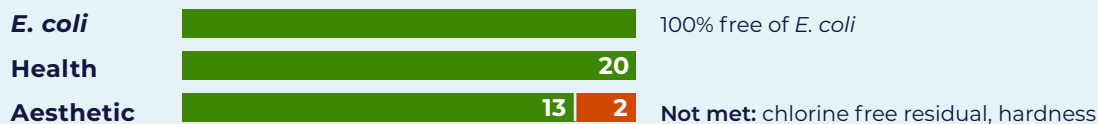


Figure 36 – Ali Curung drinking water profile



Figure 37 – Alpururulam drinking water profile

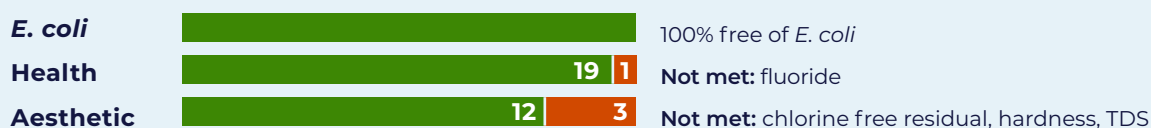


Figure 38 – Amanbidji drinking water profile

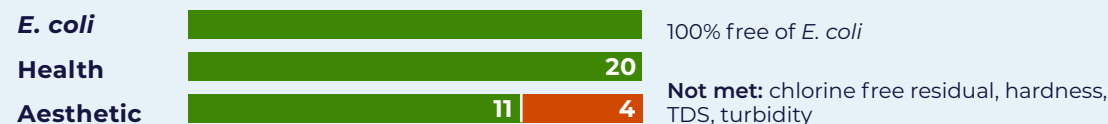


Figure 39 – Amoonguna drinking water profile

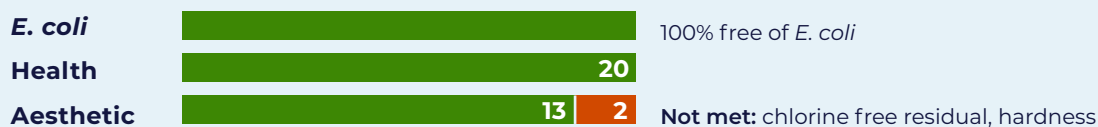


Figure 40 – Ampilatwatja drinking water profile

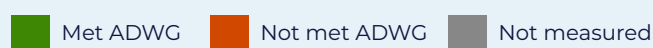
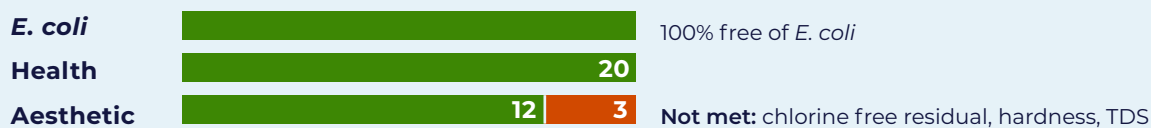


Figure 41 – Angurugu drinking water profile

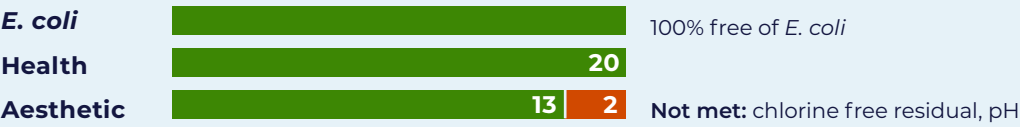


Figure 42 – Areyonga drinking water profile

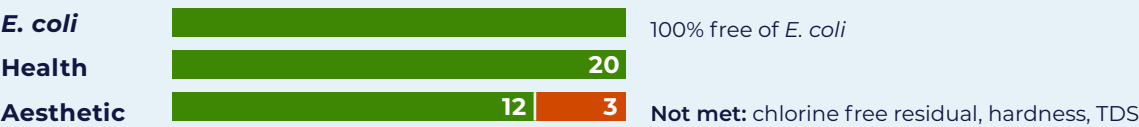


Figure 43 – Atitjere drinking water profile

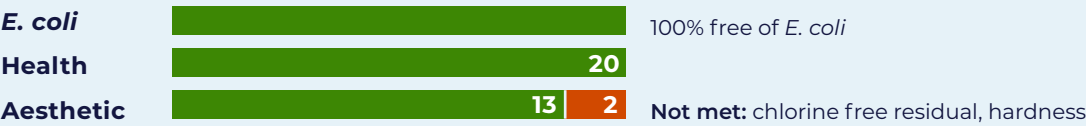


Figure 44 – Barunga drinking water profile

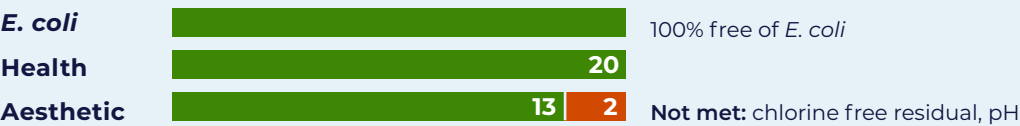


Figure 45 – Belyuen drinking water profile



Figure 46 – Binjari drinking water profile

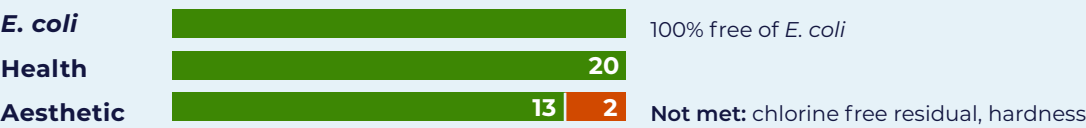


Figure 47 – Bulla drinking water profile

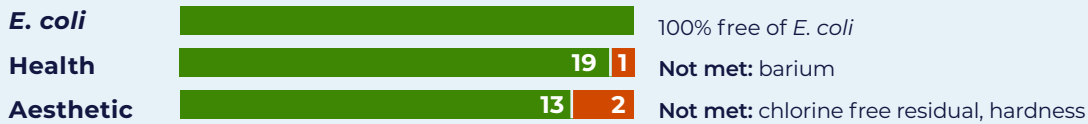


Figure 48 – Bulman drinking water profile

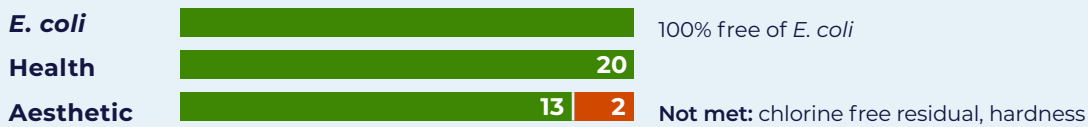


Figure 49 – Canteen Creek drinking water profile

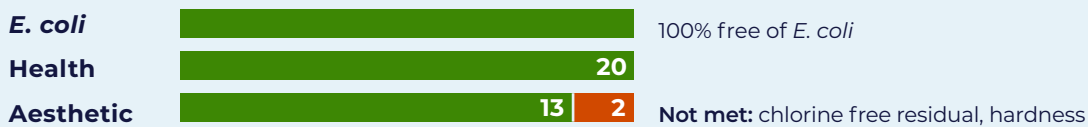


Figure 50 – Daguragu drinking water profile

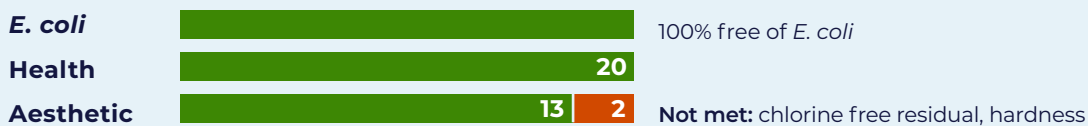


Figure 51 – Engawala drinking water profile

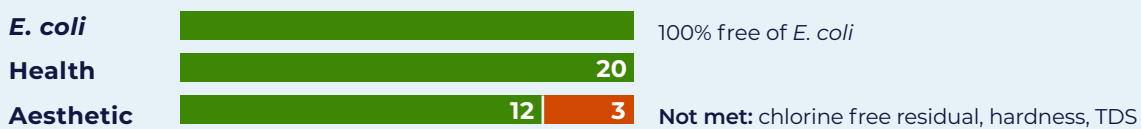


Figure 52 – Finke drinking water profile

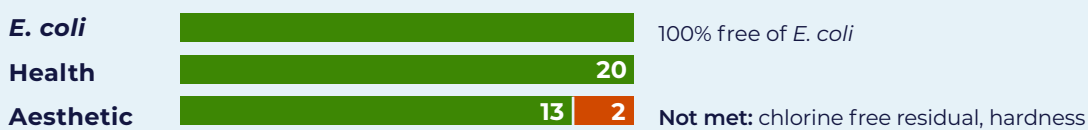


Figure 53 – Galiwinku drinking water profile

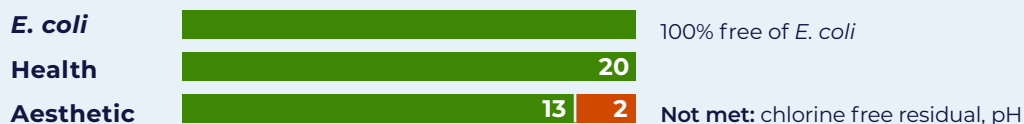


Figure 54 – Gapuwiyak drinking water profile

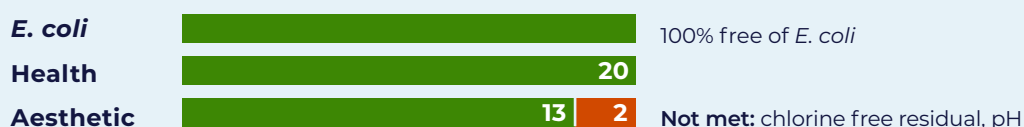


Figure 55 – Gunbalanya drinking water profile

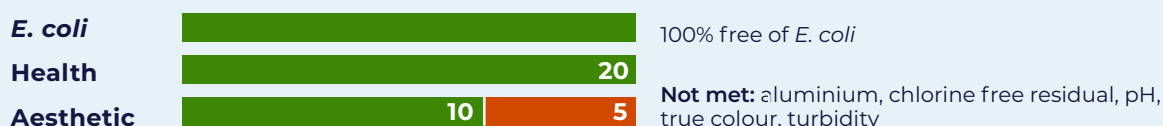


Figure 56 – Gnyangara drinking water profile



Figure 57 – Haasts Bluff drinking water profile



Figure 58 – Hermannsburg drinking water profile

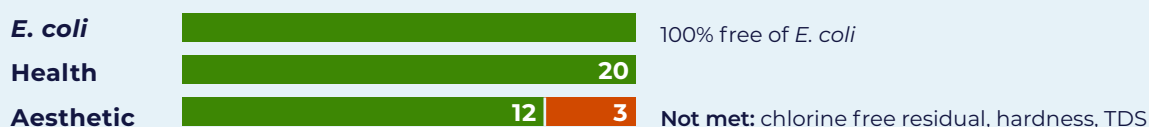


Figure 59 – Imangara drinking water profile

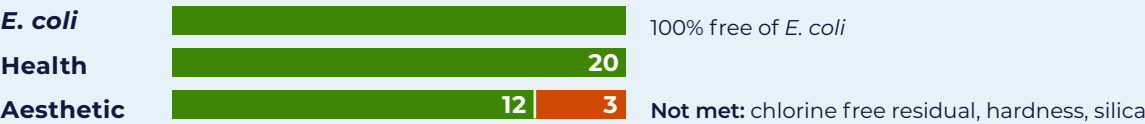


Figure 60 – Imanpa drinking water profile

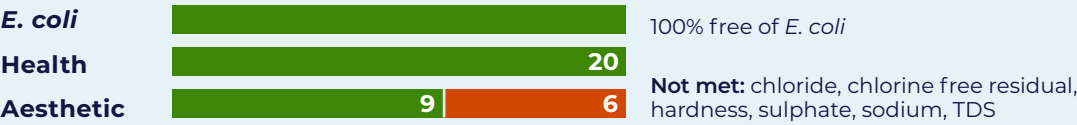


Figure 61 – Jilkminggan drinking water profile

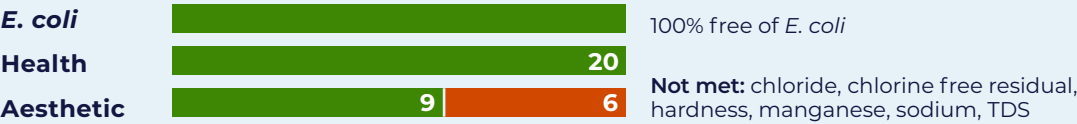


Figure 62 – Kalkarindji drinking water profile

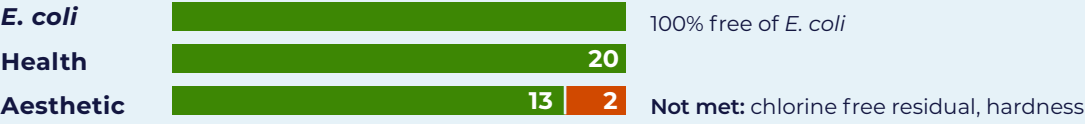


Figure 63 – Kaltukatjara drinking water profile

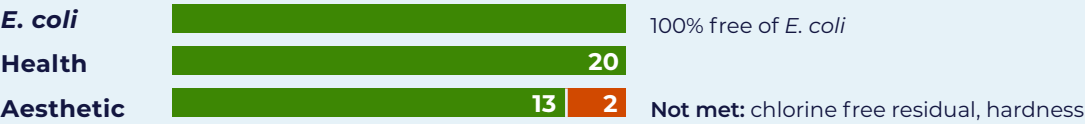


Figure 64 – Kintore drinking water profile

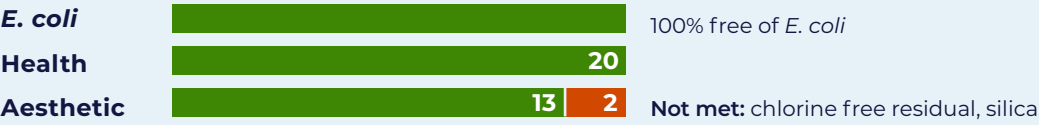


Figure 65 – Kybrook Farm drinking water profile



Figure 66 – Lajamanu drinking water profile

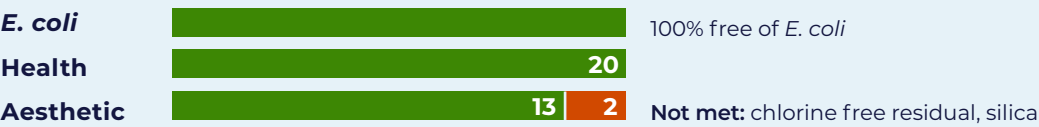


Figure 67 – Laramba drinking water profile

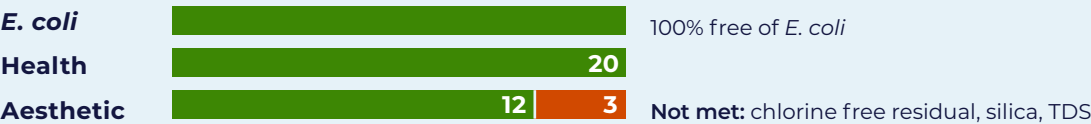


Figure 68 – Maningrida drinking water profile

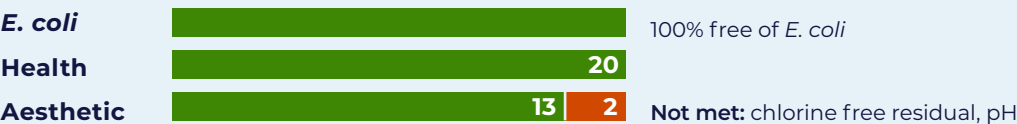


Figure 69 – Manyallaluk drinking water profile

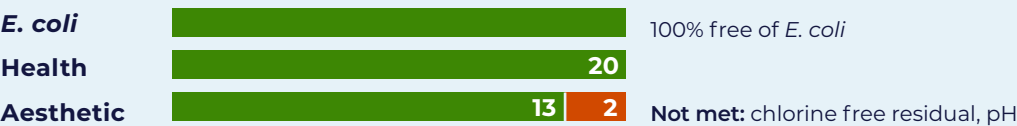


Figure 70 – Milikapiti drinking water profile

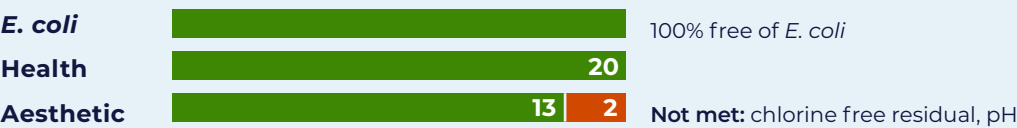


Figure 71 – Milingimbi drinking water profile

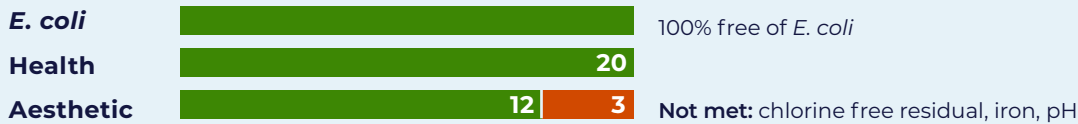


Figure 72 – Milyakburra drinking water profile



Figure 73 – Minjilang drinking water profile

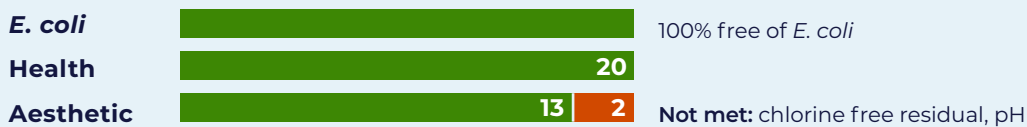


Figure 74 – Minyerri drinking water profile

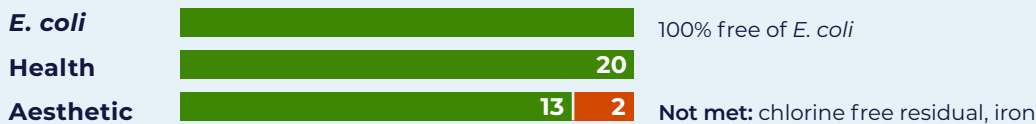


Figure 75 – Mt Liebig drinking water profile

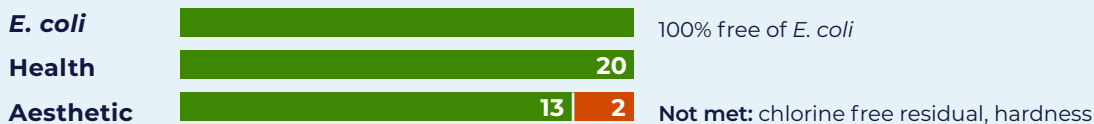


Figure 76 – Nauiyu drinking water profile

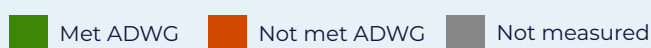
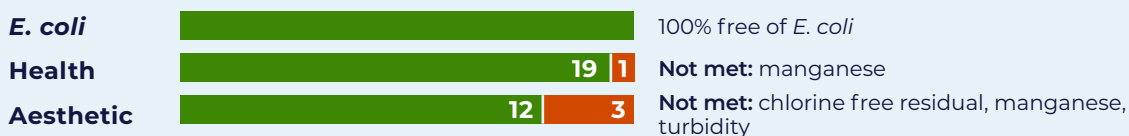


Figure 77 – Nganmarriyanga drinking water profile

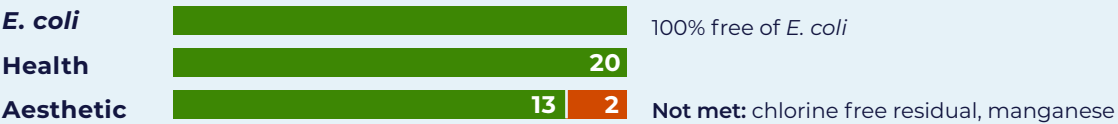


Figure 78 – Ngukurr drinking water profile

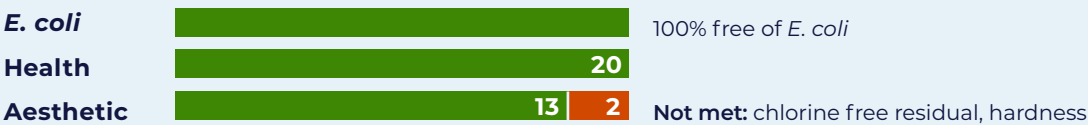


Figure 79 – Nitjpurru (Pigeon Hole) drinking water profile

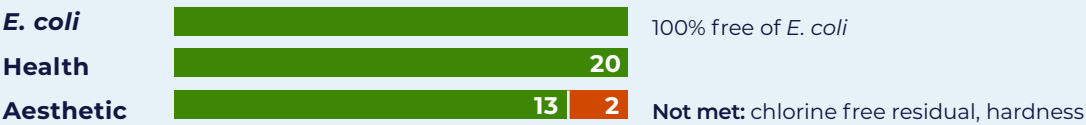


Figure 80 – Nturiya drinking water profile

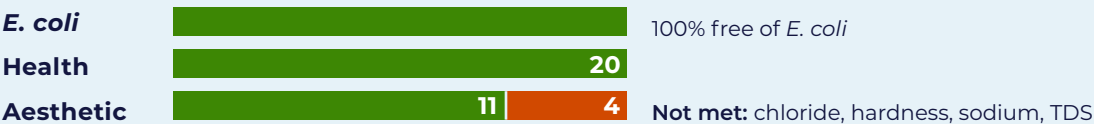


Figure 81 – Numbulwar drinking water profile

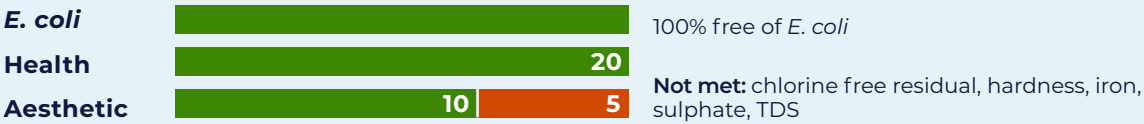


Figure 82 – Nyirripi drinking water profile

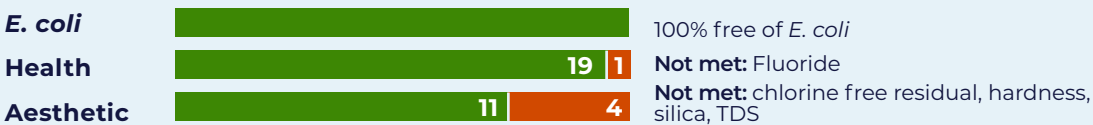


Figure 83 – Papunya drinking water profile

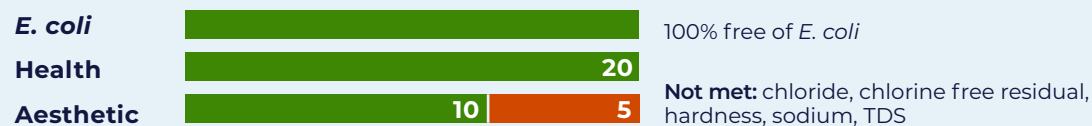


Figure 84 – Peppimenarti drinking water profile



Figure 85 – Pirlangimpi drinking water profile

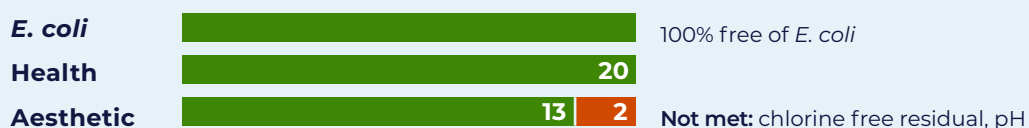


Figure 86 – Pmara Jutunta drinking water profile

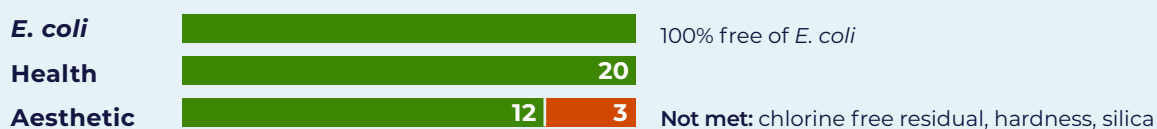


Figure 87 – Ramininging drinking water profile

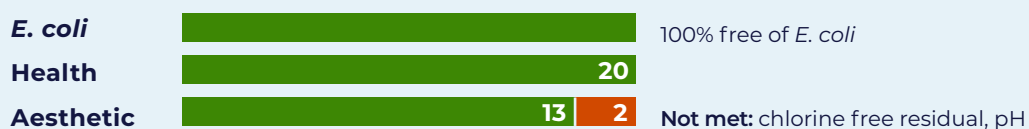


Figure 88 – Rittarangu drinking water profile

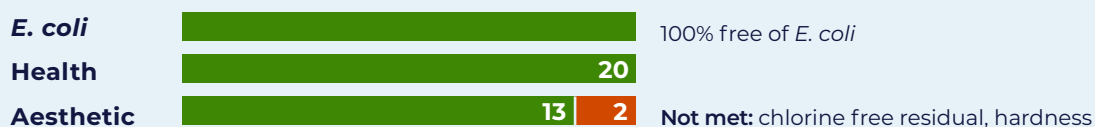


Figure 89 – Robinson River drinking water profile

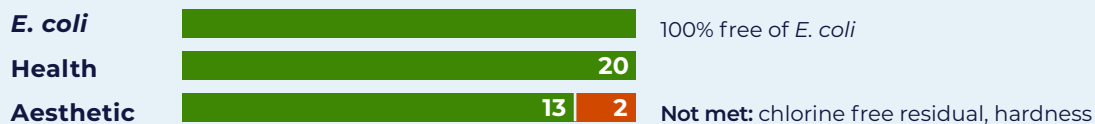


Figure 90 – Santa Teresa drinking water profile

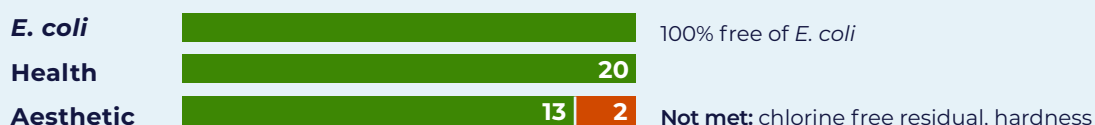


Figure 91 – Tara drinking water profile

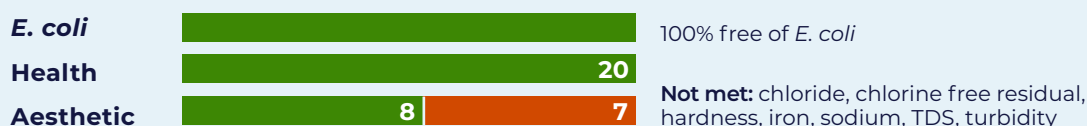


Figure 92 – Titjikala drinking water profile

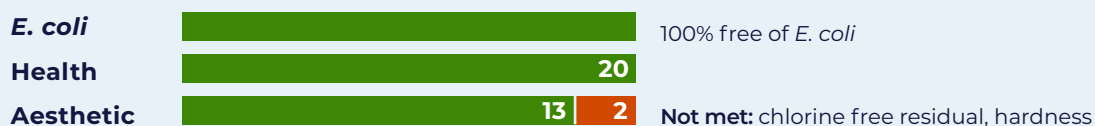


Figure 93 – Umbakumba drinking water profile

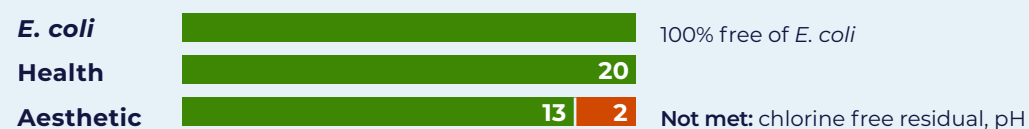


Figure 94 – Wadeye drinking water profile

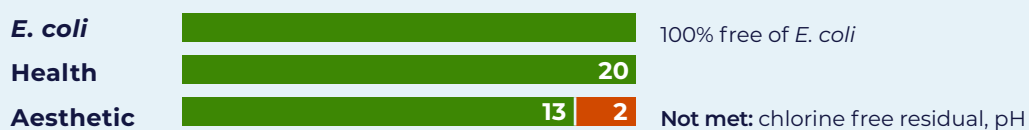


Figure 95 – Wallace Rockhole drinking water profile



Figure 96 – Warruwi drinking water profile



Figure 97 – Weemol drinking water profile

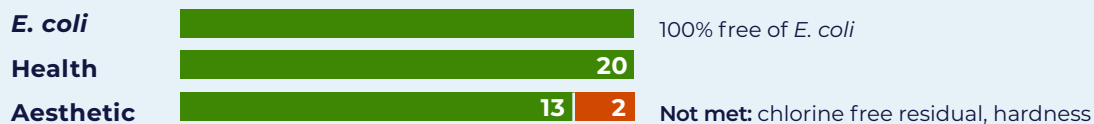


Figure 98 – Willowra drinking water profile

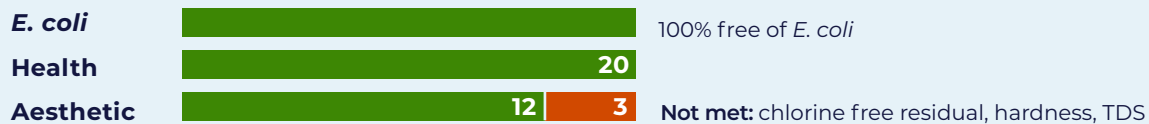


Figure 99 – Wilora drinking water profile

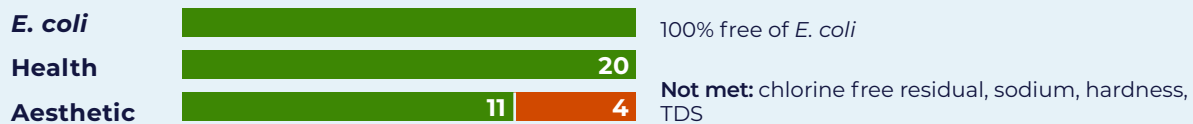


Figure 100 – Wugullar (Beswick) drinking water profile

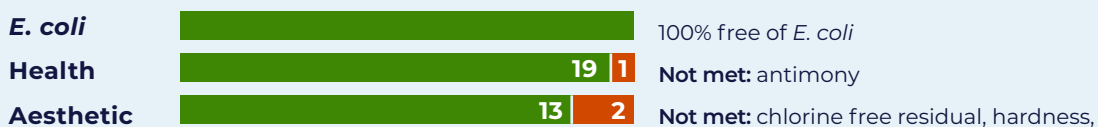


Figure 101 – Wurrumiyanga drinking water profile

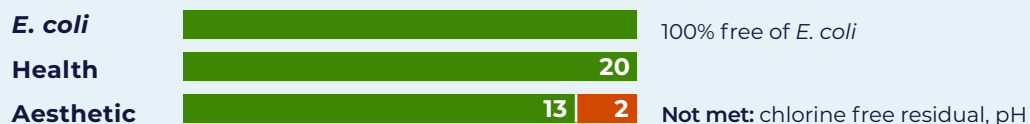


Figure 102 – Wutunugurra drinking water profile



Figure 103 – Yarralin drinking water profile

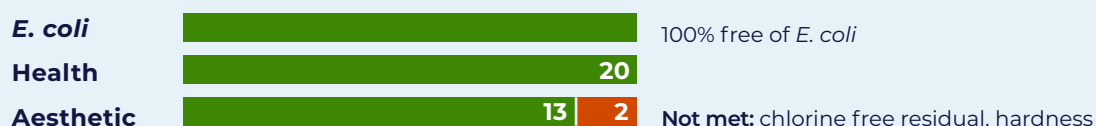


Figure 104 – Yirrkala drinking water profile



Figure 105 – Yuelamu drinking water profile

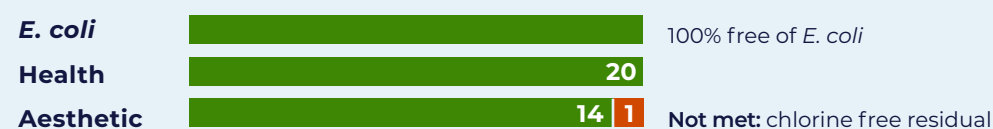
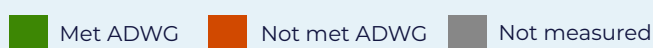
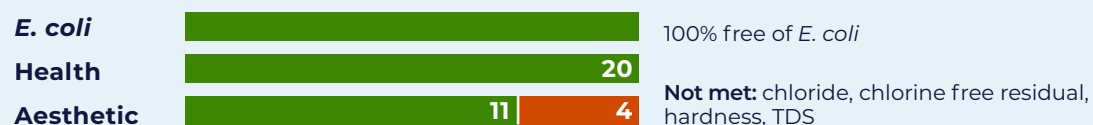


Figure 106 – Yuendumu drinking water profile







Your Drinking Water Characteristics

Microbiological

The sample collection performance for individual remote communities for the 2023-24 reporting period is presented in **Table 35, page 154 Appendix C**.

Figure 107, page 89 shows where *E. coli* was detected in communities over the last 5 years. Red markers indicate verified detections, while white dots represent unverified detections (false positives).

*There have been no confirmed detections of *E. coli* in the past 5 years, with exception of Nitjpurru in 2023, where an extreme flooding event led to a boil water alert being issued by NT Health.*

Radiological

Radiological dose assessments for all communities can be found in **Table 7, page 90**.

The results show that all communities are below the 1mSv/year ADWG reference level set as a safety benchmark in the ADWG.

The majority of remote communities are at response level 1. Eight communities have a dose level between 0.3-1 mSv/year, requiring a level 2 operational response (**see Table 4, page 50**). All remote communities are well below 10 mSv/year; response level 4.

At response level 1, the ADWG recommendation is to consider increased monitoring in consultation with NT Health.

The frequency of monitoring in Binjari is undertaken quarterly to ensure dose levels remain below 1 mSv/year. Monitoring in other communities with stable levels of radionuclides is reviewed annually.

Figure 107 – E. coli detections by community from 2020 (left dot) to 2024 (right dot)

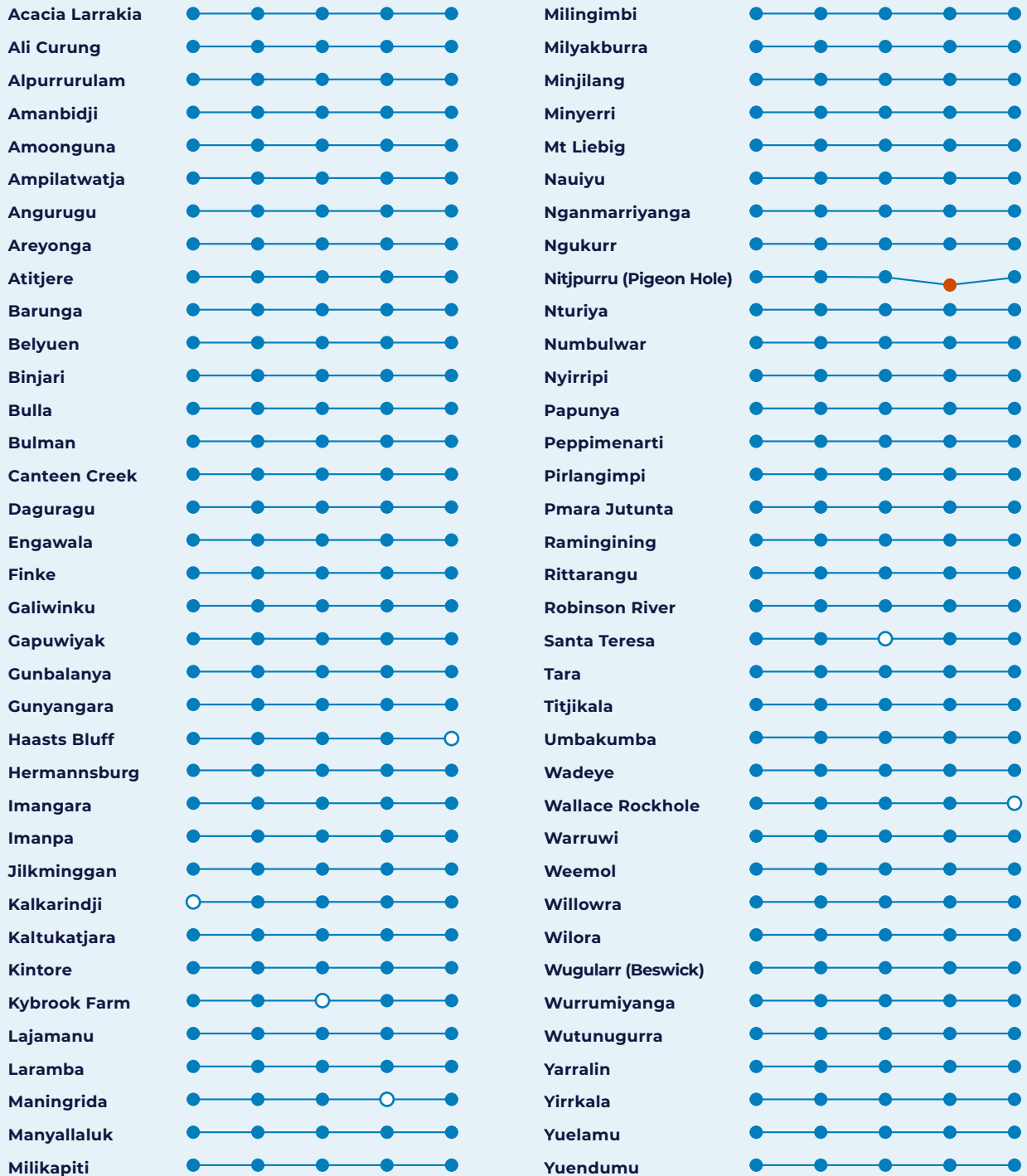
● No *E. coli* detected for reporting period○ Detection of *E. coli* was not verified when re-sampled● At least one confirmed *E. coli* detection for reporting period

Table 7 – Remote community radiological dose assessment

Community	Radiological dose mSv/year	Operational Response Level	Community	Radiological dose mSv/year	Operational Response Level
Acacia Larrakia	0.04	1	Milingimbi	0.14	1
Ali Curung	0.03	1	Milyakburra	0.03	1
Alpurrurulam	0.22	1	Minjilang	0.03	1
Amanbidji	0.03	1	Minyerri	0.03	1
Amoonguna	0.29	1	Mt Liebig	0.11	1
Ampilatwatja	0.18	1	Nauiyu	0.13	1
Angurugu	0.04	1	Nganmarriyanga	0.06	1
Areyonga	0.39	2	Ngukurr	0.05	1
Atitjere	0.08	1	Nitjpurru (Pigeon Hole)	0.06	1
Barunga	0.04	1	Nturiya	0.23	1
Belyuen	0.12	1	Numbulwar	0.03	1
Binjari	0.71	2	Nyirripi	0.1	1
Bulla	0.27	1	Papunya	0.09	1
Bulman	0.06	1	Peppimenarti	0.07	1
Canteen Creek	0.32	2	Pirlangimpi	0.03	1
Daguragu	0.09	1	Pmara Jutunta	0.07	1
Engawala	0.08	1	Ramingining	0.04	1
Finke	0.11	1	Rittarangu	0.06	1
Galiwinku	0.05	1	Robinson River	0.05	1
Gapuwiyak	0.03	1	Santa Teresa	0.18	1
Gunbalanya	0.03	1	Tara	0.36	2
Gunyangara	0.03	1	Titjikala	0.18	1
Haasts Bluff	0.19	1	Umbakumba	0.04	1
Hermannsburg	0.08	1	Wadeye	0.03	1
Imangara	0.24	1	Wallace Rockhole	0.36	2
Imanpa	0.54	2	Warruwi	0.03	1
Jilkminggan	0.18	1	Weemol	0.03	1
Kalkarindji	0.13	1	Willowra	0.26	1
Kaltukatjara	0.12	1	Wilora	0.39	2
Kintore	0.03	1	Wugullar (Beswick)	0.04	1
Kybrook Farm	0.03	1	Wutunugurra	0.21	1
Lajamanu	0.04	1	Wurrumiyanga	0.03	1
Laramba	0.05	1	Yarralin	0.06	1
Maningrida	0.17	1	Yirrkala	0.04	1
Manyallaluk	0.11	1	Yuelamu	0.11	1
Milikapiti	0.04	1	Yuendumu	0.3	2

Health exceedances

There were 5 communities where ADWG health parameters exceeded for this reporting period and are shown in **Table 8 (below)**. These were antimony, barium, manganese and fluoride

In previous years other health parameters such as nitrate and uranium have been exceeded. This information is captured and shown in **Section 3 – Health Assessment Trends**.

Tables 36-39, page 157-164 in Appendix C, shows the results for health-related parameters in remote communities.

Table 8 – Health exceedances in remote communities

Centre	Parameter	ADWG (mg/L)	Result (mg/L)
Alpururulam	Fluoride	1.5	1.7
Bulla	Barium	2	20
Naiyu	Manganese	0.5	3
Nyirripi	Fluoride	1.5	1.7
Wugularr (Beswick)	Antimony	0.003	0.009

Antimony

Figure 108 (upper right) shows Wugularr (Beswick) was the only community to exceed ADWG (0.003 mg/L). Wugularr returned a maximum concentration of 0.009 mg/L. See **Table 10, page 109** and **Figure 126, page 115** for long term assessments of antimony trends in Wugularr (Beswick) with a drilling project to investigate likelihood of improved water security for this community **page 124**.

Barium

Figure 109 (lower right) shows Bulla was the only community to exceed ADWG (2 mg/L) for barium. Bulla returned a maximum concentration of 16 mg/L (rounded to 20 mg/L for the assessment). See **Table 10, page 109** and **Figure 125, page 114** for long term assessments trends on barium in Bulla since 2015.

Figure 108 – Antimony level in Wugularr (Beswick) compared to ADWG (0.003 mg/L)

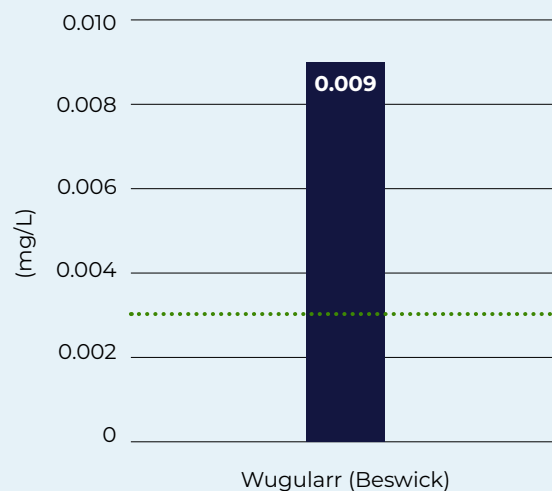
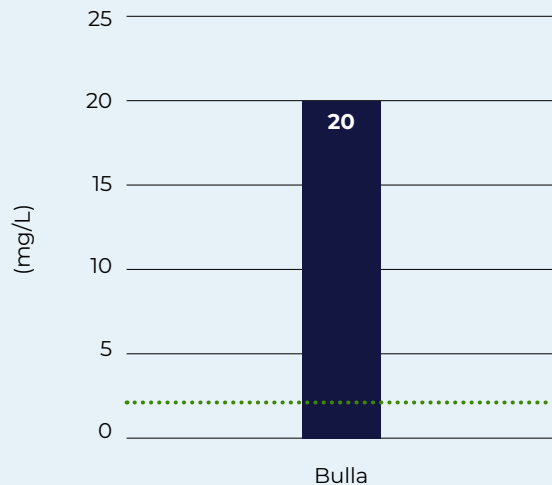


Figure 109 – Barium level in Bulla compared to ADWG (2 mg/L)



Chlorine free residual

All remote communities that use chlorine for disinfection exceeded the aesthetic ADWG (0.6 mg/L). Power and Water’s priority is provision of drinking water free of pathogens. See ‘Understanding the parameters’, Microbiological for information on *N. fowleri* and *B. pseudomallei*, page 50.

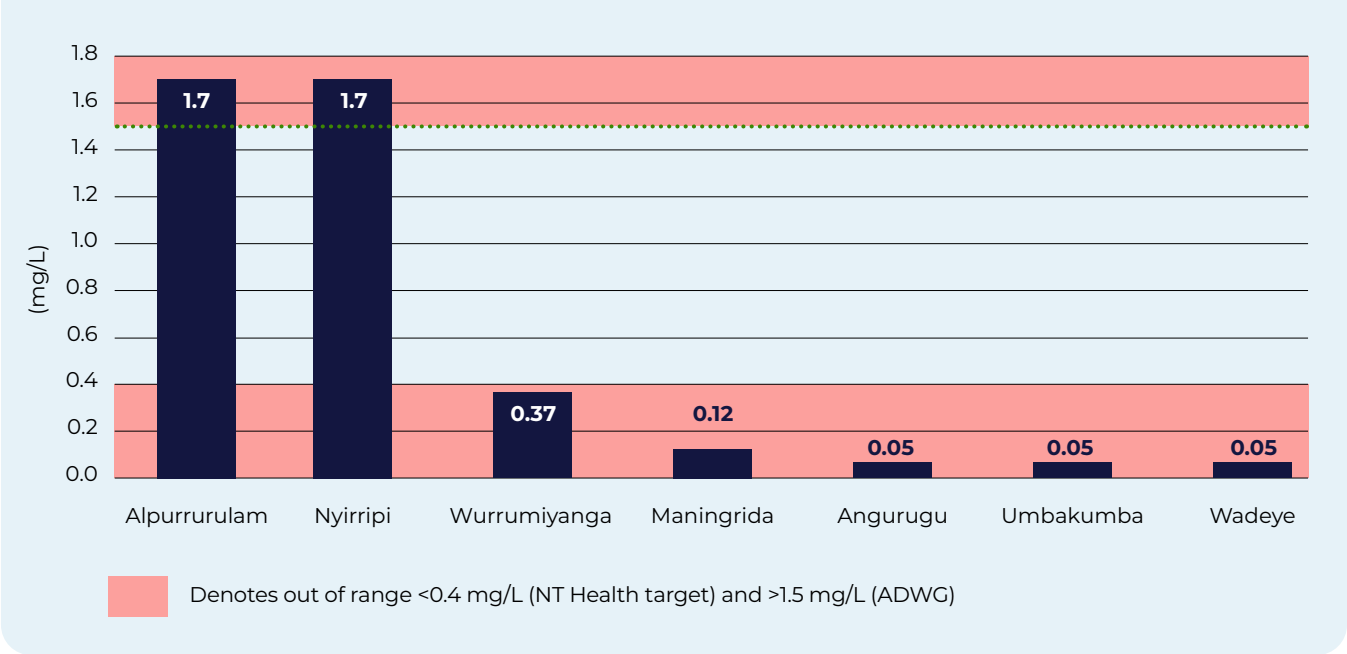
Nturiya and Wilora utilise UV disinfection instead of chlorine. As a result, chlorine-free residuals were not measured in Wilora and are not considered a reliable indicator in Nturiya.

Fluoride

Figure 110 (below) shows 2 communities, Alpururulam and Nyirripi exceed ADWG (1.5 mg/L). While 5 communities where fluoride is added to the supply; Wurrumiyanga, Maningrida, Angurugu, Umbakumba and Wadeye are below the NT Health target (0.4 mg/L). Power and Water is planning to undertake an audit of fluoride dosing systems across the NT in 2025-2026. See ‘Understanding the parameters’ page 51 for information on why fluoride is added to some water supplies.

See Table 10 page 109 for health assessment trends on fluoride in Alpururulam and Nyirripi.

Figure 110 – Communities with out of range Fluoride > ADWG (1.5 mg/L) or < NT Health target (0.4 mg/L)



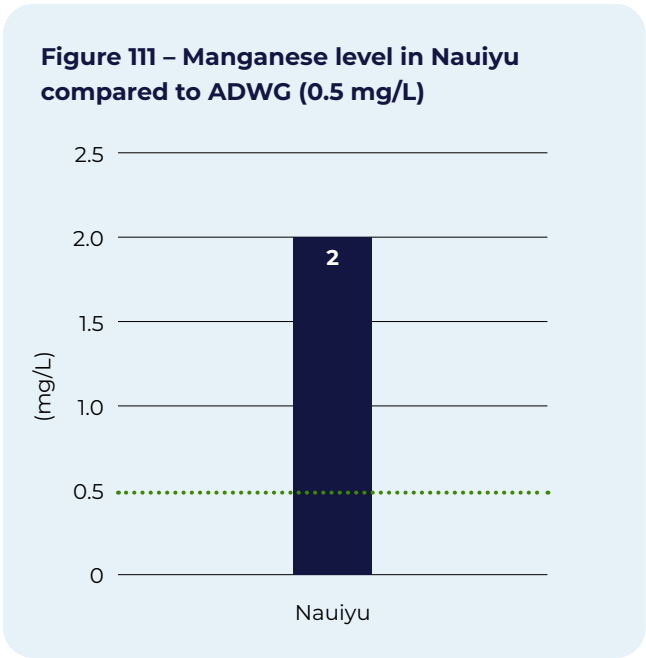


Yirrkala Ground Level Tank

Manganese

Figure 111 (below) shows the manganese concentration in Naiyu exceeded ADWG (0.5 mg/L) with a maximum of 2 mg/L.

See **Table 10, page 109** and **Figure 127, page 116** for longterm assessments of manganese trends in Naiyu.



Aesthetic exceedances

Exceedances for aesthetic parameters are summarised in **Table 9 (below)**. Apart from chlorine free, the most common aesthetic exceedances in remote communities is hardness (41 communities), pH (19 communities) and TDS (18 communities).

Table 40, page 166 in **Appendix C** shows the results for aesthetic-related parameters in the remote communities.

Table 9 – Aesthetic exceedances in remote communities

Parameter	Communities with exceedances
Aluminium	1 out of 72
Chloride	8 out of 72
Chlorine free residual	70 out of 72
Hardness	41 out of 72
Iron	4 out of 72
Manganese	3 out of 72
pH	19 out of 72
Sulphate	2 out of 72
Silica	6 out of 72
Sodium	6 out of 72
TDS	19 out of 72
True Colour	1 out of 72
Turbidity	4 out of 72

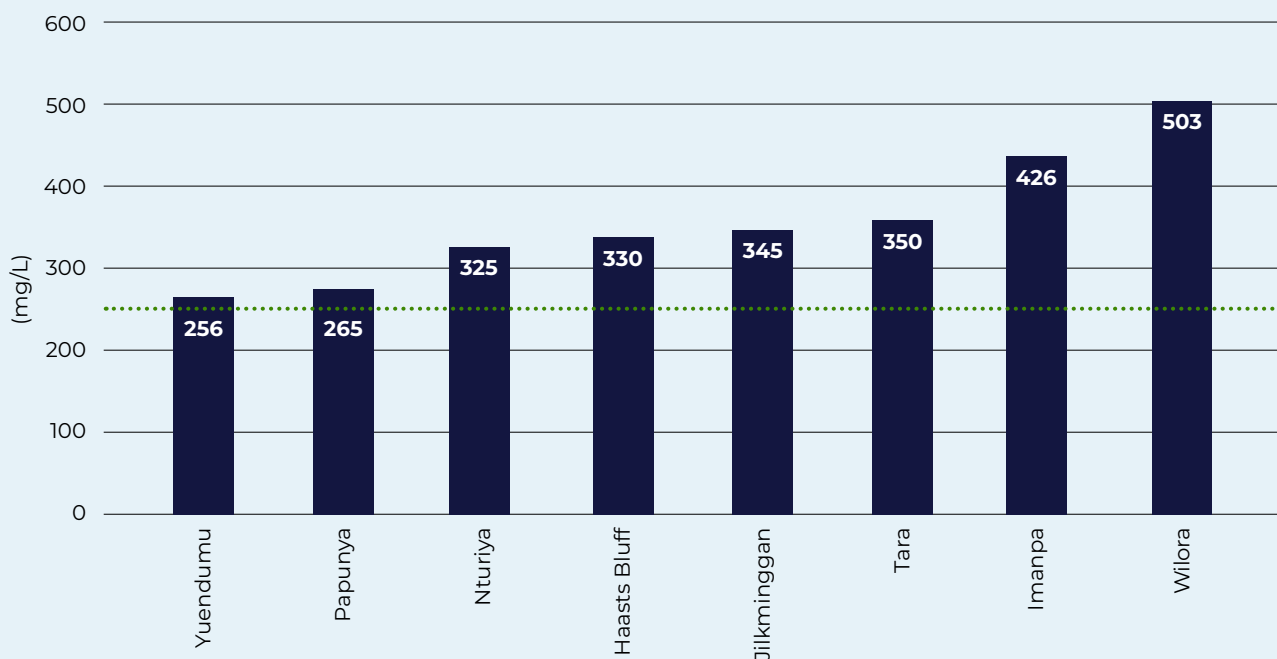


Chloride

Figure 112 (below) shows 8 communities exceed the chloride ADWG (250 mg/L). See ‘**Understanding the parameters**’, **page 53** for information on chloride.

Seven of the 8 communities are located within the Barkly and Southern regions, consistent with elevated hardness and TDS typically observed in these regions. Jilkminggan is an exception and located within the Katherine region. Hardness and TDS in Jilkminggan is explored further in ‘**Aesthetic assessment and box plot trends**’ **pages 112-113** and **Figures 128 and 129**, on **pages 117 and 118**.

Figure 112 – Communities with chloride levels greater than ADWG (250 mg/L)



Hardness

Figure 121, page 100 shows that 26 of the 72 communities meet ADWG (200 mg/L), 7 with good quality.

Nineteen coastal communities, from Wadeye in the west across to Angurugu in the east, have soft and possibly corrosive water. Manyallaluk (29 mg/L) and Barunga (5.2 mg/L) in the Katherine region, draw soft water from a cretaceous sandstone aquifer are notable exceptions despite being located inland.

The remaining 46 have water with either increasing or severe scaling issues exceeding ADWG (200 mg/L). These are primarily located in the Barkly and Southern regions. The exceptions are Ali Curung, Kintore and Yuelamu, which as a benefit of EDR treatment to remove nitrate, have soft water.

Jilkminggan recorded the highest hardness level at 860 mg/L and is explored further in **'Aesthetic assessment and box plot trends'** **Figure 128 on page 117.**

Langelier Saturation Index (LSI)

LSI does not have an ADWG value. Rather it is a calculation incorporating pH, hardness, TDS and temperature to estimate the corrosivity and scale forming potential of water. **Figure 122, page 102** shows that a majority (54%) of communities in the Katherine, Barkly and Southern regions (39 out of 72) have balanced water, that is neither corrosive or scale forming (LSI value -1 to 1). However, 10 communities located in the Barkly and Southern regions are scale-forming, LSI value of >1, due to their high pH (7.5-8.2) and high TDS (460-1700 mg/L).

All 17 coastal communities from Wadeye to Angurugu, are low in pH (4.8-6.3) and low in hardness (0.5-35 mg/L), with an LSI value <-3, which classifies them as severely corrosive. Manyallaluk and Barunga which are located inland, due to the nature of their groundwater are low in pH <6 and hardness (5.2-29 mg/L) and also considered to be severely corrosive.

pH

Figure 123, page 104 shows that 17 coastal communities, from Wadeye in the west across to Angurugu in the east, have a low in pH below ADWG (6.5) which may be corrosive. Notable exceptions are Manyallaluk (pH 6) and Barunga (pH 5.4) in the Katherine region, where bores draw from a cretaceous sandstone aquifer with a low pH.

The remaining 55 communities are within the ideal average pH range (6.5-8.5) and meet ADWG.

TDS

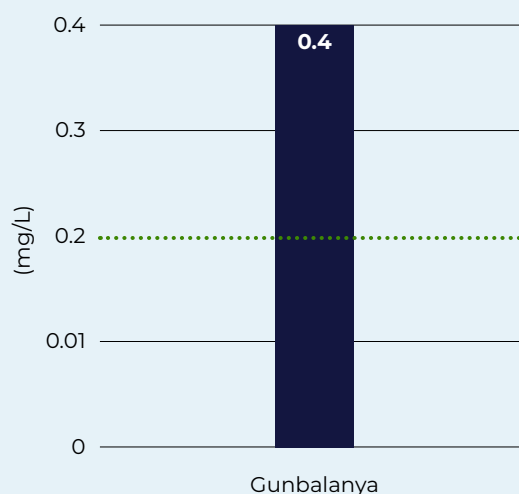
Figure 124, page 106 shows that 39 communities in the Northern and Katherine regions have TDS levels meeting ADWG (600 mg/L), indicating good palatability. The 3 exceptions are Amanbidji (650 mg/L) and Numbulwar (710 mg/L) which have fair palatability and Jilkminggan (1500 mg/L) which has unacceptable palatability.

In the Barkly and Southern regions, most communities (18) have high TDS levels above the ADWG and 12 communities have good palatability <ADWG (600 mg/L). Imanpa (1400 mg/L) and Wilora (1700 mg/L) have unacceptable palatability and also have high levels of hardness, sodium and chloride.

Aluminium

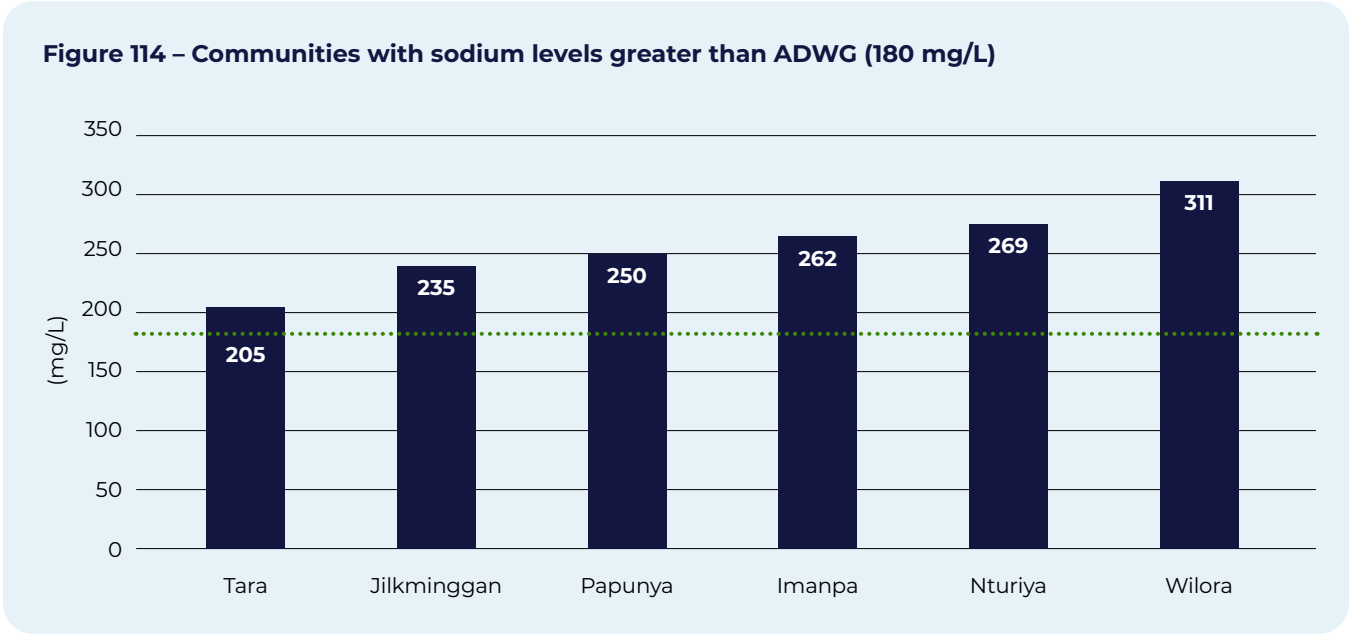
Figure 113 (below) shows all but one community met ADWG (0.2 mg/L). Gunbalanya had an average concentration of 0.4 mg/L. See **'Understanding the parameters'** **page 53** for more information on aluminium.

Figure 113 – Communities with aluminium levels greater than ADWG (0.2 mg/L)



Sodium

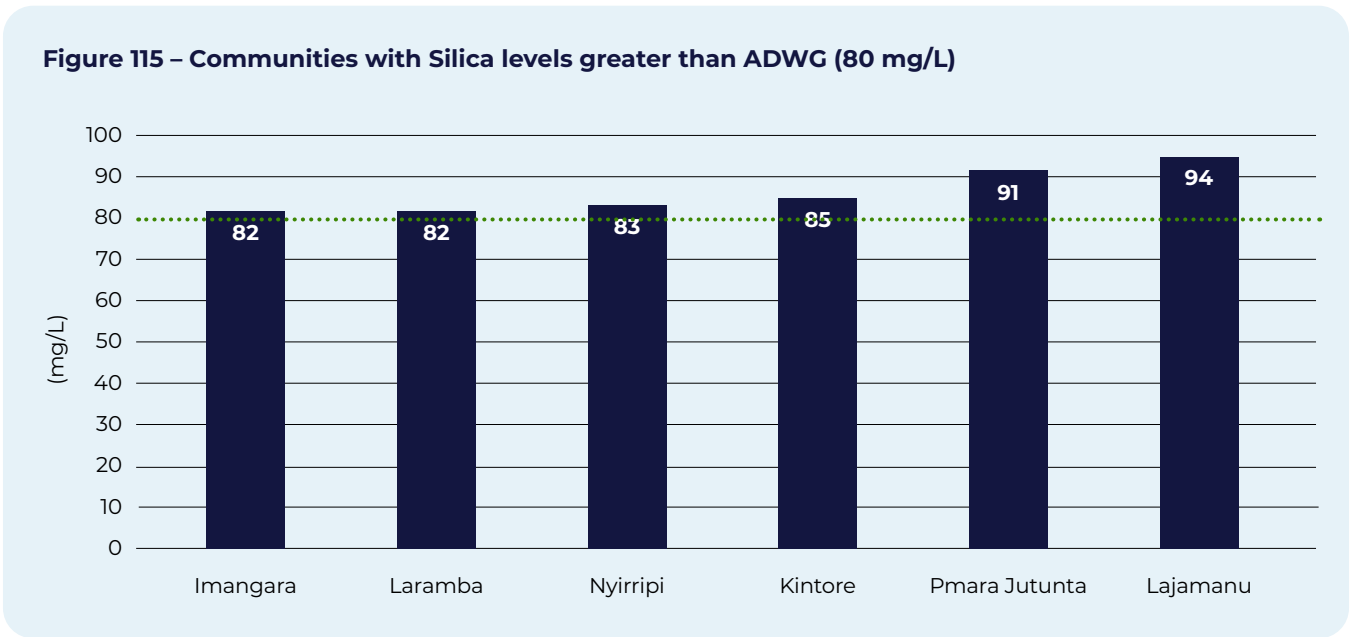
Figure 114 (below) shows 6 communities exceed the ADWG (180 mg/L). See **Table 11, page 112** for Jilkminggan's aesthetic assessment trend on sodium data from 2015-24. See **'Understanding the parameters'** **page 54** for information on sodium and how it contributes to TDS and palatability.



Silica

Figure 115 (below) shows 6 communities exceed the ADWG (80 mg/L). See **'Understanding the parameters', page 54** for information on silica.

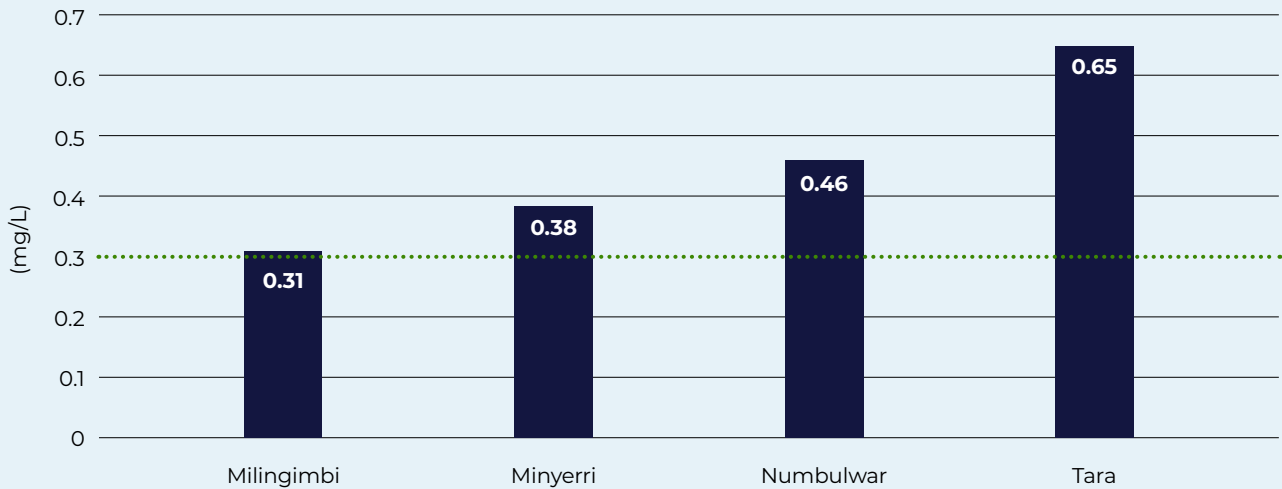
Five of these communities with silica ranging from 82 – 91 mg/L are within the Barkly and Southern regions. The highest average silica concentration was in Lajamanu (94 mg/L). While Lajamanu is grouped within the Katherine region, it is 560km south west of Katherine and geographically located in the Tanami desert.



Iron

Figure 116 (below) shows 4 communities exceed ADWG (0.3 mg/L). See ‘Understanding the parameters’ page 54 for information on iron.

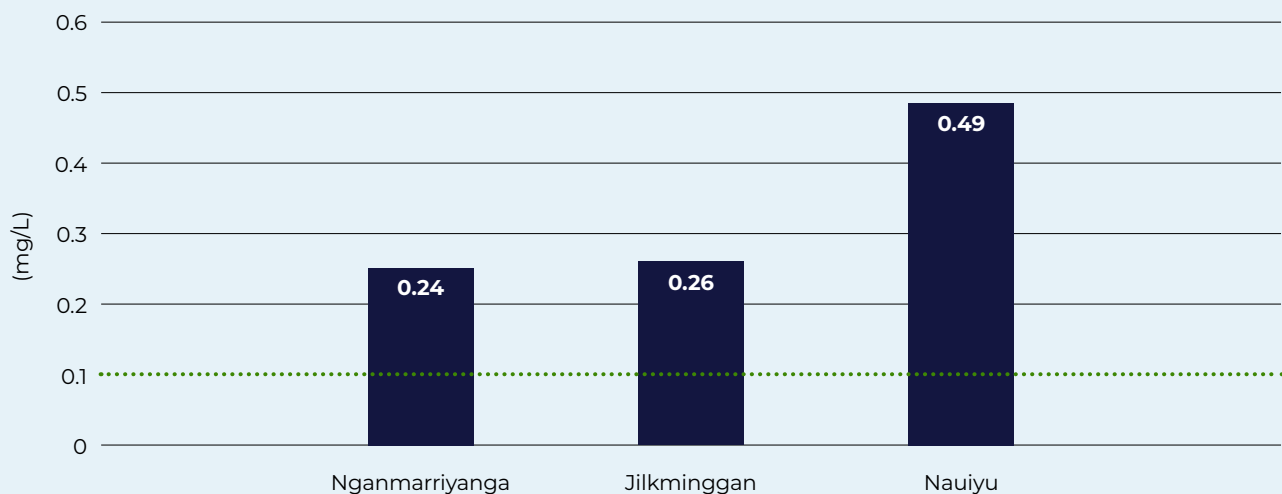
Figure 116 – Communities with iron levels greater than ADWG (0.3 mg/L)



Manganese

Figure 117 (below) shows 3 communities exceed ADWG (0.1 mg/L). See ‘Understanding the parameters’ page 54 for information on manganese.

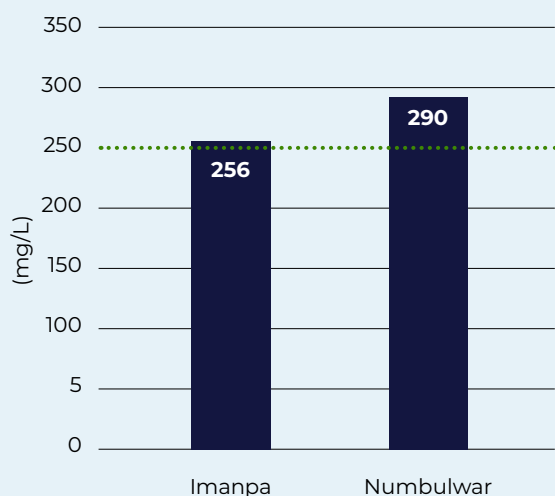
Figure 117 – Communities with manganese levels greater than ADWG (0.1 mg/L)



Sulphate

Figure 118 (below) shows 2 communities exceed the ADWG (250 mg/L). See 'Understanding the parameters' page 54 for information on sulphate.

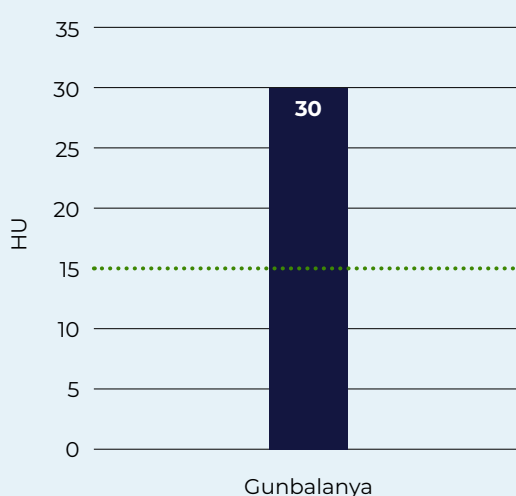
Figure 118 – Communities with sulphate levels greater than ADWG (250 mg/L)



True Colour

Figure 119 (below) shows that one community, Gunbalanya, exceeds the ADWG (15 HU) for true colour, this may be related to the aluminium exceedance in this community (**Figure 113**) and being low in pH (**Figure 123, page 104**).

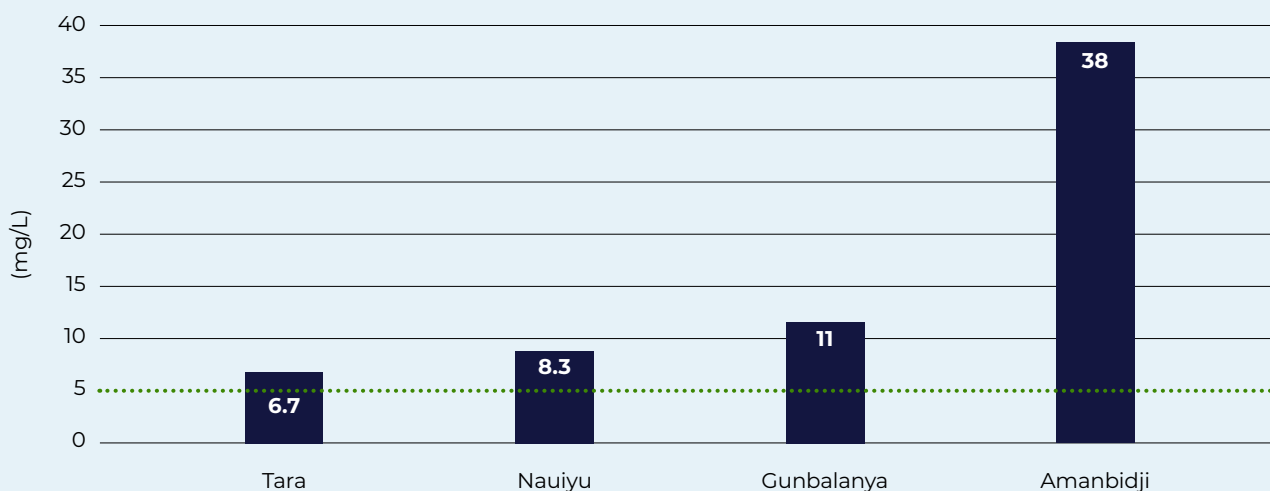
Figure 119 – Communities with true colour levels greater than ADWG (15 HU)



Turbidity

Figure 120 (below) shows 4 communities exceed the ADWG (5 NTU) for turbidity. See 'Understanding the parameters' page 55 for information on turbidity which can impact disinfection efficacy. Tara, Nauiyu, Gunbalanya and Amanbidji groundwater source are protected catchments, which helps reduce potential risks to disinfection.

Figure 120 – Communities with turbidity levels greater than ADWG (5 NTU)





Hardness

Figure 121 – Remote community degrees of hardness compared to ADWG (200 mg/L)



Communities above ADWG 200 mg/L

Community	Hardness (mg/L)
Pirlangimpi	0.5
Wadeye	2
Wurrumiyanga	2.3
Milikapiti	3
Galiwinku	3.5
Angurugu	3.9
Yirrkala	5
Barunga	5.2
Ramingining	5.3
Gunyangara	5.6
Belyuen	5.6
Gapuwiyak	6.1
Maningrida	6.6
Gunbalanya	6.6
Umbakumba	14
Warruwi	19
Minjilang	20
Milyakburra	20
Ali Curung	20
Manyallaluk	29
Milingimbi	32
Peppimenarti	35
Kintore	42
Yuelamu	54
Nganmarriyanga	93
Naiyu	130
Minyerri	140
Kybrook Farm	150
Wutunugurra	190
Laramba	190
Lajamanu	190

Community	Hardness (mg/L)
Titjikala	220
Finke	220
Canteen Creek	220
Acacia Larrakia	240
Tara	250
Pmara Jutunta	250
Bulla	250
Amoonguna	250
Willowra	260
Mt Liebig	260
Kalkarindji	260
Daguragu	270
Nyirripi	280
Atitjere	280
Santa Teresa	290
Rittarangu	290
Papunya	300
Wugularr (Beswick)	310
Kaltukatjara	310
Imangara	330
Wallace Rockhole	330
Yarralin	340
Hermannsburg	340
Binjari	340
Nitjpurru (Pigeon Hole)	350
Bulman	350
Nturiya	360
Amanbidji	370
Weemol	410
Ngukurr	460
Robinson River	470
Yuendumu	480
Alpururulam	500

Communities above ADWG 200 mg/L

Community	Hardness (mg/L)
Engawala	520
Numbulwar	530
Areyonga	530
Ampilatwatja	540
Imanpa	550
Haasts Bluff	600
Wilora	610
Jilkminggan	860

Figure 122 – LSI in remote communities map



Community	LSI Value
Angurugu	-5.13
Minjilang	-5.03
Wadeye	-4.98
Manyallaluk	-4.65
Wurrumiyanga	-4.60
Galiwinku	-4.58
Gunbalanya	-4.18
Pirlangimpi	-4.03
Maningrida	-3.97
Milikapiti	-3.94
Milingimbi	-3.91
Umbakumba	-3.911
Yirrkala	-3.87
Ramingining	-3.87
Gapuwiyak	-3.86
Milyakburra	-3.66
Barunga	-3.21
Belyuen	-3.04
Warruwi	-2.87
Gunyangara	-2.63
Peppimenarti	-1.24
Ali Curung	-0.70
Minyerri	-0.25
Yuelamu	-0.23
Kintore	-0.19
Kybrook Farm	-0.03
Naiyu	-0.00
Nganmarriyanga	0.01
Tara	0.06
Wutunugurra	0.11
Finke	0.17
Canteen Creek	0.19
Amoonguna	0.30
Laramba	0.45
Atitjere	0.50
Nitjpurru (Pigeon Hole)	0.50
Lajamanu	0.51
Titjikala	0.51

Community	LSI Value
Pmara Jutunta	0.58
Wallace Rockhole	0.62
Mt Liebig	0.63
Wugularr (Beswick)	0.68
Kalkarindji	0.68
Rittarangu	0.68
Nturiya	0.68
Acacia Larrakia	0.70
Santa Teresa	0.73
Weemol	0.74
Binjari	0.79
Numbulwar	0.83
Nyirripi	0.85
Imangara	0.89
Bulman	0.90
Yarralin	0.91
Willowra	0.93
Daguragu	0.94
Kaltukatjara	0.94
Haasts Bluff	0.95
Hermannsburg	0.97
Bulla	1.00
Ampilatwatja	1.01
Ngukurr	1.04
Alpurrurulam	1.05
Areyonga	1.08
Engawala	1.11
Jilkminggan	1.12
Yuendumu	1.12
Papunya	1.19
Amanbidji	1.19
Imanpa	1.23
Robinson River	1.28
Wilora	1.36

pH

Figure 123 - Map of pH across the communities compared to ADWG (6.5-8.5)



Communities below ADWG 6.5

Community	pH	Community	pH	Community	pH
Galiwinku	4.8	Tara	6.8	Bulman	7.7
Wurrumiyanga	4.8	Peppimenarti	7.1	Finke	7.7
Waruwi	4.9	Gunyangara	7.2	Imangara	7.7
Angurugu	5	Canteen Creek	7.3	Nganmarriyanga	7.7
Milingimbi	5	Wutunugurra	7.3	Nturiya	7.7
Wadeye	5.1	Kybrook Farm	7.4	Pmara Jutunta	7.7
Umbakumba	5.3	Minyerri	7.4	Santa Teresa	7.7
Barunga	5.4	Nitjpurru (Pigeon Hole)	7.4	Ali Curung	7.8
Gapuwiyak	5.5	Amoonguna	7.5	Numbulwar	7.8
Pirlangimpi	5.5	Engawala	7.5	Robinson River	7.8
Maningrida	5.6	Haasts Bluff	7.5	Daguragu	7.9
Yirrkala	5.6	Kintore	7.5	Hermannsburg	7.9
Milyakburra	5.8	Weemol	7.5	Ngukurr	7.9
Minjilang	5.8	Wugullar (Beswick)	7.5	Titjikala	7.9
Milikapiti	5.9	Amanbidji	7.6	Wilora	7.9
Gunbalanya	6	Ampilatwatja	7.6	Yuendumu	7.9
Manyallaluk	6	Binjari	7.6	Kaltukatjara	8
Ramingining	6	Jilkminggan	7.6	Laramba	8
Belyuen	6.3	Kalkarindji	7.6	Wallace Rockhole	8
		Lajamanu	7.6	Willowra	8
		Mt Liebig	7.6	Yuelamu	8
		Nauiyu	7.6	Atitjere	8.1
		Rittarangu	7.6	Bulla	8.1
		Yarralin	7.6	Nyirripi	8.1
		Acacia Larrakia	7.7	Papunya	8.1
		Alpurrurulam	7.7	Imanpa	8.2
		Areyonga	7.7		

TDS

Figure 124 – Remote community TDS levels of palatability compared to ADWG (600 mg/L)



Community	TDS (mg/L)
Gunbalanya	11
Pirlangimpi	11
Galiwinku	17
Angurugu	18
Barunga	22
Wurrumiyanga	22
Ramingining	24
Wadeye	24
Yirrkala	28
Maningrida	32
Milikapiti	36
Manyallaluk	37
Gapuwiyak	38
Gunyangara	39
Minjilang	40
Belyuen	52
Peppimenarti	75
Umbakumba	77
Waruwi	110
Milyakburra	120
Naiyu	130
Milingimbi	170
Minyerri	190
Nganmarriyanga	190
Acacia Larrakia	220
Kybrook Farm	240
Kintore	250
Ali Curung	260
Daguragu	290
Wugularr (Beswick)	290
Bulman	310
Rittarangu	310
Binjari	320
Bulla	320
Kalkarindji	320
Wutunugurra	330
Santa Teresa	340

Community	TDS (mg/L)
Titjikala	345
Weemol	350
Yarralin	370
Lajamanu	400
Nitjpurru (Pigeon Hole)	420
Robinson River	460
Canteen Creek	480
Imangara	550
Pmara Jutunta	550
Amoonguna	570
Atitjere	580
Kaltukatjara	580
Mt Liebig	590
Ngukurr	590

Communities above ADWG 600 mg/L

Community	TDS (mg/L)
Hermannsburg	610
Nyirripi	610
Yuelamu	620
Laramba	630
Amanbidji	650
Wallace Rockhole	670
Numbulwar	710
Willowra	730
Areyonga	840
Engawala	850
Finke	850
Alpurrurulam	900
Yuendumu	910
Ampilatwatja	1000
Papunya	1000
Haasts Bluff	1200
Nturiya	1200
Tara	1200
Imanpa	1400
Jilkminggan	1500
Wilora	1700

Section 3

Assessment of Trends and Water Quality Improvement Initiatives



Health Assessment Trends

The Health and Aesthetic trend assessment tables **Table 10 and 11, page 109-113**, show a number of common parameters that have either exceeded ADWG or have the potential to exceed. It compares the long term assessment value and yearly assessments (either max or 95P) across a number of years to explore the trends.

The Long-Term (LT) assessment represents data collected from 2015 to 2024. Yearly assessment values include data for that reporting period. This includes the previous three years (2021–23) as well as the current year (2024).

To help interpret these values, the 'Change' column includes an arrow indicating whether the trend is improving, declining, or remaining stable. This arrow is also colour coded to show if the assessment is below, equal to, or above ADWG.

The accompanying comments provide information on the significance of the exceedance, rationale behind changing trends, or details of any actions taken to manage risk or address the exceedance.

Table 10 – Health assessment trends

Parameter (mg/L)	Community	ADWG	Long Term 2015 -24	Historical 2021 2022 2023	Current 2024	Change	Comments
Antimony	Wugullar (Beswick)	0.003	0.009	0.008 0.008 0.009	0.009	↔	Stable levels of naturally occurring antimony in groundwater source >ADWG. NWGA funding aims to connect a new source with preferential quality to reduce exposure.
Barium	Bulla	2	20	4 10 20	20	↑	LT assessment and last 4 years >ADWG. In the wet season, high turbidity in the East Baines river impacts surface water treatment requiring sourcing supply from a single groundwater bore with naturally occurring levels of Barium >ADWG. Under normal operating conditions (i.e. dry season), surfacewater is prioritised and blended with groundwater to reduce Barium exposure to customers in Bulla. Refer to 'Box Plot Trends' & Figure 125.
Fluoride	Ali Curung	1.5	1.5	1.1 1.1 0.86	1.4	↓	LT assessment =ADWG. The last 4 years are <ADWG. EDR operational since 2014 to keep levels <ADWG. Levels can vary with environmental conditions or when EDR is offline.
	Alpurrrulam	1.5	1.7	1.7 1.7 1.7	1.7	↔	Stable levels > ADWG. Bottled water supplied to children under 12 & pregnant women. Project underway to equip new bores via NIAA funding.
	Nyirripi	1.5	1.9	1.7 1.7 1.7	1.7	↔	Stable levels > ADWG. Bottled water supplied to children under 12 & pregnant women. Investment planning being undertaken to determine long term treatment options.
	Tennant Creek	1.5	1.5	1.4 1.5 1.5	1.5	↔	Stable levels = ADWG, Selective blending of bores used to maintain levels ≤ADWG, while landholder consent for planned bore infrastructure is resolved.

Parameter (mg/L)	Community	ADWG	Long term 2015 -24	Historical 2021	2022	2023	Current 2024	Change	Comments
Fluoride	Timber Creek	1.5	1.5	1.6	1.3	1.5	1.5	↔	Stable levels ≤ ADWG. If levels exceed 1.5 mg/L, NT Health will be notified in accordance with established protocols and alternative supply made available for children under 12 & pregnant women.
	Yuelamu	1.7	1.7	0.76	1.7	0.8	0.64	↓	LT assessment >ADWG. 3 out of the last 4 years <ADWG. EDR operational since 2014 to keep levels <ADWG. Levels can vary with environmental conditions, when EDR is offline and historically with declining feed water quality (TDS).
Nitrate	Ali Curung	50	40	20	20	20	30	↔	Stable levels <ADWG. EDR operational since 2014 to keep levels <ADWG.
	Pmara Jutunta	50	50	50	50	40	40	↓	LT assessment = ADWG. Last 2 years <ADWG. When >ADWG NT Health provide advice to residents that water should not be used for bottle fed infants and Power and Water provide an alternative supply for those customers.
	Ti Tree	50	60	50	50	60	50	↔	Stable levels ≥ADWG. When >ADWG NT Health is notified and provide advise to residents that water should not be used for bottle fed infants and Power and Water provides an alternative supply for those customers.
Manganese	Bulla	0.5	0.5	0.7	0.1	0.2	0.1	↓	LT = ADWG and is influenced by historical exceedances. The last 3 years <ADWG following installation of filtration and UV disinfection on the surface water source.
	Naiiyu	0.5	1	1	0.8	3	2	↑	Levels regularly >ADWG, with an apparent increase in 2023 & 2024. An options investigation is currently underway to determine long term treatment options. As a precautionary measure, Power and Water provide an alternative water supply for bottle fed infants in Naiiyu. See 'Box plot Trends' & Figure 127.
Uranium	Laramba	0.02	0.05	0.05	0.05	0.04	0.008	↓	LT assessment and 2021-2023 >ADWG. The 2024 assessment <ADWG following implementation of ion-exchange treatment in 2023. See 'Water Quality Improvement Initiatives' & Figure 132.
	Willowra	0.02	0.03	0.03	0.03	0.02	0.02	↓	LT and 2021 to 2022 >ADWG. The last 2 years <ADWG.
	Wilora	0.02	0.02	0.02	0.02	0.02	0.02	↔	LT and 4 of last 4 years stable =ADWG.
	Yuendumu	0.02	0.02	0.02	0.02	0.02	0.02	↔	LT and 4 of last 4 years stable =ADWG. Selective blending of bores is used to keep uranium levels <ADWG.



Suman – customer service representative

- ↑ Levels trending up
- ↔ Stable levels
- ↓ Levels trending down
- < ADWG
- Equal to ADWG
- > ADWG
- Yearly assessment exceeds ADWG

Aesthetic Assessment Trends

The aesthetic assessments **Table 11 (below)** shows the average Long-term (LT) value collected between 2015-24 as well as yearly average assessments between 2021-24. It explores trends for some of the most common aesthetic parameters that can impact acceptability of water supplied to the customer relating to appearance (colour), taste and odour.

Table 11 – Aesthetic assessment trends

Parameter (mg/L)	Community	ADWG	Long term 2015 -24	Historical 2021	2022	2023	Current 2024	Change	Comments
Chloride	Jilkmिंगgan	250	256	268	294	220	345	↑	LT and 3 of the last 4 years >ADWG. An apparent increase in 2024 is also evident for sodium, hardness and TDS.
	Ngukurr	250	337	184	190	196	187	↓	LT >ADWG. The last 4 years <ADWG. The improvement is due to new bores in 2018 and no longer drawing surface water from Roper River.
	Papunya	250	215	205	270	185	265	↑	LT and 2 of last 4 years <ADWG. 2 of last 4 years >ADWG including 2022 and 2024.
Hardness	Jilkmिंगgan	200	680	690	770	630	860	↑	LT and 4 of last 4 years >ADWG. An apparent increase in 2024 is also evident for chloride, sodium and TDS. See 'Box Plot Trends' & Figure 128.
	Laramba	200	230	210	200	180	190	↓	LT and 2021 >ADWG. The last 3 years have seen reductions ≤ADWG.
	Ngukurr	200	610	500	490	490	460	↓	LT and last 4 years >ADWG. The last 4 years from 2021 to 2024 show improved hardness compared to LT. The improvement is due to new bores and no longer drawing from the Roper River See 'Box Plot Trends' & Figure 130.
	Numbulwar	200	370	380	450	480	530	↑	LT and the last 4 years >ADWG. There is an apparent increase in hardness in the last 3 years from 2022 to 2024.
Manganese	Bulla	0.1	0.47	0.32	0.065	0.064	0.02	↓	LT and 2021 >ADWG. The last 3 years have been <ADWG following installation of filtration and UV treatment on surface water source.
	Borrooloola	0.1	0.11	0.0025	0.0026	0.062	0.013	↓	LT >ADWG. The last 4 years <ADWG. The installation of new calcite filters for pH correction in 2019 is attributed to the decrease in manganese evident 2021 to 2024.
	Jilkmिंगgan	0.1	0.072	0.078	0.059	0.068	0.26	↑	LT and 2021 to 2023 <ADWG. An apparent increase in 2024 is also evident for hardness (Figure 125), TDS (Figure 126) sodium and chloride.
	Minyerri	0.1	0.11	0.14	0.094	0.097	0.082	↓	LT and 2021 >ADWG. The last 3 years <ADWG.

Parameter (mg/L)	Community	ADWG	Long term 2015 -24	Historical 2021	2022	2023	Current 2024	Change	Comments
Manganese	Naiiyu	0.1	0.4	0.37	0.31	0.48	0.49	↔	LT and last 4 years >ADWG. An options investigation is currently underway to determine long term treatment options. See 'Box Plot Trends' & Figure 127.
	Nganmarriyanga	0.1	0.29	0.84	0.26	0.16	0.24	↔	LT and last 4 years >ADWG.
	Numbulwar	0.1	0.17	0.12	0.091	0.068	0.068	↓	LT and 2021 >ADWG. The last 3 years <ADWG.
	Umbakumba	0.1	0.17	0.019	0.054	0.025	0.034	↓	LT >ADWG. The last 4 years <ADWG.
	Warruwi	0.1	0.13	0.096	0.023	0.025	0.00085	↓	LT >ADWG. The last 4 years <ADWG.
Sodium	Jilkmिंगgan	180	168	153	195	153	235	↑	LT and 2 of last 4 years <ADWG. 2 of the last 4 years >ADWG including 2024. An apparent increase in 2024 is also evident for hardness (Figure 128), TDS (Figure 129) & chloride.
TDS	Jilkmिंगgan	600	1200	1300	1300	1100	1500	↑	LT and 4 of the last 4 years >ADWG. An apparent increase in 2024 is also evident for chloride, sodium and hardness (Figure 125). See 'Box Plot Trends' & Figure 129.
	Ngukurr	600	860	630	680	600	590	↓	LT and 2 of the last 4 years >ADWG. The last 2 years <ADWG. The improvement is due to new bores in 2018 and not drawing water from the Roper River. See 'Box Plot Trends' & Figure 131.
	Numbulwar	600	500	530	600	680	710	↑	LT and 3 of the last 4 years <ADWG. An apparent increase in 2024 >ADWG, is consistent with the increase in hardness.

- ↑ Levels trending up
- ↔ Stable levels
- ↓ Levels trending down
- < ADWG
- Equal to ADWG
- > ADWG
- Yearly assessment exceeds ADWG

Box Plot Trends

Figures 125-131 (below) further explore some of the assessment trends, using box plots to give greater insight than can be interpreted from a single assessment value.

For example, multiple sources and seasonal variability between the wet and dry seasons can show a wide distribution for some of the parameters

measured. The size of the community and number of samples collected during the reporting period can also impact on assessment values. For example the maximum value may be non-typical to the values normally measured.

See Appendix A, page 128 – Description of Data for how to read a box plot.

Health

Bulla

Figure 125 – Box plot of barium trends for Bulla compared to ADWG (2 mg/L)

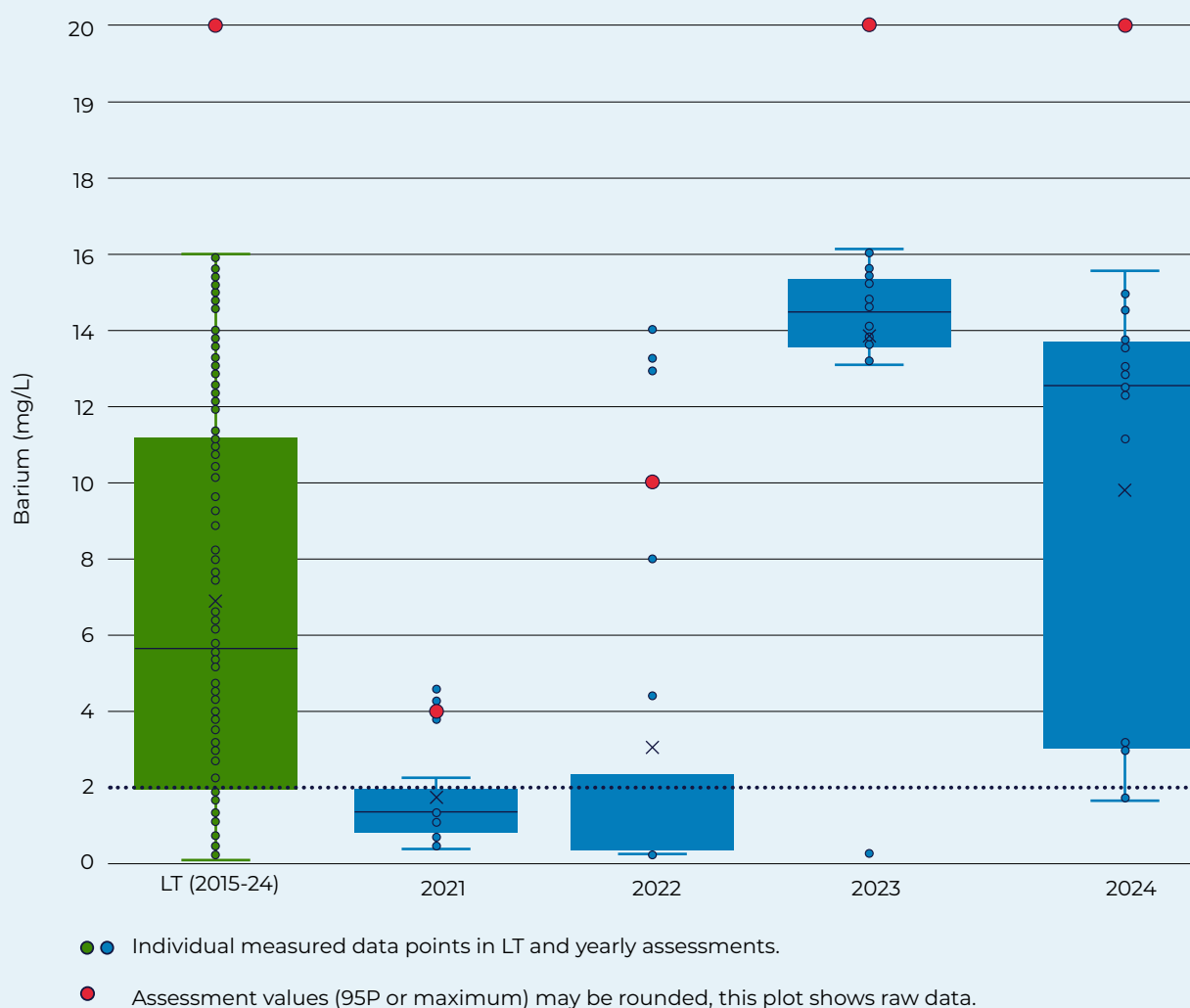


Figure 125 (below) shows the distribution of barium measured in Bulla's water supply LT and in the last 4 years. Under normal operations, blending of river and bore water is used to maintain barium (higher in bore) and manganese (higher in river) to <ADWG.

There is an apparent increase in barium in 2023 and 2024. This increase is due to the operational strategy for the site. The strategy preferences the use of bore water when turbidity in the East Baines River goes beyond the capacity of the filtration and UV treatment system installed in 2023. Continuous turbidity monitoring has also been introduced to improve the management of the source ensuring

the safety of supply. When turbidity is too high, the filtration and disinfection barrier is not effective. Since pathogens pose the greatest risk to customers, bore water is relied on at these times. Barium increasing in 2023 and 2024 reflects a greater reliance on bore water in these years.

In 2024, 13 of the 15 samples analysed had barium levels >ADWG (2 mg/L). In 2021-22 surface water made up the majority of supply, with results at or below ADWG. The outliers show samples collected when blending ratios are varied or groundwater is the only source being treated by the plant.

Wugularr (Beswick)

Figure 126 – Box plot of antimony trends for Wugularr (Beswick) compared to ADWG (0.003 mg/L)

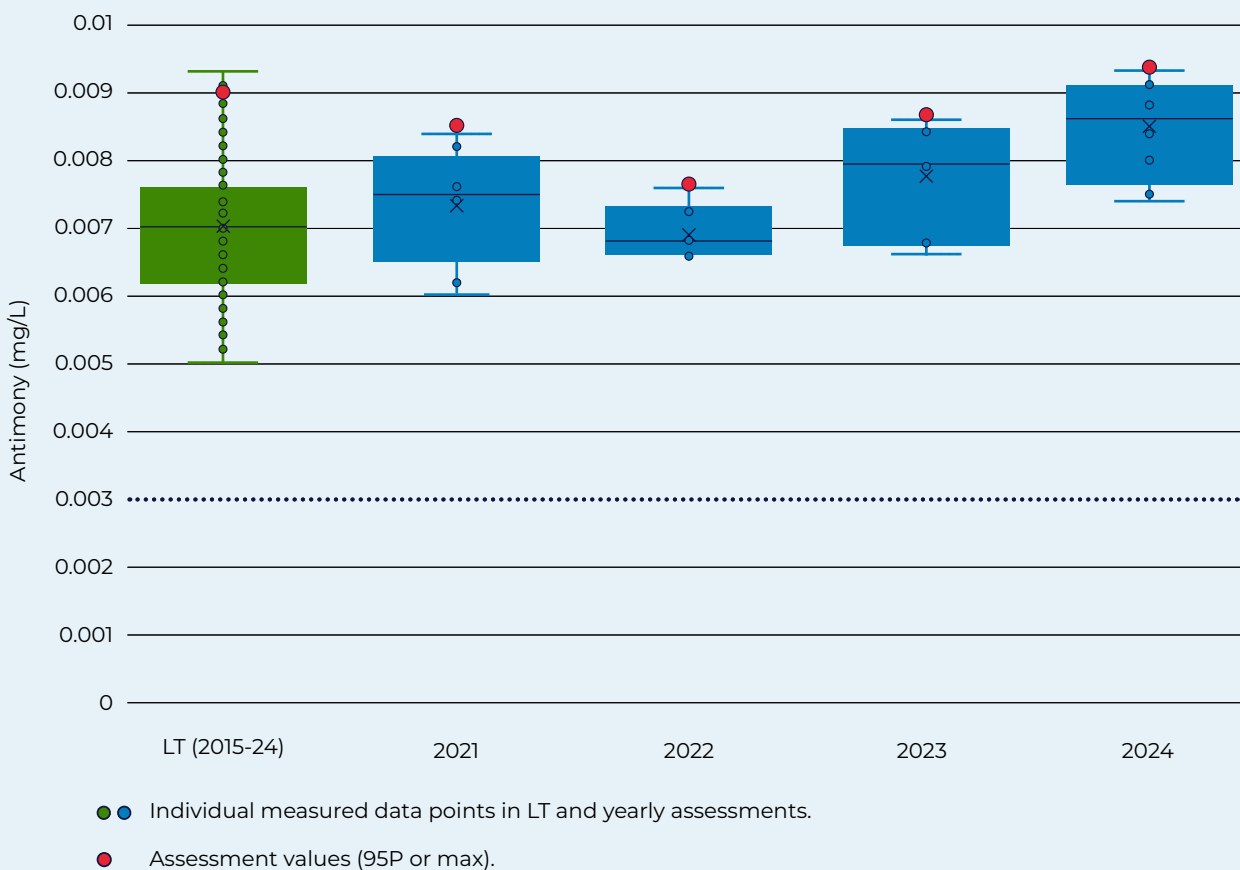


Figure 126 (above) shows antimony levels from quarterly sampling in Wugularr (Beswick) consistently exceed ADWG (0.003 mg/L), but also increasing slightly through the assessment years. Plans are already underway to reduce exposure to antimony, by connecting an alternative source

with preferential quality, using the NWGA funding to equip one new production bore and necessary infrastructure including; a new rising main, compound, fence, power lines and telemetry.

Naiiyu

Figure 127 – Box plot of manganese trends for Naiiyu compared to ADWG (0.5 mg/L)

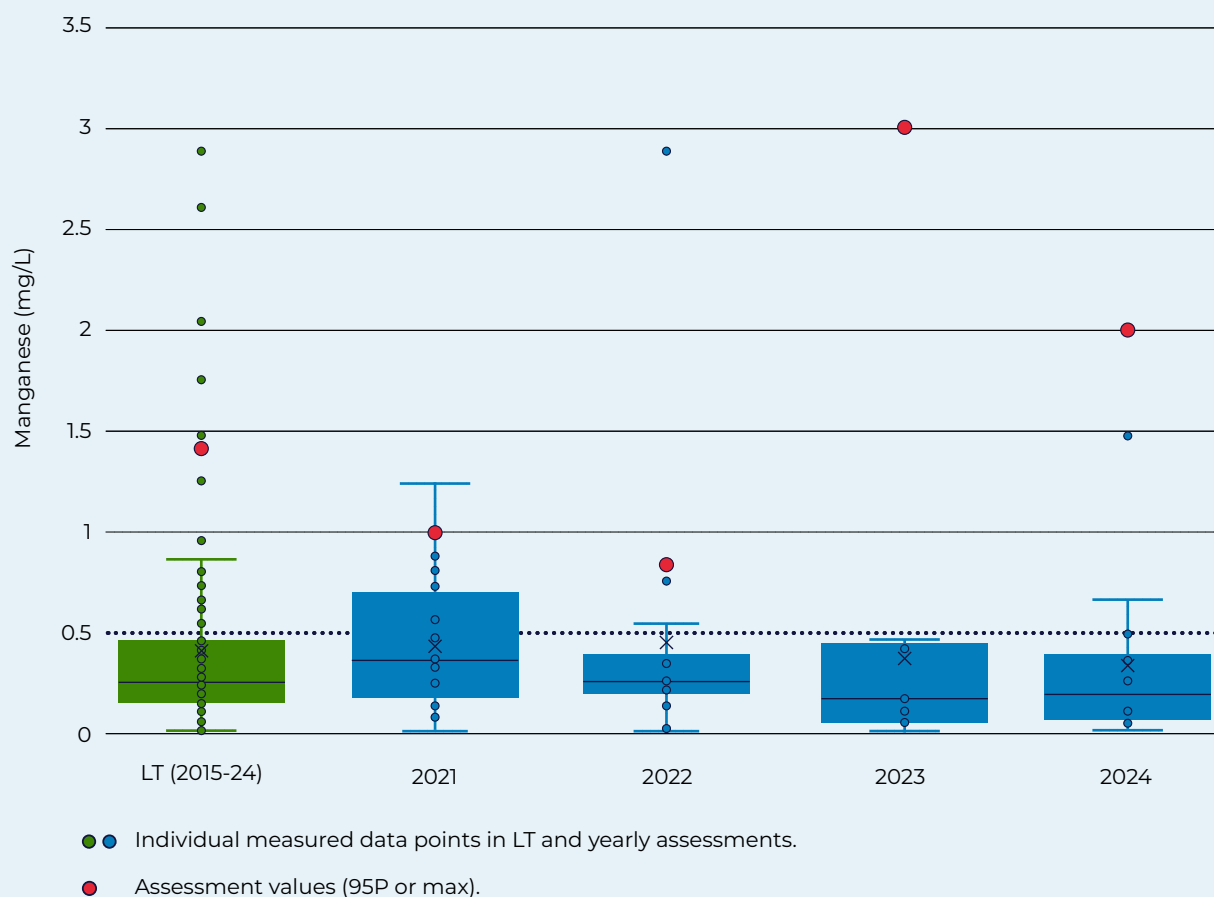


Figure 127 (above) shows an apparent reduction in the distribution of measured values over the last 4 years with 75% of values below the ADWG between 2022 and 2024 and in the long-term. This is in contrast to the health assessment trend, **Table 10**, shown as a red dot on this plot.

Due to the size of the community, monthly sampling is undertaken and the yearly assessment values are based off the maximum value recorded, not a 95P. This value is above the ADWG, however are shown as outliers in the box plots for 2022-24. Only 2 of the 12 samples collected in 2024 exceeded ADWG.

Manganese builds up on the walls of water mains and these deposits can later dislodge, leading to higher levels of manganese, which can result in discoloured water. A flushing strategy is currently being employed to clear manganese build-up from water mains in Naiiyu, until long term treatment options (currently in planning) can be implemented.

As a precautionary measure, Power and Water will provide an alternative supply for bottle fed infants in Naiiyu.

Aesthetic

Jilkmिंगgan

While Jilkmिंगgan meets health based guidelines, the aesthetic assessments shows a number of parameters exceed ADWG.

Overall palatability has decreased for the 2024 assessment, due to increasing trends for hardness, TDS, sodium, chloride and manganese.

Figure 128 (below) shows variability in the LT hardness measured in Jilkmिंगgan’s water supply, ranging from 568-862 mg/L. The two samples collected in August 2023, the current period, were the highest measured (shown as outliers in the LT plot). The aesthetic assessment trends **Table 11** shows that chloride and manganese were also higher in the 2024 assessment period.

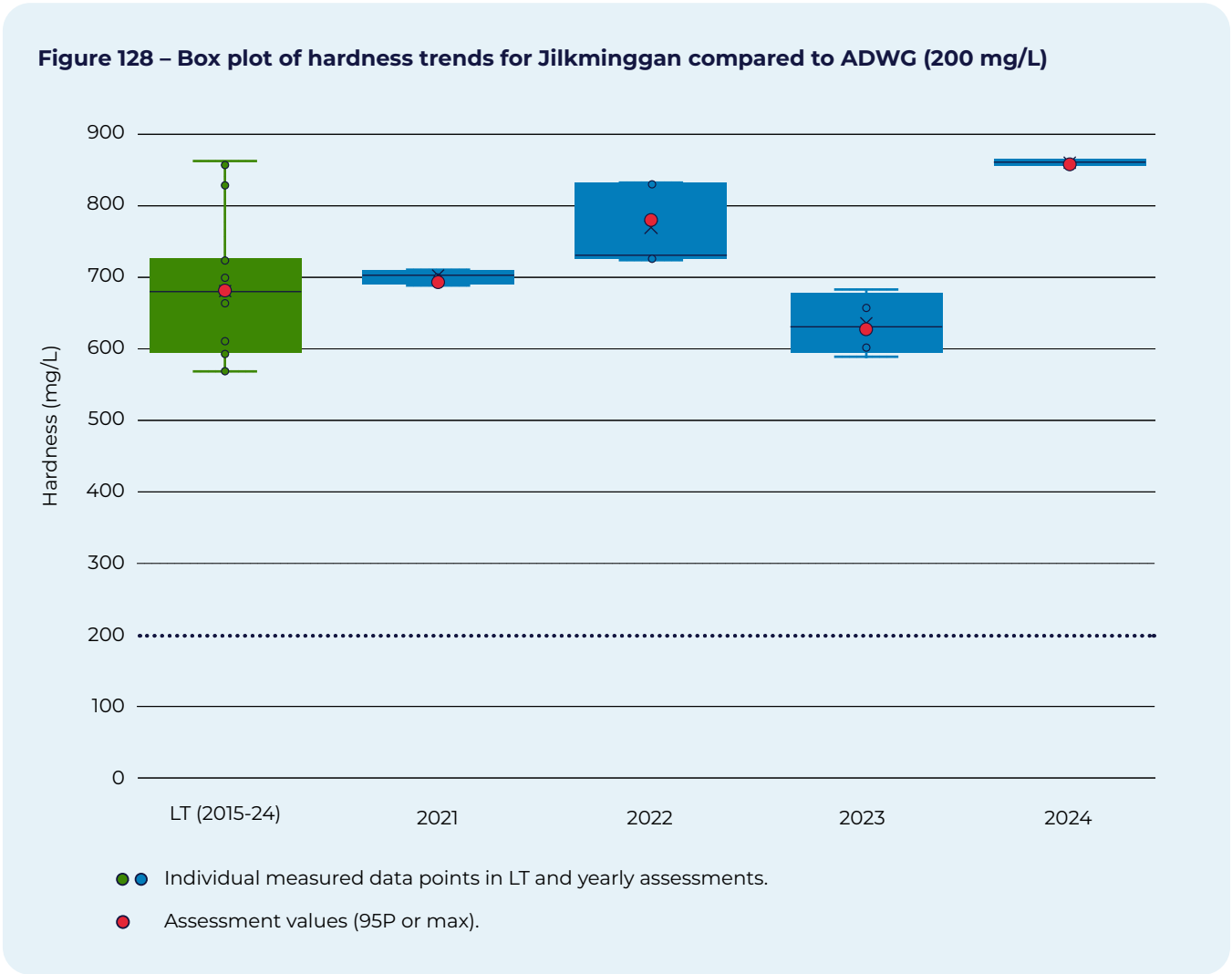


Figure 129 – Box plot of TDS trends for Jilkminggan compared to ADWG (600 mg/L)

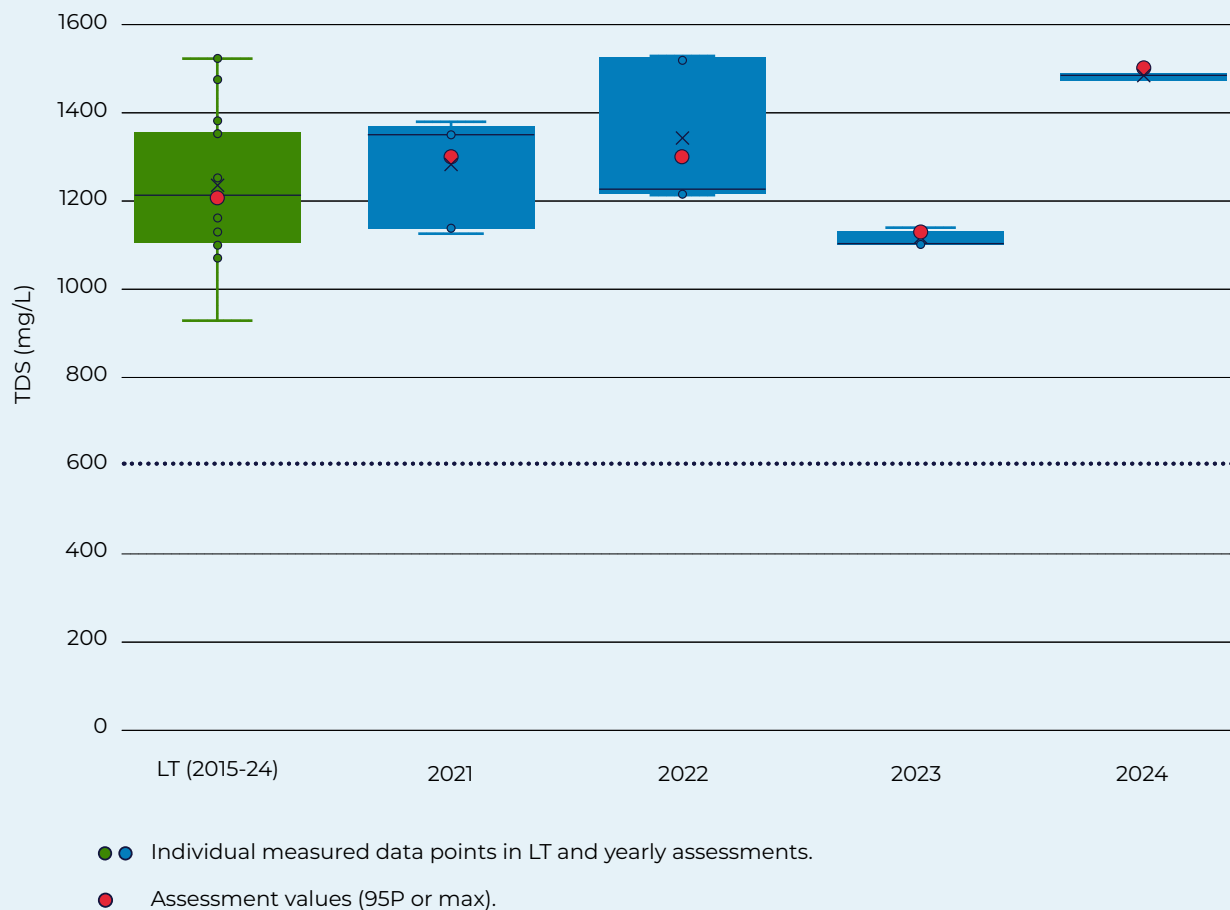


Figure 129 (above) shows TDS consistently exceeding the ADWG and increasing for 2024. Like hardness, the long term data shows variability in TDS measured in Jilkminggan, ranging from 928-1,530 mg/L, with the two samples collected during the current assessment period, some of the highest recorded.

The LSI value 'Corrosivity and Scale-forming Potential'

Figure 6, also indicates that the water is likely to be scale forming.

Power and Water will continue to monitor these trends and explore options within the prioritisation framework to address these exceedances in consultation with stakeholders.

Ngukurr

Figure 130 (below) shows, that while overall hardness levels for 2024 remain above the ADWG (200 mg/L), assessments across 2021-24 show improvements compared to the LT value, with reduced variability.

Average TDS has reduced from 610 mg/L in the LT assessment to 460 mg/L for the 2024 assessment.

The aesthetic trends for Ngukurr show improvement in a few parameters related to palatability.

Figure 130 – Box plot of hardness trends for Ngukurr compared to ADWG (200 mg/L)

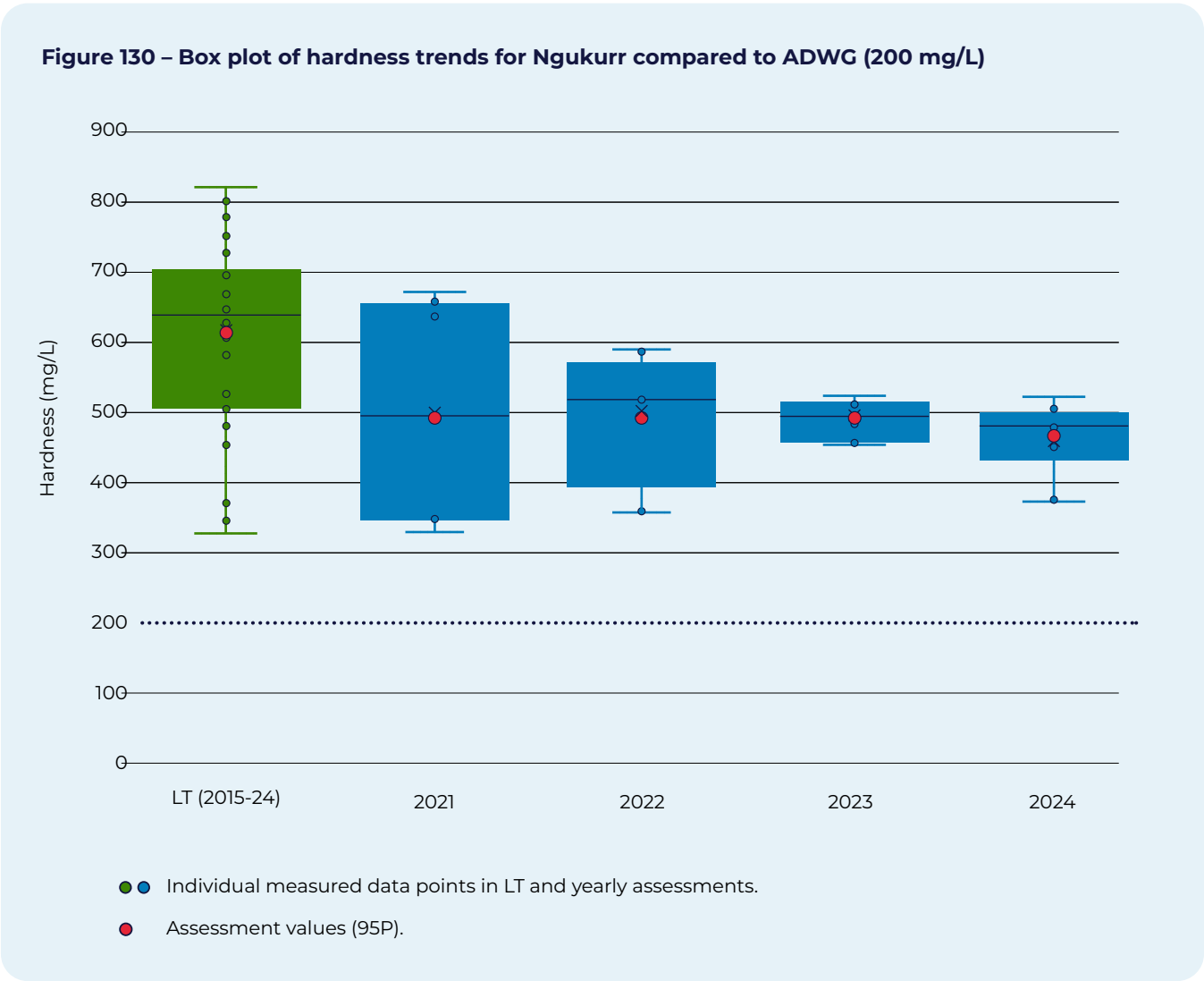


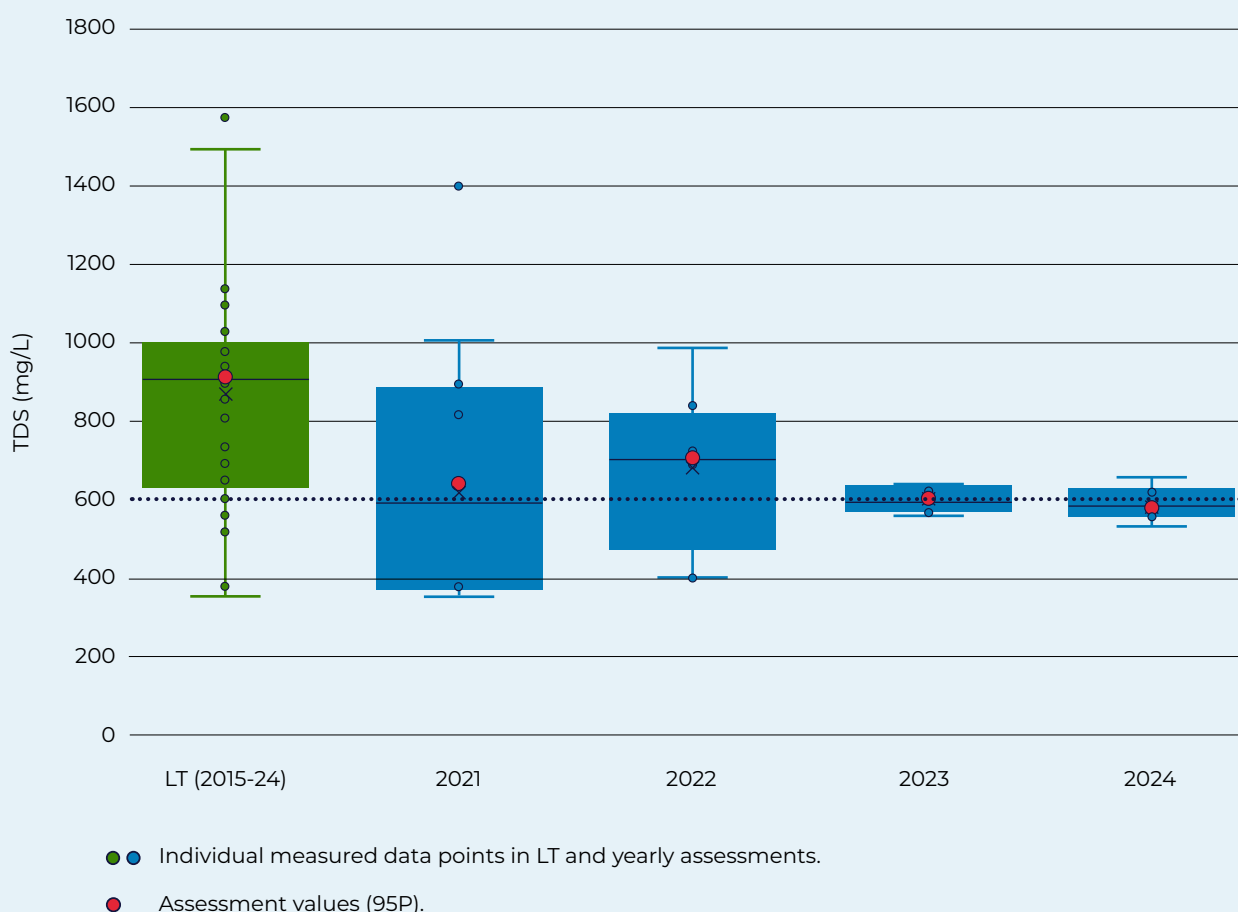
Figure 131 (below) and assessment values show that Hardness, TDS and Chloride levels have reduced across 2021-24 assessments compared to the LT data. New bores were equipped and connected to the supply in 2018, with surface water no longer being drawn from Roper River.

The LT box plot shows high variability in TDS measurements, with results ranging from

345-1,570 mg/L. 2021-24 TDS levels have reduced in comparison to the LT assessment value. For 2023-24 TDS has reduced from greater than ADWG to below.

This is likely the result of changing the source water being treated and supplied in Ngukurr.

Figure 131 – Box plot of TDS trends for Ngukurr compared to ADWG (600 mg/L)





Nightcliff water tank

Water Quality Improvement Initiatives

Improving HBT shortfalls

HBT assessments are not intended as a pass/fail metric, instead they provide the basis for assessing the level of treatment required to manage source water microbial risks. The magnitude of HBT shortfalls should be used to prioritise improvements.

Solutions to HBT shortfalls can range from investment in treatment upgrades, utilising better quality source waters, or eliminating hazards that impact source water risk profiles. Planning investigations are required to identify the appropriate solution on a case-by case basis.

HBT assessments have been implemented into Power and Water's drinking water quality management system and will continue to evolve over time. As a result of Power and Water proactively adopting HBT assessment methods, a number of capital investment projects are already underway to address shortfalls in urban centres.

These include:

- 1. Darwin groundwater:** Secondary disinfection (UV) project is progressing and expected to be delivered by 2027-28.
- 2. Katherine:** Secondary disinfection (UV) project progressing and expected to be delivered in 2026-27.
- 3. Batchelor:** New bores drilled in lower risk location with consideration being given to connecting them to the supply.
- 4. Adelaide River:** New bore drilled in lower risk location, now connected and supplying water from 2024.
- 5. Pine Creek:** Project pending approval to connect a new water source.

Chemical treatment upgrades

Delivery of Katherine PFAS Treatment Plant

Katherine's new Emerging Compounds Treatment Technologies (ECT2) water treatment plant has been operating since November 2023, helping to secure Katherine's drinking water supply.

3 treatment trains (one in standby) are treating 10 ML/day from 4 groundwater bores and removing PFAS from Katherine's ground-water supply. The treated groundwater is then blended with treated surface water from the Katherine River, supplying high quality drinking water with PFAS levels below ADWG.

Visit the [Power and Water website](#) for more information about Katherine's water supply.

Removal of Uranium – Laramba Water Treatment Plant

Laramba's groundwater source contains naturally occurring levels of non-radioactive uranium, which exceed the ADWG.

The ion exchange treatment plant has been operating in Laramba since April 2023. This annual report marks the first full 12 months of operation.

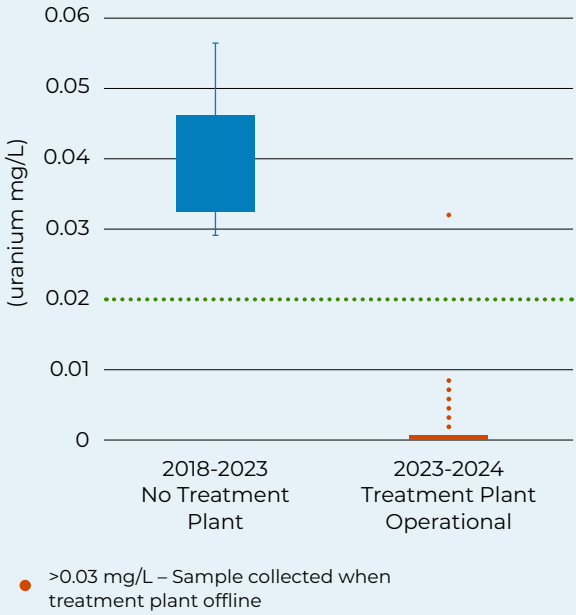
Uptime for the treatment plant was 354 out of 365 days in the reporting period. The treatment plant was operating in bypass for a cumulative total of 11 days (based on total offline hours). Based on lifetime exposure, with short periods not having adverse health impacts, NT Health has set a 30 day/year cumulative total that the treatment plant may be offline or operating in-bypass. A sample was collected while the treatment plant was in bypass, however the assessment value (95 P) of 0.008 mg/L remains below the ADWG for the period.

Figure 132, page 123 shows a box plot of Uranium levels measured in Laramba's drinking water pre and post operation of the plant, demonstrates its effectiveness in reducing uranium levels below the ADWG for the reporting period.



Laramba water treatment plant compound

Figure 132 – Uranium levels in Laramba pre and post treatment plant compared to ADWG (0.02 mg/L)



Disinfection reliability upgrades

Chlorine disinfection is the primary treatment barrier for protection against disease causing microorganisms in our drinking water supplies and is particularly effective against bacteria and viruses. To ensure no *E. coli* is detected in water supplied to customers there should be no disinfection failures e.g. the treatment barrier is verified as maintained continuously.

An assessment of disinfection reliability and operational effectiveness of existing disinfection barriers was undertaken. Power and Water’s water quality improvement program is now driving systematic upgrades of disinfection systems in remote communities. These upgrades aim to reduce the risk of failure of disinfection systems that could result in the supply of un-disinfected or inadequately disinfected water to our customers.

Disinfection system upgrades completed in 2024 include:

- Yirrkala
- Bulman
- Weemol

Upgrades in-progress include:

- Milyakburra
- Minjilang
- Yarralin
- Angurugu

Upgrades to date include: duty-standby dosing pumps for redundancy, chlorine analysers to continuously verify safety of supply to communities, SCADA and alarms for improved visibility.

Our asset management team is developing standard designs for chlorine disinfection systems to ensure best practice with more online preventative controls that will reduce the occurrence of disinfection failures in our remote communities.

Tank and network upgrades

Tank and network upgrades support the multi-barrier approach by providing a closed system, preventing leaks and helping to maintain positive network pressure (to reduce the risk of backflow) and ingress of opportunistic pathogens. It also helps to achieve required chlorine contact times prior to supply to the customers. Tanks may be elevated or installed with new pipes and pumping systems.

Projects underway in 2023-24:

- **Wugularr (Beswick)** – water storage upgrades.
- **Maningrida** – water storage and network upgrades.
- **Milikapiti** – project ready for tender, new tank liner and remedial works.
- **Umbakumba** – water storage upgrades.
- **Angurugu** – water storage upgrades.

Projects due for commencement in future years:

- **Wadeye** – new groundwater storage tank and interconnection with Manthape.
- **Yirrkala** – network upgrades with NWGA funding.
- **Maningrida** – network upgrades with NWGA funding.

Drilling projects to investigate likelihood of improved water security

Three communities will have previously drilled bores equipped. This includes construction of mains and supporting electrical work to connect the bores to the water supply systems. This will directly result in a more reliable and secure water supply for these communities:

- **Haasts Bluff.**
- **Hermannsburg.**
- **Wugularr** – Due to high levels of naturally occurring antimony, an alternative source with preferential quality will be equipped to address health exceedances.

Separately the NWGA have also supported further drilling and equipping projects that are underway to improve water security (quality and/or source) outcomes for:

- **Numbulwar** – bore drilling investigations to identify suitable quantity and quality of water.
- **Milingimbi** – bore drilling and equipping.
- **Yuendumu** – project to equip and connect 2 new bores.

Projects to address health exceedances

In addition to investing in research projects that offer potential solutions to common chemical water quality source challenges the following projects have been undertaken or are in the planning phase to address ADWG health exceedances in remote communities:

- **Alpururulam** – pending necessary approvals, use proposed NIAA funding to equip new bores that have been drilled and sampled. Results suggest that these bores are likely to have improved quality to address the fluoride exceedance as well as TDS and hardness.
- **Bulla** – UV system upgrades required to treat the surface water source were completed in 2023. This allows for the blending of surface water from the river, with the groundwater that has elevated barium. Under normal operating conditions blending is employed to reduce Barium concentrations.
- **Nauiyu** – an investigation of fluctuating manganese levels has been undertaken and water source and treatment options are in the planning phase for 2023-24 and 2024-25.
- **Nyirripi** – locating an alternative supply with lower levels of naturally occurring fluoride unlikely. The remote water team have engaged with the community in relation to health impacts of the fluoride exceedance and bottled water provision to mitigate this risk while planning for a long term solution.

Other projects

- **Ampilatwatja** – Calgon dosing to reduce the aesthetic impacts of hardness (scaling), funded by NIAA.
- **Atitjere** – a new pump system to improve water pressure for customers, with works scheduled to be completed in 2025.

Research projects

Power and Water collaborates with universities, water utilities and external research providers to generate new knowledge and provide solutions.

Power and Water has been working to make water treatment technology ready for the remote conditions of the Territory. Research and development help Power and Water to continually improve and ensure the ongoing capability to meet the drinking water quality requirements.

Simplifying water treatment technologies has been the goal of two pilot scale trials.



Newcastle Waters tank compound

Nitrate removal using electrochemical water technology

Power and Water, together with the University of Queensland, Water Corporation (WA), the Northern Territory Government, Hydro-dis Australia and Dematec Automation, formed a national research and development consortium. The consortium is designing electrochemical treatment technology to remove contaminants from groundwater, specifically nitrate and heavy metals, including uranium and arsenic. Testing in the laboratory occurred in 2023, which allowed researchers to improve the design, before building a prototype unit. During June/July of 2024 the unit underwent 4 weeks of rigorous testing, using synthetic water and groundwater from Ti-Tree. Challenges arising during factory testing, mean that the unit will not be deployed in the field. It will undergo optimization and further testing to understand performance, operability, reliability, maintainability and usability.

If the trial is successful this technology may be considered suitable for removal of nitrates.

Study of Biofilms in partnership with Charles Darwin University (CDU)

Biofilm growth inside pipes and fittings may harbour opportunistic pathogens and provide a pathway for them to contaminate water supplies. The study assessed biofilm growth on commonly used materials within the water distribution system, including speciation and the impact of growth on pipe surfaces. It is hoped that these results will inform asset material selection and future maintenance requirements.

Appendix A

Description of Data



Stuart Park water tank – Bilawara (red-tailed black cockatoo) on Larrakia Country by Auntie Bilawara Lee and painted by Jason Lee and Jesse Bell.

Sampling location and frequency

The drinking water quality monitoring program endorsed by NT Health, outlines where, how often and what water samples are taken. This ensures a good understanding of the water quality supplied at different points in the system. It's important to collect enough samples over time, covering different seasons and conditions, to accurately evaluate the water's characteristics and detect any changes or trends that might affect its quality.

The locations and frequencies for collecting water samples in the monitoring program are based on recommendations from the ADWG, taking into account factors like the risk of contamination or microbial growth in the distribution system, as well as the size of the water supply system and the number of people it serves.

Water quality data

Water quality data collected for this reporting period has been analysed following the recommendations provided by the ADWG to assess microbial, health, and aesthetic parameters:

- The current year assessment is based on 12 months of data.
- The long term assessment is based on 10 years of data, except in the case of a step change in the water quality profile following major change/s, such as the connection of a new water source or advanced treatment e.g. Laramba.
- For microbial analysis data assessment, *E. coli* are reported for each community, detailing the number of samples collected and the percentage of samples that were free of *E. coli* detections.
- For health-based guidelines and where there are sufficient data points (greater than 19 samples) a 95th percentile calculation is utilised for the assessment. However, in cases where there are less than 19 the assessment takes the maximum value.

- For aesthetic parameters, the average value is compared to the aesthetic guideline value.

Significant figures

Health: Calculations for acceptable levels of substances in drinking water (ADWG guideline values) are consistent with standard rounding conventions, with inbuilt safety margins.

For example, precision to a single significant figure and rounding to the nearest whole number (e.g. 1.5 = 2). Quoting more significant figures misrepresents the degree of precision and may lead to unfounded concern when guidelines exceed at a second or third significant figure.

Aesthetic: The assessment value is rounded to one more significant figure than ADWG values, using standard rounding conventions. This method is employed to offer a more transparent representation of the data, indicating the extent to which the assessment values deviate from aesthetic guideline values. Raw data assessment and other statistical representations, such as minimum and maximum values are intentionally left unrounded as per the guidance of the ADWG.

Explanation of tables

Water quality data assessment are presented in the tables found in **Appendices B-C**:

- An explanation for some of the table headings is given in **Table 12**.
- Numbers shaded orange represent exceedances of the ADWG.
- For calculations where a measurement is below the detection limit, a value of half the detection limit is used for that measurement.

Table 12 – Definition of ADWG measurements

Summary Statistic	Definition
Minimum	The minimum value measured
Maximum	The maximum value measured
Average	The average of all sample measurements
95 th percentile	The value at or below which 95% of measurements can be found
ADWG	The ADWG guideline value

How to read a box plot

A box plot is a visual representation, combining all the sampling results that make up the assessment data. It can provide additional insight into water quality by displaying the distribution or spread of data for a better understanding.

Whiskers: Shows the outer 25% of data i.e. the upper and lower 25% of values.

Minimum: the lowest score, excluding outliers.

Maximum: The highest score, excluding outliers.

Q1: The lower quartile, meaning 25% of data falls below this value.

Q3: The upper quartile, meaning 75% fall below this value.

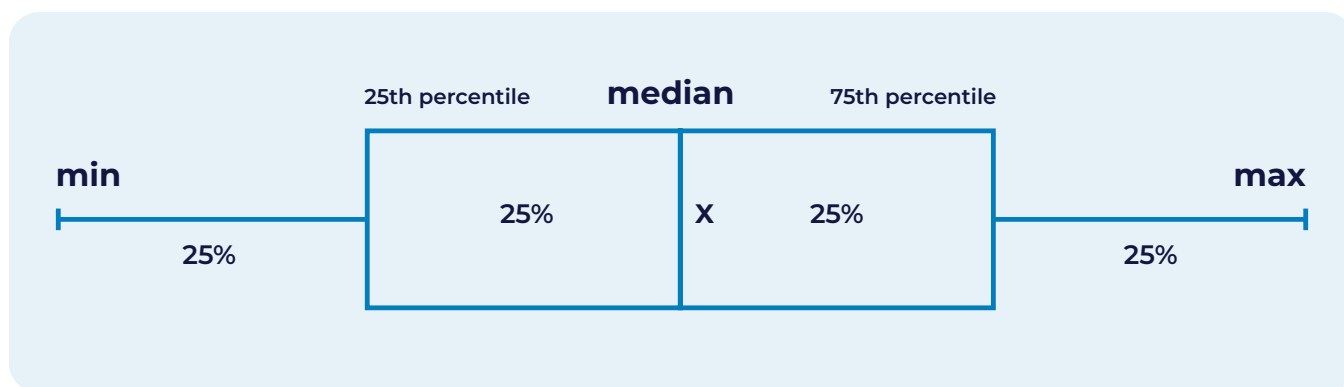
Interquartile Range: Shows the middle 50% of data.

X: Mean/Average Marker

Median: The middle value of all data collected.

Outliers: results beyond the whiskers, indicate extreme values that fall outside most of the data.

The size of the box indicates the variability or spread of collected data. A skewed box plot can occur where the whiskers or median value is asymmetric, indicating a bias towards lower or upper values.





MILINGIMBI WATER SUPPLY UPGRADE

This \$11.4 million project will improve water security in Milingimbi.

It includes drilling and equipping bores to supply more water to the community.

The project will support more houses to be built in the community.

This National Water Grid project is funded by the Australian Government and Northern Territory Government.

Use the QR code to find out more information about the project.



nationalwatergrid.gov.au

Appendix B

Urban Centres Data Assessments



Table 13 – Urban centre *E. coli* summary

Centre	Sample Counts	Number of detections	<i>E. coli</i> (% of no detection)
Adelaide River	153	0	100%
Alice Springs	130	0	100%
Batchelor	103	0	100%
Borroloola	144	0	100%
Cox Peninsula	51	0	100%
Daly Waters	36	0	100%
Darwin	624	0	100%
Elliott	147	0	100%
Gunn Point	13	0	100%
Katherine	153	0	100%
Kings Canyon	96	0	100%
Larrimah	36	0	100%
Mataranka	48	0	100%
Newcastle Waters	27	0	100%
Pine Creek	153	0	100%
Tennant Creek	153	0	100%
Timber Creek	33	1	96.97%*
Ti Tree	36	0	100%
Yulara	102	0	100%

*detection not verified when priority re-sampling undertaken.

Table 14 – Urban health data assessment summary

	Analysis	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chlorine Free Residual (mg/L)	Chromium (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molyb- denum (mg/L)	Nickel (mg/L)	Nitrate as NO ₃ (UV screening) (mg/L)	Nitrate (mg/L)*	Σ Nitrate and Nitrite Sum of Ratios"	Perfluoro- octanoic acid (PFOA) (ug/L)	Selenium (mg/L)	Silver (mg/L)	Trihalo- meth- anes (mg/L)	Sum (PFHxS + PFOS) (ug/L)	Uranium (mg/L)
Community	ADWG Health	0.003	0.01	2	0.06	4	0.002	5	0.05	2	1.5	0.01	0.5	0.001	0.05	0.02	50	3	1	0.56	0.01	0.1	0.25	0.07	0.02
Adelaide River	Sample Count	36	36	36	36	36	36	153	36	36	4	36	36	36	36	36	4	4	N/A	12	36	36	2	12	36
	Maximum	0.0005	0.003	0.01	<0.0001	0.04	<0.00005	2	0.0003	0.07	0.38	0.002	0.2	<0.0001	0.0002	0.002	0.9	0.7	0.2	<0.0005	<0.0002	<0.0001	<0.005	0.007	<0.00005
	95th Percentile	0.0003	0.002	0.01	0.00005	0.03	0.00003	2	0.0001	0.02	N/A	0.0009	0.002	0.00005	0.0002	0.0003	N/A	N/A	N/A	N/A	0.0001	0.00005	N/A	N/A	0.00003
Alice Springs	Sample Count	4	4	4	4	4	4	130	4	4	4	4	4	4	4	4	4	4	N/A	1	4	4	2	1	4
	Maximum	<0.0002	0.0003	0.09	<0.0001	0.1	<0.00005	1	0.002	0.03	0.48	0.0007	0.005	<0.0001	0.001	<0.0005	7	<0.3	0.2	<0.0005	0.001	<0.0001	<0.005	<0.0003	0.008
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Batchelor	Sample Count	6	6	6	6	6	6	102	6	6	6	6	6	6	6	6	6	6	N/A	12	6	6	3	12	6
	Maximum	<0.0002	<0.0002	0.005	<0.0001	0.02	0.00007	2	0.0008	0.03	<0.1	0.0009	<0.0005	<0.0001	<0.0001	0.0006	2	<0.3	0.2	<0.0005	<0.0002	<0.0001	<0.005	0.009	0.0002
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Borroloola	Sample Count	6	6	6	6	6	6	143	6	6	6	6	6	6	6	6	6	6	N/A	1	6	6	3	1	6
	Maximum	0.001	<0.0002	0.02	0.0001	0.04	0.0002	2	0.0004	0.03	<0.1	<0.0001	0.06	<0.0001	0.0001	0.002	0.6	<0.3	0.1	<0.0005	0.0002	<0.0001	<0.005	<0.0003	0.0003
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cox Peninsula	Sample Count	2	2	2	2	2	2	50	2	2	2	2	2	2	2	2	2	2	N/A	1	2	2	1	1	2
	Maximum	<0.0002	<0.0002	0.01	0.0002	0.02	<0.00005	3	0.0003	0.008	0.11	0.0002	0.001	<0.0001	<0.0001	0.0006	0.3	<0.3	0.1	<0.0005	<0.0002	<0.0001	<0.005	<0.0003	<0.00005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Daly Waters	Sample Count	8	8	8	8	8	8	36	8	8	8	8	8	8	8	8	8	8	N/A	1	8	8	2	1	8
	Maximum	<0.0002	0.0004	0.07	<0.0001	0.3	<0.00005	1	0.002	0.1	0.2	0.0003	0.002	<0.0001	0.0002	0.003	10	1	0.5	<0.0005	0.002	<0.0001	<0.005	<0.0003	0.004
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Darwin	Sample Count	28	28	28	28	28	28	623	28	28	79	28	28	28	28	28	28	28	N/A	1	28	28	10	1	28
	Maximum	0.0003	0.0003	0.04	<0.0001	0.02	<0.00005	2	0.0003	0.2	0.83	0.007	0.04	<0.0001	<0.0001	0.0006	1	1	0.5	<0.0005	<0.0002	<0.0001	0.06	<0.0003	0.00007
	95th Percentile	0.0001	0.0003	0.04	0.00005	0.02	0.00003	2	0.0002	0.1	0.8	0.002	0.03	0.00005	0.0001	0.0003	1	0.2	0.08	N/A	0.0001	0.00005	N/A	N/A	0.00005
Elliott	Sample Count	5	5	5	5	5	5	141	5	5	6	5	5	5	5	5	6	6	N/A	1	5	5	3	1	5
	Maximum	<0.0002	0.0003	0.1	<0.0001	0.3	<0.00005	2	0.0004	1	0.78	0.001	<0.0005	<0.0001	0.001	0.002	10	<0.3	0.4	<0.0005	0.001	<0.0001	0.019	<0.0003	0.006
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gunn Point	Sample Count	4	4	4	4	4	4	12	4	4	2	4	4	4	4	4	2	2	N/A	1	4	4	1	1	4
	Maximum	0.0004	0.0002	0.03	<0.0001	0.02	0.002	2	0.0003	0.01	0.66	0.007	0.02	<0.0001	0.0003	0.002	0.1	<0.3	0.1	<0.0005	<0.0002	<0.0001	<0.005	<0.0003	0.00008
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Katherine	Sample Count	15	15	15	15	15	15	150	15	15	110	15	15	15	15	15	6	6	N/A	10	15	15	6	10	15
	Maximum	<0.0002	0.0004	0.02	<0.0001	0.02	<0.00005	3	<0.0002	0.08	0.72	0.002	0.03	<0.0001	<0.0001	0.001	0.5	0.3	0.1	0.0006	<0.0002	<0.0001	0.039	0.04	<0.00005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	0.66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kings Canyon	Sample Count	4	4	4	4	4	4	92	4	4	4	4	4	4	4	4	4	4	N/A	1	4	4	2	1	4
	Maximum	<0.0002	0.001	0.03	<0.0001	0.3	0.0001	1	0.008	0.1	0.46	0.0008	0.0006	0.0003	0.003	0.006	6	<0.3	0.2	<0.0005	0.002	<0.0001	0.009	<0.0003	0.002
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Larrimah	Sample Count	4	4	4	4	4	4	36	4	4	4	4	4	4	4	4	4	4	N/A	1	4	4	2	1	4
	Maximum	<0.0002	<0.0002	0.06	<0.0001	0.2	<0.00005	1	<0.0002	0.03	0.2	0.001	0.006	<0.0001	<0.0001	0.001	3	<0.3	0.2	<0.0005	0.001	<			

Table 15 – Urban aesthetic data assessment summary

	Analysis	Aluminium (mg/L)	Chloride (mg/L)	Chlorine Free Residual (mg/L)	Copper (mg/L)	Hardness as CaCO ₃ (mg/L as CaCO ₃)	Iron (mg/L)	Manganese (mg/L)	pH	S as Sulphate (S as SO ₄) (mg/L)	Si as Silica (Si as SiO ₂) (mg/L)	Sodium (mg/L)	Total Dissolved Solids Dried at 180c (mg/L)	True Colour (HU)	Turbidity (NTU)	Zinc (mg/L)
Community	ADWG Aesthetics	0.2	250	0.6	1	200	0.3	0.1	6.5 - 8.5	250	80	180	600	15	5	3
Adelaide River	Average	0.003	48	1.5	0.011	130	0.011	0.0064	8.1	1.44	22	53.3	250	1	0.49	0.009
Alice Springs	Average	0.004	71.8	0.85	0.023	240	0.012	0.0013	8.1	59.5	18	80.4	430	2	0.54	0.01
Batchelor	Average	0.003	8	1.4	0.02	180	0.0073	0.00025	7.5	1.88	19	5.79	210	1	0.36	0.011
Borroloola	Average	0.014	11	1.1	0.012	56	0.014	0.013	7.8	0.935	14	6.53	81	1.67	1.2	0.002
Cox Peninsula	Average	0.011	5.5	1.9	0.0062	2.3	0.0048	0.0013	6.5	0.435	17	11.2	31	1	0.39	0.017
Daly Waters	Average	0.003	293	1.2	0.036	570	0.029	0.00056	7.3	153	33	211	1200	1.25	0.64	0.009
Darwin	Average	0.008	6.64	1.3	0.025	35	0.066	0.023	7.3	0.426	11	4.25	51	3.32	1.4	0.007
Elliott	Average	0.003	142	1.2	0.29	450	0.0034	0.00025	7.7	42.4	51	88.5	680	1	0.16	0.018
Gunn Point	Average	0.003	8	1.2	0.0069	59	0.16	0.015	7.5	2.16	7.9	7.33	57	2.5	8.3	2.9
Katherine	Average	0.039	5	1.4	0.025	70	0.0041	0.003	7.4	5.79	15	8.25	100	1	0.23	0.004
Kings Canyon	Average	0.003	265	0.89	0.053	420	0.018	0.0004	7.3	171	24	134	840	1	1.2	0.053
Larrimah	Average	0.003	180	1.3	0.015	530	0.036	0.0016	7.8	98.5	39	134	950	1.5	0.81	0.008
Mataranka	Average	0.003	20.5	1.2	0.0048	340	0.036	0.00034	7.7	9.26	28	17	370	1	1.1	0.01
Newcastle Waters	Average	0.003	42.7	1.2	0.12	340	0.024	0.00025	7.5	19.1	58	53.5	470	1	0.39	0.035
Pine Creek	Average	0.003	7	1.2	0.023	96	0.047	0.018	7	3.67	48	28.2	170	1.5	0.45	0.006
Tennant Creek	Average	0.007	90.1	1.1	0.011	160	0.012	0.00025	7.9	37.6	84	122	550	1.05	0.43	0.008
Timber Creek	Average	0.003	31.7	1	0.022	420	0.014	0.00047	7.3	4.16	21	22.4	450	1.27	1.1	0.009
Ti Tree	Average	0.003	75.8	1.4	0.002	240	0.0061	0.00025	8.1	39.3	88	70.6	530	1.17	0.39	0.004
Yulara	Average	0.003	85.1	0.96	0.00071	73	0.0057	0.00025	7.5	44	12	63.7	260	1.25	0.31	0.003

Table 16 – Water quality data assessment for Adelaide River

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	36	<0.0002	0.0005	0.0001	0.0003	0.0001	175
Arsenic - Total (mg/L)	0.01	36	0.0007	0.003	0.001	0.002	0.002	175
Barium - Total (mg/L)	2	36	0.007	0.01	0.008	0.01	0.03	175
Beryllium - Total (mg/L)	0.06	36	<0.0001	<0.0001	0.00005	0.00005	0.0005	175
Boron - Total (mg/L)	4	36	0.01	0.04	0.02	0.03	0.04	175
Cadmium - Total (mg/L)	0.002	36	<0.00005	<0.00005	0.00003	0.00003	0.0001	175
Chlorine Free Residual (mg/L)	5	153	1	2	1	2	2	1115
Chromium - Total (mg/L)	0.05	36	<0.0002	0.0003	0.0001	0.0001	0.003	175
Copper - Total (mg/L)	2	36	<0.0005	0.07	0.01	0.02	0.02	175
Fluoride (F) (mg/L)	1.5	4	0.29	0.38	0.33	N/A	0.39	29
Lead - Total (mg/L)	0.01	36	<0.0001	0.002	0.0003	0.0009	0.0007	175
Manganese - Total (mg/L)	0.5	36	<0.0005	0.2	0.006	0.002	0.01	175
Mercury - Total (mg/L)	0.001	36	<0.0001	<0.0001	0.00005	0.00005	0.00005	175
Molybdenum - Total (mg/L)	0.05	36	0.0001	0.0002	0.0001	0.0002	0.003	175
Nickel - Total (mg/L)	0.02	36	<0.0005	0.002	0.0003	0.0003	0.001	175
Nitrate as NO3 (UV screening) (mg/L)	50	4	0.4	0.9	0.7	N/A	0.9	29
Nitrite mg-NO2/L*	3	4	<0.3	0.7	0.3	N/A	0.2	25
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.07	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	12	<0.0005	<0.0005	0.00025	N/A	0.001	435
Selenium - Total (mg/L)	0.01	36	<0.0002	<0.0002	0.0001	0.0001	0.0005	175
Silver - Total (mg/L)	0.1	36	<0.0001	<0.0001	0.00005	0.00005	0.005	175
Trihalomethanes - Total (mg/L)	0.25	2	<0.005	<0.005	0.0025	N/A	N/A	11
Sum (PFHxS + PFOS) (ug/L)	0.07	12	<0.0003	0.007	0.003	N/A	0.009	434
Uranium - Total (mg/L)	0.02	36	<0.00005	<0.00005	0.00003	0.00003	0.00003	175
Aesthetic								
Aluminium - Total (mg/L)	0.2	36	<0.005	0.011	0.0029	0.0039	0.0078	175
Chloride (Cl) (mg/L)	250	4	28	68	48	N/A	28.7	29
Chlorine Free Residual (mg/L)	0.6	153	1	2.1	1.5	1.8	1.3	1115
Copper - Total (mg/L)	1	36	<0.0005	0.075	0.011	0.025	0.011	175
Hardness as CaCO3 (mg/L as CaCO3)	200	4	110	160	130	N/A	120	29
Iron - Total (mg/L)	0.3	36	<0.002	1	0.011	N/A	0.021	175
Manganese - Total (mg/L)	0.1	36	<0.0005	0.22	0.0064	0.0019	0.0062	175
pH (lab) (pH units)	6.5-8.5	4	8	8.2	8.1	N/A	7.9	29
S as Sulphate (S as SO4) (mg/L)	250	4	<0.3	2.76	1.44	N/A	0.377	28
Si as Silica (Si as SiO2) (mg/L)	80	4	21	23	22	N/A	29	29
Sodium (Na) (mg/L)	180	4	49.8	56.3	53.3	N/A	48.4	29
Total Dissolved Solids Dried at 180C (mg/L)	600	2	250	260	250	N/A	240	27
True Colour (HU)	15	4	<2	<2	1	N/A	1.75	29
Turbidity (lab) (NTU)	5	4	0.27	0.79	0.49	N/A	0.72	29
Zinc - Total (mg/L)	3	36	<0.001	0.021	0.0094	0.02	0.0097	175
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	4	170	190	180	N/A	180	29
Apparent Colour (HU)	N/A	4	<2	3	1.5	N/A	5.7	29
Bicarbonate (HCO3) (mg/L)	N/A	4	200	230	220	N/A	220	29
Bromine - Total (mg/L)	N/A	36	<0.1	0.3	0.06	0.1	0.065	175
Calcium (Ca) (mg/L)	N/A	4	17	25	21	N/A	18	29
Carbonate (CO3) (mg/L)	N/A	4	<10	<10	5	N/A	5.2	29
Electrical Conductivity (Lab) (uS/cm)	N/A	4	450	550	500	N/A	450	29
Hydroxide (OH) (mg/L)	N/A	4	<1	<1	0.5	N/A	0.5	29
Iodine - Total (mg/L)	N/A	36	<0.1	<0.1	0.05	0.05	0.021	175
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	4	0.1	0.4	0.2	N/A	0.13	25
Nitrate as N (NO3-N) (mg/L)	N/A	4	0.1	0.2	0.15	N/A	0.13	25
Nitrite as N (NO2-N) (mg/L)	N/A	4	<0.1	0.2	0.088	N/A	0.056	25
Potassium (K) (mg/L)	N/A	4	1.2	1.3	1.2	N/A	1.3	19
Sodium Chloride (NaCl) (mg/L)	N/A	4	45	110	78	N/A	47	29
Tin - Total (mg/L)	N/A	36	<0.0002	0.0007	0.00012	0.0001	0.0033	175
Heterotrophic Plate Count (CFU/mL)	N/A	2	16	300	160	N/A	8.3	175
Total coliforms (MPN/100 mL)	N/A	153	<1	2	0.54	0.5	0.73	1087
E. coli								
E. coli (MPN/100 mL)	0	153	<1	<1	N/A	N/A	N/A	N/A

Table 17 – Water quality data assessment for Alice Springs

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	4	<0.0002	<0.0002	0.0001	N/A	0.0001	42
Arsenic - Total (mg/L)	0.01	4	0.0002	0.0003	0.0003	N/A	0.0003	42
Barium - Total (mg/L)	2	4	0.09	0.09	0.09	N/A	0.1	42
Beryllium - Total (mg/L)	0.06	4	<0.0001	<0.0001	0.00005	N/A	0.0005	42
Boron - Total (mg/L)	4	4	0.1	0.1	0.1	N/A	0.2	42
Cadmium - Total (mg/L)	0.002	4	<0.00005	<0.00005	0.00003	N/A	0.0001	42
Chlorine Free Residual (mg/L)	5	130	0.5	1	0.8	1	1	1291
Chromium - Total (mg/L)	0.05	4	0.002	0.002	0.002	N/A	0.003	42
Copper - Total (mg/L)	2	4	0.02	0.03	0.02	N/A	0.09	42
Fluoride (F) (mg/L)	1.5	4	0.44	0.48	0.46	N/A	0.56	45
Lead - Total (mg/L)	0.01	4	0.0002	0.0007	0.0005	N/A	0.0008	42
Manganese - Total (mg/L)	0.5	4	<0.0005	0.005	0.001	N/A	0.01	42
Mercury - Total (mg/L)	0.001	4	<0.0001	<0.0001	0.00005	N/A	0.00005	42
Molybdenum - Total (mg/L)	0.05	4	0.001	0.001	0.001	N/A	0.003	42
Nickel - Total (mg/L)	0.02	4	<0.0005	<0.0005	0.0003	N/A	0.001	42
Nitrate as NO3 (UV screening) (mg/L)	50	4	6	7	6	N/A	9	45
Nitrite mg-NO2/L*	3	4	<0.3	<0.3	0.2	N/A	0.2	37
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.2	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	11
Selenium - Total (mg/L)	0.01	4	0.001	0.001	0.001	N/A	0.001	42
Silver - Total (mg/L)	0.1	4	<0.0001	<0.0001	0.00005	N/A	0.005	42
Trihalomethanes - Total (mg/L)	0.25	2	<0.005	<0.005	0.0025	N/A	0.0051	20
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	10
Uranium - Total (mg/L)	0.02	4	0.007	0.008	0.008	N/A	0.009	42
Aesthetic								
Aluminium - Total (mg/L)	0.2	4	<0.005	0.007	0.0036	N/A	0.011	42
Chloride (Cl) (mg/L)	250	4	67	76	71.8	N/A	70.9	45
Chlorine Free Residual (mg/L)	0.6	130	0.54	1.1	0.85	1	0.86	1291
Copper - Total (mg/L)	1	4	0.016	0.031	0.023	N/A	0.046	42
Hardness as CaCO3 (mg/L as CaCO3)	200	4	220	260	240	N/A	220	45
Iron - Total (mg/L)	0.3	8	<0.002	0.049	0.012	N/A	0.022	87
Manganese - Total (mg/L)	0.1	4	<0.0005	0.0046	0.0013	N/A	0.0038	42
pH (lab) (pH units)	6.5-8.5	4	7.7	8.4	8.1	N/A	7.6	45
S as Sulphate (S as SO4) (mg/L)	250	4	41.7	75.3	59.5	N/A	43	43
Si as Silica (Si as SiO2) (mg/L)	80	4	17	19	18	N/A	17	45
Sodium (Na) (mg/L)	180	4	77.4	84.2	80.4	N/A	80.4	45
Total Dissolved Solids Dried at 180C (mg/L)	600	4	390	460	430	N/A	430	45
True Colour (HU)	15	4	<2	5	2	N/A	1.16	45
Turbidity (lab) (NTU)	5	4	0.27	0.91	0.54	N/A	0.37	45
Zinc - Total (mg/L)	3	4	0.008	0.011	0.0098	N/A	0.011	42
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	4	170	230	210	N/A	230	45
Apparent Colour (HU)	N/A	4	2	5	2.5	N/A	1.8	45
Bicarbonate (HCO3) (mg/L)	N/A	4	160	280	240	N/A	280	45
Bromine - Total (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.19	42
Calcium (Ca) (mg/L)	N/A	4	48	56	52	N/A	48	45
Carbonate (CO3) (mg/L)	N/A	4	<10	19	8.5	N/A	5.3	45
Electrical Conductivity (Lab) (uS/cm)	N/A	4	760	860	810	N/A	800	45
Hydroxide (OH) (mg/L)	N/A	4	<1	<1	0.5	N/A	0.5	45
Iodine - Total (mg/L)	N/A	4	0.1	0.1	0.1	N/A	0.044	42
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	4	1.3	1.6	1.5	N/A	1.6	37
Nitrate as N (NO3-N) (mg/L)	N/A	4	1.3	1.6	1.5	N/A	1.6	37
Nitrite as N (NO2-N) (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.05	37
Potassium (K) (mg/L)	N/A	4	6.8	6.9	6.9	N/A	6.1	20
Sodium Chloride (NaCl) (mg/L)	N/A	4	110	130	120	N/A	120	45
Tin - Total (mg/L)	N/A	4	<0.0002	<0.0002	0.0001	N/A	0.0043	42
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	4	620
Total coliforms (MPN/100 mL)	N/A	130	<1	<1	0.5	0.5	0.51	1294
E. coli								
E. coli (MPN/100 mL)	0	130	<1	<1	N/A	N/A	N/A	N/A

Table 18 – Water quality data assessment for Batchelor

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	6	<0.0002	<0.0002	0.0001	N/A	0.0001	30
Arsenic - Total (mg/L)	0.01	6	<0.0002	<0.0002	0.0001	N/A	0.0003	30
Barium - Total (mg/L)	2	6	0.005	0.005	0.005	N/A	0.03	30
Beryllium - Total (mg/L)	0.06	6	<0.0001	<0.0001	0.00005	N/A	0.0005	30
Boron - Total (mg/L)	4	6	0.01	0.02	0.01	N/A	0.03	30
Cadmium - Total (mg/L)	0.002	6	<0.00005	0.00007	0.00003	N/A	0.0001	30
Chlorine Free Residual (mg/L)	5	102	0.9	2	1	2	2	652
Chromium - Total (mg/L)	0.05	6	0.0003	0.0008	0.0006	N/A	0.003	30
Copper - Total (mg/L)	2	6	0.005	0.03	0.02	N/A	0.03	30
Fluoride (F) (mg/L)	1.5	6	<0.1	<0.1	0.05	N/A	0.16	30
Lead - Total (mg/L)	0.01	6	<0.0001	0.0009	0.0004	N/A	0.0007	30
Manganese - Total (mg/L)	0.5	6	<0.0005	<0.0005	0.0003	N/A	0.003	30
Mercury - Total (mg/L)	0.001	6	<0.0001	<0.0001	0.00005	N/A	0.00005	30
Molybdenum - Total (mg/L)	0.05	6	<0.0001	<0.0001	0.00005	N/A	0.003	30
Nickel - Total (mg/L)	0.02	6	<0.0005	0.0006	0.0003	N/A	0.001	30
Nitrate as NO3 (UV screening) (mg/L)	50	6	1	2	2	N/A	2	30
Nitrite mg-NO2/L*	3	6	<0.3	<0.3	0.2	N/A	0.2	26
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.1	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	12	<0.0005	<0.0005	0.00025	N/A	0.001	287
Selenium - Total (mg/L)	0.01	6	<0.0002	<0.0002	0.0001	N/A	0.0005	30
Silver - Total (mg/L)	0.1	6	<0.0001	<0.0001	0.00005	N/A	0.005	30
Trihalomethanes - Total (mg/L)	0.25	3	<0.005	<0.005	0.0025	N/A	N/A	15
Sum (PFHxS + PFOS) (ug/L)	0.07	12	0.004	0.009	0.006	N/A	0.01	285
Uranium - Total (mg/L)	0.02	6	0.00008	0.0002	0.0001	N/A	0.0003	30
Aesthetic								
Aluminium - Total (mg/L)	0.2	6	<0.005	<0.005	0.0025	N/A	0.0082	30
Chloride (Cl) (mg/L)	250	6	6	13	8	N/A	6.69	30
Chlorine Free Residual (mg/L)	0.6	102	0.89	2.3	1.4	1.7	1.2	652
Copper - Total (mg/L)	1	6	0.005	0.032	0.02	N/A	0.012	30
Hardness as CaCO3 (mg/L as CaCO3)	200	6	180	180	180	N/A	180	30
Iron - Total (mg/L)	0.3	12	<0.002	0.04	0.0073	N/A	0.016	60
Manganese - Total (mg/L)	0.1	6	<0.0005	<0.0005	0.00025	N/A	0.0019	30
pH (lab) (pH units)	6.5-8.5	6	7.3	7.8	7.5	N/A	7.4	30
S as Sulphate (S as SO4) (mg/L)	250	6	0.81	3.18	1.88	N/A	0.494	29
Si as Silica (Si as SiO2) (mg/L)	80	6	17	21	19	N/A	21	30
Sodium (Na) (mg/L)	180	6	4.49	8.3	5.79	N/A	5.25	30
Total Dissolved Solids Dried at 180C (mg/L)	600	6	200	220	210	N/A	190	30
True Colour (HU)	15	6	<2	<2	1	N/A	1.14	30
Turbidity (lab) (NTU)	5	6	0.14	0.75	0.36	N/A	0.45	30
Zinc - Total (mg/L)	3	6	0.004	0.016	0.011	N/A	0.0068	30
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	6	160	170	170	N/A	180	30
Apparent Colour (HU)	N/A	6	<2	<2	1.2	N/A	1.9	30
Bicarbonate (HCO3) (mg/L)	N/A	6	200	210	200	N/A	210	30
Bromine - Total (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.022	30
Calcium (Ca) (mg/L)	N/A	6	14	18	17	N/A	18	30
Carbonate (CO3) (mg/L)	N/A	6	<10	<10	5	N/A	5	30
Electrical Conductivity (Lab) (uS/cm)	N/A	6	310	350	330	N/A	360	30
Hydroxide (OH) (mg/L)	N/A	6	<1	<1	0.5	N/A	0.5	30
Iodine - Total (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.017	30
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	6	0.3	0.5	0.38	N/A	0.33	26
Nitrate as N (NO3-N) (mg/L)	N/A	6	0.3	0.5	0.38	N/A	0.33	26
Nitrite as N (NO2-N) (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.05	26
Potassium (K) (mg/L)	N/A	6	0.3	0.5	0.4	N/A	0.35	20
Sodium Chloride (NaCl) (mg/L)	N/A	6	9	21	13	N/A	11	30
Tin - Total (mg/L)	N/A	6	<0.0002	<0.0002	0.0001	N/A	0.0037	30
Heterotrophic Plate Count (CFU/mL)	N/A	1	1	1	1	N/A	1.2	117
Total coliforms (MPN/100 mL)	N/A	103	<1	<1	0.51	0.5	0.5	651
E. coli								
E. coli (MPN/100 mL)	0	103	<1	<1	N/A	N/A	N/A	N/A

Table 19 – Water quality data assessment for Borroloola

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	6	<0.0002	0.001	0.0003	N/A	0.0001	94
Arsenic - Total (mg/L)	0.01	6	<0.0002	<0.0002	0.0001	N/A	0.0003	94
Barium - Total (mg/L)	2	6	0.02	0.02	0.02	N/A	0.03	94
Beryllium - Total (mg/L)	0.06	6	0.0001	0.0001	0.0001	N/A	0.0005	94
Boron - Total (mg/L)	4	6	0.03	0.04	0.03	N/A	0.04	94
Cadmium - Total (mg/L)	0.002	6	<0.00005	0.0002	0.00006	N/A	0.0001	94
Chlorine Free Residual (mg/L)	5	143	0.6	2	1	2	2	1125
Chromium - Total (mg/L)	0.05	6	0.0003	0.0004	0.0004	N/A	0.003	94
Copper - Total (mg/L)	2	6	0.0009	0.03	0.01	N/A	0.1	94
Fluoride (F) (mg/L)	1.5	6	<0.1	<0.1	0.05	N/A	0.05	79
Lead - Total (mg/L)	0.01	6	<0.0001	<0.0001	0.00006	N/A	0.003	94
Manganese - Total (mg/L)	0.5	6	<0.0005	0.06	0.01	N/A	0.7	94
Mercury - Total (mg/L)	0.001	6	<0.0001	<0.0001	0.00005	N/A	0.00005	91
Molybdenum - Total (mg/L)	0.05	6	0.0001	0.0001	0.00006	N/A	0.003	94
Nickel - Total (mg/L)	0.02	6	<0.0005	0.002	0.0007	N/A	0.01	94
Nitrate as NO3 (UV screening) (mg/L)	50	6	0.4	0.6	0.5	N/A	1	78
Nitrite mg-NO2/L*	3	6	<0.3	<0.3	0.2	N/A	0.2	72
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.07	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	10
Selenium - Total (mg/L)	0.01	6	0.0002	0.0002	0.0001	N/A	0.0005	94
Silver - Total (mg/L)	0.1	6	<0.0001	<0.0001	0.00005	N/A	0.005	94
Trihalomethanes - Total (mg/L)	0.25	3	<0.005	<0.005	0.0025	N/A	0.0025	30
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	9
Uranium - Total (mg/L)	0.02	6	0.0002	0.0003	0.0003	N/A	0.0004	94
Aesthetic								
Aluminium - Total (mg/L)	0.2	6	0.012	0.019	0.014	N/A	0.031	94
Chloride (Cl) (mg/L)	250	6	10	15	11	N/A	10.5	75
Chlorine Free Residual (mg/L)	0.6	143	0.64	2.2	1.1	1.5	1.2	1125
Copper - Total (mg/L)	1	6	0.0009	0.031	0.012	N/A	0.031	94
Hardness as CaCO3 (mg/L as CaCO3)	200	6	39	74	56	N/A	71	78
Iron - Total (mg/L)	0.3	12	<0.002	0.058	0.014	N/A	0.049	176
Manganese - Total (mg/L)	0.1	6	<0.0005	0.064	0.013	N/A	0.11	94
pH (lab) (pH units)	6.5-8.5	6	7.8	7.9	7.8	N/A	7.6	79
S as Sulphate (S as SO4) (mg/L)	250	6	0.33	1.17	0.935	N/A	0.421	76
Si as Silica (Si as SiO2) (mg/L)	80	6	14	14	14	N/A	14	78
Sodium (Na) (mg/L)	180	6	5.64	7.28	6.53	N/A	6.33	78
Total Dissolved Solids Dried at 180C (mg/L)	600	6	57	120	81	N/A	99	78
True Colour (HU)	15	6	<2	4	1.67	N/A	1.32	78
Turbidity (lab) (NTU)	5	6	0.17	2.3	1.2	N/A	0.68	78
Zinc - Total (mg/L)	3	6	0.001	0.003	0.0016	N/A	0.006	94
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	6	39	72	56	N/A	70	79
Apparent Colour (HU)	N/A	6	<2	10	3.5	N/A	5.2	78
Bicarbonate (HCO3) (mg/L)	N/A	6	47	87	68	N/A	85	79
Bromine - Total (mg/L)	N/A	6	<0.1	0.2	0.075	N/A	0.032	91
Calcium (Ca) (mg/L)	N/A	6	14	28	21	N/A	27	78
Carbonate (CO3) (mg/L)	N/A	6	<10	<10	5	N/A	5	79
Electrical Conductivity (Lab) (uS/cm)	N/A	6	120	180	150	N/A	180	79
Hydroxide (OH) (mg/L)	N/A	6	<1	<1	0.5	N/A	0.5	79
Iodine - Total (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.01	91
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	6	0.1	0.1	0.1	N/A	0.12	72
Nitrate as N (NO3-N) (mg/L)	N/A	6	0.1	0.1	0.1	N/A	0.13	72
Nitrite as N (NO2-N) (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.052	72
Potassium (K) (mg/L)	N/A	6	1.3	1.4	1.4	N/A	1.2	48
Sodium Chloride (NaCl) (mg/L)	N/A	6	16	25	18	N/A	17	78
Tin - Total (mg/L)	N/A	6	<0.0002	0.0004	0.00015	N/A	0.0045	94
Heterotrophic Plate Count (CFU/mL)	N/A	7	1	300	100	N/A	120	306
Total coliforms (MPN/100 mL)	N/A	144	<1	25	0.78	0.5	0.97	1136
E. coli								
E. coli (MPN/100 mL)	0	144	<1	<1	N/A	N/A	N/A	N/A

Table 20 – Water quality data assessment for Cox Peninsula

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	22
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	22
Barium - Total (mg/L)	2	2	0.01	0.01	0.01	N/A	0.03	22
Beryllium - Total (mg/L)	0.06	2	0.0001	0.0002	0.0002	N/A	0.0005	22
Boron - Total (mg/L)	4	2	0.02	0.02	0.02	N/A	0.04	22
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	22
Chlorine Free Residual (mg/L)	5	50	2	3	2	2	2	517
Chromium - Total (mg/L)	0.05	2	0.0003	0.0003	0.0003	N/A	0.003	22
Copper - Total (mg/L)	2	2	0.005	0.008	0.006	N/A	0.1	22
Fluoride (F) (mg/L)	1.5	2	<0.1	0.11	0.08	N/A	0.14	21
Lead - Total (mg/L)	0.01	2	0.0002	0.0002	0.0002	N/A	0.003	22
Manganese - Total (mg/L)	0.5	2	0.001	0.001	0.001	N/A	0.003	22
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	22
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	22
Nickel - Total (mg/L)	0.02	2	0.0006	0.0006	0.0006	N/A	0.001	22
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.2	0.3	0.3	N/A	0.8	21
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	17
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	8
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	22
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	22
Trihalomethanes - Total (mg/L)	0.25	1	<0.005	<0.005	0.0025	N/A	N/A	9
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	8
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	0.00003	22
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.009	0.013	0.011	N/A	0.012	22
Chloride (Cl) (mg/L)	250	2	5	6	5.5	N/A	8.99	21
Chlorine Free Residual (mg/L)	0.6	50	1.5	2.6	1.9	2.2	1.6	517
Copper - Total (mg/L)	1	2	0.0046	0.0078	0.0062	N/A	0.034	22
Hardness as CaCO3 (mg/L as CaCO3)	200	2	2	2.5	2.3	N/A	3.6	21
Iron - Total (mg/L)	0.3	4	0.003	<0.01	0.0048	N/A	0.02	43
Manganese - Total (mg/L)	0.1	2	0.0012	0.0014	0.0013	N/A	0.0024	22
pH (lab) (pH units)	6.5-8.5	2	6.3	6.6	6.5	N/A	6.8	21
S as Sulphate (S as SO4) (mg/L)	250	2	<0.3	0.72	0.435	N/A	0.342	20
Si as Silica (Si as SiO2) (mg/L)	80	2	13	21	17	N/A	21	21
Sodium (Na) (mg/L)	180	2	4.33	18.1	11.2	N/A	8.5	21
Total Dissolved Solids Dried at 180C (mg/L)	600	1	31	31	31	N/A	45	20
True Colour (HU)	15	2	<2	<2	1	N/A	1.2	21
Turbidity (lab) (NTU)	5	2	0.16	0.62	0.39	N/A	0.41	21
Zinc - Total (mg/L)	3	2	0.013	0.021	0.017	N/A	0.036	22
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	21
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	1.8	21
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	7.5	N/A	7.9	21
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.018	22
Calcium (Ca) (mg/L)	N/A	2	0.3	0.5	0.4	N/A	0.84	21
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	21
Electrical Conductivity (Lab) (uS/cm)	N/A	2	32	35	34	N/A	49	21
Hydroxide (OH) (mg/L)	N/A	2	<1	<10	2.8	N/A	0.71	21
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.011	22
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.086	17
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.11	17
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	17
Potassium (K) (mg/L)	N/A	2	0.8	1	0.9	N/A	0.94	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	9	10	9.5	N/A	15	21
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0043	22
Heterotrophic Plate Count (CFU/mL)	N/A	2	10	54	32	N/A	250	124
Total coliforms (MPN/100 mL)	N/A	51	<1	16	0.8	0.5	1	521
E. coli								
E. coli (MPN/100 mL)	0	51	<1	<1	N/A	N/A	N/A	N/A

Table 21 – Water quality data assessment for Daly Waters

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	8	<0.0002	<0.0002	0.0001	N/A	0.0001	83
Arsenic - Total (mg/L)	0.01	8	0.0002	0.0004	0.0002	N/A	0.0005	83
Barium - Total (mg/L)	2	8	0.06	0.07	0.07	N/A	0.07	83
Beryllium - Total (mg/L)	0.06	8	<0.0001	<0.0001	0.00005	N/A	0.0005	83
Boron - Total (mg/L)	4	8	0.3	0.3	0.3	N/A	0.4	83
Cadmium - Total (mg/L)	0.002	8	<0.00005	<0.00005	0.00003	N/A	0.0001	83
Chlorine Free Residual (mg/L)	5	36	0.9	1	1	1	1	362
Chromium - Total (mg/L)	0.05	8	0.0004	0.002	0.0009	N/A	0.003	83
Copper - Total (mg/L)	2	8	0.01	0.1	0.04	N/A	0.1	83
Fluoride (F) (mg/L)	1.5	8	0.16	0.2	0.19	N/A	0.31	82
Lead - Total (mg/L)	0.01	8	<0.0001	0.0003	0.0001	N/A	0.003	83
Manganese - Total (mg/L)	0.5	8	<0.0005	0.002	0.0006	N/A	0.03	83
Mercury - Total (mg/L)	0.001	8	<0.0001	<0.0001	0.00005	N/A	0.00005	83
Molybdenum - Total (mg/L)	0.05	8	0.0001	0.0002	0.0001	N/A	0.003	83
Nickel - Total (mg/L)	0.02	8	0.002	0.003	0.002	N/A	0.006	82
Nitrate as NO3 (UV screening) (mg/L)	50	8	8	10	9	N/A	10	82
Nitrite mg-NO2/L*	3	8	<0.3	1	0.3	N/A	0.4	68
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.5	N/A	N/A	0.3	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	7
Selenium - Total (mg/L)	0.01	8	0.002	0.002	0.002	N/A	0.002	83
Silver - Total (mg/L)	0.1	8	<0.0001	<0.0001	0.00005	N/A	0.005	83
Trihalomethanes - Total (mg/L)	0.25	2	<0.005	<0.005	0.0025	N/A	0.031	20
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	7
Uranium - Total (mg/L)	0.02	8	0.003	0.004	0.003	N/A	0.005	83
Aesthetic								
Aluminium - Total (mg/L)	0.2	8	<0.005	0.006	0.0029	N/A	0.016	83
Chloride (Cl) (mg/L)	250	8	270	310	293	N/A	289	82
Chlorine Free Residual (mg/L)	0.6	36	0.9	1.5	1.2	1.4	1	362
Copper - Total (mg/L)	1	8	0.012	0.13	0.036	N/A	0.05	83
Hardness as CaCO3 (mg/L as CaCO3)	200	8	550	580	570	N/A	560	82
Iron - Total (mg/L)	0.3	16	0.002	0.11	0.029	N/A	0.14	165
Manganese - Total (mg/L)	0.1	8	<0.0005	0.0021	0.00056	N/A	0.0065	83
pH (lab) (pH units)	6.5-8.5	8	7.1	7.5	7.3	N/A	7.3	82
S as Sulphate (S as SO4) (mg/L)	250	8	145	161	153	N/A	138	78
Si as Silica (Si as SiO2) (mg/L)	80	8	30	37	33	N/A	33	82
Sodium (Na) (mg/L)	180	8	197	218	211	N/A	187	82
Total Dissolved Solids Dried at 180C (mg/L)	600	6	1200	1200	1200	N/A	1100	80
True Colour (HU)	15	8	2	2	1.25	N/A	1.33	82
Turbidity (lab) (NTU)	5	8	0.15	1.4	0.64	N/A	1.8	82
Zinc - Total (mg/L)	3	8	0.004	0.02	0.0085	N/A	0.016	83
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	8	400	430	410	N/A	410	82
Apparent Colour (HU)	N/A	8	2	4	1.9	N/A	11	82
Bicarbonate (HCO3) (mg/L)	N/A	8	490	520	500	N/A	500	82
Bromine - Total (mg/L)	N/A	8	0.6	1	0.84	N/A	0.99	83
Calcium (Ca) (mg/L)	N/A	8	130	140	140	N/A	130	82
Carbonate (CO3) (mg/L)	N/A	8	<10	<10	5	N/A	5	82
Electrical Conductivity (Lab) (uS/cm)	N/A	8	2000	2100	2100	N/A	2000	82
Hydroxide (OH) (mg/L)	N/A	8	<1	<1	0.5	N/A	0.5	82
Iodine - Total (mg/L)	N/A	8	0.1	0.2	0.13	N/A	0.061	83
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	8	1.9	2.4	2.2	N/A	2.3	68
Nitrate as N (NO3-N) (mg/L)	N/A	8	1.8	2.3	2.1	N/A	2.2	68
Nitrite as N (NO2-N) (mg/L)	N/A	8	<0.1	0.3	0.1	N/A	0.059	68
Potassium (K) (mg/L)	N/A	8	22	24	23	N/A	21	40
Sodium Chloride (NaCl) (mg/L)	N/A	8	450	510	480	N/A	480	82
Tin - Total (mg/L)	N/A	8	<0.0002	<0.0002	0.0001	N/A	0.0041	83
Heterotrophic Plate Count (CFU/mL)	N/A	2	12	46	29	N/A	11	74
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.51	359
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 22 – Water quality data assessment for Darwin

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	28	<0.0002	0.0003	0.0001	0.0001	0.0001	240
Arsenic - Total (mg/L)	0.01	28	0.0002	0.0003	0.0002	0.0003	0.0003	240
Barium - Total (mg/L)	2	28	0.02	0.04	0.03	0.04	0.03	240
Beryllium - Total (mg/L)	0.06	28	<0.0001	<0.0001	0.00005	0.00005	0.0005	240
Boron - Total (mg/L)	4	28	0.007	0.02	0.01	0.02	0.02	240
Cadmium - Total (mg/L)	0.002	28	<0.00005	<0.00005	0.00003	0.00003	0.0001	240
Chlorine Free Residual (mg/L)	5	623	0.03	2	1	2	2	6311
Chromium - Total (mg/L)	0.05	28	<0.0002	0.0003	0.0001	0.0002	0.003	240
Copper - Total (mg/L)	2	28	0.001	0.2	0.03	0.1	0.09	240
Fluoride (F) (mg/L)	1.5	79	0.26	0.83	0.66	0.8	0.8	351
Lead - Total (mg/L)	0.01	28	<0.0001	0.007	0.0008	0.002	0.002	240
Manganese - Total (mg/L)	0.5	28	0.01	0.04	0.02	0.03	0.05	240
Mercury - Total (mg/L)	0.001	28	<0.0001	<0.0001	0.00005	0.00005	0.00005	240
Molybdenum - Total (mg/L)	0.05	28	<0.0001	<0.0001	0.00006	0.0001	0.003	240
Nickel - Total (mg/L)	0.02	28	<0.0005	0.0006	0.0003	0.0003	0.001	240
Nitrate as NO3 (UV screening) (mg/L)	50	28	<0.1	1	0.3	1	0.7	257
Nitrite mg-NO2/L*	3	28	<0.3	1	0.2	0.2	0.2	221
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.5	N/A	0.08	0.07	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	8
Selenium - Total (mg/L)	0.01	28	<0.0002	<0.0002	0.0001	0.0001	0.0005	240
Silver - Total (mg/L)	0.1	28	<0.0001	<0.0001	0.00005	0.00005	0.005	241
Trihalomethanes - Total (mg/L)	0.25	10	0.044	0.06	0.053	N/A	0.1	100
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	8
Uranium - Total (mg/L)	0.02	28	<0.00005	0.00007	0.00003	0.00005	0.00005	240
Aesthetic								
Aluminium - Total (mg/L)	0.2	28	0.005	0.02	0.0081	0.019	0.011	240
Chloride (Cl) (mg/L)	250	28	5	9	6.64	8	6.65	258
Chlorine Free Residual (mg/L)	0.6	623	0.03	2.2	1.3	1.9	1.2	6311
Copper - Total (mg/L)	1	28	0.001	0.19	0.025	0.14	0.029	240
Hardness as CaCO3 (mg/L as CaCO3)	200	28	20	56	35	51	33	257
Iron - Total (mg/L)	0.3	28	0.031	1	0.066	N/A	0.086	240
Manganese - Total (mg/L)	0.1	28	0.011	0.042	0.023	0.035	0.025	240
pH (lab) (pH units)	6.5-8.5	28	6	8.2	7.3	8	7.3	256
S as Sulphate (S as SO4) (mg/L)	250	28	<0.3	4.35	0.426	0.848	0.175	249
Si as Silica (Si as SiO2) (mg/L)	80	28	10	14	11	13	12	257
Sodium (Na) (mg/L)	180	28	2.8	5.97	4.25	5.51	3.67	257
Total Dissolved Solids Dried at 180C (mg/L)	600	24	26	81	51	71	51	253
True Colour (HU)	15	28	2	9	3.32	7.65	2.91	262
Turbidity (lab) (NTU)	5	28	0.63	2.7	1.4	2.4	1	256
Zinc - Total (mg/L)	3	28	0.001	0.054	0.0069	0.015	0.0084	240
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	28	<20	45	28	44	28	262
Apparent Colour (HU)	N/A	28	4	120	21	86	14	262
Bicarbonate (HCO3) (mg/L)	N/A	28	18	54	36	54	36	262
Bromine - Total (mg/L)	N/A	28	<0.1	0.2	0.061	0.1	0.038	240
Calcium (Ca) (mg/L)	N/A	28	3.6	14	7.3	12	6.7	257
Carbonate (CO3) (mg/L)	N/A	28	<10	<10	5	5	5	262
Electrical Conductivity (Lab) (uS/cm)	N/A	28	57	120	85	120	82	262
Hydroxide (OH) (mg/L)	N/A	28	<1	<1	0.5	0.5	0.57	262
Iodine - Total (mg/L)	N/A	28	<0.1	0.6	0.071	0.082	0.016	240
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	28	<0.1	0.3	0.079	0.23	0.065	221
Nitrate as N (NO3-N) (mg/L)	N/A	28	<0.1	0.3	0.08	0.23	0.077	221
Nitrite as N (NO2-N) (mg/L)	N/A	28	<0.1	0.4	0.063	0.05	0.065	221
Potassium (K) (mg/L)	N/A	28	0.7	1.4	0.95	1.3	0.68	97
Sodium Chloride (NaCl) (mg/L)	N/A	28	9	14	11	14	11	262
Tin - Total (mg/L)	N/A	28	<0.0002	<0.0002	0.0001	0.0001	0.0043	240
Heterotrophic Plate Count (CFU/mL)	N/A	18	10	3000	790	N/A	160	1305
Total coliforms (MPN/100 mL)	N/A	624	<1	48	0.65	0.5	0.54	6004
E. coli								
E. coli (MPN/100 mL)	0	624	<1	<1	N/A	N/A	N/A	N/A

Table 23 – Water quality data assessment for Elliott

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	5	<0.0002	<0.0002	0.0001	N/A	0.0001	58
Arsenic - Total (mg/L)	0.01	5	0.0002	0.0003	0.0002	N/A	0.0003	58
Barium - Total (mg/L)	2	5	0.1	0.1	0.1	N/A	0.2	58
Beryllium - Total (mg/L)	0.06	5	<0.0001	<0.0001	0.00005	N/A	0.0005	58
Boron - Total (mg/L)	4	5	0.3	0.3	0.3	N/A	0.4	58
Cadmium - Total (mg/L)	0.002	5	<0.00005	<0.00005	0.00003	N/A	0.0001	58
Chlorine Free Residual (mg/L)	5	141	0.8	2	1	1	1	1489
Chromium - Total (mg/L)	0.05	5	0.0003	0.0004	0.0003	N/A	0.003	58
Copper - Total (mg/L)	2	5	0.01	1	0.3	N/A	0.06	58
Fluoride (F) (mg/L)	1.5	6	0.75	0.78	0.77	N/A	0.86	59
Lead - Total (mg/L)	0.01	5	0.0001	0.001	0.0006	N/A	0.001	58
Manganese - Total (mg/L)	0.5	5	<0.0005	<0.0005	0.0003	N/A	0.003	58
Mercury - Total (mg/L)	0.001	5	<0.0001	<0.0001	0.00005	N/A	0.00005	58
Molybdenum - Total (mg/L)	0.05	5	0.001	0.001	0.001	N/A	0.003	58
Nickel - Total (mg/L)	0.02	5	0.001	0.002	0.002	N/A	0.002	58
Nitrate as NO3 (UV screening) (mg/L)	50	6	10	10	10	N/A	20	59
Nitrite mg-NO2/L*	3	6	<0.3	<0.3	0.2	N/A	0.2	50
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.4	N/A	N/A	0.4	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	11
Selenium - Total (mg/L)	0.01	5	0.001	0.001	0.001	N/A	0.002	58
Silver - Total (mg/L)	0.1	5	<0.0001	<0.0001	0.00005	N/A	0.005	58
Trihalomethanes - Total (mg/L)	0.25	3	<0.005	0.019	0.008	N/A	0.0056	30
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	11
Uranium - Total (mg/L)	0.02	5	0.006	0.006	0.006	N/A	0.006	58
Aesthetic								
Aluminium - Total (mg/L)	0.2	5	<0.005	<0.005	0.0025	N/A	0.0095	58
Chloride (Cl) (mg/L)	250	6	140	150	142	N/A	145	59
Chlorine Free Residual (mg/L)	0.6	141	0.75	1.6	1.2	1.4	1.1	1489
Copper - Total (mg/L)	1	5	0.015	1.4	0.29	N/A	0.04	58
Hardness as CaCO3 (mg/L as CaCO3)	200	6	440	460	450	N/A	440	59
Iron - Total (mg/L)	0.3	11	<0.002	<0.01	0.0034	N/A	0.015	117
Manganese - Total (mg/L)	0.1	5	<0.0005	<0.0005	0.00025	N/A	0.0022	58
pH (lab) (pH units)	6.5-8.5	6	7.6	7.8	7.7	N/A	7.8	59
S as Sulphate (S as SO4) (mg/L)	250	6	37.5	46.2	42.4	N/A	29.9	56
Si as Silica (Si as SiO2) (mg/L)	80	6	47	53	51	N/A	49	59
Sodium (Na) (mg/L)	180	6	86.5	89.8	88.5	N/A	85	59
Total Dissolved Solids Dried at 180C (mg/L)	600	3	670	690	680	N/A	720	56
True Colour (HU)	15	6	<2	<2	1	N/A	1.1	59
Turbidity (lab) (NTU)	5	6	<0.1	0.23	0.16	N/A	0.37	59
Zinc - Total (mg/L)	3	5	0.004	0.042	0.018	N/A	0.01	58
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	6	370	380	380	N/A	380	59
Apparent Colour (HU)	N/A	6	<2	<2	1	N/A	1.4	59
Bicarbonate (HCO3) (mg/L)	N/A	6	450	470	460	N/A	460	59
Bromine - Total (mg/L)	N/A	5	0.2	0.6	0.34	N/A	0.42	58
Calcium (Ca) (mg/L)	N/A	6	100	110	100	N/A	100	59
Carbonate (CO3) (mg/L)	N/A	6	<10	<10	5	N/A	5	59
Electrical Conductivity (Lab) (uS/cm)	N/A	6	1300	1300	1300	N/A	1300	59
Hydroxide (OH) (mg/L)	N/A	6	<1	<1	0.5	N/A	0.5	59
Iodine - Total (mg/L)	N/A	5	<0.1	<0.1	0.05	N/A	0.051	58
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	6	2.6	3	2.8	N/A	2.9	50
Nitrate as N (NO3-N) (mg/L)	N/A	6	2.6	3	2.8	N/A	2.8	50
Nitrite as N (NO2-N) (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.055	50
Potassium (K) (mg/L)	N/A	6	22	24	23	N/A	22	29
Sodium Chloride (NaCl) (mg/L)	N/A	6	230	240	230	N/A	240	59
Tin - Total (mg/L)	N/A	5	<0.0002	<0.0002	0.0001	N/A	0.0043	58
Heterotrophic Plate Count (CFU/mL)	N/A	45	10	2500	190	700	34	815
Total coliforms (MPN/100 mL)	N/A	147	<1	<1	0.51	0.5	0.73	1520
E. coli								
E. coli (MPN/100 mL)	0	147	<1	<1	N/A	N/A	N/A	N/A

Table 24 – Water quality data assessment for Gunn Point

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	4	<0.0002	0.0004	0.0003	N/A	0.0006	26
Arsenic - Total (mg/L)	0.01	4	0.0002	0.0002	0.0002	N/A	0.001	26
Barium - Total (mg/L)	2	4	0.003	0.03	0.02	N/A	0.1	26
Beryllium - Total (mg/L)	0.06	4	<0.0001	<0.0001	0.00005	N/A	0.0005	26
Boron - Total (mg/L)	4	4	0.01	0.02	0.02	N/A	0.02	26
Cadmium - Total (mg/L)	0.002	4	0.0001	0.002	0.001	N/A	0.003	26
Chlorine Free Residual (mg/L)	5	12	0.6	2	1	N/A	2	266
Chromium - Total (mg/L)	0.05	4	<0.0002	0.0003	0.0002	N/A	0.003	26
Copper - Total (mg/L)	2	4	0.002	0.01	0.007	N/A	0.01	26
Fluoride (F) (mg/L)	1.5	2	0.49	0.66	0.58	N/A	0.67	20
Lead - Total (mg/L)	0.01	4	0.0008	0.007	0.003	N/A	0.007	26
Manganese - Total (mg/L)	0.5	4	0.008	0.02	0.01	N/A	0.04	26
Mercury - Total (mg/L)	0.001	4	<0.0001	<0.0001	0.00005	N/A	0.00005	26
Molybdenum - Total (mg/L)	0.05	4	<0.0001	0.0003	0.0002	N/A	0.003	26
Nickel - Total (mg/L)	0.02	4	<0.0005	0.002	0.001	N/A	0.006	26
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.1	0.1	0.08	N/A	0.5	20
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	17
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	8
Selenium - Total (mg/L)	0.01	4	<0.0002	<0.0002	0.0001	N/A	0.0005	26
Silver - Total (mg/L)	0.1	4	<0.0001	<0.0001	0.00005	N/A	0.005	26
Trihalomethanes - Total (mg/L)	0.25	1	<0.005	<0.005	0.0025	N/A	N/A	9
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	7
Uranium - Total (mg/L)	0.02	4	<0.00005	0.00008	0.00004	N/A	0.0003	26
Aesthetic								
Aluminium - Total (mg/L)	0.2	4	<0.005	<0.005	0.0025	N/A	0.0086	26
Chloride (Cl) (mg/L)	250	2	3	13	8	N/A	10	20
Chlorine Free Residual (mg/L)	0.6	12	0.57	1.9	1.2	N/A	1.2	266
Copper - Total (mg/L)	1	4	0.0019	0.011	0.0069	N/A	0.0062	26
Hardness as CaCO3 (mg/L as CaCO3)	200	2	49	69	59	N/A	65	20
Iron - Total (mg/L)	0.3	4	0.067	1	0.16	N/A	0.12	26
Manganese - Total (mg/L)	0.1	4	0.0077	0.024	0.015	N/A	0.018	26
pH (lab) (pH units)	6.5-8.5	2	6.7	8.3	7.5	N/A	7.5	20
S as Sulphate (S as SO4) (mg/L)	250	2	1.38	2.94	2.16	N/A	0.432	19
Si as Silica (Si as SiO2) (mg/L)	80	2	7.6	8.2	7.9	N/A	9.8	20
Sodium (Na) (mg/L)	180	2	3.35	11.3	7.33	N/A	8.83	20
Total Dissolved Solids Dried at 180C (mg/L)	600	1	57	57	57	N/A	98	19
True Colour (HU)	15	2	<2	4	2.5	N/A	1.5	20
Turbidity (lab) (NTU)	5	2	0.53	16	8.3	N/A	4.4	20
Zinc - Total (mg/L)	3	4	0.12	7.1	2.9	N/A	2.3	19
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	48	66	57	N/A	71	20
Apparent Colour (HU)	N/A	2	5	95	50	N/A	21	20
Bicarbonate (HCO3) (mg/L)	N/A	2	59	81	70	N/A	86	20
Bromine - Total (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.021	26
Calcium (Ca) (mg/L)	N/A	2	10	14	12	N/A	12	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	120	190	160	N/A	170	20
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	20
Iodine - Total (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.014	26
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.056	17
Nitrate as N (NO3-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.068	17
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	17
Potassium (K) (mg/L)	N/A	2	0.3	0.6	0.45	N/A	0.44	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	6	21	14	N/A	17	20
Tin - Total (mg/L)	N/A	4	<0.0002	<0.0002	0.0001	N/A	0.0041	26
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	140	61
Total coliforms (MPN/100 mL)	N/A	13	<1	<1	0.5	N/A	0.65	244
E. coli								
E. coli (MPN/100 mL)	0	13	<1	<1	N/A	N/A	N/A	N/A

Table 25 – Water quality data assessment for Katherine

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	15	<0.0002	<0.0002	0.0001	N/A	0.0001	149
Arsenic - Total (mg/L)	0.01	15	<0.0002	0.0004	0.0001	N/A	0.0003	149
Barium - Total (mg/L)	2	15	0.01	0.02	0.01	N/A	0.03	149
Beryllium - Total (mg/L)	0.06	15	<0.0001	<0.0001	0.00005	N/A	0.0005	149
Boron - Total (mg/L)	4	15	0.007	0.02	0.01	N/A	0.01	149
Cadmium - Total (mg/L)	0.002	15	<0.00005	<0.00005	0.00003	N/A	0.0001	149
Chlorine Free Residual (mg/L)	5	150	0.5	3	1	2	2	1574
Chromium - Total (mg/L)	0.05	15	<0.0002	<0.0002	0.0001	N/A	0.003	149
Copper - Total (mg/L)	2	15	0.009	0.08	0.03	N/A	0.07	149
Fluoride (F) (mg/L)	1.5	110	0.2	0.72	0.57	0.66	0.67	654
Lead - Total (mg/L)	0.01	15	0.0001	0.002	0.0005	N/A	0.0005	149
Manganese - Total (mg/L)	0.5	15	<0.0005	0.03	0.003	N/A	0.003	149
Mercury - Total (mg/L)	0.001	15	<0.0001	<0.0001	0.00005	N/A	0.00005	149
Molybdenum - Total (mg/L)	0.05	15	<0.0001	<0.0001	0.00005	N/A	0.003	149
Nickel - Total (mg/L)	0.02	15	<0.0005	0.001	0.0003	N/A	0.001	149
Nitrate as NO3 (UV screening) (mg/L)	50	6	0.3	0.5	0.4	N/A	0.9	70
Nitrite mg-NO2/L*	3	6	0.3	0.3	0.2	N/A	0.2	58
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.07	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	10	<0.0005	0.0006	0.00029	N/A	0.005	597
Selenium - Total (mg/L)	0.01	15	<0.0002	<0.0002	0.0001	N/A	0.0005	149
Silver - Total (mg/L)	0.1	15	<0.0001	<0.0001	0.00005	N/A	0.005	149
Trihalomethanes - Total (mg/L)	0.25	6	<0.005	0.039	0.02	N/A	0.058	60
Sum (PFHxS + PFOS) (ug/L)	0.07	10	<0.0003	0.04	0.004	N/A	0.008	546
Uranium - Total (mg/L)	0.02	15	<0.00005	<0.00005	0.00003	N/A	0.0001	149
Aesthetic								
Aluminium - Total (mg/L)	0.2	15	0.007	0.42	0.039	N/A	0.033	149
Chloride (Cl) (mg/L)	250	6	4	6	5	N/A	5.28	70
Chlorine Free Residual (mg/L)	0.6	150	0.5	2.8	1.4	2.2	1.3	1574
Copper - Total (mg/L)	1	15	0.0088	0.076	0.025	N/A	0.02	149
Hardness as CaCO3 (mg/L as CaCO3)	200	6	50	100	70	N/A	77	70
Iron - Total (mg/L)	0.3	21	<0.002	0.029	0.0041	N/A	0.027	224
Manganese - Total (mg/L)	0.1	15	<0.0005	0.028	0.003	N/A	0.004	149
pH (lab) (pH units)	6.5-8.5	6	7.3	7.5	7.4	N/A	7.5	70
S as Sulphate (S as SO4) (mg/L)	250	6	2.1	10.1	5.79	N/A	2.46	67
Si as Silica (Si as SiO2) (mg/L)	80	6	13	17	15	N/A	14	70
Sodium (Na) (mg/L)	180	6	6.58	9.45	8.25	N/A	7.63	70
Total Dissolved Solids Dried at 180C (mg/L)	600	6	58	210	100	N/A	100	70
True Colour (HU)	15	6	<2	<2	1	N/A	1.2	75
Turbidity (lab) (NTU)	5	6	<0.1	0.5	0.23	N/A	0.39	70
Zinc - Total (mg/L)	3	15	<0.001	0.013	0.0044	N/A	0.0051	149
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	6	55	94	72	N/A	80	70
Apparent Colour (HU)	N/A	6	<2	<2	1	N/A	1.5	75
Bicarbonate (HCO3) (mg/L)	N/A	6	67	110	87	N/A	99	70
Bromine - Total (mg/L)	N/A	15	<0.1	0.7	0.12	N/A	0.033	149
Calcium (Ca) (mg/L)	N/A	6	11	24	17	N/A	18	70
Carbonate (CO3) (mg/L)	N/A	6	<10	<10	5	N/A	5	70
Electrical Conductivity (Lab) (uS/cm)	N/A	6	140	230	180	N/A	190	70
Hydroxide (OH) (mg/L)	N/A	6	<1	<1	0.5	N/A	0.5	70
Iodine - Total (mg/L)	N/A	15	<0.1	0.3	0.067	N/A	0.014	149
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	6	0.1	0.1	0.1	N/A	0.12	58
Nitrate as N (NO3-N) (mg/L)	N/A	6	0.1	0.1	0.1	N/A	0.13	58
Nitrite as N (NO2-N) (mg/L)	N/A	6	0.1	0.1	0.058	N/A	0.051	58
Potassium (K) (mg/L)	N/A	6	0.5	0.9	0.72	N/A	0.86	39
Sodium Chloride (NaCl) (mg/L)	N/A	6	7	10	8.5	N/A	8.9	70
Tin - Total (mg/L)	N/A	15	<0.0002	0.0004	0.00012	N/A	0.0042	149
Heterotrophic Plate Count (CFU/mL)	N/A	7	1	19	11	N/A	3.3	336
Total coliforms (MPN/100 mL)	N/A	153	<1	2	0.51	0.5	0.67	1558
E. coli								
E. coli (MPN/100 mL)	0	153	<1	<1	N/A	N/A	N/A	N/A

Table 26 – Water quality data assessment for Kings Canyon

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	4	<0.0002	<0.0002	0.0001	N/A	0.0001	42
Arsenic - Total (mg/L)	0.01	4	0.0007	0.001	0.0008	N/A	0.002	42
Barium - Total (mg/L)	2	4	0.02	0.03	0.02	N/A	0.03	42
Beryllium - Total (mg/L)	0.06	4	<0.0001	<0.0001	0.00005	N/A	0.0005	42
Boron - Total (mg/L)	4	4	0.3	0.3	0.3	N/A	0.4	42
Cadmium - Total (mg/L)	0.002	4	<0.00005	0.0001	0.00004	N/A	0.0001	42
Chlorine Free Residual (mg/L)	5	92	0.5	1	0.9	1	1	1077
Chromium - Total (mg/L)	0.05	4	0.008	0.008	0.008	N/A	0.01	42
Copper - Total (mg/L)	2	4	0.003	0.1	0.05	N/A	0.08	42
Fluoride (F) (mg/L)	1.5	4	0.42	0.46	0.45	N/A	0.56	42
Lead - Total (mg/L)	0.01	4	0.0002	0.0008	0.0004	N/A	0.002	42
Manganese - Total (mg/L)	0.5	4	<0.0005	0.0006	0.0004	N/A	0.003	42
Mercury - Total (mg/L)	0.001	4	0.0003	0.0003	0.0003	N/A	0.0004	42
Molybdenum - Total (mg/L)	0.05	4	0.003	0.003	0.003	N/A	0.003	42
Nickel - Total (mg/L)	0.02	4	0.004	0.006	0.005	N/A	0.007	42
Nitrate as NO3 (UV screening) (mg/L)	50	4	4	6	5	N/A	6	42
Nitrite mg-NO2/L*	3	4	<0.3	<0.3	0.2	N/A	0.2	36
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.2	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	9
Selenium - Total (mg/L)	0.01	4	0.002	0.002	0.002	N/A	0.003	42
Silver - Total (mg/L)	0.1	4	<0.0001	<0.0001	0.00005	N/A	0.005	42
Trihalomethanes - Total (mg/L)	0.25	2	<0.005	0.009	0.0058	N/A	N/A	15
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	8
Uranium - Total (mg/L)	0.02	4	0.002	0.002	0.002	N/A	0.002	42
Aesthetic								
Aluminium - Total (mg/L)	0.2	4	0.005	0.005	0.0031	N/A	0.012	42
Chloride (Cl) (mg/L)	250	4	260	270	265	N/A	253	42
Chlorine Free Residual (mg/L)	0.6	92	0.54	1.2	0.89	1.1	0.89	1077
Copper - Total (mg/L)	1	4	0.0034	0.12	0.053	N/A	0.025	42
Hardness as CaCO3 (mg/L as CaCO3)	200	4	390	460	420	N/A	380	42
Iron - Total (mg/L)	0.3	8	0.006	0.064	0.018	N/A	0.048	84
Manganese - Total (mg/L)	0.1	4	<0.0005	0.0006	0.0004	N/A	0.0023	42
pH (lab) (pH units)	6.5-8.5	4	7	7.7	7.3	N/A	7	42
S as Sulphate (S as SO4) (mg/L)	250	4	143	202	171	N/A	156	40
Si as Silica (Si as SiO2) (mg/L)	80	4	20	25	24	N/A	20	42
Sodium (Na) (mg/L)	180	4	124	148	134	N/A	120	42
Total Dissolved Solids Dried at 180C (mg/L)	600	4	770	900	840	N/A	800	42
True Colour (HU)	15	4	<2	<2	1	N/A	1.07	42
Turbidity (lab) (NTU)	5	4	0.29	3.3	1.2	N/A	0.49	42
Zinc - Total (mg/L)	3	4	0.016	0.085	0.053	N/A	0.042	42
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	4	120	130	130	N/A	130	42
Apparent Colour (HU)	N/A	4	2	5	3.3	N/A	2.5	42
Bicarbonate (HCO3) (mg/L)	N/A	4	140	160	150	N/A	160	42
Bromine - Total (mg/L)	N/A	4	0.6	0.8	0.7	N/A	0.89	42
Calcium (Ca) (mg/L)	N/A	4	78	92	84	N/A	78	42
Carbonate (CO3) (mg/L)	N/A	4	<10	<10	5	N/A	5	42
Electrical Conductivity (Lab) (uS/cm)	N/A	4	1500	1500	1500	N/A	1400	42
Hydroxide (OH) (mg/L)	N/A	4	<1	<1	0.5	N/A	0.5	42
Iodine - Total (mg/L)	N/A	4	0.2	0.2	0.2	N/A	0.14	42
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	4	1	1.4	1.2	N/A	0.94	36
Nitrate as N (NO3-N) (mg/L)	N/A	4	1	1.4	1.2	N/A	0.94	36
Nitrite as N (NO2-N) (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.058	36
Potassium (K) (mg/L)	N/A	4	26	30	27	N/A	24	20
Sodium Chloride (NaCl) (mg/L)	N/A	4	420	440	430	N/A	420	42
Tin - Total (mg/L)	N/A	4	<0.0002	<0.0002	0.0001	N/A	0.0043	42
Heterotrophic Plate Count (CFU/mL)	N/A	1	18	18	18	N/A	5.1	488
Total coliforms (MPN/100 mL)	N/A	96	<1	170	2.2	0.5	0.72	1088
E. coli								
E. coli (MPN/100 mL)	0	96	<1	<1	N/A	N/A	N/A	N/A

Table 27 – Water quality data assessment for Larrimah

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	4	<0.0002	<0.0002	0.0001	N/A	0.0001	42
Arsenic - Total (mg/L)	0.01	4	<0.0002	<0.0002	0.0001	N/A	0.0003	42
Barium - Total (mg/L)	2	4	0.06	0.06	0.06	N/A	0.06	42
Beryllium - Total (mg/L)	0.06	4	<0.0001	<0.0001	0.00005	N/A	0.0005	42
Boron - Total (mg/L)	4	4	0.2	0.2	0.2	N/A	0.3	42
Cadmium - Total (mg/L)	0.002	4	<0.00005	<0.00005	0.00003	N/A	0.0001	42
Chlorine Free Residual (mg/L)	5	36	1	1	1	1	1	360
Chromium - Total (mg/L)	0.05	4	<0.0002	<0.0002	0.0001	N/A	0.003	42
Copper - Total (mg/L)	2	4	0.002	0.03	0.01	N/A	0.04	41
Fluoride (F) (mg/L)	1.5	4	0.19	0.2	0.2	N/A	0.23	42
Lead - Total (mg/L)	0.01	4	<0.0001	0.001	0.0003	N/A	0.002	42
Manganese - Total (mg/L)	0.5	4	<0.0005	0.006	0.002	N/A	0.003	42
Mercury - Total (mg/L)	0.001	4	<0.0001	<0.0001	0.00005	N/A	0.00005	42
Molybdenum - Total (mg/L)	0.05	4	<0.0001	<0.0001	0.00005	N/A	0.003	42
Nickel - Total (mg/L)	0.02	4	<0.0005	0.001	0.0005	N/A	0.001	42
Nitrate as NO3 (UV screening) (mg/L)	50	4	2	3	2	N/A	3	42
Nitrite mg-NO2/L*	3	4	<0.3	<0.3	0.2	N/A	0.5	34
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.2	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	8
Selenium - Total (mg/L)	0.01	4	0.001	0.001	0.001	N/A	0.002	42
Silver - Total (mg/L)	0.1	4	<0.0001	<0.0001	0.00005	N/A	0.005	42
Trihalomethanes - Total (mg/L)	0.25	2	<0.005	<0.005	0.0025	N/A	0.011	20
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	8
Uranium - Total (mg/L)	0.02	4	0.002	0.003	0.003	N/A	0.003	42
Aesthetic								
Aluminium - Total (mg/L)	0.2	4	<0.005	0.006	0.0034	N/A	0.0084	42
Chloride (Cl) (mg/L)	250	4	170	190	180	N/A	195	42
Chlorine Free Residual (mg/L)	0.6	36	1.1	1.5	1.3	1.4	1.1	360
Copper - Total (mg/L)	1	4	0.0021	0.034	0.015	N/A	0.017	41
Hardness as CaCO3 (mg/L as CaCO3)	200	4	520	540	530	N/A	510	42
Iron - Total (mg/L)	0.3	8	0.005	0.18	0.036	N/A	0.64	84
Manganese - Total (mg/L)	0.1	4	<0.0005	0.0056	0.0016	N/A	0.0022	42
pH (lab) (pH units)	6.5-8.5	4	7.8	7.8	7.8	N/A	7.7	42
S as Sulphate (S as SO4) (mg/L)	250	4	97.2	100	98.5	N/A	97.7	39
Si as Silica (Si as SiO2) (mg/L)	80	4	38	40	39	N/A	43	42
Sodium (Na) (mg/L)	180	4	130	138	134	N/A	140	42
Total Dissolved Solids Dried at 180C (mg/L)	600	2	950	960	950	N/A	960	40
True Colour (HU)	15	4	<2	3	1.5	N/A	1.12	41
Turbidity (lab) (NTU)	5	4	0.21	1.8	0.81	N/A	0.64	41
Zinc - Total (mg/L)	3	4	0.006	0.013	0.008	N/A	0.0097	41
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	4	450	450	450	N/A	430	42
Apparent Colour (HU)	N/A	4	<2	6	2.3	N/A	2.3	42
Bicarbonate (HCO3) (mg/L)	N/A	4	540	550	550	N/A	510	42
Bromine - Total (mg/L)	N/A	4	0.2	0.8	0.45	N/A	0.59	42
Calcium (Ca) (mg/L)	N/A	4	120	130	130	N/A	120	42
Carbonate (CO3) (mg/L)	N/A	4	<10	<10	5	N/A	9.6	42
Electrical Conductivity (Lab) (uS/cm)	N/A	4	1600	1600	1600	N/A	1600	42
Hydroxide (OH) (mg/L)	N/A	4	<1	<1	0.5	N/A	0.49	42
Iodine - Total (mg/L)	N/A	4	<0.1	<0.1	0.075	N/A	0.055	42
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	4	0.5	0.6	0.55	N/A	0.57	34
Nitrate as N (NO3-N) (mg/L)	N/A	4	0.5	0.6	0.55	N/A	0.64	34
Nitrite as N (NO2-N) (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.28	34
Potassium (K) (mg/L)	N/A	4	13	13	13	N/A	13	21
Sodium Chloride (NaCl) (mg/L)	N/A	4	290	310	300	N/A	320	42
Tin - Total (mg/L)	N/A	4	<0.0002	<0.0002	0.0001	N/A	0.004	42
Heterotrophic Plate Count (CFU/mL)	N/A	2	11	20	16	N/A	6	84
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.5	351
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 28 – Water quality data assessment for Mataranka

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	4	<0.0002	<0.0002	0.0001	N/A	0.0001	40
Arsenic - Total (mg/L)	0.01	4	0.0002	0.0004	0.0003	N/A	0.0003	40
Barium - Total (mg/L)	2	4	0.1	0.1	0.1	N/A	0.1	40
Beryllium - Total (mg/L)	0.06	4	<0.0001	<0.0001	0.00005	N/A	0.0005	40
Boron - Total (mg/L)	4	4	0.04	0.05	0.04	N/A	0.06	40
Cadmium - Total (mg/L)	0.002	4	<0.00005	<0.00005	0.00003	N/A	0.0001	40
Chlorine Free Residual (mg/L)	5	48	1	1	1	1	1	480
Chromium - Total (mg/L)	0.05	4	<0.0002	<0.0002	0.0001	N/A	0.003	40
Copper - Total (mg/L)	2	4	0.003	0.006	0.005	N/A	0.2	40
Fluoride (F) (mg/L)	1.5	4	0.24	0.26	0.25	N/A	0.28	40
Lead - Total (mg/L)	0.01	4	0.0001	0.0003	0.0001	N/A	0.001	40
Manganese - Total (mg/L)	0.5	4	<0.0005	0.0006	0.0003	N/A	0.003	40
Mercury - Total (mg/L)	0.001	4	<0.0001	<0.0001	0.00005	N/A	0.00005	40
Molybdenum - Total (mg/L)	0.05	4	0.0001	0.0001	0.00009	N/A	0.003	40
Nickel - Total (mg/L)	0.02	4	<0.0005	<0.0005	0.0003	N/A	0.001	40
Nitrate as NO3 (UV screening) (mg/L)	50	4	0.2	0.3	0.3	N/A	0.9	40
Nitrite mg-NO2/L*	3	4	<0.3	<0.3	0.2	N/A	0.2	30
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.07	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	8
Selenium - Total (mg/L)	0.01	4	<0.0002	<0.0002	0.0001	N/A	0.0005	40
Silver - Total (mg/L)	0.1	4	<0.0001	<0.0001	0.00005	N/A	0.005	40
Trihalomethanes - Total (mg/L)	0.25	2	<0.005	<0.005	0.0025	N/A	0.0061	20
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	7
Uranium - Total (mg/L)	0.02	4	0.0005	0.0006	0.0006	N/A	0.0007	40
Aesthetic								
Aluminium - Total (mg/L)	0.2	4	<0.005	<0.005	0.0025	N/A	0.0091	40
Chloride (Cl) (mg/L)	250	4	20	21	20.5	N/A	24	40
Chlorine Free Residual (mg/L)	0.6	48	1.1	1.5	1.2	1.4	1.1	480
Copper - Total (mg/L)	1	4	0.003	0.0063	0.0048	N/A	0.029	40
Hardness as CaCO3 (mg/L as CaCO3)	200	4	330	350	340	N/A	330	40
Iron - Total (mg/L)	0.3	8	<0.002	0.17	0.036	N/A	0.035	80
Manganese - Total (mg/L)	0.1	4	<0.0005	0.0006	0.00034	N/A	0.0027	40
pH (lab) (pH units)	6.5-8.5	4	7.6	7.8	7.7	N/A	7.6	40
S as Sulphate (S as SO4) (mg/L)	250	4	6.54	11	9.26	N/A	2.46	38
Si as Silica (Si as SiO2) (mg/L)	80	4	27	28	28	N/A	28	40
Sodium (Na) (mg/L)	180	4	16.4	17.5	17	N/A	18.6	40
Total Dissolved Solids Dried at 180C (mg/L)	600	4	360	380	370	N/A	390	40
True Colour (HU)	15	4	<2	<2	1	N/A	1.1	40
Turbidity (lab) (NTU)	5	4	0.17	3.1	1.1	N/A	0.58	40
Zinc - Total (mg/L)	3	4	0.005	0.014	0.01	N/A	0.0074	40
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	4	320	340	330	N/A	330	40
Apparent Colour (HU)	N/A	4	<2	4	1.8	N/A	2.5	40
Bicarbonate (HCO3) (mg/L)	N/A	4	390	410	400	N/A	410	40
Bromine - Total (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.089	40
Calcium (Ca) (mg/L)	N/A	4	80	86	82	N/A	80	40
Carbonate (CO3) (mg/L)	N/A	4	<10	<10	5	N/A	5	40
Electrical Conductivity (Lab) (uS/cm)	N/A	4	680	710	700	N/A	700	40
Hydroxide (OH) (mg/L)	N/A	4	<1	<1	0.5	N/A	0.5	40
Iodine - Total (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.012	40
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	4	0.1	0.1	0.1	N/A	0.12	30
Nitrate as N (NO3-N) (mg/L)	N/A	4	0.1	0.1	0.1	N/A	0.12	30
Nitrite as N (NO2-N) (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.055	30
Potassium (K) (mg/L)	N/A	4	5.9	6.5	6.1	N/A	5.8	20
Sodium Chloride (NaCl) (mg/L)	N/A	4	33	35	34	N/A	40	40
Tin - Total (mg/L)	N/A	4	<0.0002	<0.0002	0.0001	N/A	0.0043	40
Heterotrophic Plate Count (CFU/mL)	N/A	4	12	55	29	N/A	3.3	118
Total coliforms (MPN/100 mL)	N/A	48	<1	<1	0.5	0.5	1	488
E. coli								
E. coli (MPN/100 mL)	0	48	<1	<1	N/A	N/A	N/A	N/A

Table 29 – Water quality data assessment for Newcastle Waters

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	6	<0.0002	<0.0002	0.0001	N/A	0.0001	66
Arsenic - Total (mg/L)	0.01	6	0.0005	0.0006	0.0006	N/A	0.0006	66
Barium - Total (mg/L)	2	6	0.2	0.3	0.2	N/A	0.3	66
Beryllium - Total (mg/L)	0.06	6	<0.0001	<0.0001	0.00005	N/A	0.0005	66
Boron - Total (mg/L)	4	6	0.2	0.3	0.2	N/A	0.3	66
Cadmium - Total (mg/L)	0.002	6	<0.00005	<0.00005	0.00003	N/A	0.0001	66
Chlorine Free Residual (mg/L)	5	27	0.7	2	1	1	1	329
Chromium - Total (mg/L)	0.05	6	0.0006	0.0008	0.0007	N/A	0.003	66
Copper - Total (mg/L)	2	6	0.007	0.5	0.1	N/A	0.1	66
Fluoride (F) (mg/L)	1.5	6	0.79	0.82	0.81	N/A	0.96	60
Lead - Total (mg/L)	0.01	6	0.0004	0.006	0.002	N/A	0.004	66
Manganese - Total (mg/L)	0.5	6	<0.0005	<0.0005	0.0003	N/A	0.003	66
Mercury - Total (mg/L)	0.001	6	<0.0001	<0.0001	0.00005	N/A	0.00005	66
Molybdenum - Total (mg/L)	0.05	6	0.003	0.004	0.003	N/A	0.004	66
Nickel - Total (mg/L)	0.02	6	<0.0005	0.002	0.0009	N/A	0.001	66
Nitrate as NO3 (UV screening) (mg/L)	50	6	8	9	9	N/A	9	60
Nitrite mg-NO2/L*	3	6	<0.3	<0.3	0.2	N/A	0.2	51
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.3	N/A	N/A	0.2	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	11
Selenium - Total (mg/L)	0.01	6	0.0004	0.0005	0.0005	N/A	0.0005	66
Silver - Total (mg/L)	0.1	6	<0.0001	<0.0001	0.00005	N/A	0.005	66
Trihalomethanes - Total (mg/L)	0.25	3	<0.005	<0.005	0.0025	N/A	0.0025	30
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	9
Uranium - Total (mg/L)	0.02	6	0.005	0.005	0.005	N/A	0.005	66
Aesthetic								
Aluminium - Total (mg/L)	0.2	6	<0.005	<0.005	0.0025	N/A	0.011	66
Chloride (Cl) (mg/L)	250	6	41	44	42.7	N/A	42.5	60
Chlorine Free Residual (mg/L)	0.6	27	0.73	1.5	1.2	1.5	1.1	329
Copper - Total (mg/L)	1	6	0.0073	0.47	0.12	N/A	0.037	66
Hardness as CaCO3 (mg/L as CaCO3)	200	6	330	350	340	N/A	330	60
Iron - Total (mg/L)	0.3	12	0.002	0.18	0.024	N/A	0.017	126
Manganese - Total (mg/L)	0.1	6	<0.0005	<0.0005	0.00025	N/A	0.0022	66
pH (lab) (pH units)	6.5-8.5	6	7.1	7.7	7.5	N/A	7.7	60
S as Sulphate (S as SO4) (mg/L)	250	6	14.9	23.6	19.1	N/A	8.46	57
Si as Silica (Si as SiO2) (mg/L)	80	6	54	62	58	N/A	57	60
Sodium (Na) (mg/L)	180	6	52.2	54.9	53.5	N/A	51.9	60
Total Dissolved Solids Dried at 180C (mg/L)	600	3	450	500	470	N/A	520	57
True Colour (HU)	15	6	<2	<2	1	N/A	1.17	60
Turbidity (lab) (NTU)	5	6	<0.1	1.6	0.39	N/A	0.38	60
Zinc - Total (mg/L)	3	6	0.017	0.065	0.035	N/A	0.026	66
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	6	370	380	370	N/A	380	60
Apparent Colour (HU)	N/A	6	<2	<2	1.2	N/A	1.5	60
Bicarbonate (HCO3) (mg/L)	N/A	6	450	460	460	N/A	460	60
Bromine - Total (mg/L)	N/A	6	0.1	0.2	0.092	N/A	0.15	66
Calcium (Ca) (mg/L)	N/A	6	75	78	77	N/A	75	60
Carbonate (CO3) (mg/L)	N/A	6	<10	<10	5	N/A	5	60
Electrical Conductivity (Lab) (uS/cm)	N/A	6	910	930	920	N/A	890	60
Hydroxide (OH) (mg/L)	N/A	6	<1	<1	0.5	N/A	0.5	60
Iodine - Total (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.042	66
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	6	1.9	2	1.9	N/A	1.9	51
Nitrate as N (NO3-N) (mg/L)	N/A	6	1.9	2	1.9	N/A	1.9	51
Nitrite as N (NO2-N) (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.053	51
Potassium (K) (mg/L)	N/A	6	30	32	31	N/A	30	30
Sodium Chloride (NaCl) (mg/L)	N/A	6	68	73	71	N/A	70	60
Tin - Total (mg/L)	N/A	6	<0.0002	<0.0002	0.0001	N/A	0.0043	66
Heterotrophic Plate Count (CFU/mL)	N/A	1	17	17	17	N/A	11	177
Total coliforms (MPN/100 mL)	N/A	27	<1	<1	0.5	0.5	0.5	337
E. coli								
E. coli (MPN/100 mL)	0	27	<1	<1	N/A	N/A	N/A	N/A

Table 30 – Water quality data assessment for Pine Creek

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	36	<0.0002	0.0009	0.0002	0.0004	0.0001	384
Arsenic - Total (mg/L)	0.01	36	0.002	0.007	0.004	0.006	0.007	384
Barium - Total (mg/L)	2	36	0.01	0.02	0.02	0.02	0.03	384
Beryllium - Total (mg/L)	0.06	36	0.0001	0.0001	0.00005	0.00005	0.0005	384
Boron - Total (mg/L)	4	36	<0.005	0.03	0.01	0.02	0.02	384
Cadmium - Total (mg/L)	0.002	36	<0.00005	<0.00005	0.00003	0.00003	0.0001	384
Chlorine Free Residual (mg/L)	5	153	0.7	2	1	1	2	1563
Chromium - Total (mg/L)	0.05	36	<0.0002	0.0003	0.0001	0.0001	0.003	384
Copper - Total (mg/L)	2	36	0.003	0.07	0.02	0.06	0.1	384
Fluoride (F) (mg/L)	1.5	6	0.49	0.53	0.51	N/A	0.63	63
Lead - Total (mg/L)	0.01	36	0.0001	0.002	0.0002	0.0005	0.002	384
Manganese - Total (mg/L)	0.5	36	0.001	0.2	0.02	0.06	0.07	384
Mercury - Total (mg/L)	0.001	36	<0.0001	<0.0001	0.00005	0.00005	0.00005	384
Molybdenum - Total (mg/L)	0.05	36	0.0001	0.0006	0.0002	0.0002	0.003	384
Nickel - Total (mg/L)	0.02	36	<0.0005	<0.0005	0.0003	0.0003	0.001	384
Nitrate as NO3 (UV screening) (mg/L)	50	6	0.3	2	0.8	N/A	1	63
Nitrite mg-NO2/L*	3	6	<0.3	<0.3	0.2	N/A	0.2	54
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.08	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	12	<0.0005	<0.0005	0.00025	N/A	0.005	91
Selenium - Total (mg/L)	0.01	36	<0.0002	<0.0002	0.0001	0.0001	0.0005	384
Silver - Total (mg/L)	0.1	36	<0.0001	<0.0001	0.00005	0.00005	0.005	384
Trihalomethanes - Total (mg/L)	0.25	3	<0.005	<0.005	0.0025	N/A	0.0025	30
Sum (PFHxS + PFOS) (ug/L)	0.07	12	0.0003	0.006	0.002	N/A	0.02	91
Uranium - Total (mg/L)	0.02	36	0.00006	0.0001	0.00009	0.0001	0.0002	384
Aesthetic								
Aluminium - Total (mg/L)	0.2	36	<0.005	0.012	0.0032	0.007	0.012	384
Chloride (Cl) (mg/L)	250	6	5	9	7	N/A	8.6	63
Chlorine Free Residual (mg/L)	0.6	153	0.72	1.7	1.2	1.4	1.2	1563
Copper - Total (mg/L)	1	36	0.0033	0.067	0.023	0.057	0.051	384
Hardness as CaCO3 (mg/L as CaCO3)	200	6	94	99	96	N/A	100	63
Iron - Total (mg/L)	0.3	42	0.002	0.67	0.047	N/A	0.062	447
Manganese - Total (mg/L)	0.1	36	0.0014	0.24	0.018	0.061	0.027	384
pH (lab) (pH units)	6.5-8.5	6	6.9	7.1	7	N/A	7	63
S as Sulphate (S as SO4) (mg/L)	250	6	2.85	4.5	3.67	N/A	7.67	60
Si as Silica (Si as SiO2) (mg/L)	80	6	47	50	48	N/A	46	63
Sodium (Na) (mg/L)	180	6	25.5	30.2	28.2	N/A	28.9	63
Total Dissolved Solids Dried at 180C (mg/L)	600	6	160	190	170	N/A	200	63
True Colour (HU)	15	6	2	2	1.5	N/A	1.8	63
Turbidity (lab) (NTU)	5	6	0.23	0.69	0.45	N/A	1.1	130
Zinc - Total (mg/L)	3	36	0.003	0.023	0.0064	0.013	0.012	384
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	6	140	150	140	N/A	140	63
Apparent Colour (HU)	N/A	6	2	24	9.2	N/A	7.1	63
Bicarbonate (HCO3) (mg/L)	N/A	6	170	180	170	N/A	170	63
Bromine - Total (mg/L)	N/A	36	<0.1	0.3	0.058	0.063	0.045	384
Calcium (Ca) (mg/L)	N/A	6	11	12	12	N/A	14	63
Carbonate (CO3) (mg/L)	N/A	6	<10	<10	5	N/A	5	63
Electrical Conductivity (Lab) (uS/cm)	N/A	6	290	300	300	N/A	320	63
Hydroxide (OH) (mg/L)	N/A	6	<1	<1	0.5	N/A	0.5	63
Iodine - Total (mg/L)	N/A	36	<0.1	<0.1	0.05	0.05	0.016	384
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	6	0.1	0.3	0.2	N/A	0.13	54
Nitrate as N (NO3-N) (mg/L)	N/A	6	0.1	0.3	0.18	N/A	0.13	54
Nitrite as N (NO2-N) (mg/L)	N/A	6	<0.1	<0.1	0.058	N/A	0.054	54
Potassium (K) (mg/L)	N/A	6	1.3	1.4	1.4	N/A	1.5	36
Sodium Chloride (NaCl) (mg/L)	N/A	6	9	14	12	N/A	14	63
Tin - Total (mg/L)	N/A	36	<0.0002	0.0017	0.00016	0.00035	0.0042	384
Heterotrophic Plate Count (CFU/mL)	N/A	3	1	220	78	N/A	65	343
Total coliforms (MPN/100 mL)	N/A	153	<1	<1	0.5	0.5	0.65	1560
E. coli								
E. coli (MPN/100 mL)	0	153	<1	<1	N/A	N/A	N/A	N/A

Table 31 – Water quality data assessment for Tennant Creek

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	4	<0.0002	<0.0002	0.0001	N/A	0.0001	25
Arsenic - Total (mg/L)	0.01	4	0.002	0.002	0.002	N/A	0.002	25
Barium - Total (mg/L)	2	4	0.05	0.06	0.05	N/A	0.1	25
Beryllium - Total (mg/L)	0.06	4	<0.0001	<0.0001	0.00005	N/A	0.0005	25
Boron - Total (mg/L)	4	4	0.4	0.4	0.4	N/A	0.6	25
Cadmium - Total (mg/L)	0.002	4	<0.00005	0.00007	0.00005	N/A	0.0001	25
Chlorine Free Residual (mg/L)	5	153	0.8	2	1	1	1	1369
Chromium - Total (mg/L)	0.05	4	0.001	0.001	0.001	N/A	0.003	25
Copper - Total (mg/L)	2	4	0.004	0.02	0.01	N/A	0.05	25
Fluoride (F) (mg/L)	1.5	71	1.3	1.6	1.4	1.5	1.5	411
Lead - Total (mg/L)	0.01	4	0.0002	0.0009	0.0006	N/A	0.002	25
Manganese - Total (mg/L)	0.5	4	<0.0005	<0.0005	0.0003	N/A	0.003	25
Mercury - Total (mg/L)	0.001	4	<0.0001	<0.0001	0.00005	N/A	0.00005	25
Molybdenum - Total (mg/L)	0.05	4	0.001	0.001	0.001	N/A	0.003	25
Nickel - Total (mg/L)	0.02	4	<0.0005	<0.0005	0.0003	N/A	0.001	25
Nitrate as NO3 (UV screening) (mg/L)	50	22	20	40	30	40	40	89
Nitrite mg-NO2/L*	3	22	<0.3	<0.3	0.2	0.2	0.3	85
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.8	N/A	0.8	0.9	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	10
Selenium - Total (mg/L)	0.01	4	0.002	0.002	0.002	N/A	0.003	25
Silver - Total (mg/L)	0.1	4	<0.0001	<0.0001	0.00005	N/A	0.005	25
Trihalomethanes - Total (mg/L)	0.25	2	<0.005	0.007	0.0048	N/A	N/A	18
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	8
Uranium - Total (mg/L)	0.02	4	0.006	0.008	0.007	N/A	0.009	25
Aesthetic								
Aluminium - Total (mg/L)	0.2	4	0.005	0.017	0.0068	N/A	0.0094	25
Chloride (Cl) (mg/L)	250	22	75	100	90.1	100	98.9	89
Chlorine Free Residual (mg/L)	0.6	153	0.8	1.6	1.1	1.3	1	1369
Copper - Total (mg/L)	1	4	0.0041	0.016	0.011	N/A	0.017	25
Hardness as CaCO3 (mg/L as CaCO3)	200	22	140	180	160	180	170	89
Iron - Total (mg/L)	0.3	26	<0.002	0.19	0.012	N/A	0.015	114
Manganese - Total (mg/L)	0.1	4	<0.0005	<0.0005	0.00025	N/A	0.002	25
pH (lab) (pH units)	6.5-8.5	22	7.5	8.6	7.9	8.5	7.8	89
S as Sulphate (S as SO4) (mg/L)	250	22	23.1	45	37.6	44.4	33.9	88
Si as Silica (Si as SiO2) (mg/L)	80	22	75	92	84	91	86	89
Sodium (Na) (mg/L)	180	22	108	131	122	129	124	89
Total Dissolved Solids Dried at 180C (mg/L)	600	18	500	600	550	N/A	590	85
True Colour (HU)	15	22	<2	<2	1.05	1	1.21	89
Turbidity (lab) (NTU)	5	22	0.1	1.2	0.43	0.96	0.41	89
Zinc - Total (mg/L)	3	4	0.004	0.012	0.0078	N/A	0.0073	25
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	22	250	270	260	270	270	89
Apparent Colour (HU)	N/A	22	<2	5	1.4	3.9	3.1	89
Bicarbonate (HCO3) (mg/L)	N/A	22	310	330	320	330	320	89
Bromine - Total (mg/L)	N/A	4	0.2	0.3	0.23	N/A	0.42	25
Calcium (Ca) (mg/L)	N/A	22	22	30	26	29	27	89
Carbonate (CO3) (mg/L)	N/A	22	<10	<10	5	5	5	89
Electrical Conductivity (Lab) (uS/cm)	N/A	22	870	1000	960	1000	990	89
Hydroxide (OH) (mg/L)	N/A	22	<1	<10	0.91	4.8	0.6	89
Iodine - Total (mg/L)	N/A	4	0.2	0.3	0.25	N/A	0.16	25
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	22	4.9	8.1	6.8	8	7.3	85
Nitrate as N (NO3-N) (mg/L)	N/A	22	4.9	8.1	6.8	8	7.3	85
Nitrite as N (NO2-N) (mg/L)	N/A	22	<0.1	<0.1	0.05	0.05	0.07	85
Potassium (K) (mg/L)	N/A	22	27	31	29	30	29	79
Sodium Chloride (NaCl) (mg/L)	N/A	22	120	170	150	170	160	89
Tin - Total (mg/L)	N/A	4	<0.0002	<0.0002	0.0001	N/A	0.0038	25
Heterotrophic Plate Count (CFU/mL)	N/A	4	10	25	15	N/A	8.3	635
Total coliforms (MPN/100 mL)	N/A	153	<1	<1	0.5	0.5	0.5	1368
E. coli								
E. coli (MPN/100 mL)	0	153	<1	<1	N/A	N/A	N/A	N/A

Table 32 – Water quality data assessment for Timber Creek

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	12	<0.0002	0.0008	0.0002	N/A	0.0001	119
Arsenic - Total (mg/L)	0.01	12	0.0008	0.001	0.0009	N/A	0.001	119
Barium - Total (mg/L)	2	12	1	1	1	N/A	1	86
Beryllium - Total (mg/L)	0.06	12	<0.0001	<0.0001	0.00005	N/A	0.0005	119
Boron - Total (mg/L)	4	12	0.1	0.1	0.1	N/A	0.1	119
Cadmium - Total (mg/L)	0.002	12	<0.00005	<0.00005	0.00003	N/A	0.0001	119
Chlorine Free Residual (mg/L)	5	33	0	1	1	1	1	354
Chromium - Total (mg/L)	0.05	12	<0.0002	<0.0002	0.0001	N/A	0.003	119
Copper - Total (mg/L)	2	12	0.01	0.04	0.02	N/A	0.07	118
Fluoride (F) (mg/L)	1.5	14	1.2	1.5	1.3	N/A	1.5	129
Lead - Total (mg/L)	0.01	12	0.0004	0.002	0.0007	N/A	0.002	119
Manganese - Total (mg/L)	0.5	12	<0.0005	0.003	0.0005	N/A	0.003	119
Mercury - Total (mg/L)	0.001	12	<0.0001	<0.0001	0.00005	N/A	0.00005	119
Molybdenum - Total (mg/L)	0.05	12	0.0002	0.0005	0.0003	N/A	0.003	119
Nickel - Total (mg/L)	0.02	12	<0.0005	0.002	0.0005	N/A	0.001	119
Nitrate as NO3 (UV screening) (mg/L)	50	11	<0.1	2	0.8	N/A	1	126
Nitrite mg-NO2/L*	3	11	<0.3	1	0.2	N/A	0.2	102
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.4	N/A	N/A	0.08	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	8
Selenium - Total (mg/L)	0.01	12	<0.0002	0.0003	0.0001	N/A	0.0005	119
Silver - Total (mg/L)	0.1	12	<0.0001	<0.0001	0.00005	N/A	0.005	119
Trihalomethanes - Total (mg/L)	0.25	2	<0.005	<0.005	0.0025	N/A	N/A	18
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	7
Uranium - Total (mg/L)	0.02	12	0.002	0.002	0.002	N/A	0.002	119
Aesthetic								
Aluminium - Total (mg/L)	0.2	12	<0.005	0.007	0.0031	N/A	0.0097	119
Chloride (Cl) (mg/L)	250	11	28	36	31.7	N/A	36.7	126
Chlorine Free Residual (mg/L)	0.6	33	0	1.4	1	1.3	1	354
Copper - Total (mg/L)	1	12	0.01	0.036	0.022	N/A	0.021	118
Hardness as CaCO3 (mg/L as CaCO3)	200	11	380	450	420	N/A	440	126
Iron - Total (mg/L)	0.3	23	<0.002	0.13	0.014	N/A	0.017	245
Manganese - Total (mg/L)	0.1	12	<0.0005	0.0029	0.00047	N/A	0.0022	119
pH (lab) (pH units)	6.5-8.5	11	7	8.2	7.3	N/A	7.2	126
S as Sulphate (S as SO4) (mg/L)	250	11	<0.3	6	4.16	N/A	0.497	120
Si as Silica (Si as SiO2) (mg/L)	80	11	19	22	21	N/A	22	126
Sodium (Na) (mg/L)	180	11	19.9	24.2	22.4	N/A	22.6	126
Total Dissolved Solids Dried at 180C (mg/L)	600	11	430	460	450	N/A	470	126
True Colour (HU)	15	11	<2	<2	1.27	N/A	1.06	126
Turbidity (lab) (NTU)	5	11	0.17	2.7	1.1	N/A	0.39	126
Zinc - Total (mg/L)	3	12	0.004	0.018	0.0089	N/A	0.01	119
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	11	410	430	420	N/A	430	126
Apparent Colour (HU)	N/A	11	<2	6	2.1	N/A	1.3	126
Bicarbonate (HCO3) (mg/L)	N/A	11	500	530	510	N/A	530	126
Bromine - Total (mg/L)	N/A	12	<0.1	<0.1	0.05	N/A	0.11	119
Calcium (Ca) (mg/L)	N/A	11	57	72	66	N/A	68	126
Carbonate (CO3) (mg/L)	N/A	11	<10	<10	5	N/A	5	126
Electrical Conductivity (Lab) (uS/cm)	N/A	11	860	890	880	N/A	910	126
Hydroxide (OH) (mg/L)	N/A	11	<1	<1	0.5	N/A	0.5	126
Iodine - Total (mg/L)	N/A	12	<0.1	<0.1	0.05	N/A	0.017	119
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	11	0.1	0.3	0.21	N/A	0.18	102
Nitrate as N (NO3-N) (mg/L)	N/A	11	0.1	0.3	0.19	N/A	0.18	102
Nitrite as N (NO2-N) (mg/L)	N/A	11	<0.1	0.3	0.073	N/A	0.053	102
Potassium (K) (mg/L)	N/A	11	6.5	7.4	7	N/A	6.8	62
Sodium Chloride (NaCl) (mg/L)	N/A	11	47	59	52	N/A	60	126
Tin - Total (mg/L)	N/A	12	<0.0002	0.003	0.00035	N/A	0.0043	119
Heterotrophic Plate Count (CFU/mL)	N/A	1	200	200	200	N/A	21	81
Total coliforms (MPN/100 mL)	N/A	33	<1	120	4.1	0.5	1.5	357
E. coli								
E. coli (MPN/100 mL)	0	33	<1	74	N/A	N/A	N/A	N/A

Table 33 – Water quality data assessment for Ti Tree

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	6	<0.0002	<0.0002	0.0001	N/A	0.0001	48
Arsenic - Total (mg/L)	0.01	6	0.001	0.001	0.001	N/A	0.002	48
Barium - Total (mg/L)	2	6	0.08	0.08	0.08	N/A	0.1	48
Beryllium - Total (mg/L)	0.06	6	<0.0001	<0.0001	0.00005	N/A	0.0005	48
Boron - Total (mg/L)	4	6	0.3	0.3	0.3	N/A	0.4	48
Cadmium - Total (mg/L)	0.002	6	<0.00005	<0.00005	0.00003	N/A	0.0001	48
Chlorine Free Residual (mg/L)	5	36	1	2	1	2	1	1020
Chromium - Total (mg/L)	0.05	6	0.002	0.002	0.002	N/A	0.003	48
Copper - Total (mg/L)	2	6	0.0008	0.004	0.002	N/A	0.02	48
Fluoride (F) (mg/L)	1.5	36	0.73	0.91	0.81	0.88	0.89	322
Lead - Total (mg/L)	0.01	6	<0.0001	<0.0001	0.00005	N/A	0.0005	48
Manganese - Total (mg/L)	0.5	6	<0.0005	<0.0005	0.0003	N/A	0.003	48
Mercury - Total (mg/L)	0.001	6	<0.0001	<0.0001	0.00005	N/A	0.00005	48
Molybdenum - Total (mg/L)	0.05	6	0.0006	0.0007	0.0007	N/A	0.003	48
Nickel - Total (mg/L)	0.02	6	<0.0005	<0.0005	0.0003	N/A	0.001	48
Nitrate as NO3 (UV screening) (mg/L)	50	36	20	60	40	50	60	323
Nitrite mg-NO2/L*	3	36	<0.3	1	0.2	0.4	1	272
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	1	N/A	1	2	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	10
Selenium - Total (mg/L)	0.01	6	0.002	0.002	0.002	N/A	0.002	48
Silver - Total (mg/L)	0.1	6	<0.0001	<0.0001	0.00005	N/A	0.005	48
Trihalomethanes - Total (mg/L)	0.25	2	<0.005	<0.005	0.0025	N/A	N/A	16
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	10
Uranium - Total (mg/L)	0.02	6	0.007	0.007	0.007	N/A	0.008	48
Aesthetic								
Aluminium - Total (mg/L)	0.2	6	<0.005	<0.005	0.0025	N/A	0.0089	48
Chloride (Cl) (mg/L)	250	36	74	78	75.8	77.3	71.2	322
Chlorine Free Residual (mg/L)	0.6	36	1.2	1.6	1.4	1.6	0.93	1020
Copper - Total (mg/L)	1	6	0.0008	0.0038	0.002	N/A	0.0059	48
Hardness as CaCO3 (mg/L as CaCO3)	200	36	220	250	240	250	230	322
Iron - Total (mg/L)	0.3	42	<0.002	0.026	0.0061	N/A	0.012	370
Manganese - Total (mg/L)	0.1	6	<0.0005	<0.0005	0.00025	N/A	0.0021	48
pH (lab) (pH units)	6.5-8.5	36	7.6	8.5	8.1	8.5	8.1	322
S as Sulphate (S as SO4) (mg/L)	250	36	24	48.9	39.3	47.3	29.9	310
Si as Silica (Si as SiO2) (mg/L)	80	36	79	98	88	95	91	322
Sodium (Na) (mg/L)	180	36	64.6	76.4	70.6	74.9	68.3	322
Total Dissolved Solids Dried at 180C (mg/L)	600	30	460	560	530	550	530	316
True Colour (HU)	15	36	<2	5	1.17	2	1.18	324
Turbidity (lab) (NTU)	5	36	0.1	2.1	0.39	1.3	0.3	322
Zinc - Total (mg/L)	3	6	0.003	0.004	0.0037	N/A	0.0085	48
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	36	200	240	210	210	210	321
Apparent Colour (HU)	N/A	36	<2	10	1.6	5.3	1.4	324
Bicarbonate (HCO3) (mg/L)	N/A	36	240	290	250	260	260	321
Bromine - Total (mg/L)	N/A	6	0.1	0.3	0.23	N/A	0.28	48
Calcium (Ca) (mg/L)	N/A	36	50	60	56	59	53	322
Carbonate (CO3) (mg/L)	N/A	36	<10	<10	5	5	5	321
Electrical Conductivity (Lab) (uS/cm)	N/A	36	810	910	840	860	820	322
Hydroxide (OH) (mg/L)	N/A	36	<1	<1	0.5	0.5	0.5	321
Iodine - Total (mg/L)	N/A	6	0.2	0.3	0.22	N/A	0.11	48
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	36	5	12	9.8	12	11	272
Nitrate as N (NO3-N) (mg/L)	N/A	36	5.4	13	9.9	12	11	272
Nitrite as N (NO2-N) (mg/L)	N/A	36	<0.1	0.3	0.063	0.13	0.094	272
Potassium (K) (mg/L)	N/A	36	19	22	21	22	20	177
Sodium Chloride (NaCl) (mg/L)	N/A	36	120	130	120	130	120	322
Tin - Total (mg/L)	N/A	6	<0.0002	<0.0002	0.0001	N/A	0.0041	48
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	8.7	146
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.53	0.63	0.51	327
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 34 – Water quality data assessment for Yulara

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	8	<0.0002	<0.0002	0.0001	N/A	0.0001	67
Arsenic - Total (mg/L)	0.01	8	<0.0002	<0.0002	0.0001	N/A	0.0003	67
Barium - Total (mg/L)	2	8	0.002	0.004	0.003	N/A	0.03	67
Beryllium - Total (mg/L)	0.06	8	<0.0001	<0.0001	0.00005	N/A	0.0005	67
Boron - Total (mg/L)	4	8	0.6	0.7	0.6	N/A	0.9	67
Cadmium - Total (mg/L)	0.002	8	<0.00005	<0.00005	0.00003	N/A	0.0001	67
Chlorine Free Residual (mg/L)	5	100	0.8	1	1	1	1	995
Chromium - Total (mg/L)	0.05	8	<0.0002	0.0004	0.0002	N/A	0.003	67
Copper - Total (mg/L)	2	8	0.0005	0.002	0.0007	N/A	0.07	67
Fluoride (F) (mg/L)	1.5	8	0.13	0.17	0.15	N/A	0.22	67
Lead - Total (mg/L)	0.01	8	<0.0001	<0.0001	0.00005	N/A	0.0005	67
Manganese - Total (mg/L)	0.5	8	<0.0005	<0.0005	0.0003	N/A	0.003	67
Mercury - Total (mg/L)	0.001	8	<0.0001	<0.0001	0.00005	N/A	0.00005	67
Molybdenum - Total (mg/L)	0.05	8	0.0001	0.0001	0.00009	N/A	0.003	67
Nickel - Total (mg/L)	0.02	8	<0.0005	<0.0005	0.0003	N/A	0.001	67
Nitrate as NO3 (UV screening) (mg/L)	50	8	20	30	30	N/A	40	67
Nitrite mg-NO2/L*	3	8	<0.3	<0.3	0.2	N/A	0.5	60
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.7	N/A	N/A	0.9	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	1	<0.0005	<0.0005	0.00025	N/A	N/A	9
Selenium - Total (mg/L)	0.01	8	0.0002	0.0003	0.0003	N/A	0.0005	67
Silver - Total (mg/L)	0.1	8	<0.0001	<0.0001	0.00005	N/A	0.005	67
Trihalomethanes - Total (mg/L)	0.25	2	0.005	0.005	0.0038	N/A	0.014	19
Sum (PFHxS + PFOS) (ug/L)	0.07	1	<0.0003	<0.0003	0.0002	N/A	N/A	8
Uranium - Total (mg/L)	0.02	8	0.0001	0.0002	0.0001	N/A	0.0002	67
Aesthetic								
Aluminium - Total (mg/L)	0.2	8	<0.005	<0.005	0.0025	N/A	0.0084	67
Chloride (Cl) (mg/L)	250	8	80	90	85.1	N/A	79.3	66
Chlorine Free Residual (mg/L)	0.6	100	0.78	1.1	0.96	1.1	1.1	995
Copper - Total (mg/L)	1	8	0.0005	0.0024	0.00071	N/A	0.013	67
Hardness as CaCO3 (mg/L as CaCO3)	200	8	68	76	73	N/A	52	67
Iron - Total (mg/L)	0.3	16	<0.002	0.029	0.0057	N/A	0.015	134
Manganese - Total (mg/L)	0.1	8	<0.0005	<0.0005	0.00025	N/A	0.002	67
pH (lab) (pH units)	6.5-8.5	8	7.3	7.7	7.5	N/A	7.5	67
S as Sulphate (S as SO4) (mg/L)	250	8	35.7	50.4	44	N/A	29.8	65
Si as Silica (Si as SiO2) (mg/L)	80	8	11	14	12	N/A	11	67
Sodium (Na) (mg/L)	180	8	60	66.2	63.7	N/A	59.8	67
Total Dissolved Solids Dried at 180C (mg/L)	600	6	210	280	260	N/A	250	65
True Colour (HU)	15	8	<2	3	1.25	N/A	1.06	67
Turbidity (lab) (NTU)	5	8	0.11	0.81	0.31	N/A	0.32	67
Zinc - Total (mg/L)	3	8	0.002	0.005	0.003	N/A	0.013	67
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	8	25	27	26	N/A	22	67
Apparent Colour (HU)	N/A	8	<2	3	1.6	N/A	1.3	67
Bicarbonate (HCO3) (mg/L)	N/A	8	30	33	32	N/A	27	67
Bromine - Total (mg/L)	N/A	8	0.1	1.2	0.38	N/A	0.26	66
Calcium (Ca) (mg/L)	N/A	8	16	17	17	N/A	12	67
Carbonate (CO3) (mg/L)	N/A	8	<10	<10	5	N/A	5	67
Electrical Conductivity (Lab) (uS/cm)	N/A	8	500	540	520	N/A	450	67
Hydroxide (OH) (mg/L)	N/A	8	<1	<1	0.5	N/A	0.5	67
Iodine - Total (mg/L)	N/A	8	<0.1	0.5	0.15	N/A	0.04	67
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	8	5.4	6.2	5.8	N/A	6	60
Nitrate as N (NO3-N) (mg/L)	N/A	8	5.4	6.2	5.8	N/A	6	60
Nitrite as N (NO2-N) (mg/L)	N/A	8	<0.1	<0.1	0.05	N/A	0.059	60
Potassium (K) (mg/L)	N/A	8	7.4	8.6	8	N/A	8	40
Sodium Chloride (NaCl) (mg/L)	N/A	8	130	150	140	N/A	130	67
Tin - Total (mg/L)	N/A	8	<0.0002	<0.0002	0.0001	N/A	0.004	67
Heterotrophic Plate Count (CFU/mL)	N/A	5	19	42	26	N/A	2.6	472
Total coliforms (MPN/100 mL)	N/A	102	<1	2	0.51	0.5	0.5	1000
E. coli								
E. coli (MPN/100 mL)	0	102	<1	<1	N/A	N/A	N/A	N/A

* Nitrite concentration (NO₂ mg/L) result is a conversion from Nitrite as nitrogen (NO₂-N mg/L). Converting from nitrite as nitrogen (NO₂-N) to standard nitrite concentration (NO₂), the factor 3.284 is obtained by dividing the molecular weight of nitrite by the molecular weight of nitrogen (46 g/mole ÷ 14 g/mole ≈ 3.284).

"" Because it is possible that nitrate and nitrite may occur simultaneously in drinking-water, and the 2 have a common toxic effect (methaemoglobinaemia), these compounds should be considered together when judging compliance with the ADWG. The sum of the ratios of the concentration (C) of each to its guideline value (GV) should not exceed unity (WHO 2007). This is a standard screening risk assessment approach based on the assumption of dose additivity. Thus, for infants:

$$(C_{\text{nitrate}}/GV_{\text{nitrate}}) + (C_{\text{nitrite}}/GV_{\text{nitrite}}) < 1 = (C_{\text{nitrate}}/50 \text{ mg/L}) + (C_{\text{nitrite}}/3 \text{ mg/L}) < 1$$



Denotes exceedance

Appendix C

Remote Community Data Assessments



Table 35 – Remote community *E. coli* summary

Community	Sample Counts	Number of detections	<i>E. coli</i> (% of no detection)
Acacia Larrakia	36	0	100%
Ali Curung	36	0	100%
Alpurrurulam	26	0	100%
Amanbidji	24	0	100%
Amoonguna	36	0	100%
Ampilatwatja	33	0	100%
Angurugu	135	0	100%
Areyonga	36	0	100%
Atitjere	36	0	100%
Barunga	36	0	100%
Belyuen	36	0	100%
Binjari	24	0	100%
Bulla	27	0	100%
Bulman	36	0	100%
Canteen Creek	36	0	100%
Daguragu	16	0	100%
Engawala	36	0	100%
Finke	36	0	100%
Galiwinku	180	0	100%
Gapuwiyak	135	0	100%
Gunbalanya	138	0	100%
Gunyangara	42	0	100%
Haasts Bluff	36	1	97.22%*
Hermannsburg	34	0	100%
Imangara	30	0	100%
Imanpa	36	0	100%
Jilkminggan	33	0	100%
Kalkarindji	27	0	100%
Kaltukatjara	36	0	100%
Kintore	30	0	100%
Kybrook Farm	36	0	100%
Lajamanu	33	0	100%
Laramba	36	0	100%
Maningrida	234	0	100%
Manyallaluk	36	0	100%
Milikapiti	34	0	100%

Community	Sample Counts	Number of detections	<i>E. coli</i> (% of no detection)
Milingimbi	141	0	100%
Milyakburra	36	0	100%
Minjilang	36	0	100%
Minyerri	36	0	100%
Mt Liebig	33	0	100%
Naiuyu	31	0	100%
Nganmarriyanga	32	0	100%
Ngukurr	135	0	100%
Nitjpurru (Pigeon Hole)	36	0	100%
Nturiya	36	0	100%
Numbulwar	138	0	100%
Nyirripi	36	0	100%
Papunya	33	0	100%
Peppimenarti	33	0	100%
Pirlangimpi	36	0	100%
Pmara Jutunta	36	0	100%
Ramingining	137	0	100%
Rittarangu	39	0	100%
Robinson River	32	0	100%
Santa Teresa	27	0	100%
Tara	33	0	100%
Titjikala	33	0	100%
Umbakumba	30	0	100%
Wadeye	230	0	100%
Wallace Rockhole	33	1	96.97%*
Waruwi	36	0	100%
Weemol	36	0	100%
Willowra	34	0	100%
Wilora	39	0	100%
Wugullar (Beswick)	36	0	100%
Wurrumiyanga	143	0	100%
Wutunugurra	33	0	100%
Yarralin	36	0	100%
Yirrkala	132	0	100%
Yuelamu	11	0	100%
Yuendumu	36	0	100%

*detection not verified when priority re-sampling undertaken.

Table 36 – Health data assessment for remote communities in Northern region

	Analysis	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chlorine Free Residual (mg/L)	Chromium (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as NO ₃ (UV screening) (mg/L)	Nitrate (mg/L)*	Σ Nitrate and Nitrite Sum of Ratios"	Perfluorocta noic acid (PFOA) (ug/L)	Selenium (mg/L)	Silver (mg/L)	Trihalo meth anes (mg/L)	Sum (PFHxS + PFOS) (ug/L)	Uranium (mg/L)
Community	ADWG Health	0.003	0.01	2	0.06	4	0.002	5	0.05	2	1.5	0.01	0.5	0.001	0.05	0.02	50	3	1	0.56	0.01	0.1	0.25	0.07	0.02
Acacia Larrakia	Sample Count	2	2	2	2	2	2	36	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.001	0.01	<0.0001	0.02	<0.00005	2	0.0008	0.006	0.11	0.0002	0.01	<0.0001	<0.0001	0.0007	0.5	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.0004
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Angurugu	Sample Count	2	2	2	2	2	2	133	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.01	<0.0001	0.01	<0.00005	2	<0.0002	0.04	<0.1	0.003	0.006	<0.0001	<0.0001	<0.0005	0.7	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	<0.00005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Belyuen	Sample Count	2	2	2	2	2	2	33	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.002	0.04	0.0002	0.009	<0.00005	2	<0.0002	0.005	0.24	0.0007	0.005	<0.0001	<0.0001	0.0007	0.1	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.001
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Galiwinku	Sample Count	2	2	2	2	2	2	176	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.003	<0.0001	0.02	<0.00005	2	<0.0002	0.04	<0.1	0.002	0.001	<0.0001	<0.0001	<0.0005	0.8	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.00006
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gapuwiyak	Sample Count	2	2	2	2	2	2	135	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.006	<0.0001	0.02	<0.00005	2	<0.0002	0.02	<0.1	0.003	0.001	<0.0001	<0.0001	<0.0005	3	<0.3	0.2	N/A	<0.0002	<0.0001	N/A	N/A	<0.00005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gunbalanya	Sample Count	2	2	2	2	2	2	138	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.01	<0.0001	0.02	<0.00005	2	0.0007	0.009	<0.1	0.0002	0.01	<0.0001	<0.0001	0.0009	0.7	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.00006
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gunyangara	Sample Count	2	2	2	2	2	2	41	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.002	<0.0001	0.01	<0.00005	2	<0.0002	0.007	<0.1	0.0002	<0.0005	<0.0001	<0.0001	<0.0005	1	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	<0.00005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Maningrida	Sample Count	2	2	2	2	2	2	234	2	2	43	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.01	<0.0001	0.03	<0.00005	2	<0.0002	0.02	0.47	0.0004	0.002	<0.0001	<0.0001	<0.0005	3	<0.3	0.2	N/A	<0.0002	<0.0001	N/A	N/A	<0.00005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	0.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Milikapiti	Sample Count	2	2	2	2	2	2	32	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.004	<0.0001	0.02	<0.00005	2	<0.0002	0.008	<0.1	0.0001	0.002	<0.0001	<0.0001	<0.0005	0.7	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	<0.00005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Milingimbi	Sample Count	3	3	3	3	3	3	134	3	3	2	3	3	3	3	3	2	2	N/A	N/A	3	3	N/A	N/A	3
	Maximum	<0.0002	<0.0002	0.007	<0.0001	0.04	<0.00005	2	0.003	0.009	<0.1	0.004	0.2	<0.0001	0.0007	0.003	4	0.7	0.3	N/A	<0.0002	<0.0001	N/A	N/A	0.0003
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Milyakburra	Sample Count	2	2	2	2	2	2	33	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.01	<0.0001	0.06	<0.00005	2	0.0007	0.05	<0.1	0.002	0.003	<0.0001	<0.0001	<0.0005	0.5	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	<0.00005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Minjilang	Sample Count	2	2	2	2	2	2	33	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.01	<0.0001	0.06	<0.00005	2	0.0007	0.05	<0.1	0.002	0.003	<0.0001	<0.0001	<0.0005	0.5	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	<0.00005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 37 – Health data assessment for remote communities in Katherine region

	Analysis	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chlorine Free Residual (mg/L)	Chromium (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as NO ₃ (UV screening) (mg/L)	Nitrate (mg/L)*	Σ Nitrate and Nitrite Sum of Ratios"	Perfluoroctanoic acid (PFOA) (ug/L)	Selenium (mg/L)	Silver (mg/L)	Trihalomethanes (mg/L)	Sum (PFHxS + PFOS) (ug/L)	Uranium (mg/L)
Community	ADWG Health	0.003	0.01	2	0.06	4	0.002	5	0.05	2	1.5	0.01	0.5	0.001	0.05	0.02	50	3	1	0.56	0.01	0.1	0.25	0.07	0.02
Amanbidji	Sample Count	2	2	2	2	2	2	23	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	0.0002	0.0009	0.2	<0.0001	0.3	<0.00005	2	<0.0002	0.02	0.29	0.0008	0.0006	<0.0001	0.003	0.001	3	<0.3	0.2	N/A	0.0005	<0.0001	N/A	N/A	0.001
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Barunga	Sample Count	2	2	2	2	2	2	36	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.02	0.0002	0.02	<0.00005	2	<0.0002	0.03	<0.1	0.003	0.002	<0.0001	<0.0001	0.0006	0.4	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.0001
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Binjari	Sample Count	2	2	2	2	2	2	24	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.002	0.2	<0.0001	0.02	<0.00005	2	<0.0002	0.004	0.38	<0.0001	0.0007	<0.0001	0.0006	0.002	<0.1	0.7	0.2	N/A	<0.0002	<0.0001	N/A	N/A	0.001
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bulla	Sample Count	15	15	15	15	15	15	25	15	15	19	15	15	15	15	15	19	19	N/A	N/A	15	15	0	N/A	15
	Maximum	0.0009	0.0007	20	<0.0001	0.2	<0.00005	1	<0.0002	0.007	1.5	0.0002	0.1	<0.0001	0.0002	0.0007	1	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.0004
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	1.5	N/A	N/A	N/A	N/A	N/A	0.6	0.2	0.07	N/A	N/A	N/A	N/A	N/A	N/A
Bulman	Sample Count	2	2	2	2	2	2	36	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.0002	0.01	<0.0001	0.03	<0.00005	2	<0.0002	0.004	<0.1	0.0002	<0.0005	<0.0001	<0.0001	<0.0005	1	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.0003
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Daguragu	Sample Count	1	1	1	1	1	1	13	1	1	1	1	1	1	1	1	1	1	N/A	N/A	1	1	N/A	N/A	1
	Maximum	<0.0002	0.001	0.05	<0.0001	0.08	<0.00005	2	<0.0002	0.004	0.23	<0.0001	0.002	<0.0001	0.0002	<0.0005	2	<0.3	0.2	N/A	0.0002	<0.0001	N/A	N/A	0.001
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Jilkminggan	Sample Count	2	2	2	2	2	2	33	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	0.0004	0.0004	0.06	<0.0001	0.4	<0.00005	1	0.0003	0.02	0.49	0.0004	0.5	<0.0001	0.0003	0.004	0.1	<0.3	0.1	N/A	0.0002	<0.0001	N/A	N/A	0.01
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kalkarindji	Sample Count	2	2	2	2	2	2	18	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.001	0.09	<0.0001	0.1	<0.00005	2	0.001	0.03	0.29	0.0009	<0.0005	<0.0001	0.0002	<0.0005	5	<0.3	0.2	N/A	0.0004	<0.0001	N/A	N/A	0.002
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kybrook Farm	Sample Count	4	4	4	4	4	4	36	4	4	4	4	4	4	4	4	4	4	N/A	N/A	4	4	N/A	N/A	4
	Maximum	0.001	0.002	0.02	<0.0001	0.02	<0.00005	2	<0.0002	0.007	0.82	0.0006	0.001	<0.0001	0.0005	<0.0005	0.1	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.0006
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lajamanu	Sample Count	2	2	2	2	2	2	32	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.0003	0.08	<0.0001	0.2	<0.00005	1	0.001	0.2	0.35	0.005	<0.0005	<0.0001	0.0002	<0.0005	4	<0.3	0.2	N/A	0.0006	<0.0001	N/A	N/A	0.001
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manyallaluk	Sample Count	2	2	2	2	2	2	36	2	2	1	2	2	2	2	2	1	1	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.01	<0.0001	0.02	0.0002	2	0.001	0.04	<0.1	0.005	0.0008	<0.0001	<0.0001	0.001	0.4	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.00006
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Minyerri	Sample Count	8	8	8	8	8	8	33	8	8	8	8	8	8	8	8	8	8	N/A	N/A	8	8	N/A	N/A	8
	Maximum	0.0008	0.001	0.3	<0.0001	0.2	<0.00005	2	<0.0002	0.5	0.33	0.002	0.1	<0.0001	0.0002	<0.0005	0.7	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	<0.00005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ngukurr	Sample Count	10	10	10	10	10	10	131	10	10	10	10	10	10	10	10	10	10	N/A	N/A	10	10	N/A	N/A	10
	Maximum	<0.0002	<0.0002	1	<0.0001	0.05	<0.00005	1	0.003	0.008	0.19	0.001	<0.0005	<0.0001	<0.0001	0.001	3	1	0.5	N/A	<0.0002	<0.0001	N/A	N/A	0.0008
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitjpurru (Pigeon Hole)	Sample Count	2	2	2	2	2	2	36	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.0004	0.03	<0.0001	0.08	<0.00005	2	<0.0002	0.004	0.31	<0.0001	<0.0005	<0.0001	0.0002	<0.0005	20	<0.3	0.4	N/A	0.0004	<0.0001	N/A	N/A	0.002
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rittarangu	Sample Count	2	2	2	2	2	2	39	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.2	<0.0001	0.03	<0.00005	1	0.001	0.003	<0.1	0.0006	<0.0005	<0.0001	<0.0001	<0.0005	2	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.0004
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Robinson River	Sample Count	6	6	6	6	6	6	31	6	6	4	6	6	6	6	6	4	4	N/A	N/A	6	6	N/A	N/A	6
	Maximum	<0.0002	<0.0002	1	<0.0001	0.1	<0.00005	1	<0.0002	0.002	1.1	0.0002	0.001	<0.0001	0.0006	<0.0005	6	<0.3	0.2	N/A	0.0002	<0.0001	N/A	N/A	0.003
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Weemol	Sample Count	2	2	2	2	2	2	36	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.009	<0.0001	0.03	<0.00005	2	<0.0002	0.05	0.12	0.002	<0.0005	<0.0001	<0.0001	<0.0005	2	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.0003
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wugullar (Beswick)	Sample Count	8	8	8	8	8	8	36	8	8	6	8	8	8	8	8	6	6	N/A	N/A	8	8	N/A	N/A	8
	Maximum	0.009	0.007	0.1	<0.0001	0.02	0.00009	2	0.0004	0.1	0.13	0.002	0.005	0.0002	0.0007	0.004	0.6	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	0.0003
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yarralin	Sample Count	2	2	2	2	2	2	36	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.0002	0.3	<0.0001	0.07	<0.00005	1	0.003	0.001	0.11	0.0005	<0.0005	<0.0001	0.0002	<0.0005	6	<0.3	0.2	N/A	0.0007	<0.0001	N/A	N/A	0.002
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 38 – Health data assessment for remote communities in Barkly region

	Analysis	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chlorine Free Residual (mg/L)	Chromium (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as NO ₃ (UV screening) (mg/L)	Nitrate (mg/L)*	Σ Nitrate and Nitrite Sum of Ratios"	Perfluorocta noic acid (PFOA) (ug/L)	Selenium (mg/L)	Silver (mg/L)	Trihalo meth anes (mg/L)	Sum (PFHxS + PFOS) (ug/L)	Uranium (mg/L)
Community	ADWG Health	0.003	0.01	2	0.06	4	0.002	5	0.05	2	1.5	0.01	0.5	0.001	0.05	0.02	50	3	1	0.56	0.01	0.1	0.25	0.07	0.02
Ali Curung	Sample Count	8	8	8	8	8	8	30	8	8	10	8	8	8	8	8	10	10	N/A	N/A	8	8	N/A	N/A	8
	Maximum	<0.0002	0.0003	0.004	<0.0001	0.7	<0.00005	1	<0.0002	0.06	1.4	0.002	0.001	<0.0001	0.0007	0.001	30	<0.3	0.8	N/A	<0.0002	<0.0001	N/A	N/A	0.0003
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alpururulam	Sample Count	10	10	10	10	10	10	26	10	10	10	10	10	10	10	10	10	10	N/A	N/A	10	10	N/A	N/A	10
	Maximum	0.0009	0.002	0.09	<0.0001	0.2	<0.00005	1	0.0004	0.04	1.7	0.0004	<0.0005	<0.0001	0.003	0.001	4	<0.3	0.2	N/A	0.002	<0.0001	N/A	N/A	0.01
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Canteen Creek	Sample Count	2	2	2	2	2	2	36	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.0004	0.1	<0.0001	0.2	<0.00005	2	0.0005	0.02	0.57	0.0006	0.001	<0.0001	0.0001	0.002	20	<0.3	0.5	N/A	0.001	<0.0001	N/A	N/A	0.002
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Imangara	Sample Count	2	2	2	2	2	2	21	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.001	0.4	<0.0001	0.3	<0.00005	2	0.0004	0.008	0.94	0.0004	<0.0005	<0.0001	0.0005	<0.0005	10	<0.3	0.3	N/A	0.001	<0.0001	N/A	N/A	0.02
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nturiya	Sample Count	2	2	2	2	2	2	33	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.04	<0.0001	0.6	<0.00005	1	<0.0002	0.01	0.96	0.0004	<0.0005	<0.0001	0.001	<0.0005	40	<0.3	0.9	N/A	0.004	<0.0001	N/A	N/A	0.02
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tara	Sample Count	2	2	2	2	2	2	15	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.001	0.05	<0.0001	0.5	<0.00005	1	0.0008	0.2	1.1	0.004	0.02	<0.0001	0.009	0.004	20	<0.3	0.5	N/A	0.002	<0.0001	N/A	N/A	0.007
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Willowra	Sample Count	6	6	6	6	6	6	15	6	6	7	6	6	6	6	6	7	7	N/A	N/A	6	6	N/A	N/A	6
	Maximum	<0.0002	0.002	0.06	<0.0001	0.5	<0.00005	1	0.005	0.06	0.84	0.0005	<0.0005	<0.0001	0.002	0.001	40	<0.3	0.8	N/A	0.003	<0.0001	N/A	N/A	0.02
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wilora	Sample Count	10	10	10	10	10	10	3	10	10	12	10	10	10	10	10	12	12	N/A	N/A	10	10	N/A	N/A	10
	Maximum	0.0008	0.002	0.06	<0.0001	0.8	<0.00005	0.3	0.0003	0.01	1	0.002	<0.0005	<0.0001	0.001	0.0006	20	2	1	N/A	0.006	<0.0001	N/A	N/A	0.02
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wutunugurra	Sample Count	2	2	2	2	2	2	30	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	0.001	0.0006	0.5	<0.0001	0.1	<0.00005	2	0.0005	0.07	0.23	0.004	0.0006	<0.0001	0.0007	0.0008	3	<0.3	0.2	N/A	0.0002	<0.0001	N/A	N/A	0.002
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 39 – Health data assessment for remote communities in Southern region

	Analysis	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chlorine Free Residual (mg/L)	Chromium (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as NO ₃ (UV screening) (mg/L)	Nitrate (mg/L)*	Σ Nitrate and Nitrite Sum of Ratios"	Perfluorocta noic acid (PFOA) (ug/L)	Selenium (mg/L)	Silver (mg/L)	Trihalo meth anes (mg/L)	Sum (PFHxS + PFOS) (ug/L)	Uranium (mg/L)
Community	ADWG Health	0.003	0.01	2	0.06	4	0.002	5	0.05	2	1.5	0.01	0.5	0.001	0.05	0.02	50	3	1	0.56	0.01	0.1	0.25	0.07	0.02
Amoonguna	Sample Count	3	3	3	3	3	3	35	3	3	3	3	3	3	3	3	3	3	N/A	N/A	3	3	N/A	N/A	3
	Maximum	<0.0002	0.0003	0.09	<0.0001	0.1	<0.00005	1	0.002	0.02	0.55	0.0003	<0.0005	<0.0001	0.001	<0.0005	8	0.7	0.4	N/A	0.001	<0.0001	N/A	N/A	0.01
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ampilatwatja	Sample Count	2	2	2	2	2	2	23	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	0.0008	0.0004	0.03	<0.0001	0.3	<0.00005	1	0.001	0.03	1.1	0.0007	0.0007	<0.0001	0.003	0.002	40	0.7	0.9	N/A	0.002	<0.0001	N/A	N/A	0.009
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Areyonga	Sample Count	2	2	2	2	2	2	36	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	0.0005	0.0002	0.1	0.0001	0.1	<0.00005	1	0.003	0.03	0.45	0.0002	<0.0005	<0.0001	0.0009	0.004	7	<0.3	0.2	N/A	0.001	<0.0001	N/A	N/A	0.01
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Atitjere	Sample Count	2	2	2	2	2	2	36	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.0002	0.07	<0.0001	0.1	<0.00005	2	0.003	0.005	0.61	0.0001	<0.0005	<0.0001	0.004	<0.0005	30	<0.3	0.7	N/A	0.003	<0.0001	N/A	N/A	0.007
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Engawala	Sample Count	2	2	2	2	2	2	36	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.0003	0.1	<0.0001	0.2	<0.00005	1	<0.0002	0.02	0.69	0.0002	0.001	<0.0001	0.002	<0.0005	20	<0.3	0.5	N/A	0.003	<0.0001	N/A	N/A	0.007
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Finke	Sample Count	2	2	2	2	2	2	33	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.0006	0.1	<0.0001	0.07	<0.00005	1	<0.0002	0.02	0.18	<0.0001	0.002	<0.0001	0.0005	0.0006	7	<0.3	0.2	N/A	0.0006	<0.0001	N/A	N/A	0.003
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Haasts Bluff	Sample Count	2	2	2	2	2	2	18	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.0002	0.05	<0.0001	0.3	<0.00005	1	0.001	0.02	0.5	0.002	0.0008	<0.0001	0.0002	0.005	9	<0.3	0.3	N/A	0.002	<0.0001	N/A	N/A	0.01
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hermannsburg	Sample Count	2	2	2	2	2	2	33	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.0003	0.02	<0.0001	0.1	<0.00005	1	0.003	0.003	0.37	<0.0001	0.0006	<0.0001	0.0002	<0.0005	5	<0.3	0.2	N/A	0.001	<0.0001	N/A	N/A	0.005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Imanpa	Sample Count	8	8	8	8	8	8	24	8	8	8	8	8	8	8	8	8	8	N/A	N/A	8	8	N/A	N/A	8
	Maximum	0.0003	0.0007	0.02	<0.0001	0.8	<0.00005	1	0.005	0.3	0.83	0.001	0.005	<0.0001	0.0007	0.004	30	<0.3	0.7	N/A	0.004	<0.0001	N/A	N/A	0.01
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kaltukatjara	Sample Count	2	2	2	2	2	2	36	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	<0.0002	0.05	<0.0001	0.2	<0.00005	2	0.0003	0.1	0.42	0.003	0.003	<0.0001	0.0002	<0.0005	0.5	<0.3	0.1	N/A	<0.0002	<0.0001	N/A	N/A	<0.00005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kintore	Sample Count	9	9	9	9	9	9	15	9	9	9	9	9	9	9	9	9	9	N/A	N/A	9	9	N/A	N/A	9
	Maximum	<0.0002	0.0004	0.02	<0.0001	0.3	<0.00005	1	<0.0002	1	0.34	0.002	<0.0005	<0.0001	0.0002	<0.0005	20	<0.3	0.4	N/A	0.001	<0.0001	N/A	N/A	0.0006
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Laramba	Sample Count	24	24	24	24	24	24	36	24	24	26	24	24	24	24	24	26	26	N/A	N/A	24	24	N/A	N/A	24
	Maximum	<0.0002	0.0007	0.2	<0.0001	0.5	<0.00005	2	0.002	0.006	1.1	<0.0001	<0.0005	<0.0001	0.004	0.002	50	<0.3	1	N/A	0.004	<0.0001	N/A	N/A	0.03
	95th Percentile	0.0001	0.0007	0.2	0.00005	0.5	0.00003	1	0.002	0.006	1.1	0.0001	0.0003	0.00005	0.004	0.001	40	0.2	0.9	N/A	0.004	0.00005	N/A	N/A	0.008
Mt Liebig	Sample Count	2	2	2	2	2	2	33	2	2	2	2	2	2	2	2	2	2	N/A	N/A	2	2	N/A	N/A	2
	Maximum	<0.0002	0.0004	0.06	<0.0001	0.3	<0.00005	1	0.002	0.02	1.2	0.0001	<0.0005	<0.0001	0.001	<0.0005	20	<0.3	0.5	N/A	0.002	<0.0001	N/A	N/A	0.005
	95th Percentile	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A									

Table 40 – Aesthetic data assessment summary for all remote communities

	Analysis	Aluminium (mg/L)	Chloride (mg/L)	Chlorine Free Residual (mg/L)	Copper (mg/L)	Hardness as CaCO ₃ (mg/L as CaCO ₃)	Iron (mg/L)	Manganese (mg/L)	pH (pH units)	S as Sulphate (S as SO ₄) (mg/L)	Si as Silica (Si as SiO ₂) (mg/L)	Sodium (mg/L)	Total Dissolved Solids Dried at 180c (mg/L)	True Colour (HU)	Turbidity (NTU)	Zinc (mg/L)
Community	ADWG Aesthetics	0.2	250	0.6	1	200	0.3	0.1	6.5 - 8.5	250	80	180	600	15	5	3
Acacia Larrakia	Average	0.066	5.5	1.1	0.0048	240	0.096	0.0063	7.7	0.15	20	6.34	220	3.5	5	0.005
Ali Curung	Average	0.012	42.8	1.2	0.016	20	0.012	0.0004	7.8	6.25	56	74.8	250	1	0.58	0.0098
Alpurrurulam	Average	0.003	195	1.1	0.018	500	0.0087	0.0003	7.7	85.3	61	150	900	1	0.37	0.005
Amanbidji	Average	0.003	81.5	1.1	0.01	370	0.0055	0.0006	7.6	60	29	113	650	1	38	0.012
Amoonguna	Average	0.003	81.7	0.86	0.016	250	0.024	0.0003	7.5	64.8	16	97.3	570	2	0.58	0.0057
Ampilatwatja	Average	0.003	210	1.1	0.017	540	0.015	0.0005	7.6	203	34	159	1000	1	0.5	0.0085
Angurugu	Average	0.012	11	1.2	0.032	3.9	0.024	0.0041	5	0.27	10	7.55	18	1	0.31	0.0065
Areyonga	Average	0.003	130	1.2	0.017	530	0.0038	0.0003	7.7	121	18	75.8	840	1	0.43	0.015
Atitjere	Average	0.007	110	1.2	0.004	280	0.023	0.0003	8.1	98.3	31	105	580	1	0.45	0.004
Barunga	Average	0.015	6	1.2	0.023	5.2	0.055	0.0014	5.4	0.15	18	4.14	22	2.5	0.31	0.026
Belyuen	Average	0.006	4.5	1.2	0.0052	5.6	0.044	0.0039	6.3	0.15	35	8.43	52	1	0.6	0.001
Binjari	Average	0.003	7	1.3	0.0036	340	0.031	0.0005	7.6	0.15	27	8.84	320	1	0.63	0.005
Bulla	Average	0.004	55.9	1	0.0032	250	0.084	0.02	8.1	2.07	18	39.4	320	1.63	1.2	0.008
Bulman	Average	0.004	9.5	1.2	0.004	350	0.0058	0.0003	7.7	0.15	22	7.58	310	1	0.57	0.011
Canteen Creek	Average	0.003	115	1.2	0.014	220	0.022	0.0013	7.3	32.1	41	103	480	1	0.38	0.01
Daguragu	Average	0.003	18	1.3	0.0042	270	0.0045	0.0021	7.9	1.26	25	25.9	290	1	0.53	0.005
Engawala	Average	0.003	200	1.1	0.014	520	0.0073	0.0007	7.5	73.8	61	113	850	1	0.24	0.034
Finke	Average	0.003	170	1.1	0.014	220	0.038	0.0013	7.7	58.4	15	103	600	1	0.39	0.01
Galiwinku	Average	0.007	10.5	1.2	0.035	3.5	0.068	0.001	4.8	1.35	13	7.49	17	1	0.66	0.006
Capuwiyak	Average	0.003	12	1.1	0.013	6.1	0.02	0.0008	5.5	0.645	10	7.18	35	1	0.22	0.009
Gunbalanya	Average	0.4	5	1.2	0.0073	6.6	0.24	0.01	6	1.38	16	5.08	11	30	11	0.004
Gunyangara	Average	0.003	17	1.3	0.004	5.6	0.0053	0.000	7.2	0.15	9.8	12.4	39	2	0.19	0.003
Haasts Bluff	Average	0.003	330	1.1	0.018	600	0.018	0.0007	7.5	229	49	170	1200	1	0.5	0.023
Hermannsburg	Average	0.003	110	1.1	0.002	340	0.011	0.0004	7.9	66.9	15	74.2	610	1	0.24	0.005
Imangara	Average	0.003	54.5	1.2	0.0068	330	0.003	0.0003	7.7	21.3	82	48.2	550	1	0.13	0.013
Imanpa	Average	0.003	426	1.2	0.07	550	0.023	0.0038	8.2	256	20	262	1400	1.38	1	0.017
Jilkminggan	Average	0.003	345	1.2	0.015	860	0.011	0.26	7.6	222	47	235	1500	1	2	0.006
Kalkarindji	Average	0.003	26	1.3	0.014	260	0.0033	0.0003	7.6	7.31	23	31.1	320	1	0.25	0.041
Kaltukatjara	Average	0.003	97	1.1	0.056	310	0.023	0.0022	8	74.6	13	65.9	580	1	0.36	0.029
Kintore	Average	0.003	32.2	1.1	0.13	42	0.0038	0.0003	7.5	4.76	85	60.6	250	1.44	0.75	0.006
Kybrook Farm	Average	0.004	7	1.1	0.0058	150	0.0079	0.0006	7.4	6.38	38	51.5	240	1	0.64	0.007
Lajamanu	Average	0.004	54	1.1	0.1	190	0.032	0.0003	7.6	12.9	94	55.7	400	1	1.1	0.014
Laramba	Average	0.003	103	1.2	0.0027	190	0.0073	0.0003	8	39.7	82	133	630	1.21	0.52	0.043
Maningrida	Average	0.003	10	1.3	0.016	6.6	0.011	0.0013	5.6	1.37	12	5.17	32	1.5	0.24	0.006
Manyallaluk	Average	0.019	5	1.1	0.033	29	0.02	0.0005	6	0.15	21	4.96	48	1	0.43	0.053

	Analysis	Aluminium (mg/L)	Chloride (mg/L)	Chlorine Free Residual (mg/L)	Copper (mg/L)	Hardness as CaCO ₃ (mg/L as CaCO ₃)	Iron (mg/L)	Manganese (mg/L)	pH (pH units)	S as Sulphate (S as SO ₄) (mg/L)	Si as Silica (Si as SiO ₂) (mg/L)	Sodium (mg/L)	Total Dissolved Solids Dried at 180c (mg/L)	True Colour (HU)	Turbidity (NTU)	Zinc (mg/L)
Community	ADWG Aesthetics	0.2	250	0.6	1	200	0.3	0.1	6.5 - 8.5	250	80	180	600	15	5	3
Milikapiti	Average	0.011	9.5	1.2	0.0057	3	0.073	0.0011	5.9	0.645	12	11	36	1	0.72	0.002
Milingimbi	Average	0.13	82	1.1	0.0061	32	0.31	0.087	5	7.29	18	42.4	170	1	2.2	0.02
Milyakburra	Average	0.007	83	1.1	0.039	20	0.021	0.002	5.8	1.38	13	46	120	2.5	0.18	0.011
Minjilang	Average	0.007	83	1.1	0.039	20	0.021	0.002	5.8	1.38	13	46	120	2.5	0.18	0.011
Minyerri	Average	0.003	11.1	1.3	0.084	140	0.38	0.082	7.4	5.42	29	23.7	190	3.63	2.4	0.023
Mt Liebig	Average	0.003	99	1.1	0.01	260	0.009	0.0003	7.6	72.3	50	95.8	590	1	0.23	0.005
Nauiyu	Average	0.003	5.22	1.3	0.03	130	0.25	0.49	7.6	4.39	35	18.5	130	3.22	8.3	0.004
Nganmarriyanga	Average	0.003	29	1.2	0.00025	93	0.23	0.24	7.7	13	40	46.1	190	1	4.9	0.005
Ngukurr	Average	0.003	187	1.2	0.0048	460	0.0038	0.0003	7.9	11.1	23	51.9	590	1	0.36	0.003
Nitjpurru (Pigeon Hole)	Average	0.003	17.5	1.2	0.0031	350	0.003	0.0003	7.4	8.79	59	31.4	420	1	0.24	0.002
Nturiya	Average	0.003	325	0.53	0.0054	360	0.013	0.0003	7.7	183	73	269	1200	1	0.67	0.032
Numbulwar	Average	0.004	38.4	1.3	0.19	530	0.46	0.068	7.8	290	19	23.7	710	2.8	1.4	0.003
Nyirripi	Average	0.003	121	1.1	0.055	280	0.0051	0.0003	8.1	33.4	83	95.7	610	1.3	0.73	0.004
Papunya	Average	0.003	265	1.1	0.0087	300	0.0053	0.0003	8.1	85.2	61	250	1000	1	0.21	0.005
Peppimenarti	Average	0.003	13.5	1.1	0.005	35	0.24	0.04	7.1	2.6	20	17	75	2	1.3	0.009
Pirlangimpi	Average	0.007	6	1.2	0.004	0.5	0.0053	0.0005	5.5	0.15	9.2	3.64	11	1	0.26	0.002
Pmara Jutunta	Average	0.003	75.5	1.4	0.0079	250	0.003	0.0003	7.7	43.5	91	72	550	1	0.78	0.018
Ramingining	Average	0.008	8.33	1.2	0.013	5.3	0.0052	0.0005	6	0.87	11	6.65	24	1	0.48	0.009
Rittarangu	Average	0.004	22.5	0.97	0.0026	290	0.001	0.0003	7.6	0.15	21	12.8	310	1	0.99	0.005
Robinson River	Average	0.003	41.5	1	0.001	470	0.0044	0.0008	7.8	6.1	36	21.7	460	1	0.38	0.004
Santa Teresa	Average	0.003	11	1.3	0.03	290	0.0043	0.0003	7.7	13.7	18	8.44	340	1	0.27	0.004
Tara	Average	0.007	350	1	0.16	250	0.65	0.011	6.8	73.2	14	205	1200	1	6.7	0.068
Titjikala	Average	0.003	28	1.2	0.06	220	0.0038	0.0003	7.9	13.3	30	31.7	350	1	0.51	0.016
Umbakumba	Average	0.008	47	1.1	0.046	14	0.065	0.034	5.3	2.72	10	28.5	77	2.5	0.41	0.008
Wadeye	Average	0.011	6.33	1.2	0.009	2	0.012	0.0019	5.1	0.33	13	6.03	24	1	0.27	0.01
Wallace Rockhole	Average	0.0025	145	1.2	0.031	330	0.041	0.0012	7.9	65.6	10	101	670	2.5	0.39	0.18
Warruwi	Average	0.06	38	1.2	0.037	19	0.007	0.0009	4.9	6.41	12	20.6	110	1	0.43	0.007
Weemol	Average	0.003	10	1.2	0.027	410	0.003	0.0003	7.5	0.15	30	9.94	350	1	0.87	0.026
Willowra	Average	0.003	174	1.2	0.014	260	0.2	0.0003	8	76.4	78	139	730	2	3.7	0.009
Wilora	Average	0.003	503	0.21	0.0046	610	0.014	0.0003	7.9	195	71	311	1700	1	0.53	0.019
Wugullar (Beswick)	Average	0.031	5.33	1.3	0.11	310	0.043	0.0012	7.5	1.14	20	5.55	290	2	0.62	0.025
Wutunugurra	Average	0.004	42.5	1.1	0.042	190	0.0088	0.0006	7.3	9.29	62	34.9	330	1	0.24	0.027
Wurrumiyanga	Average	0.007	10	1.3	0.051	2.3	0.005	0.0003	4.8	0.615	13	6.75	22	1	0.39	0.006
Yarralin	Average	0.004	14	1.2	0.0011	340	0.0038	0.0003	7.6	1.01	31	14.4	370	1	0.34	0.014
Yirrkala	Average	0.014	12	1.4	0.016	5	0.0029	0.0005	5.6	1.11	9.9	8.84	34	2.5	1.5	0.003
Yuelamu	Average	0.003	28.4	1	0.0049	54	0.0086	0.0003	8	5.63	71	45.7	220	1	0.2	0.19
Yuendumu	Average	0.003	256	1.1	0.011	480	0.014	0.0006	7.9	113	14	135	910	1.12	0.46	0.083

NR - not reported (UV treatment not chlorine)

Table 41 – Water quality data assessment for Acacia Larrakia

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony – Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Arsenic – Total (mg/L)	0.01	2	0.0009	0.001	0.001	N/A	N/A	17
Barium – Total (mg/L)	2	2	0.01	0.01	0.01	N/A	N/A	17
Beryllium – Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Boron – Total (mg/L)	4	2	0.01	0.02	0.01	N/A	N/A	17
Cadmium – Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	17
Chlorine Free Residual (mg/L)	5	36	0.7	2	1	1	2	269
Chromium – Total (mg/L)	0.05	2	<0.0002	0.0008	0.0005	N/A	N/A	17
Copper – Total (mg/L)	2	2	0.004	0.006	0.005	N/A	N/A	17
Fluoride (F) (mg/L)	1.5	2	0.11	0.11	0.11	N/A	N/A	18
Lead – Total (mg/L)	0.01	2	<0.0001	0.0002	0.0001	N/A	N/A	17
Manganese – Total (mg/L)	0.5	2	<0.0005	0.01	0.006	N/A	N/A	17
Mercury – Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Molybdenum – Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Nickel – Total (mg/L)	0.02	2	<0.0005	0.0007	0.0005	N/A	N/A	17
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.5	0.5	0.5	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	17
Σ Nitrate and Nitrite Sum of Ratios”	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium – Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Silver – Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Trihalomethanes – Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium – Total (mg/L)	0.02	2	0.0004	0.0004	0.0004	N/A	N/A	17
Aesthetic								
Aluminium – Total (mg/L)	0.2	2	0.006	0.13	0.066	N/A	0.029	17
Chloride (Cl) (mg/L)	250	2	5	6	5.5	N/A	6.28	18
Chlorine Free Residual (mg/L)	0.6	36	0.74	1.5	1.1	1.4	1.1	269
Copper – Total (mg/L)	1	2	0.004	0.0056	0.0048	N/A	0.0053	17
Hardness as CaCO3 (mg/L as CaCO3)	200	2	240	250	240	N/A	230	18
Iron – Total (mg/L)	0.3	4	0.008	0.22	0.096	N/A	0.049	35
Manganese – Total (mg/L)	0.1	2	<0.0005	0.012	0.0063	N/A	0.0044	17
pH (lab) (pH units)	6.5-8.5	2	7.6	7.7	7.7	N/A	7.8	18
S as Sulphate (S as SO4) (mg/L)	250	2	<0.3	<0.3	0.15	N/A	0.247	18
Si as Silica (Si as SiO2) (mg/L)	80	2	20	20	20	N/A	20	18
Sodium (Na) (mg/L)	180	2	6.23	6.44	6.34	N/A	5.08	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	200	230	220	N/A	230	18
True Colour (HU)	15	2	<2	6	3.5	N/A	1.33	18
Turbidity (lab) (NTU)	5	2	0.55	9.5	5	N/A	1.9	18
Zinc – Total (mg/L)	3	2	0.002	0.008	0.005	N/A	0.005	17
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	210	220	220	N/A	220	18
Apparent Colour (HU)	N/A	2	2	28	15	N/A	7.6	18
Bicarbonate (HCO3) (mg/L)	N/A	2	260	260	260	N/A	270	18
Bromine –Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.022	17
Calcium (Ca) (mg/L)	N/A	2	50	51	50	N/A	47	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	440	440	440	N/A	450	18
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	18
Iodine – Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.01	17
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.17	17
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.19	17
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.061	17
Potassium (K) (mg/L)	N/A	2	1.8	1.9	1.9	N/A	1.5	12
Sodium Chloride (NaCl) (mg/L)	N/A	2	8	9	8.5	N/A	10	18
Tin – Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0044	17
Heterotrophic Plate Count (CFU/mL)	N/A	18	11	660	140	N/A	270	130
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	1.4	284
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 42 – Water quality data assessment for Ali Curung

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	8	<0.0002	<0.0002	0.0001	N/A	0.0001	70
Arsenic - Total (mg/L)	0.01	8	<0.0002	0.0003	0.0001	N/A	0.0003	70
Barium - Total (mg/L)	2	8	0.002	0.004	0.002	N/A	0.03	70
Beryllium - Total (mg/L)	0.06	8	<0.0001	<0.0001	0.00005	N/A	0.0005	70
Boron - Total (mg/L)	4	8	0.6	0.7	0.7	N/A	0.9	70
Cadmium - Total (mg/L)	0.002	8	<0.00005	<0.00005	0.00003	N/A	0.0001	70
Chlorine Free Residual (mg/L)	5	30	1	1	1	1	1	205
Chromium - Total (mg/L)	0.05	8	<0.0002	<0.0002	0.0001	N/A	0.003	70
Copper - Total (mg/L)	2	8	0.002	0.06	0.02	N/A	0.08	70
Fluoride (F) (mg/L)	1.5	10	0.7	1.4	0.9	N/A	1.5	69
Lead - Total (mg/L)	0.01	8	<0.0001	0.002	0.0005	N/A	0.005	70
Manganese - Total (mg/L)	0.5	8	<0.0005	0.001	0.0004	N/A	0.003	70
Mercury - Total (mg/L)	0.001	8	<0.0001	<0.0001	0.00005	N/A	0.00005	70
Molybdenum - Total (mg/L)	0.05	8	<0.0001	0.0007	0.0002	N/A	0.003	70
Nickel - Total (mg/L)	0.02	8	<0.0005	0.001	0.0004	N/A	0.001	70
Nitrate as NO3 (UV screening) (mg/L)	50	10	20	30	20	N/A	40	69
Nitrite mg-NO2/L*	3	10	<0.3	<0.3	0.2	N/A	0.3	65
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.8	N/A	N/A	0.8	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	8	<0.0002	<0.0002	0.0001	N/A	0.0005	70
Silver - Total (mg/L)	0.1	8	<0.0001	<0.0001	0.00005	N/A	0.005	70
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	8	0.0002	0.0003	0.0003	N/A	0.0008	70
Aesthetic								
Aluminium - Total (mg/L)	0.2	8	<0.005	0.08	0.012	N/A	0.0096	71
Chloride (Cl) (mg/L)	250	10	35	70	42.8	N/A	50.5	69
Chlorine Free Residual (mg/L)	0.6	30	1	1.4	1.2	1.4	1.1	205
Copper - Total (mg/L)	1	8	0.0021	0.056	0.016	N/A	0.026	70
Hardness as CaCO3 (mg/L as CaCO3)	200	10	6.4	77	20	N/A	16	69
Iron - Total (mg/L)	0.3	18	0.002	0.15	0.012	N/A	0.016	139
Manganese - Total (mg/L)	0.1	8	<0.0005	0.0014	0.00039	N/A	0.0021	70
pH (lab) (pH units)	6.5-8.5	10	7.5	8.2	7.8	N/A	7.9	69
S as Sulphate (S as SO4) (mg/L)	250	10	1.44	25.7	6.25	N/A	5.35	69
Si as Silica (Si as SiO2) (mg/L)	80	10	55	60	56	N/A	57	69
Sodium (Na) (mg/L)	180	10	62.4	114	74.8	N/A	84.2	69
Total Dissolved Solids Dried at 180C (mg/L)	600	10	190	410	250	N/A	290	69
True Colour (HU)	15	10	<2	<2	1	N/A	1.13	69
Turbidity (lab) (NTU)	5	10	0.15	2	0.58	N/A	0.4	69
Zinc - Total (mg/L)	3	8	0.005	0.014	0.0098	N/A	0.014	70
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	10	88	180	110	N/A	130	69
Apparent Colour (HU)	N/A	10	<2	4	1.5	N/A	1.6	69
Bicarbonate (HCO3) (mg/L)	N/A	10	110	220	130	N/A	150	69
Bromine - Total (mg/L)	N/A	8	0.1	0.2	0.18	N/A	0.26	70
Calcium (Ca) (mg/L)	N/A	10	0.9	10	3.1	N/A	2.4	69
Carbonate (CO3) (mg/L)	N/A	10	<10	<10	5	N/A	5	69
Electrical Conductivity (Lab) (uS/cm)	N/A	10	330	740	420	N/A	480	69
Hydroxide (OH) (mg/L)	N/A	10	<1	<1	0.5	N/A	0.5	69
Iodine - Total (mg/L)	N/A	8	0.1	0.2	0.11	N/A	0.099	70
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	10	3.9	7.7	4.9	N/A	5.1	65
Nitrate as N (NO3-N) (mg/L)	N/A	10	3.9	7.7	4.9	N/A	5.1	65
Nitrite as N (NO2-N) (mg/L)	N/A	10	<0.1	<0.1	0.055	N/A	0.053	65
Potassium (K) (mg/L)	N/A	10	11	25	14	N/A	13	45
Sodium Chloride (NaCl) (mg/L)	N/A	10	58	120	71	N/A	83	69
Tin - Total (mg/L)	N/A	8	<0.0002	<0.0002	0.0001	N/A	0.004	70
Heterotrophic Plate Count (CFU/mL)	N/A	1	10	10	10	N/A	1.4	152
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.5	332
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 43 – Water quality data assessment for Alpururulam

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	10	<0.0002	0.0009	0.0002	N/A	0.0001	71
Arsenic - Total (mg/L)	0.01	10	0.001	0.002	0.001	N/A	0.002	71
Barium - Total (mg/L)	2	10	0.09	0.09	0.09	N/A	0.1	71
Beryllium - Total (mg/L)	0.06	10	<0.0001	<0.0001	0.00005	N/A	0.0005	71
Boron - Total (mg/L)	4	10	0.2	0.2	0.2	N/A	0.3	71
Cadmium - Total (mg/L)	0.002	10	<0.00005	<0.00005	0.00003	N/A	0.0001	71
Chlorine Free Residual (mg/L)	5	26	0.8	1	1	1	2	262
Chromium - Total (mg/L)	0.05	10	0.0003	0.0004	0.0004	N/A	0.003	71
Copper - Total (mg/L)	2	10	0.006	0.04	0.02	N/A	0.1	71
Fluoride (F) (mg/L)	1.5	10	1.5	1.7	1.6	N/A	1.7	76
Lead - Total (mg/L)	0.01	10	<0.0001	0.0004	0.0002	N/A	0.005	71
Manganese - Total (mg/L)	0.5	10	<0.0005	<0.0005	0.0003	N/A	0.003	71
Mercury - Total (mg/L)	0.001	10	<0.0001	<0.0001	0.00005	N/A	0.00005	71
Molybdenum - Total (mg/L)	0.05	10	0.003	0.003	0.003	N/A	0.003	71
Nickel - Total (mg/L)	0.02	10	<0.0005	0.001	0.0005	N/A	0.001	71
Nitrate as NO3 (UV screening) (mg/L)	50	10	2	4	3	N/A	4	76
Nitrite mg-NO2/L*	3	10	<0.3	<0.3	0.2	N/A	0.2	71
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.2	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	10	0.001	0.002	0.002	N/A	0.002	71
Silver - Total (mg/L)	0.1	10	<0.0001	<0.0001	0.00005	N/A	0.005	71
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	10	0.01	0.01	0.01	N/A	0.01	71
Aesthetic								
Aluminium - Total (mg/L)	0.2	10	<0.005	<0.005	0.0025	N/A	0.011	71
Chloride (Cl) (mg/L)	250	10	180	210	195	N/A	189	76
Chlorine Free Residual (mg/L)	0.6	26	0.8	1.4	1.1	1.3	1	262
Copper - Total (mg/L)	1	10	0.0063	0.043	0.018	N/A	0.035	71
Hardness as CaCO3 (mg/L as CaCO3)	200	10	480	520	500	N/A	500	76
Iron - Total (mg/L)	0.3	20	<0.002	0.052	0.0087	N/A	0.021	147
Manganese - Total (mg/L)	0.1	10	<0.0005	<0.0005	0.00025	N/A	0.0021	71
pH (lab) (pH units)	6.5-8.5	10	7.3	8.5	7.7	N/A	7.6	76
S as Sulphate (S as SO4) (mg/L)	250	10	80.4	89.4	85.3	N/A	70.6	76
Si as Silica (Si as SiO2) (mg/L)	80	10	58	66	61	N/A	63	76
Sodium (Na) (mg/L)	180	10	138	156	150	N/A	147	76
Total Dissolved Solids Dried at 180C (mg/L)	600	10	850	930	900	N/A	910	76
True Colour (HU)	15	10	<2	<2	1	N/A	1.13	76
Turbidity (lab) (NTU)	5	10	0.11	1.5	0.37	N/A	0.41	76
Zinc - Total (mg/L)	3	10	0.003	0.009	0.005	N/A	0.013	71
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	10	440	470	450	N/A	460	76
Apparent Colour (HU)	N/A	10	<2	3	1.3	N/A	1.5	76
Bicarbonate (HCO3) (mg/L)	N/A	10	510	570	540	N/A	560	76
Bromine - Total (mg/L)	N/A	10	0.3	1	0.53	N/A	0.57	71
Calcium (Ca) (mg/L)	N/A	10	64	71	68	N/A	66	76
Carbonate (CO3) (mg/L)	N/A	10	<10	15	6.7	N/A	5.2	76
Electrical Conductivity (Lab) (uS/cm)	N/A	10	1500	1700	1600	N/A	1600	76
Hydroxide (OH) (mg/L)	N/A	10	<1	<1	0.5	N/A	0.5	76
Iodine - Total (mg/L)	N/A	10	0.2	0.3	0.22	N/A	0.13	71
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	10	0.4	0.9	0.7	N/A	0.67	71
Nitrate as N (NO3-N) (mg/L)	N/A	10	0.4	0.9	0.69	N/A	0.67	71
Nitrite as N (NO2-N) (mg/L)	N/A	10	<0.1	<0.1	0.055	N/A	0.054	71
Potassium (K) (mg/L)	N/A	10	7.6	8.3	8	N/A	7.5	51
Sodium Chloride (NaCl) (mg/L)	N/A	10	300	340	320	N/A	310	76
Tin - Total (mg/L)	N/A	10	<0.0002	0.0005	0.00014	N/A	0.004	71
Heterotrophic Plate Count (CFU/mL)	N/A	6	10	3000	530	N/A	21	185
Total coliforms (MPN/100 mL)	N/A	26	<1	<1	0.5	0.5	0.5	349
E. coli								
E. coli (MPN/100 mL)	0	26	<1	<1	N/A	N/A	N/A	N/A

Table 44 – Water quality data assessment for Amanbidji

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	0.0002	0.0002	0.0002	N/A	0.0004	46
Arsenic - Total (mg/L)	0.01	2	0.0008	0.0009	0.0009	N/A	0.002	46
Barium - Total (mg/L)	2	2	0.2	0.2	0.2	N/A	0.3	46
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	46
Boron - Total (mg/L)	4	2	0.3	0.3	0.3	N/A	0.7	46
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	46
Chlorine Free Residual (mg/L)	5	23	0.8	2	1	2	1	250
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	46
Copper - Total (mg/L)	2	2	0.003	0.02	0.01	N/A	0.02	46
Fluoride (F) (mg/L)	1.5	2	0.28	0.29	0.29	N/A	0.37	49
Lead - Total (mg/L)	0.01	2	<0.0001	0.0008	0.0004	N/A	0.006	46
Manganese - Total (mg/L)	0.5	2	0.0005	0.0006	0.0006	N/A	0.3	46
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	46
Molybdenum - Total (mg/L)	0.05	2	0.002	0.003	0.002	N/A	0.003	46
Nickel - Total (mg/L)	0.02	2	<0.0005	0.001	0.0008	N/A	0.004	46
Nitrate as NO3 (UV screening) (mg/L)	50	2	3	3	3	N/A	3	49
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	0.3	32
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.1	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.0005	0.0005	0.0005	N/A	0.0005	46
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	46
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.001	0.001	0.001	N/A	0.002	46
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0097	46
Chloride (Cl) (mg/L)	250	2	81	82	81.5	N/A	108	49
Chlorine Free Residual (mg/L)	0.6	23	0.79	1.8	1.1	1.7	0.87	250
Copper - Total (mg/L)	1	2	0.0028	0.017	0.01	N/A	0.0086	46
Hardness as CaCO3 (mg/L as CaCO3)	200	2	370	370	370	N/A	380	49
Iron - Total (mg/L)	0.3	2	0.005	1	0.0055	N/A	0.22	46
Manganese - Total (mg/L)	0.1	2	0.0005	0.0006	0.00055	N/A	0.053	46
pH (lab) (pH units)	6.5-8.5	2	7.5	7.7	7.6	N/A	7.9	49
S as Sulphate (S as SO4) (mg/L)	250	2	59.4	60.6	60	N/A	108	49
Si as Silica (Si as SiO2) (mg/L)	80	2	29	30	29	N/A	32	49
Sodium (Na) (mg/L)	180	2	112	113	113	N/A	149	49
Total Dissolved Solids Dried at 180C (mg/L)	600	2	640	650	650	N/A	790	49
True Colour (HU)	15	2	<2	<2	1	N/A	1.29	49
Turbidity (lab) (NTU)	5	2	0.47	76	38	N/A	3	49
Zinc - Total (mg/L)	3	2	0.006	0.018	0.012	N/A	0.09	46
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	440	450	450	N/A	440	49
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	11	49
Bicarbonate (HCO3) (mg/L)	N/A	2	540	540	540	N/A	540	49
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.17	46
Calcium (Ca) (mg/L)	N/A	2	55	55	55	N/A	56	49
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	49
Electrical Conductivity (Lab) (uS/cm)	N/A	2	1200	1200	1200	N/A	1400	49
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	49
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.01	46
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.7	0.7	0.7	N/A	0.24	32
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.7	0.7	0.7	N/A	0.25	32
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.054	32
Potassium (K) (mg/L)	N/A	2	3.6	3.7	3.7	N/A	4.1	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	130	130	130	N/A	180	49
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0048	46
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	5.3	63
Total coliforms (MPN/100 mL)	N/A	24	<1	<1	0.5	0.5	1.5	263
E. coli								
E. coli (MPN/100 mL)	0	24	<1	<1	N/A	N/A	N/A	N/A

Table 45 – Water quality data assessment for Amoonguna

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	3	<0.0002	<0.0002	0.0001	N/A	0.0001	24
Arsenic - Total (mg/L)	0.01	3	0.0002	0.0003	0.0002	N/A	0.0003	24
Barium - Total (mg/L)	2	3	0.09	0.09	0.09	N/A	0.1	24
Beryllium - Total (mg/L)	0.06	3	<0.0001	<0.0001	0.00005	N/A	0.0005	24
Boron - Total (mg/L)	4	3	0.1	0.1	0.1	N/A	0.2	24
Cadmium - Total (mg/L)	0.002	3	<0.00005	<0.00005	0.00003	N/A	0.0001	24
Chlorine Free Residual (mg/L)	5	35	0.7	1	0.9	1	1	411
Chromium - Total (mg/L)	0.05	3	0.002	0.002	0.002	N/A	0.003	24
Copper - Total (mg/L)	2	3	0.006	0.02	0.02	N/A	0.06	24
Fluoride (F) (mg/L)	1.5	3	0.53	0.55	0.54	N/A	0.54	24
Lead - Total (mg/L)	0.01	3	0.0001	0.0003	0.0002	N/A	0.007	24
Manganese - Total (mg/L)	0.5	3	<0.0005	<0.0005	0.0003	N/A	0.1	24
Mercury - Total (mg/L)	0.001	3	<0.0001	<0.0001	0.00005	N/A	0.00005	24
Molybdenum - Total (mg/L)	0.05	3	0.001	0.001	0.001	N/A	0.003	24
Nickel - Total (mg/L)	0.02	3	<0.0005	<0.0005	0.0003	N/A	0.001	24
Nitrate as NO3 (UV screening) (mg/L)	50	3	6	8	7	N/A	8	24
Nitrite mg-NO2/L*	3	3	<0.3	0.7	0.3	N/A	N/A	18
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.4	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	3	0.001	0.001	0.001	N/A	0.001	24
Silver - Total (mg/L)	0.1	3	<0.0001	<0.0001	0.00005	N/A	0.005	24
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	3	0.01	0.01	0.01	N/A	0.01	24
Aesthetic								
Aluminium - Total (mg/L)	0.2	3	<0.005	<0.005	0.0025	N/A	0.023	24
Chloride (Cl) (mg/L)	250	3	81	83	81.7	N/A	73.5	24
Chlorine Free Residual (mg/L)	0.6	35	0.72	1.1	0.86	1.1	0.89	411
Copper - Total (mg/L)	1	3	0.006	0.022	0.016	N/A	0.035	24
Hardness as CaCO3 (mg/L as CaCO3)	200	3	250	250	250	N/A	220	24
Iron - Total (mg/L)	0.3	6	<0.002	0.12	0.024	N/A	0.15	48
Manganese - Total (mg/L)	0.1	3	<0.0005	<0.0005	0.00025	N/A	0.032	24
pH (lab) (pH units)	6.5-8.5	3	7.5	7.6	7.5	N/A	7.5	24
S as Sulphate (S as SO4) (mg/L)	250	3	63.9	66.3	64.8	N/A	45.9	24
Si as Silica (Si as SiO2) (mg/L)	80	3	16	16	16	N/A	17	24
Sodium (Na) (mg/L)	180	3	95.4	99.7	97.3	N/A	83.8	24
Total Dissolved Solids Dried at 180C (mg/L)	600	3	570	570	570	N/A	450	24
True Colour (HU)	15	3	<2	4	2	N/A	1.51	24
Turbidity (lab) (NTU)	5	3	0.22	1.3	0.58	N/A	2.9	24
Zinc - Total (mg/L)	3	3	0.004	0.008	0.0057	N/A	0.05	24
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	3	240	250	240	N/A	240	24
Apparent Colour (HU)	N/A	3	<2	4	2	N/A	9.8	24
Bicarbonate (HCO3) (mg/L)	N/A	3	300	300	300	N/A	290	24
Bromine - Total (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.21	24
Calcium (Ca) (mg/L)	N/A	3	56	57	57	N/A	50	24
Carbonate (CO3) (mg/L)	N/A	3	<10	<10	5	N/A	5	24
Electrical Conductivity (Lab) (uS/cm)	N/A	3	900	900	900	N/A	810	24
Hydroxide (OH) (mg/L)	N/A	3	<1	<1	0.5	N/A	0.5	24
Iodine - Total (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.041	24
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	3	1.6	1.8	1.7	N/A	1.7	18
Nitrate as N (NO3-N) (mg/L)	N/A	3	1.5	1.8	1.6	N/A	1.7	18
Nitrite as N (NO2-N) (mg/L)	N/A	3	<0.1	0.2	0.1	N/A	0.058	18
Potassium (K) (mg/L)	N/A	3	6.5	6.5	6.5	N/A	6.1	9
Sodium Chloride (NaCl) (mg/L)	N/A	3	130	140	130	N/A	120	24
Tin - Total (mg/L)	N/A	3	<0.0002	<0.0002	0.0001	N/A	0.0044	24
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	0.99	241
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.5	428
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 46 – Water quality data assessment for Ampilatwatja

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	0.0008	0.0005	N/A	0.0001	22
Arsenic - Total (mg/L)	0.01	2	0.0004	0.0004	0.0004	N/A	0.0005	22
Barium - Total (mg/L)	2	2	0.03	0.03	0.03	N/A	0.03	22
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	22
Boron - Total (mg/L)	4	2	0.3	0.3	0.3	N/A	0.4	22
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	22
Chlorine Free Residual (mg/L)	5	23	0.8	1	1	1	2	194
Chromium - Total (mg/L)	0.05	2	0.001	0.001	0.001	N/A	0.003	22
Copper - Total (mg/L)	2	2	0.008	0.03	0.02	N/A	0.03	22
Fluoride (F) (mg/L)	1.5	2	1.1	1.1	1.1	N/A	1.2	25
Lead - Total (mg/L)	0.01	2	<0.0001	0.0007	0.0004	N/A	0.001	22
Manganese - Total (mg/L)	0.5	2	<0.0005	0.0007	0.0005	N/A	0.003	22
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	22
Molybdenum - Total (mg/L)	0.05	2	0.003	0.003	0.003	N/A	0.003	22
Nickel - Total (mg/L)	0.02	2	<0.0005	0.002	0.0009	N/A	0.002	22
Nitrate as NO3 (UV screening) (mg/L)	50	2	30	40	30	N/A	30	25
Nitrite mg-NO2/L*	3	2	<0.3	0.7	0.4	N/A	0.4	21
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.9	N/A	N/A	0.8	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.002	0.002	0.002	N/A	0.002	22
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	22
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.009	0.009	0.009	N/A	0.009	22
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0098	22
Chloride (Cl) (mg/L)	250	2	210	210	210	N/A	180	25
Chlorine Free Residual (mg/L)	0.6	23	0.81	1.5	1.1	1.4	1.2	194
Copper - Total (mg/L)	1	2	0.0077	0.026	0.017	N/A	0.01	22
Hardness as CaCO3 (mg/L as CaCO3)	200	2	530	550	540	N/A	490	25
Iron - Total (mg/L)	0.3	4	0.006	0.025	0.015	N/A	0.019	45
Manganese - Total (mg/L)	0.1	2	<0.0005	0.0007	0.00048	N/A	0.0024	22
pH (lab) (pH units)	6.5-8.5	2	7.6	7.6	7.6	N/A	7.7	25
S as Sulphate (S as SO4) (mg/L)	250	2	195	210	203	N/A	201	25
Si as Silica (Si as SiO2) (mg/L)	80	2	34	34	34	N/A	36	25
Sodium (Na) (mg/L)	180	2	157	161	159	N/A	132	25
Total Dissolved Solids Dried at 180C (mg/L)	600	2	1000	1000	1000	N/A	990	25
True Colour (HU)	15	2	<2	<2	1	N/A	1.22	25
Turbidity (lab) (NTU)	5	2	0.39	0.61	0.5	N/A	0.32	25
Zinc - Total (mg/L)	3	2	0.005	0.012	0.0085	N/A	0.016	22
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	300	300	300	N/A	300	25
Apparent Colour (HU)	N/A	2	<2	3	2	N/A	2	25
Bicarbonate (HCO3) (mg/L)	N/A	2	360	360	360	N/A	360	25
Bromine - Total (mg/L)	N/A	2	0.6	0.6	0.6	N/A	0.72	22
Calcium (Ca) (mg/L)	N/A	2	110	120	110	N/A	100	25
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	25
Electrical Conductivity (Lab) (uS/cm)	N/A	2	1800	1800	1800	N/A	1600	25
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	25
Iodine - Total (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.11	22
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	7.8	7.9	7.9	N/A	6.4	21
Nitrate as N (NO3-N) (mg/L)	N/A	2	7.7	7.9	7.8	N/A	6.4	21
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	0.2	0.13	N/A	0.069	21
Potassium (K) (mg/L)	N/A	2	27	28	27	N/A	25	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	340	350	350	N/A	290	25
Tin - Total (mg/L)	N/A	2	0.0002	0.0002	0.00015	N/A	0.0046	22
Heterotrophic Plate Count (CFU/mL)	N/A	2	33	37	35	N/A	200	182
Total coliforms (MPN/100 mL)	N/A	33	<1	2	0.55	0.5	2.5	361
E. coli								
E. coli (MPN/100 mL)	0	33	<1	<1	N/A	N/A	N/A	N/A

Table 47 – Water quality data assessment for Angurugu

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Barium - Total (mg/L)	2	2	0.01	0.01	0.01	N/A	N/A	18
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Boron - Total (mg/L)	4	2	0.01	0.01	0.01	N/A	N/A	18
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	18
Chlorine Free Residual (mg/L)	5	133	0.9	2	1	1	1	1168
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Copper - Total (mg/L)	2	2	0.02	0.04	0.03	N/A	N/A	18
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	0.68	327
Lead - Total (mg/L)	0.01	2	0.0004	0.003	0.002	N/A	N/A	18
Manganese - Total (mg/L)	0.5	2	0.002	0.006	0.004	N/A	N/A	18
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.6	0.7	0.7	N/A	0.9	19
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	14
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	N/A	18
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.011	0.013	0.012	N/A	0.022	18
Chloride (Cl) (mg/L)	250	2	11	11	11	N/A	11.1	19
Chlorine Free Residual (mg/L)	0.6	133	0.94	1.7	1.2	1.4	1.1	1168
Copper - Total (mg/L)	1	2	0.019	0.045	0.032	N/A	0.028	18
Hardness as CaCO3 (mg/L as CaCO3)	200	2	3.7	4	3.9	N/A	6	19
Iron - Total (mg/L)	0.3	4	0.016	0.038	0.024	N/A	0.027	37
Manganese - Total (mg/L)	0.1	2	0.0022	0.0059	0.0041	N/A	0.0043	18
pH (lab) (pH units)	6.5-8.5	2	4.9	5.1	5	N/A	5.1	19
S as Sulphate (S as SO4) (mg/L)	250	2	<0.3	0.39	0.27	N/A	0.357	19
Si as Silica (Si as SiO2) (mg/L)	80	2	10	10	10	N/A	12	19
Sodium (Na) (mg/L)	180	2	6.34	8.76	7.55	N/A	6.76	19
Total Dissolved Solids Dried at 180C (mg/L)	600	2	17	19	18	N/A	38	19
True Colour (HU)	15	2	<2	<2	1	N/A	1.12	19
Turbidity (lab) (NTU)	5	2	0.23	0.39	0.31	N/A	0.67	19
Zinc - Total (mg/L)	3	2	0.006	0.007	0.0065	N/A	0.012	18
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	19
Apparent Colour (HU)	N/A	2	2	2	2	N/A	1.9	19
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	19
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.022	18
Calcium (Ca) (mg/L)	N/A	2	0.5	0.6	0.55	N/A	1.3	19
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	19
Electrical Conductivity (Lab) (uS/cm)	N/A	2	51	51	51	N/A	49	19
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	19
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.01	18
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.1	0.2	0.15	N/A	0.13	14
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.1	0.2	0.15	N/A	0.13	14
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	14
Potassium (K) (mg/L)	N/A	2	0.4	0.8	0.6	N/A	0.28	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	17	18	18	N/A	18	19
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	18
Heterotrophic Plate Count (CFU/mL)	N/A	1	1	1	1	N/A	2.3	294
Total coliforms (MPN/100 mL)	N/A	135	<1	<1	0.5	0.5	0.65	1394
E. coli								
E. coli (MPN/100 mL)	0	135	<1	<1	N/A	N/A	N/A	N/A

Table 48 – Water quality data assessment for Areyonga

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	0.0005	0.0003	N/A	0.0001	20
Arsenic - Total (mg/L)	0.01	2	0.0002	0.0002	0.0002	N/A	0.0003	20
Barium - Total (mg/L)	2	2	0.09	0.1	0.1	N/A	0.1	20
Beryllium - Total (mg/L)	0.06	2	0.0001	0.0001	0.0001	N/A	0.0005	20
Boron - Total (mg/L)	4	2	0.1	0.1	0.1	N/A	0.2	20
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	36	0.8	1	1	1	1	305
Chromium - Total (mg/L)	0.05	2	0.003	0.003	0.003	N/A	0.003	20
Copper - Total (mg/L)	2	2	0.004	0.03	0.02	N/A	0.03	20
Fluoride (F) (mg/L)	1.5	2	0.44	0.45	0.45	N/A	0.45	20
Lead - Total (mg/L)	0.01	2	0.0002	0.0002	0.0002	N/A	0.0005	20
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	0.003	20
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	2	0.0009	0.0009	0.0009	N/A	0.003	20
Nickel - Total (mg/L)	0.02	2	0.003	0.004	0.004	N/A	0.006	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	6	7	6	N/A	8	20
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.001	0.001	0.001	N/A	0.002	20
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.01	0.01	0.01	N/A	0.01	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0093	20
Chloride (Cl) (mg/L)	250	2	130	130	130	N/A	123	20
Chlorine Free Residual (mg/L)	0.6	36	0.81	1.4	1.2	1.4	1	305
Copper - Total (mg/L)	1	2	0.004	0.029	0.017	N/A	0.011	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	530	540	530	N/A	480	20
Iron - Total (mg/L)	0.3	4	0.002	<0.01	0.0038	N/A	0.021	40
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0023	20
pH (lab) (pH units)	6.5-8.5	2	7.7	7.8	7.7	N/A	7.7	20
S as Sulphate (S as SO4) (mg/L)	250	2	120	121	121	N/A	84.9	20
Si as Silica (Si as SiO2) (mg/L)	80	2	18	18	18	N/A	18	20
Sodium (Na) (mg/L)	180	2	75.1	76.5	75.8	N/A	66.1	20
Total Dissolved Solids Dried at 180C (mg/L)	600	2	830	840	840	N/A	700	20
True Colour (HU)	15	2	<2	<2	1	N/A	1.1	20
Turbidity (lab) (NTU)	5	2	0.17	0.68	0.43	N/A	0.35	20
Zinc - Total (mg/L)	3	2	0.014	0.015	0.015	N/A	0.018	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	350	350	350	N/A	350	20
Apparent Colour (HU)	N/A	2	<2	<2	1.5	N/A	1.5	20
Bicarbonate (HCO3) (mg/L)	N/A	2	430	430	430	N/A	430	20
Bromine - Total (mg/L)	N/A	2	0.2	0.3	0.25	N/A	0.32	20
Calcium (Ca) (mg/L)	N/A	2	100	100	100	N/A	89	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	1300	1300	1300	N/A	1200	20
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	20
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.057	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	1.4	1.5	1.5	N/A	1.6	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	1.4	1.5	1.5	N/A	1.6	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	16
Potassium (K) (mg/L)	N/A	2	9.5	9.7	9.6	N/A	9	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	210	210	210	N/A	200	20
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	20
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	2.4	175
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.51	0.5	0.5	358
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 49 – Water quality data assessment for Atitjere

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Arsenic - Total (mg/L)	0.01	2	0.0002	0.0002	0.0002	N/A	N/A	18
Barium - Total (mg/L)	2	2	0.07	0.07	0.07	N/A	N/A	18
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Boron - Total (mg/L)	4	2	0.1	0.1	0.1	N/A	N/A	18
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	18
Chlorine Free Residual (mg/L)	5	36	0.9	2	1	2	1	301
Chromium - Total (mg/L)	0.05	2	0.003	0.003	0.003	N/A	N/A	18
Copper - Total (mg/L)	2	2	0.003	0.005	0.004	N/A	N/A	18
Fluoride (F) (mg/L)	1.5	2	0.61	0.61	0.61	N/A	0.72	20
Lead - Total (mg/L)	0.01	2	0.0001	0.0001	0.00008	N/A	N/A	18
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Molybdenum - Total (mg/L)	0.05	2	0.004	0.004	0.004	N/A	N/A	18
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Nitrate as NO3 (UV screening) (mg/L)	50	2	30	30	30	N/A	30	20
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.7	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.003	0.003	0.003	N/A	N/A	18
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.007	0.007	0.007	N/A	N/A	18
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	0.012	0.0073	N/A	0.0097	18
Chloride (Cl) (mg/L)	250	2	110	110	110	N/A	101	20
Chlorine Free Residual (mg/L)	0.6	36	0.91	1.6	1.2	1.5	1.9	301
Copper - Total (mg/L)	1	2	0.0028	0.0052	0.004	N/A	0.0074	18
Hardness as CaCO3 (mg/L as CaCO3)	200	2	280	280	280	N/A	270	20
Iron - Total (mg/L)	0.3	4	0.012	0.032	0.023	N/A	0.031	38
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0023	18
pH (lab) (pH units)	6.5-8.5	2	8.1	8.1	8.1	N/A	8.1	20
S as Sulphate (S as SO4) (mg/L)	250	2	97.8	98.7	98.3	N/A	102	20
Si as Silica (Si as SiO2) (mg/L)	80	2	31	31	31	N/A	34	20
Sodium (Na) (mg/L)	180	2	104	105	105	N/A	99	20
Total Dissolved Solids Dried at 180C (mg/L)	600	2	570	590	580	N/A	590	20
True Colour (HU)	15	2	<2	<2	1	N/A	1	20
Turbidity (lab) (NTU)	5	2	0.3	0.59	0.45	N/A	0.56	20
Zinc - Total (mg/L)	3	2	0.003	0.005	0.004	N/A	0.0055	17
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	220	220	220	N/A	220	20
Apparent Colour (HU)	N/A	2	2	4	3	N/A	2.8	20
Bicarbonate (HCO3) (mg/L)	N/A	2	260	270	270	N/A	270	20
Bromine - Total (mg/L)	N/A	2	0.3	0.3	0.3	N/A	0.29	18
Calcium (Ca) (mg/L)	N/A	2	45	45	45	N/A	44	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	1100	1100	1100	N/A	1000	20
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	20
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.047	18
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	6.2	6.2	6.2	N/A	5.8	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	6.2	6.2	6.2	N/A	5.8	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	16
Potassium (K) (mg/L)	N/A	2	8.6	8.7	8.7	N/A	8.8	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	180	180	180	N/A	170	20
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0046	18
Heterotrophic Plate Count (CFU/mL)	N/A	1	12	12	12	N/A	15	172
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.52	342
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 50 – Water quality data assessment for Barunga

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	24
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	24
Barium - Total (mg/L)	2	2	0.02	0.02	0.02	N/A	0.03	24
Beryllium - Total (mg/L)	0.06	2	0.0001	0.0002	0.0002	N/A	0.0005	24
Boron - Total (mg/L)	4	2	0.01	0.02	0.01	N/A	0.01	24
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	24
Chlorine Free Residual (mg/L)	5	36	0.7	2	1	2	2	322
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	24
Copper - Total (mg/L)	2	2	0.02	0.03	0.02	N/A	0.2	24
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	0.05	61
Lead - Total (mg/L)	0.01	2	0.0002	0.003	0.002	N/A	0.002	24
Manganese - Total (mg/L)	0.5	2	0.001	0.002	0.001	N/A	0.04	24
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	24
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	24
Nickel - Total (mg/L)	0.02	2	0.0006	0.0006	0.0006	N/A	0.001	24
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.3	0.4	0.4	N/A	0.4	59
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	18
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	24
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	24
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.0001	0.0001	0.0001	N/A	0.0001	24
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.013	0.016	0.015	N/A	0.054	24
Chloride (Cl) (mg/L)	250	2	5	7	6	N/A	16.5	61
Chlorine Free Residual (mg/L)	0.6	36	0.71	1.8	1.2	1.7	1.2	322
Copper - Total (mg/L)	1	2	0.018	0.028	0.023	N/A	0.052	24
Hardness as CaCO3 (mg/L as CaCO3)	200	2	4.4	6	5.2	N/A	6.5	61
Iron - Total (mg/L)	0.3	4	0.024	0.11	0.055	N/A	1.1	85
Manganese - Total (mg/L)	0.1	2	0.001	0.0017	0.0014	N/A	0.014	24
pH (lab) (pH units)	6.5-8.5	2	5.3	5.4	5.4	N/A	6.4	61
S as Sulphate (S as SO4) (mg/L)	250	2	<0.3	<0.3	0.15	N/A	0.227	61
Si as Silica (Si as SiO2) (mg/L)	80	2	18	18	18	N/A	17	61
Sodium (Na) (mg/L)	180	2	3.96	4.31	4.14	N/A	13.1	61
Total Dissolved Solids Dried at 180C (mg/L)	600	1	22	22	22	N/A	61	60
True Colour (HU)	15	2	2	3	2.5	N/A	23.2	61
Turbidity (lab) (NTU)	5	2	0.3	0.31	0.31	N/A	5.1	61
Zinc - Total (mg/L)	3	2	0.023	0.029	0.026	N/A	0.033	24
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	61
Apparent Colour (HU)	N/A	2	2	3	2.5	N/A	76	61
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	14	61
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.023	24
Calcium (Ca) (mg/L)	N/A	2	0.6	0.9	0.75	N/A	1.2	61
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	61
Electrical Conductivity (Lab) (uS/cm)	N/A	2	32	35	34	N/A	83	61
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	61
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.0088	24
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.065	18
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.075	18
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	18
Potassium (K) (mg/L)	N/A	2	0.7	0.8	0.75	N/A	0.71	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	9	11	10	N/A	27	61
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0046	24
Heterotrophic Plate Count (CFU/mL)	N/A	2	13	30	22	N/A	37	84
Total coliforms (MPN/100 mL)	N/A	36	<1	4	0.65	1.3	0.55	402
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 51 – Water quality data assessment for Belyuen

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	19
Arsenic - Total (mg/L)	0.01	2	0.002	0.002	0.002	N/A	0.004	19
Barium - Total (mg/L)	2	2	0.04	0.04	0.04	N/A	0.04	19
Beryllium - Total (mg/L)	0.06	2	<0.0001	0.0002	0.0001	N/A	0.0005	19
Boron - Total (mg/L)	4	2	0.008	0.009	0.009	N/A	0.02	19
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	19
Chlorine Free Residual (mg/L)	5	33	0.9	2	1	1	2	346
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	19
Copper - Total (mg/L)	2	2	0.005	0.005	0.005	N/A	0.03	19
Fluoride (F) (mg/L)	1.5	2	0.24	0.24	0.24	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	0.0002	0.0007	0.0005	N/A	0.004	19
Manganese - Total (mg/L)	0.5	2	0.003	0.005	0.004	N/A	0.1	19
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	19
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	19
Nickel - Total (mg/L)	0.02	2	0.0006	0.0007	0.0007	N/A	0.001	19
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.1	0.1	0.1	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	14
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	19
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	19
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.001	0.001	0.001	N/A	0.002	19
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.005	0.006	0.0055	N/A	0.016	19
Chloride (Cl) (mg/L)	250	2	4	5	4.5	N/A	5.17	18
Chlorine Free Residual (mg/L)	0.6	33	0.93	1.7	1.2	1.5	1.2	346
Copper - Total (mg/L)	1	2	0.0052	0.0052	0.0052	N/A	0.011	19
Hardness as CaCO3 (mg/L as CaCO3)	200	2	5.4	5.8	5.6	N/A	6.9	18
Iron - Total (mg/L)	0.3	4	0.035	0.056	0.044	N/A	0.38	37
Manganese - Total (mg/L)	0.1	2	0.0028	0.005	0.0039	N/A	0.028	19
pH (lab) (pH units)	6.5-8.5	2	6.3	6.3	6.3	N/A	6.6	18
S as Sulphate (S as SO4) (mg/L)	250	2	<0.3	<0.3	0.15	N/A	0.169	18
Si as Silica (Si as SiO2) (mg/L)	80	2	35	35	35	N/A	40	18
Sodium (Na) (mg/L)	180	2	8.21	8.65	8.43	N/A	8.17	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	48	56	52	N/A	61	18
True Colour (HU)	15	2	<2	<2	1	N/A	1.68	18
Turbidity (lab) (NTU)	5	2	0.58	0.62	0.6	N/A	3.2	18
Zinc - Total (mg/L)	3	2	0.008	0.011	0.0095	N/A	0.013	19
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	21	21	21	N/A	19	18
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	20	18
Bicarbonate (HCO3) (mg/L)	N/A	2	25	25	25	N/A	26	18
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.013	19
Calcium (Ca) (mg/L)	N/A	2	1	1	1	N/A	1.6	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	58	59	59	N/A	62	18
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	18
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.0097	19
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.057	14
Nitrate as N (NO3-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.064	14
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	14
Potassium (K) (mg/L)	N/A	2	3.2	3.2	3.2	N/A	3.7	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	7	8	7.5	N/A	8.5	18
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	19
Heterotrophic Plate Count (CFU/mL)	N/A	4	13	330	96	N/A	43	97
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	1.7	361
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 52 – Water quality data assessment for Binjari

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	14
Arsenic - Total (mg/L)	0.01	2	0.002	0.002	0.002	N/A	N/A	14
Barium - Total (mg/L)	2	2	0.2	0.2	0.2	N/A	N/A	14
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	14
Boron - Total (mg/L)	4	2	0.02	0.02	0.02	N/A	N/A	14
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	14
Chlorine Free Residual (mg/L)	5	24	1	2	1	2	2	214
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	N/A	14
Copper - Total (mg/L)	2	2	0.003	0.004	0.004	N/A	N/A	14
Fluoride (F) (mg/L)	1.5	2	0.37	0.38	0.38	N/A	N/A	13
Lead - Total (mg/L)	0.01	2	<0.0001	<0.0001	0.00005	N/A	N/A	14
Manganese - Total (mg/L)	0.5	2	<0.0005	0.0007	0.0005	N/A	N/A	14
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	14
Molybdenum - Total (mg/L)	0.05	2	0.0005	0.0006	0.0006	N/A	N/A	14
Nickel - Total (mg/L)	0.02	2	<0.0005	0.002	0.001	N/A	N/A	14
Nitrate as NO3 (UV screening) (mg/L)	50	2	<0.1	<0.1	0.05	N/A	N/A	13
Nitrite mg-NO2/L*	3	2	<0.3	0.7	0.4	N/A	N/A	13
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	14
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	14
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.001	0.001	0.001	N/A	N/A	14
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.015	14
Chloride (Cl) (mg/L)	250	2	7	7	7	N/A	9.33	13
Chlorine Free Residual (mg/L)	0.6	24	1.1	1.6	1.3	1.5	0.98	214
Copper - Total (mg/L)	1	2	0.0028	0.0043	0.0036	N/A	0.088	14
Hardness as CaCO3 (mg/L as CaCO3)	200	2	340	350	340	N/A	320	13
Iron - Total (mg/L)	0.3	4	0.023	0.039	0.031	N/A	0.035	26
Manganese - Total (mg/L)	0.1	2	<0.0005	0.0007	0.00048	N/A	0.0022	14
pH (lab) (pH units)	6.5-8.5	2	7.5	7.7	7.6	N/A	7.7	13
S as Sulphate (S as SO4) (mg/L)	250	2	<0.3	<0.3	0.15	N/A	2.77	13
Si as Silica (Si as SiO2) (mg/L)	80	2	27	27	27	N/A	27	13
Sodium (Na) (mg/L)	180	2	8.49	9.19	8.84	N/A	10.6	13
Total Dissolved Solids Dried at 180C (mg/L)	600	2	310	330	320	N/A	340	13
True Colour (HU)	15	2	<2	<2	1	N/A	1.23	13
Turbidity (lab) (NTU)	5	2	0.49	0.77	0.63	N/A	0.34	13
Zinc - Total (mg/L)	3	2	0.004	0.006	0.005	N/A	0.0071	14
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	300	300	300	N/A	310	13
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	1.5	13
Bicarbonate (HCO3) (mg/L)	N/A	2	360	360	360	N/A	370	13
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.03	14
Calcium (Ca) (mg/L)	N/A	2	81	82	81	N/A	75	13
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	13
Electrical Conductivity (Lab) (uS/cm)	N/A	2	600	620	610	N/A	620	13
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	13
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.011	14
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.054	12
Nitrate as N (NO3-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.058	12
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	0.2	0.13	N/A	0.062	13
Potassium (K) (mg/L)	N/A	2	4.9	5	5	N/A	4.4	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	12	12	12	N/A	15	13
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0043	14
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	2.7	48
Total coliforms (MPN/100 mL)	N/A	24	<1	<1	0.5	0.5	0.5	222
E. coli								
E. coli (MPN/100 mL)	0	24	<1	<1	N/A	N/A	N/A	N/A

Table 53 – Water quality data assessment for Bulla

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	15	<0.0002	0.0009	0.0002	N/A	0.0001	165
Arsenic - Total (mg/L)	0.01	15	<0.0002	0.0007	0.0003	N/A	0.002	165
Barium - Total (mg/L)	2	15	2	20	10	N/A	20	164
Beryllium - Total (mg/L)	0.06	15	<0.0001	<0.0001	0.00005	N/A	0.0005	165
Boron - Total (mg/L)	4	15	0.08	0.2	0.2	N/A	0.2	165
Cadmium - Total (mg/L)	0.002	15	<0.00005	<0.00005	0.00003	N/A	0.0001	165
Chlorine Free Residual (mg/L)	5	25	0.4	1	1	1	2	340
Chromium - Total (mg/L)	0.05	15	<0.0002	<0.0002	0.0001	N/A	0.003	165
Copper - Total (mg/L)	2	15	0.0009	0.007	0.003	N/A	0.01	165
Fluoride (F) (mg/L)	1.5	19	0.52	1.5	1	1.5	1.5	122
Lead - Total (mg/L)	0.01	15	<0.0001	0.0002	0.00006	N/A	0.0005	165
Manganese - Total (mg/L)	0.5	15	0.0008	0.1	0.02	N/A	0.5	163
Mercury - Total (mg/L)	0.001	15	<0.0001	<0.0001	0.00005	N/A	0.00005	164
Molybdenum - Total (mg/L)	0.05	15	<0.0001	0.0002	0.00006	N/A	0.003	165
Nickel - Total (mg/L)	0.02	15	<0.0005	0.0007	0.0003	N/A	0.001	165
Nitrate as NO3 (UV screening) (mg/L)	50	19	0.1	1	0.2	0.6	0.4	122
Nitrite mg-NO2/L*	3	19	<0.3	<0.3	0.2	0.2	0.2	105
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	0.07	0.06	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	15	<0.0002	<0.0002	0.0001	N/A	0.0005	165
Silver - Total (mg/L)	0.1	15	<0.0001	<0.0001	0.00005	N/A	0.005	165
Trihalomethanes - Total (mg/L)	0.25	0	N/A	N/A	N/A	N/A	N/A	1
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	15	<0.00005	0.0004	0.0001	N/A	0.0003	165
Aesthetic								
Aluminium - Total (mg/L)	0.2	15	<0.005	0.014	0.0039	N/A	0.014	165
Chloride (Cl) (mg/L)	250	19	34	80	55.9	79.1	51.3	122
Chlorine Free Residual (mg/L)	0.6	25	0.37	1.5	1	1.4	1	340
Copper - Total (mg/L)	1	15	0.0009	0.0072	0.0032	N/A	0.0076	165
Hardness as CaCO3 (mg/L as CaCO3)	200	19	200	340	250	330	230	122
Iron - Total (mg/L)	0.3	15	0.012	1	0.084	N/A	0.33	165
Manganese - Total (mg/L)	0.1	15	0.0008	0.13	0.02	N/A	0.15	163
pH (lab) (pH units)	6.5-8.5	19	7.8	8.4	8.1	8.3	8.1	122
S as Sulphate (S as SO4) (mg/L)	250	19	<0.3	3.72	2.07	3.72	0.496	122
Si as Silica (Si as SiO2) (mg/L)	80	19	15	23	18	22	18	122
Sodium (Na) (mg/L)	180	19	24.4	57.2	39.4	56.1	35.8	122
Total Dissolved Solids Dried at 180C (mg/L)	600	12	260	360	320	N/A	320	115
True Colour (HU)	15	19	<2	7	1.63	4.3	2.11	122
Turbidity (lab) (NTU)	5	19	0.23	5	1.2	2.8	1.9	122
Zinc - Total (mg/L)	3	15	0.003	0.016	0.008	N/A	0.015	165
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	19	200	300	240	300	240	122
Apparent Colour (HU)	N/A	19	2	36	6.8	26	26	122
Bicarbonate (HCO3) (mg/L)	N/A	19	240	360	300	360	290	122
Bromine - Total (mg/L)	N/A	15	<0.1	<1	0.1	N/A	0.13	164
Calcium (Ca) (mg/L)	N/A	19	37	51	48	51	45	122
Carbonate (CO3) (mg/L)	N/A	19	<10	<10	5	5	5	122
Electrical Conductivity (Lab) (uS/cm)	N/A	19	520	730	660	730	620	122
Hydroxide (OH) (mg/L)	N/A	19	<1	<1	0.5	0.5	0.5	122
Iodine - Total (mg/L)	N/A	15	<0.1	<1	0.08	N/A	0.018	164
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	19	<0.1	0.2	0.071	0.11	0.068	105
Nitrate as N (NO3-N) (mg/L)	N/A	19	<0.1	0.2	0.074	0.11	0.074	105
Nitrite as N (NO2-N) (mg/L)	N/A	19	<0.1	<0.1	0.053	0.055	0.067	105
Potassium (K) (mg/L)	N/A	19	4.2	11	7.4	11	6.6	77
Sodium Chloride (NaCl) (mg/L)	N/A	19	56	130	92	130	84	122
Tin - Total (mg/L)	N/A	15	0.0002	0.0006	0.00015	N/A	0.0041	165
Heterotrophic Plate Count (CFU/mL)	N/A	1	59	59	59	N/A	85	83
Total coliforms (MPN/100 mL)	N/A	27	<1	<1	0.5	0.5	8.4	357
E. coli								
E. coli (MPN/100 mL)	0	27	<1	<1	N/A	N/A	N/A	N/A

Table 54 – Water quality data assessment for Bulman

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Arsenic - Total (mg/L)	0.01	2	0.0002	0.0002	0.0002	N/A	N/A	17
Barium - Total (mg/L)	2	2	0.01	0.01	0.01	N/A	N/A	17
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Boron - Total (mg/L)	4	2	0.03	0.03	0.03	N/A	N/A	17
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	17
Chlorine Free Residual (mg/L)	5	36	0.9	2	1	2	1	315
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Copper - Total (mg/L)	2	2	0.004	0.004	0.004	N/A	N/A	17
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	N/A	16
Lead - Total (mg/L)	0.01	2	0.0002	0.0002	0.0002	N/A	N/A	17
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	N/A	17
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	17
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.6	1	0.8	N/A	N/A	16
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	14
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.0002	0.0003	0.0002	N/A	N/A	17
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	0.006	0.0043	N/A	0.013	17
Chloride (Cl) (mg/L)	250	2	9	10	9.5	N/A	9.38	16
Chlorine Free Residual (mg/L)	0.6	36	0.94	1.6	1.2	1.6	0.98	315
Copper - Total (mg/L)	1	2	0.0035	0.0044	0.004	N/A	0.0049	17
Hardness as CaCO3 (mg/L as CaCO3)	200	2	350	350	350	N/A	330	16
Iron - Total (mg/L)	0.3	4	<0.002	0.012	0.0058	N/A	0.015	33
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0022	17
pH (lab) (pH units)	6.5-8.5	2	7.6	7.7	7.7	N/A	7.7	16
S as Sulphate (S as SO4) (mg/L)	250	2	<0.3	<0.3	0.15	N/A	0.132	16
Si as Silica (Si as SiO2) (mg/L)	80	2	22	23	22	N/A	23	16
Sodium (Na) (mg/L)	180	2	7.36	7.79	7.58	N/A	8.12	16
Total Dissolved Solids Dried at 180C (mg/L)	600	2	300	320	310	N/A	330	16
True Colour (HU)	15	2	<2	<2	1	N/A	1.06	16
Turbidity (lab) (NTU)	5	2	0.44	0.7	0.57	N/A	0.32	16
Zinc - Total (mg/L)	3	2	0.01	0.012	0.011	N/A	0.0089	17
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	320	330	330	N/A	330	16
Apparent Colour (HU)	N/A	2	<2	3	2	N/A	1.3	16
Bicarbonate (HCO3) (mg/L)	N/A	2	400	400	400	N/A	400	16
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.024	17
Calcium (Ca) (mg/L)	N/A	2	69	70	70	N/A	67	16
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	16
Electrical Conductivity (Lab) (uS/cm)	N/A	2	600	620	610	N/A	640	16
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	16
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.01	17
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.1	0.2	0.15	N/A	0.12	14
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.1	0.2	0.15	N/A	0.14	14
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	14
Potassium (K) (mg/L)	N/A	2	2.8	2.8	2.8	N/A	2.5	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	15	16	16	N/A	15	16
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0044	17
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	1.8	74
Total coliforms (MPN/100 mL)	N/A	36	<1	2	0.56	0.63	1.1	329
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 55 – Water quality data assessment for Canteen Creek

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	20
Arsenic - Total (mg/L)	0.01	2	0.0003	0.0004	0.0004	N/A	0.0005	20
Barium - Total (mg/L)	2	2	0.1	0.1	0.1	N/A	0.2	20
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	20
Boron - Total (mg/L)	4	2	0.2	0.2	0.2	N/A	0.3	20
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	36	0.8	2	1	1	1	341
Chromium - Total (mg/L)	0.05	2	0.0004	0.0005	0.0005	N/A	0.003	20
Copper - Total (mg/L)	2	2	0.01	0.02	0.01	N/A	0.04	20
Fluoride (F) (mg/L)	1.5	2	0.56	0.57	0.57	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	0.0002	0.0006	0.0004	N/A	0.0006	20
Manganese - Total (mg/L)	0.5	2	0.001	0.001	0.001	N/A	0.003	20
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	2	0.0001	0.0001	0.0001	N/A	0.003	20
Nickel - Total (mg/L)	0.02	2	0.001	0.002	0.001	N/A	0.002	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	20	20	20	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.5	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.001	0.001	0.001	N/A	0.002	20
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.002	0.002	0.002	N/A	0.003	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0098	20
Chloride (Cl) (mg/L)	250	2	110	120	115	N/A	111	18
Chlorine Free Residual (mg/L)	0.6	36	0.77	1.7	1.2	1.5	1	341
Copper - Total (mg/L)	1	2	0.01	0.018	0.014	N/A	0.022	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	220	220	220	N/A	220	18
Iron - Total (mg/L)	0.3	4	0.016	0.027	0.022	N/A	0.11	38
Manganese - Total (mg/L)	0.1	2	0.0012	0.0013	0.0013	N/A	0.0024	20
pH (lab) (pH units)	6.5-8.5	2	7.3	7.3	7.3	N/A	7.3	18
S as Sulphate (S as SO4) (mg/L)	250	2	32.1	32.1	32.1	N/A	31	18
Si as Silica (Si as SiO2) (mg/L)	80	2	41	41	41	N/A	55	18
Sodium (Na) (mg/L)	180	2	102	103	103	N/A	103	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	470	500	480	N/A	530	18
True Colour (HU)	15	2	<2	<2	1	N/A	1.72	18
Turbidity (lab) (NTU)	5	2	0.38	0.38	0.38	N/A	1.6	18
Zinc - Total (mg/L)	3	2	0.009	0.011	0.01	N/A	0.018	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	230	240	240	N/A	260	18
Apparent Colour (HU)	N/A	2	2	2	1.5	N/A	11	18
Bicarbonate (HCO3) (mg/L)	N/A	2	280	290	290	N/A	320	18
Bromine - Total (mg/L)	N/A	2	0.4	0.4	0.4	N/A	0.36	20
Calcium (Ca) (mg/L)	N/A	2	32	32	32	N/A	31	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	960	970	970	N/A	950	18
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	18
Iodine - Total (mg/L)	N/A	2	0.1	0.2	0.15	N/A	0.11	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	3.9	4.1	4	N/A	2.5	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	3.9	4.1	4	N/A	2.5	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.061	16
Potassium (K) (mg/L)	N/A	2	14	14	14	N/A	14	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	190	190	190	N/A	180	18
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	20
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	10	174
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.56	360
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 56 – Water quality data assessment for Daguragu

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	1	<0.0002	<0.0002	0.0001	N/A	N/A	18
Arsenic - Total (mg/L)	0.01	1	0.001	0.001	0.001	N/A	N/A	18
Barium - Total (mg/L)	2	1	0.05	0.05	0.05	N/A	N/A	18
Beryllium - Total (mg/L)	0.06	1	<0.0001	<0.0001	0.00005	N/A	N/A	18
Boron - Total (mg/L)	4	1	0.08	0.08	0.08	N/A	N/A	18
Cadmium - Total (mg/L)	0.002	1	<0.00005	<0.00005	0.00003	N/A	N/A	18
Chlorine Free Residual (mg/L)	5	13	0.9	2	1	N/A	2	210
Chromium - Total (mg/L)	0.05	1	<0.0002	<0.0002	0.0001	N/A	N/A	18
Copper - Total (mg/L)	2	1	0.004	0.004	0.004	N/A	N/A	18
Fluoride (F) (mg/L)	1.5	1	0.23	0.23	0.23	N/A	0.28	21
Lead - Total (mg/L)	0.01	1	<0.0001	<0.0001	0.00005	N/A	N/A	18
Manganese - Total (mg/L)	0.5	1	0.002	0.002	0.002	N/A	N/A	18
Mercury - Total (mg/L)	0.001	1	<0.0001	<0.0001	0.00005	N/A	N/A	18
Molybdenum - Total (mg/L)	0.05	1	0.0002	0.0002	0.0002	N/A	N/A	18
Nickel - Total (mg/L)	0.02	1	<0.0005	<0.0005	0.0003	N/A	N/A	18
Nitrate as NO3 (UV screening) (mg/L)	50	1	2	2	2	N/A	5	21
Nitrite mg-NO2/L*	3	1	<0.3	<0.3	0.2	N/A	0.2	19
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.2	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	1	0.0002	0.0002	0.0002	N/A	N/A	18
Silver - Total (mg/L)	0.1	1	<0.0001	<0.0001	0.00005	N/A	N/A	18
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	1	0.001	0.001	0.001	N/A	N/A	18
Aesthetic								
Aluminium - Total (mg/L)	0.2	1	<0.005	<0.005	0.0025	N/A	0.0096	18
Chloride (Cl) (mg/L)	250	1	18	18	18	N/A	19.7	21
Chlorine Free Residual (mg/L)	0.6	13	0.94	1.5	1.3	N/A	0.95	210
Copper - Total (mg/L)	1	1	0.0042	0.0042	0.0042	N/A	0.063	18
Hardness as CaCO3 (mg/L as CaCO3)	200	1	270	270	270	N/A	280	21
Iron - Total (mg/L)	0.3	2	0.004	<0.01	0.0045	N/A	0.014	39
Manganese - Total (mg/L)	0.1	1	0.0021	0.0021	0.0021	N/A	0.0025	18
pH (lab) (pH units)	6.5-8.5	1	7.9	7.9	7.9	N/A	7.9	21
S as Sulphate (S as SO4) (mg/L)	250	1	1.26	1.26	1.26	N/A	0.372	21
Si as Silica (Si as SiO2) (mg/L)	80	1	25	25	25	N/A	28	21
Sodium (Na) (mg/L)	180	1	25.9	25.9	25.9	N/A	31.4	21
Total Dissolved Solids Dried at 180C (mg/L)	600	1	290	290	290	N/A	350	21
True Colour (HU)	15	1	<2	<2	1	N/A	1.05	21
Turbidity (lab) (NTU)	5	1	0.53	0.53	0.53	N/A	0.33	21
Zinc - Total (mg/L)	3	1	0.005	0.005	0.005	N/A	0.024	18
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	1	280	280	280	N/A	310	21
Apparent Colour (HU)	N/A	1	<2	<2	1	N/A	1	21
Bicarbonate (HCO3) (mg/L)	N/A	1	340	340	340	N/A	370	21
Bromine - Total (mg/L)	N/A	1	<0.1	<0.1	0.05	N/A	0.079	18
Calcium (Ca) (mg/L)	N/A	1	53	53	53	N/A	57	21
Carbonate (CO3) (mg/L)	N/A	1	<10	<10	5	N/A	5	21
Electrical Conductivity (Lab) (uS/cm)	N/A	1	600	600	600	N/A	650	21
Hydroxide (OH) (mg/L)	N/A	1	<1	<1	0.5	N/A	0.5	21
Iodine - Total (mg/L)	N/A	1	<0.1	<0.1	0.05	N/A	0.01	18
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	1	0.5	0.5	0.5	N/A	0.86	19
Nitrate as N (NO3-N) (mg/L)	N/A	1	0.5	0.5	0.5	N/A	0.88	19
Nitrite as N (NO2-N) (mg/L)	N/A	1	<0.1	<0.1	0.05	N/A	0.05	19
Potassium (K) (mg/L)	N/A	1	4.1	4.1	4.1	N/A	3.9	13
Sodium Chloride (NaCl) (mg/L)	N/A	1	30	30	30	N/A	32	21
Tin - Total (mg/L)	N/A	1	<0.0002	<0.0002	0.0001	N/A	0.0047	18
Heterotrophic Plate Count (CFU/mL)	N/A	3	12	220	120	N/A	9.8	59
Total coliforms (MPN/100 mL)	N/A	16	<1	<1	0.5	N/A	1.4	224
E. coli								
E. coli (MPN/100 mL)	0	16	<1	<1	N/A	N/A	N/A	N/A

Table 57 – Water quality data assessment for Engawala

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	22
Arsenic - Total (mg/L)	0.01	2	0.0002	0.0003	0.0003	N/A	0.0003	22
Barium - Total (mg/L)	2	2	0.1	0.1	0.1	N/A	0.2	22
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	22
Boron - Total (mg/L)	4	2	0.2	0.2	0.2	N/A	0.3	22
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	22
Chlorine Free Residual (mg/L)	5	36	0.8	1	1	1	1	324
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	22
Copper - Total (mg/L)	2	2	0.01	0.02	0.01	N/A	0.02	22
Fluoride (F) (mg/L)	1.5	2	0.67	0.69	0.68	N/A	0.76	20
Lead - Total (mg/L)	0.01	2	0.0001	0.0002	0.0002	N/A	0.0005	22
Manganese - Total (mg/L)	0.5	2	<0.0005	0.001	0.0007	N/A	0.003	22
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	22
Molybdenum - Total (mg/L)	0.05	2	0.002	0.002	0.002	N/A	0.003	22
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.001	22
Nitrate as NO3 (UV screening) (mg/L)	50	2	20	20	20	N/A	30	20
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.5	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.003	0.003	0.003	N/A	0.004	22
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	22
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.007	0.007	0.007	N/A	0.009	22
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0093	22
Chloride (Cl) (mg/L)	250	2	190	210	200	N/A	145	20
Chlorine Free Residual (mg/L)	0.6	36	0.77	1.5	1.1	1.4	1	324
Copper - Total (mg/L)	1	2	0.013	0.015	0.014	N/A	0.01	22
Hardness as CaCO3 (mg/L as CaCO3)	200	2	510	520	520	N/A	440	20
Iron - Total (mg/L)	0.3	4	0.007	0.012	0.0073	N/A	0.019	42
Manganese - Total (mg/L)	0.1	2	<0.0005	0.0011	0.00068	N/A	0.0023	22
pH (lab) (pH units)	6.5-8.5	2	7.5	7.6	7.5	N/A	7.8	20
S as Sulphate (S as SO4) (mg/L)	250	2	70.8	76.8	73.8	N/A	54.1	20
Si as Silica (Si as SiO2) (mg/L)	80	2	60	61	61	N/A	64	20
Sodium (Na) (mg/L)	180	2	109	117	113	N/A	83.4	20
Total Dissolved Solids Dried at 180C (mg/L)	600	2	830	870	850	N/A	720	20
True Colour (HU)	15	2	<2	<2	1	N/A	1.05	20
Turbidity (lab) (NTU)	5	2	0.23	0.25	0.24	N/A	0.36	20
Zinc - Total (mg/L)	3	2	0.034	0.034	0.034	N/A	0.052	22
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	360	360	360	N/A	340	20
Apparent Colour (HU)	N/A	2	2	2	1.5	N/A	1.5	20
Bicarbonate (HCO3) (mg/L)	N/A	2	440	440	440	N/A	410	20
Bromine - Total (mg/L)	N/A	2	0.8	0.8	0.8	N/A	0.54	22
Calcium (Ca) (mg/L)	N/A	2	91	93	92	N/A	84	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	1500	1600	1600	N/A	1200	20
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	20
Iodine - Total (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.072	22
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	4	4.2	4.1	N/A	5.9	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	3.9	4.2	4.1	N/A	5.9	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	16
Potassium (K) (mg/L)	N/A	2	8.3	8.6	8.5	N/A	8.1	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	320	340	330	N/A	240	20
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0046	22
Heterotrophic Plate Count (CFU/mL)	N/A	1	19	19	19	N/A	5.1	180
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.5	357
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 58 – Water quality data assessment for Finke

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Arsenic - Total (mg/L)	0.01	2	0.0005	0.0006	0.0006	N/A	N/A	18
Barium - Total (mg/L)	2	2	0.1	0.1	0.1	N/A	N/A	18
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Boron - Total (mg/L)	4	2	0.07	0.07	0.07	N/A	N/A	18
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	18
Chlorine Free Residual (mg/L)	5	33	1	1	1	1	1	318
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Copper - Total (mg/L)	2	2	0.01	0.02	0.01	N/A	N/A	18
Fluoride (F) (mg/L)	1.5	2	0.17	0.18	0.18	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Manganese - Total (mg/L)	0.5	2	0.001	0.002	0.001	N/A	N/A	18
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Molybdenum - Total (mg/L)	0.05	2	0.0005	0.0005	0.0005	N/A	N/A	18
Nickel - Total (mg/L)	0.02	2	0.0005	0.0006	0.0006	N/A	N/A	18
Nitrate as NO3 (UV screening) (mg/L)	50	2	7	7	7	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	12
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.0006	0.0006	0.0006	N/A	N/A	18
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.003	0.003	0.003	N/A	N/A	18
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.016	18
Chloride (Cl) (mg/L)	250	2	170	170	170	N/A	164	18
Chlorine Free Residual (mg/L)	0.6	33	0.95	1.2	1.1	1.2	0.96	318
Copper - Total (mg/L)	1	2	0.012	0.017	0.014	N/A	0.062	18
Hardness as CaCO3 (mg/L as CaCO3)	200	2	210	220	220	N/A	210	18
Iron - Total (mg/L)	0.3	4	0.023	0.05	0.038	N/A	0.15	36
Manganese - Total (mg/L)	0.1	2	0.001	0.0016	0.0013	N/A	0.0056	18
pH (lab) (pH units)	6.5-8.5	2	7.7	7.7	7.7	N/A	7.6	18
S as Sulphate (S as SO4) (mg/L)	250	2	58.2	58.5	58.4	N/A	56.5	18
Si as Silica (Si as SiO2) (mg/L)	80	2	15	15	15	N/A	15	18
Sodium (Na) (mg/L)	180	2	102	104	103	N/A	93.9	18
Total Dissolved Solids Dried at 180C (mg/L)	600	1	600	600	600	N/A	500	17
True Colour (HU)	15	2	<2	<2	1	N/A	1.46	18
Turbidity (lab) (NTU)	5	2	0.36	0.41	0.39	N/A	1.6	18
Zinc - Total (mg/L)	3	2	0.01	0.01	0.01	N/A	0.034	18
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	110	110	110	N/A	120	18
Apparent Colour (HU)	N/A	2	<2	<2	1.5	N/A	8	18
Bicarbonate (HCO3) (mg/L)	N/A	2	140	140	140	N/A	150	18
Bromine - Total (mg/L)	N/A	2	0.1	0.2	0.15	N/A	0.2	18
Calcium (Ca) (mg/L)	N/A	2	62	64	63	N/A	62	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	940	950	950	N/A	930	18
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	18
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.024	18
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	1.5	1.5	1.5	N/A	1.9	12
Nitrate as N (NO3-N) (mg/L)	N/A	2	1.5	1.5	1.5	N/A	1.9	12
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	12
Potassium (K) (mg/L)	N/A	2	7.3	7.5	7.4	N/A	6.9	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	270	280	280	N/A	270	18
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	18
Heterotrophic Plate Count (CFU/mL)	N/A	1	24	24	24	N/A	3.3	178
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.52	354
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 59 – Water quality data assessment for Galiwinku

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	20
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	20
Barium - Total (mg/L)	2	2	0.003	0.003	0.003	N/A	0.03	20
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	20
Boron - Total (mg/L)	4	2	0.02	0.02	0.02	N/A	0.02	20
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	176	0.1	2	1	2	2	1645
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	20
Copper - Total (mg/L)	2	2	0.03	0.04	0.04	N/A	0.03	20
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	0.05	24
Lead - Total (mg/L)	0.01	2	0.0006	0.002	0.001	N/A	0.001	20
Manganese - Total (mg/L)	0.5	2	0.0008	0.001	0.001	N/A	0.003	20
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	20
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.001	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.7	0.8	0.8	N/A	1	24
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	0.2	20
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.08	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	20
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.00005	0.00006	0.00006	N/A	0.00005	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.006	0.007	0.0065	N/A	0.0097	20
Chloride (Cl) (mg/L)	250	2	10	11	10.5	N/A	11.1	24
Chlorine Free Residual (mg/L)	0.6	176	0.13	1.9	1.2	1.7	1.2	1645
Copper - Total (mg/L)	1	2	0.028	0.042	0.035	N/A	0.018	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	3.4	3.6	3.5	N/A	4.2	24
Iron - Total (mg/L)	0.3	4	<0.002	0.26	0.068	N/A	0.028	44
Manganese - Total (mg/L)	0.1	2	0.0008	0.0012	0.001	N/A	0.0024	20
pH (lab) (pH units)	6.5-8.5	2	4.8	4.9	4.8	N/A	5.2	24
S as Sulphate (S as SO4) (mg/L)	250	2	0.87	1.83	1.35	N/A	0.937	24
Si as Silica (Si as SiO2) (mg/L)	80	2	13	13	13	N/A	13	24
Sodium (Na) (mg/L)	180	2	7.46	7.51	7.49	N/A	7.15	24
Total Dissolved Solids Dried at 180C (mg/L)	600	2	15	19	17	N/A	31	24
True Colour (HU)	15	2	<2	<2	1	N/A	1.12	24
Turbidity (lab) (NTU)	5	2	0.35	0.97	0.66	N/A	0.4	24
Zinc - Total (mg/L)	3	2	0.005	0.006	0.0055	N/A	0.0066	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	24
Apparent Colour (HU)	N/A	2	2	2	2	N/A	1.3	24
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	24
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.022	20
Calcium (Ca) (mg/L)	N/A	2	0.2	0.3	0.25	N/A	0.51	24
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	24
Electrical Conductivity (Lab) (uS/cm)	N/A	2	24	25	25	N/A	49	24
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	24
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.0095	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.18	20
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.2	20
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	20
Potassium (K) (mg/L)	N/A	2	0.6	0.6	0.6	N/A	0.33	14
Sodium Chloride (NaCl) (mg/L)	N/A	2	16	18	17	N/A	18	24
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	20
Heterotrophic Plate Count (CFU/mL)	N/A	2	590	2300	1400	N/A	9.8	429
Total coliforms (MPN/100 mL)	N/A	180	<1	<1	0.5	0.5	1	1727
E. coli								
E. coli (MPN/100 mL)	0	180	<1	<1	N/A	N/A	N/A	N/A

Table 60 – Water quality data assessment for Gapuwiyak

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	23
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	23
Barium - Total (mg/L)	2	2	0.005	0.006	0.005	N/A	0.03	23
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	23
Boron - Total (mg/L)	4	2	0.02	0.02	0.02	N/A	0.02	23
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	23
Chlorine Free Residual (mg/L)	5	135	0.7	2	1	2	2	1193
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0002	N/A	0.003	23
Copper - Total (mg/L)	2	2	0.009	0.02	0.01	N/A	0.5	23
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	0.05	20
Lead - Total (mg/L)	0.01	2	0.001	0.003	0.002	N/A	0.02	23
Manganese - Total (mg/L)	0.5	2	<0.0005	0.001	0.0008	N/A	0.003	23
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	23
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	23
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.006	23
Nitrate as NO3 (UV screening) (mg/L)	50	2	3	3	3	N/A	3	20
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	23
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	23
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	0.00003	23
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.012	23
Chloride (Cl) (mg/L)	250	2	12	12	12	N/A	10.2	20
Chlorine Free Residual (mg/L)	0.6	135	0.67	1.8	1.1	1.6	1.2	1193
Copper - Total (mg/L)	1	2	0.0093	0.016	0.013	N/A	0.17	23
Hardness as CaCO3 (mg/L as CaCO3)	200	2	5.6	6.5	6.1	N/A	5.7	20
Iron - Total (mg/L)	0.3	4	<0.01	0.045	0.02	N/A	0.069	43
Manganese - Total (mg/L)	0.1	2	<0.0005	0.0014	0.00083	N/A	0.0025	23
pH (lab) (pH units)	6.5-8.5	2	5.5	5.5	5.5	N/A	5.8	20
S as Sulphate (S as SO4) (mg/L)	250	2	0.6	0.69	0.645	N/A	0.232	20
Si as Silica (Si as SiO2) (mg/L)	80	2	10	10	10	N/A	11	20
Sodium (Na) (mg/L)	180	2	7.13	7.22	7.18	N/A	7.52	20
Total Dissolved Solids Dried at 180C (mg/L)	600	2	32	38	35	N/A	34	20
True Colour (HU)	15	2	<2	<2	1	N/A	1.35	20
Turbidity (lab) (NTU)	5	2	0.21	0.23	0.22	N/A	0.48	20
Zinc - Total (mg/L)	3	2	0.005	0.012	0.0085	N/A	0.17	23
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	20
Apparent Colour (HU)	N/A	2	4	7	5.5	N/A	3.5	20
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	5.6	20
Bromine - Total (mg/L)	N/A	2	0.1	0.1	0.075	N/A	0.025	23
Calcium (Ca) (mg/L)	N/A	2	1.1	1.3	1.2	N/A	0.98	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	52	53	53	N/A	53	20
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	20
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.0089	23
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.7	0.7	0.7	N/A	0.58	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.7	0.7	0.7	N/A	0.59	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	16
Potassium (K) (mg/L)	N/A	2	0.1	0.2	0.15	N/A	0.15	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	19	20	20	N/A	17	20
Tin - Total (mg/L)	N/A	2	<0.0002	0.0003	0.0002	N/A	0.0048	23
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	2	334
Total coliforms (MPN/100 mL)	N/A	135	<1	<1	0.5	0.5	0.84	1259
E. coli								
E. coli (MPN/100 mL)	0	135	<1	<1	N/A	N/A	N/A	N/A

Table 61 – Water quality data assessment for Gunbalanya

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	22
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	22
Barium - Total (mg/L)	2	2	0.01	0.01	0.01	N/A	0.03	22
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	22
Boron - Total (mg/L)	4	2	0.01	0.02	0.02	N/A	0.01	22
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	22
Chlorine Free Residual (mg/L)	5	138	0.8	2	1	2	2	1408
Chromium - Total (mg/L)	0.05	2	0.0004	0.0007	0.0006	N/A	0.003	22
Copper - Total (mg/L)	2	2	0.006	0.009	0.007	N/A	0.03	22
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	0.05	24
Lead - Total (mg/L)	0.01	2	<0.0001	0.0002	0.0001	N/A	0.0005	22
Manganese - Total (mg/L)	0.5	2	0.008	0.01	0.01	N/A	0.01	22
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	22
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	22
Nickel - Total (mg/L)	0.02	2	0.0008	0.0009	0.0009	N/A	0.001	22
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.7	0.7	0.7	N/A	1	23
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	0.2	19
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.08	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	22
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	22
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	0.00006	0.00004	N/A	0.00006	22
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.35	0.45	0.4	N/A	0.25	22
Chloride (Cl) (mg/L)	250	2	5	5	5	N/A	4.82	23
Chlorine Free Residual (mg/L)	0.6	138	0.81	1.6	1.2	1.5	1.1	1408
Copper - Total (mg/L)	1	2	0.006	0.0085	0.0073	N/A	0.014	22
Hardness as CaCO3 (mg/L as CaCO3)	200	2	5.2	7.9	6.6	N/A	4.5	23
Iron - Total (mg/L)	0.3	4	0.21	0.26	0.24	N/A	0.22	45
Manganese - Total (mg/L)	0.1	2	0.0083	0.012	0.01	N/A	0.0066	22
pH (lab) (pH units)	6.5-8.5	2	6	6	6	N/A	5.6	23
S as Sulphate (S as SO4) (mg/L)	250	2	1.05	1.71	1.38	N/A	0.381	23
Si as Silica (Si as SiO2) (mg/L)	80	2	16	16	16	N/A	13	23
Sodium (Na) (mg/L)	180	2	4.59	5.57	5.08	N/A	2.75	23
Total Dissolved Solids Dried at 180C (mg/L)	600	2	8	13	11	N/A	22	23
True Colour (HU)	15	2	28	32	30	N/A	11.2	23
Turbidity (lab) (NTU)	5	2	10	12	11	N/A	4.3	23
Zinc - Total (mg/L)	3	2	0.004	0.004	0.004	N/A	0.0074	22
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	23
Apparent Colour (HU)	N/A	2	66	68	67	N/A	33	23
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	23
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.024	22
Calcium (Ca) (mg/L)	N/A	2	0.6	1	0.8	N/A	0.59	23
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	23
Electrical Conductivity (Lab) (uS/cm)	N/A	2	14	22	18	N/A	24	23
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	23
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.0091	22
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.15	19
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.15	19
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	19
Potassium (K) (mg/L)	N/A	2	0.7	0.7	0.7	N/A	0.34	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	8	9	8.5	N/A	8	23
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0046	22
Heterotrophic Plate Count (CFU/mL)	N/A	1	12	12	12	N/A	15	331
Total coliforms (MPN/100 mL)	N/A	138	<1	200	2	0.5	0.93	1496
E. coli								
E. coli (MPN/100 mL)	0	138	<1	<1	N/A	N/A	N/A	N/A

Table 62 – Water quality data assessment for Gunyangara

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	20
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	20
Barium - Total (mg/L)	2	2	0.002	0.002	0.002	N/A	0.03	20
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	20
Boron - Total (mg/L)	4	2	0.01	0.01	0.01	N/A	0.01	20
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	41	0.8	2	1	2	1	361
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	20
Copper - Total (mg/L)	2	2	0.0009	0.007	0.004	N/A	1	20
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	0.05	20
Lead - Total (mg/L)	0.01	2	<0.0001	0.0002	0.0001	N/A	0.0005	20
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	0.003	20
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	20
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.001	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	<0.1	1	0.5	N/A	0.6	20
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	20
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	0.00003	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0093	20
Chloride (Cl) (mg/L)	250	2	17	17	17	N/A	14.2	20
Chlorine Free Residual (mg/L)	0.6	41	0.84	1.7	1.3	1.7	1.1	361
Copper - Total (mg/L)	1	2	0.0009	0.007	0.004	N/A	0.3	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	5.4	5.8	5.6	N/A	5.6	20
Iron - Total (mg/L)	0.3	4	0.005	<0.01	0.0053	N/A	0.15	40
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0023	20
pH (lab) (pH units)	6.5-8.5	2	7.2	7.2	7.2	N/A	7.1	20
S as Sulphate (S as SO4) (mg/L)	250	2	<0.3	<0.3	0.15	N/A	0.166	20
Si as Silica (Si as SiO2) (mg/L)	80	2	9.7	9.9	9.8	N/A	11	20
Sodium (Na) (mg/L)	180	2	12.3	12.5	12.4	N/A	9.14	20
Total Dissolved Solids Dried at 180C (mg/L)	600	2	39	39	39	N/A	41	20
True Colour (HU)	15	2	<2	3	2	N/A	1.24	20
Turbidity (lab) (NTU)	5	2	0.18	0.19	0.19	N/A	0.93	20
Zinc - Total (mg/L)	3	2	0.002	0.004	0.003	N/A	0.014	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	20
Apparent Colour (HU)	N/A	2	2	2	2	N/A	8.6	20
Bicarbonate (HCO3) (mg/L)	N/A	2	10	10	10	N/A	5.5	20
Bromine - Total (mg/L)	N/A	2	0.1	0.2	0.15	N/A	0.032	20
Calcium (Ca) (mg/L)	N/A	2	1.5	1.5	1.5	N/A	1.5	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	75	75	75	N/A	63	20
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	20
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.0095	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	<0.1	0.2	0.13	N/A	0.066	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	<0.1	0.2	0.13	N/A	0.078	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	16
Potassium (K) (mg/L)	N/A	2	0.3	0.4	0.35	N/A	0.3	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	28	29	29	N/A	24	20
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	20
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	1.1	77
Total coliforms (MPN/100 mL)	N/A	42	<1	<1	0.5	0.5	0.63	382
E. coli								
E. coli (MPN/100 mL)	0	42	<1	<1	N/A	N/A	N/A	N/A

Table 63 – Water quality data assessment for Haasts Bluff

Parameter	ADWG	N	Current Year 2023 - 2024			95 P	Long Term 2015 - 2024	
			Min	Max	Avg		95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	20
Arsenic - Total (mg/L)	0.01	2	0.0002	0.0002	0.0002	N/A	0.0005	20
Barium - Total (mg/L)	2	2	0.05	0.05	0.05	N/A	0.05	20
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	20
Boron - Total (mg/L)	4	2	0.3	0.3	0.3	N/A	0.4	20
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	18	0.9	1	1	N/A	2	299
Chromium - Total (mg/L)	0.05	2	0.001	0.001	0.001	N/A	0.003	20
Copper - Total (mg/L)	2	2	0.01	0.02	0.02	N/A	0.03	20
Fluoride (F) (mg/L)	1.5	2	0.5	0.5	0.5	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	0.0004	0.002	0.001	N/A	0.002	20
Manganese - Total (mg/L)	0.5	2	0.0006	0.0008	0.0007	N/A	0.02	20
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	2	0.0002	0.0002	0.0002	N/A	0.003	20
Nickel - Total (mg/L)	0.02	2	0.005	0.005	0.005	N/A	0.006	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	9	9	9	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.3	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.002	0.002	0.002	N/A	0.003	20
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.01	0.01	0.01	N/A	0.01	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0087	20
Chloride (Cl) (mg/L)	250	2	330	330	330	N/A	368	18
Chlorine Free Residual (mg/L)	0.6	18	0.92	1.3	1.1	N/A	1	299
Copper - Total (mg/L)	1	2	0.015	0.021	0.018	N/A	0.013	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	600	610	600	N/A	610	18
Iron - Total (mg/L)	0.3	4	<0.01	0.033	0.018	N/A	0.21	38
Manganese - Total (mg/L)	0.1	2	0.0006	0.0008	0.0007	N/A	0.0042	20
pH (lab) (pH units)	6.5-8.5	2	7.4	7.5	7.5	N/A	7.7	18
S as Sulphate (S as SO4) (mg/L)	250	2	225	232	229	N/A	234	18
Si as Silica (Si as SiO2) (mg/L)	80	2	48	49	49	N/A	48	18
Sodium (Na) (mg/L)	180	2	169	170	170	N/A	168	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	1200	1200	1200	N/A	1200	18
True Colour (HU)	15	2	<2	<2	1	N/A	1.39	18
Turbidity (lab) (NTU)	5	2	0.47	0.53	0.5	N/A	2.1	18
Zinc - Total (mg/L)	3	2	0.022	0.024	0.023	N/A	0.057	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	220	230	230	N/A	230	18
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	12	18
Bicarbonate (HCO3) (mg/L)	N/A	2	270	280	280	N/A	280	18
Bromine - Total (mg/L)	N/A	2	0.8	0.9	0.85	N/A	1.1	20
Calcium (Ca) (mg/L)	N/A	2	110	110	110	N/A	120	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	2100	2100	2100	N/A	2100	18
Hydroxide (OH) (mg/L)	N/A	2	<10	<10	5	N/A	1	18
Iodine - Total (mg/L)	N/A	2	0.3	0.3	0.3	N/A	0.22	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	2	2.1	2.1	N/A	1.8	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	2	2.1	2.1	N/A	1.9	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	16
Potassium (K) (mg/L)	N/A	2	30	31	30	N/A	28	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	540	550	550	N/A	610	18
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.004	20
Heterotrophic Plate Count (CFU/mL)	N/A	2	560	2600	1600	N/A	35	181
Total coliforms (MPN/100 mL)	N/A	36	<1	200	6.1	0.5	1.1	355
E. coli								
E. coli (MPN/100 mL)	0	36	<1	36	N/A	N/A	N/A	N/A

Table 64 – Water quality data assessment for Hermannsburg

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Arsenic - Total (mg/L)	0.01	2	0.0003	0.0003	0.0003	N/A	N/A	18
Barium - Total (mg/L)	2	2	0.02	0.02	0.02	N/A	N/A	18
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Boron - Total (mg/L)	4	2	0.1	0.1	0.1	N/A	N/A	18
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	18
Chlorine Free Residual (mg/L)	5	33	1	1	1	1	1	296
Chromium - Total (mg/L)	0.05	2	0.003	0.003	0.003	N/A	N/A	18
Copper - Total (mg/L)	2	2	0.0008	0.003	0.002	N/A	N/A	18
Fluoride (F) (mg/L)	1.5	2	0.37	0.37	0.37	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Manganese - Total (mg/L)	0.5	2	<0.0005	0.0006	0.0004	N/A	N/A	18
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Molybdenum - Total (mg/L)	0.05	2	0.0002	0.0002	0.0002	N/A	N/A	18
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Nitrate as NO3 (UV screening) (mg/L)	50	2	5	5	5	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	14
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.001	0.001	0.001	N/A	N/A	18
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.005	0.005	0.005	N/A	N/A	18
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.013	18
Chloride (Cl) (mg/L)	250	2	110	110	110	N/A	110	18
Chlorine Free Residual (mg/L)	0.6	33	0.98	1.4	1.1	1.3	0.98	296
Copper - Total (mg/L)	1	2	0.0008	0.0032	0.002	N/A	0.0047	18
Hardness as CaCO3 (mg/L as CaCO3)	200	2	340	350	340	N/A	310	18
Iron - Total (mg/L)	0.3	4	0.004	0.019	0.011	N/A	0.072	36
Manganese - Total (mg/L)	0.1	2	<0.0005	0.0006	0.00043	N/A	0.01	18
pH (lab) (pH units)	6.5-8.5	2	7.9	8	7.9	N/A	8	18
S as Sulphate (S as SO4) (mg/L)	250	2	65.4	68.4	66.9	N/A	48.6	18
Si as Silica (Si as SiO2) (mg/L)	80	2	14	15	15	N/A	14	18
Sodium (Na) (mg/L)	180	2	69.9	78.5	74.2	N/A	64.2	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	610	610	610	N/A	510	18
True Colour (HU)	15	2	<2	<2	1	N/A	1.41	18
Turbidity (lab) (NTU)	5	2	0.19	0.29	0.24	N/A	1	18
Zinc - Total (mg/L)	3	2	0.003	0.007	0.005	N/A	0.012	18
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	240	240	240	N/A	240	18
Apparent Colour (HU)	N/A	2	<2	<2	1.5	N/A	6.2	18
Bicarbonate (HCO3) (mg/L)	N/A	2	290	300	300	N/A	290	18
Bromine - Total (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.29	18
Calcium (Ca) (mg/L)	N/A	2	70	72	71	N/A	64	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	970	970	970	N/A	930	18
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	18
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.056	18
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	1	1.1	1.1	N/A	1.1	14
Nitrate as N (NO3-N) (mg/L)	N/A	2	1	1.1	1.1	N/A	1.1	14
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	14
Potassium (K) (mg/L)	N/A	2	7.7	8.4	8.1	N/A	7.6	6
Sodium Chloride (NaCl) (mg/L)	N/A	2	180	180	180	N/A	180	18
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	18
Heterotrophic Plate Count (CFU/mL)	N/A	9	18	550	160	N/A	34	203
Total coliforms (MPN/100 mL)	N/A	34	<1	<1	0.5	0.5	0.5	355
E. coli								
E. coli (MPN/100 mL)	0	34	<1	<1	N/A	N/A	N/A	N/A

Table 65 – Water quality data assessment for Imangara

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	16
Arsenic - Total (mg/L)	0.01	2	0.001	0.001	0.001	N/A	N/A	16
Barium - Total (mg/L)	2	2	0.4	0.4	0.4	N/A	N/A	16
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	16
Boron - Total (mg/L)	4	2	0.3	0.3	0.3	N/A	N/A	16
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	16
Chlorine Free Residual (mg/L)	5	21	0.9	2	1	2	1	286
Chromium - Total (mg/L)	0.05	2	0.0003	0.0004	0.0004	N/A	N/A	16
Copper - Total (mg/L)	2	2	0.006	0.008	0.007	N/A	N/A	16
Fluoride (F) (mg/L)	1.5	2	0.85	0.94	0.9	N/A	N/A	16
Lead - Total (mg/L)	0.01	2	0.0003	0.0004	0.0004	N/A	N/A	16
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	N/A	16
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	16
Molybdenum - Total (mg/L)	0.05	2	0.0004	0.0005	0.0005	N/A	N/A	16
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	16
Nitrate as NO3 (UV screening) (mg/L)	50	2	8	10	9	N/A	N/A	16
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	15
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.3	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.001	0.001	0.001	N/A	N/A	16
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	16
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.01	0.02	0.01	N/A	N/A	16
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0091	16
Chloride (Cl) (mg/L)	250	2	53	56	54.5	N/A	44.1	16
Chlorine Free Residual (mg/L)	0.6	21	0.85	1.6	1.2	1.6	0.97	286
Copper - Total (mg/L)	1	2	0.0055	0.008	0.0068	N/A	0.0074	16
Hardness as CaCO3 (mg/L as CaCO3)	200	2	320	330	330	N/A	300	16
Iron - Total (mg/L)	0.3	4	<0.002	<0.01	0.003	N/A	0.022	32
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0028	16
pH (lab) (pH units)	6.5-8.5	2	7.7	7.7	7.7	N/A	7.8	16
S as Sulphate (S as SO4) (mg/L)	250	2	19.7	22.9	21.3	N/A	6.68	16
Si as Silica (Si as SiO2) (mg/L)	80	2	81	82	82	N/A	77	16
Sodium (Na) (mg/L)	180	2	44.7	51.7	48.2	N/A	39.1	16
Total Dissolved Solids Dried at 180C (mg/L)	600	2	540	560	550	N/A	480	16
True Colour (HU)	15	2	<2	<2	1	N/A	1.25	16
Turbidity (lab) (NTU)	5	2	0.11	0.15	0.13	N/A	0.27	16
Zinc - Total (mg/L)	3	2	0.012	0.014	0.013	N/A	0.014	16
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	330	340	340	N/A	330	16
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	1.9	16
Bicarbonate (HCO3) (mg/L)	N/A	2	400	410	410	N/A	400	16
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.16	16
Calcium (Ca) (mg/L)	N/A	2	47	50	48	N/A	45	16
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	16
Electrical Conductivity (Lab) (uS/cm)	N/A	2	850	880	870	N/A	800	16
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	16
Iodine - Total (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.079	16
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	1.8	2.3	2.1	N/A	1.9	15
Nitrate as N (NO3-N) (mg/L)	N/A	2	1.8	2.3	2.1	N/A	1.9	15
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.057	15
Potassium (K) (mg/L)	N/A	2	36	39	37	N/A	34	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	88	92	90	N/A	73	16
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0044	16
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	0.98	165
Total coliforms (MPN/100 mL)	N/A	30	<1	<1	0.5	0.5	0.5	340
E. coli								
E. coli (MPN/100 mL)	0	30	<1	<1	N/A	N/A	N/A	N/A

Table 66 – Water quality data assessment for Imanpa

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	8	<0.0002	0.0003	0.0001	N/A	0.0003	68
Arsenic - Total (mg/L)	0.01	8	0.0002	0.0007	0.0004	N/A	0.0009	68
Barium - Total (mg/L)	2	8	0.01	0.02	0.02	N/A	0.03	68
Beryllium - Total (mg/L)	0.06	8	<0.0001	<0.0001	0.00005	N/A	0.0005	68
Boron - Total (mg/L)	4	8	0.6	0.8	0.7	N/A	1	68
Cadmium - Total (mg/L)	0.002	8	<0.00005	<0.00005	0.00003	N/A	0.0001	68
Chlorine Free Residual (mg/L)	5	24	0.8	1	1	1	1	303
Chromium - Total (mg/L)	0.05	8	0.004	0.005	0.004	N/A	0.005	68
Copper - Total (mg/L)	2	8	0.004	0.3	0.07	N/A	0.05	68
Fluoride (F) (mg/L)	1.5	8	0.79	0.83	0.82	N/A	0.89	66
Lead - Total (mg/L)	0.01	8	<0.0001	0.001	0.0002	N/A	0.0005	68
Manganese - Total (mg/L)	0.5	8	0.002	0.005	0.004	N/A	0.02	68
Mercury - Total (mg/L)	0.001	8	<0.0001	<0.0001	0.00005	N/A	0.0001	68
Molybdenum - Total (mg/L)	0.05	8	0.0004	0.0007	0.0005	N/A	0.003	68
Nickel - Total (mg/L)	0.02	8	0.003	0.004	0.003	N/A	0.004	68
Nitrate as NO3 (UV screening) (mg/L)	50	8	20	30	20	N/A	30	66
Nitrite mg-NO2/L*	3	8	<0.3	<0.3	0.2	N/A	0.2	58
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.7	N/A	N/A	0.6	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	8	0.003	0.004	0.003	N/A	0.004	68
Silver - Total (mg/L)	0.1	8	<0.0001	<0.0001	0.00005	N/A	0.005	68
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	8	0.01	0.01	0.01	N/A	0.01	68
Aesthetic								
Aluminium - Total (mg/L)	0.2	8	<0.005	<0.005	0.0025	N/A	0.018	68
Chloride (Cl) (mg/L)	250	8	400	470	426	N/A	419	66
Chlorine Free Residual (mg/L)	0.6	24	0.8	1.4	1.2	1.4	0.99	303
Copper - Total (mg/L)	1	8	0.004	0.28	0.07	N/A	0.015	68
Hardness as CaCO3 (mg/L as CaCO3)	200	8	490	590	550	N/A	520	66
Iron - Total (mg/L)	0.3	16	0.006	0.12	0.023	N/A	0.083	134
Manganese - Total (mg/L)	0.1	8	0.0022	0.0054	0.0038	N/A	0.008	68
pH (lab) (pH units)	6.5-8.5	8	7.9	8.4	8.2	N/A	8.1	66
S as Sulphate (S as SO4) (mg/L)	250	8	228	273	256	N/A	254	66
Si as Silica (Si as SiO2) (mg/L)	80	8	17	27	20	N/A	23	66
Sodium (Na) (mg/L)	180	8	242	274	262	N/A	253	66
Total Dissolved Solids Dried at 180C (mg/L)	600	8	1200	1500	1400	N/A	1400	66
True Colour (HU)	15	8	<2	4	1.38	N/A	2.55	66
Turbidity (lab) (NTU)	5	8	0.37	2.1	1	N/A	1.4	66
Zinc - Total (mg/L)	3	8	0.005	0.039	0.017	N/A	0.022	68
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	8	200	210	200	N/A	210	66
Apparent Colour (HU)	N/A	8	<2	5	2	N/A	6.4	66
Bicarbonate (HCO3) (mg/L)	N/A	8	240	260	250	N/A	250	66
Bromine - Total (mg/L)	N/A	8	0.8	2	1.3	N/A	1.7	68
Calcium (Ca) (mg/L)	N/A	8	95	120	110	N/A	100	66
Carbonate (CO3) (mg/L)	N/A	8	<10	<10	5	N/A	5	66
Electrical Conductivity (Lab) (uS/cm)	N/A	8	2300	2500	2400	N/A	2300	66
Hydroxide (OH) (mg/L)	N/A	8	<1	<1	0.5	N/A	0.5	66
Iodine - Total (mg/L)	N/A	8	0.6	0.9	0.74	N/A	0.41	68
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	8	4.5	6.2	5.5	N/A	5.7	58
Nitrate as N (NO3-N) (mg/L)	N/A	8	4.5	6.2	5.5	N/A	5.8	58
Nitrite as N (NO2-N) (mg/L)	N/A	8	<0.1	<0.1	0.05	N/A	0.05	58
Potassium (K) (mg/L)	N/A	8	31	34	33	N/A	32	36
Sodium Chloride (NaCl) (mg/L)	N/A	8	650	780	700	N/A	690	66
Tin - Total (mg/L)	N/A	8	<0.0002	<0.0002	0.0001	N/A	0.0041	68
Heterotrophic Plate Count (CFU/mL)	N/A	2	28	180	100	N/A	2.8	177
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.5	351
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 67 – Water quality data assessment for Jilkminggan

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	0.0004	0.0003	N/A	0.0001	25
Arsenic - Total (mg/L)	0.01	2	0.0004	0.0004	0.0004	N/A	0.0005	25
Barium - Total (mg/L)	2	2	0.06	0.06	0.06	N/A	0.06	25
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	25
Boron - Total (mg/L)	4	2	0.4	0.4	0.4	N/A	0.5	25
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	25
Chlorine Free Residual (mg/L)	5	33	1	1	1	1	2	336
Chromium - Total (mg/L)	0.05	2	0.0002	0.0003	0.0003	N/A	0.003	25
Copper - Total (mg/L)	2	2	0.009	0.02	0.02	N/A	0.03	25
Fluoride (F) (mg/L)	1.5	2	0.49	0.49	0.49	N/A	0.57	25
Lead - Total (mg/L)	0.01	2	<0.0001	0.0004	0.0002	N/A	0.0005	25
Manganese - Total (mg/L)	0.5	2	0.02	0.5	0.3	N/A	0.2	25
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	25
Molybdenum - Total (mg/L)	0.05	2	0.0003	0.0003	0.0003	N/A	0.003	25
Nickel - Total (mg/L)	0.02	2	0.002	0.004	0.003	N/A	0.004	25
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.1	0.1	0.1	N/A	0.8	25
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	0.2	23
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.07	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.0002	0.0002	0.0002	N/A	0.002	25
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	25
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.01	0.01	0.01	N/A	0.01	25
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.011	25
Chloride (Cl) (mg/L)	250	2	340	350	345	N/A	256	25
Chlorine Free Residual (mg/L)	0.6	33	1.1	1.3	1.2	1.3	1.1	336
Copper - Total (mg/L)	1	2	0.009	0.022	0.015	N/A	0.013	25
Hardness as CaCO3 (mg/L as CaCO3)	200	2	860	860	860	N/A	680	25
Iron - Total (mg/L)	0.3	4	0.003	0.029	0.011	N/A	0.036	50
Manganese - Total (mg/L)	0.1	2	0.016	0.51	0.26	N/A	0.072	25
pH (lab) (pH units)	6.5-8.5	2	7.6	7.6	7.6	N/A	7.5	25
S as Sulphate (S as SO4) (mg/L)	250	2	219	224	222	N/A	186	25
Si as Silica (Si as SiO2) (mg/L)	80	2	47	47	47	N/A	50	25
Sodium (Na) (mg/L)	180	2	234	235	235	N/A	168	25
Total Dissolved Solids Dried at 180C (mg/L)	600	2	1500	1500	1500	N/A	1200	25
True Colour (HU)	15	2	<2	<2	1	N/A	1.08	25
Turbidity (lab) (NTU)	5	2	0.84	3.1	2	N/A	0.89	25
Zinc - Total (mg/L)	3	2	0.004	0.008	0.006	N/A	0.014	25
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	480	490	490	N/A	490	25
Apparent Colour (HU)	N/A	2	<2	4	2.5	N/A	8	25
Bicarbonate (HCO3) (mg/L)	N/A	2	590	600	600	N/A	600	25
Bromine - Total (mg/L)	N/A	2	1	1	1	N/A	1	25
Calcium (Ca) (mg/L)	N/A	2	150	150	150	N/A	120	25
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	25
Electrical Conductivity (Lab) (uS/cm)	N/A	2	2500	2600	2600	N/A	2100	25
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	25
Iodine - Total (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.13	25
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.091	23
Nitrate as N (NO3-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.093	23
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.053	23
Potassium (K) (mg/L)	N/A	2	27	27	27	N/A	23	19
Sodium Chloride (NaCl) (mg/L)	N/A	2	570	580	580	N/A	420	25
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0046	25
Heterotrophic Plate Count (CFU/mL)	N/A	6	10	170	42	N/A	52	93
Total coliforms (MPN/100 mL)	N/A	33	<1	4	0.68	1.5	1.7	357
E. coli								
E. coli (MPN/100 mL)	0	33	<1	<1	N/A	N/A	N/A	N/A

Table 68 – Water quality data assessment for Kalkarindji

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	19
Arsenic - Total (mg/L)	0.01	2	0.001	0.001	0.001	N/A	0.002	19
Barium - Total (mg/L)	2	2	0.08	0.09	0.09	N/A	0.1	19
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	19
Boron - Total (mg/L)	4	2	0.1	0.1	0.1	N/A	0.1	19
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	19
Chlorine Free Residual (mg/L)	5	18	0.7	2	1	N/A	2	327
Chromium - Total (mg/L)	0.05	2	<0.0002	0.001	0.0006	N/A	0.003	19
Copper - Total (mg/L)	2	2	0.003	0.03	0.01	N/A	0.03	19
Fluoride (F) (mg/L)	1.5	2	0.29	0.29	0.29	N/A	0.31	21
Lead - Total (mg/L)	0.01	2	0.0002	0.0009	0.0006	N/A	0.004	19
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	0.003	19
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	19
Molybdenum - Total (mg/L)	0.05	2	0.0002	0.0002	0.0002	N/A	0.003	19
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.005	19
Nitrate as NO3 (UV screening) (mg/L)	50	2	5	5	5	N/A	6	21
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	0.2	19
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.2	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.0003	0.0004	0.0004	N/A	0.0005	19
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	19
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.002	0.002	0.002	N/A	0.002	19
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0092	19
Chloride (Cl) (mg/L)	250	2	26	26	26	N/A	25.4	21
Chlorine Free Residual (mg/L)	0.6	18	0.74	1.7	1.3	N/A	1	327
Copper - Total (mg/L)	1	2	0.0031	0.026	0.014	N/A	0.017	19
Hardness as CaCO3 (mg/L as CaCO3)	200	2	260	260	260	N/A	270	21
Iron - Total (mg/L)	0.3	4	0.002	<0.01	0.0033	N/A	0.017	40
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0023	19
pH (lab) (pH units)	6.5-8.5	2	7.5	7.6	7.6	N/A	7.7	21
S as Sulphate (S as SO4) (mg/L)	250	2	6.93	7.68	7.31	N/A	1.06	21
Si as Silica (Si as SiO2) (mg/L)	80	2	23	23	23	N/A	24	21
Sodium (Na) (mg/L)	180	2	30.9	31.3	31.1	N/A	31.8	21
Total Dissolved Solids Dried at 180C (mg/L)	600	2	310	330	320	N/A	340	21
True Colour (HU)	15	2	<2	<2	1	N/A	1.05	21
Turbidity (lab) (NTU)	5	2	0.22	0.27	0.25	N/A	0.37	21
Zinc - Total (mg/L)	3	2	0.024	0.058	0.041	N/A	0.028	19
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	280	280	280	N/A	290	21
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	1.4	21
Bicarbonate (HCO3) (mg/L)	N/A	2	340	340	340	N/A	350	21
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.081	19
Calcium (Ca) (mg/L)	N/A	2	54	55	54	N/A	56	21
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	21
Electrical Conductivity (Lab) (uS/cm)	N/A	2	640	640	640	N/A	640	21
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.75	N/A	0.52	21
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.017	19
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	1	1	1	N/A	1.1	19
Nitrate as N (NO3-N) (mg/L)	N/A	2	1	1	1	N/A	1.1	19
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	19
Potassium (K) (mg/L)	N/A	2	4.8	4.9	4.9	N/A	4.7	13
Sodium Chloride (NaCl) (mg/L)	N/A	2	43	43	43	N/A	42	21
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	19
Heterotrophic Plate Count (CFU/mL)	N/A	2	25	1000	510	N/A	110	94
Total coliforms (MPN/100 mL)	N/A	27	<1	4	0.63	0.5	3.9	345
E. coli								
E. coli (MPN/100 mL)	0	27	<1	<1	N/A	N/A	N/A	N/A

Table 69 – Water quality data assessment for Kaltukatjara

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	19
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	19
Barium - Total (mg/L)	2	2	0.05	0.05	0.05	N/A	0.05	19
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	19
Boron - Total (mg/L)	4	2	0.1	0.2	0.1	N/A	0.2	19
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	19
Chlorine Free Residual (mg/L)	5	36	0.7	2	1	2	1	333
Chromium - Total (mg/L)	0.05	2	<0.0002	0.0003	0.0002	N/A	0.003	19
Copper - Total (mg/L)	2	2	0.02	0.1	0.06	N/A	0.05	19
Fluoride (F) (mg/L)	1.5	2	0.42	0.42	0.42	N/A	0.45	20
Lead - Total (mg/L)	0.01	2	0.0002	0.003	0.002	N/A	0.0007	19
Manganese - Total (mg/L)	0.5	2	0.002	0.003	0.002	N/A	0.01	19
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	19
Molybdenum - Total (mg/L)	0.05	2	0.0002	0.0002	0.0002	N/A	0.003	19
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.001	19
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.1	0.5	0.3	N/A	0.3	20
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	18
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0006	19
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	19
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	0.0006	19
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.013	19
Chloride (Cl) (mg/L)	250	2	97	97	97	N/A	87.5	20
Chlorine Free Residual (mg/L)	0.6	36	0.67	1.8	1.1	1.6	0.95	333
Copper - Total (mg/L)	1	2	0.015	0.098	0.056	N/A	0.019	19
Hardness as CaCO3 (mg/L as CaCO3)	200	2	310	310	310	N/A	300	20
Iron - Total (mg/L)	0.3	4	0.017	0.029	0.023	N/A	0.061	39
Manganese - Total (mg/L)	0.1	2	0.0019	0.0025	0.0022	N/A	0.0042	19
pH (lab) (pH units)	6.5-8.5	2	8	8	8	N/A	8	20
S as Sulphate (S as SO4) (mg/L)	250	2	73.2	75.9	74.6	N/A	53.5	20
Si as Silica (Si as SiO2) (mg/L)	80	2	13	13	13	N/A	12	20
Sodium (Na) (mg/L)	180	2	65.3	66.4	65.9	N/A	58.1	20
Total Dissolved Solids Dried at 180C (mg/L)	600	1	580	580	580	N/A	470	19
True Colour (HU)	15	2	<2	<2	1	N/A	1.45	20
Turbidity (lab) (NTU)	5	2	0.31	0.4	0.36	N/A	0.8	20
Zinc - Total (mg/L)	3	2	0.026	0.032	0.029	N/A	0.033	19
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	250	250	250	N/A	240	20
Apparent Colour (HU)	N/A	2	2	2	2	N/A	6.4	18
Bicarbonate (HCO3) (mg/L)	N/A	2	300	300	300	N/A	290	20
Bromine - Total (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.34	19
Calcium (Ca) (mg/L)	N/A	2	60	62	61	N/A	59	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	920	930	930	N/A	870	20
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	20
Iodine - Total (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.088	19
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	<0.1	<0.1	0.075	N/A	0.053	18
Nitrate as N (NO3-N) (mg/L)	N/A	2	<0.1	<0.1	0.075	N/A	0.056	18
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	18
Potassium (K) (mg/L)	N/A	2	14	14	14	N/A	12	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	160	160	160	N/A	140	20
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	19
Heterotrophic Plate Count (CFU/mL)	N/A	2	250	290	270	N/A	43	178
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.51	359
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 70 – Water quality data assessment for Kintore

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	9	<0.0002	<0.0002	0.0001	N/A	0.0001	116
Arsenic - Total (mg/L)	0.01	9	<0.0002	0.0004	0.0001	N/A	0.001	116
Barium - Total (mg/L)	2	9	0.003	0.02	0.007	N/A	0.05	116
Beryllium - Total (mg/L)	0.06	9	<0.0001	<0.0001	0.00005	N/A	0.0005	116
Boron - Total (mg/L)	4	9	0.3	0.3	0.3	N/A	0.4	116
Cadmium - Total (mg/L)	0.002	9	<0.00005	<0.00005	0.00003	N/A	0.0001	116
Chlorine Free Residual (mg/L)	5	15	0.9	1	1	N/A	1	138
Chromium - Total (mg/L)	0.05	9	<0.0002	<0.0002	0.0001	N/A	0.003	116
Copper - Total (mg/L)	2	9	0.004	1	0.1	N/A	0.08	116
Fluoride (F) (mg/L)	1.5	9	0.27	0.34	0.31	N/A	0.68	108
Lead - Total (mg/L)	0.01	9	0.0003	0.002	0.0007	N/A	0.001	116
Manganese - Total (mg/L)	0.5	9	<0.0005	<0.0005	0.0003	N/A	0.003	116
Mercury - Total (mg/L)	0.001	9	<0.0001	<0.0001	0.00005	N/A	0.00005	116
Molybdenum - Total (mg/L)	0.05	9	<0.0001	0.0002	0.00009	N/A	0.003	116
Nickel - Total (mg/L)	0.02	9	<0.0005	<0.0005	0.0003	N/A	0.001	116
Nitrate as NO3 (UV screening) (mg/L)	50	9	10	20	10	N/A	50	108
Nitrite mg-NO2/L*	3	9	<0.3	<0.3	0.2	N/A	0.2	96
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.4	N/A	N/A	1	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	9	0.0002	0.001	0.0005	N/A	0.004	116
Silver - Total (mg/L)	0.1	9	<0.0001	<0.0001	0.00005	N/A	0.005	116
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	9	<0.00005	0.0006	0.0002	N/A	0.002	116
Aesthetic								
Aluminium - Total (mg/L)	0.2	9	<0.005	0.008	0.0031	N/A	0.0093	116
Chloride (Cl) (mg/L)	250	9	27	35	32.2	N/A	49.4	108
Chlorine Free Residual (mg/L)	0.6	15	0.89	1.5	1.1	N/A	1	138
Copper - Total (mg/L)	1	9	0.0037	0.95	0.13	N/A	0.023	116
Hardness as CaCO3 (mg/L as CaCO3)	200	9	21	58	42	N/A	110	106
Iron - Total (mg/L)	0.3	18	<0.002	0.011	0.0038	N/A	0.016	222
Manganese - Total (mg/L)	0.1	9	<0.0005	<0.0005	0.00025	N/A	0.0023	116
pH (lab) (pH units)	6.5-8.5	9	6.7	7.9	7.5	N/A	7.4	107
S as Sulphate (S as SO4) (mg/L)	250	9	<0.3	8.1	4.76	N/A	5.09	106
Si as Silica (Si as SiO2) (mg/L)	80	9	77	89	85	N/A	85	106
Sodium (Na) (mg/L)	180	9	58.3	63.9	60.6	N/A	72.2	106
Total Dissolved Solids Dried at 180C (mg/L)	600	9	210	270	250	N/A	360	108
True Colour (HU)	15	9	<2	3	1.44	N/A	1.14	108
Turbidity (lab) (NTU)	5	9	0.19	1.9	0.75	N/A	0.37	108
Zinc - Total (mg/L)	3	9	0.003	0.015	0.0064	N/A	0.0074	116
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	9	100	120	110	N/A	160	108
Apparent Colour (HU)	N/A	9	<2	3	1.4	N/A	1.7	108
Bicarbonate (HCO3) (mg/L)	N/A	9	120	150	130	N/A	200	108
Bromine - Total (mg/L)	N/A	9	0.2	0.6	0.3	N/A	0.4	116
Calcium (Ca) (mg/L)	N/A	9	3.2	9.1	6.8	N/A	17	106
Carbonate (CO3) (mg/L)	N/A	9	<10	<10	5	N/A	5	108
Electrical Conductivity (Lab) (uS/cm)	N/A	9	330	400	360	N/A	540	108
Hydroxide (OH) (mg/L)	N/A	9	<1	<1	0.5	N/A	0.58	108
Iodine - Total (mg/L)	N/A	9	<0.1	<0.1	0.05	N/A	0.051	116
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	9	2.5	3.3	2.9	N/A	5.2	93
Nitrate as N (NO3-N) (mg/L)	N/A	9	2.5	3.4	2.9	N/A	5.2	93
Nitrite as N (NO2-N) (mg/L)	N/A	9	<0.1	<0.1	0.05	N/A	0.056	96
Potassium (K) (mg/L)	N/A	9	1.4	2.3	1.9	N/A	1.9	48
Sodium Chloride (NaCl) (mg/L)	N/A	9	45	57	53	N/A	81	108
Tin - Total (mg/L)	N/A	9	<0.0002	<0.0002	0.0001	N/A	0.0045	116
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	31	148
Total coliforms (MPN/100 mL)	N/A	30	<1	<1	0.5	0.5	1.7	326
E. coli								
E. coli (MPN/100 mL)	0	30	<1	<1	N/A	N/A	N/A	N/A

Table 71 – Water quality data assessment for Kybrook Farm

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	4	<0.0002	0.001	0.0006	N/A	0.0004	48
Arsenic - Total (mg/L)	0.01	4	0.002	0.002	0.002	N/A	0.003	48
Barium - Total (mg/L)	2	4	0.02	0.02	0.02	N/A	0.03	48
Beryllium - Total (mg/L)	0.06	4	<0.0001	<0.0001	0.00005	N/A	0.0005	48
Boron - Total (mg/L)	4	4	0.02	0.02	0.02	N/A	0.02	48
Cadmium - Total (mg/L)	0.002	4	<0.00005	<0.00005	0.00003	N/A	0.0001	48
Chlorine Free Residual (mg/L)	5	36	0.8	2	1	1	1	340
Chromium - Total (mg/L)	0.05	4	<0.0002	<0.0002	0.0001	N/A	0.003	48
Copper - Total (mg/L)	2	4	0.004	0.007	0.006	N/A	0.07	48
Fluoride (F) (mg/L)	1.5	4	0.66	0.82	0.75	N/A	0.86	42
Lead - Total (mg/L)	0.01	4	0.0002	0.0006	0.0003	N/A	0.003	48
Manganese - Total (mg/L)	0.5	4	<0.0005	0.001	0.0006	N/A	0.08	48
Mercury - Total (mg/L)	0.001	4	<0.0001	<0.0001	0.00005	N/A	0.00005	48
Molybdenum - Total (mg/L)	0.05	4	0.0003	0.0005	0.0004	N/A	0.003	48
Nickel - Total (mg/L)	0.02	4	<0.0005	<0.0005	0.0003	N/A	0.001	48
Nitrate as NO3 (UV screening) (mg/L)	50	4	0.1	0.1	0.08	N/A	0.3	41
Nitrite mg-NO2/L*	3	4	<0.3	<0.3	0.2	N/A	0.2	28
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.06	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	4	<0.0002	<0.0002	0.0001	N/A	0.0005	48
Silver - Total (mg/L)	0.1	4	<0.0001	<0.0001	0.00005	N/A	0.005	48
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	4	0.0004	0.0006	0.0005	N/A	0.0005	48
Aesthetic								
Aluminium - Total (mg/L)	0.2	4	<0.005	0.006	0.0043	N/A	0.011	48
Chloride (Cl) (mg/L)	250	4	5	8	7	N/A	8.53	42
Chlorine Free Residual (mg/L)	0.6	36	0.82	1.5	1.1	1.4	0.9	340
Copper - Total (mg/L)	1	4	0.0043	0.0073	0.0058	N/A	0.016	48
Hardness as CaCO3 (mg/L as CaCO3)	200	4	150	160	150	N/A	150	42
Iron - Total (mg/L)	0.3	8	<0.002	0.019	0.0079	N/A	0.1	90
Manganese - Total (mg/L)	0.1	4	<0.0005	0.0012	0.0006	N/A	0.021	48
pH (lab) (pH units)	6.5-8.5	4	7.1	7.8	7.4	N/A	7.3	42
S as Sulphate (S as SO4) (mg/L)	250	4	1.65	12	6.38	N/A	1.06	42
Si as Silica (Si as SiO2) (mg/L)	80	4	35	42	38	N/A	39	42
Sodium (Na) (mg/L)	180	4	46.2	57	51.5	N/A	48.8	42
Total Dissolved Solids Dried at 180C (mg/L)	600	4	200	260	240	N/A	270	42
True Colour (HU)	15	4	<2	<2	1	N/A	1.26	42
Turbidity (lab) (NTU)	5	3	0.51	0.77	0.64	N/A	1	41
Zinc - Total (mg/L)	3	4	0.004	0.012	0.0073	N/A	0.015	48
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	4	230	240	230	N/A	240	42
Apparent Colour (HU)	N/A	4	2	2	1.3	N/A	6.7	42
Bicarbonate (HCO3) (mg/L)	N/A	4	280	290	290	N/A	290	42
Bromine - Total (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.028	48
Calcium (Ca) (mg/L)	N/A	4	22	29	26	N/A	26	42
Carbonate (CO3) (mg/L)	N/A	4	<10	<10	5	N/A	5	42
Electrical Conductivity (Lab) (uS/cm)	N/A	4	470	510	490	N/A	480	42
Hydroxide (OH) (mg/L)	N/A	4	<1	<1	0.5	N/A	0.5	42
Iodine - Total (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.011	48
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.052	28
Nitrate as N (NO3-N) (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.055	28
Nitrite as N (NO2-N) (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.05	28
Potassium (K) (mg/L)	N/A	4	1.7	2.2	2	N/A	1.9	20
Sodium Chloride (NaCl) (mg/L)	N/A	4	9	14	12	N/A	14	42
Tin - Total (mg/L)	N/A	4	<0.0002	0.0004	0.00023	N/A	0.0044	48
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	33	76
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	1.1	350
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 72 – Water quality data assessment for Lajamanu

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Arsenic - Total (mg/L)	0.01	2	0.0002	0.0003	0.0003	N/A	N/A	18
Barium - Total (mg/L)	2	2	0.08	0.08	0.08	N/A	N/A	18
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Boron - Total (mg/L)	4	2	0.2	0.2	0.2	N/A	N/A	18
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	18
Chlorine Free Residual (mg/L)	5	32	0.9	1	1	1	1	238
Chromium - Total (mg/L)	0.05	2	0.0003	0.001	0.0008	N/A	N/A	18
Copper - Total (mg/L)	2	2	0.004	0.2	0.1	N/A	N/A	18
Fluoride (F) (mg/L)	1.5	2	0.35	0.35	0.35	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	0.0001	0.005	0.003	N/A	N/A	18
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Molybdenum - Total (mg/L)	0.05	2	0.0002	0.0002	0.0002	N/A	N/A	18
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Nitrate as NO3 (UV screening) (mg/L)	50	2	4	4	4	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.0006	0.0006	0.0006	N/A	N/A	18
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.001	0.001	0.001	N/A	N/A	18
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	0.006	0.0043	N/A	0.0094	18
Chloride (Cl) (mg/L)	250	2	54	54	54	N/A	48	18
Chlorine Free Residual (mg/L)	0.6	32	0.86	1.4	1.1	1.4	0.96	238
Copper - Total (mg/L)	1	2	0.0041	0.2	0.1	N/A	0.033	18
Hardness as CaCO3 (mg/L as CaCO3)	200	2	190	190	190	N/A	190	18
Iron - Total (mg/L)	0.3	2	0.014	1	0.032	N/A	0.021	18
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0023	18
pH (lab) (pH units)	6.5-8.5	2	7.5	7.6	7.6	N/A	7.7	18
S as Sulphate (S as SO4) (mg/L)	250	2	12.3	13.5	12.9	N/A	3.87	18
Si as Silica (Si as SiO2) (mg/L)	80	2	93	95	94	N/A	98	18
Sodium (Na) (mg/L)	180	2	55.2	56.1	55.7	N/A	51.8	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	390	410	400	N/A	400	18
True Colour (HU)	15	2	<2	<2	1	N/A	1.06	18
Turbidity (lab) (NTU)	5	2	0.66	1.6	1.1	N/A	0.49	18
Zinc - Total (mg/L)	3	2	0.006	0.022	0.014	N/A	0.01	18
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	220	220	220	N/A	220	18
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	1.3	18
Bicarbonate (HCO3) (mg/L)	N/A	2	260	270	270	N/A	270	18
Bromine - Total (mg/L)	N/A	2	0.1	0.3	0.2	N/A	0.25	18
Calcium (Ca) (mg/L)	N/A	2	28	29	28	N/A	30	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	640	650	650	N/A	620	18
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	18
Iodine - Total (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.085	18
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.9	1	0.95	N/A	0.91	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.9	0.9	0.9	N/A	0.93	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	16
Potassium (K) (mg/L)	N/A	2	7.3	7.4	7.4	N/A	6.7	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	88	90	89	N/A	79	18
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	18
Heterotrophic Plate Count (CFU/mL)	N/A	1	310	310	310	N/A	130	96
Total coliforms (MPN/100 mL)	N/A	33	<1	<1	0.5	0.5	0.53	336
E. coli								
E. coli (MPN/100 mL)	0	33	<1	<1	N/A	N/A	N/A	N/A

Table 73 – Water quality data assessment for Laramba*

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2023 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	24	<0.0002	<0.0002	0.0001	0.0001	0.0002	28
Arsenic - Total (mg/L)	0.01	24	0.0004	0.0007	0.0006	0.0007	0.0008	28
Barium - Total (mg/L)	2	24	0.1	0.2	0.2	0.2	0.2	28
Beryllium - Total (mg/L)	0.06	24	<0.0001	<0.0001	0.00005	0.00005	0.00005	28
Boron - Total (mg/L)	4	24	0.4	0.5	0.4	0.5	0.5	28
Cadmium - Total (mg/L)	0.002	24	<0.00005	<0.00005	0.00003	0.00003	0.00003	28
Chlorine Free Residual (mg/L)	5	36	0.9	2	1	1	1	42
Chromium - Total (mg/L)	0.05	24	<0.0002	0.002	0.0009	0.002	0.002	28
Copper - Total (mg/L)	2	24	0.0009	0.006	0.003	0.006	0.006	28
Fluoride (F) (mg/L)	1.5	26	0.89	1.1	1.1	1.1	1.1	30
Lead - Total (mg/L)	0.01	24	<0.0001	<0.0001	0.00006	0.0001	0.0001	28
Manganese - Total (mg/L)	0.5	24	<0.0005	<0.0005	0.0003	0.0003	0.0003	28
Mercury - Total (mg/L)	0.001	24	<0.0001	<0.0001	0.00005	0.00005	0.00005	28
Molybdenum - Total (mg/L)	0.05	24	0.001	0.004	0.003	0.004	0.004	28
Nickel - Total (mg/L)	0.02	24	<0.0005	0.002	0.0005	0.001	0.001	28
Nitrate as NO3 (UV screening) (mg/L)	50	26	30	50	40	40	40	30
Nitrite mg-NO2/L*	3	26	<0.3	<0.3	0.2	0.2	0.2	30
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	1	N/A	0.9	0.9	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	24	0.002	0.004	0.003	0.004	0.004	28
Silver - Total (mg/L)	0.1	24	<0.0001	<0.0001	0.00005	0.00005	0.00005	28
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	24	<0.00005	0.03	0.002	0.008	0.008	28
Aesthetic								
Aluminium - Total (mg/L)	0.2	24	<0.005	<0.005	0.0025	0.0025	0.0025	28
Chloride (Cl) (mg/L)	250	24	93	150	103	130	102	28
Chlorine Free Residual (mg/L)	0.6	36	0.89	1.7	1.2	1.5	1.2	42
Copper - Total (mg/L)	1	24	0.0009	0.0064	0.0027	0.006	0.0028	28
Hardness as CaCO3 (mg/L as CaCO3)	200	24	150	240	190	230	190	28
Iron - Total (mg/L)	0.3	48	0.002	0.07	0.0073	N/A	0.0093	56
Manganese - Total (mg/L)	0.1	24	<0.0005	<0.0005	0.00025	0.00025	0.00025	28
pH (lab) (pH units)	6.5-8.5	26	7.3	8.5	8	8.5	7.9	30
S as Sulphate (S as SO4) (mg/L)	250	24	21.9	54.3	39.7	50.7	38.7	28
Si as Silica (Si as SiO2) (mg/L)	80	24	64	92	82	91	84	28
Sodium (Na) (mg/L)	180	24	123	141	133	139	133	28
Total Dissolved Solids Dried at 180C (mg/L)	600	20	580	680	630	670	630	24
True Colour (HU)	15	24	<2	4	1.21	2.7	1.18	28
Turbidity (lab) (NTU)	5	26	0.1	2	0.52	1.6	0.48	30
Zinc - Total (mg/L)	3	24	0.015	0.11	0.043	0.096	0.048	28
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	26	230	300	280	300	280	30
Apparent Colour (HU)	N/A	24	<2	4	1.3	2.9	2.1	28
Bicarbonate (HCO3) (mg/L)	N/A	26	280	370	340	370	340	30
Bromine - Total (mg/L)	N/A	24	<0.1	0.4	0.24	0.4	0.27	28
Calcium (Ca) (mg/L)	N/A	24	31	50	39	49	39	28
Carbonate (CO3) (mg/L)	N/A	26	<10	<10	5.2	5	5.2	30
Electrical Conductivity (Lab) (uS/cm)	N/A	26	1000	1200	1100	1200	1100	30
Hydroxide (OH) (mg/L)	N/A	26	<1	<10	0.85	3.9	0.8	30
Iodine - Total (mg/L)	N/A	24	0.1	0.8	0.45	0.6	0.44	28
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	26	6.8	11	8.2	9.9	8.2	30
Nitrate as N (NO3-N) (mg/L)	N/A	26	6.8	11	8.2	9.9	8.2	30
Nitrite as N (NO2-N) (mg/L)	N/A	26	<0.1	<0.1	0.05	0.05	0.05	30
Potassium (K) (mg/L)	N/A	24	28	33	31	32	31	28
Sodium Chloride (NaCl) (mg/L)	N/A	24	150	240	170	210	170	28
Tin - Total (mg/L)	N/A	24	<0.0002	<0.0002	0.0001	0.0001	0.00011	28
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	N/A	0
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.5	42
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

*This table only contains data from the new treatment plant. See 'Health Assessment Trends' Table 10 and 'Water Quality Improvement Initiatives' Figure 129 for a comparison of pre and post treatment plant comparison to ADWG.

Table 74 – Water quality data assessment for Maningrida

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	14
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	14
Barium - Total (mg/L)	2	2	0.01	0.01	0.01	N/A	N/A	14
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	14
Boron - Total (mg/L)	4	2	0.02	0.03	0.02	N/A	N/A	14
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	14
Chlorine Free Residual (mg/L)	5	234	1	2	1	1	2	1785
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	N/A	14
Copper - Total (mg/L)	2	2	0.01	0.02	0.02	N/A	N/A	14
Fluoride (F) (mg/L)	1.5	43	<0.1	0.47	0.12	0.37	0.75	381
Lead - Total (mg/L)	0.01	2	0.0001	0.0004	0.0003	N/A	N/A	14
Manganese - Total (mg/L)	0.5	2	<0.0005	0.002	0.001	N/A	N/A	14
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	14
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	N/A	14
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	14
Nitrate as NO3 (UV screening) (mg/L)	50	2	2	3	3	N/A	N/A	13
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	13
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	14
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	14
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	N/A	14
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0089	14
Chloride (Cl) (mg/L)	250	2	10	10	10	N/A	8.88	15
Chlorine Free Residual (mg/L)	0.6	234	1	1.6	1.3	1.5	1.2	1785
Copper - Total (mg/L)	1	2	0.014	0.019	0.016	N/A	0.011	14
Hardness as CaCO3 (mg/L as CaCO3)	200	2	5.1	8	6.6	N/A	7.5	15
Iron - Total (mg/L)	0.3	4	0.003	0.03	0.011	N/A	0.064	29
Manganese - Total (mg/L)	0.1	2	<0.0005	0.0023	0.0013	N/A	0.0032	14
pH (lab) (pH units)	6.5-8.5	2	5.4	5.7	5.6	N/A	5.6	15
S as Sulphate (S as SO4) (mg/L)	250	2	0.87	1.86	1.37	N/A	0.401	15
Si as Silica (Si as SiO2) (mg/L)	80	2	12	12	12	N/A	14	15
Sodium (Na) (mg/L)	180	2	4.46	5.88	5.17	N/A	5.4	15
Total Dissolved Solids Dried at 180C (mg/L)	600	2	29	34	32	N/A	30	15
True Colour (HU)	15	2	<2	<2	1.5	N/A	1.15	13
Turbidity (lab) (NTU)	5	2	0.19	0.29	0.24	N/A	0.27	15
Zinc - Total (mg/L)	3	2	0.005	0.006	0.0055	N/A	0.0072	14
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	15
Apparent Colour (HU)	N/A	2	<2	<2	1.5	N/A	1.6	13
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	15
Bromine - Total (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.042	14
Calcium (Ca) (mg/L)	N/A	2	0.9	1.7	1.3	N/A	1.8	15
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	15
Electrical Conductivity (Lab) (uS/cm)	N/A	2	40	42	41	N/A	43	15
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	15
Iodine - Total (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.033	14
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.5	0.7	0.6	N/A	0.15	13
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.5	0.7	0.6	N/A	0.18	13
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	13
Potassium (K) (mg/L)	N/A	2	1.4	1.5	1.5	N/A	1.3	7
Sodium Chloride (NaCl) (mg/L)	N/A	2	16	17	17	N/A	15	15
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0043	14
Heterotrophic Plate Count (CFU/mL)	N/A	2	1	19	10	N/A	4.8	541
Total coliforms (MPN/100 mL)	N/A	234	<1	24	0.62	0.5	0.86	2324
E. coli								
E. coli (MPN/100 mL)	0	234	<1	<1	N/A	N/A	N/A	N/A

Table 75 – Water quality data assessment for Manyallaluk

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Barium - Total (mg/L)	2	2	0.01	0.01	0.01	N/A	N/A	17
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Boron - Total (mg/L)	4	2	0.02	0.02	0.02	N/A	N/A	17
Cadmium - Total (mg/L)	0.002	2	<0.00005	0.0002	0.00009	N/A	N/A	17
Chlorine Free Residual (mg/L)	5	36	0.2	2	1	2	1	270
Chromium - Total (mg/L)	0.05	2	<0.0002	0.001	0.0008	N/A	N/A	17
Copper - Total (mg/L)	2	2	0.02	0.04	0.03	N/A	N/A	17
Fluoride (F) (mg/L)	1.5	1	<0.1	<0.1	0.05	N/A	N/A	16
Lead - Total (mg/L)	0.01	2	0.0003	0.005	0.003	N/A	N/A	17
Manganese - Total (mg/L)	0.5	2	<0.0005	0.0008	0.0005	N/A	N/A	17
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Nickel - Total (mg/L)	0.02	2	<0.0005	0.001	0.0006	N/A	N/A	17
Nitrate as NO3 (UV screening) (mg/L)	50	1	0.4	0.4	0.4	N/A	N/A	16
Nitrite mg-NO2/L*	3	1	<0.3	<0.3	0.2	N/A	N/A	14
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.00006	0.00006	0.00006	N/A	N/A	17
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.019	0.019	0.019	N/A	0.018	17
Chloride (Cl) (mg/L)	250	1	5	5	5	N/A	7	16
Chlorine Free Residual (mg/L)	0.6	36	0.17	1.7	1.1	1.6	1	270
Copper - Total (mg/L)	1	2	0.022	0.044	0.033	N/A	0.036	17
Hardness as CaCO3 (mg/L as CaCO3)	200	1	29	29	29	N/A	4.4	16
Iron - Total (mg/L)	0.3	3	0.006	0.028	0.02	N/A	0.14	33
Manganese - Total (mg/L)	0.1	2	<0.0005	0.0008	0.00053	N/A	0.0023	17
pH (lab) (pH units)	6.5-8.5	1	6	6	6	N/A	5.2	16
S as Sulphate (S as SO4) (mg/L)	250	1	<0.3	<0.3	0.15	N/A	0.198	16
Si as Silica (Si as SiO2) (mg/L)	80	1	21	21	21	N/A	22	16
Sodium (Na) (mg/L)	180	1	4.96	4.96	4.96	N/A	5.15	16
Total Dissolved Solids Dried at 180C (mg/L)	600	1	48	48	48	N/A	35	16
True Colour (HU)	15	1	<2	<2	1	N/A	1.84	16
Turbidity (lab) (NTU)	5	1	0.43	0.43	0.43	N/A	0.36	16
Zinc - Total (mg/L)	3	2	0.001	0.11	0.053	N/A	0.045	17
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	1	28	28	28	N/A	11	16
Apparent Colour (HU)	N/A	1	3	3	3	N/A	3.3	16
Bicarbonate (HCO3) (mg/L)	N/A	1	34	34	34	N/A	6.8	16
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.016	17
Calcium (Ca) (mg/L)	N/A	1	10	10	10	N/A	0.9	16
Carbonate (CO3) (mg/L)	N/A	1	<10	<10	5	N/A	5	16
Electrical Conductivity (Lab) (uS/cm)	N/A	1	70	70	70	N/A	38	16
Hydroxide (OH) (mg/L)	N/A	1	<1	<1	0.5	N/A	0.5	16
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.012	17
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	1	<0.1	<0.1	0.05	N/A	0.086	14
Nitrate as N (NO3-N) (mg/L)	N/A	1	0.1	0.1	0.1	N/A	0.11	14
Nitrite as N (NO2-N) (mg/L)	N/A	1	<0.1	<0.1	0.05	N/A	0.05	14
Potassium (K) (mg/L)	N/A	1	0.6	0.6	0.6	N/A	0.47	7
Sodium Chloride (NaCl) (mg/L)	N/A	1	8	8	8	N/A	12	16
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.00015	N/A	0.0044	17
Heterotrophic Plate Count (CFU/mL)	N/A	1	84	84	84	N/A	490	80
Total coliforms (MPN/100 mL)	N/A	36	<1	3	0.65	2	0.52	352
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 76 – Water quality data assessment for Milikapiti

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Barium - Total (mg/L)	2	2	0.004	0.004	0.004	N/A	N/A	17
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Boron - Total (mg/L)	4	2	0.02	0.02	0.02	N/A	N/A	17
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	17
Chlorine Free Residual (mg/L)	5	32	0.9	2	1	1	1	299
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Copper - Total (mg/L)	2	2	0.003	0.008	0.006	N/A	N/A	17
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	N/A	17
Lead - Total (mg/L)	0.01	2	0.0001	0.0001	0.00008	N/A	N/A	17
Manganese - Total (mg/L)	0.5	2	0.0006	0.002	0.001	N/A	N/A	17
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	17
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.6	0.7	0.7	N/A	N/A	17
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	17
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	N/A	17
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.009	0.012	0.011	N/A	0.014	17
Chloride (Cl) (mg/L)	250	2	9	10	9.5	N/A	9.58	17
Chlorine Free Residual (mg/L)	0.6	32	0.89	1.5	1.2	1.5	1.1	299
Copper - Total (mg/L)	1	2	0.0033	0.0081	0.0057	N/A	0.02	17
Hardness as CaCO3 (mg/L as CaCO3)	200	2	2.5	3.4	3	N/A	6.5	17
Iron - Total (mg/L)	0.3	4	0.008	0.15	0.073	N/A	0.081	34
Manganese - Total (mg/L)	0.1	2	0.0006	0.0016	0.0011	N/A	0.0023	17
pH (lab) (pH units)	6.5-8.5	2	5.9	6	5.9	N/A	5.7	17
S as Sulphate (S as SO4) (mg/L)	250	2	0.3	0.99	0.645	N/A	0.541	17
Si as Silica (Si as SiO2) (mg/L)	80	2	12	13	12	N/A	12	17
Sodium (Na) (mg/L)	180	2	11	11	11	N/A	9.17	17
Total Dissolved Solids Dried at 180C (mg/L)	600	2	33	39	36	N/A	43	17
True Colour (HU)	15	2	<2	<2	1	N/A	1.18	17
Turbidity (lab) (NTU)	5	2	0.23	1.2	0.72	N/A	0.59	17
Zinc - Total (mg/L)	3	2	0.002	0.002	0.002	N/A	0.015	17
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	11	17
Apparent Colour (HU)	N/A	2	2	2	2	N/A	3.8	17
Bicarbonate (HCO3) (mg/L)	N/A	2	15	16	16	N/A	11	17
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.025	17
Calcium (Ca) (mg/L)	N/A	2	<0.03	<0.03	0.015	N/A	1.7	17
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	17
Electrical Conductivity (Lab) (uS/cm)	N/A	2	63	64	64	N/A	55	17
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	17
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.01	17
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.1	0.2	0.15	N/A	0.14	17
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.1	0.2	0.15	N/A	0.15	17
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	17
Potassium (K) (mg/L)	N/A	2	0.9	0.9	0.9	N/A	0.77	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	15	16	16	N/A	16	17
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0044	17
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	1.5	78
Total coliforms (MPN/100 mL)	N/A	34	<1	<1	0.5	0.5	0.51	317
E. coli								
E. coli (MPN/100 mL)	0	34	<1	<1	N/A	N/A	N/A	N/A

Table 77 – Water quality data assessment for Milngimbi

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	3	<0.0002	<0.0002	0.0001	N/A	0.0001	20
Arsenic - Total (mg/L)	0.01	3	<0.0002	<0.0002	0.0001	N/A	0.0003	20
Barium - Total (mg/L)	2	3	0.006	0.007	0.007	N/A	0.03	20
Beryllium - Total (mg/L)	0.06	3	<0.0001	<0.0001	0.00008	N/A	0.0005	20
Boron - Total (mg/L)	4	3	0.04	0.04	0.04	N/A	0.04	20
Cadmium - Total (mg/L)	0.002	3	<0.00005	<0.00005	0.00003	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	134	0.2	2	1	1	1	999
Chromium - Total (mg/L)	0.05	3	0.0007	0.003	0.002	N/A	0.003	20
Copper - Total (mg/L)	2	3	0.003	0.009	0.006	N/A	0.05	20
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	0.05	22
Lead - Total (mg/L)	0.01	3	0.0002	0.004	0.002	N/A	0.005	20
Manganese - Total (mg/L)	0.5	3	0.002	0.2	0.09	N/A	0.04	20
Mercury - Total (mg/L)	0.001	3	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	3	<0.0001	0.0007	0.0003	N/A	0.003	20
Nickel - Total (mg/L)	0.02	3	0.002	0.003	0.002	N/A	0.003	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	2	4	3	N/A	6	22
Nitrite mg-NO2/L*	3	2	<0.3	0.7	0.4	N/A	0.2	19
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.3	N/A	N/A	0.2	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	3	<0.0002	<0.0002	0.0001	N/A	0.0005	20
Silver - Total (mg/L)	0.1	3	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	3	0.0002	0.0003	0.0002	N/A	0.0003	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	3	0.047	0.27	0.13	N/A	0.082	20
Chloride (Cl) (mg/L)	250	2	82	82	82	N/A	70	22
Chlorine Free Residual (mg/L)	0.6	134	0.16	1.7	1.1	1.5	1.1	999
Copper - Total (mg/L)	1	3	0.0025	0.0089	0.0061	N/A	0.024	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	31	33	32	N/A	27	22
Iron - Total (mg/L)	0.3	5	0.005	0.97	0.31	N/A	0.053	42
Manganese - Total (mg/L)	0.1	3	0.0016	0.24	0.087	N/A	0.024	20
pH (lab) (pH units)	6.5-8.5	2	5	5	5	N/A	5.1	22
S as Sulphate (S as SO4) (mg/L)	250	2	7.29	7.29	7.29	N/A	5.08	22
Si as Silica (Si as SiO2) (mg/L)	80	2	18	18	18	N/A	18	22
Sodium (Na) (mg/L)	180	2	41.3	43.4	42.4	N/A	37.5	22
Total Dissolved Solids Dried at 180C (mg/L)	600	2	170	170	170	N/A	140	22
True Colour (HU)	15	2	<2	<2	1	N/A	1.1	22
Turbidity (lab) (NTU)	5	2	0.24	4.2	2.2	N/A	0.48	22
Zinc - Total (mg/L)	3	3	0.005	0.028	0.02	N/A	0.019	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	22
Apparent Colour (HU)	N/A	2	3	3	3	N/A	1.8	22
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	5.6	22
Bromine - Total (mg/L)	N/A	3	<0.1	0.2	0.1	N/A	0.12	20
Calcium (Ca) (mg/L)	N/A	2	4.1	4.3	4.2	N/A	4.1	22
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	22
Electrical Conductivity (Lab) (uS/cm)	N/A	2	330	330	330	N/A	280	22
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	22
Iodine - Total (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.014	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.7	0.9	0.8	N/A	0.84	19
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.5	0.9	0.7	N/A	0.85	19
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	0.2	0.13	N/A	0.058	19
Potassium (K) (mg/L)	N/A	2	0.9	1	0.95	N/A	0.57	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	140	140	140	N/A	110	22
Tin - Total (mg/L)	N/A	3	<0.0002	0.0005	0.00023	N/A	0.004	20
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	3.1	279
Total coliforms (MPN/100 mL)	N/A	141	<1	<1	0.5	0.5	0.55	1163
E. coli								
E. coli (MPN/100 mL)	0	141	<1	<1	N/A	N/A	N/A	N/A

Table 78 – Water quality data assessment for Milyakburra

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	19
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	19
Barium - Total (mg/L)	2	2	0.01	0.01	0.01	N/A	0.03	19
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	19
Boron - Total (mg/L)	4	2	0.05	0.06	0.05	N/A	0.06	19
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	19
Chlorine Free Residual (mg/L)	5	33	0.8	2	1	1	1	314
Chromium - Total (mg/L)	0.05	2	<0.0002	0.0007	0.0004	N/A	0.003	19
Copper - Total (mg/L)	2	2	0.02	0.05	0.04	N/A	0.2	19
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	0.001	0.002	0.002	N/A	0.005	19
Manganese - Total (mg/L)	0.5	2	0.001	0.003	0.002	N/A	0.05	19
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	19
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	19
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.001	19
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.5	0.5	0.5	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	15
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	19
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	19
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	0.00003	19
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.006	0.007	0.0065	N/A	0.013	19
Chloride (Cl) (mg/L)	250	2	83	83	83	N/A	73.8	18
Chlorine Free Residual (mg/L)	0.6	33	0.82	1.5	1.1	1.5	1	314
Copper - Total (mg/L)	1	2	0.025	0.053	0.039	N/A	0.06	19
Hardness as CaCO3 (mg/L as CaCO3)	200	2	19	20	20	N/A	19	18
Iron - Total (mg/L)	0.3	4	0.013	0.031	0.021	N/A	0.064	37
Manganese - Total (mg/L)	0.1	2	0.0013	0.0026	0.002	N/A	0.021	19
pH (lab) (pH units)	6.5-8.5	2	5.7	5.8	5.8	N/A	5.6	18
S as Sulphate (S as SO4) (mg/L)	250	2	1.14	1.62	1.38	N/A	1.43	18
Si as Silica (Si as SiO2) (mg/L)	80	2	13	13	13	N/A	15	18
Sodium (Na) (mg/L)	180	2	45.2	46.7	46	N/A	43	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	110	140	120	N/A	140	18
True Colour (HU)	15	2	2	3	2.5	N/A	1.77	18
Turbidity (lab) (NTU)	5	2	0.17	0.19	0.18	N/A	0.51	18
Zinc - Total (mg/L)	3	2	0.003	0.018	0.011	N/A	0.037	19
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	18
Apparent Colour (HU)	N/A	2	2	3	2.5	N/A	4.9	18
Bicarbonate (HCO3) (mg/L)	N/A	2	11	11	11	N/A	8.5	18
Bromine - Total (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.1	19
Calcium (Ca) (mg/L)	N/A	2	3	3.1	3.1	N/A	3.2	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	320	320	320	N/A	280	18
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	18
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.027	19
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.057	15
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.08	15
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	15
Potassium (K) (mg/L)	N/A	2	0.5	0.5	0.5	N/A	0.44	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	140	140	140	N/A	120	18
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	19
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	3.8	80
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.5	343
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 79 – Water quality data assessment for Minjilang

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	19
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	19
Barium - Total (mg/L)	2	2	0.01	0.01	0.01	N/A	0.03	19
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	19
Boron - Total (mg/L)	4	2	0.05	0.06	0.05	N/A	0.06	19
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	19
Chlorine Free Residual (mg/L)	5	33	0.8	2	1	1	1	314
Chromium - Total (mg/L)	0.05	2	<0.0002	0.0007	0.0004	N/A	0.003	19
Copper - Total (mg/L)	2	2	0.02	0.05	0.04	N/A	0.2	19
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	0.001	0.002	0.002	N/A	0.005	19
Manganese - Total (mg/L)	0.5	2	0.001	0.003	0.002	N/A	0.05	19
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	19
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	19
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.001	19
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.5	0.5	0.5	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	15
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	19
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	19
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	0.00003	19
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.006	0.007	0.0065	N/A	0.013	19
Chloride (Cl) (mg/L)	250	2	83	83	83	N/A	73.8	18
Chlorine Free Residual (mg/L)	0.6	33	0.82	1.5	1.1	1.5	1	314
Copper - Total (mg/L)	1	2	0.025	0.053	0.039	N/A	0.06	19
Hardness as CaCO3 (mg/L as CaCO3)	200	2	19	20	20	N/A	19	18
Iron - Total (mg/L)	0.3	4	0.013	0.031	0.021	N/A	0.064	37
Manganese - Total (mg/L)	0.1	2	0.0013	0.0026	0.002	N/A	0.021	19
pH (lab) (pH units)	6.5-8.5	2	5.7	5.8	5.8	N/A	5.6	18
S as Sulphate (S as SO4) (mg/L)	250	2	1.14	1.62	1.38	N/A	1.43	18
Si as Silica (Si as SiO2) (mg/L)	80	2	13	13	13	N/A	15	18
Sodium (Na) (mg/L)	180	2	45.2	46.7	46	N/A	43	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	110	140	120	N/A	140	18
True Colour (HU)	15	2	2	3	2.5	N/A	1.77	18
Turbidity (lab) (NTU)	5	2	0.17	0.19	0.18	N/A	0.51	18
Zinc - Total (mg/L)	3	2	0.003	0.018	0.011	N/A	0.037	19
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	18
Apparent Colour (HU)	N/A	2	2	3	2.5	N/A	4.9	18
Bicarbonate (HCO3) (mg/L)	N/A	2	11	11	11	N/A	8.5	18
Bromine - Total (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.1	19
Calcium (Ca) (mg/L)	N/A	2	3	3.1	3.1	N/A	3.2	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	320	320	320	N/A	280	18
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	18
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.027	19
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.057	15
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.08	15
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	15
Potassium (K) (mg/L)	N/A	2	0.5	0.5	0.5	N/A	0.44	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	140	140	140	N/A	120	18
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	19
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	3.8	80
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.5	343
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 80 – Water quality data assessment for Minyerri

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	8	<0.0002	0.0008	0.0002	N/A	0.0001	74
Arsenic - Total (mg/L)	0.01	8	0.0006	0.001	0.001	N/A	0.003	74
Barium - Total (mg/L)	2	8	0.3	0.3	0.3	N/A	0.4	74
Beryllium - Total (mg/L)	0.06	8	<0.0001	<0.0001	0.00005	N/A	0.0005	74
Boron - Total (mg/L)	4	8	0.09	0.2	0.1	N/A	0.2	74
Cadmium - Total (mg/L)	0.002	8	<0.00005	<0.00005	0.00003	N/A	0.0001	74
Chlorine Free Residual (mg/L)	5	33	0.9	2	1	2	2	319
Chromium - Total (mg/L)	0.05	8	<0.0002	<0.0002	0.0001	N/A	0.003	74
Copper - Total (mg/L)	2	8	0.001	0.5	0.08	N/A	0.08	74
Fluoride (F) (mg/L)	1.5	8	0.28	0.33	0.3	N/A	0.34	67
Lead - Total (mg/L)	0.01	8	<0.0001	0.002	0.0004	N/A	0.001	74
Manganese - Total (mg/L)	0.5	8	0.03	0.1	0.08	N/A	0.3	74
Mercury - Total (mg/L)	0.001	8	<0.0001	<0.0001	0.00005	N/A	0.00005	74
Molybdenum - Total (mg/L)	0.05	8	0.0001	0.0002	0.0002	N/A	0.003	74
Nickel - Total (mg/L)	0.02	8	<0.0005	<0.0005	0.0003	N/A	0.001	74
Nitrate as NO3 (UV screening) (mg/L)	50	8	<0.1	0.7	0.2	N/A	0.8	67
Nitrite mg-NO2/L*	3	8	<0.3	<0.3	0.2	N/A	0.2	63
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.07	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	8	<0.0002	<0.0002	0.0001	N/A	0.0005	74
Silver - Total (mg/L)	0.1	8	<0.0001	<0.0001	0.00005	N/A	0.005	74
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	8	<0.00005	<0.00005	0.00003	N/A	0.00003	74
Aesthetic								
Aluminium - Total (mg/L)	0.2	8	<0.005	<0.005	0.0025	N/A	0.0084	74
Chloride (Cl) (mg/L)	250	8	9	12	11.1	N/A	13.9	67
Chlorine Free Residual (mg/L)	0.6	33	0.92	1.6	1.3	1.5	1.1	319
Copper - Total (mg/L)	1	8	0.0014	0.55	0.084	N/A	0.024	74
Hardness as CaCO3 (mg/L as CaCO3)	200	8	120	170	140	N/A	120	67
Iron - Total (mg/L)	0.3	8	0.15	1	0.38	N/A	0.68	74
Manganese - Total (mg/L)	0.1	8	0.029	0.14	0.082	N/A	0.11	74
pH (lab) (pH units)	6.5-8.5	8	7.3	7.5	7.4	N/A	7.4	67
S as Sulphate (S as SO4) (mg/L)	250	8	<0.3	10.5	5.42	N/A	7.37	67
Si as Silica (Si as SiO2) (mg/L)	80	8	26	31	29	N/A	32	67
Sodium (Na) (mg/L)	180	8	23.1	24.6	23.7	N/A	23.6	67
Total Dissolved Solids Dried at 180C (mg/L)	600	6	180	190	190	N/A	200	65
True Colour (HU)	15	8	<2	11	3.63	N/A	2.01	67
Turbidity (lab) (NTU)	5	8	1.1	4.2	2.4	N/A	4.4	67
Zinc - Total (mg/L)	3	8	0.002	0.085	0.023	N/A	0.045	74
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	8	150	210	160	N/A	140	67
Apparent Colour (HU)	N/A	8	18	53	39	N/A	46	67
Bicarbonate (HCO3) (mg/L)	N/A	8	180	250	200	N/A	170	67
Bromine - Total (mg/L)	N/A	8	<0.1	<0.1	0.05	N/A	0.046	74
Calcium (Ca) (mg/L)	N/A	8	28	41	32	N/A	26	67
Carbonate (CO3) (mg/L)	N/A	8	<10	<10	5	N/A	5	67
Electrical Conductivity (Lab) (uS/cm)	N/A	8	340	430	370	N/A	350	67
Hydroxide (OH) (mg/L)	N/A	8	<1	<1	0.5	N/A	0.5	67
Iodine - Total (mg/L)	N/A	8	<0.1	<0.1	0.05	N/A	0.021	74
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	8	<0.1	<0.1	0.056	N/A	0.069	63
Nitrate as N (NO3-N) (mg/L)	N/A	8	<0.1	0.2	0.075	N/A	0.074	63
Nitrite as N (NO2-N) (mg/L)	N/A	8	<0.1	<0.1	0.05	N/A	0.05	63
Potassium (K) (mg/L)	N/A	8	5.1	5.9	5.6	N/A	5.4	42
Sodium Chloride (NaCl) (mg/L)	N/A	8	15	20	18	N/A	23	67
Tin - Total (mg/L)	N/A	8	<0.0002	<0.0002	0.00011	N/A	0.0039	74
Heterotrophic Plate Count (CFU/mL)	N/A	1	15	15	15	N/A	370	79
Total coliforms (MPN/100 mL)	N/A	36	<1	6	0.65	0.5	1.4	350
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 81 – Water quality data assessment for Mt Liebig

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	20
Arsenic - Total (mg/L)	0.01	2	0.0004	0.0004	0.0004	N/A	0.0004	20
Barium - Total (mg/L)	2	2	0.06	0.06	0.06	N/A	0.06	20
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	20
Boron - Total (mg/L)	4	2	0.3	0.3	0.3	N/A	0.3	20
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	33	0.8	1	1	1	1	318
Chromium - Total (mg/L)	0.05	2	0.002	0.002	0.002	N/A	0.003	20
Copper - Total (mg/L)	2	2	0.002	0.02	0.01	N/A	0.02	20
Fluoride (F) (mg/L)	1.5	2	1.2	1.2	1.2	N/A	1.4	20
Lead - Total (mg/L)	0.01	2	0.0001	0.0001	0.00008	N/A	0.0005	20
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	0.005	20
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	2	0.001	0.001	0.001	N/A	0.003	20
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.001	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	20	20	20	N/A	20	20
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.5	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.002	0.002	0.002	N/A	0.002	20
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.005	0.005	0.005	N/A	0.006	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.012	20
Chloride (Cl) (mg/L)	250	2	99	99	99	N/A	111	20
Chlorine Free Residual (mg/L)	0.6	33	0.82	1.4	1.1	1.4	1	318
Copper - Total (mg/L)	1	2	0.0021	0.018	0.01	N/A	0.0085	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	260	260	260	N/A	290	20
Iron - Total (mg/L)	0.3	4	0.004	0.022	0.009	N/A	0.039	40
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0028	20
pH (lab) (pH units)	6.5-8.5	2	7.6	7.7	7.6	N/A	7.7	20
S as Sulphate (S as SO4) (mg/L)	250	2	71.7	72.9	72.3	N/A	85.1	20
Si as Silica (Si as SiO2) (mg/L)	80	2	50	50	50	N/A	48	20
Sodium (Na) (mg/L)	180	2	95.6	95.9	95.8	N/A	102	20
Total Dissolved Solids Dried at 180C (mg/L)	600	2	590	590	590	N/A	620	20
True Colour (HU)	15	2	<2	<2	1	N/A	1.3	20
Turbidity (lab) (NTU)	5	2	0.19	0.26	0.23	N/A	0.46	20
Zinc - Total (mg/L)	3	2	0.003	0.006	0.0045	N/A	0.014	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	230	240	240	N/A	250	20
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	2.7	20
Bicarbonate (HCO3) (mg/L)	N/A	2	280	290	290	N/A	300	20
Bromine - Total (mg/L)	N/A	2	2.2	6.1	4.2	N/A	0.72	20
Calcium (Ca) (mg/L)	N/A	2	57	58	58	N/A	66	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	980	990	990	N/A	1100	20
Hydroxide (OH) (mg/L)	N/A	2	<10	<10	5	N/A	0.95	20
Iodine - Total (mg/L)	N/A	2	0.1	0.2	0.15	N/A	0.11	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	4.4	4.4	4.4	N/A	4	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	4.4	4.4	4.4	N/A	4	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	16
Potassium (K) (mg/L)	N/A	2	14	14	14	N/A	14	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	160	160	160	N/A	180	20
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	20
Heterotrophic Plate Count (CFU/mL)	N/A	3	20	80	42	N/A	8.8	192
Total coliforms (MPN/100 mL)	N/A	33	<1	12	1	3.4	0.54	360
E. coli								
E. coli (MPN/100 mL)	0	33	<1	<1	N/A	N/A	N/A	N/A

Table 82 – Water quality data assessment for Nauiyu

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	12	0.0003	0.0006	0.0004	N/A	0.0006	96
Arsenic - Total (mg/L)	0.01	12	0.003	0.005	0.003	N/A	0.006	96
Barium - Total (mg/L)	2	12	0.02	0.04	0.03	N/A	0.03	96
Beryllium - Total (mg/L)	0.06	12	<0.0001	<0.0001	0.00005	N/A	0.0005	96
Boron - Total (mg/L)	4	12	0.01	0.04	0.02	N/A	0.04	96
Cadmium - Total (mg/L)	0.002	12	<0.00005	<0.00005	0.00003	N/A	0.0001	96
Chlorine Free Residual (mg/L)	5	31	0.9	2	1	2	2	422
Chromium - Total (mg/L)	0.05	12	<0.0002	0.0005	0.0002	N/A	0.003	96
Copper - Total (mg/L)	2	12	0.0006	0.3	0.03	N/A	0.04	96
Fluoride (F) (mg/L)	1.5	9	0.35	0.4	0.38	N/A	0.43	94
Lead - Total (mg/L)	0.01	12	<0.0001	0.0006	0.0002	N/A	0.0005	96
Manganese - Total (mg/L)	0.5	12	0.02	2	0.5	N/A	1	95
Mercury - Total (mg/L)	0.001	12	<0.0001	<0.0001	0.00005	N/A	0.00005	95
Molybdenum - Total (mg/L)	0.05	12	0.0004	0.0005	0.0004	N/A	0.003	96
Nickel - Total (mg/L)	0.02	12	<0.0005	0.02	0.002	N/A	0.001	96
Nitrate as NO3 (UV screening) (mg/L)	50	9	0.1	0.3	0.1	N/A	2	94
Nitrite mg-NO2/L*	3	9	<0.3	0.7	0.2	N/A	0.2	91
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.09	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	12	<0.0002	<0.0002	0.0001	N/A	0.0005	96
Silver - Total (mg/L)	0.1	12	<0.0001	<0.0001	0.00005	N/A	0.005	96
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	12	0.00007	0.0001	0.00009	N/A	0.0001	96
Aesthetic								
Aluminium - Total (mg/L)	0.2	12	<0.005	<0.005	0.0025	N/A	0.014	96
Chloride (Cl) (mg/L)	250	9	4	8	5.22	N/A	5.6	94
Chlorine Free Residual (mg/L)	0.6	31	0.85	1.7	1.3	1.6	1.1	422
Copper - Total (mg/L)	1	12	0.0006	0.34	0.03	N/A	0.017	96
Hardness as CaCO3 (mg/L as CaCO3)	200	9	130	140	130	N/A	120	94
Iron - Total (mg/L)	0.3	12	0.047	1	0.25	N/A	0.23	96
Manganese - Total (mg/L)	0.1	12	0.018	2	0.49	N/A	0.4	95
pH (lab) (pH units)	6.5-8.5	9	7.5	7.8	7.6	N/A	7.6	94
S as Sulphate (S as SO4) (mg/L)	250	9	2.88	5.88	4.39	N/A	0.969	94
Si as Silica (Si as SiO2) (mg/L)	80	9	31	39	35	N/A	37	94
Sodium (Na) (mg/L)	180	9	17.6	20.2	18.5	N/A	17.1	94
Total Dissolved Solids Dried at 180C (mg/L)	600	3	130	140	130	N/A	180	88
True Colour (HU)	15	9	<2	6	3.22	N/A	2.21	94
Turbidity (lab) (NTU)	5	9	0.92	28	8.3	N/A	6.7	94
Zinc - Total (mg/L)	3	12	0.001	0.011	0.0035	N/A	0.0084	96
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	9	140	160	150	N/A	140	94
Apparent Colour (HU)	N/A	9	5	100	33	N/A	44	94
Bicarbonate (HCO3) (mg/L)	N/A	9	170	190	180	N/A	180	94
Bromine - Total (mg/L)	N/A	12	<0.1	<0.1	0.054	N/A	0.026	95
Calcium (Ca) (mg/L)	N/A	9	28	29	29	N/A	27	94
Carbonate (CO3) (mg/L)	N/A	9	<10	<10	5	N/A	5	94
Electrical Conductivity (Lab) (uS/cm)	N/A	9	310	330	320	N/A	310	94
Hydroxide (OH) (mg/L)	N/A	9	<1	<1	0.5	N/A	0.5	94
Iodine - Total (mg/L)	N/A	12	<0.1	<0.1	0.05	N/A	0.021	95
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	9	<0.1	<0.1	0.056	N/A	0.08	91
Nitrate as N (NO3-N) (mg/L)	N/A	9	<0.1	<0.1	0.056	N/A	0.11	91
Nitrite as N (NO2-N) (mg/L)	N/A	9	<0.1	0.2	0.067	N/A	0.052	91
Potassium (K) (mg/L)	N/A	9	1	1.6	1.2	N/A	0.95	65
Sodium Chloride (NaCl) (mg/L)	N/A	9	6	14	8.8	N/A	9.2	94
Tin - Total (mg/L)	N/A	12	<0.0002	<0.0002	0.0001	N/A	0.0041	96
Heterotrophic Plate Count (CFU/mL)	N/A	6	13	2400	430	N/A	70	143
Total coliforms (MPN/100 mL)	N/A	31	<1	<1	0.5	0.5	1.4	442
E. coli								
E. coli (MPN/100 mL)	0	31	<1	<1	N/A	N/A	N/A	N/A

Table 83 – Water quality data assessment for Nganmarriyanga

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	0.0008	0.0005	N/A	N/A	18
Arsenic - Total (mg/L)	0.01	2	0.001	0.001	0.001	N/A	N/A	18
Barium - Total (mg/L)	2	2	0.2	0.2	0.2	N/A	N/A	18
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Boron - Total (mg/L)	4	2	0.02	0.03	0.02	N/A	N/A	18
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	18
Chlorine Free Residual (mg/L)	5	29	0.9	2	1	2	2	303
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Copper - Total (mg/L)	2	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Fluoride (F) (mg/L)	1.5	2	0.24	0.24	0.24	N/A	0.29	20
Lead - Total (mg/L)	0.01	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Manganese - Total (mg/L)	0.5	2	0.2	0.3	0.2	N/A	N/A	17
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Molybdenum - Total (mg/L)	0.05	2	0.0004	0.0005	0.0005	N/A	N/A	18
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Nitrate as NO3 (UV screening) (mg/L)	50	2	<0.1	<0.1	0.05	N/A	0.3	20
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	18
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	N/A	18
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0092	18
Chloride (Cl) (mg/L)	250	2	29	29	29	N/A	28.9	20
Chlorine Free Residual (mg/L)	0.6	29	0.85	1.7	1.2	1.5	1.1	303
Copper - Total (mg/L)	1	2	<0.0005	<0.0005	0.00025	N/A	0.0048	18
Hardness as CaCO3 (mg/L as CaCO3)	200	2	93	93	93	N/A	88	20
Iron - Total (mg/L)	0.3	4	0.18	0.29	0.23	N/A	0.31	36
Manganese - Total (mg/L)	0.1	2	0.22	0.25	0.24	N/A	0.29	17
pH (lab) (pH units)	6.5-8.5	2	7.7	7.7	7.7	N/A	7.8	20
S as Sulphate (S as SO4) (mg/L)	250	2	13	13	13	N/A	13.5	20
Si as Silica (Si as SiO2) (mg/L)	80	2	39	40	40	N/A	42	20
Sodium (Na) (mg/L)	180	2	45.6	46.6	46.1	N/A	44	20
Total Dissolved Solids Dried at 180C (mg/L)	600	2	180	200	190	N/A	230	20
True Colour (HU)	15	2	<2	<2	1	N/A	2.04	20
Turbidity (lab) (NTU)	5	2	4.3	5.4	4.9	N/A	5.8	20
Zinc - Total (mg/L)	3	2	0.004	0.005	0.0045	N/A	0.011	18
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	120	120	120	N/A	130	20
Apparent Colour (HU)	N/A	2	45	51	48	N/A	57	20
Bicarbonate (HCO3) (mg/L)	N/A	2	150	150	150	N/A	160	20
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.066	18
Calcium (Ca) (mg/L)	N/A	2	27	27	27	N/A	26	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	390	390	390	N/A	390	20
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	20
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.01	18
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.12	18
Nitrate as N (NO3-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.061	18
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.12	18
Potassium (K) (mg/L)	N/A	2	7.4	7.5	7.5	N/A	6.6	13
Sodium Chloride (NaCl) (mg/L)	N/A	2	48	48	48	N/A	48	20
Tin - Total (mg/L)	N/A	2	<0.0002	0.0004	0.00025	N/A	0.0045	18
Heterotrophic Plate Count (CFU/mL)	N/A	3	10	76	39	N/A	370	93
Total coliforms (MPN/100 mL)	N/A	32	<1	<1	0.5	0.5	2.5	323
E. coli								
E. coli (MPN/100 mL)	0	32	<1	<1	N/A	N/A	N/A	N/A

Table 84 – Water quality data assessment for Ngukurr

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	10	<0.0002	<0.0002	0.0001	N/A	0.0001	92
Arsenic - Total (mg/L)	0.01	10	<0.0002	<0.0002	0.0001	N/A	0.0003	92
Barium - Total (mg/L)	2	10	1	1	1	N/A	1	84
Beryllium - Total (mg/L)	0.06	10	<0.0001	<0.0001	0.00005	N/A	0.0005	92
Boron - Total (mg/L)	4	10	0.03	0.05	0.04	N/A	0.08	92
Cadmium - Total (mg/L)	0.002	10	<0.00005	<0.00005	0.00003	N/A	0.0001	92
Chlorine Free Residual (mg/L)	5	131	0.9	1	1	1	1	1442
Chromium - Total (mg/L)	0.05	10	<0.0002	0.003	0.0005	N/A	0.003	92
Copper - Total (mg/L)	2	10	0.0008	0.008	0.005	N/A	0.03	92
Fluoride (F) (mg/L)	1.5	10	0.16	0.19	0.17	N/A	0.33	89
Lead - Total (mg/L)	0.01	10	<0.0001	0.001	0.0003	N/A	0.003	92
Manganese - Total (mg/L)	0.5	10	<0.0005	<0.0005	0.0003	N/A	0.01	92
Mercury - Total (mg/L)	0.001	10	<0.0001	<0.0001	0.00005	N/A	0.00005	92
Molybdenum - Total (mg/L)	0.05	10	<0.0001	<0.0001	0.00005	N/A	0.003	92
Nickel - Total (mg/L)	0.02	10	<0.0005	0.001	0.0004	N/A	0.001	92
Nitrate as NO3 (UV screening) (mg/L)	50	10	<0.1	3	1	N/A	2	89
Nitrite mg-NO2/L*	3	10	<0.3	1	0.3	N/A	0.2	73
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.5	N/A	N/A	0.1	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	10	<0.0002	<0.0002	0.0001	N/A	0.0005	92
Silver - Total (mg/L)	0.1	10	<0.0001	<0.0001	0.00005	N/A	0.005	92
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	10	0.0006	0.0008	0.0007	N/A	0.001	92
Aesthetic								
Aluminium - Total (mg/L)	0.2	10	<0.005	<0.005	0.0025	N/A	0.02	92
Chloride (Cl) (mg/L)	250	10	160	210	187	N/A	337	89
Chlorine Free Residual (mg/L)	0.6	131	0.86	1.5	1.2	1.3	0.93	1442
Copper - Total (mg/L)	1	10	0.0008	0.0083	0.0048	N/A	0.012	92
Hardness as CaCO3 (mg/L as CaCO3)	200	10	370	520	460	N/A	610	89
Iron - Total (mg/L)	0.3	10	<0.002	1	0.0038	N/A	0.17	92
Manganese - Total (mg/L)	0.1	10	<0.0005	<0.0005	0.00025	N/A	0.0049	92
pH (lab) (pH units)	6.5-8.5	10	7.6	8.5	7.9	N/A	7.6	89
S as Sulphate (S as SO4) (mg/L)	250	10	<0.3	18.7	11.1	N/A	17.2	89
Si as Silica (Si as SiO2) (mg/L)	80	10	17	25	23	N/A	23	89
Sodium (Na) (mg/L)	180	10	44.8	58.2	51.9	N/A	96.2	89
Total Dissolved Solids Dried at 180C (mg/L)	600	8	520	650	590	N/A	860	87
True Colour (HU)	15	10	<2	<2	1	N/A	1.24	89
Turbidity (lab) (NTU)	5	10	0.18	0.85	0.36	N/A	1.3	89
Zinc - Total (mg/L)	3	10	0.002	0.007	0.0032	N/A	0.034	92
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	10	300	430	320	N/A	330	89
Apparent Colour (HU)	N/A	10	<2	7	1.9	N/A	8.2	89
Bicarbonate (HCO3) (mg/L)	N/A	10	360	520	390	N/A	400	89
Bromine - Total (mg/L)	N/A	10	0.1	0.4	0.3	N/A	0.88	92
Calcium (Ca) (mg/L)	N/A	10	64	98	85	N/A	110	89
Carbonate (CO3) (mg/L)	N/A	10	<10	<10	5	N/A	5	89
Electrical Conductivity (Lab) (uS/cm)	N/A	10	1100	1300	1200	N/A	1700	89
Hydroxide (OH) (mg/L)	N/A	10	<1	<1	0.5	N/A	0.5	89
Iodine - Total (mg/L)	N/A	10	<0.1	<0.1	0.05	N/A	0.017	92
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	10	0.2	0.7	0.36	N/A	0.3	72
Nitrate as N (NO3-N) (mg/L)	N/A	10	<0.1	0.7	0.32	N/A	0.3	72
Nitrite as N (NO2-N) (mg/L)	N/A	10	<0.1	0.4	0.09	N/A	0.058	73
Potassium (K) (mg/L)	N/A	10	4.9	6.1	5.7	N/A	6.1	42
Sodium Chloride (NaCl) (mg/L)	N/A	10	260	340	310	N/A	560	89
Tin - Total (mg/L)	N/A	10	<0.0002	<0.0002	0.00011	N/A	0.0041	92
Heterotrophic Plate Count (CFU/mL)	N/A	3	1	12	7.7	N/A	21	393
Total coliforms (MPN/100 mL)	N/A	135	<1	<1	0.5	0.5	0.64	1490
E. coli								
E. coli (MPN/100 mL)	0	135	<1	<1	N/A	N/A	N/A	N/A

Table 85 – Water quality data assessment for Nitjpurru (Pigeon Hole)

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	15
Arsenic - Total (mg/L)	0.01	2	0.0004	0.0004	0.0004	N/A	N/A	15
Barium - Total (mg/L)	2	2	0.02	0.03	0.03	N/A	N/A	15
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	15
Boron - Total (mg/L)	4	2	0.08	0.08	0.08	N/A	N/A	15
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	15
Chlorine Free Residual (mg/L)	5	36	0.5	2	1	1	2	316
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	N/A	15
Copper - Total (mg/L)	2	2	0.002	0.004	0.003	N/A	N/A	15
Fluoride (F) (mg/L)	1.5	2	0.28	0.31	0.3	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	<0.0001	<0.0001	0.00005	N/A	N/A	15
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	N/A	15
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	15
Molybdenum - Total (mg/L)	0.05	2	0.0002	0.0002	0.0002	N/A	N/A	15
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	15
Nitrate as NO3 (UV screening) (mg/L)	50	2	10	20	10	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.4	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.0003	0.0004	0.0004	N/A	N/A	15
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	15
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.002	0.002	0.002	N/A	N/A	15
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.009	15
Chloride (Cl) (mg/L)	250	2	17	18	17.5	N/A	13.8	18
Chlorine Free Residual (mg/L)	0.6	36	0.5	1.5	1.2	1.5	1	316
Copper - Total (mg/L)	1	2	0.0024	0.0037	0.0031	N/A	0.0061	15
Hardness as CaCO3 (mg/L as CaCO3)	200	2	350	360	350	N/A	330	18
Iron - Total (mg/L)	0.3	4	<0.002	<0.01	0.003	N/A	0.014	33
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0022	15
pH (lab) (pH units)	6.5-8.5	2	7.4	7.4	7.4	N/A	7.4	18
S as Sulphate (S as SO4) (mg/L)	250	2	8.61	8.97	8.79	N/A	1.1	18
Si as Silica (Si as SiO2) (mg/L)	80	2	58	60	59	N/A	56	18
Sodium (Na) (mg/L)	180	2	31	31.7	31.4	N/A	27.4	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	410	420	420	N/A	420	18
True Colour (HU)	15	2	<2	<2	1	N/A	1	18
Turbidity (lab) (NTU)	5	2	0.16	0.31	0.24	N/A	1.1	18
Zinc - Total (mg/L)	3	2	0.001	0.003	0.002	N/A	0.0063	15
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	340	340	340	N/A	340	18
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	1.3	18
Bicarbonate (HCO3) (mg/L)	N/A	2	400	400	400	N/A	420	18
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.072	15
Calcium (Ca) (mg/L)	N/A	2	75	76	76	N/A	73	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	730	730	730	N/A	720	18
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	18
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.013	15
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	3.2	3.3	3.3	N/A	3.1	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	3.2	3.3	3.3	N/A	3.1	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	16
Potassium (K) (mg/L)	N/A	2	2.6	2.7	2.7	N/A	2.5	13
Sodium Chloride (NaCl) (mg/L)	N/A	2	29	30	30	N/A	23	18
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0043	15
Heterotrophic Plate Count (CFU/mL)	N/A	3	16	320	130	N/A	53	86
Total coliforms (MPN/100 mL)	N/A	36	<1	2	0.54	0.5	3	349
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 86 – Water quality data assessment for Nturiya

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	21
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	21
Barium - Total (mg/L)	2	2	0.04	0.04	0.04	N/A	0.04	21
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	21
Boron - Total (mg/L)	4	2	0.6	0.6	0.6	N/A	0.7	21
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	21
Chlorine Free Residual (mg/L)	5	33	0.07	1	0.5	0.9	1	221
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	21
Copper - Total (mg/L)	2	2	0.001	0.01	0.005	N/A	0.02	21
Fluoride (F) (mg/L)	1.5	2	0.96	0.96	0.96	N/A	1.1	21
Lead - Total (mg/L)	0.01	2	0.0002	0.0004	0.0003	N/A	0.001	21
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	0.003	21
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	21
Molybdenum - Total (mg/L)	0.05	2	0.001	0.001	0.001	N/A	0.003	21
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.001	21
Nitrate as NO3 (UV screening) (mg/L)	50	2	40	40	40	N/A	50	21
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	17
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.9	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.004	0.004	0.004	N/A	0.004	21
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	21
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.02	0.02	0.02	N/A	0.02	21
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.0086	21
Chloride (Cl) (mg/L)	250	2	320	330	325	N/A	342	21
Chlorine Free Residual (mg/L)	0.6	33	0.07	1.4	0.53	0.93	0.64	221
Copper - Total (mg/L)	1	2	0.0012	0.0096	0.0054	N/A	0.0076	21
Hardness as CaCO3 (mg/L as CaCO3)	200	2	360	370	360	N/A	340	21
Iron - Total (mg/L)	0.3	4	0.01	0.021	0.013	N/A	0.038	42
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0027	21
pH (lab) (pH units)	6.5-8.5	2	7.7	7.7	7.7	N/A	7.8	21
S as Sulphate (S as SO4) (mg/L)	250	2	182	184	183	N/A	181	21
Si as Silica (Si as SiO2) (mg/L)	80	2	73	74	73	N/A	78	21
Sodium (Na) (mg/L)	180	2	267	271	269	N/A	277	21
Total Dissolved Solids Dried at 180C (mg/L)	600	2	1200	1200	1200	N/A	1200	21
True Colour (HU)	15	2	<2	<2	1	N/A	1.71	21
Turbidity (lab) (NTU)	5	2	0.36	0.98	0.67	N/A	0.56	21
Zinc - Total (mg/L)	3	2	0.03	0.034	0.032	N/A	0.045	21
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	200	200	200	N/A	200	21
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	3.6	21
Bicarbonate (HCO3) (mg/L)	N/A	2	250	250	250	N/A	250	21
Bromine - Total (mg/L)	N/A	2	2	2	2	N/A	2	21
Calcium (Ca) (mg/L)	N/A	2	90	93	92	N/A	83	21
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	21
Electrical Conductivity (Lab) (uS/cm)	N/A	2	2000	2000	2000	N/A	2000	21
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	21
Iodine - Total (mg/L)	N/A	2	0.3	0.4	0.35	N/A	0.27	21
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	8	8.3	8.2	N/A	9.6	17
Nitrate as N (NO3-N) (mg/L)	N/A	2	8.4	8.7	8.6	N/A	9.8	17
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	17
Potassium (K) (mg/L)	N/A	2	27	27	27	N/A	26	12
Sodium Chloride (NaCl) (mg/L)	N/A	2	530	540	540	N/A	560	21
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0041	21
Heterotrophic Plate Count (CFU/mL)	N/A	3	10	160	64	N/A	790	218
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	2	368
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 87 – Water quality data assessment for Numbulwar

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	23	<0.0002	0.0009	0.0001	0.0001	0.0001	121
Arsenic - Total (mg/L)	0.01	23	0.0002	0.0008	0.0003	0.0006	0.003	121
Barium - Total (mg/L)	2	23	0.1	0.2	0.2	0.2	0.4	121
Beryllium - Total (mg/L)	0.06	23	<0.0001	<0.0001	0.00005	0.00005	0.0005	121
Boron - Total (mg/L)	4	23	0.04	0.07	0.05	0.06	0.06	121
Cadmium - Total (mg/L)	0.002	23	<0.00005	0.00008	0.00003	0.00003	0.0001	121
Chlorine Free Residual (mg/L)	5	138	0.6	6	1	2	2	1432
Chromium - Total (mg/L)	0.05	23	<0.0002	0.0003	0.0001	0.0003	0.003	121
Copper - Total (mg/L)	2	23	0.0005	4	0.2	0.005	0.01	121
Fluoride (F) (mg/L)	1.5	20	<0.1	0.16	0.087	0.16	0.16	107
Lead - Total (mg/L)	0.01	23	<0.0001	0.0008	0.00008	0.00009	0.0005	121
Manganese - Total (mg/L)	0.5	23	0.02	0.2	0.07	0.2	0.4	121
Mercury - Total (mg/L)	0.001	23	<0.0001	<0.0001	0.00005	0.00005	0.00005	121
Molybdenum - Total (mg/L)	0.05	23	0.0002	0.0007	0.0004	0.0004	0.003	121
Nickel - Total (mg/L)	0.02	23	<0.0005	0.0008	0.0003	0.0006	0.001	121
Nitrate as NO3 (UV screening) (mg/L)	50	20	<0.1	3	0.3	1	0.8	107
Nitrite mg-NO2/L*	3	20	<0.3	3	0.3	0.3	0.2	97
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	1	N/A	0.1	0.07	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	23	<0.0002	<0.0002	0.0001	0.0001	0.0005	121
Silver - Total (mg/L)	0.1	23	<0.0001	<0.0001	0.00005	0.00005	0.005	121
Trihalomethanes - Total (mg/L)	0.25	0	N/A	N/A	N/A	N/A	N/A	4
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	23	0.00008	0.0002	0.0001	0.0001	0.0001	121
Aesthetic								
Aluminium - Total (mg/L)	0.2	23	<0.005	0.025	0.0042	0.0097	0.0082	121
Chloride (Cl) (mg/L)	250	20	36	41	38.4	41	36.3	107
Chlorine Free Residual (mg/L)	0.6	138	0.62	5.6	1.3	1.8	1.3	1432
Copper - Total (mg/L)	1	23	0.0005	4.3	0.19	0.0047	0.043	121
Hardness as CaCO3 (mg/L as CaCO3)	200	20	470	590	530	580	370	107
Iron - Total (mg/L)	0.3	23	0.12	1.4	0.46	N/A	1	121
Manganese - Total (mg/L)	0.1	23	0.018	0.22	0.068	0.19	0.17	121
pH (lab) (pH units)	6.5-8.5	20	7.6	8.2	7.8	8.2	7.9	107
S as Sulphate (S as SO4) (mg/L)	250	20	239	393	290	382	167	107
Si as Silica (Si as SiO2) (mg/L)	80	20	18	22	19	21	18	107
Sodium (Na) (mg/L)	180	20	21.3	27.3	23.7	25.5	24.1	107
Total Dissolved Solids Dried at 180C (mg/L)	600	14	640	810	710	N/A	500	101
True Colour (HU)	15	20	<2	10	2.8	5.25	2.64	107
Turbidity (lab) (NTU)	5	20	0.46	4.6	1.4	2.6	4.7	107
Zinc - Total (mg/L)	3	23	<0.001	0.013	0.0028	0.011	0.0065	121
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	20	170	180	170	180	170	107
Apparent Colour (HU)	N/A	20	5	97	32	88	68	107
Bicarbonate (HCO3) (mg/L)	N/A	20	200	220	210	220	210	107
Bromine - Total (mg/L)	N/A	23	<0.1	2.3	0.22	1.5	0.14	121
Calcium (Ca) (mg/L)	N/A	20	150	190	170	190	120	107
Carbonate (CO3) (mg/L)	N/A	20	<10	<10	5	5	5	107
Electrical Conductivity (Lab) (uS/cm)	N/A	20	950	1100	1000	1100	790	107
Hydroxide (OH) (mg/L)	N/A	20	<1	<1	0.5	0.5	0.5	107
Iodine - Total (mg/L)	N/A	23	<0.1	1.8	0.18	1.2	0.044	121
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	20	0.1	0.6	0.11	0.32	0.071	98
Nitrate as N (NO3-N) (mg/L)	N/A	20	0.1	0.6	0.1	0.22	0.088	98
Nitrite as N (NO2-N) (mg/L)	N/A	20	<0.1	0.9	0.093	0.093	0.059	97
Potassium (K) (mg/L)	N/A	20	3	4.4	3.3	3.8	3.2	65
Sodium Chloride (NaCl) (mg/L)	N/A	20	59	68	63	67	60	107
Tin - Total (mg/L)	N/A	23	<0.0002	0.0006	0.00012	0.0001	0.0035	121
Heterotrophic Plate Count (CFU/mL)	N/A	3	10	59	29	N/A	200	352
Total coliforms (MPN/100 mL)	N/A	138	<1	<1	0.5	0.5	1.3	1519
E. coli								
E. coli (MPN/100 mL)	0	138	<1	<1	N/A	N/A	N/A	N/A

Table 88 – Water quality data assessment for Nyirripi

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	8	<0.0002	0.0006	0.0002	N/A	0.0001	74
Arsenic - Total (mg/L)	0.01	8	0.002	0.002	0.002	N/A	0.002	74
Barium - Total (mg/L)	2	8	0.07	0.1	0.1	N/A	0.1	74
Beryllium - Total (mg/L)	0.06	8	<0.0001	<0.0001	0.00005	N/A	0.0005	74
Boron - Total (mg/L)	4	8	0.3	0.4	0.3	N/A	0.4	74
Cadmium - Total (mg/L)	0.002	8	<0.00005	<0.00005	0.00003	N/A	0.0001	74
Chlorine Free Residual (mg/L)	5	36	0.7	1	1	1	1	240
Chromium - Total (mg/L)	0.05	8	0.0004	0.0005	0.0005	N/A	0.003	74
Copper - Total (mg/L)	2	8	0.001	0.1	0.05	N/A	0.1	74
Fluoride (F) (mg/L)	1.5	10	1.6	1.7	1.7	N/A	1.9	76
Lead - Total (mg/L)	0.01	8	<0.0001	0.0003	0.00009	N/A	0.0005	74
Manganese - Total (mg/L)	0.5	8	<0.0005	<0.0005	0.0003	N/A	0.003	74
Mercury - Total (mg/L)	0.001	8	<0.0001	<0.0001	0.00005	N/A	0.00005	74
Molybdenum - Total (mg/L)	0.05	8	0.0003	0.0007	0.0004	N/A	0.003	74
Nickel - Total (mg/L)	0.02	8	<0.0005	<0.0005	0.0003	N/A	0.001	74
Nitrate as NO3 (UV screening) (mg/L)	50	10	20	30	30	N/A	30	76
Nitrite mg-NO2/L*	3	10	<0.3	<0.3	0.2	N/A	0.3	68
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.7	N/A	N/A	0.7	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	8	0.002	0.002	0.002	N/A	0.003	74
Silver - Total (mg/L)	0.1	8	<0.0001	<0.0001	0.00005	N/A	0.005	74
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	8	0.008	0.01	0.009	N/A	0.01	74
Aesthetic								
Aluminium - Total (mg/L)	0.2	8	<0.005	<0.005	0.0025	N/A	0.015	74
Chloride (Cl) (mg/L)	250	10	83	150	121	N/A	110	76
Chlorine Free Residual (mg/L)	0.6	36	0.7	1.5	1.1	1.4	1	240
Copper - Total (mg/L)	1	8	0.0014	0.13	0.055	N/A	0.02	74
Hardness as CaCO3 (mg/L as CaCO3)	200	10	250	300	280	N/A	260	76
Iron - Total (mg/L)	0.3	18	<0.002	0.019	0.0051	N/A	0.018	150
Manganese - Total (mg/L)	0.1	8	<0.0005	<0.0005	0.00025	N/A	0.0021	74
pH (lab) (pH units)	6.5-8.5	10	7.8	8.4	8.1	N/A	8.1	76
S as Sulphate (S as SO4) (mg/L)	250	10	19.7	43.2	33.4	N/A	27	76
Si as Silica (Si as SiO2) (mg/L)	80	10	77	90	83	N/A	84	76
Sodium (Na) (mg/L)	180	10	92	100	95.7	N/A	90.7	76
Total Dissolved Solids Dried at 180C (mg/L)	600	10	540	650	610	N/A	600	76
True Colour (HU)	15	10	<2	<2	1.3	N/A	1.17	76
Turbidity (lab) (NTU)	5	10	0.15	2.1	0.73	N/A	0.41	76
Zinc - Total (mg/L)	3	8	0.002	0.008	0.0039	N/A	0.0069	74
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	10	250	280	260	N/A	270	76
Apparent Colour (HU)	N/A	10	<2	<2	1.3	N/A	1.4	76
Bicarbonate (HCO3) (mg/L)	N/A	10	310	340	320	N/A	330	76
Bromine - Total (mg/L)	N/A	8	<0.1	0.3	0.18	N/A	0.21	74
Calcium (Ca) (mg/L)	N/A	10	51	60	55	N/A	52	76
Carbonate (CO3) (mg/L)	N/A	10	<10	<10	5	N/A	5	76
Electrical Conductivity (Lab) (uS/cm)	N/A	10	940	1100	1000	N/A	990	76
Hydroxide (OH) (mg/L)	N/A	10	<1	<1	0.5	N/A	0.62	76
Iodine - Total (mg/L)	N/A	8	<0.1	0.3	0.18	N/A	0.11	74
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	10	5.4	6.8	6	N/A	5.9	68
Nitrate as N (NO3-N) (mg/L)	N/A	10	5.4	6.9	6	N/A	5.9	68
Nitrite as N (NO2-N) (mg/L)	N/A	10	<0.1	<0.1	0.05	N/A	0.055	68
Potassium (K) (mg/L)	N/A	10	28	31	29	N/A	28	46
Sodium Chloride (NaCl) (mg/L)	N/A	10	140	250	200	N/A	180	76
Tin - Total (mg/L)	N/A	8	<0.0002	0.0005	0.00015	N/A	0.0042	74
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	170	183
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.66	363
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 89 – Water quality data assessment for Papunya

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	20
Arsenic - Total (mg/L)	0.01	2	0.0003	0.0003	0.0003	N/A	0.0005	20
Barium - Total (mg/L)	2	2	0.1	0.1	0.1	N/A	0.2	20
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	20
Boron - Total (mg/L)	4	2	0.3	0.3	0.3	N/A	0.4	20
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	36	0.8	2	1	2	1	262
Chromium - Total (mg/L)	0.05	2	0.002	0.002	0.002	N/A	0.003	20
Copper - Total (mg/L)	2	2	0.002	0.02	0.009	N/A	0.02	20
Fluoride (F) (mg/L)	1.5	2	0.98	1.5	1.2	N/A	1.2	19
Lead - Total (mg/L)	0.01	2	0.0001	0.0001	0.0001	N/A	0.0005	20
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	0.003	20
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	2	0.002	0.002	0.002	N/A	0.003	20
Nickel - Total (mg/L)	0.02	2	0.001	0.001	0.001	N/A	0.001	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	20	20	20	N/A	30	19
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	18
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.5	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.006	0.006	0.006	N/A	0.009	20
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.009	0.009	0.009	N/A	0.01	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.02	20
Chloride (Cl) (mg/L)	250	2	260	270	265	N/A	215	19
Chlorine Free Residual (mg/L)	0.6	36	0.75	1.5	1.1	1.5	1	262
Copper - Total (mg/L)	1	2	0.0022	0.015	0.0087	N/A	0.0091	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	300	310	300	N/A	280	20
Iron - Total (mg/L)	0.3	4	0.004	<0.01	0.0053	N/A	0.022	39
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0022	20
pH (lab) (pH units)	6.5-8.5	2	8	8.1	8.1	N/A	8	20
S as Sulphate (S as SO4) (mg/L)	250	2	83.1	87.3	85.2	N/A	71.2	19
Si as Silica (Si as SiO2) (mg/L)	80	2	60	61	61	N/A	60	19
Sodium (Na) (mg/L)	180	2	247	252	250	N/A	248	19
Total Dissolved Solids Dried at 180C (mg/L)	600	2	1000	1000	1000	N/A	950	19
True Colour (HU)	15	2	<2	<2	1	N/A	1.21	19
Turbidity (lab) (NTU)	5	2	0.18	0.24	0.21	N/A	0.31	19
Zinc - Total (mg/L)	3	2	0.004	0.005	0.0045	N/A	0.0093	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	400	440	420	N/A	420	20
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	2.9	19
Bicarbonate (HCO3) (mg/L)	N/A	2	490	530	510	N/A	510	20
Bromine - Total (mg/L)	N/A	2	0.9	1	0.95	N/A	0.94	20
Calcium (Ca) (mg/L)	N/A	2	62	65	63	N/A	58	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	1800	1800	1800	N/A	1700	20
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	20
Iodine - Total (mg/L)	N/A	2	0.3	0.3	0.3	N/A	0.21	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	4.8	4.8	4.8	N/A	4.1	18
Nitrate as N (NO3-N) (mg/L)	N/A	2	4.8	4.8	4.8	N/A	4.1	18
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	18
Potassium (K) (mg/L)	N/A	2	13	13	13	N/A	12	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	420	440	430	N/A	350	19
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.004	20
Heterotrophic Plate Count (CFU/mL)	N/A	1	12	12	12	N/A	3.4	183
Total coliforms (MPN/100 mL)	N/A	33	<1	<1	0.5	0.5	0.5	360
E. coli								
E. coli (MPN/100 mL)	0	33	<1	<1	N/A	N/A	N/A	N/A

Table 90 – Water quality data assessment for Peppimenarti

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	8	<0.0002	<0.0002	0.0001	N/A	0.0001	85
Arsenic - Total (mg/L)	0.01	8	<0.0002	0.0004	0.0002	N/A	0.0005	85
Barium - Total (mg/L)	2	8	0.05	0.07	0.06	N/A	0.2	85
Beryllium - Total (mg/L)	0.06	8	<0.0001	<0.0001	0.00005	N/A	0.0005	85
Boron - Total (mg/L)	4	8	0.03	0.04	0.04	N/A	0.04	85
Cadmium - Total (mg/L)	0.002	8	<0.00005	0.0002	0.00005	N/A	0.0001	85
Chlorine Free Residual (mg/L)	5	33	0.7	1	1	1	1	332
Chromium - Total (mg/L)	0.05	8	<0.0002	<0.0002	0.0001	N/A	0.003	85
Copper - Total (mg/L)	2	8	<0.0005	0.01	0.005	N/A	0.01	85
Fluoride (F) (mg/L)	1.5	6	0.48	0.53	0.5	N/A	0.58	80
Lead - Total (mg/L)	0.01	8	<0.0001	<0.0001	0.00005	N/A	0.0005	85
Manganese - Total (mg/L)	0.5	8	0.009	0.08	0.04	N/A	0.2	85
Mercury - Total (mg/L)	0.001	8	<0.0001	<0.0001	0.00005	N/A	0.00005	85
Molybdenum - Total (mg/L)	0.05	8	<0.0001	0.0002	0.00008	N/A	0.003	85
Nickel - Total (mg/L)	0.02	8	<0.0005	0.02	0.002	N/A	0.001	85
Nitrate as NO3 (UV screening) (mg/L)	50	6	0.1	0.2	0.1	N/A	3	79
Nitrite mg-NO2/L*	3	6	<0.3	<0.3	0.2	N/A	0.2	65
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.1	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	8	<0.0002	<0.0002	0.0001	N/A	0.0005	85
Silver - Total (mg/L)	0.1	8	<0.0001	<0.0001	0.00005	N/A	0.005	85
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	8	<0.00005	<0.00005	0.00003	N/A	0.0002	85
Aesthetic								
Aluminium - Total (mg/L)	0.2	8	<0.005	<0.005	0.0025	N/A	0.0091	85
Chloride (Cl) (mg/L)	250	6	12	16	13.5	N/A	14.7	80
Chlorine Free Residual (mg/L)	0.6	33	0.72	1.4	1.1	1.4	1.1	332
Copper - Total (mg/L)	1	8	<0.0005	0.011	0.005	N/A	0.0067	85
Hardness as CaCO3 (mg/L as CaCO3)	200	6	33	37	35	N/A	51	80
Iron - Total (mg/L)	0.3	8	0.059	1	0.24	N/A	0.37	85
Manganese - Total (mg/L)	0.1	8	0.0093	0.083	0.04	N/A	0.069	85
pH (lab) (pH units)	6.5-8.5	6	6.8	7.3	7.1	N/A	7	80
S as Sulphate (S as SO4) (mg/L)	250	6	1.71	3.27	2.6	N/A	1.52	80
Si as Silica (Si as SiO2) (mg/L)	80	6	19	21	20	N/A	24	80
Sodium (Na) (mg/L)	180	6	15.2	18.9	17	N/A	16.8	80
Total Dissolved Solids Dried at 180C (mg/L)	600	4	74	77	75	N/A	110	78
True Colour (HU)	15	6	<2	6	2	N/A	2.05	80
Turbidity (lab) (NTU)	5	6	0.29	3.3	1.3	N/A	2.4	80
Zinc - Total (mg/L)	3	8	0.006	0.013	0.0089	N/A	0.0085	85
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	6	50	52	51	N/A	68	80
Apparent Colour (HU)	N/A	6	<2	48	19	N/A	31	80
Bicarbonate (HCO3) (mg/L)	N/A	6	61	63	62	N/A	83	80
Bromine - Total (mg/L)	N/A	8	<0.1	<0.1	0.05	N/A	0.025	85
Calcium (Ca) (mg/L)	N/A	6	9.1	10	9.5	N/A	12	80
Carbonate (CO3) (mg/L)	N/A	6	<10	<10	5	N/A	5	80
Electrical Conductivity (Lab) (uS/cm)	N/A	6	160	170	170	N/A	200	80
Hydroxide (OH) (mg/L)	N/A	6	<1	<1	0.5	N/A	0.5	80
Iodine - Total (mg/L)	N/A	8	<0.1	<0.1	0.05	N/A	0.011	85
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.23	66
Nitrate as N (NO3-N) (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.24	66
Nitrite as N (NO2-N) (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.05	65
Potassium (K) (mg/L)	N/A	6	6.6	7.3	6.9	N/A	6	36
Sodium Chloride (NaCl) (mg/L)	N/A	6	20	26	22	N/A	24	80
Tin - Total (mg/L)	N/A	8	<0.0002	0.0005	0.00015	N/A	0.0043	85
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	15	83
Total coliforms (MPN/100 mL)	N/A	33	<1	<1	0.5	0.5	1.4	351
E. coli								
E. coli (MPN/100 mL)	0	33	<1	<1	N/A	N/A	N/A	N/A

Table 91 – Water quality data assessment for Pirlangimpi

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	19
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	19
Barium - Total (mg/L)	2	2	0.005	0.005	0.005	N/A	0.03	19
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	19
Boron - Total (mg/L)	4	2	0.006	0.009	0.008	N/A	0.01	19
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	19
Chlorine Free Residual (mg/L)	5	36	1	1	1	1	2	300
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	19
Copper - Total (mg/L)	2	2	0.003	0.005	0.004	N/A	0.03	19
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	0.05	19
Lead - Total (mg/L)	0.01	2	<0.0001	0.0002	0.0001	N/A	0.0005	19
Manganese - Total (mg/L)	0.5	2	<0.0005	0.0007	0.0005	N/A	0.003	19
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	19
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	19
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.001	19
Nitrate as NO3 (UV screening) (mg/L)	50	2	<0.1	0.3	0.2	N/A	0.5	19
Nitrite mg-NO2/L*	3	2	0.3	0.3	0.2	N/A	N/A	18
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	19
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	19
Trihalomethanes - Total (mg/L)	0.25	0	N/A	N/A	N/A	N/A	N/A	1
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	0.00003	19
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.005	0.008	0.0065	N/A	0.047	19
Chloride (Cl) (mg/L)	250	2	5	7	6	N/A	7.23	19
Chlorine Free Residual (mg/L)	0.6	36	0.99	1.4	1.2	1.3	1.2	300
Copper - Total (mg/L)	1	2	0.0033	0.0047	0.004	N/A	0.0096	19
Hardness as CaCO3 (mg/L as CaCO3)	200	2	<1	<1	0.5	N/A	1.8	19
Iron - Total (mg/L)	0.3	4	<0.002	<0.01	0.0053	N/A	0.053	38
Manganese - Total (mg/L)	0.1	2	<0.0005	0.0007	0.00048	N/A	0.0023	19
pH (lab) (pH units)	6.5-8.5	2	5.5	5.5	5.5	N/A	6.1	19
S as Sulphate (S as SO4) (mg/L)	250	2	<0.3	<0.3	0.15	N/A	0.148	19
Si as Silica (Si as SiO2) (mg/L)	80	2	8.8	9.5	9.2	N/A	9.5	19
Sodium (Na) (mg/L)	180	2	3.55	3.72	3.64	N/A	5.36	19
Total Dissolved Solids Dried at 180C (mg/L)	600	2	8	13	11	N/A	26	19
True Colour (HU)	15	2	<2	<2	1	N/A	2.62	19
Turbidity (lab) (NTU)	5	2	0.23	0.28	0.26	N/A	1.2	19
Zinc - Total (mg/L)	3	2	0.002	0.002	0.002	N/A	0.0057	19
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	19
Apparent Colour (HU)	N/A	2	2	2	2	N/A	9.3	19
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	19
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.015	19
Calcium (Ca) (mg/L)	N/A	2	<0.03	<0.03	0.015	N/A	0.53	19
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	19
Electrical Conductivity (Lab) (uS/cm)	N/A	2	20	21	21	N/A	31	19
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	19
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.0097	19
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.064	18
Nitrate as N (NO3-N) (mg/L)	N/A	2	<0.1	<0.1	0.075	N/A	0.069	18
Nitrite as N (NO2-N) (mg/L)	N/A	2	0.1	0.1	0.075	N/A	0.053	18
Potassium (K) (mg/L)	N/A	2	<0.1	<0.1	0.075	N/A	0.09	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	8	12	10	N/A	12	19
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	19
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	8.5	79
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	1.8	338
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 92 – Water quality data assessment for Pmara Jutunta

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Arsenic - Total (mg/L)	0.01	2	0.0009	0.001	0.001	N/A	N/A	18
Barium - Total (mg/L)	2	2	0.08	0.08	0.08	N/A	N/A	18
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Boron - Total (mg/L)	4	2	0.3	0.3	0.3	N/A	N/A	18
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	18
Chlorine Free Residual (mg/L)	5	33	1	2	1	2	2	338
Chromium - Total (mg/L)	0.05	2	0.002	0.002	0.002	N/A	N/A	18
Copper - Total (mg/L)	2	2	0.007	0.009	0.008	N/A	N/A	18
Fluoride (F) (mg/L)	1.5	2	0.77	0.79	0.78	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	0.0002	0.0004	0.0003	N/A	N/A	18
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Molybdenum - Total (mg/L)	0.05	2	0.0006	0.0007	0.0007	N/A	N/A	18
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Nitrate as NO3 (UV screening) (mg/L)	50	2	40	40	40	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	14
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.8	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.002	0.002	0.002	N/A	N/A	18
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.007	0.007	0.007	N/A	N/A	18
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.02	18
Chloride (Cl) (mg/L)	250	2	75	76	75.5	N/A	70.3	18
Chlorine Free Residual (mg/L)	0.6	33	1.1	1.7	1.4	1.6	1.2	338
Copper - Total (mg/L)	1	2	0.0065	0.0092	0.0079	N/A	0.0076	18
Hardness as CaCO3 (mg/L as CaCO3)	200	2	250	250	250	N/A	230	18
Iron - Total (mg/L)	0.3	4	<0.002	<0.01	0.003	N/A	0.014	36
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.002	18
pH (lab) (pH units)	6.5-8.5	2	7.7	7.7	7.7	N/A	7.8	18
S as Sulphate (S as SO4) (mg/L)	250	2	43.2	43.8	43.5	N/A	32.8	18
Si as Silica (Si as SiO2) (mg/L)	80	2	91	91	91	N/A	92	18
Sodium (Na) (mg/L)	180	2	71.5	72.4	72	N/A	68.7	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	550	550	550	N/A	530	18
True Colour (HU)	15	2	<2	<2	1	N/A	1.27	18
Turbidity (lab) (NTU)	5	2	0.56	1	0.78	N/A	0.38	18
Zinc - Total (mg/L)	3	2	0.008	0.028	0.018	N/A	0.017	18
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	210	210	210	N/A	210	18
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	1.5	18
Bicarbonate (HCO3) (mg/L)	N/A	2	260	260	260	N/A	260	18
Bromine - Total (mg/L)	N/A	2	0.3	0.3	0.3	N/A	0.35	18
Calcium (Ca) (mg/L)	N/A	2	58	59	58	N/A	52	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	860	860	860	N/A	810	18
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	18
Iodine - Total (mg/L)	N/A	2	0.1	0.1	0.1	N/A	0.12	18
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	7.7	8	7.9	N/A	10	14
Nitrate as N (NO3-N) (mg/L)	N/A	2	8.1	8.4	8.3	N/A	10	14
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	14
Potassium (K) (mg/L)	N/A	2	22	22	22	N/A	21	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	120	120	120	N/A	120	18
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0039	18
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	210	179
Total coliforms (MPN/100 mL)	N/A	36	<1	16	0.93	0.5	1.1	363
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 93 – Water quality data assessment for Raminginging

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	3	<0.0002	0.0003	0.0002	N/A	0.0001	26
Arsenic - Total (mg/L)	0.01	3	<0.0002	<0.0002	0.0001	N/A	0.0003	26
Barium - Total (mg/L)	2	3	0.007	0.008	0.007	N/A	0.03	26
Beryllium - Total (mg/L)	0.06	3	<0.0001	<0.0001	0.00005	N/A	0.0005	26
Boron - Total (mg/L)	4	3	0.02	0.02	0.02	N/A	0.02	26
Cadmium - Total (mg/L)	0.002	3	<0.00005	<0.00005	0.00003	N/A	0.0001	26
Chlorine Free Residual (mg/L)	5	134	0.5	2	1	2	2	945
Chromium - Total (mg/L)	0.05	3	0.0002	0.0002	0.0001	N/A	0.003	26
Copper - Total (mg/L)	2	3	0.006	0.02	0.01	N/A	0.03	26
Fluoride (F) (mg/L)	1.5	3	<0.1	<0.1	0.05	N/A	0.05	23
Lead - Total (mg/L)	0.01	3	0.0002	0.0006	0.0004	N/A	0.002	26
Manganese - Total (mg/L)	0.5	3	<0.0005	0.001	0.0005	N/A	0.003	26
Mercury - Total (mg/L)	0.001	3	<0.0001	<0.0001	0.00005	N/A	0.00005	26
Molybdenum - Total (mg/L)	0.05	3	<0.0001	<0.0001	0.00005	N/A	0.003	26
Nickel - Total (mg/L)	0.02	3	<0.0005	<0.0005	0.0003	N/A	0.001	26
Nitrate as NO3 (UV screening) (mg/L)	50	3	0.7	0.8	0.8	N/A	2	23
Nitrite mg-NO2/L*	3	3	<0.3	<0.3	0.2	N/A	0.2	19
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.09	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	3	<0.0002	<0.0002	0.0001	N/A	0.0005	26
Silver - Total (mg/L)	0.1	3	<0.0001	<0.0001	0.00005	N/A	0.005	26
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	3	<0.00005	<0.00005	0.00003	N/A	0.00004	26
Aesthetic								
Aluminium - Total (mg/L)	0.2	3	0.006	0.01	0.008	N/A	0.014	26
Chloride (Cl) (mg/L)	250	3	8	9	8.33	N/A	8.97	23
Chlorine Free Residual (mg/L)	0.6	134	0.54	1.8	1.2	1.6	1.2	945
Copper - Total (mg/L)	1	3	0.0058	0.02	0.013	N/A	0.012	26
Hardness as CaCO3 (mg/L as CaCO3)	200	3	4.9	6.2	5.3	N/A	6.1	23
Iron - Total (mg/L)	0.3	6	0.004	<0.01	0.0052	N/A	0.031	49
Manganese - Total (mg/L)	0.1	3	<0.0005	0.001	0.0005	N/A	0.0023	26
pH (lab) (pH units)	6.5-8.5	3	5.9	6	6	N/A	5.8	23
S as Sulphate (S as SO4) (mg/L)	250	3	<0.3	1.41	0.87	N/A	0.245	23
Si as Silica (Si as SiO2) (mg/L)	80	3	11	12	11	N/A	14	23
Sodium (Na) (mg/L)	180	3	6.64	6.66	6.65	N/A	6.71	23
Total Dissolved Solids Dried at 180C (mg/L)	600	3	18	34	24	N/A	32	23
True Colour (HU)	15	3	<2	<2	1	N/A	1	23
Turbidity (lab) (NTU)	5	3	0.25	0.95	0.48	N/A	0.4	23
Zinc - Total (mg/L)	3	3	0.006	0.012	0.0087	N/A	0.014	26
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	3	<20	<20	10	N/A	10	23
Apparent Colour (HU)	N/A	3	2	2	2	N/A	2	23
Bicarbonate (HCO3) (mg/L)	N/A	3	10	10	10	N/A	7.4	23
Bromine - Total (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.016	26
Calcium (Ca) (mg/L)	N/A	3	0.8	1	0.87	N/A	1.2	23
Carbonate (CO3) (mg/L)	N/A	3	<10	<10	5	N/A	5	23
Electrical Conductivity (Lab) (uS/cm)	N/A	3	42	43	43	N/A	46	23
Hydroxide (OH) (mg/L)	N/A	3	<1	<1	0.5	N/A	0.5	23
Iodine - Total (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.01	26
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	3	0.2	0.2	0.2	N/A	0.19	19
Nitrate as N (NO3-N) (mg/L)	N/A	3	0.2	0.2	0.2	N/A	0.2	19
Nitrite as N (NO2-N) (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.05	19
Potassium (K) (mg/L)	N/A	3	0.6	0.7	0.67	N/A	0.4	12
Sodium Chloride (NaCl) (mg/L)	N/A	3	13	14	14	N/A	15	23
Tin - Total (mg/L)	N/A	3	<0.0002	<0.0002	0.0001	N/A	0.0044	26
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	2.9	289
Total coliforms (MPN/100 mL)	N/A	137	<1	<1	0.5	0.5	0.69	1140
E. coli								
E. coli (MPN/100 mL)	0	137	<1	<1	N/A	N/A	N/A	N/A

Table 94 – Water quality data assessment for Rittarangu

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Barium - Total (mg/L)	2	2	0.2	0.2	0.2	N/A	N/A	18
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Boron - Total (mg/L)	4	2	0.03	0.03	0.03	N/A	N/A	18
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	18
Chlorine Free Residual (mg/L)	5	39	0.7	1	1	1	1	381
Chromium - Total (mg/L)	0.05	2	0.0002	0.001	0.0008	N/A	N/A	18
Copper - Total (mg/L)	2	2	0.002	0.003	0.003	N/A	N/A	18
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	0.0001	0.0006	0.0004	N/A	N/A	18
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	18
Nitrate as NO3 (UV screening) (mg/L)	50	2	2	2	2	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	N/A	18
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	18
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.0004	0.0004	0.0004	N/A	N/A	18
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	0.006	0.0043	N/A	0.0094	18
Chloride (Cl) (mg/L)	250	2	22	23	22.5	N/A	24.1	18
Chlorine Free Residual (mg/L)	0.6	39	0.71	1.2	0.97	1.2	0.85	381
Copper - Total (mg/L)	1	2	0.0021	0.0031	0.0026	N/A	0.0047	18
Hardness as CaCO3 (mg/L as CaCO3)	200	2	280	290	290	N/A	280	18
Iron - Total (mg/L)	0.3	2	<0.002	1	0.001	N/A	0.018	18
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0023	18
pH (lab) (pH units)	6.5-8.5	2	7.6	7.6	7.6	N/A	7.6	18
S as Sulphate (S as SO4) (mg/L)	250	2	<0.3	<0.3	0.15	N/A	0.129	18
Si as Silica (Si as SiO2) (mg/L)	80	2	21	21	21	N/A	21	18
Sodium (Na) (mg/L)	180	2	12.4	13.1	12.8	N/A	13.5	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	290	330	310	N/A	310	18
True Colour (HU)	15	2	<2	<2	1	N/A	1.12	18
Turbidity (lab) (NTU)	5	2	0.77	1.2	0.99	N/A	0.37	18
Zinc - Total (mg/L)	3	2	0.004	0.006	0.005	N/A	0.0056	18
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	260	260	260	N/A	270	18
Apparent Colour (HU)	N/A	2	6	6	6	N/A	1.8	18
Bicarbonate (HCO3) (mg/L)	N/A	2	320	320	320	N/A	330	18
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.058	18
Calcium (Ca) (mg/L)	N/A	2	55	56	55	N/A	55	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	550	580	570	N/A	590	18
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	18
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.01	18
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.3	0.3	0.3	N/A	0.31	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.4	0.4	0.4	N/A	0.33	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	16
Potassium (K) (mg/L)	N/A	2	3.3	3.5	3.4	N/A	3.2	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	37	38	38	N/A	40	18
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	18
Heterotrophic Plate Count (CFU/mL)	N/A	8	11	1900	290	N/A	51	101
Total coliforms (MPN/100 mL)	N/A	39	<1	19	0.97	0.5	0.75	399
E. coli								
E. coli (MPN/100 mL)	0	39	<1	<1	N/A	N/A	N/A	N/A

Table 95 – Water quality data assessment for Robinson River

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	6	<0.0002	<0.0002	0.0001	N/A	0.0001	71
Arsenic - Total (mg/L)	0.01	6	<0.0002	<0.0002	0.0001	N/A	0.0003	71
Barium - Total (mg/L)	2	6	1	1	1	N/A	1	65
Beryllium - Total (mg/L)	0.06	6	<0.0001	<0.0001	0.00005	N/A	0.0005	71
Boron - Total (mg/L)	4	6	0.1	0.1	0.1	N/A	0.2	71
Cadmium - Total (mg/L)	0.002	6	<0.00005	<0.00005	0.00003	N/A	0.0001	71
Chlorine Free Residual (mg/L)	5	31	0.7	1	1	1	2	282
Chromium - Total (mg/L)	0.05	6	<0.0002	<0.0002	0.0001	N/A	0.003	71
Copper - Total (mg/L)	2	6	<0.0005	0.002	0.001	N/A	0.02	71
Fluoride (F) (mg/L)	1.5	4	0.72	1.1	0.88	N/A	1.1	68
Lead - Total (mg/L)	0.01	6	<0.0001	0.0002	0.00008	N/A	0.002	71
Manganese - Total (mg/L)	0.5	6	0.0006	0.001	0.0008	N/A	0.02	71
Mercury - Total (mg/L)	0.001	6	<0.0001	<0.0001	0.00005	N/A	0.00005	71
Molybdenum - Total (mg/L)	0.05	6	0.0004	0.0006	0.0005	N/A	0.003	71
Nickel - Total (mg/L)	0.02	6	<0.0005	<0.0005	0.0003	N/A	0.001	71
Nitrate as NO3 (UV screening) (mg/L)	50	4	5	6	5	N/A	20	68
Nitrite mg-NO2/L*	3	4	<0.3	<0.3	0.2	N/A	0.2	66
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.4	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	6	0.0002	0.0002	0.0002	N/A	0.0005	71
Silver - Total (mg/L)	0.1	6	<0.0001	<0.0001	0.00005	N/A	0.005	71
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	6	0.002	0.003	0.003	N/A	0.003	71
Aesthetic								
Aluminium - Total (mg/L)	0.2	6	<0.005	<0.005	0.0025	N/A	0.014	71
Chloride (Cl) (mg/L)	250	4	38	45	41.5	N/A	40.1	69
Chlorine Free Residual (mg/L)	0.6	31	0.73	1.3	1	1.2	1.1	282
Copper - Total (mg/L)	1	6	<0.0005	0.0024	0.001	N/A	0.014	71
Hardness as CaCO3 (mg/L as CaCO3)	200	4	420	520	470	N/A	470	68
Iron - Total (mg/L)	0.3	10	0.003	<0.01	0.0044	N/A	0.026	139
Manganese - Total (mg/L)	0.1	6	0.0006	0.001	0.00078	N/A	0.0066	71
pH (lab) (pH units)	6.5-8.5	4	7.5	8	7.8	N/A	7.8	70
S as Sulphate (S as SO4) (mg/L)	250	4	4.74	7.92	6.1	N/A	0.476	69
Si as Silica (Si as SiO2) (mg/L)	80	4	33	38	36	N/A	35	68
Sodium (Na) (mg/L)	180	4	20.6	23.4	21.7	N/A	21.2	69
Total Dissolved Solids Dried at 180C (mg/L)	600	4	420	510	460	N/A	490	70
True Colour (HU)	15	4	<2	<2	1	N/A	1.26	68
Turbidity (lab) (NTU)	5	4	0.25	0.58	0.38	N/A	0.49	68
Zinc - Total (mg/L)	3	6	0.002	0.01	0.004	N/A	0.01	71
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	4	380	460	420	N/A	440	69
Apparent Colour (HU)	N/A	4	<2	<2	1.3	N/A	2.8	68
Bicarbonate (HCO3) (mg/L)	N/A	4	460	560	510	N/A	540	69
Bromine - Total (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.12	71
Calcium (Ca) (mg/L)	N/A	4	46	58	52	N/A	47	69
Carbonate (CO3) (mg/L)	N/A	4	<10	<10	5	N/A	5.8	69
Electrical Conductivity (Lab) (uS/cm)	N/A	4	790	980	890	N/A	930	70
Hydroxide (OH) (mg/L)	N/A	4	<1	<1	0.5	N/A	0.5	69
Iodine - Total (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.02	71
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	4	1	1.3	1.2	N/A	1.8	66
Nitrate as N (NO3-N) (mg/L)	N/A	4	1	1.3	1.2	N/A	1.8	66
Nitrite as N (NO2-N) (mg/L)	N/A	4	<0.1	<0.1	0.05	N/A	0.067	66
Potassium (K) (mg/L)	N/A	4	3.4	4.3	3.8	N/A	3.5	35
Sodium Chloride (NaCl) (mg/L)	N/A	4	62	75	68	N/A	66	68
Tin - Total (mg/L)	N/A	6	<0.0002	<0.0002	0.0001	N/A	0.0043	71
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	6.3	78
Total coliforms (MPN/100 mL)	N/A	32	<1	<1	0.52	0.5	0.64	315
E. coli								
E. coli (MPN/100 mL)	0	32	<1	<1	N/A	N/A	N/A	N/A

Table 96 – Water quality data assessment for Santa Teresa

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	20
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	20
Barium - Total (mg/L)	2	2	0.4	0.4	0.4	N/A	0.5	20
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	20
Boron - Total (mg/L)	4	2	0.06	0.06	0.06	N/A	0.08	20
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	24	0.9	1	1	1	1	234
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	20
Copper - Total (mg/L)	2	2	0.003	0.06	0.03	N/A	0.02	20
Fluoride (F) (mg/L)	1.5	2	0.21	0.21	0.21	N/A	0.22	20
Lead - Total (mg/L)	0.01	2	<0.0001	<0.0001	0.00005	N/A	0.0005	20
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	0.003	20
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	2	0.0007	0.0008	0.0008	N/A	0.003	20
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.001	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	8	8	8	N/A	10	20
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.3	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.002	0.003	0.002	N/A	0.003	20
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.003	0.003	0.003	N/A	0.005	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.011	20
Chloride (Cl) (mg/L)	250	2	11	11	11	N/A	11.3	20
Chlorine Free Residual (mg/L)	0.6	24	0.92	1.4	1.3	1.4	1.1	234
Copper - Total (mg/L)	1	2	0.0032	0.056	0.03	N/A	0.0097	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	290	300	290	N/A	270	20
Iron - Total (mg/L)	0.3	4	<0.002	<0.01	0.0043	N/A	0.014	40
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0023	20
pH (lab) (pH units)	6.5-8.5	2	7.7	7.7	7.7	N/A	7.8	20
S as Sulphate (S as SO4) (mg/L)	250	2	13.6	13.7	13.7	N/A	4.26	20
Si as Silica (Si as SiO2) (mg/L)	80	2	18	18	18	N/A	18	20
Sodium (Na) (mg/L)	180	2	8.32	8.56	8.44	N/A	8.3	20
Total Dissolved Solids Dried at 180C (mg/L)	600	2	340	340	340	N/A	300	20
True Colour (HU)	15	2	<2	<2	1	N/A	1.19	20
Turbidity (lab) (NTU)	5	2	0.21	0.33	0.27	N/A	0.28	20
Zinc - Total (mg/L)	3	2	0.003	0.005	0.004	N/A	0.0077	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	240	240	240	N/A	250	20
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	1.7	20
Bicarbonate (HCO3) (mg/L)	N/A	2	290	300	300	N/A	300	20
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	20
Calcium (Ca) (mg/L)	N/A	2	74	76	75	N/A	69	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	540	540	540	N/A	540	20
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	20
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.015	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	1.8	1.8	1.8	N/A	2	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	1.8	1.8	1.8	N/A	2	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.053	16
Potassium (K) (mg/L)	N/A	2	4.7	4.7	4.7	N/A	4.1	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	18	18	18	N/A	19	20
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	20
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	4.4	175
Total coliforms (MPN/100 mL)	N/A	27	<1	<1	0.5	0.5	0.5	354
E. coli								
E. coli (MPN/100 mL)	0	27	<1	<1	N/A	N/A	N/A	N/A

Table 97 – Water quality data assessment for Tara

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0003	21
Arsenic - Total (mg/L)	0.01	2	0.001	0.001	0.001	N/A	0.002	21
Barium - Total (mg/L)	2	2	0.05	0.05	0.05	N/A	0.05	21
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	21
Boron - Total (mg/L)	4	2	0.4	0.5	0.5	N/A	0.7	21
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	21
Chlorine Free Residual (mg/L)	5	15	0.7	1	1	N/A	1	231
Chromium - Total (mg/L)	0.05	2	0.0006	0.0008	0.0007	N/A	0.003	21
Copper - Total (mg/L)	2	2	0.1	0.2	0.2	N/A	0.2	21
Fluoride (F) (mg/L)	1.5	2	0.99	1.1	1	N/A	1.1	19
Lead - Total (mg/L)	0.01	2	0.002	0.004	0.003	N/A	0.003	21
Manganese - Total (mg/L)	0.5	2	0.005	0.02	0.01	N/A	0.02	21
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.0001	21
Molybdenum - Total (mg/L)	0.05	2	0.001	0.009	0.005	N/A	0.003	21
Nickel - Total (mg/L)	0.02	2	0.003	0.004	0.004	N/A	0.004	21
Nitrate as NO3 (UV screening) (mg/L)	50	2	20	20	20	N/A	30	19
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	13
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.5	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.002	0.002	0.002	N/A	0.003	21
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	21
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.005	0.007	0.006	N/A	0.02	21
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	0.012	0.0073	N/A	0.16	21
Chloride (Cl) (mg/L)	250	2	340	360	350	N/A	363	19
Chlorine Free Residual (mg/L)	0.6	15	0.7	1.4	1	N/A	1	231
Copper - Total (mg/L)	1	2	0.11	0.22	0.16	N/A	0.082	21
Hardness as CaCO3 (mg/L as CaCO3)	200	2	220	270	250	N/A	340	19
Iron - Total (mg/L)	0.3	4	0.22	1	0.65	N/A	0.26	40
Manganese - Total (mg/L)	0.1	2	0.0046	0.018	0.011	N/A	0.012	21
pH (lab) (pH units)	6.5-8.5	2	6.8	6.9	6.8	N/A	7.1	19
S as Sulphate (S as SO4) (mg/L)	250	2	71.1	75.3	73.2	N/A	139	19
Si as Silica (Si as SiO2) (mg/L)	80	2	12	16	14	N/A	23	19
Sodium (Na) (mg/L)	180	2	197	212	205	N/A	230	19
Total Dissolved Solids Dried at 180C (mg/L)	600	2	1100	1200	1200	N/A	1100	19
True Colour (HU)	15	2	<2	<2	1	N/A	1.39	19
Turbidity (lab) (NTU)	5	2	4.2	9.1	6.7	N/A	2.6	19
Zinc - Total (mg/L)	3	2	0.02	0.12	0.068	N/A	0.1	21
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	190	220	210	N/A	210	19
Apparent Colour (HU)	N/A	2	16	48	32	N/A	13	19
Bicarbonate (HCO3) (mg/L)	N/A	2	230	270	250	N/A	260	19
Bromine - Total (mg/L)	N/A	2	0.8	1	0.9	N/A	1.2	21
Calcium (Ca) (mg/L)	N/A	2	29	36	32	N/A	41	19
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	19
Electrical Conductivity (Lab) (uS/cm)	N/A	2	1900	2100	2000	N/A	1900	19
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	19
Iodine - Total (mg/L)	N/A	2	0.4	0.5	0.45	N/A	0.28	21
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	4.4	4.8	4.6	N/A	5	13
Nitrate as N (NO3-N) (mg/L)	N/A	2	4.4	4.8	4.6	N/A	5	13
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	13
Potassium (K) (mg/L)	N/A	2	24	25	24	N/A	27	9
Sodium Chloride (NaCl) (mg/L)	N/A	2	560	600	580	N/A	600	19
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	21
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	9.7	194
Total coliforms (MPN/100 mL)	N/A	33	<1	<1	0.5	0.5	0.83	355
E. coli								
E. coli (MPN/100 mL)	0	33	<1	<1	N/A	N/A	N/A	N/A

Table 98 – Water quality data assessment for Titjikala

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	16
Arsenic - Total (mg/L)	0.01	2	0.001	0.001	0.001	N/A	N/A	16
Barium - Total (mg/L)	2	2	0.3	0.3	0.3	N/A	N/A	16
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	16
Boron - Total (mg/L)	4	2	0.08	0.08	0.08	N/A	N/A	16
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	16
Chlorine Free Residual (mg/L)	5	30	1	1	1	1	1	311
Chromium - Total (mg/L)	0.05	2	0.0002	0.0002	0.0002	N/A	N/A	16
Copper - Total (mg/L)	2	2	0.03	0.1	0.06	N/A	N/A	16
Fluoride (F) (mg/L)	1.5	2	0.6	0.6	0.6	N/A	N/A	14
Lead - Total (mg/L)	0.01	2	0.0002	0.002	0.001	N/A	N/A	16
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	N/A	16
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	16
Molybdenum - Total (mg/L)	0.05	2	0.002	0.002	0.002	N/A	N/A	16
Nickel - Total (mg/L)	0.02	2	<0.0005	0.001	0.0006	N/A	N/A	16
Nitrate as NO3 (UV screening) (mg/L)	50	2	10	10	10	N/A	N/A	16
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	11
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.3	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.0005	0.0005	0.0005	N/A	N/A	16
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	16
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.004	0.004	0.004	N/A	N/A	16
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.03	16
Chloride (Cl) (mg/L)	250	2	27	29	28	N/A	30.7	15
Chlorine Free Residual (mg/L)	0.6	30	1	1.3	1.2	1.3	1	311
Copper - Total (mg/L)	1	2	0.025	0.095	0.06	N/A	0.028	16
Hardness as CaCO3 (mg/L as CaCO3)	200	2	220	220	220	N/A	210	15
Iron - Total (mg/L)	0.3	4	<0.002	<0.01	0.0038	N/A	0.04	31
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0022	16
pH (lab) (pH units)	6.5-8.5	2	7.9	7.9	7.9	N/A	7.7	14
S as Sulphate (S as SO4) (mg/L)	250	2	13.1	13.4	13.3	N/A	8.71	15
Si as Silica (Si as SiO2) (mg/L)	80	2	30	30	30	N/A	29	15
Sodium (Na) (mg/L)	180	2	30.9	32.5	31.7	N/A	29.5	15
Total Dissolved Solids Dried at 180C (mg/L)	600	2	340	350	350	N/A	340	15
True Colour (HU)	15	2	<2	<2	1	N/A	1.29	14
Turbidity (lab) (NTU)	5	2	0.43	0.58	0.51	N/A	3.7	15
Zinc - Total (mg/L)	3	2	0.006	0.026	0.016	N/A	0.018	16
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	210	210	210	N/A	220	14
Apparent Colour (HU)	N/A	2	<2	4	2.5	N/A	12	14
Bicarbonate (HCO3) (mg/L)	N/A	2	250	250	250	N/A	270	14
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.08	16
Calcium (Ca) (mg/L)	N/A	2	63	65	64	N/A	62	15
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	14
Electrical Conductivity (Lab) (uS/cm)	N/A	2	550	550	550	N/A	590	14
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	14
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.025	16
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	2.8	2.8	2.8	N/A	3.7	12
Nitrate as N (NO3-N) (mg/L)	N/A	2	2.8	2.8	2.8	N/A	3.7	12
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.056	11
Potassium (K) (mg/L)	N/A	2	3.8	4	3.9	N/A	3.7	6
Sodium Chloride (NaCl) (mg/L)	N/A	2	44	47	46	N/A	50	15
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0044	16
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	23	171
Total coliforms (MPN/100 mL)	N/A	33	<1	<1	0.5	0.5	0.76	339
E. coli								
E. coli (MPN/100 mL)	0	33	<1	<1	N/A	N/A	N/A	N/A

Table 99 – Water quality data assessment for Umbakumba

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	0.0009	0.0005	N/A	0.0001	20
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0003	20
Barium - Total (mg/L)	2	2	0.01	0.02	0.02	N/A	0.03	20
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	20
Boron - Total (mg/L)	4	2	0.03	0.03	0.03	N/A	0.04	20
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	30	0.9	1	1	1	1	337
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	20
Copper - Total (mg/L)	2	2	0.03	0.06	0.05	N/A	0.07	20
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	0.76	58
Lead - Total (mg/L)	0.01	2	0.0003	0.0007	0.0005	N/A	0.005	20
Manganese - Total (mg/L)	0.5	2	0.03	0.04	0.03	N/A	0.5	20
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00008	N/A	0.003	20
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.002	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.8	0.9	0.9	N/A	1	23
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	0.2	19
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.07	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	20
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	<0.00005	<0.00005	0.00003	N/A	0.00005	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.006	0.01	0.008	N/A	0.023	20
Chloride (Cl) (mg/L)	250	2	47	47	47	N/A	43.2	23
Chlorine Free Residual (mg/L)	0.6	30	0.87	1.5	1.1	1.4	0.95	337
Copper - Total (mg/L)	1	2	0.029	0.063	0.046	N/A	0.027	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	14	15	14	N/A	14	23
Iron - Total (mg/L)	0.3	2	0.01	1	0.065	N/A	0.26	20
Manganese - Total (mg/L)	0.1	2	0.031	0.037	0.034	N/A	0.17	20
pH (lab) (pH units)	6.5-8.5	2	5.3	5.4	5.3	N/A	5.4	23
S as Sulphate (S as SO4) (mg/L)	250	2	2.52	2.91	2.72	N/A	2.33	23
Si as Silica (Si as SiO2) (mg/L)	80	2	9.9	10	10	N/A	12	23
Sodium (Na) (mg/L)	180	2	28.2	28.7	28.5	N/A	24.8	23
Total Dissolved Solids Dried at 180C (mg/L)	600	2	66	87	77	N/A	90	23
True Colour (HU)	15	2	2	3	2.5	N/A	1.57	23
Turbidity (lab) (NTU)	5	2	0.17	0.65	0.41	N/A	0.83	23
Zinc - Total (mg/L)	3	2	0.006	0.009	0.0075	N/A	0.012	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	23
Apparent Colour (HU)	N/A	2	2	4	3	N/A	7.6	23
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	5.7	23
Bromine - Total (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.1	20
Calcium (Ca) (mg/L)	N/A	2	1.4	1.4	1.4	N/A	1.5	23
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	23
Electrical Conductivity (Lab) (uS/cm)	N/A	2	200	200	200	N/A	180	23
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	23
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.0094	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.16	19
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.18	19
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	19
Potassium (K) (mg/L)	N/A	2	0.9	1	0.95	N/A	0.75	13
Sodium Chloride (NaCl) (mg/L)	N/A	2	78	78	78	N/A	71	23
Tin - Total (mg/L)	N/A	2	<0.0002	0.0005	0.0003	N/A	0.0038	20
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	2.2	79
Total coliforms (MPN/100 mL)	N/A	30	<1	<1	0.5	0.5	0.81	359
E. coli								
E. coli (MPN/100 mL)	0	30	<1	<1	N/A	N/A	N/A	N/A

Table 100 – Water quality data assessment for Wadeye

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	3	<0.0002	<0.0002	0.0001	N/A	0.0001	21
Arsenic - Total (mg/L)	0.01	3	<0.0002	<0.0002	0.0001	N/A	0.0003	21
Barium - Total (mg/L)	2	3	0.02	0.02	0.02	N/A	0.03	21
Beryllium - Total (mg/L)	0.06	3	<0.0001	<0.0001	0.00008	N/A	0.0005	21
Boron - Total (mg/L)	4	3	0.03	0.03	0.03	N/A	0.03	21
Cadmium - Total (mg/L)	0.002	3	<0.00005	<0.00005	0.00003	N/A	0.0001	21
Chlorine Free Residual (mg/L)	5	208	0.7	2	1	1	1	2100
Chromium - Total (mg/L)	0.05	3	<0.0002	0.006	0.002	N/A	0.003	21
Copper - Total (mg/L)	2	3	0.001	0.02	0.009	N/A	0.04	21
Fluoride (F) (mg/L)	1.5	93	<0.1	<0.1	0.05	0.05	0.73	910
Lead - Total (mg/L)	0.01	3	<0.0001	0.001	0.0006	N/A	0.002	21
Manganese - Total (mg/L)	0.5	3	<0.0005	0.004	0.002	N/A	0.03	21
Mercury - Total (mg/L)	0.001	3	<0.0001	<0.0001	0.00005	N/A	0.00005	21
Molybdenum - Total (mg/L)	0.05	3	<0.0001	<0.0001	0.00005	N/A	0.003	21
Nickel - Total (mg/L)	0.02	3	<0.0005	0.0006	0.0005	N/A	0.004	21
Nitrate as NO3 (UV screening) (mg/L)	50	3	0.1	0.2	0.1	N/A	0.4	21
Nitrite mg-NO2/L*	3	3	<0.3	<0.3	0.2	N/A	0.2	20
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.06	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	3	<0.0002	<0.0002	0.0001	N/A	0.0005	21
Silver - Total (mg/L)	0.1	3	<0.0001	<0.0001	0.00005	N/A	0.005	21
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	3	0.0001	0.0002	0.0002	N/A	0.0002	21
Aesthetic								
Aluminium - Total (mg/L)	0.2	3	0.011	0.011	0.011	N/A	0.01	21
Chloride (Cl) (mg/L)	250	3	6	7	6.33	N/A	6.25	21
Chlorine Free Residual (mg/L)	0.6	208	0.7	1.7	1.2	1.5	1.1	2100
Copper - Total (mg/L)	1	3	0.001	0.02	0.009	N/A	0.019	21
Hardness as CaCO3 (mg/L as CaCO3)	200	3	1.9	2.1	2	N/A	1.9	21
Iron - Total (mg/L)	0.3	6	<0.002	0.054	0.012	N/A	0.019	42
Manganese - Total (mg/L)	0.1	3	<0.0005	0.0036	0.0019	N/A	0.0046	21
pH (lab) (pH units)	6.5-8.5	3	4.9	5.5	5.1	N/A	5.2	21
S as Sulphate (S as SO4) (mg/L)	250	3	<0.3	0.69	0.33	N/A	0.167	21
Si as Silica (Si as SiO2) (mg/L)	80	3	13	14	13	N/A	15	21
Sodium (Na) (mg/L)	180	3	4.94	7.72	6.03	N/A	4.74	21
Total Dissolved Solids Dried at 180C (mg/L)	600	3	18	28	24	N/A	29	21
True Colour (HU)	15	3	<2	<2	1	N/A	1.24	21
Turbidity (lab) (NTU)	5	3	0.19	0.4	0.27	N/A	0.25	21
Zinc - Total (mg/L)	3	3	0.008	0.012	0.01	N/A	0.015	21
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	3	<20	<20	10	N/A	10	21
Apparent Colour (HU)	N/A	3	<2	<2	1.3	N/A	1.5	21
Bicarbonate (HCO3) (mg/L)	N/A	3	<10	<10	5	N/A	5	21
Bromine - Total (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.016	21
Calcium (Ca) (mg/L)	N/A	3	0.1	0.2	0.17	N/A	0.13	21
Carbonate (CO3) (mg/L)	N/A	3	<10	<10	5	N/A	5	21
Electrical Conductivity (Lab) (uS/cm)	N/A	3	26	33	29	N/A	31	21
Hydroxide (OH) (mg/L)	N/A	3	<1	<1	0.5	N/A	0.5	21
Iodine - Total (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.011	21
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.053	20
Nitrate as N (NO3-N) (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.068	20
Nitrite as N (NO2-N) (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.05	20
Potassium (K) (mg/L)	N/A	3	0.3	0.5	0.43	N/A	0.22	13
Sodium Chloride (NaCl) (mg/L)	N/A	3	9	11	9.7	N/A	10	21
Tin - Total (mg/L)	N/A	3	<0.0002	0.0003	0.00017	N/A	0.0043	21
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	3.1	549
Total coliforms (MPN/100 mL)	N/A	230	<1	<1	0.5	0.5	0.54	2274
E. coli								
E. coli (MPN/100 mL)	0	230	<1	<1	N/A	N/A	N/A	N/A

Table 101 – Water quality data assessment for Wallace Rockhole

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	20
Arsenic - Total (mg/L)	0.01	2	0.0007	0.0008	0.0008	N/A	0.001	20
Barium - Total (mg/L)	2	2	0.02	0.03	0.03	N/A	0.03	20
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	20
Boron - Total (mg/L)	4	2	0.3	0.3	0.3	N/A	0.4	20
Cadmium - Total (mg/L)	0.002	2	0.00007	0.00008	0.00008	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	6	1	1	1	N/A	1	222
Chromium - Total (mg/L)	0.05	2	0.04	0.04	0.04	N/A	0.05	20
Copper - Total (mg/L)	2	2	0.02	0.05	0.03	N/A	0.05	20
Fluoride (F) (mg/L)	1.5	2	0.76	0.77	0.77	N/A	0.95	20
Lead - Total (mg/L)	0.01	2	0.002	0.002	0.002	N/A	0.002	20
Manganese - Total (mg/L)	0.5	2	0.001	0.001	0.001	N/A	0.003	20
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	2	0.0002	0.0002	0.0002	N/A	0.003	20
Nickel - Total (mg/L)	0.02	2	0.003	0.004	0.003	N/A	0.004	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	20	20	20	N/A	20	20
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.4	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.004	0.004	0.004	N/A	0.004	20
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.006	0.006	0.006	N/A	0.007	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.1	20
Chloride (Cl) (mg/L)	250	2	140	150	145	N/A	160	20
Chlorine Free Residual (mg/L)	0.6	6	1.1	1.5	1.2	N/A	1.3	222
Copper - Total (mg/L)	1	2	0.016	0.045	0.031	N/A	0.046	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	320	330	330	N/A	320	20
Iron - Total (mg/L)	0.3	4	0.038	0.047	0.041	N/A	0.16	40
Manganese - Total (mg/L)	0.1	2	0.001	0.0014	0.0012	N/A	0.0026	20
pH (lab) (pH units)	6.5 - 8.5	2	7.9	8	7.9	N/A	7.9	20
S as Sulphate (S as SO4) (mg/L)	250	2	64.8	66.3	65.6	N/A	76.1	20
Si as Silica (Si as SiO2) (mg/L)	80	2	10	10	10	N/A	12	20
Sodium (Na) (mg/L)	180	2	99.3	102	101	N/A	103	20
Total Dissolved Solids Dried at 180C (mg/L)	600	1	670	670	670	N/A	630	19
True Colour (HU)	15	2	2	3	2.5	N/A	3.05	20
Turbidity (lab) (NTU)	5	2	0.33	0.44	0.39	N/A	4.9	20
Zinc - Total (mg/L)	3	2	0.17	0.18	0.18	N/A	0.17	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	210	220	220	N/A	240	20
Apparent Colour (HU)	N/A	2	3	4	3.5	N/A	51	20
Bicarbonate (HCO3) (mg/L)	N/A	2	260	260	260	N/A	290	20
Bromine - Total (mg/L)	N/A	2	0.3	0.4	0.35	N/A	0.55	20
Calcium (Ca) (mg/L)	N/A	2	78	80	79	N/A	78	20
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	20
Electrical Conductivity (Lab) (uS/cm)	N/A	2	1100	1100	1100	N/A	1100	20
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	20
Iodine - Total (mg/L)	N/A	2	0.2	0.2	0.2	N/A	0.2	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	3.5	3.5	3.5	N/A	N/A	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	3.5	3.5	3.5	N/A	N/A	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	N/A	16
Potassium (K) (mg/L)	N/A	2	10	11	11	N/A	N/A	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	240	240	240	N/A	260	20
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.005	20
Heterotrophic Plate Count (CFU/mL)	N/A	1	24	24	24	N/A	2	175
Total coliforms (MPN/100 mL)	N/A	33	<1	200	12	66	0.5	339
E. coli								
E. coli (MPN/100 mL)	0	33	<1	<1	1	1	N/A	N/A

Table 102 – Water quality data assessment for Warruwi

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	99
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	99
Barium - Total (mg/L)	2	2	0.005	0.005	0.005	N/A	0.03	99
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	99
Boron - Total (mg/L)	4	2	0.02	0.02	0.02	N/A	0.06	99
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	99
Chlorine Free Residual (mg/L)	5	33	1	2	1	1	2	346
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	99
Copper - Total (mg/L)	2	2	0.02	0.05	0.04	N/A	0.04	98
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	0.05	92
Lead - Total (mg/L)	0.01	2	0.0003	0.0005	0.0004	N/A	0.002	99
Manganese - Total (mg/L)	0.5	2	0.0007	0.001	0.0009	N/A	0.5	99
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	99
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	99
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.004	99
Nitrate as NO3 (UV screening) (mg/L)	50	2	0.2	0.2	0.2	N/A	1	91
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	0.2	89
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.07	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0005	99
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	99
Trihalomethanes - Total (mg/L)	0.25	0	N/A	N/A	N/A	N/A	N/A	2
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.00006	0.00006	0.00006	N/A	0.003	99
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.059	0.06	0.06	N/A	0.16	99
Chloride (Cl) (mg/L)	250	2	38	38	38	N/A	63.2	92
Chlorine Free Residual (mg/L)	0.6	33	0.96	1.6	1.2	1.5	1.1	346
Copper - Total (mg/L)	1	2	0.022	0.052	0.037	N/A	0.013	98
Hardness as CaCO3 (mg/L as CaCO3)	200	2	19	19	19	N/A	51	92
Iron - Total (mg/L)	0.3	2	0.005	1	0.007	N/A	0.27	99
Manganese - Total (mg/L)	0.1	2	0.0007	0.001	0.00085	N/A	0.13	99
pH (lab) (pH units)	6.5-8.5	2	4.9	4.9	4.9	N/A	5.7	92
S as Sulphate (S as SO4) (mg/L)	250	2	6.33	6.48	6.41	N/A	6.95	92
Si as Silica (Si as SiO2) (mg/L)	80	2	12	12	12	N/A	11	92
Sodium (Na) (mg/L)	180	2	20.4	20.7	20.6	N/A	31.9	92
Total Dissolved Solids Dried at 180C (mg/L)	600	2	110	110	110	N/A	140	90
True Colour (HU)	15	2	<2	<2	1	N/A	1.2	91
Turbidity (lab) (NTU)	5	2	0.35	0.51	0.43	N/A	1.3	92
Zinc - Total (mg/L)	3	2	0.005	0.008	0.0065	N/A	0.0094	99
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	23	92
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	47	91
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	25	92
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.15	99
Calcium (Ca) (mg/L)	N/A	2	1.2	1.3	1.3	N/A	7.8	92
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	92
Electrical Conductivity (Lab) (uS/cm)	N/A	2	160	160	160	N/A	290	92
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	92
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.0061	99
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.095	89
Nitrate as N (NO3-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.099	89
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	89
Potassium (K) (mg/L)	N/A	2	0.6	0.6	0.6	N/A	0.24	81
Sodium Chloride (NaCl) (mg/L)	N/A	2	63	63	63	N/A	100	92
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0049	99
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	1.5	77
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	1	394
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 103 – Water quality data assessment for Weemol

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	0.0001	19
Arsenic - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0004	19
Barium - Total (mg/L)	2	2	0.009	0.009	0.009	N/A	0.03	19
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	19
Boron - Total (mg/L)	4	2	0.03	0.03	0.03	N/A	0.1	19
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	19
Chlorine Free Residual (mg/L)	5	36	0.9	2	1	1	1	346
Chromium - Total (mg/L)	0.05	2	<0.0002	<0.0002	0.0001	N/A	0.003	19
Copper - Total (mg/L)	2	2	0.0009	0.05	0.03	N/A	0.02	19
Fluoride (F) (mg/L)	1.5	2	0.12	0.12	0.12	N/A	N/A	17
Lead - Total (mg/L)	0.01	2	<0.0001	0.002	0.0008	N/A	0.001	19
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	0.003	19
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	19
Molybdenum - Total (mg/L)	0.05	2	<0.0001	<0.0001	0.00005	N/A	0.003	19
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	0.001	19
Nitrate as NO3 (UV screening) (mg/L)	50	2	<0.1	2	1	N/A	N/A	17
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	15
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	<0.0002	<0.0002	0.0001	N/A	0.0008	19
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	19
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.0003	0.0003	0.0003	N/A	0.003	19
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	<0.005	0.0025	N/A	0.018	19
Chloride (Cl) (mg/L)	250	2	10	10	10	N/A	10.1	17
Chlorine Free Residual (mg/L)	0.6	36	0.89	1.6	1.2	1.5	0.94	346
Copper - Total (mg/L)	1	2	0.0009	0.053	0.027	N/A	0.0084	19
Hardness as CaCO3 (mg/L as CaCO3)	200	2	410	410	410	N/A	390	17
Iron - Total (mg/L)	0.3	4	<0.002	<0.01	0.003	N/A	0.052	36
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.0023	19
pH (lab) (pH units)	6.5-8.5	2	7.5	7.5	7.5	N/A	7.4	17
S as Sulphate (S as SO4) (mg/L)	250	2	<0.3	<0.3	0.15	N/A	0.128	17
Si as Silica (Si as SiO2) (mg/L)	80	2	30	30	30	N/A	32	17
Sodium (Na) (mg/L)	180	2	9.89	9.99	9.94	N/A	9.88	17
Total Dissolved Solids Dried at 180C (mg/L)	600	2	340	360	350	N/A	390	17
True Colour (HU)	15	2	<2	<2	1	N/A	1	17
Turbidity (lab) (NTU)	5	2	0.34	1.4	0.87	N/A	0.37	17
Zinc - Total (mg/L)	3	2	0.007	0.045	0.026	N/A	0.012	19
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	380	380	380	N/A	390	17
Apparent Colour (HU)	N/A	2	3	4	3.5	N/A	1.4	17
Bicarbonate (HCO3) (mg/L)	N/A	2	460	470	470	N/A	470	17
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.055	19
Calcium (Ca) (mg/L)	N/A	2	78	78	78	N/A	75	17
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	17
Electrical Conductivity (Lab) (uS/cm)	N/A	2	690	700	700	N/A	740	17
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	17
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.019	19
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.1	0.4	0.25	N/A	0.11	15
Nitrate as N (NO3-N) (mg/L)	N/A	2	<0.1	0.4	0.23	N/A	0.11	15
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.075	N/A	0.053	15
Potassium (K) (mg/L)	N/A	2	2.9	3	3	N/A	2.7	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	16	16	16	N/A	17	17
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0045	19
Heterotrophic Plate Count (CFU/mL)	N/A	3	15	37	22	N/A	3.6	78
Total coliforms (MPN/100 mL)	N/A	36	<1	3	0.57	0.5	0.52	360
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 104 – Water quality data assessment for Willowra

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	6	<0.0002	<0.0002	0.0001	N/A	0.0001	91
Arsenic - Total (mg/L)	0.01	6	0.001	0.002	0.002	N/A	0.002	91
Barium - Total (mg/L)	2	6	0.06	0.06	0.06	N/A	0.06	91
Beryllium - Total (mg/L)	0.06	6	<0.0001	<0.0001	0.00005	N/A	0.0005	91
Boron - Total (mg/L)	4	6	0.4	0.5	0.4	N/A	0.6	91
Cadmium - Total (mg/L)	0.002	6	<0.00005	<0.00005	0.00003	N/A	0.0001	91
Chlorine Free Residual (mg/L)	5	15	1	1	1	N/A	2	259
Chromium - Total (mg/L)	0.05	6	0.004	0.005	0.004	N/A	0.004	91
Copper - Total (mg/L)	2	6	0.0009	0.06	0.01	N/A	0.07	91
Fluoride (F) (mg/L)	1.5	7	0.8	0.84	0.81	N/A	0.88	91
Lead - Total (mg/L)	0.01	6	<0.0001	0.0005	0.0002	N/A	0.0006	91
Manganese - Total (mg/L)	0.5	6	<0.0005	<0.0005	0.0003	N/A	0.003	91
Mercury - Total (mg/L)	0.001	6	<0.0001	<0.0001	0.00005	N/A	0.00005	91
Molybdenum - Total (mg/L)	0.05	6	0.001	0.002	0.001	N/A	0.003	91
Nickel - Total (mg/L)	0.02	6	<0.0005	0.001	0.0004	N/A	0.001	91
Nitrate as NO3 (UV screening) (mg/L)	50	7	30	40	30	N/A	40	91
Nitrite mg-NO2/L*	3	7	<0.3	<0.3	0.2	N/A	0.6	85
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.8	N/A	N/A	1	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	6	0.003	0.003	0.003	N/A	0.004	91
Silver - Total (mg/L)	0.1	6	<0.0001	<0.0001	0.00005	N/A	0.005	91
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	6	0.02	0.02	0.02	N/A	0.03	91
Aesthetic								
Aluminium - Total (mg/L)	0.2	6	<0.005	<0.005	0.0025	N/A	0.0097	91
Chloride (Cl) (mg/L)	250	7	170	200	174	N/A	172	91
Chlorine Free Residual (mg/L)	0.6	15	1.1	1.4	1.2	N/A	1.1	259
Copper - Total (mg/L)	1	6	0.0009	0.064	0.014	N/A	0.22	91
Hardness as CaCO3 (mg/L as CaCO3)	200	7	250	270	260	N/A	260	91
Iron - Total (mg/L)	0.3	13	0.002	2.5	0.2	N/A	0.033	182
Manganese - Total (mg/L)	0.1	6	<0.0005	<0.0005	0.00025	N/A	0.0022	91
pH (lab) (pH units)	6.5-8.5	7	7.9	8.2	8	N/A	8	91
S as Sulphate (S as SO4) (mg/L)	250	7	74.1	77.7	76.4	N/A	65.8	91
Si as Silica (Si as SiO2) (mg/L)	80	7	77	79	78	N/A	80	91
Sodium (Na) (mg/L)	180	7	137	141	139	N/A	136	91
Total Dissolved Solids Dried at 180C (mg/L)	600	7	720	740	730	N/A	750	91
True Colour (HU)	15	7	<2	8	2	N/A	1.14	91
Turbidity (lab) (NTU)	5	7	0.18	23	3.7	N/A	0.62	91
Zinc - Total (mg/L)	3	6	<0.001	0.013	0.0093	N/A	0.02	91
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	7	240	250	240	N/A	240	91
Apparent Colour (HU)	N/A	7	<2	41	6.9	N/A	1.9	91
Bicarbonate (HCO3) (mg/L)	N/A	7	290	300	290	N/A	290	91
Bromine - Total (mg/L)	N/A	6	0.5	1.2	0.87	N/A	0.66	91
Calcium (Ca) (mg/L)	N/A	7	50	56	54	N/A	53	91
Carbonate (CO3) (mg/L)	N/A	7	<10	<10	5	N/A	5	91
Electrical Conductivity (Lab) (uS/cm)	N/A	7	1200	1300	1300	N/A	1300	91
Hydroxide (OH) (mg/L)	N/A	7	<1	<1	0.5	N/A	0.5	91
Iodine - Total (mg/L)	N/A	6	0.2	0.4	0.28	N/A	0.17	91
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	7	5.6	8.1	7.3	N/A	8.3	85
Nitrate as N (NO3-N) (mg/L)	N/A	7	5.6	8.1	7.3	N/A	8.4	85
Nitrite as N (NO2-N) (mg/L)	N/A	7	<0.1	<0.1	0.05	N/A	0.076	85
Potassium (K) (mg/L)	N/A	7	32	34	33	N/A	32	63
Sodium Chloride (NaCl) (mg/L)	N/A	7	280	330	290	N/A	280	91
Tin - Total (mg/L)	N/A	6	<0.0002	0.001	0.00025	N/A	0.0043	91
Heterotrophic Plate Count (CFU/mL)	N/A	1	10	10	10	N/A	39	176
Total coliforms (MPN/100 mL)	N/A	34	<1	<1	0.51	0.5	0.52	342
E. coli								
E. coli (MPN/100 mL)	0	34	<1	<1	N/A	N/A	N/A	N/A

Table 105 – Water quality data assessment for Wilora

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	10	<0.0002	0.0008	0.0002	N/A	0.0003	92
Arsenic - Total (mg/L)	0.01	10	0.001	0.002	0.002	N/A	0.002	92
Barium - Total (mg/L)	2	10	0.05	0.06	0.05	N/A	0.05	92
Beryllium - Total (mg/L)	0.06	10	<0.0001	<0.0001	0.00005	N/A	0.0005	92
Boron - Total (mg/L)	4	10	0.7	0.8	0.7	N/A	0.9	92
Cadmium - Total (mg/L)	0.002	10	<0.00005	<0.00005	0.00003	N/A	0.0001	92
Chlorine Free Residual (mg/L)	5	3	0.1	0.3	0.2	N/A	2	27
Chromium - Total (mg/L)	0.05	10	0.0002	0.0003	0.0003	N/A	0.003	92
Copper - Total (mg/L)	2	10	0.0005	0.01	0.005	N/A	0.03	92
Fluoride (F) (mg/L)	1.5	12	0.89	1	0.97	N/A	1	91
Lead - Total (mg/L)	0.01	10	0.0001	0.002	0.0005	N/A	0.005	92
Manganese - Total (mg/L)	0.5	10	<0.0005	<0.0005	0.0003	N/A	0.003	92
Mercury - Total (mg/L)	0.001	10	<0.0001	<0.0001	0.00005	N/A	0.00007	92
Molybdenum - Total (mg/L)	0.05	10	0.001	0.001	0.001	N/A	0.003	92
Nickel - Total (mg/L)	0.02	10	<0.0005	0.0006	0.0003	N/A	0.001	92
Nitrate as NO3 (UV screening) (mg/L)	50	12	20	20	20	N/A	20	91
Nitrite mg-NO2/L*	3	12	<0.3	2	0.4	N/A	0.4	83
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	1	N/A	N/A	0.5	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	10	0.005	0.006	0.005	N/A	0.006	92
Silver - Total (mg/L)	0.1	10	<0.0001	<0.0001	0.00005	N/A	0.005	92
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	10	0.02	0.02	0.02	N/A	0.02	92
Aesthetic								
Aluminium - Total (mg/L)	0.2	10	<0.005	<0.005	0.0025	N/A	0.023	92
Chloride (Cl) (mg/L)	250	12	460	550	503	N/A	522	91
Chlorine Free Residual (mg/L)	0.6	3	0.11	0.3	0.21	N/A	0.4	27
Copper - Total (mg/L)	1	10	0.0005	0.01	0.0046	N/A	0.0087	92
Hardness as CaCO3 (mg/L as CaCO3)	200	12	370	710	610	N/A	640	91
Iron - Total (mg/L)	0.3	22	0.005	0.059	0.014	N/A	0.027	183
Manganese - Total (mg/L)	0.1	10	<0.0005	<0.0005	0.00025	N/A	0.0023	92
pH (lab) (pH units)	6.5-8.5	12	7.7	8.1	7.9	N/A	7.9	91
S as Sulphate (S as SO4) (mg/L)	250	12	115	223	195	N/A	199	91
Si as Silica (Si as SiO2) (mg/L)	80	12	44	86	71	N/A	80	91
Sodium (Na) (mg/L)	180	12	288	333	311	N/A	315	91
Total Dissolved Solids Dried at 180C (mg/L)	600	10	1600	1800	1700	N/A	1700	89
True Colour (HU)	15	12	<2	<2	1	N/A	1.13	91
Turbidity (lab) (NTU)	5	12	0.18	1.3	0.53	N/A	0.55	91
Zinc - Total (mg/L)	3	10	0.011	0.036	0.019	N/A	0.053	90
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	12	360	380	370	N/A	380	91
Apparent Colour (HU)	N/A	12	<2	3	1.4	N/A	1.9	91
Bicarbonate (HCO3) (mg/L)	N/A	12	440	460	450	N/A	460	91
Bromine - Total (mg/L)	N/A	10	1.8	2.9	2.4	N/A	3.3	92
Calcium (Ca) (mg/L)	N/A	12	57	110	96	N/A	100	91
Carbonate (CO3) (mg/L)	N/A	12	<10	<10	5	N/A	5.1	91
Electrical Conductivity (Lab) (uS/cm)	N/A	12	2700	2900	2800	N/A	2800	91
Hydroxide (OH) (mg/L)	N/A	12	<1	<1	0.5	N/A	0.5	91
Iodine - Total (mg/L)	N/A	10	0.4	0.5	0.47	N/A	0.28	92
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	12	3.4	4.8	4.3	N/A	4.1	83
Nitrate as N (NO3-N) (mg/L)	N/A	12	3.4	4.8	4.2	N/A	4.1	83
Nitrite as N (NO2-N) (mg/L)	N/A	12	<0.1	0.7	0.12	N/A	0.064	83
Potassium (K) (mg/L)	N/A	12	58	64	61	N/A	60	57
Sodium Chloride (NaCl) (mg/L)	N/A	12	760	910	830	N/A	860	91
Tin - Total (mg/L)	N/A	10	<0.0002	0.0006	0.00015	N/A	0.0043	92
Heterotrophic Plate Count (CFU/mL)	N/A	5	14	85	54	N/A	200	224
Total coliforms (MPN/100 mL)	N/A	39	<1	<1	0.5	0.5	3.5	372
E. coli								
E. coli (MPN/100 mL)	0	39	<1	<1	N/A	N/A	N/A	N/A

Table 106 – Water quality data assessment for Wugullar (Beswick)

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	8	0.007	0.009	0.008	N/A	0.009	72
Arsenic - Total (mg/L)	0.01	8	0.006	0.007	0.007	N/A	0.008	71
Barium - Total (mg/L)	2	8	0.09	0.1	0.1	N/A	0.2	71
Beryllium - Total (mg/L)	0.06	8	<0.0001	<0.0001	0.00005	N/A	0.0005	71
Boron - Total (mg/L)	4	8	0.02	0.02	0.02	N/A	0.02	71
Cadmium - Total (mg/L)	0.002	8	<0.00005	0.00009	0.00006	N/A	0.0001	72
Chlorine Free Residual (mg/L)	5	36	0.9	2	1	2	2	290
Chromium - Total (mg/L)	0.05	8	<0.0002	0.0004	0.0002	N/A	0.003	72
Copper - Total (mg/L)	2	8	0.08	0.1	0.1	N/A	0.2	72
Fluoride (F) (mg/L)	1.5	6	0.1	0.13	0.11	N/A	0.14	61
Lead - Total (mg/L)	0.01	8	<0.0001	0.002	0.0004	N/A	0.001	72
Manganese - Total (mg/L)	0.5	8	<0.0005	0.005	0.001	N/A	0.003	72
Mercury - Total (mg/L)	0.001	8	0.0001	0.0002	0.0001	N/A	0.0002	72
Molybdenum - Total (mg/L)	0.05	8	0.0006	0.0007	0.0007	N/A	0.003	72
Nickel - Total (mg/L)	0.02	8	<0.0005	0.004	0.0009	N/A	0.001	72
Nitrate as NO3 (UV screening) (mg/L)	50	6	0.1	0.6	0.2	N/A	0.8	61
Nitrite mg-NO2/L*	3	6	<0.3	<0.3	0.2	N/A	0.2	57
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.07	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	8	<0.0002	<0.0002	0.0001	N/A	0.0005	72
Silver - Total (mg/L)	0.1	8	<0.0001	<0.0001	0.00005	N/A	0.005	71
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	8	0.0002	0.0003	0.0002	N/A	0.0003	72
Aesthetic								
Aluminium - Total (mg/L)	0.2	8	<0.005	0.075	0.031	N/A	0.025	71
Chloride (Cl) (mg/L)	250	6	5	6	5.33	N/A	6.06	61
Chlorine Free Residual (mg/L)	0.6	36	0.93	1.9	1.3	1.7	1.2	290
Copper - Total (mg/L)	1	8	0.078	0.14	0.11	N/A	0.13	72
Hardness as CaCO3 (mg/L as CaCO3)	200	6	290	330	310	N/A	310	61
Iron - Total (mg/L)	0.3	14	<0.002	0.34	0.043	N/A	0.021	133
Manganese - Total (mg/L)	0.1	8	<0.0005	0.0049	0.0012	N/A	0.0023	72
pH (lab) (pH units)	6.5-8.5	6	7.1	7.6	7.5	N/A	7.5	61
S as Sulphate (S as SO4) (mg/L)	250	6	<0.3	3.18	1.14	N/A	0.292	61
Si as Silica (Si as SiO2) (mg/L)	80	6	18	21	20	N/A	22	61
Sodium (Na) (mg/L)	180	6	4.46	5.99	5.55	N/A	5.55	61
Total Dissolved Solids Dried at 180C (mg/L)	600	4	280	310	290	N/A	310	59
True Colour (HU)	15	6	<2	6	2	N/A	1.67	61
Turbidity (lab) (NTU)	5	6	0.16	1.3	0.62	N/A	0.63	61
Zinc - Total (mg/L)	3	8	0.017	0.054	0.025	N/A	0.062	72
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	6	290	310	310	N/A	310	61
Apparent Colour (HU)	N/A	6	<2	6	3.3	N/A	4.5	61
Bicarbonate (HCO3) (mg/L)	N/A	6	360	380	370	N/A	370	61
Bromine - Total (mg/L)	N/A	8	<0.1	<0.1	0.05	N/A	0.025	71
Calcium (Ca) (mg/L)	N/A	6	58	66	62	N/A	63	61
Carbonate (CO3) (mg/L)	N/A	6	<10	<10	5	N/A	5	61
Electrical Conductivity (Lab) (uS/cm)	N/A	6	540	580	570	N/A	590	61
Hydroxide (OH) (mg/L)	N/A	6	<1	<1	0.5	N/A	0.5	61
Iodine - Total (mg/L)	N/A	8	<0.1	<0.1	0.05	N/A	0.013	72
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	6	<0.1	<0.1	0.058	N/A	0.069	57
Nitrate as N (NO3-N) (mg/L)	N/A	6	<0.1	<0.1	0.067	N/A	0.075	57
Nitrite as N (NO2-N) (mg/L)	N/A	6	<0.1	<0.1	0.05	N/A	0.05	57
Potassium (K) (mg/L)	N/A	6	1.7	2.2	2	N/A	1.9	31
Sodium Chloride (NaCl) (mg/L)	N/A	6	8	10	9	N/A	9.9	61
Tin - Total (mg/L)	N/A	8	<0.0002	0.0028	0.00061	N/A	0.0042	72
Heterotrophic Plate Count (CFU/mL)	N/A	2	90	92	91	N/A	4.8	77
Total coliforms (MPN/100 mL)	N/A	36	<1	2	0.56	0.63	0.51	321
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 107 – Water quality data assessment for Wurrumiyanga

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	3	<0.0002	<0.0002	0.0001	N/A	N/A	16
Arsenic - Total (mg/L)	0.01	3	<0.0002	<0.0002	0.0001	N/A	N/A	16
Barium - Total (mg/L)	2	3	0.002	0.004	0.003	N/A	N/A	16
Beryllium - Total (mg/L)	0.06	3	<0.0001	<0.0001	0.00005	N/A	N/A	16
Boron - Total (mg/L)	4	3	0.009	0.03	0.02	N/A	N/A	16
Cadmium - Total (mg/L)	0.002	3	<0.00005	<0.00005	0.00003	N/A	N/A	16
Chlorine Free Residual (mg/L)	5	142	1	2	1	2	2	576
Chromium - Total (mg/L)	0.05	3	<0.0002	<0.0002	0.0001	N/A	N/A	16
Copper - Total (mg/L)	2	3	0.03	0.08	0.05	N/A	N/A	16
Fluoride (F) (mg/L)	1.5	96	<0.1	0.65	0.37	0.64	0.7	795
Lead - Total (mg/L)	0.01	3	<0.0001	0.002	0.0009	N/A	N/A	16
Manganese - Total (mg/L)	0.5	3	<0.0005	<0.0005	0.0003	N/A	N/A	16
Mercury - Total (mg/L)	0.001	3	<0.0001	<0.0001	0.00005	N/A	N/A	16
Molybdenum - Total (mg/L)	0.05	3	<0.0001	<0.0001	0.00005	N/A	N/A	16
Nickel - Total (mg/L)	0.02	3	<0.0005	<0.0005	0.0003	N/A	N/A	16
Nitrate as NO3 (UV screening) (mg/L)	50	2	1	3	2	N/A	N/A	12
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	13
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	3	<0.0002	<0.0002	0.0001	N/A	N/A	16
Silver - Total (mg/L)	0.1	3	<0.0001	<0.0001	0.00005	N/A	N/A	16
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	3	<0.00005	<0.00005	0.00003	N/A	N/A	16
Aesthetic								
Aluminium - Total (mg/L)	0.2	3	<0.005	0.009	0.0065	N/A	0.012	16
Chloride (Cl) (mg/L)	250	2	7	13	10	N/A	7.45	13
Chlorine Free Residual (mg/L)	0.6	142	1.1	1.6	1.3	1.5	1.2	576
Copper - Total (mg/L)	1	3	0.031	0.08	0.051	N/A	0.059	16
Hardness as CaCO3 (mg/L as CaCO3)	200	2	2.1	2.4	2.3	N/A	4.8	13
Iron - Total (mg/L)	0.3	5	0.004	<0.01	0.005	N/A	0.015	29
Manganese - Total (mg/L)	0.1	3	<0.0005	<0.0005	0.00025	N/A	0.0021	16
pH (lab) (pH units)	6.5-8.5	2	4.8	4.8	4.8	N/A	5.1	13
S as Sulphate (S as SO4) (mg/L)	250	2	0.57	0.66	0.615	N/A	0.211	13
Si as Silica (Si as SiO2) (mg/L)	80	2	13	13	13	N/A	13	13
Sodium (Na) (mg/L)	180	2	6.73	6.76	6.75	N/A	4.94	13
Total Dissolved Solids Dried at 180C (mg/L)	600	2	20	23	22	N/A	26	13
True Colour (HU)	15	2	<2	<2	1	N/A	1	12
Turbidity (lab) (NTU)	5	2	0.36	0.41	0.39	N/A	0.34	13
Zinc - Total (mg/L)	3	3	0.006	0.007	0.0063	N/A	0.015	16
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	11	13
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	1.1	12
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	6.8	13
Bromine - Total (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.02	16
Calcium (Ca) (mg/L)	N/A	2	0.2	0.3	0.25	N/A	1.4	13
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	13
Electrical Conductivity (Lab) (uS/cm)	N/A	2	35	35	35	N/A	35	13
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	13
Iodine - Total (mg/L)	N/A	3	<0.1	<0.1	0.05	N/A	0.013	16
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.3	0.8	0.55	N/A	0.13	13
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.3	0.8	0.55	N/A	0.14	13
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	13
Potassium (K) (mg/L)	N/A	2	0.4	0.5	0.45	N/A	0.19	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	11	22	17	N/A	12	13
Tin - Total (mg/L)	N/A	3	<0.0002	<0.0002	0.0001	N/A	0.0041	16
Heterotrophic Plate Count (CFU/mL)	N/A	5	12	1100	300	N/A	16	114
Total coliforms (MPN/100 mL)	N/A	143	<1	16	0.63	0.5	0.53	790
E. coli								
E. coli (MPN/100 mL)	0	143	<1	<1	N/A	N/A	N/A	N/A

Table 108 – Water quality data assessment for Wutunugurra

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	0.0004	0.001	0.0007	N/A	0.0004	20
Arsenic - Total (mg/L)	0.01	2	0.0006	0.0006	0.0006	N/A	0.001	20
Barium - Total (mg/L)	2	2	0.4	0.5	0.4	N/A	0.5	20
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	0.0005	20
Boron - Total (mg/L)	4	2	0.1	0.1	0.1	N/A	0.2	20
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	0.0001	20
Chlorine Free Residual (mg/L)	5	30	0.8	2	1	1	1	282
Chromium - Total (mg/L)	0.05	2	0.0005	0.0005	0.0005	N/A	0.003	20
Copper - Total (mg/L)	2	2	0.01	0.07	0.04	N/A	0.07	20
Fluoride (F) (mg/L)	1.5	2	0.22	0.23	0.23	N/A	N/A	18
Lead - Total (mg/L)	0.01	2	0.001	0.004	0.002	N/A	0.003	20
Manganese - Total (mg/L)	0.5	2	0.0005	0.0006	0.0006	N/A	0.003	20
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	0.00005	20
Molybdenum - Total (mg/L)	0.05	2	0.0005	0.0007	0.0006	N/A	0.003	20
Nickel - Total (mg/L)	0.02	2	<0.0005	0.0008	0.0005	N/A	0.001	20
Nitrate as NO3 (UV screening) (mg/L)	50	2	3	3	3	N/A	N/A	18
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	16
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.0002	0.0002	0.0002	N/A	0.0005	20
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	0.005	20
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.002	0.002	0.002	N/A	0.002	20
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	0.005	0.005	0.0038	N/A	0.0094	20
Chloride (Cl) (mg/L)	250	2	42	43	42.5	N/A	48.8	18
Chlorine Free Residual (mg/L)	0.6	30	0.79	1.7	1.1	1.5	1	282
Copper - Total (mg/L)	1	2	0.014	0.07	0.042	N/A	0.021	20
Hardness as CaCO3 (mg/L as CaCO3)	200	2	180	190	190	N/A	180	18
Iron - Total (mg/L)	0.3	4	0.008	0.017	0.0088	N/A	0.02	38
Manganese - Total (mg/L)	0.1	2	0.0005	0.0006	0.00055	N/A	0.0027	20
pH (lab) (pH units)	6.5-8.5	2	7.3	7.3	7.3	N/A	7.4	18
S as Sulphate (S as SO4) (mg/L)	250	2	9.24	9.33	9.29	N/A	6.93	18
Si as Silica (Si as SiO2) (mg/L)	80	2	61	63	62	N/A	64	18
Sodium (Na) (mg/L)	180	2	34.8	35	34.9	N/A	39.1	18
Total Dissolved Solids Dried at 180C (mg/L)	600	2	320	330	330	N/A	340	18
True Colour (HU)	15	2	<2	<2	1	N/A	1.11	18
Turbidity (lab) (NTU)	5	2	0.21	0.26	0.24	N/A	0.33	18
Zinc - Total (mg/L)	3	2	0.025	0.029	0.027	N/A	0.035	20
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	190	190	190	N/A	190	18
Apparent Colour (HU)	N/A	2	2	2	1.5	N/A	1.3	18
Bicarbonate (HCO3) (mg/L)	N/A	2	230	230	230	N/A	230	18
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.15	20
Calcium (Ca) (mg/L)	N/A	2	41	42	41	N/A	39	18
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	18
Electrical Conductivity (Lab) (uS/cm)	N/A	2	540	550	550	N/A	560	18
Hydroxide (OH) (mg/L)	N/A	2	<10	<10	5	N/A	1	18
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.051	20
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	0.8	0.8	0.8	N/A	1	16
Nitrate as N (NO3-N) (mg/L)	N/A	2	0.8	0.8	0.8	N/A	1.1	16
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	16
Potassium (K) (mg/L)	N/A	2	8.6	8.7	8.7	N/A	9.3	8
Sodium Chloride (NaCl) (mg/L)	N/A	2	69	70	70	N/A	81	18
Tin - Total (mg/L)	N/A	2	<0.0002	0.0004	0.00025	N/A	0.0045	20
Heterotrophic Plate Count (CFU/mL)	N/A	1	150	150	150	N/A	4.8	180
Total coliforms (MPN/100 mL)	N/A	33	<1	<1	0.5	0.5	0.5	356
E. coli								
E. coli (MPN/100 mL)	0	33	<1	<1	N/A	N/A	N/A	N/A

Table 109 – Water quality data assessment for Yarralin

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	2	<0.0002	<0.0002	0.0001	N/A	N/A	17
Arsenic - Total (mg/L)	0.01	2	0.0002	0.0002	0.0002	N/A	N/A	17
Barium - Total (mg/L)	2	2	0.3	0.3	0.3	N/A	N/A	17
Beryllium - Total (mg/L)	0.06	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Boron - Total (mg/L)	4	2	0.07	0.07	0.07	N/A	N/A	17
Cadmium - Total (mg/L)	0.002	2	<0.00005	<0.00005	0.00003	N/A	N/A	17
Chlorine Free Residual (mg/L)	5	36	0.7	1	1	1	2	281
Chromium - Total (mg/L)	0.05	2	0.002	0.003	0.002	N/A	N/A	17
Copper - Total (mg/L)	2	2	0.001	0.001	0.001	N/A	N/A	17
Fluoride (F) (mg/L)	1.5	2	0.11	0.11	0.11	N/A	N/A	17
Lead - Total (mg/L)	0.01	2	<0.0001	0.0005	0.0003	N/A	N/A	17
Manganese - Total (mg/L)	0.5	2	<0.0005	<0.0005	0.0003	N/A	N/A	17
Mercury - Total (mg/L)	0.001	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Molybdenum - Total (mg/L)	0.05	2	0.0002	0.0002	0.0002	N/A	N/A	17
Nickel - Total (mg/L)	0.02	2	<0.0005	<0.0005	0.0003	N/A	N/A	17
Nitrate as NO3 (UV screening) (mg/L)	50	2	6	6	6	N/A	N/A	17
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	N/A	15
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	N/A	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	2	0.0007	0.0007	0.0007	N/A	N/A	17
Silver - Total (mg/L)	0.1	2	<0.0001	<0.0001	0.00005	N/A	N/A	17
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	2	0.002	0.002	0.002	N/A	N/A	17
Aesthetic								
Aluminium - Total (mg/L)	0.2	2	<0.005	0.006	0.0043	N/A	0.0093	17
Chloride (Cl) (mg/L)	250	2	14	14	14	N/A	14	17
Chlorine Free Residual (mg/L)	0.6	36	0.7	1.4	1.2	1.3	1.1	281
Copper - Total (mg/L)	1	2	0.001	0.0012	0.0011	N/A	0.0098	17
Hardness as CaCO3 (mg/L as CaCO3)	200	2	330	350	340	N/A	350	17
Iron - Total (mg/L)	0.3	4	<0.002	<0.01	0.0038	N/A	0.024	34
Manganese - Total (mg/L)	0.1	2	<0.0005	<0.0005	0.00025	N/A	0.013	17
pH (lab) (pH units)	6.5-8.5	2	7.6	7.7	7.6	N/A	7.7	17
S as Sulphate (S as SO4) (mg/L)	250	2	0.87	1.14	1.01	N/A	0.234	17
Si as Silica (Si as SiO2) (mg/L)	80	2	31	32	31	N/A	34	17
Sodium (Na) (mg/L)	180	2	14.3	14.4	14.4	N/A	15.5	17
Total Dissolved Solids Dried at 180C (mg/L)	600	2	370	380	370	N/A	390	17
True Colour (HU)	15	2	<2	<2	1	N/A	1.21	17
Turbidity (lab) (NTU)	5	2	0.27	0.41	0.34	N/A	0.48	17
Zinc - Total (mg/L)	3	2	0.008	0.019	0.014	N/A	0.016	17
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	340	340	340	N/A	350	17
Apparent Colour (HU)	N/A	2	<2	<2	1	N/A	4	17
Bicarbonate (HCO3) (mg/L)	N/A	2	420	420	420	N/A	420	17
Bromine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.077	17
Calcium (Ca) (mg/L)	N/A	2	70	76	73	N/A	75	17
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	21	17
Electrical Conductivity (Lab) (uS/cm)	N/A	2	690	690	690	N/A	720	17
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	17
Iodine - Total (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.012	17
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	1.4	1.5	1.5	N/A	1.7	15
Nitrate as N (NO3-N) (mg/L)	N/A	2	1.4	1.5	1.5	N/A	1.8	15
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	15
Potassium (K) (mg/L)	N/A	2	3.2	3.2	3.2	N/A	2.9	10
Sodium Chloride (NaCl) (mg/L)	N/A	2	23	23	23	N/A	23	17
Tin - Total (mg/L)	N/A	2	<0.0002	<0.0002	0.0001	N/A	0.0044	17
Heterotrophic Plate Count (CFU/mL)	N/A	0	N/A	N/A	N/A	N/A	320	80
Total coliforms (MPN/100 mL)	N/A	36	<1	12	0.82	0.5	1.3	314
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

Table 110 – Water quality data assessment for Yirrkala

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	5	<0.0002	<0.0002	0.0001	N/A	0.0001	22
Arsenic - Total (mg/L)	0.01	5	<0.0002	<0.0002	0.0001	N/A	0.0003	22
Barium - Total (mg/L)	2	5	0.003	0.004	0.004	N/A	0.03	22
Beryllium - Total (mg/L)	0.06	5	<0.0001	<0.0001	0.00005	N/A	0.0005	22
Boron - Total (mg/L)	4	5	0.01	0.01	0.01	N/A	0.01	22
Cadmium - Total (mg/L)	0.002	5	<0.00005	<0.00005	0.00003	N/A	0.0001	22
Chlorine Free Residual (mg/L)	5	127	0.4	2	1	2	2	1039
Chromium - Total (mg/L)	0.05	5	0.0002	0.0003	0.0002	N/A	0.003	22
Copper - Total (mg/L)	2	5	0.009	0.03	0.02	N/A	0.1	22
Fluoride (F) (mg/L)	1.5	2	<0.1	<0.1	0.05	N/A	0.05	24
Lead - Total (mg/L)	0.01	5	<0.0001	0.0003	0.0002	N/A	0.0005	22
Manganese - Total (mg/L)	0.5	5	<0.0005	0.001	0.0005	N/A	0.003	22
Mercury - Total (mg/L)	0.001	5	<0.0001	<0.0001	0.00005	N/A	0.00005	22
Molybdenum - Total (mg/L)	0.05	5	<0.0001	<0.0001	0.00005	N/A	0.003	22
Nickel - Total (mg/L)	0.02	5	<0.0005	<0.0005	0.0003	N/A	0.001	22
Nitrate as NO3 (UV screening) (mg/L)	50	2	<0.1	<0.1	0.05	N/A	0.5	24
Nitrite mg-NO2/L*	3	2	<0.3	<0.3	0.2	N/A	0.2	21
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.1	N/A	N/A	0.06	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	5	<0.0002	<0.0002	0.0001	N/A	0.0005	22
Silver - Total (mg/L)	0.1	5	<0.0001	<0.0001	0.00005	N/A	0.005	22
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	5	0.00008	0.0001	0.00008	N/A	0.0001	22
Aesthetic								
Aluminium - Total (mg/L)	0.2	5	<0.005	0.055	0.014	N/A	0.014	22
Chloride (Cl) (mg/L)	250	2	12	12	12	N/A	12.4	24
Chlorine Free Residual (mg/L)	0.6	127	0.42	1.9	1.4	1.6	1.2	1039
Copper - Total (mg/L)	1	5	0.009	0.025	0.016	N/A	0.029	22
Hardness as CaCO3 (mg/L as CaCO3)	200	2	4.9	5	5	N/A	7	24
Iron - Total (mg/L)	0.3	7	<0.002	<0.01	0.0029	N/A	0.035	46
Manganese - Total (mg/L)	0.1	5	<0.0005	0.001	0.00053	N/A	0.0026	22
pH (lab) (pH units)	6.5-8.5	2	5.6	5.6	5.6	N/A	5.7	24
S as Sulphate (S as SO4) (mg/L)	250	2	0.78	1.44	1.11	N/A	0.891	24
Si as Silica (Si as SiO2) (mg/L)	80	2	9.8	10	9.9	N/A	12	24
Sodium (Na) (mg/L)	180	2	8.44	9.24	8.84	N/A	7.98	24
Total Dissolved Solids Dried at 180C (mg/L)	600	2	25	42	34	N/A	38	24
True Colour (HU)	15	2	2	3	2.5	N/A	1.18	24
Turbidity (lab) (NTU)	5	2	0.68	2.4	1.5	N/A	0.64	24
Zinc - Total (mg/L)	3	5	0.002	0.005	0.0032	N/A	0.0064	22
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	2	<20	<20	10	N/A	10	24
Apparent Colour (HU)	N/A	2	6	8	7	N/A	3.6	24
Bicarbonate (HCO3) (mg/L)	N/A	2	<10	<10	5	N/A	5.7	24
Bromine - Total (mg/L)	N/A	5	<0.1	<0.1	0.05	N/A	0.024	22
Calcium (Ca) (mg/L)	N/A	2	0.8	1	0.9	N/A	1.7	24
Carbonate (CO3) (mg/L)	N/A	2	<10	<10	5	N/A	5	24
Electrical Conductivity (Lab) (uS/cm)	N/A	2	57	58	58	N/A	59	24
Hydroxide (OH) (mg/L)	N/A	2	<1	<1	0.5	N/A	0.5	24
Iodine - Total (mg/L)	N/A	5	<0.1	<0.1	0.05	N/A	0.015	22
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.057	21
Nitrate as N (NO3-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.067	21
Nitrite as N (NO2-N) (mg/L)	N/A	2	<0.1	<0.1	0.05	N/A	0.05	21
Potassium (K) (mg/L)	N/A	2	0.7	0.9	0.8	N/A	0.58	17
Sodium Chloride (NaCl) (mg/L)	N/A	2	19	20	20	N/A	20	24
Tin - Total (mg/L)	N/A	5	<0.0002	<0.0002	0.0001	N/A	0.0039	22
Heterotrophic Plate Count (CFU/mL)	N/A	3	42	400	250	N/A	3.7	284
Total coliforms (MPN/100 mL)	N/A	132	<1	12	0.59	0.5	0.53	1097
E. coli								
E. coli (MPN/100 mL)	0	132	<1	<1	N/A	N/A	N/A	N/A

Table 111 – Water quality data assessment for Yuelamu

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	4	<0.0002	0.0008	0.0003	N/A	0.0001	38
Arsenic - Total (mg/L)	0.01	4	<0.0002	<0.0002	0.0001	N/A	0.0003	38
Barium - Total (mg/L)	2	4	0.0005	0.004	0.001	N/A	0.03	38
Beryllium - Total (mg/L)	0.06	4	<0.0001	<0.0001	0.00005	N/A	0.0005	38
Boron - Total (mg/L)	4	4	0.9	1	1	N/A	1	35
Cadmium - Total (mg/L)	0.002	4	<0.00005	<0.00005	0.00003	N/A	0.0001	38
Chlorine Free Residual (mg/L)	5	10	0.8	1	1	N/A	1	75
Chromium - Total (mg/L)	0.05	4	<0.0002	<0.0002	0.0001	N/A	0.003	38
Copper - Total (mg/L)	2	4	0.002	0.009	0.005	N/A	0.2	38
Fluoride (F) (mg/L)	1.5	5	0.34	0.64	0.5	N/A	1.7	38
Lead - Total (mg/L)	0.01	4	<0.0001	0.0004	0.0002	N/A	0.002	38
Manganese - Total (mg/L)	0.5	4	<0.0005	0.0006	0.0003	N/A	0.03	38
Mercury - Total (mg/L)	0.001	4	<0.0001	<0.0001	0.00005	N/A	0.00005	38
Molybdenum - Total (mg/L)	0.05	4	0.0002	0.0002	0.0002	N/A	0.003	38
Nickel - Total (mg/L)	0.02	4	<0.0005	<0.0005	0.0003	N/A	0.001	38
Nitrate as NO3 (UV screening) (mg/L)	50	5	2	5	3	N/A	10	38
Nitrite mg-NO2/L*	3	5	<0.3	<0.3	0.2	N/A	0.2	37
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.2	N/A	N/A	0.3	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	4	<0.0002	<0.0002	0.0001	N/A	0.0005	38
Silver - Total (mg/L)	0.1	4	<0.0001	<0.0001	0.00005	N/A	0.005	38
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	4	0.004	0.007	0.005	N/A	0.007	38
Aesthetic								
Aluminium - Total (mg/L)	0.2	4	<0.005	<0.005	0.0025	N/A	0.0087	38
Chloride (Cl) (mg/L)	250	5	20	50	28.4	N/A	38.5	38
Chlorine Free Residual (mg/L)	0.6	10	0.8	1.4	1	N/A	0.84	75
Copper - Total (mg/L)	1	4	0.0018	0.0088	0.0049	N/A	0.025	38
Hardness as CaCO3 (mg/L as CaCO3)	200	5	48	61	54	N/A	53	38
Iron - Total (mg/L)	0.3	9	0.002	0.028	0.0086	N/A	0.028	76
Manganese - Total (mg/L)	0.1	4	<0.0005	0.0006	0.00034	N/A	0.0062	38
pH (lab) (pH units)	6.5-8.5	5	7.9	8.1	8	N/A	7.9	38
S as Sulphate (S as SO4) (mg/L)	250	5	4.29	7.65	5.63	N/A	4.71	38
Si as Silica (Si as SiO2) (mg/L)	80	5	66	79	71	N/A	74	38
Sodium (Na) (mg/L)	180	5	32.9	78.5	45.7	N/A	53	38
Total Dissolved Solids Dried at 180C (mg/L)	600	5	190	290	220	N/A	250	38
True Colour (HU)	15	5	<2	<2	1	N/A	1.18	38
Turbidity (lab) (NTU)	5	5	0.18	0.23	0.2	N/A	0.52	38
Zinc - Total (mg/L)	3	4	0.049	0.3	0.19	N/A	0.23	37
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	5	83	120	94	N/A	100	38
Apparent Colour (HU)	N/A	5	<2	<2	1	N/A	2.1	38
Bicarbonate (HCO3) (mg/L)	N/A	5	100	150	110	N/A	120	38
Bromine - Total (mg/L)	N/A	4	0.5	0.9	0.68	N/A	0.65	38
Calcium (Ca) (mg/L)	N/A	5	18	23	20	N/A	20	38
Carbonate (CO3) (mg/L)	N/A	5	<10	<10	5	N/A	7.4	38
Electrical Conductivity (Lab) (uS/cm)	N/A	5	250	430	300	N/A	350	38
Hydroxide (OH) (mg/L)	N/A	5	<1	<1	0.5	N/A	0.62	38
Iodine - Total (mg/L)	N/A	4	0.1	0.5	0.35	N/A	0.18	38
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	5	0.5	1.2	0.72	N/A	1.4	37
Nitrate as N (NO3-N) (mg/L)	N/A	5	0.5	1.2	0.72	N/A	1.4	36
Nitrite as N (NO2-N) (mg/L)	N/A	5	<0.1	<0.1	0.05	N/A	0.05	37
Potassium (K) (mg/L)	N/A	5	0.3	0.5	0.36	N/A	0.42	27
Sodium Chloride (NaCl) (mg/L)	N/A	5	34	82	47	N/A	63	38
Tin - Total (mg/L)	N/A	4	<0.0002	0.0003	0.00015	N/A	0.0041	38
Heterotrophic Plate Count (CFU/mL)	N/A	1	45	45	45	N/A	710	36
Total coliforms (MPN/100 mL)	N/A	11	<1	<1	0.5	N/A	0.5	83
E. coli								
E. coli (MPN/100 mL)	0	11	<1	<1	N/A	N/A	N/A	N/A

Table 112 – Water quality data assessment for Yuendumu

Parameter	ADWG	N	Current Year 2023 - 2024			Long Term 2015 - 2024		
			Min	Max	Avg	95 P	95P	N
Health								
Antimony - Total (mg/L)	0.003	26	<0.0002	0.0006	0.0001	0.0003	0.0003	115
Arsenic - Total (mg/L)	0.01	26	<0.0002	0.004	0.0002	0.0001	0.0003	115
Barium - Total (mg/L)	2	26	0.03	0.05	0.04	0.05	0.05	115
Beryllium - Total (mg/L)	0.06	26	<0.0001	0.003	0.0002	0.00005	0.0005	115
Boron - Total (mg/L)	4	26	0.2	0.3	0.3	0.3	0.4	115
Cadmium - Total (mg/L)	0.002	26	<0.00005	0.001	0.00006	0.00003	0.0001	115
Chlorine Free Residual (mg/L)	5	36	0.8	2	1	2	1	265
Chromium - Total (mg/L)	0.05	26	<0.0002	0.003	0.0003	0.0003	0.003	115
Copper - Total (mg/L)	2	26	0.0009	0.1	0.01	0.03	0.05	115
Fluoride (F) (mg/L)	1.5	26	0.45	0.69	0.52	0.66	0.59	109
Lead - Total (mg/L)	0.01	26	0.0001	0.003	0.0002	0.0003	0.001	115
Manganese - Total (mg/L)	0.5	26	<0.0005	0.005	0.0006	0.003	0.003	115
Mercury - Total (mg/L)	0.001	26	<0.0001	<0.0001	0.00005	0.00005	0.0001	115
Molybdenum - Total (mg/L)	0.05	26	<0.0001	0.0003	0.00009	0.0002	0.003	115
Nickel - Total (mg/L)	0.02	26	<0.0005	0.004	0.0004	0.001	0.001	115
Nitrate as NO3 (UV screening) (mg/L)	50	26	3	8	5	6	6	109
Nitrite mg-NO2/L*	3	26	<0.3	<0.3	0.2	0.2	0.2	108
Σ Nitrate and Nitrite Sum of Ratios"	1	N/A	N/A	0.3	N/A	0.2	0.2	N/A
Perfluorooctanoic acid (PFOA) (ug/L)	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium - Total (mg/L)	0.01	26	0.002	0.002	0.002	0.002	0.002	115
Silver - Total (mg/L)	0.1	26	<0.0001	<0.0001	0.00005	0.00005	0.005	115
Trihalomethanes - Total (mg/L)	0.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sum (PFHxS + PFOS) (ug/L)	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium - Total (mg/L)	0.02	26	0.01	0.02	0.01	0.02	0.02	115
Aesthetic								
Aluminium - Total (mg/L)	0.2	26	<0.005	0.018	0.0031	0.0025	0.0094	115
Chloride (Cl) (mg/L)	250	26	220	300	256	290	265	109
Chlorine Free Residual (mg/L)	0.6	36	0.82	1.6	1.1	1.5	1	265
Copper - Total (mg/L)	1	26	0.0009	0.12	0.011	0.028	0.012	115
Hardness as CaCO3 (mg/L as CaCO3)	200	26	410	570	480	560	510	109
Iron - Total (mg/L)	0.3	52	0.003	0.071	0.014	N/A	0.034	224
Manganese - Total (mg/L)	0.1	26	<0.0005	0.0047	0.00057	0.0025	0.002	115
pH (lab) (pH units)	6.5-8.5	26	7.2	8.5	7.9	8.5	7.9	109
S as Sulphate (S as SO4) (mg/L)	250	26	33	135	113	134	120	109
Si as Silica (Si as SiO2) (mg/L)	80	26	11	16	14	16	15	109
Sodium (Na) (mg/L)	180	26	124	145	135	144	133	109
Total Dissolved Solids Dried at 180C (mg/L)	600	22	800	1000	910	980	930	105
True Colour (HU)	15	26	<2	<2	1.12	2	1.15	109
Turbidity (lab) (NTU)	5	26	0.14	1	0.46	0.97	0.59	109
Zinc - Total (mg/L)	3	26	0.003	0.24	0.083	0.21	0.08	115
Other Parameters								
Alkalinity as CaCO3 (mg/L as CaCO3)	N/A	26	250	420	290	320	290	109
Apparent Colour (HU)	N/A	26	<2	7	1.5	2.8	2.7	109
Bicarbonate (HCO3) (mg/L)	N/A	26	300	520	340	380	350	109
Bromine - Total (mg/L)	N/A	26	0.4	1.7	0.71	1.6	0.9	115
Calcium (Ca) (mg/L)	N/A	26	84	120	100	120	110	109
Carbonate (CO3) (mg/L)	N/A	26	<10	<10	5	5	5.2	109
Electrical Conductivity (Lab) (uS/cm)	N/A	26	1500	1800	1600	1800	1600	109
Hydroxide (OH) (mg/L)	N/A	26	<1	<10	0.85	3.9	0.67	109
Iodine - Total (mg/L)	N/A	26	<0.1	0.7	0.37	0.6	0.26	115
Magnesium (Mg) (mg/L)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate + Nitrite as N (NOx-N) (mg/L)	N/A	26	0.7	1.9	1.1	1.4	1.1	108
Nitrate as N (NO3-N) (mg/L)	N/A	26	0.7	1.9	1.1	1.4	1.1	108
Nitrite as N (NO2-N) (mg/L)	N/A	26	<0.1	<0.1	0.05	0.05	0.054	108
Potassium (K) (mg/L)	N/A	26	19	23	20	22	20	105
Sodium Chloride (NaCl) (mg/L)	N/A	26	360	490	420	480	440	109
Tin - Total (mg/L)	N/A	26	<0.0002	<0.0002	0.0001	0.0001	0.0032	115
Heterotrophic Plate Count (CFU/mL)	N/A	1	11	11	11	N/A	3.3	146
Total coliforms (MPN/100 mL)	N/A	36	<1	<1	0.5	0.5	0.6	315
E. coli								
E. coli (MPN/100 mL)	0	36	<1	<1	N/A	N/A	N/A	N/A

* Nitrite concentration (NO₂ mg/L) result is a conversion from Nitrite as nitrogen (NO₂-N mg/L). Converting from nitrite as nitrogen (NO₂-N) to standard nitrite concentration (NO₂), the factor 3.284 is obtained by dividing the molecular weight of nitrite by the molecular weight of nitrogen (46 g/mole ÷ 14 g/mole ≈ 3.284).

"" Because it is possible that nitrate and nitrite may occur simultaneously in drinking-water, and the 2 have a common toxic effect (methaemoglobinaemia), these compounds should be considered together when judging compliance with the ADWG. The sum of the ratios of the concentration (C) of each to its guideline value (GV) should not exceed unity (WHO 2007). This is a standard screening risk assessment approach based on the assumption of dose additivity. Thus, for infants:

$$(C_{\text{nitrate}}/GV_{\text{nitrate}}) + (C_{\text{nitrite}}/GV_{\text{nitrite}}) < 1 = (C_{\text{nitrate}}/50 \text{ mg/L}) + (C_{\text{nitrite}}/3 \text{ mg/L}) < 1$$

 Denotes exceedance





Power and Water Corporation

Level 6, Mitchell Centre
55 Mitchell Street, Darwin
Phone 1800 245 092

powerwater.com.au



[@powerwatercorp](https://twitter.com/powerwatercorp)