PowerWater

Annual Drinking Water Quality Report

2021


E.S.O.

PowerWater

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McMinns pump station

From the Chief Executive Officer

I am extremely proud of the work that Power and Water people complete every day. They continue to deliver essential services in some of the most challenging and diverse conditions in Australia.

Even with the persistence of the COVID-19 pandemic, our teams continued to give it their best enabling the delivery of safe drinking water across the Territory.

Power and Water has developed a new strategic direction with a more targeted focus designed to successfully position the business for the future. The corporation's purpose and vision now links to refreshed strategic pillars, key strategic focus areas and established values. A new strategy map has been established unifying all these elements ensuring a coherent strategy.

Power and Water received a glowing review of our Drinking Water Quality Management System from an external consultant this year, with a noted step change improvement from a previous assessment five years ago. We have been focusing a lot of energy in this area for a number of years and had anticipated a positive review, and it is always good to have that endorsement from an external party.

In the remote area, there was an announcement by the Minister for Indigenous Essential Services earlier this year of a $28 million program targeting a range of water quality and security issues across our remote communities. Our Power and Water teams were instrumental in the planning behind these announcements and projects delivered over the next few years will improve water quality and security outcomes for remote Territorians.

Power and Water has continued to roll out the disinfection upgrades, and one key project as part of this was an upgrade in the community of Bulla. Bulla's drinking water is sourced from a combination of sources – surface and groundwater – both of which present significant water quality challenges. A filtration system was installed to improve the clarity of the water and the effectiveness of the disinfection system as part of the upgrade. The upgraded treatment systems have enabled a reduction in the reliance on the groundwater source, meaning the final barium levels can be kept below Australian Drinking Water Guidelines health guideline values.

Power and Water is continuing to invest in research and development, such as in a membrane Capacitive Deionisation (mCDI) trial that is underway in Ali Curung. This technology shows promising results in the reduction of Total Dissolved Solids (TDS), nitrate, fluoride and uranium under certain operating conditions. TDS is an aesthetic quality impacting the taste of the water rather than a health value. Sometimes these aesthetic impacts fall further down the list of priorities, however it really does make a difference to the community by helping to encourage residents to drink the water rather than other less healthy alternatives like soft drinks.

And finally our people, our greatest asset, are continuing to achieve and be recognised on the national stage. Andrea Georgiou, a Water Services graduate, was a finalist in the Student Water Prize for her work on the "Effect of pressure reducing valve settings on a reticulated water supply system"; and Teng Yik, Water Services Program Manager, was a finalist in the Infrastructure Project Innovation award for his team's work on the Ngukurr Leak Detection Project. These were both acknowledged at the Annual Australian Water Association Awards this year.

Djuna Pollard
Chief Executive Officer

Drinking Water Quality Report 2020-21

The Annual Drinking Water Quality Report for 2020-21 is a record of drinking water quality information for the five major and 14 minor centres, and 72 remote Aboriginal communities serviced by Power and Water Corporation during the period 1 July 2020 to 30 June 2021.

The report describes drinking water quality activities to the Northern Territory public and allows the Department of Health (DoH) to make public health assessments in a transparent way.

Section 1 explains the preventive water quality management activities undertaken in this period.

Section 2 describes the characteristics of the drinking water quality supplied to consumers, with the statistics presented in the appendices. This section is broken into two parts:

- Part A – Major and minor urban centres
- Part B – Remote communities

Operating context

Power and Water is responsible for delivering safe drinking water services to its customers in the Northern Territory. This responsibility is established under the *Power and Water Corporation Act 2002*, the *Government Owned Corporations Act 2001* for urban centres and by agreement with the Northern Territory Government for remote centres.

The Power and Water Board of Directors is responsible to the shareholding minister for the corporation's performance and is required to provide a Statement of Corporate Intent (SCI) each financial year. The SCI sets out the organisational objectives and strategies over a four year period.

Power and Water's strategic objectives as articulated in the SCI 2020-21 financial year were to:

- operate at least as efficiently as any comparable business
- maximise the sustainable return to the Northern Territory Government on its investment in the corporation.

Power and Water is accountable for providing safe and reliable water and sewerage services across the Northern Territory. Services to major and minor urban centres are provided under the *Water and Sewerage Services Act 2000* and licences granted by the Utilities Commission.

Indigenous Essential Services (IES)

The delivery of water and sewerage services to remote communities is provided by Power and Water Corporation through an agreement with its wholly owned not-for-profit subsidiary Indigenous Essential Services Pty Ltd (IES). IES is funded through a service agreement with the Department of Territory Families, Housing and Communities. Through the service agreement, water is supplied to 72 communities with 57 of these communities also receiving sewerage services. In addition, 17 outstations or homelands are connected and have access to water supply.

Water and sewerage related services are provided under a Service Level Agreement with IES. Funding is limited to ongoing recurrent budgets that are set by the Department of Territory Families, Housing and Communities. For additional capital projects, IES requests funds through the Department of Territory Families, Housing and Communities, and the Department of Treasury and Finance, which are balanced against other priorities.

COVID-19 response

Coronavirus disease 2019 (COVID-19), a contagious respiratory and vascular disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), caused an ongoing pandemic during 2020 and 2021. As a response to the pandemic, an Emergency Situation in the Northern Territory was declared under the *Public and Environmental Health Act* on 18 March 2020. The Public Utilities Group was stood-up and Power and Water responded by activating its emergency management procedures.

The key focus of Power and Water, as an essential service provider, was to ensure that all Territorians had access to safe water and reliable power services.

Power and Water responded to the challenge by developing Business Continuity Plans (BCPs) for the management of operations during the COVID-19

pandemic. The BCPs outline operational and regulatory changes to business-as-usual activities to minimise the potential impact of COVID-19 on Power and Water's delivery of essential services.

To ensure the continued safe supply of water, Power and Water undertook a number of activities during the 2020-21 financial year including:

- continuing to work with the Department of Chief Minister and Cabinet and with land councils to ensure Power and Water could continue to access remote communities to provide services when biosecurity area restrictions were put in place
- ensuring during potential lockdown events or in the event of rising employee infection rates that essential workers were identified and managed effectively
- working with the Department of Health to develop and implement a regular wastewater sampling and testing regime for sentinel monitoring in the areas of Greater Darwin and Alice Springs.

Presentation of water quality statistics

A review of the Australian Drinking Water Guidelines (ADWG) and previous water quality reports led to a change to the water quality statistics provided in this year's report. An additional change in this year's report is the summary of data by community as well as by parameter. This has resulted in a substantial increase in the amount of information in this report. The driver for this step change improvement was to enhance transparency to customers. See **Appendix A** for a full description of the results presented and **Appendices B-E** for the water quality results.

> A change in this year's report is the summary of data by community as well as by parameter. The driver for this was to enhance transparency to customers.

Section 1
Framework for Drinking Water Quality Management

Australian Drinking Water Guidelines

The ADWG provide the primary reference on drinking water quality in Australia. It is designed to provide an authoritative source of information on what defines safe, good quality drinking water, as well as how its provision can be achieved and assured. The ADWG is published by the National Health and Medical Research Council in collaboration with the Natural Resource Management Ministerial Council.

The ADWG is developed based on the best available scientific evidence regarding both the health and aesthetic aspects of drinking water quality. The ADWG are the adopted standards and provide a common benchmark for assessing the acceptability of drinking water supplied to consumers across Australia.

The ADWG describes a preventative, risk management approach that encompasses all steps in water production – from catchment to consumer. The ADWG Framework for Management of Drinking Water Quality defines this preventative, integrated approach.

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

- organisational commitment to drinking water quality management
- system analysis and management
- supporting requirements
- review processes for continual improvement.

Across these four areas, the framework outlines 12 elements considered good practice for the integrated management of drinking water supplies. Together, these elements comprise a proactive approach for ensuring safe and reliable drinking water to the community.

There are rolling revisions to ensure the ADWG represent the latest scientific evidence on good quality drinking water. All assessments made in this report are made against version 3.6, updated in March 2021.

01

Commitment to drinking water quality management

Power and Water has a strong commitment to drinking water quality management, both at management level and through individual employees. This is outlined in Power and Water's Drinking Water Quality Policy, continued investment in resourcing in the area of water quality and efforts to raise the profile of the Northern Territory water sector within the wider community.

Power and Water's Safe Water Plan, which has been approved by the board, maps out a three year improvement journey based on the Australian Drinking Water Guidelines and uses a risk based approach. The 2020-21 reporting period delivered the second year of a three year plan. The plan focuses on four key initiatives:

- understand customer expectations
- ensure safe water supply schemes
- continuously improve the Drinking Water Quality Management System
- ensure reliable and sustainable operation performance.

The Safe Water Plan results in an annual improvement plan which is implemented and tracked across the year to ensure continual improvement in the water quality area.

There is a Steering Committee that oversees drinking water quality, which is chaired by the Chief Executive Officer.

The board receives regular drinking water quality updates and is actively involved in drinking water quality decisions. This is enabled through an approved Board and Management Visibility Procedure. The procedure results in increased and uniform visibility of water quality related events and activities across all water supply schemes serviced by Power and Water.

Partnerships

Power and Water collaborates with various stakeholders for the provision of safe drinking water to all customers and the protection of public health. This is primarily achieved by building effective partnerships with multiple governmental agencies.

Power and Water has a primary responsibility to provide customers with safe drinking water in accordance with sound commercial practices, its operating licence through the *Water Supply and Sewerage Services Act 2000* (NT), its remote customers under the *Power and Water Corporation Act 2002* (NT) and Indigenous Essential Services Agreement.

Northern Territory Government departments

The Northern Territory Government agencies partnering with Power and Water in protecting water quality are:

Department of Health (DoH)

A *Memorandum of Understanding between the Department of Health and the Power and Water Corporation for drinking water* (MoU) formalises the public health accountabilities and responsibilities.

The DoH 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 the DoH for drinking water quality in the Northern Territory.

Department of Territory Families, Housing and Communities (DTFHC)

Power and Water, through its subsidiary IES, works in partnership with DTFHC to provide electricity, water and sewerage services to 72 remote Aboriginal communities. Indigenous Essential Services is funded through a service agreement with the DTFHC. Through the service agreement, water is supplied to 72 communities and sewerage services are provided to 57 communities. In addition, 17 outstations or homelands are connected and have access to 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 for the DTFHC to approve and fund.

Construction of new PFAS treatment plant in Katherine.

> Power and Water continues to respond to the impact to public drinking water supplies from the historical use of firefighting foams.

Department of Environment, Parks and Water Security (DEPWS)

DEPWS performs a regulatory role to control pollution and leads the development of the Northern Territory Government's regulatory framework for water.

The Department of Infrastructure, Planning and Logistics (DIPL)

DIPL protects water quality through appropriate land use planning and the regulation of private plumbing.

The Department of Industry, Tourism NT Trade (DITT)

DITT-Primary Resources undertakes independent analyses of water samples at laboratories in Darwin and Alice Springs.

Northern Territory PFAS response

Power and Water continues to respond to the impact on public drinking water supplies from the historical use of firefighting foams.

The Northern Territory Per- and Poly-Fluorinated Alkyl Substances (PFAS) interagency working group was formed to coordinate the response across the Northern Territory. Power and Water actively participates in responses to contaminated site investigations by helping to understand the impact on public water supplies.

Power and Water began monitoring for PFAS in customers' drinking water in October 2016. The results are available on the Power and Water website, PFAS in the Territory and reported to the Northern Territory and federal Departments of Health. Results for PFAS for urban centres were published in the 2020 Annual Drinking Water Quality Report for the first time since Health Based Guideline Values were added to the Australian Drinking Water Guidelines in August 2018.

The Katherine township, located 320 km south-east of Darwin, is the Northern Territory's third largest town and home to approximately 10,000 people. Katherine is supplied with a blend of surface water from the Katherine River and groundwater from the Tindal aquifer. As it is a critical component of the town's water supply, when the groundwater was identified as being contaminated with PFAS chemicals, it significantly impacted the community.

In response, Power and Water collaborated with the Department of Defence to deliver a 12.5 litre per second modular treatment system using leading-edge ion exchange technology from Maine, USA to Katherine within four months of PFAS being identified in the drinking water supply.

The plant has been in operation since October 2017 and has treated over 1.2 billion litres of water with zero waste streams produced.

Based on the success of the modular system, a 10 million litre per day treatment plant is now being constructed and will secure the town's water supply and meet future demand over a 30-year planning horizon.

Further information about PFAS results and investigations can be found on the following websites:

Power and Water PFAS information
https://www.powerwater.com.au/about/what-we-do/water-supply/drinking-water-quality/pfas

Australian Government Department of Health PFAS Information
http://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-pfas.htm

Department of Defence PFAS investigation and management program
http://www.defence.gov.au/Environment/PFAS/

The Northern Territory Per- and Poly-Fluorinated Alkyl Substances Interagency Working Group
https://ntepa.nt.gov.au/your-environment/pfas

02

Assessment of the drinking water supply system

The Australian Drinking Water Guidelines emphasise a preventative, risk management approach for ensuring the safety of water supplied to consumers. In order to do this, Power and Water undertake assessments of the water supply system to identify potential risks to water safety and ensure appropriate mitigation strategies are put in place.

The Water Services Association of Australia (WSAA) Health Based Targets Manual is used by Power and Water to guide a self-assessment process to determine the water safety for each scheme. The manual looks at the source water assessment together with a water treatment assessment to determine the water safety assessment and required water safety improvement plan.

The source water assessment looks at critical activities for safe management of water supplies including understanding the vulnerability of different water sources to contamination and assessing the likelihood of contamination to water sources from activities in the catchment. Examples of contamination sources include septic tanks, cattle, rubbish dumping and mining.

For groundwater sources, a sanitary survey is performed to identify contamination sources, and then a hydrogeological assessment is performed to explore the vulnerability of an aquifer to contamination. Ultimately the two assessments are combined to determine the water treatment requirements for a scheme, in order to provide safe drinking water.

In this reporting period sanitary surveys and water safety assessments occurred for ten schemes – Beswick, Gunbalanya, Jilkminggan, Kybrook Farm, Manyallaluk, Minyerri, Ngukurr, Rittarangu, Bulla and Pirlangimpi.

Power and Water uses this information to determine improvement plans required for each scheme. Additionally, it informs an annual review of the risk assessment used to prioritise key mitigations required across all 91 schemes.

Water sources

All major and minor urban centres serviced by Power and Water are either in part, or completely reliant on groundwater for their drinking water supply. Most remote community drinking water supplies are from groundwater sources. Local subsurface aquifers at a range of depths and in a variety of geological environments are used. The groundwater is pumped to the surface through production bores.

Some drinking water sources are better able to be protected than others, such as 'closed' catchments like Darwin River Reservoir or the artesian production bores used in Borroloola. However, even the protected water sources are still vulnerable to a broad range of potential hazards and require active management to maintain good water quality.

IES Water Source Status Report

Each year IES produce a Water Source Status Report. This report is the key planning document for assessing the sustainability of water sources in remote Aboriginal communities. In the 2020-21 reporting period Power and Water implemented an improvement to the assessment framework to increase the certainty of water source status. Water quality deterioration can occur due to water stress in aquifers, particularly on islands and in the desert where blending of water sources is common to provide safe water while also reducing pressure on aquifers with high quality water. Ultimately provision of the best water quality to communities can be maximised through appropriate management and assessment of aquifer health.

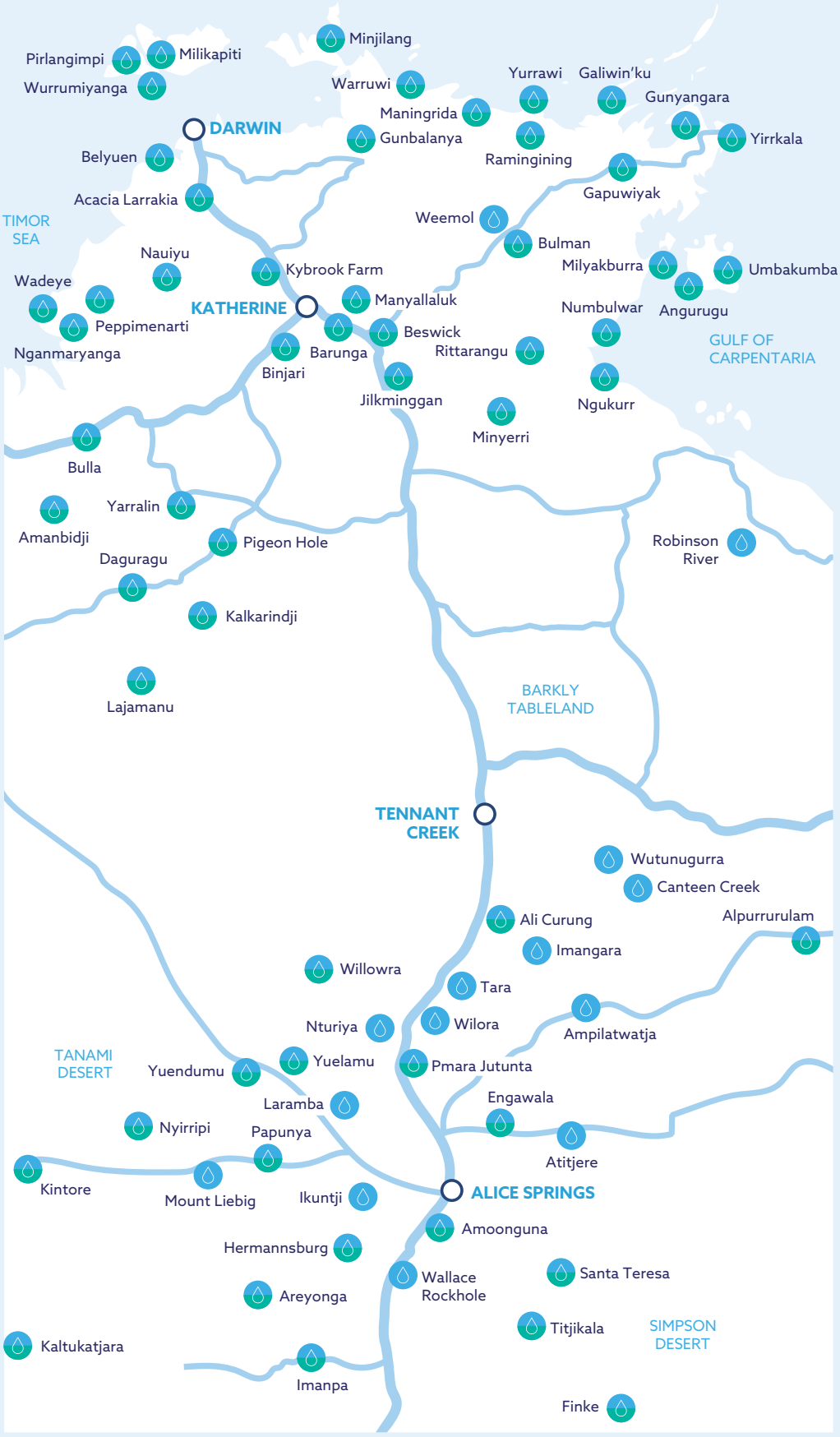
All remote communities utilise groundwater as their source water with the exceptions of Bulla and Pirlangimpi, which use a combination of surface water and groundwater. Urban water sources are given in **Table 1**.

Table 1 Summary of drinking water sources in major and minor urban centres

Centre	Type	Territory Region	Source
Adelaide River	Minor	Northern	Groundwater
Alice Springs	Major	Southern	Groundwater (Roe Creek Borefield)
Batchelor	Minor	Northern	Groundwater
Borroloola	Minor	Katherine	Groundwater
Cox Peninsula	Minor	Northern	Groundwater
Daly Waters	Minor	Katherine	Groundwater
Darwin	Major	Northern	Surface water (Darwin River Reservoir) + groundwater (10%)
Elliott	Minor	Barkly	Groundwater
Gunn Point	Minor	Northern	Groundwater
Katherine	Major	Katherine	Surface water (Katherine River) + groundwater (20%)
Kings Canyon	Minor	Southern	Groundwater
Larrimah	Minor	Katherine	Groundwater
Mataranka	Minor	Katherine	Groundwater
Newcastle Waters	Minor	Barkly	Groundwater
Pine Creek	Minor	Katherine	Surface water (Copperfield Reservoir – emergency) + groundwater (100%)
Tennant Creek	Major	Barkly	Groundwater (Kelly Well, Kelly Well West and Cabbage Gum Borefields)
Timber Creek	Minor	Katherine	Groundwater
Ti Tree	Minor	Southern	Groundwater
Yulara	Major	Southern	Groundwater

Figure 1 Drinking water supply system – major and minor urban centres

Figure 2 Drinking water supply system – remote communities



03

Preventative measures for drinking water quality management

The second guiding principle in the ADWG and one of the key fundamental principles of the framework is *"the drinking water system must have, and continuously maintain, robust multiple barriers appropriate to the level of potential contamination facing the raw water supply"*. The ADWG recommend that robust, multiple barriers are implemented to ensure the supply of safe drinking water.

Barriers are not limited to water treatment and disinfection systems. In fact, some of the most important barriers to contaminant ingress are the water pipes and roofs on water tanks used to convey and store water prior to it reaching customer taps. Maintaining appropriate system integrity ensures pathogens and chemicals do not enter water that is being supplied to consumers.

A multiple barrier approach

The ADWG recommend a 'catchment to consumer' approach for the management of water quality. The key advantage of using multiple barriers is that the failure of one barrier may be compensated for by the remaining barriers, minimising the likelihood of contaminants passing through the entire treatment system. The placement of barriers in a conventional multiple barrier system is shown in **Figure 3** below.

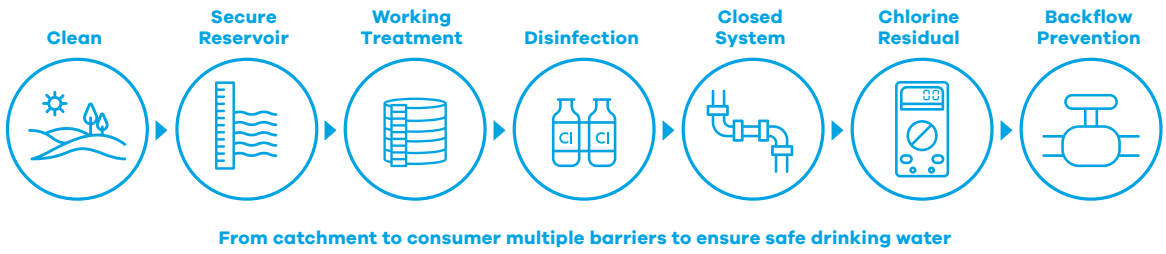


Figure 3 Typical multiple barrier system

Protecting the source

Keeping a clean catchment and water source is a fundamental principle 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.

Excluding contamination from water sources is a challenge, particularly in more urbanised areas such as the Howard East Borefield Catchment, which typically supplies 10 % of Darwin's drinking water. Rubbish dumping and hunting are common occurrences and although signage and fencing are in place, people frequently circumvent these attempts to exclude people from the catchment. Power and Water continue to educate community members regarding the importance of keeping catchments clean.

> Keeping a clean catchment and water source is a fundamental principle of Power and Water's Drinking Water Quality Policy.

Standards for water assets and backflow prevention

Power and Water maintain strict standards for assets used to supply customers. Our Developer Services team work with property developers to ensure appropriate materials and methods of construction have been used for new assets that are gifted to Power and Water, for example in a new subdivision.

In addition, backflow is a potential area of risk for water quality. Backflow can occur in cases where the water pressure within the customer's property is higher than that supplied from the Power and Water network. Examples can include industrial settings where on-site water pumps are used, or in high-rise apartments. Normal design practice prevents cross-connections and backflow from occurring. However, mistakes can happen, especially when repairs take place in older buildings or facilities. In this case, undisinfected and potentially contaminated water can re-enter our water network and be supplied to other customers. Power and Water require the installation of backflow prevention devices at the property boundary water supply to prevent this from occurring. In the 2020-21 reporting period Power and Water continued to raise awareness of requirements to install and maintain backflow prevention devices on the water services of major customers.

Water treatment and disinfection

The ADWG state that the greatest risk to consumers is from pathogenic microorganisms and that protection of water sources and treatment are of paramount importance and should never be compromised.

In conjunction with other barriers to protect the water source, chlorination is a vital defence against microbiological contamination. Chlorine is the preferred disinfectant as it is very effective at killing bacteria, and reasonably effective at inactivating viruses and many protozoa. Additionally, maintaining residual chlorine throughout the distribution system can provide protection against further contamination and limit regrowth problems.

Power and Water proactively guards against risks presented by opportunistic pathogens such as *Naegleria fowleri* and *Burkholderia pseudomallei* by means of maintaining a set minimum free chlorine residual of 0.5 mg/L in all supplies at all times.

In addition to potential 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 in the water. In some communities the physical and chemical characteristics of the water can exceed the levels recommended in the ADWG.

Power and Water operate four advanced water treatment plants, including one reverse osmosis (RO) and three electrodialysis reversal (EDR) plants, to meet the ADWG health guideline values including those for uranium, nitrate and fluoride. The three EDR plants are situated in the communities of Ali Curung, Kintore and Yuelamu and the RO plant is located in Yulara.

Across the major and minor urban centres, water quality barriers in place are shown in **Table 2**. For remote communities, water quality barriers and treatment are summarised in **Table 3**.

Table 2 Water quality barriers in major and minor urban centres

Centre	Catchment protection	Detention in reservoirs and aquifers	Bore head protection zone	Bore head integrity	Coagulation, filtration or membrane filtration	Disinfection	Storage tank integrity and cleaning	Maintenance of positive pressure in reticulation	Backflow prevention in reticulation	Disinfection residual to customer's meter
Adelaide River		●	●	●	●	●	●	●	●	●
Alice Springs	●	●	●	●		●	●	●	●	●
Batchelor		●	●	●		●	●	●	●	●
Borroloola		●	●	●		●	●	●	●	●
Cox Peninsula	●	●	●	●		●	●	N/A	N/A	N/A
Daly Waters	●	●	●	●		●	●	●	●	●
Darwin - groundwater	●	●	●	●		●	●	●	●	●
Darwin - surface water	●	●	N/A	N/A		●	●	●	●	●
Elliott		●	●	●		●	●	●	●	●
Gunn Point		●	●	●		●	●	●	●	●
Katherine - groundwater		●	●	●		●	●	●	●	●
Katherine - surface water			N/A	N/A	●	●	●	●	●	●
Kings Canyon	●	●	●	●		●	●	●	●	●
Larrimah	●	●	●	●		●	●	●	●	●
Mataranka		●	●	●		●	●	●	●	●
Newcastle Waters	●	●	●	●		●	●	●	●	●
Pine Creek - groundwater		●	●	●		●	●	●	●	●
Pine Creek - surface water			N/A	N/A		●	●	●	●	●
Tennant Creek		●	●	●		●	●	●	●	●
Timber Creek		●	●	●		●	●	●	●	●
Ti Tree	●	●	●	●		●	●	●	●	●
Yulara	●	●	●	●	●	●	●	●	●	●

Table 3 Remote scheme water quality barriers and treatment

	Protected catchment or source water (HBT Category 1)	Advanced water treatment plant	Filtration	Disinfection	Sodium hypochlorite disinfection	Chlorine gas disinfection	Electrochlorination (trial)	Chlorine analyser	UV disinfection	Fluoridation system	Smart water meters
Community											
Acacia Larrakia	•			•	•			•			
Ali Curung	•	•		•	•						•
Alpurrurulam	•			•	•						
Amanbidji	•			•	•			•			•
Amoonguna	•			•	•						
Ampilatwatja	•			•	•						
Angurugu	•			•		•		•		•	
Areyonga	•			•	•						
Atitjere	•			•	•						
Barunga	•			•	•						
Belyuen	•			•	•						
Beswick	•			•	•						
Binjari	•			•	•						
Bulla			•	•	•			•	•		
Bulman	•			•	•						
Canteen Creek	•			•	•						
Daguragu	•			•	•						
Engawala	•			•	•						•
Finke	•			•	•						
Galiwinku	•			•		•		•			•
Gapuwiyak	•			•	•						
Gunbalanya				•		•		•			•
Gunyangara	•			•	•			•			
Haasts Bluff	•			•	•						
Hermannsburg	•			•	•						
Imangara				•	•						
Imanpa	•			•	•						•
Jilkminggan				•	•			•			
Kalkarindji	•			•		•					
Kaltukatjara	•			•	•						
Kintore	•	•		•	•						•
Kybrook Farm	•			•	•			•			•
Lajamanu	•			•	•			•			
Laramba	•			•	•						
Maningrida	•			•		•		•		•	
Manyallaluk	•			•	•						

Table 3 Remote scheme water quality barriers and treatment *continued*

	Protected catchment or source water (HBT Category 1)	Advanced water treatment plant	Filtration	Disinfection	Sodium hypochlorite disinfection	Chlorine gas disinfection	Electrochlorination (trial)	Chlorine analyser	UV disinfection	Fluoridation system	Smart water meters
Community											
Milikapiti				●	●						
Milingimbi	●			●	●						●
Milyakburra	●			●	●						
Minjilang				●	●						
Minyerri	●			●	●						●
Mt Liebig	●			●	●						
Nauiyu	●			●	●						
Nganmarriyanga	●			●	●						
Ngukurr	●			●		●		●			●
Nturiya	●			●	●		●		●		
Numbulwar				●		●		●			
Nyirripi	●			●	●						
Papunya	●			●	●						
Peppimenarti	●			●	●						
Pigeon Hole	●			●	●						
Pirlangimpi				●	●			●	●		
Pmara Jutunta	●			●	●						
Ramingining				●	●						
Rittarangu	●			●	●						
Robinson River				●	●			●	●		
Santa Teresa	●			●	●						●
Tara	●			●	●						
Titjikala	●			●	●						
Umbakumba				●	●			●		●	
Wadeye	●			●		●		●		●	
Wallace Rockhole	●			●	●						
Warruwi				●	●						
Weemol				●	●						
Willowra	●			●	●						
Wilora	●			●					●		
Wurrumiyanga	●			●		●		●		●	
Wutunugurra	●			●	●						●
Yarralin	●			●	●						
Yirrkala	●			●	●						
Yuelamu	●	●		●	●						●
Yuendumu	●			●	●			●			●

Disinfection upgrades for remote communities

In 2016 Power and Water conducted a comprehensive review of chlorine disinfection systems across all 91 communities in the Northern Territory and identified opportunities for improvement through the upgrading and standardisation of systems.

As a result of this review, Power and Water is in the first tranche of a four tranche improvement program to upgrade disinfection systems across the Northern Territory. For remote sites, the $12 million program is funded by the Department of Territory Families, Housing and Communities. Key deliverables for the disinfection infrastructure upgrades are:

- chlorine dosing equipment redundancy
- online chlorine monitoring equipment
- disinfection equipment connectivity to process control systems
- alarming of events outside of standard operating parameters.

For the 2020-21 reporting period, disinfection upgrades have been completed at seven remote communities. These are Acacia Larakia, Amanbidji, Belyuen, Bulla, Jilkminggan, Lajamanu and Nauiyu (Daly River). Spending for these sites has so far totalled $3.4 million.

Case studies

Bulla

Power and Water has implemented a holistic program in the community of Bulla to address water quality and water security risks and meet the forecasted population growth.

Bulla's drinking water is sourced from a combination of groundwater and surface water sources, both of which present significant inherent water quality and water source capacity challenges. The groundwater shows elevated levels of a naturally occurring earth metal called barium, which is present at eight times the health value of the ADWG. The surface water, which is extracted from the East Baines River, has elevated manganese and iron levels, which at times affects the colour of the water.

An upgrade to the Bulla disinfection (chlorination) unit in October 2020 through the Tranche 1 Disinfection Upgrade delivered improvements to the reliability and increased real-time visibility of the system's operation. An iron and manganese filtration system was also installed to improve the clarity of the water and improve the disinfection performance of the ultraviolet (UV) disinfection system. The upgraded treatment and disinfection system have provided Power and Water with the ability to increase surface water use and reduce reliance on the groundwater source. The reduction in supply from groundwater has resulted in barium levels being maintained at concentrations below the ADWG health target limits since October 2020.

Power and Water has also undertaken a water source assessment of the river including a bathymetric survey of the natural pool, resulting in an increase to the surface water capacity estimate and ensure ongoing compliance with the ADWG.

Warruwi

The community of Warruwi utilises an Aquifer Storage Recovery (ASR) for additional water storage to supplement dry season supply and improve water security. The Warruwi ASR stores a portion of available groundwater from the shallow unconfined aquifer in a deeper confined aquifer.

The ASR was first utilised between November 2019 and January 2020, when the community's entire water supply came from ASR extraction. This was due to water shortages caused by below average rainfall over two successive wet seasons. During that period, reticulated water quality was impacted by the use of the ASR. Elevated levels of iron and manganese from the ASR resulted in discolouration of the final water supplied. This caused aesthetic water quality issues for the community.

Between November 2020 and January 2021 the operational philosophy was changed to allow blending of water sourced from the ASR with water sourced from the usual production bores. This was done to reduce the water quality impacts associated with the use of the ASR. This has resulted in improved aesthetic water quality for the 2020-21 reporting period.

Further investigation and operational changes are ongoing to ensure the community has security in supply with minimal water quality implications.

Warruwi community engagement

Future planning

Darwin region water supply

The water supply for the Darwin region (Darwin, Palmerston and surrounding rural areas) is provided from the Darwin River Reservoir and the McMinns and Howard East Borefields. The Darwin River Reservoir currently provides approximately 85 % of the Darwin region's annual supply, with the remainder sourced from the borefields. The groundwater supply from the McMinns and Howard East Borefields has been a critical component of Power and Water's Darwin region water supply system since the 1960s. The groundwater supply is required to ensure extraction from Darwin River Reservoir is maintained at sustainable levels, provide for diversity of supply to manage risk and provide an emergency supply capability should supply from Darwin River Reservoir be interrupted.

Power and Water undertake regular review of its planning inputs including population growth, climate change factors and demand management outcomes, and adjusts its water source development program in response to changes in demand forecasts. A program of water source development is planned to increase supply capacity over time, commencing with the return to service of Manton River Reservoir by 2026-27.

Although Power and Water hold a licence to extract water from Manton River Reservoir, the reservoir has not been used for water supply purposes since the construction of Darwin River Dam in 1972. The return to service of Manton River Reservoir has been assessed as the most appropriate supply-side solution to support growth in the Darwin region in the short term. The project requires investment in infrastructure for water extraction, pumping, transmission, storage and treatment.

To support the Darwin region's long term growth and water security, the Adelaide River Off-stream Water Storage (AROWS) project has been selected for development from a range of water source options. The AROWS scheme is an off-stream storage reservoir located in the Marrakai district adjacent to Adelaide River. It will be filled with water extracted from the Adelaide River during wet season flows. Extraction, pumping, transmission, storage and treatment infrastructure are required. The development of the AROWS scheme will be delivered by 2031-32, providing increased water security and enabling long term economic growth in the Darwin region.

Darwin Reservoir offtake tower

Operational procedures and process control

The effectiveness of preventive measures is highly dependent on the design and implementation of associated process control programs. To consistently achieve a high-quality water supply it is essential to have effective control over the processes and activities that govern drinking water quality.

Periods of sudden change and sub-optimal performance in the drinking water supply system can represent a serious risk to public health. Therefore, it is vital to ensure that all operations are optimised and are continuously controlled with barriers functional at all times.

Process control programs support preventive measures by detailing the specific operational factors that ensure all processes and activities are carried out effectively and efficiently. This includes a description of all preventive measures and their functions, together with:

- documentation of effective operational procedures, including identification of responsibilities and authorities
- establishment of a monitoring protocol for operational performance, including selection of operational parameters and criteria, and the routine review of data
- establishment of corrective actions to control excursions in operational parameters
- use and maintenance of suitable equipment
- use of approved materials and chemicals in contact with drinking water.

Operational monitoring for minor and remote communities can be limited by the communications infrastructure available. A major long-term improvement to telemetry and process control for remote communities is included in the upgrades to disinfection systems that are underway across the Northern Territory.

The level and complexity of operational monitoring depends on the amount of infrastructure and layout of the water supply scheme. **Table 4** shows the infrastructure configuration common to most major and minor urban centres and remote communities. **Figure 4** shows a typical minor urban centre and remote community water supply configuration.

Table 4 Common water infrastructure

Water source	Water treatment	Water storage	Water distribution system
Typically, water is extracted from underground aquifers via bores. Surface water sources, such as reservoirs, rivers and springs, are used to supply drinking water in a few communities.	Water treatment is primarily through disinfection such as sodium hypochlorite, chlorine gas and UV disinfection. Other treatment systems such as sand filters and clarifiers are used in communities that also use surface water sources, and Power and Water is investing in more advanced treatment in some communities.	The water is then stored in tanks, typically consisting of at least one large tank on the ground and a smaller tank elevated on a stand. The water is transferred from the ground level tank to the elevated tank using transfer pumps. Some communities have pressure pumps in place of elevated tanks.	Underground pipes and rising mains distribute the drinking water throughout the community to consumers' taps. Typically, these are gravity systems and are inspected through manholes and flushed using water hydrants.

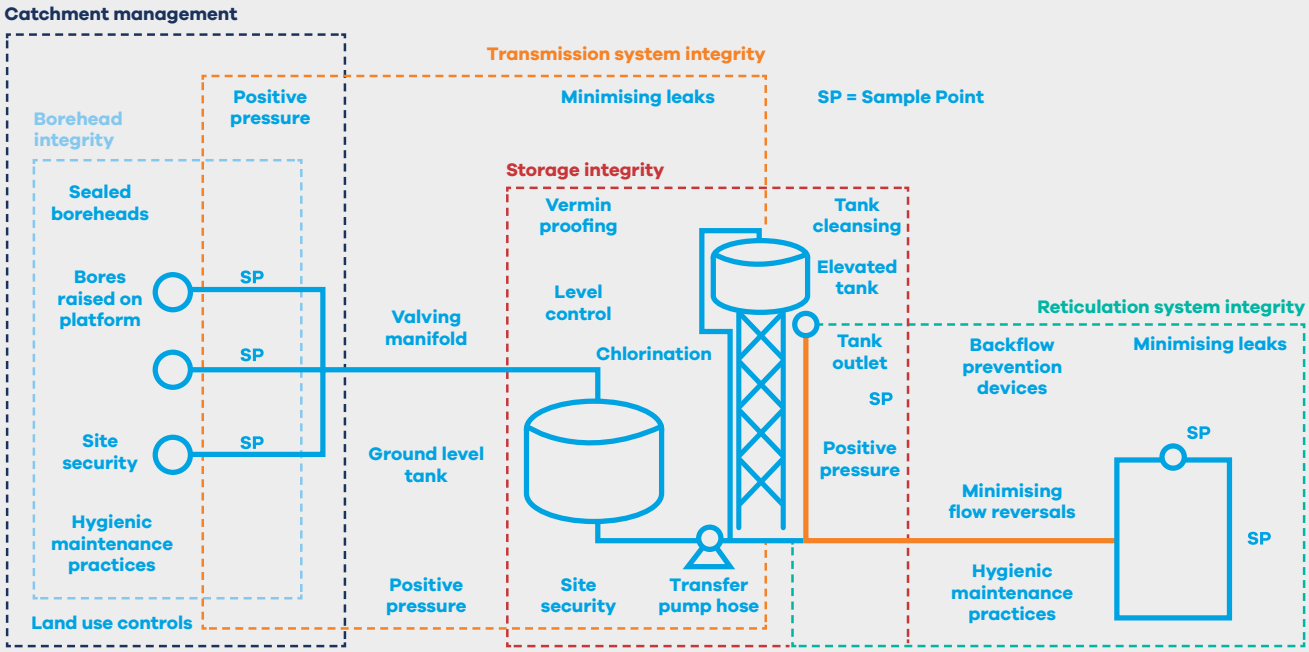


Figure 4 Typical minor urban centre and remote community water supply configuration

> An online chlorine analyser is a monitoring device that allows the chlorine residual present in water supplied to customers to be monitored at all times.

Water supply process control

Automated and remote control of many water supply system assets is used to improve response times and ensure data capture. In order to do this, Power and Water uses Supervisory Control and Data Acquisition (SCADA) systems. These systems consist of two, equally important parts:

- a Wide Area Network (WAN) which is extended around the water supply scheme using radio telemetry to allow different Power and Water assets to communicate with each other.
- a telemetry link back to the Power and Water servers in Darwin, Katherine and Alice Springs. This link is provided by either fibre-optic cable link or satellite communications.

Operational monitoring includes a planned sequence of measurements and observations throughout the water supply system to ensure and confirm performance of preventive measures and barriers to contamination. The importance of operational monitoring to the effective maintenance of preventive barriers to contamination cannot be overstated. Power and Water's SCADA system monitors control points in water supplies using a range of online monitoring systems in each centre. Apart from monitoring the status and performance of infrastructure, this system provides continuous monitoring for specific water quality parameters such as chlorine, fluoride, conductivity, turbidity and pH levels.

In addition to online monitoring, field measurements, observational monitoring and grab sampling for laboratory analysis also provide information on system challenges and barrier performance. Target criteria are set and corrective actions are implemented if the criteria are not met.

A key outcome of the disinfection upgrade program is to extend online monitoring and SCADA communications to communities that previously did not have remote monitoring access. Online monitoring significantly reduces response times and greatly improves the ability to troubleshoot problems, which results in timely and more cost effective rectifications of excursions from critical limits.

Online chlorine analysers

An online chlorine analyser is a monitoring device that allows the chlorine residual present in water supplied to customers to be monitored at all times. When coupled to appropriate communications infrastructure, it gives certainty to system operators and supervisors that appropriate chlorine disinfection has occurred consistently. In a modern, best-practice water supply system the use of an online chlorine analyser, coupled with a reliable and fast communications systems is critical to continuously maintaining the supply of safe drinking water.

At Power and Water, online chlorine analysers have a long history of being used in major and minor centres to support routine checks on system performance undertaken. This has had major benefits for ensuring the safety of water supplied for those schemes. Operational challenges associated with using the technology have been overcome through the relatively close proximity to, and frequent attention of skilled employees and appropriate training.

In remote indigenous communities, online chlorine analysers have been used less successfully. Challenges with calibration, variable source water quality, less skilled Essential Services Operators and the long distances that Power and Water employees have to travel to attend site have been contributing factors.

As part of both the Structural Integration of Regions and Remote into Water Services, and the Safe Water Plan 2019-22, a major initiative is being undertaken by Power and Water to drive the introduction of online chlorine analysers and associated telemetry to all 72 remote indigenous communities operated by IES. This is consistent with the 2011 revision of the ADWG, which includes continuous monitoring where chlorination is identified as a critical control point.

Materials and chemicals

Materials used that contact potable water must normally comply with *AS or NZS 4020:2005 Testing of products for use in contact with drinking water* or other relevant standards.

Chemical suppliers are required to provide an analysis report of the chemical to be supplied. Chemicals must comply with the relevant America National Standard Institute / American Water Works Association standard and the management system at the site of manufacture of the chemical must be certified to ISO 9001.

05

Verification of drinking water quality

Power and Water conduct a comprehensive verification program for drinking water quality for the assessment of the overall performance of the system and to ensure the ultimate quality of drinking water supplied to customers is safe. This entails both monitoring of drinking water quality and assessing customer satisfaction.

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

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

Power and Water monitor a comprehensive range of parameters including microbial, physical, chemical and radiological characteristics to ensure the water meets the ADWG and is fit for provision to customers.

Customer satisfaction

Monitoring of customer comments and complaints can provide valuable information on potential problems that may not have been identified by performance monitoring of the water supply system. Customer satisfaction with drinking water quality is largely based on a judgment that the aesthetic quality of tap water is 'good', which usually means that it is colourless, free from suspended solids and has no unpleasant taste or odour.

Water quality complaints made during the reporting period are discussed in **Section 2** of this report. This includes a summary of drinking water quality complaints by type (e.g. clarity/dirtiness/particles, alleged illness, taste) between 2016 and 2021.

Power and Water conduct customer satisfaction surveys and encourages customers to submit feedback. The information is collated and evaluated in preparation for submission to the National Performance Report.

Water quality monitoring

The Power and Water drinking water quality monitoring program is developed in consultation with the DoH and is approved by the Chief Health Officer. This document is a comprehensive description of the water quality monitoring undertaken and is inclusive of all centres. It details the locations of water sampling points, the frequency of sampling, the types of samples to be collected, specifies sample preservation techniques to be employed and sample bottles to be used, and specifies which laboratories will be used to perform water quality analysis.

The extensive monitoring program requires the collection of thousands of operational and verification samples across the Northern Territory. Water is routinely sampled at specific locations in the water supply system and then sent to laboratories for analysis.

Remote community water samples are collected by Essential Service Operators and transported back to Darwin and Alice Springs by light aircraft for testing by accredited laboratories.

Operational monitoring

Operational monitoring is used to trigger immediate short-term corrective action or to inform long-term planning or evaluations. Source water and treatment performance monitoring are important components of operational monitoring as they provide an indication of 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 the final check that the barriers and preventative measures implemented to protect public health are working effectively. Verification data is used for assessing conformance with 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 more details and an assessment of the verification data collected for this reporting period.

Water quality indicators

Monitoring can be direct, where the characteristic of concern is monitored directly, or indirect, where surrogates or indicators are monitored. Surrogates are typically quantifiable characteristics that can serve to measure the effectiveness of processes in controlling specific hazards or groups of hazards.

Indicators are physical, chemical or microbial characteristics that are representative of a broader group of related characteristics. Indicators provide an alternative to monitoring for the possible presence of other hazardous substances that are more difficult to monitor.

Groundwater has a characteristic Electrical Conductivity and if it changes then it could indicate that the groundwater is connected to surface water.

Microbiological parameters

Disease-causing 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, therefore frequent microbiological monitoring is required for an assessment.

The analytical procedures used to detect pathogens are complex and specific for each pathogen. Indicator organisms are used to determine if contamination has occurred.

The following indicator organisms are monitored:

- *Escherichia coli (E. coli)* indicates faecal contamination from warm-blooded animals including humans and hence the potential for the presence of disease-causing micro-organisms.
- total coliforms indicate the range of bacteria found in many soil and aquatic environments and can provide a measure of disinfection 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 include the requirement that rigorous corrective action be undertaken and documented in response to an *E. coli* detection to prevent potential recurrences of faecal contamination.

Naegleria fowleri (N. fowleri) is a free-living amoeboflagellate found in soil and aquatic environments in the Northern Territory. *N. fowleri* is almost harmless to drink and not associated with faecal contamination. However, when water contaminated with *N. fowleri* is forced into the nasal passages this pathogen causes a usually fatal disease known as primary amoebic meningoencephalitis.

A level of chlorine is maintained in all distribution systems to control *N. fowleri*. The ADWG recommends controlling *N. fowleri* by maintaining a minimum free chlorine level of 0.5 mg/L.

Power and Water has continued to investigate for the presence of the pathogen *Burkholderia pseudomallei*, the agent responsible for the disease melioidosis, and works closely with the Menzies School of Health Research to identify drinking water characteristics likely to be at risk.

The results of monitoring for these indicator organisms and pathogens are presented in Section 2.

Chemical parameters (health)

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 and may affect its quality. The results for the typical health-related chemical parameters are presented in tables in the appendices.

Organic chemicals

Organic compounds are usually present in drinking water in very low concentrations. They may occur either naturally or as a result of human activities. By-products of disinfection are the most commonly found organic contaminants in Australian drinking water supplies. The extensive use of groundwater sources in relatively sparsely populated areas in the Northern Territory means that the majority of water sources don't contain a high organic content.

Power and Water undertake a broad range of organic chemical testing, with a number of the chemicals of interest outlined below:

Trihalomethanes

Trihalomethanes are present in drinking water principally as the result of disinfection using chlorination. Chlorine, which produces hypochlorous acid when added to water, can react with naturally occurring organic material such as humic and fulvic acids to produce trihalomethanes. The brominated trihalomethanes are produced

Inspection of a Howard East bore

by the oxidation of bromide present in water to form hypobromous acid which can then react with organic matter in a similar way.

All major and minor urban centres were monitored for trihalomethanes. Results can be found in **Table 33** in the appendices.

Pesticides

Pesticide use including insecticides, herbicides and fungicides is managed by various government departments depending on the land owner or manager of a catchment. Power and Water monitor for pesticides within different catchments based on a risk assessment of the source. The pesticide monitoring program focuses on 52 commonly used pesticides including glyphosate, organochlorine, organophosphate and triazine pesticides, insecticides and acidic herbicides.

Per- and Poly-Fluroalkyl Substances (PFAS)

Per- and poly-fluoroalkyl substances (PFAS) are manufactured chemicals that have numerous industrial uses. Due to PFAS persistence and mobility in the environment, they have emerged as a potential water contaminant in some situations, notably cases where fire-fighting foams have been used. Power and Water monitor for these chemicals and the results are reported in **Section 2** of this report.

Chemical and physical parameters (aesthetic)

Aesthetic parameters are the chemical and physical characteristics of water quality that pose no threat to human health, however can affect drinking water appearance, taste, feel and odour. This includes total dissolved solids (TDS), hardness (calcium and magnesium carbonates and sulfates), colour, pH and a few common metals.

The aesthetic quality will affect the acceptance of drinking water and is usually the first change observed in water quality. Results for the annual assessment of aesthetic parameters are shown in tables in the appendices.

Radionuclides

Low levels of radioactivity are occasionally detected in drinking water supplies in the Northern Territory. The radionuclides responsible for this radioactivity are natural and a characteristic of the local hydrogeology.

Details of the radiological assessment are reported in **Section 2** and results are shown in tables in the appendices.

06

Management of incidents and emergencies

Power and Water provide water supply and sewerage services to customers spread across the entire Northern Territory. Every year the Northern Territory experiences a number of emergency events, such as cyclones, floods and bushfires. On average, four tropical weather systems develop each year and one system crosses the Territory.

Power and Water is prepared for the management of incidents that could compromise water quality. The Territory Emergency Plan defines Power and Water as the lead agency for potable water related events.

Power and Water is the lead agency for the Public Utilities Group (PUG). The responsibilities of the PUG are:

- protection, maintenance and restoration of power, water and sewerage services
- provision of advice to the Territory Emergency Controller and Territory Emergency Management Committee on measures to improve the availability and robustness of public utilities in the event of a disaster.

The COVID19 pandemic has created special challenges to the provision of safe drinking water across the Northern Territory, with travel restrictions and product supply delays impacting delivery of major and minor works projects and various maintenance projects. Power and Water has worked tirelessly to overcome these challenges. An Incident Management Team (IMT) was stood up in response to COVID19 in March 2020, working with the business units to develop continuity plans to ensure the continuation of services during this challenging period. During the 2020-21 reporting period, the IMT for COVID19 continued to work on continuity plans for the business units and plan for any ongoing COVID19 related impacts. Part of this work included working with the Department of Health to develop and implement a regular wastewater sampling and testing regime for sentinel monitoring in the areas of Greater Darwin and Alice Springs.

Specific incidents and emergencies that occurred during this reporting period are discussed in **Section 2 Part A** for major and minor urban centres and **Section 2 Part B** for remote communities.

> Power and Water is prepared for the management of incidents that could compromise water quality.


PUBLIC
INFORMATION
EMBERGNCY
MANAEMENT
OPERATIONS
INCIDENT
CONTROL

07

Employee awareness and training

Our employees are our greatest asset. Maintaining awareness of the importance of water quality and training our employees to do their jobs appropriately are key components of ensuring the supply of safe drinking water. Power and Water continue to focus on developing a professional, capable and accountable workforce, which includes providing a range of formal and informal training opportunities for all employees.

Organisational development

Power and Water fosters employee responsibility and motivation throughout our workforce. A primary mechanism for this is through continuing to fund employees to participate in a culture and leadership program. This training aims to grow employee responsibility and motivation, and to embed a constructive and positive working culture throughout the organisation.

Industry training

In major and minor centres, Power and Water employees operate all key water supply and sewerage functions. A key part of performing these activities well is a strong commitment to ensure all operators achieve Certificate III or Certificate IV in Water Operations. This provides operators with broad training and offers the opportunity for specialisation in areas such as:

- water and wastewater treatment
- water supply distribution (network)
- trade waste
- catchment operations
- irrigation
- dam safety and operations and source protection
- river and groundwater diversions and licensing
- construction and maintenance.

Water quality awareness training

Power and Water engaged the Water Industry Association of Australia (WIOA) to deliver training in Water Quality Awareness and Distribution System Management. The program was targeted at field employees responsible for the operations and maintenance of the water reticulation network. The workshop was well attended with personnel from urban and remote from across the Territory. The workshop covered topics including pathogens and chemicals, distribution system hazards, the purpose of disinfection and management of chlorinated systems. Workshop participants also reviewed and discussed a deadly *E. coli* outbreak in Walkerton, Canada. The training was run in Darwin in the 2020-21 reporting period and is planned to run in Alice Springs in the 2021-22 reporting period.

Essential Services Operators competency and compliance framework

In each of the 72 remote Aboriginal communities across the Northern Territory, Power and Water subcontract the water supply and sewerage system operations to ESOs who perform day-to-day tasks under the direction of Power and Water teams.

The long distances, sometimes difficult access and challenges in communicating with remote communities means that Power and Water rely on ESOs to be the 'eyes and ears' on the ground. As a result, an ESO is relied on to provide first response and to troubleshoot many problems before a Power and Water employee can attend the site. This is an important responsibility and means ESO training and competency is of critical importance to the supply of safe drinking water in these places.

Power and Water has developed a new ESO Competency and Compliance Framework that aims to manage ESO competency. This framework has the following goals:

- establish a clear set of requirements that address ESO competency and compliance
- monitor and improve the level of performance of ESOs
- meet Power and Water's obligation to ensure assets within remote communities are being maintained and monitored to meet service and safety requirements.

The framework is to be rolled out in 2022-23 reporting period.

Water in the Bush

Power and Water maintain a strong presence at Water in the Bush, the Northern Territory's premier water industry event. This event brings together Northern Australia water professionals, the community and industry to share knowledge on issues affecting water. The event was held on 22-23 October 2020 at the Hilton Hotel. Several presentations were delivered by Power and Water employees including:

- *A novel approach to data assessment* by Istvan Nemeth and Phil Jolly (Jolly Consulting)
- *Ngukurr asbestos cement mains replacement* by Teng Yik
- *Hidden water innovations exploration, APY Lands, North West South Australia* by Adrian Costar
- *Powerful partnerships* by Joel Spry and Jethro Laidlaw
- *Galiwinku gas chlorination plant* by Teng Yik
- *Enhancing performance of waste stabilisation ponds – the dominant wastewater treatment strategy within the Territory* by Karen Kennedy.

Power and Water was also represented with Djuna Pollard, Chief Executive Officer, delivering the keynote presentation and with Donna McMasters, Specialist People and Culture (Aboriginal Employment) on the panel discussion: *A perspective on Indigenous water knowledge*.

Water Industry Operators of Australia virtual forum

Power and Water nominated to participate in the Water Industry Operators of Australia (WIOA) online virtual water conference this year, which had 10 "live" days for technical information to be shared. There was a focus on a state or territory for many of the days and the NT themed day was on 9 September 2020.

We had the following people taking part:

- Karen Kennedy with Eric Vanweydeveld, Danny Browne, Steve Knight and Simon Brisbane – *Leanyer Sanderson Waste Stabilisation Ponds (WSPs)*
- Liz Gadd with Eric Vanweydeveld and Grant Walker – *Adelaide River – Australia's First Biological Water Treatment Plant*
- Jethro Laidlaw – *Demand Management Across the Northern Territory*
- Skefos Tsoukalis – *Drinking Water and PFAS - the Katherine Experience*.

Ozwater

Ozwater is Australia's international water conference and trade exhibition, and is run annually by the Australian Water Association. A number of Power and Water employees attended the Ozwater event in Adelaide in 2021. Presenters from Power and Water at Ozwater included:

- Teng Yik and Chantal Bramley – *Journey to successful Aboriginal participation in NT remote Aboriginal projects*
- Jethro Laidlaw – *Searching for best practice demand management*
- Kylie Climie – *Both ways learning: Partnering with schools to drive behaviour change in Indigenous communities.*

Power and Water was nominated for two prizes:

- Student Water Prize finalist – Andrea Georgiou – Charles Darwin University (Northern Territory) – *The effect of pressure reducing valve settings on a reticulated water supply system*
- Infrastructure Project Innovation award - Teng Yik – *Ngukurr Leak Detection Project.*

08

Community involvement and awareness

Our customers are at the heart of everything we do and involving the community is vitally important to delivering quality drinking water.

Engaging with our community

Power and Water maintain an online presence both through our website and social media to provide multiple channels for customers to contact us and to help us deliver a range of informative, educational and engaging content. The main social media platforms that we use are Facebook, LinkedIn and Twitter.

Customer satisfaction

Power and Water has signed a four-year research agreement with a research agency to engage with our customers and better understand what they want, need and value with their water supply. This is a major undertaking and will form the basis of a customer-focused strategy and other activities undertaken into the future.

Water smart programs

Through the Living Water Smart program, Power and Water has been working in communities across the Northern Territory to better ensure a safe and secure water supply. Major water saving projects are ongoing in Darwin, Katherine and in many water-stressed remote communities. The projects focus on best ensuring customer water demand matches water supply capacity through community behaviour change, stakeholder engagement, marketing and communications campaigns, smart water metering, network leak detection, school-based education, non-residential sector audits and rebates.

These programs provide great outcomes for customers and allow Power and Water to reduce operational costs, better meet sustainable yield targets and improve water quality.

Highlights include:

- delivering 2,500 Garden Tune Up audits via a team of affiliated irrigation experts. These irrigation audits helped reduce Darwin's water demand by 370 ML/year
- expanding the *That's My Water!* school education program to more urban and remote schools. Last year over 20 schools participated and learned about saving water, the Cloud to Cup cycle and how Power and Water ensures water supplied is safe and sustainable
- beginning the installation of smart water meters at six remote communities to allow better tracking of water through the network, improved backflow protection and automated leak alerts.

“These programs provide great outcomes for customers and allow Power and Water to reduce operational costs, better meet sustainable yield targets and improve water quality.

Territory's finest on tap – Promoting the benefits of tap water

Power and Water has been a member of the national Choose Tap movement since 2019. Choose Tap is a national initiative designed to increase Australians' preference for tap water over bottled water and other bottled drinks. Choosing tap water has multiple benefits and helps to reduce the environmental impact of single use plastics that end up polluting our environment, choking waterways, clogging drains and filling landfills with unnecessary waste.

Along with the environmental message, our membership with Choose Tap is a great opportunity to educate the community that Territory drinking water is high quality and precious. The campaign is a tangible way to make a difference to the lives of Territorians and have customers recognise the value of a commodity that is taken for granted.

One element of the campaign is our water refilling stations and water trailer that we loan for community events and festivals. We have supported more than 30 events, large and small, over the last 12 months to ensure quality tap water is available to attendees. Some of these events include:

- StudyNT International Student Reconnect Festival
- HPA Steps Towards Capability
- Parrtjima – A Festival in Light
- City of Darwin International Women's Day
- Australian Red Cross migration support services
- Mobile disco
- Nepal Festival
- Nightcliff Seabreeze Festival
- Bass in the Grass
- Merlin Darwin Triple Crown – Supercars.

Our chilled water trailer was commissioned in 2019 but COVID19 restrictions prevented it from becoming operational until recently. Its first event was the Nightcliff Seabreeze Festival in May 2021, with it fast becoming as sought after as our individual water stations.

We also partnered with City of Darwin to promote permanent water fountain installations in high pedestrian traffic locations such as Nightcliff, Mindil Beach, the Esplanade and Smith Street Mall — these fountains support the community while they are out living active lifestyles.

09

Research and development

The ADWG promote continued Research and Development (R&D) to maintain a water utility at the cutting-edge of knowledge related to water quality management. This R&D can be both fundamental research on priority water quality related areas and also applied research, such as the validation of water treatment processes. In order to leverage our position in the Northern Territory, Power and Water is a member of various industry groups that undertake research work.

Melioidosis (*Burkholderia pseudomallei*)

Power and Water support ongoing research into the prevalence of *Burkholderia pseudomallei* (the agent responsible for the disease melioidosis) within water supply systems operated by Power and Water. Work was initiated in 2018 and is a partnership with the Menzies School of Health Research and Charles Darwin University. Outputs from the project will continue to inform Power and Water's Drinking Water Quality Management System, including the establishment of appropriate controls and informing water quality risk assessments and asset management planning cycles. On a broader scale, this research will continue to inform the whole of Northern Territory public health efforts in understanding the disease and occurrence of the bacterium.

Research into appropriate treatment technology for a remote context

Power and Water is investing in appropriate technologies through research and development projects to address health and aesthetic exceedances as well as achieving operability in a remote setting.

Two emerging technologies that Power and Water is investigating are:

- membrane Capacitive De-Ionisation (mCDI) to reduce elevated total dissolved solids (TDS), fluoride, hardness and potentially uranium and other heavy metals under certain operating conditions.
- electrochemical technology to reduce nitrates and possibly heavy metals such as uranium and arsenic under certain operating conditions.

These two technologies are being developed to provide suitable treatment options for the variable quality water found throughout the Northern Territory. A one-size-fits-all approach is not applicable across the Territory due to localised issues such as water quality attributes and wastewater discharge options.

New and emerging technologies require pilot-scale research and evaluation before full-scale implementation. Participation in the early stages of development give Power and Water the unique opportunity to participate in the design specifications established to ensure that new equipment will meet the intended water quality requirements and provide necessary process flexibility and controllability required for the remote conditions of the Territory. Due to the unique circumstances of remote water operations in the Northern Territory it is desirable for our experienced employees and operators to be involved in the establishment of suitable technology that will operate in a remote community context.

Membrane Capacitive De-ionisation technology development

Power and Water has committed $203,000 in funding and in-kind support to participate in a trial of mCDI technology in partnership with the University of New South Wales. This technology uses charged electrodes to achieve ion removal and potentially provides a simpler, more robust option for desalination than either Electro dialysis reversal (EDR) or RO, while consuming less electricity. Membrane capacitive de-ionisation is a well-developed technology in the laboratory that shows

promising results in the reduction of TDS, nitrate, fluoride and uranium under certain operating conditions.

In 2021 Power and Water will operate a pilot mCDI system at Ali Curung alongside the fully operational EDR system to allow comparison between the two technologies. The trial is expected to be completed by July 2022.

New electrochemical technology development

Power and Water, together with the University of Queensland, Water Corporation, the Northern Territory Government, Hydro-dis Australia and Dematec Automation, formed a national research and development consortium. Through a collaborative research and development project, the consortium aims to develop next generation water treatment technologies for the provision of safe drinking water to remote Indigenous communities.

The project, specifically designed for remote communities, aims to effectively remove contaminants from groundwater. It will focus on the removal of nitrate and heavy metals such as uranium and arsenic by applying electrochemical technology using oxidation and reduction reactions.

The new proposed technology will be based on the existing technological development of continuous electrochlorination made by Water Corporation and Hydro-dis Australia under a separate R&D project.

The total project value is $2.76 million and will run for three years. The project is due to commence in the 2021-22 financial year.

As part of the project two pilot systems (full scale units) will be deployed on operational sites (one in the Northern Territory and one in Western Australia) to test, validate and improve the process in real field conditions while monitoring its performance.

Nturiya electrochlorination trial

Power and Water has designed and implemented its own electrochlorination unit, which is being trialled at Nturiya (Ti Tree Station). The treatment process at Nturiya prior to the trial was UV disinfection only.

Electrochlorination is a process that produces sodium hypochlorite – a disinfectant for drinking water – on site using salt, water and electrical energy.

The benefits of electrochlorination is that it eliminates the need for handling, storage and delivery of potentially dangerous chlorine-based chemicals on site. Sodium hypochlorite, which is typically used for disinfection of small schemes, also has an expiry period, which can cause operational challenges in a remote setting.

Electrochlorination units are scalable, meaning that a small unit can be used for a small water supply. The system at Nturiya requires a low voltage (typically 7-12 V) and direct current (DC) of 32-40 A input to produce a consistent chlorine residual.

Southern communities such as Nturiya have naturally high levels of TDS and do not require the addition of salt because it occurs naturally in the source water. The high level of TDS does however create challenges with scaling of the electrochlorination unit. Work is ongoing to further refine this trial.

10

Documentation and reporting

The ADWG emphasise that documentation provides the foundation of a robust drinking water quality management system. Power and Water, as a government-owned multi-utility, achieve this outcome through the use of its Drinking Water Quality Management System, document control framework and electronic records management system.

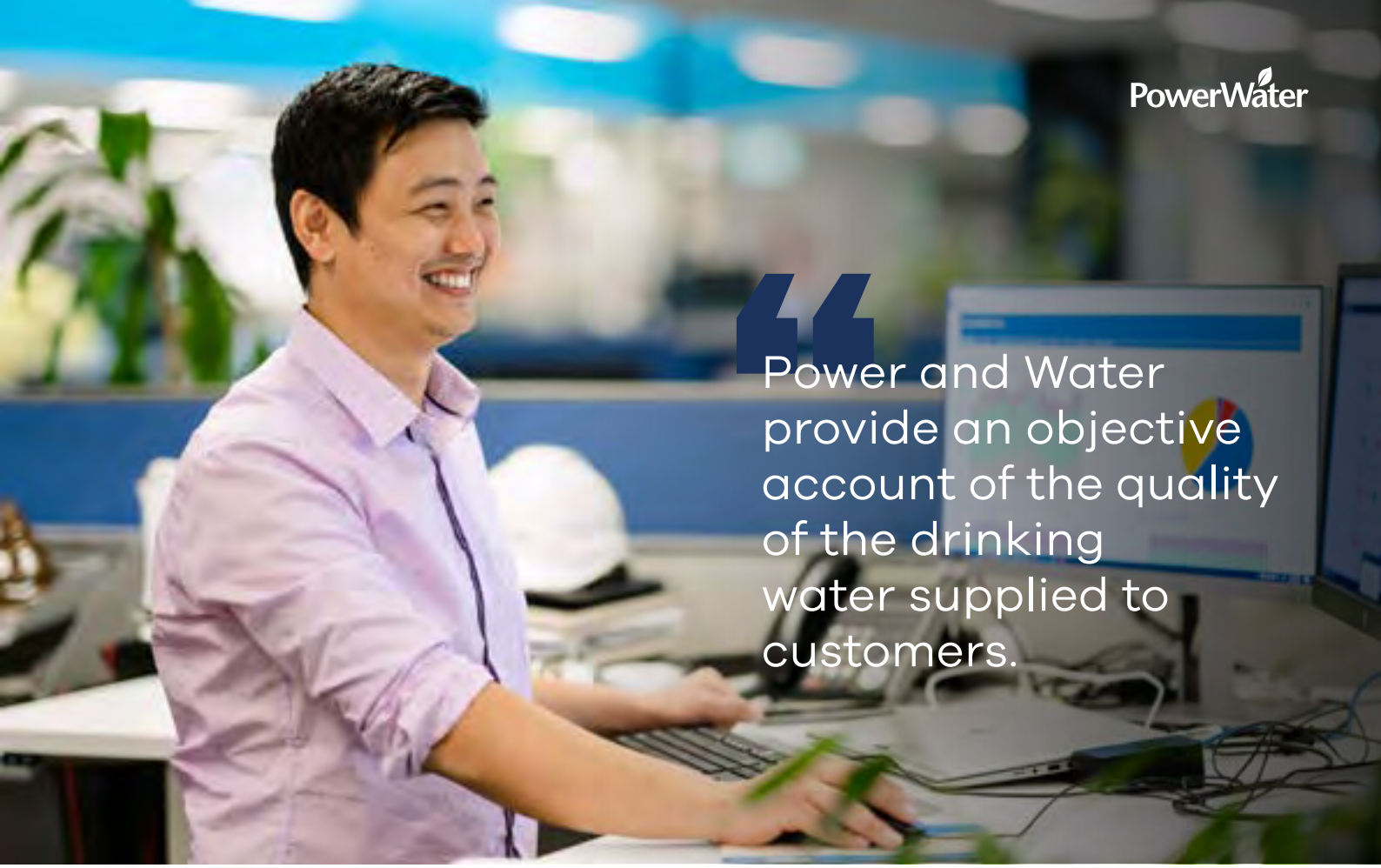
Operational data and process monitoring and reporting is maintained through Power and Water's data historian, with automated reporting of deviations in operating parameters to appropriate parties. Ongoing investment in improved monitoring and communications infrastructure aids this automated reporting.

Water Safety Plan updates

It has been consistently shown that the conventional approach of end-point monitoring for water quality safety is not sufficient to guarantee safe drinking water. Notification comes too late, test results are not timely enough to prevent consumption of unsafe water and insufficient information is provided to identify the source of contamination. Instead, the widely endorsed methodology for ensuring safe drinking water is the adoption of Water Safety Plans. This approach is endorsed by the World Health Organisation and are the core documents within any Drinking Water Quality Management System.

Power and Water developed its Water Safety Plans in 2018 for all 91 systems.

During the 2020-21 reporting period, Power and Water conducted a review of the format of Water Safety Plans for all remote communities. This work included streamlining the generation of these 72 plans making them easier to update and manage. The information contained within the plans has been structured and organised in a way that ensures future updates are able to be formalised and updated in a timely manner. The data and other information contained within the plans will also be in a format that will enable them to be readily accessed and reused for other reporting needs. Power and Water plan to update the urban Water Safety Plans to a similar format in the 2021-22 reporting period.



Reporting to stakeholders and regulators

In this reporting period, Power and Water tabled its Annual Report in the Northern Territory Legislative Assembly. This report is a key mechanism for informing our Shareholding Minister and the Northern Territory Parliament about our business performance as a whole.

Power and Water produces a number of drinking water-related reports for various stakeholders including:

- Department of Health
  - reportable incidents or events that have the potential to affect public health
  - notifiable events for exceedances to health or aesthetic characteristics
  - monthly compliance reporting.
- Department of Territory Families, Housing and Communities
  - annual water source status report
  - annual traffic light report.
- Bureau of Meteorology
  - groundwater reports.
- Department of Environment, Parks and Water Security
  - extraction licences compliance reports.
- Customers
  - annual drinking water quality report.

Annual Drinking Water Quality Report

By producing an annual drinking water quality report (this report), Power and Water provide an objective account of the quality of the drinking water supplied to customers.

Power and Water also reports on its drinking water management progress and achievements through other channels including social media.

Comprehensive and quality information is available to the public via its website or on request. This includes technical information, guides about water conservation and media releases.

Information provided in this annual drinking water quality report forms part of a national reporting obligation and provides the Northern Territory and the public with a reliable and transparent source of information on water quality.

11

Evaluation and audit

The long-term evaluation of water quality results and the use of an audit program help to determine adherence with the requirements of the Australian Drinking Water Guidelines. Power and Water has incorporated these activities within the Drinking Water Quality Management System.

A review and assessment of water quality supplied to customers has been completed, which forms the basis of Section 2 of this report.

External audit for the Utilities Commission

Power and Water has been granted a licence to supply water and sewerage services by the Utilities Commission under the Water Supply and Sewerage Services Act (2000). A condition of this licence is that the licensee must commission an independent auditor to undertake an audit of all or part of the operations authorised by the licence each financial year. In the 2020-21 financial year, Power and Water engaged an external auditor to review processes and controls in place to manage water supply and sewerage services to customers. The report concluded that nothing had come to the auditor's attention, with the exception of some minor findings, that caused the auditors to believe that the Corporation was not in compliance with the requirements of the Water Supply Services Licence (Urban) or the Sewerage Supply Services Licence (Urban).

Review and continual improvement

Senior executive support, commitment and ongoing involvement are essential to the continual improvement to drinking water quality management.

During the 2020-21 reporting period, quarterly Drinking Water Quality Steering Committee meetings took place, which were chaired by the Chief Executive Officer. The meetings were attended by other members of the Executive Leadership Team and key Water Services employees involved in managing drinking water quality. The board was given regular drinking water quality updates in line with the Board and Management Visibility (of water quality) Procedure.

Continuous improvement of drinking water quality is driven through the execution of the Safe Water Plan 2019-22, which was in its second year of delivery during the 2020-21 period.

External review of the Drinking Water Quality Management System

The ADWG recommend an external review of a Drinking Water Quality Management System (DWQMS) take place on a routine basis. Power and Water engaged a consultant to undertake such a review in May 2016 and the same consultant reviewed the DWQMS again in May 2021. The review was undertaken against the 12 elements of the ADWG. The 2021 review found a step change improvement in performance with respect to the management of drinking water across the Territory, compared with the 2016 assessment.

The review noted a number of improvements including:

- a robust documented management system
- Water Safety Plans for 91 communities moving towards second generation
- high level of board and management engagement
- clear plans implemented to upgrade disinfection barriers
- clear continuous improvement plans targeting the reduction of scheme and management system risk
- standardised approaches evolving across 91 systems.

The consultant noted that Power and Water is moving to a mature and sustainable level of effort, characterised by:

- drinking water quality's progressive integration with other business aspects such as asset management, water security and the corporate risk framework
- organisational integration of the Water Services and Remote Operations groups leading to material benefits due to standardisation and the lifting of standards across all 91 water supply schemes
- a "performance" focus rather than a "compliance" focus, when it comes to managing drinking water. The mindset is not one of "what is the minimum required", but rather "what is best for community". The latter approach will typically lead to greater efficiencies for the organisation and more prudent outcomes for the community
- seeking out systemic opportunities for improvement rather than being caught in the detail.

The results of the review were presented to senior management in April 2021 and to the Board in June 2021.

Section 2
Drinking Water Quality and Performance

Part A: Major and minor centres

Microbiological results

Monitoring objective

Bacterial indicators are used for verifying the effectiveness of treatment and to assess the microbiological cleanliness of the water. Monitoring for indicator bacteria provides a useful way to verify that the barriers to protect public health are working effectively.

Monitoring program

Power and Water's drinking water monitoring programs require that samples representative of the quality of water supplied to consumers be collected and analysed for *E. coli* at a minimum frequency. The results from this monitoring are used to demonstrate compliance and are reported as verification of the microbiological quality.

Operational monitoring for bacteria provides the detailed information needed to maintain a treatment process within defined parameters (process control). This information is not reported here.

The sample collection performance for individual schemes for the 2020-21 reporting period is presented in **Table 10** in the appendices.

Limitations of monitoring

Microbiological verification monitoring is not intended to provide an absolute measure of safety because of the inherent sampling and analysis limitations. Samples only ever represent a small percentage of the total water consumed. Analytical methods take substantial time to produce a result, which means the water is already consumed before a result is received.

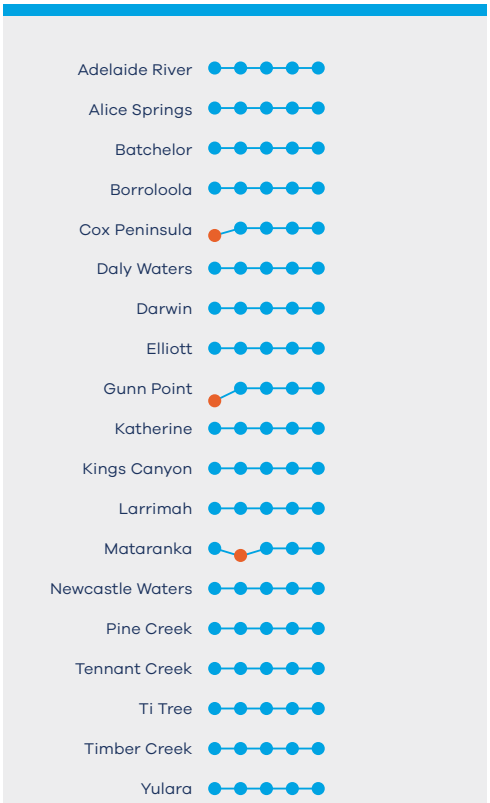


Figure 5 Percentage of samples in which no *E. coli* was detected from 2017 (left dot) to 2021 (right dot)

Compliance performance

Performance can be regarded as satisfactory if over the preceding 12 months:

- at least the minimum number of programmed samples has been tested for *E. coli*
- samples tested are representative of the quality of water supplied to consumers
- no samples had *E. coli* detections.

Figure 5 shows the percentage of samples in which no *E. coli* were detected in the last five years. Red markers indicate less than 100 % for that year i.e. there was at least one *E. coli* detection. During the 2020-21 reporting period, no *E. coli* was detected in any of the urban centres. Further details for this year can be found in Table 10.

Burkholderia pseudomallei

Power and Water's drinking water monitoring program has included *B. pseudomallei*, the agent responsible for melioidosis, since its detection in Darwin rural private supplies in 2010. Chlorination is used 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 work closely with Menzies School of Health Research to identify water supplies at risk of contamination.

Katherine Water Treatment Plant

Naegleria fowleri

Most waterborne diseases are caused by organisms originating in the gut of humans or other animals. However, many organisms of environmental origin that are not normally associated with the gastrointestinal system are found in water and some of these organisms may, under certain circumstances, cause disease in humans. Such organisms include the protozoan *Naegleria fowleri* (*N. fowleri*).

N. fowleri is an organism that lives naturally in warm freshwater bodies and soil. It can be found in warm, stagnant bodies of water including lakes, hot springs, irrigation canals, poorly maintained swimming pools and spas and garden hoses or sprinklers containing stagnant water. It is a naturally occurring organism in the Northern Territory.

N. fowleri causes the waterborne disease primary amoebic meningoencephalitis (PAM). This disease occurs 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*.

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.

An effective chlorine residual maintained throughout the distribution system provides protection and limits the regrowth of *N. fowleri*. Free chlorine at 0.5 mg/L or higher will control *N. fowleri*, provided the disinfectant persists at that concentration throughout the water supply system. Power and Water target a minimum free chlorine residual of not less than 0.5 mg/L throughout the entire supply.

During the reporting period, Power and Water conducted the routine *N. fowleri* monitoring program, collecting over 250 samples from the Cox Peninsula, Darwin and Gunn Point regions. Across the Northern Territory sampling for investigation also occurred at centres without previous detection or in the sediments cleaned out of the drinking water distribution tanks.

The results from the 2020-21 *N. fowleri* monitoring program can be found in Table 5.

Table 5 Thermophilic amoeba detections

Community	Samples collected	Amoeba	Hartmannella	Naegleria	Naegleria fowleri	Naegleria lovaniensis	Willaertia magna
Alice Springs	10	0	0	0	0	0	0
Batchelor	1	1	0	0	0	0	0
Cox Peninsula	2	2	0	1	1	0	0
Darwin	226	0	0	0	0	0	1
Gunn Point	27	3	1	2	0	2	0
Katherine	27	0	0	0	0	0	0
Pine Creek	1	0	0	0	0	0	0
Tennant Creek	40	2	2	0	0	0	0
Yulara	18	0	0	0	0	0	0
Total	**352**	**6**	**1**	**3**	**1**	**2**	**1**

Chemical and physical results

Tables 11-57 in the appendices show the results for health-related, aesthetic and other parameters for all major and minor urban centres. The results are also represented by community in Tables 58-76.

Radiological

Radioactive materials occur naturally in the environment (e.g. uranium, thorium and potassium). Some radioactive compounds arise from human activities (e.g. from medical or industrial uses of radioactivity) and some natural sources of radiation are concentrated by mining and other industrial activities.

A very low proportion of the total human exposure comes from drinking water. Radiological contamination of drinking water can result from:

- naturally occurring concentrations of radioactive species (e.g. radionuclides of the thorium and uranium series in drinking water sources)
- technological processes involving naturally radioactive materials (e.g. the mining and processing of mineral sands or phosphate fertiliser production)
- manufactured radionuclides that might enter drinking water supplies from the medical and industrial use of radioactive materials.

All water supplies are sampled to measure alpha and beta activity. If either or both activity levels are above a certain screening level then further investigation is conducted.

To comply with the ADWG, the radiological data used in the calculation of the total annual radiation dose must be no more than two years outside the reporting period for groundwater supplies and no more than five years for surface water.

Annual assessment

All water supplies passed the annual ADWG radiological limit of 1mSv/yr in 2020-21. As shown in Table 6, the majority of water supplies were within the screening levels recommended by the ADWG, with alpha and beta radioactivity levels at or below 0.5 Bq/L. Results for the radiological assessment of all supplies for 2020-21 are shown in Table 30 in the appendices.

Kings Canyon's water supply has higher levels of natural occurring radionuclides than other Northern Territory water supplies and as a result is intensely monitored. The radiological dose at Kings Canyon passed the guideline value during the reporting period 2020-21.

Table 6 Summary of annual radiological assessments

	Centre	
	Major	Minor
Samples taken	5	14
Number above screening level	1	2
Number above guideline	0	0

Chemical health parameters

With few exceptions (e.g. nitrate, fluoride), all health-based guideline values relate to lifetime exposure. An assessment of the data for this reporting period can be found in Tables 11-34. A summary of some chemical health parameters of interest are given below.

Trihalomethanes (THMs)

During the 2020-21 reporting period, all urban water supplies were assessed for THMs. The average concentration of THMs ranged from below the detection limit to 0.09 mg/L, all below the ADWG health guideline value of 0.250 mg/L.

Darwin and Katherine, which both use surface water for the bulk of their water supply, recorded the highest levels of THMs at 0.09 mg/L and 0.04 mg/L respectively. Surface water is high in organic carbon, usually from the decay of vegetable and animal matter, which reacts with chlorine to form THMs.

Other communities use groundwater, which is low in organic compounds, and measured THMs averaged no more than 0.012 mg/L.

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 use in some areas. Due to these results, pesticide monitoring during 2020-21 was restricted to Darwin and Katherine water supplies. For this reporting period, no pesticides were detected in these areas. 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. Pesticide use is strictly controlled in catchments for surface waters, such as reservoirs and rivers.

PFAS monitoring

Per- and poly-fluoroalkys substances (PFAS) are a class of manufactured chemicals that have been used since the 1950s to make products that resist heat, stains, grease and water. PFAS has been identified as an emerging contaminant and investigations are underway in all Australian jurisdictions.

In response to a request from Department of Health in 2017, PFAS was included as part of our water quality testing program. In August 2018, PFAS guidelines were included in the Australian Drinking Water Guidelines, Version 3.5.

PFAS was included in the Annual Drinking Water Quality report for the first time in 2019-20. Previously Power and Water referred to PFAS monitoring referenced on the Power and Water website.

PFAS in Katherine

Since being notified by the Department of Defence of the detection of PFAS in the environment near RAAF Base Tindal, Power and Water has taken a positive approach to ensure safe drinking water continues to be delivered to the community of Katherine.

An interim PFAS treatment plant installed in October 2017 has been successfully treating 1 million litres of groundwater per day. The pilot treatment system was designed and fabricated in the United States and the same design is being used successfully at the Williamtown and Oakey RAAF bases.

Power and Water is progressing work on a long-term solution for effectively managing the impacts of PFAS and securing a safe water supply to cater for Katherine's future growth. ECT2 (Emerging Compounds Treatment Technologies), which provided the pilot plant, has been engaged to deliver the new and significantly larger plant designed to meet future water demand over a 30-year planning horizon. Commissioning of the larger PFAS plant is planned for the 2021-22 financial year.

Nitrate

The ADWG recommends that nitrate concentrations between 50 mg/L and 100 mg/L are a health consideration for infants younger than three months, although levels up to 100 mg/L can be safely consumed by adults.

Nitrate concentrations in the Northern Territory groundwater come from a variety of natural sources. Termite mounds, nitrogen fixing bacteria and plants contribute to the soil nitrate levels.

Ti Tree drinking water typically has nitrate levels on or around 50 mg/L and less than 100 mg/L. For the 2020-21 reporting period, Ti Tree's water quality results were compliant with the guideline value although one sample had nitrate levels above the guideline value. The DoH gives regular advice to Ti Tree customers that the water should not be used for bottle-fed infants and an alternative supply is provided to these customers by Power and Water.

Lead

The ADWG health guideline value for lead is 0.01 mg/L. The presence of lead in household plumbing is a problem worldwide, as any lead in brass fittings is dissolved into the water. Lead is not found in the source water used for public water supplies. Instead, lead can enter tap water when plumbing materials containing lead start to corrode.

Lead was not detected from most of the water samples taken in the Territory and where detected it did not exceed the ADWG health guideline value of 0.01 mg/L. Corrosion of sample site plumbing can result in lead detections.

Aesthetic parameters

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

Hardness is primarily the amount of calcium and magnesium ions in water and is expressed as a calcium carbonate ($CaCO_3$) equivalent.

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 recommends hardness levels below 200 mg/L to minimise scaling in hot water systems.

Hard water or water with calcium carbonate 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.

Degrees of hardness can be described as follows:

<60 mg/L $CaCO_3$	soft but possibly corrosive
60–200 mg/L $CaCO_3$	good quality
200–500 mg/L $CaCO_3$	increasing scaling problems
>500 mg/L $CaCO_3$	severe scaling

Public acceptance of hardness can vary considerably among 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.

Figure 6 shows the spread of hardness for urban centres across the Territory.

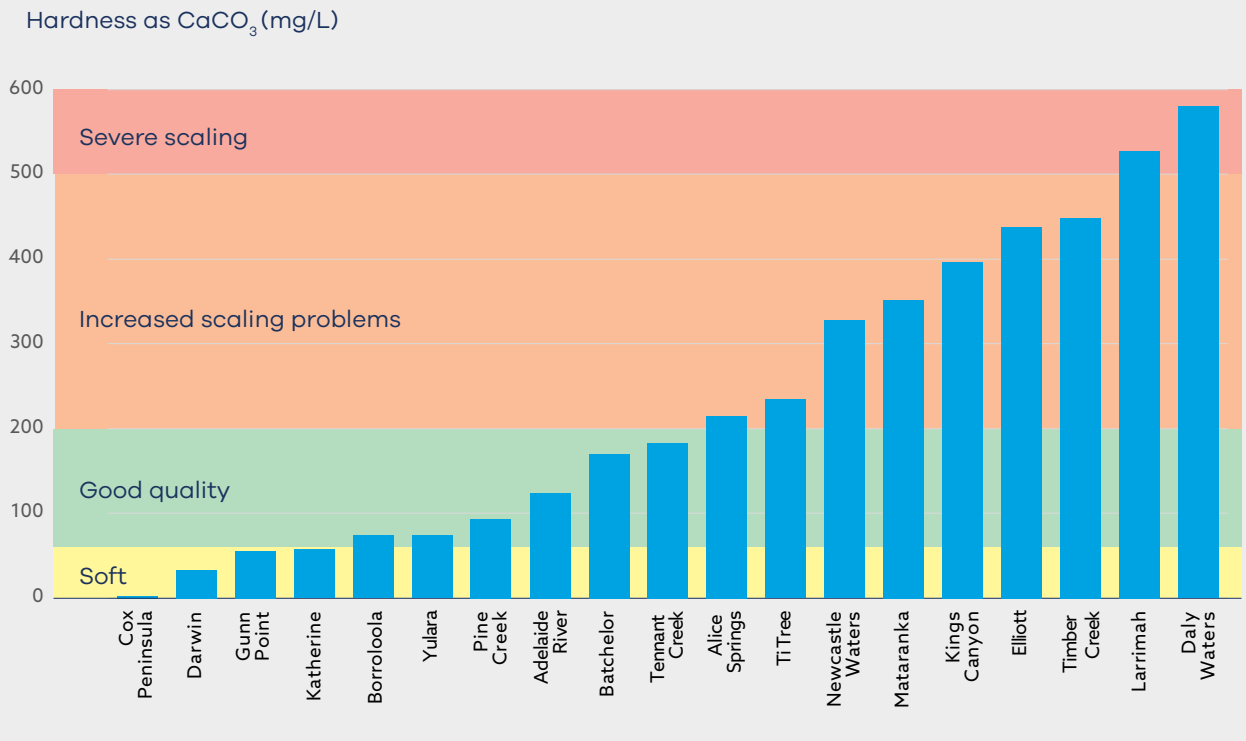


Figure 6 Average hardness for all urban centres

Total dissolved solids (TDS) affect how the water tastes. Based on taste, the ADWG recommend TDS levels below 600 mg/L. TDS comprise sodium, potassium, calcium, magnesium, chloride, sulphate, bicarbonate, carbonate, silica, organic matter, fluoride, iron, manganese, nitrate and phosphate.

Water with low TDS can taste flat, while water with TDS above 600 mg/L could cause scaling in taps, pipes and hot water systems. Levels greater than 900 mg/L significantly affect taste and may also cause moderate to severe scaling.

The degrees of TDS (mg/L) can be described as follows:

0 – 600	good
600 – 900	fair
900 – 1200	poor
> 1200	very poor

Precisely what level of TDS an individual water supply system decides to accept is a function of community acceptance, available water resources, and the cost and practicality of effecting any change to natural TDS levels.

Refer to **Figure 7** for the average total dissolved solids for all urban centres.

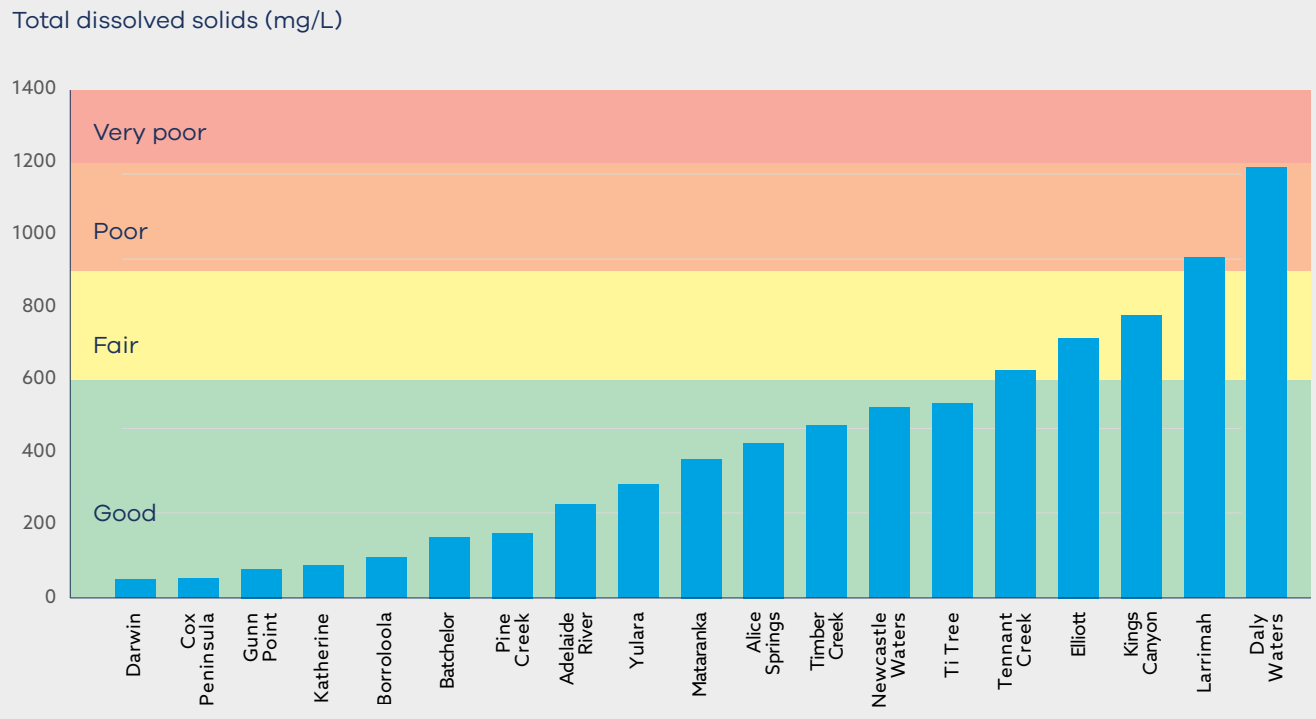


Figure 7 Average total dissolved solids for all urban centres

Customer satisfaction

Water quality customer complaints

Complaints from consumers concerning the quality of their drinking water mostly focus on the aesthetic aspects of appearance, taste and odour. Like other Australian drinking water providers, Power and Water record all water quality complaints made by its customers and reports them to the National Water Commission.

Number of complaints

Table 7 shows the total number of complaints specific to water quality made by customers between 2017 and 2021. A decrease in the number of water quality complaints has occurred in the 2020-21 reporting period.

Table 7 Water quality complaints

Complaint type	2017	2018	2019	2020	2021
Clarity, dirtiness or particles	137	137	79	88	64
Taste, odour or smell	16	15	16	23	11
Alleged illness	0	1	3	0	0
Other	0	0	2	1	0
Total	**153**	**153**	**100**	**112**	**75**

A month by month breakdown of water quality complaints is shown in Figure 8. The main water complaint was discoloured water such as clarity and particles. Seasonal changes to temperature and wind cause water quality changes in Darwin River Reservoir and flow changes in the distribution.

As with many water supply reservoirs, Darwin River Reservoir is subject to seasonal water quality changes. Stratification is the development of distinct layers of water of different temperature or density at various depths in a water body. Stratification develops when the upper layers of the reservoir are heated faster than the heat can disperse into the lower depths of the reservoir. The differences between the layers limit circulation between them and leads to significantly different aesthetic water qualities.

Once the reservoir has stratified, a large amount of energy is required to disrupt the layered structure and mix the reservoir again. Destratification occurs once the surface temperature cools during a monsoonal event or when the dry season trade wind and cool nights arrive. The layers mix to produce discoloured water throughout the reservoir. Low quality anoxic water from the depths of the reservoir mix in with the surface water and it is drawn into the supply. Iron and manganese entering the distribution system oxidise and will precipitate out of solution, creating discoloured water.

Power and Water strive to minimise the impact of these seasonal variations. If a customer reports discoloured water, the mains supplying the customer's residence is flushed. In addition, water quality is monitored at a number of locations in the Darwin water supply to gauge the extent of discoloured water and determine when widespread flushing is required.

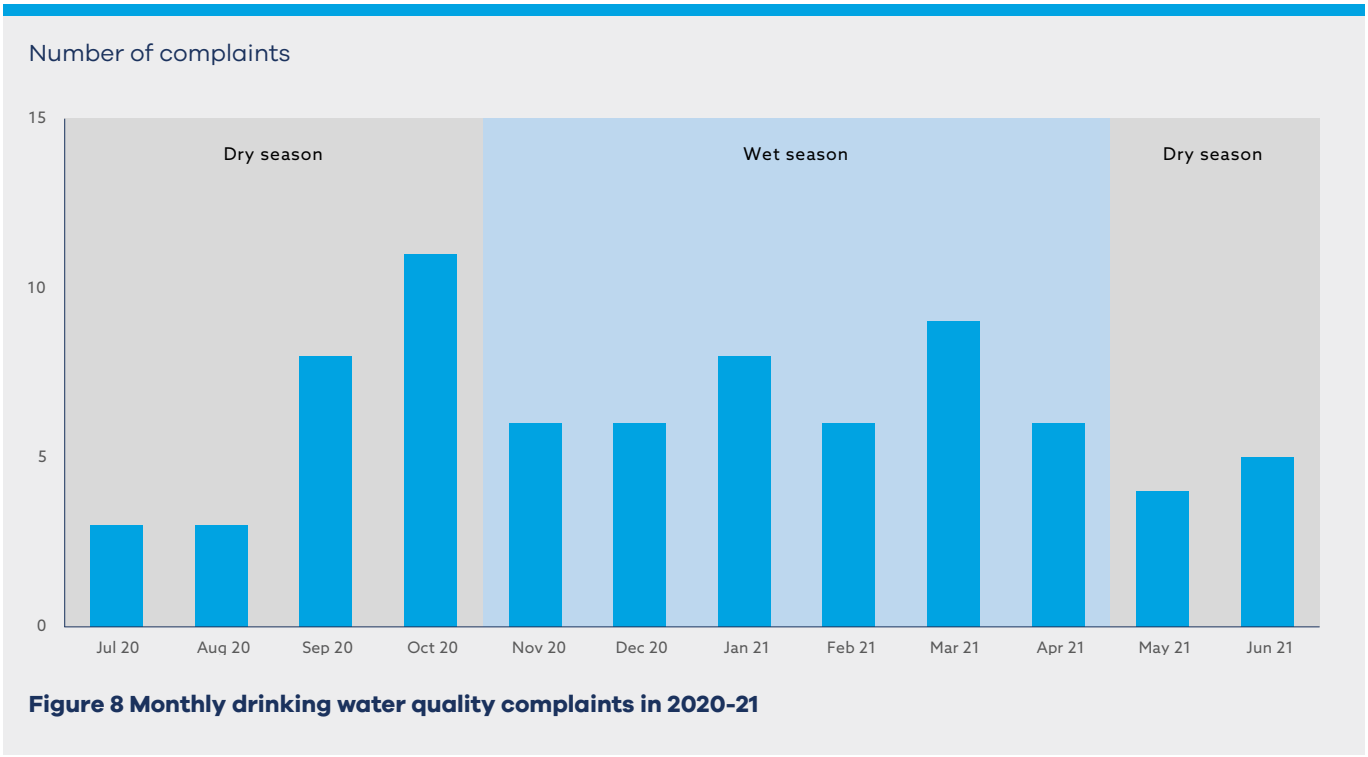


Figure 8 Monthly drinking water quality complaints in 2020-21

Types of complaints

Ninety-five percent of Darwin's customer complaints related to discoloured water. The majority of discoloured water is normally a destratification event at the reservoir or flow changes dislodging sediments in the distribution pipes.

Milkiness or cloudiness is most commonly due to the re-pressurising of water pipes. This causes trapped air to dissolve in the water and minute air bubbles form when the tap is turned on, creating a milky appearance, which clears if the water is left to stand.

Customer complaints about odour are attributable to free chlorine residuals. Chlorine is maintained at a minimum of 0.5 mg/L and at this level it can be objectionable to some customers. This level is required as a response to the detection of *N. fowleri* in some Northern Territory water supplies.

If there is doubt as to the cause of a water quality problem, an investigation is carried out and when necessary, water samples are taken and analysed.

Recorded emergencies/incidents

Katherine 'blackwater' event planning

The Katherine township, located 320 km south east of Darwin is the Northern Territory's third-largest town and home to approximately 10,000 people. The Katherine township is supplied with a blend of surface water from the Katherine River and groundwater from the Tindal aquifer. Historically, 80 % of the supply is sourced from surface water, which is taken from the Donkey Camp Pool in the Katherine River, and 20 % is taken from two bores. Surface water treatment uses a conventional treatment plant that includes coagulation, flocculation, clarification and filtration. The groundwater was historically aerated before mixing with the treated surface water. The final water is then fluoridated and chlorinated.

During the dry season, organic matter builds up within the Katherine River catchment. Rainfall that creates a first flow or first flush in the catchment washes this organic matter into the Katherine River, increasing the turbidity in the Donkey Camp Pool and can potentially create a 'blackwater' event. This has previously occurred where the turbidity level has risen above 300 NTU (compared to an aesthetic guideline value of 5 NTU and an operating target of <1 NTU) and dissolved oxygen (DO) drops below 2 ppm.

Such an event would shut down the Katherine Water Treatment Plant (WTP) as the treatment process is unable to manage the high turbidity. The drop in DO levels can also result in fish kills that further inhibit the ability to treat the water effectively. The event duration can be days to weeks and occurs about once every 10 years. The situation resolves when the flows in the river are significant enough to flush the Donkey Camp Pool, recharging the pool with clearer, oxygenated water.

The redundancy for Katherine water supply in the event that the surface water source cannot be used has been to use up to 100 % groundwater. However, in October 2016 the groundwater was identified as being contaminated with PFAS chemicals. In response, Power and Water collaborated with the Department of Defence to deliver a 1 ML/day modular treatment system using an ion exchange technology. The plant has been in operation since October 2017 and has treated over 1.2 billion litres of groundwater with zero waste streams produced. Based on the success of the modular system, a 10 ML/day treatment plant is being constructed and will secure the town's water supply and meet future demand when completed in 2022.

If a blackwater event did occur and the Katherine River water was unable to be used, the existing 1 ML/day PFAS groundwater treatment plant has insufficient capacity to supply the entire township. Water storage reserves would only last two to four days even with water restrictions in place.

With the Katherine region experiencing a number of years of below average wet seasons, there was greater organic load than usual within the Katherine River catchment. Power and Water identified an increased risk of a blackwater event and established an Incident Management Team in October 2020 to develop a contingency plan should an event occur prior to the construction of the 10 ML/day PFAS treatment plant being completed.

An alternate supply was established, which was treatment using a temporary filtration system to remove PFAS from one of the existing bores located at the Katherine WTP. The filters used are components of the new 10 ML/day ion exchange treatment plant that in the process of construction.

Data from the existing 1 ML/day pilot plant at Katherine WTP indicated that this filtration set up has removed PFAS to below detectable levels for a period in excess of 2.5 years. As such, the simplified engineered solution would effectively operate for the expected worst case period of 30 days without the need for secondary filtration, "polishing" or backwashing process that would normally be required to manage a permanent treatment process.

The first flush event for Katherine did not result in a backwater event, hence the contingency planning was not required for the 2020-21 reporting period. However the Katherine township is well prepared in the instance a blackwater event occurs.

Katherine River dam wall

Part B: Remote communities

Microbiological parameters

Monitoring objective

Bacterial indicators are used for verifying the effectiveness of treatment and to assess the microbiological cleanliness of the water. Monitoring for indicator bacteria provides a useful way to verify that the barriers to protect public health are working effectively.

Monitoring program

Power and Water's drinking water monitoring programs require that samples, representative of the quality of water supplied to consumers, be collected and analysed for *E. coli* at a minimum frequency. The results from this monitoring are used to demonstrate compliance and are reported as verification of the microbiological quality.

Operational monitoring for bacteria provides the detailed information needed to maintain a treatment process within defined parameters (process control). This information is not reported here.

Limitations of monitoring

Microbiological verification monitoring is not intended to provide an absolute measure of safety because of the inherent sampling and analysis limitations. Samples only ever represent a small percentage of the total water consumed. Analytical methods take substantial time to produce a result, which means the water is already consumed before a result is received.

> The greatest risks to consumers of drinking water are pathogenic microorganisms.
> – ADWG, guiding principle

Compliance performance

Performance can be regarded as satisfactory if over the preceding 12 months:

- at least the minimum number of programmed samples has been tested for *E. coli*
- samples tested are representative of the quality of water supplied to consumers
- no samples had *E. coli* detections for the 2020-21 reporting period.

Figure 9 shows the percentage of samples in which no *E. coli* were detected in the last five years. Red markers indicate less than 100 % for that year i.e. there was at least one *E. coli* detection. During the 2020-21 reporting period, no *E. coli* was detected in any of the remote centres. Further details for this year can be found in **Table 77**.

> No *E. coli* was detected in any treated water supplies during 2020-21.

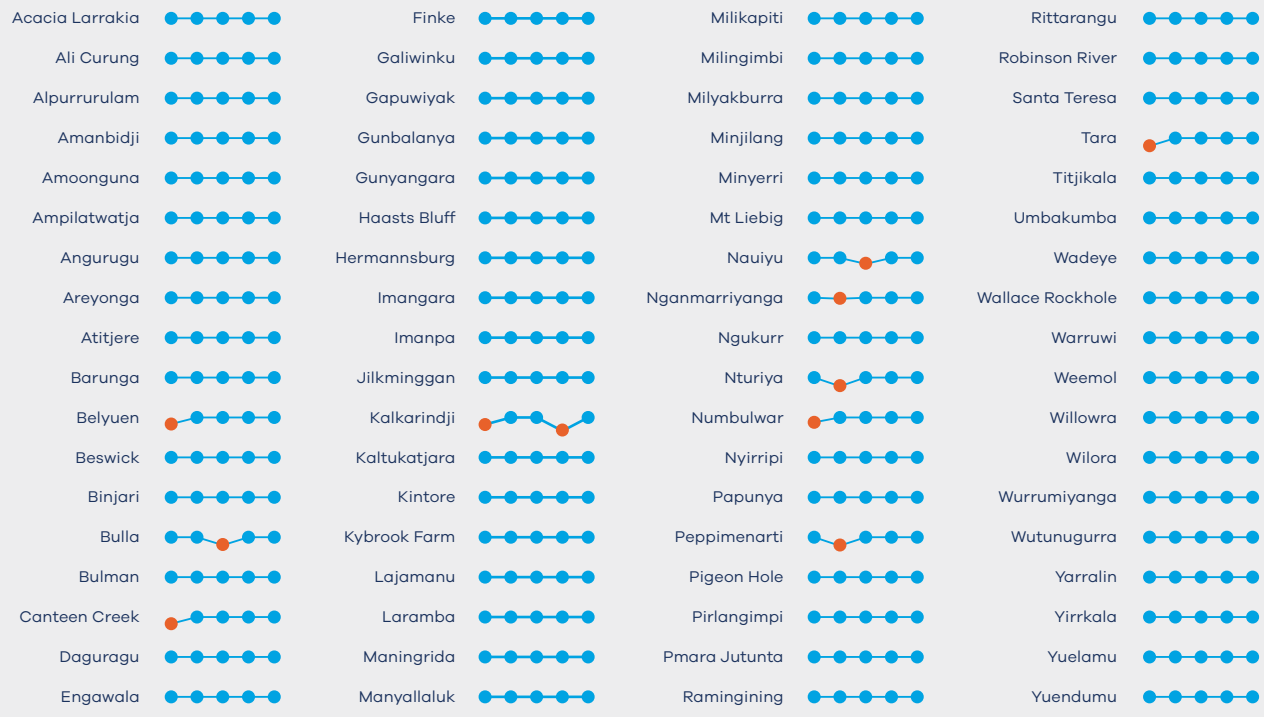


Figure 9 Percentage of samples in which no *E. coli* was detected for from 2017 (left dot) to 2021 (right dot)

Chemical and physical results

Tables 78-120 in the appendices show the results for health-related, aesthetic and other parameters for all remote communities. The results are also represented by community in Tables 121-190.

Missing data

Water quality database upgrades resulted in chemical and physical samples for the communities of Amoonguna and Titjikala being missed in the 2020-21 reporting period. These deficiencies have since been rectified with upgrades to the water quality database ensuring any future missed samples are highlighted. Full results for these communities will be reported in the 2021-22 reporting period.

The water for the community of Amoonguna is supplied from the Alice Springs supply, hence the chemical and physical properties of the Alice Springs water is representative of the final water quality at Amoonguna. Alice Springs water in 2020-21 did not have any health or aesthetic exceedances relative to the guideline values stipulated in the ADWG.

During the 2019-20 reporting period, the community of Titjikala did not have any health or aesthetic exceedances relative to the guideline values.

Radiological

All water supplies are sampled to measure alpha and beta activity. If either or both activity levels are above a certain screening level then further investigation is conducted.

To comply with the ADWG, the radiological data used in the calculation of the total annual radiation dose should be no more than two years outside the reporting period for ground water supplies, and no more than five years for surface water.

As shown in Table 8, all water supplies were below the guideline value of 1 mSv/yr. The majority of water supplies were within the screening levels recommended by the ADWG, with alpha and beta radioactivity levels at or below 0.5 Bq/L. Results for the radiological assessment of all supplies for 2020-21 are shown in Table 94 in the appendices.

Table 8 Summary of annual radiological assessments

	Region			
	Northern	Katherine	Barkly	Southern
Samples taken	23	19	8	19
Number above screening level	0	2	6	6
Number above guideline	0	0	0	0

Chemical health parameters

With few exceptions (e.g. nitrate, fluoride), all health-based guideline values relate to lifetime exposure. An assessment of the data for this reporting period can be found in **Tables 78-97**. A summary of some chemical health parameters of interest are given below.

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

For this reporting period antimony concentrations ranged between 0.006 mg/L and 0.008 mg/L in Beswick's water supply. Samples are collected on a quarterly basis to monitor the levels of antimony in the water supply at Beswick.

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

For this reporting period barium levels ranged between 0.4 mg/L and 5 mg/L in Bulla's water supply. A change in source water and operational improvements has allowed a reduction in barium in the water supply since October 2020. Refer to the **case study section** for Bulla for further details. Samples are collected on a monthly basis to monitor the levels of barium in the water supply at Bulla.

Fluoride concentrations in drinking water are recommended by ADWG to not exceed 1.5 mg/L. Fluoride is one of the most abundant elements in the Earth's crust. It naturally occurs in groundwater supplies and is present in most food and beverage products and in toothpaste. In the correct amounts, fluoride in drinking water helps build strong, healthy teeth that resist decay.

The concentration of natural fluoride in Territory groundwater supplies depends on the type of soil and rock that the water comes into contact with. Generally, surface water sources have low natural fluoride concentrations whereas groundwater sources may have relatively high levels.

The majority of communities in the Barkly and Southern regions have fluoride levels between 0.5 mg/L and 1.5 mg/L. Maximum fluoride values of 1.7 mg/L were recorded at Alpurrurulam and Nyirripi for the 2020-21 reporting period (**Figure 10**). In contrast, most water supplies in the Northern and Katherine regions have naturally low fluoride levels (<0.5 mg/L) due to the nature of the shallow groundwater supplies and use of surface water supplies in some communities.

Power and Water operate five fluoridation systems in the Northern region remote communities: Angurugu, Maningrida, Umbakumba, Wadeye and Wurrumiyanga. The Department of Health have a position statement noting the optimal fluoride concentration for water fluoridation is dependent on the average maximum air temperature. For an 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. All five fluoridation plants target 0.6 mg/L of fluoride in the water supply.

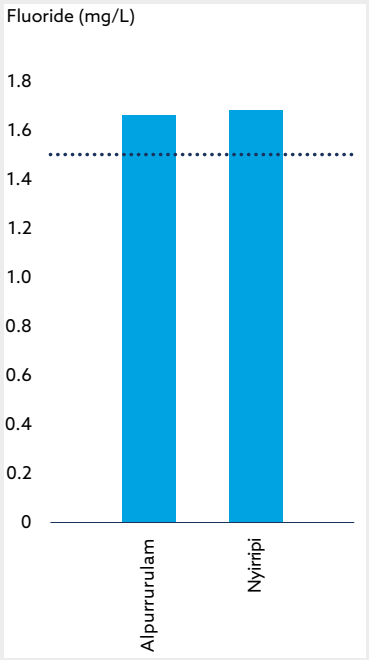


Figure 10 Communities with fluoride levels greater than 1.5 mg/L

Manganese concentrations in drinking water are recommended by ADWG to not exceed 0.1 mg/L based on aesthetic considerations, or 0.5 mg/L based on health considerations. Manganese occurs naturally in the ground and through the dissolution of minerals and ores in the water. For this reporting period, maximum manganese concentrations at Bulla, Nauiyu and Nganmarriyanga all exceeded the health based guideline value for manganese (Figure 11). The Bulla disinfection upgrade completed this year has included a filtration system to improve manganese removal. Refer to the case study section for further details.

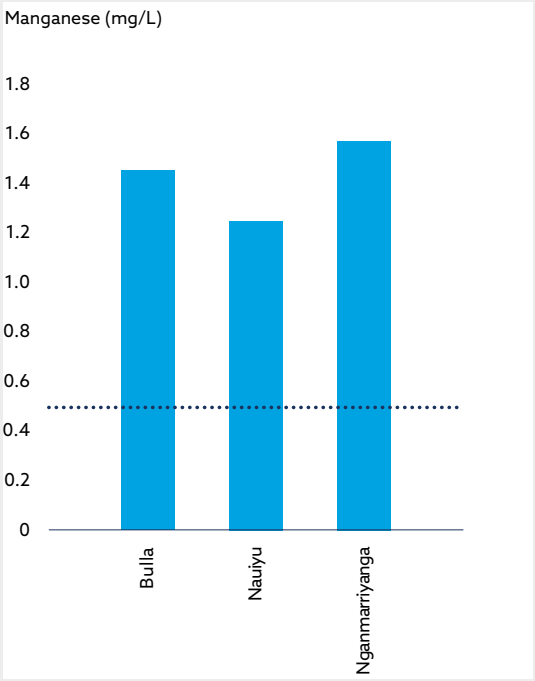


Figure 11 Communities with manganese levels greater than 0.5 mg/L

Nitrate concentrations in drinking water are recommended by the ADWG to not exceed 50 mg/L for infants younger than three months, although levels up to 100 mg/L can be safely consumed by adults. Nitrate occurs naturally in the Northern Territory with elevated levels partially attributed to nitrogen fixing by native vegetation and cyanobacteria crusts on soils. Termite mounds appear to be a significant nitrate source, possibly due to the presence of nitrogen-fixing bacteria in many termite species and the nitrogen-rich secretions used to build mounds.

Power and Water has installed Advanced Water Treatment systems at Ali Curung, Yuelamu and Kintore to reduce nitrate levels to below the guideline of 50 mg/L. Other remote communities that typically have high levels of nitrate, include Pmara Jutunta (which has the same water source as Ti Tree) and Nturiya. For this reporting period these two communities did not exceed the ADWG for nitrate. The Department of Health gives regular advice to customers and Power and Water provide an alternate water supply to bottle fed infants in the communities of Ti Tree and Nturiya.

Uranium concentrations in drinking water are recommended by the ADWG to not exceed 17 µg/L. Uranium is widely distributed in geological formations, where it is found in groundwater aquifers surrounded by granite rocks and in sedimentary rock, like sandstone.

Uranium is present in the southern communities of Laramba, Willowra and Wilora at concentrations above 17 µg/L (Figure 12). Power and Water has investigated the natural uranium occurrence in the surrounding groundwater sources and there are no nearby options for new water sources without uranium.

Other remote communities such as Yuendumu and Nturiya have elevated uranium present in some bores, allowing Power and Water to blend sources to maintain uranium levels under the guideline value. On one occasion out of 22 sampling events, Yuendumu exceeded the guideline value. All samples from Nturiya showed uranium levels below the guideline value.

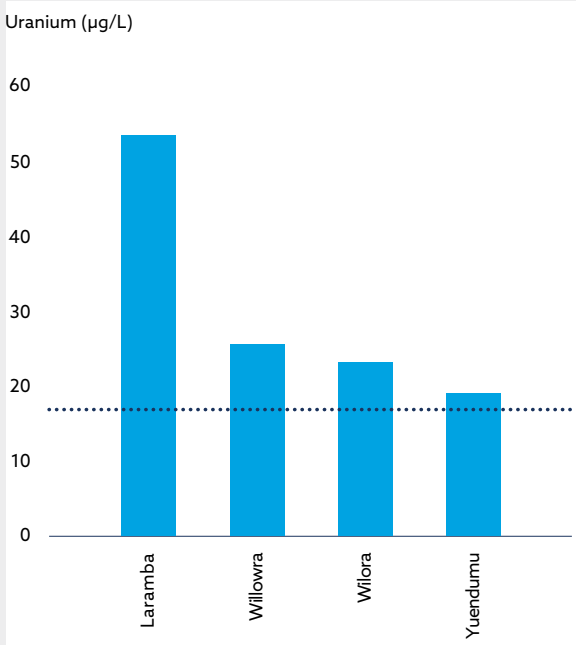


Figure 12 Communities with uranium levels greater than 17 µg/L

Laramba uranium levels

Laramba has the highest level of uranium in the drinking water of any of the Power and Water schemes. Power and Water is undertaking a more extensive monitoring program for Laramba to better understand water quality as supplied throughout the year.

Power and Water is utilising operational philosophies, including bore preferencing, to reduce community exposure. This allows the levels of uranium to be supplied at around the World Health Organisation (WHO) guideline value of 30 µg/L in cooler months (**Figure 13**). Due to higher water demand in the warmer months, operational changes are required which results in higher levels of uranium supplied to the community. To reduce uranium levels below the ADWG, an advanced water treatment plant is required. Due to the complexity of running water treatment plants in a remote context, Power and Water has undertaken a multi-criteria options assessment to determine viable treatment options. Potential options include ion exchange technology and reverse osmosis. Power and Water is working with the Department of Territory Families, Housing and Communities to determine the most appropriate solution.

Power and Water is also investigating suitable technologies through our R&D program to remove uranium from the water. See the **Research and Development section** for further details.

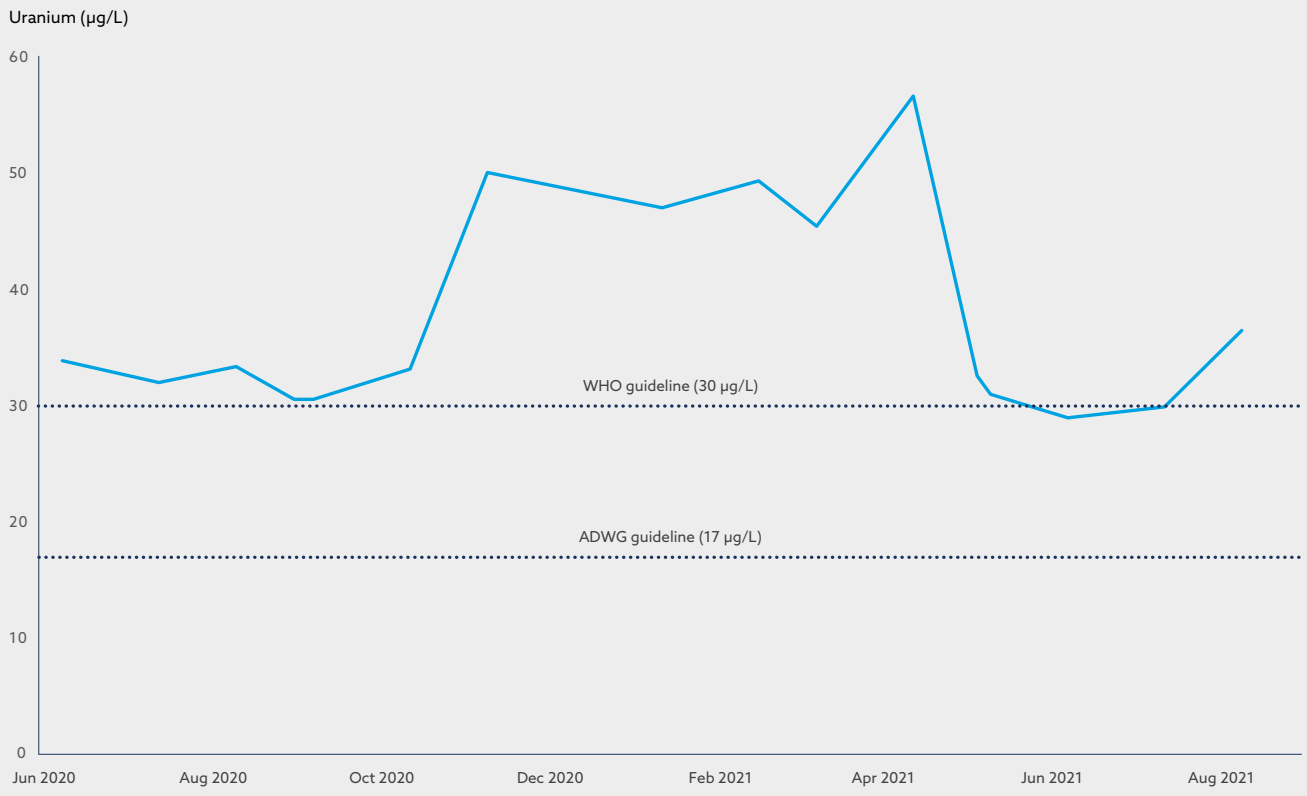


Figure 13 Uranium levels in treated Laramba water

Aesthetic parameters

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

Chloride concentrations in drinking water is recommended in the ADWG to not exceed 250 mg/L to avoid salty tasting water. The taste threshold of chloride is in the range 200 mg/L to 300 mg/L. The chloride content of water can affect corrosion of pipes and fittings.

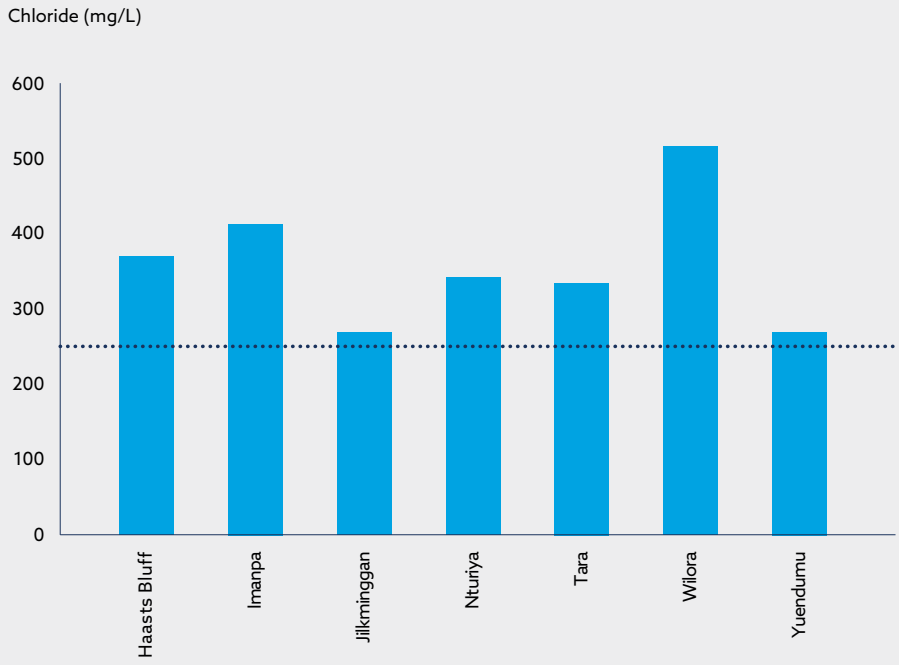


Figure 14 Communities with average chloride greater than 250 mg/L

Values depend to a large extent on local groundwater geological conditions, with concentrations of 150 mg/L not uncommon in some areas. Chloride is present in natural waters from the dissolution of salt deposits in soil and rock.

Communities with elevated levels of chloride in the water supply recorded during the reporting period are shown in **Figure 14**.

Chlorine is used as disinfectants for drinking water supplies. Based on health considerations, the guideline value for total chlorine in drinking water is 5 mg/L. Free chlorine has an odour threshold in drinking water of about 0.6 mg/L, however some people are particularly sensitive and can detect amounts as low as 0.2 mg/L.

Power and Water target a chlorine residual of at least 1 mg/L to ensure a safe water supply. This results in the odour threshold value of 0.6 mg/L being exceeded for all communities but the first priority for Power and Water is provision of drinking water free of pathogens.

Hardness is primarily the amount of calcium and magnesium ions in water and is expressed as a calcium carbonate ($CaCO_3$) equivalent.

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 recommends 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.

Degrees of hardness can be described as follows:

<60 mg/L $CaCO_3$	soft but possibly corrosive
60–200 mg/L $CaCO_3$	good quality
200–500 mg/L $CaCO_3$	increasing scaling problems
>500 mg/L $CaCO_3$	severe scaling

Public acceptance of hardness can vary considerably among 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 longer periods in deeper aquifers resulting in water with higher levels of minerals.

The degree of hardness for each community is shown in **Figure 15** while values for each community are shown in the appendices in **Table 103**.

Figure 15 Degree of hardness for each community

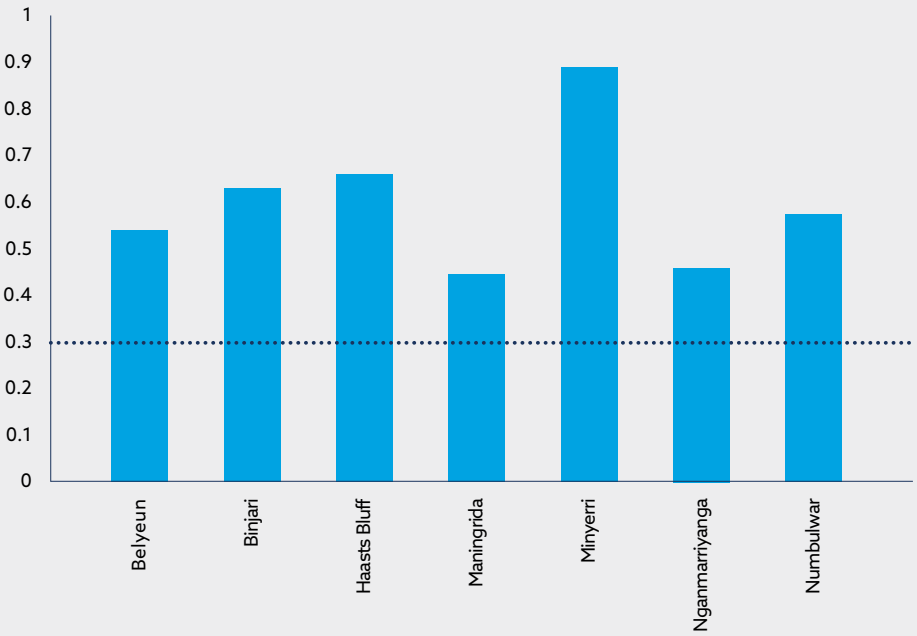


Figure 16 Communities with average iron greater than 0.3 mg/L

Iron has a taste threshold of about 0.3 mg/L in water and becomes objectionable above 3 mg/L. High iron concentrations give water a rust-brown appearance and can cause staining of laundry and plumbing fittings.

Options for reducing iron levels include preferencing groundwater sources low in iron levels, blending, infrastructure changes to maximise iron oxidation and settling, as well as water treatment options such as filtration. Some options include preferencing groundwater sources low in iron levels, 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.

Communities with average iron levels above 0.3 mg/L can be seen in **Figure 16**.

Manganese imparts an undesirable taste to water and stains plumbing fixtures and laundry. The ADWG recommends concentrations not exceed 0.5 mg/L for health considerations and 0.1 mg/L for aesthetic considerations.

Manganese occurs naturally in the ground and through the dissolution of minerals and ores in the groundwater. For the 2020-21 reporting period, communities with elevated aesthetic manganese levels are shown in **Figure 17**.

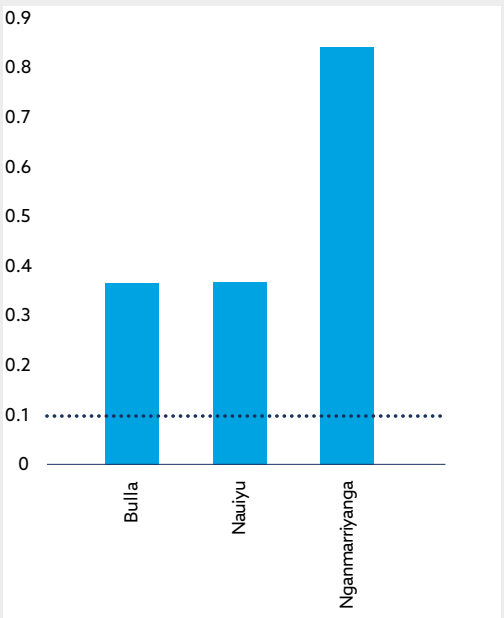


Figure 17 Communities with average manganese greater than 0.1 mg/L

pH levels below 6.5 are likely to cause corrosion of pipes and fittings while levels above 8.5 can cause scaling, particularly on hot water systems. The ADWG recommend pH levels in drinking water should be between 6.5 and 8.5.

Typically, groundwater supplies near the coast are described as 'corrosive', as the water is drawn from relatively shallow aquifers and has naturally low pH and hardness levels.

Sodium concentration in drinking water is recommended by 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.

Communities with elevated sodium levels are shown in **Figure 18**.

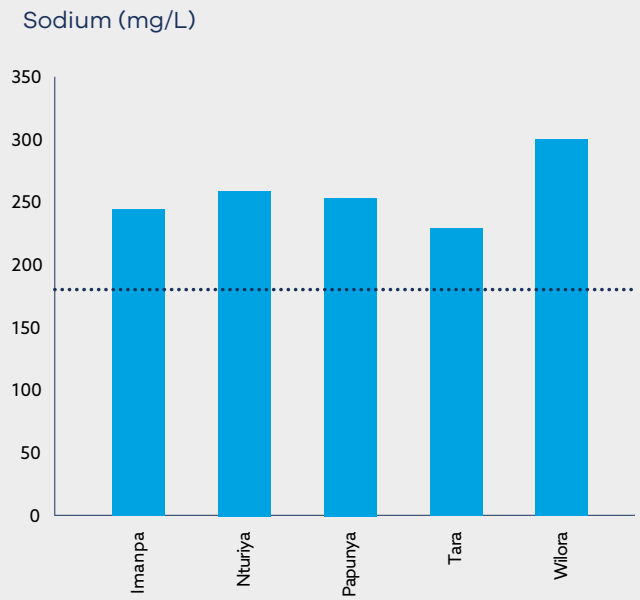


Figure 18 Communities with average sodium greater than 180 mg/L

Total dissolved solids (TDS) affect how the water tastes. Based on taste, the ADWG recommend TDS levels below 600 mg/L. TDS comprise sodium, potassium, calcium, magnesium, chloride, sulphate, bicarbonate, carbonate, silica, organic matter, fluoride, iron, manganese, nitrate and phosphate.

Water with low TDS can taste flat, while water with TDS above 500 mg/L could cause scaling in taps, pipes and hot water systems. Levels greater than 900 mg/L significantly affect taste and may also cause moderate to severe scaling.

The degrees of TDS (mg/L) can be described as follows:

0 – 600	good
600 – 900	fair
900 – 1200	poor
> 1200	very poor

Precisely what level of TDS an individual water supply system decides to accept is a function of community acceptance, available water resources, and the cost and practicality of effecting any change to natural TDS levels.

Figure 19 shows communities with elevated TDS levels.

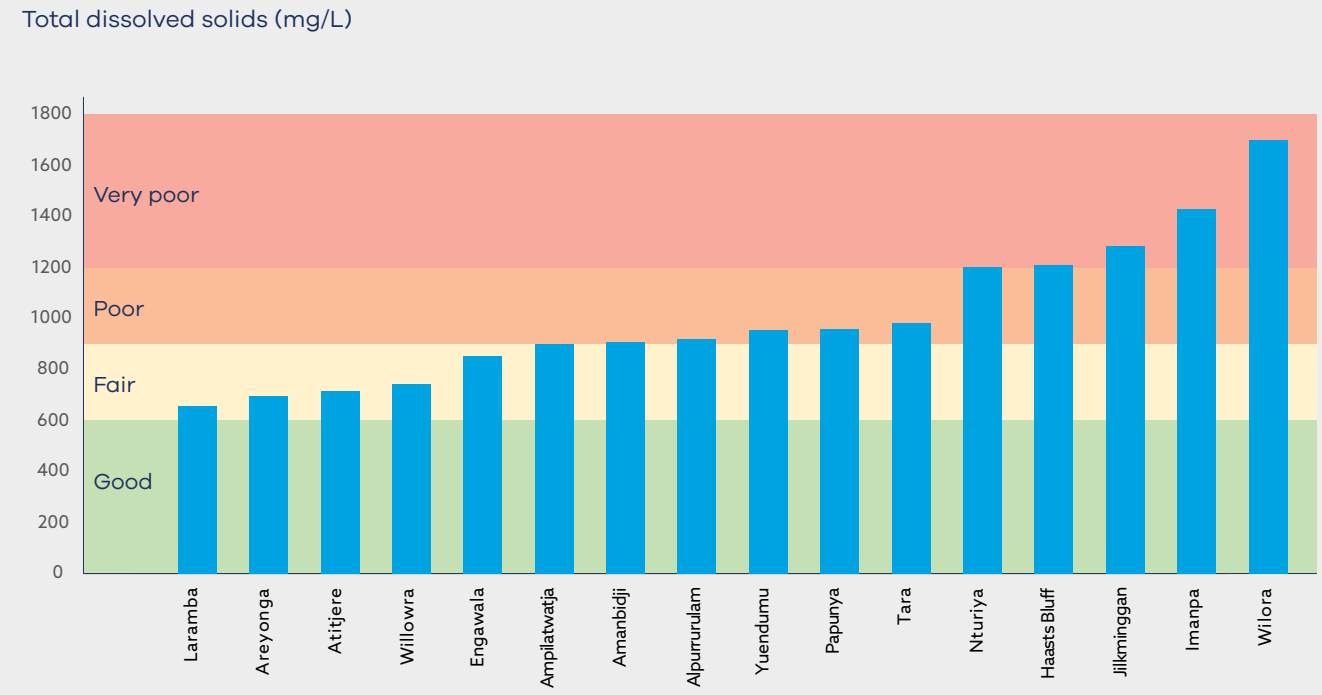


Figure 19 Communities with average total dissolved solids greater than 600 mg/L

Turbidity of 5 NTU is just noticeable in a glass but the target for effective disinfection is less than 1 NTU.

Turbidity is a measure of the light-scattering property of water caused by the presence of fine suspended matter such as clay, silt, plankton and other microscopic organisms.

Whilst many water suppliers often achieve satisfactory inactivation of bacteria at turbidities that are greater than 1 NTU, generally, the lower the turbidity of the water at the time of chlorination the more effective chlorination will be.

Figure 20 shows communities with turbidity greater than 5 NTU.

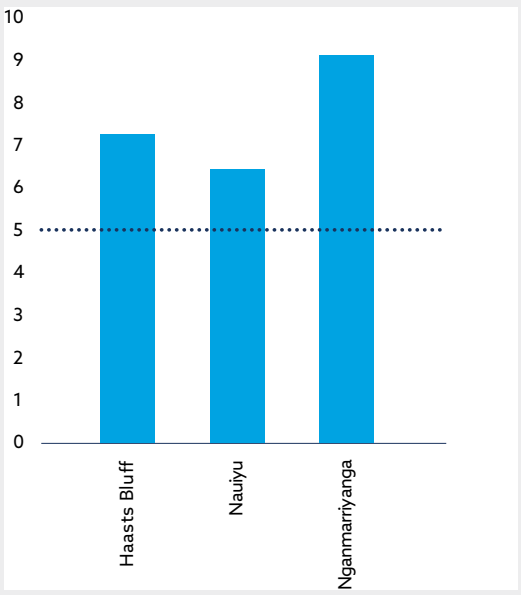


Figure 20 Communities with average turbidity greater than 5 NTU

More information is also available from the Power and Water website:
https://www.powerwater.com.au/about/what-we-do/water-supply

The results of water quality testing for each of the communities are provided in the tables in the appendices.

New elevated tank at Hermannsburg

Recorded emergencies/ incidents

Power and Water respond immediately to emergencies or incidents, with the primary response being to ensure adequate disinfection of the water supply, followed by reporting to the regulator to help determine the most effective corrective actions. Investigations were conducted to determine the likely cause and the effect of the corrective actions. Two incidents occurred during the 2020-21 reporting period.

Flooding event - Jilkminggan

An emergency situation was declared for the community of Jilkminggan on Thursday 25 February 2021 due to the flooding of the Roper River. The community of Jilkminggan was evacuated to Mataranka. Power and Water advised DoH that the power was to be switched off to the community on the Thursday. The Department of Health issued a precautionary boil water notice to the community during this event.

Survey and damage assessments to the community on the morning of Friday 26 February noted there was no indication of inundation to the community. There was however no road access due to at least 1.5 m flooding over the causeway and flood waters were noted to be receding very slowly.

Power and Water restored power to the community on Friday 26 February. The water supply was declared safe and the community returned home on Saturday 27 February.

Flooding event – Nauiyu (Daly River)

A flood warning was issued for the community of Nauiyu (Daly River) on 20 February 2021 due to flooding of the Daly River. The Daly River peaked at 13.82 m on Tuesday 2 March. The community was not evacuated as the flood peak was below the evacuation level of 14.0 m at the Daly River Crossing, which is defined as a "major flooding incident" in the Daly River Local Emergency Plan. The water supply was continuously monitored throughout the event. No precautionary boil water alert was issued. The flooding level receded by the following Saturday 6 March.

Glossary of acronyms

ADWG	Australian Drinking Water Guidelines 2011
ARD	Annual Radiological Dose
AS/NZS	Australian/New Zealand Standards
ASR	Aquifer Storage Recovery
AWA	Australian Water Association
AWT	Advance Water Treatment
AWWA	American Water Works Association
DEPWS	Department of Environment, Parks and Water Security
DIPL	Department of Infrastructure, Planning and Logistics
DoH	Department of Health
DITT	Department of Industry, Tourism and Trade
DTFHC	Department of Territory Families, Housing and Communities
DWQMS	Drinking Water Quality Management System
EDR	Electro Dialysis Reversal
ESO	Essential Service Operator
IES	Indigenous Essential Services
IMT	Incident Management Team
ISO	International Organisation for Standardisation
mCDI	membrane Capacitive De-Ionisation
MoU	Memorandum of understanding
N/A	Not applicable
NHMRC	National Health and Medical Research Council
NT	Northern Territory
PAM	Primary amoebic meningoencephalitis
PI System	Process information system
PUG	Public Utilities Group
RO	Remote Operations
SCADA	Supervisory control and data acquisition
TDS	Total dissolved solids
THMs	Trihalomethanes
UV	Ultraviolet
WIOA	Water Industry Operators Association
WaterRA	Water Research Australia
WSP	Water Safety Plan
WTP	Water Treatment Plant

PowerWater

Units of measurement

Bq/L	becquerels per litre
HU	Hazen unit
mg/L	milligrams per litre
mSv/yr	millisieverts per year
ML	mega litres
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre

Appendices

Appendix A
Description of data

Water quality data

Water quality data compiled for the 2020-21 reporting period have been processed according to the ADWG recommendations for the long term evaluation of microbial, health-related and aesthetic parameters.

- Twelve months of data have been used.
- For microbial performance, *E. coli* results 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 and aesthetic parameters, monitoring results are assessed and reported for each community, listing the number of samples collected, the minimum, maximum and mean result, and the number of results above the guideline value.
- For health-related parameters, the 95th percentile is used to assess performance against the guideline value. If there are insufficient samples to support a statistically valid evaluation of the results, health-related parameters are assessed against the maximum value.
- For aesthetic parameters, the mean of the previous 12 months' monitoring results is compared to the aesthetic guideline value.

This is significantly different to previous drinking water quality reports where only the number of samples and 95th percentile (health limits) or average (aesthetic limits) were reported. The new methodology is in line with guidance on long term data assessment given in Chapter 10 of the ADWG. The driver for these changes was to improve transparency to customers and make the report easier to use.

Sampling location and frequency

The drinking water quality monitoring program, which is approved by the Department of Health, defines the locations from which samples are collected and the frequency of their collection. The program is designed to provide data that is representative of the water in that particular component of the system. Sufficient samples must be collected over a representative period, covering variations in time, season, climate and operational arrangements, to enable the data for each characteristic to be statistically evaluated, significant trends or changes identified, and performance against the ADWG determined.

The water sample collection locations and frequencies specified in the water quality monitoring program presented in the report are based on ADWG recommendations and consider the following:

- risk of contamination within the distribution system
- risk of microbial growth within the distribution system
- size of the water supply system, including population served.

Significant figures

Guidance on significant figures in the ADWG states that practically all of the health-based guideline values were established using data and assumptions with a precision of one significant figure (e.g., volume of water consumed by an adult = 2 L/day). Furthermore, the vast majority of guideline values include the incorporation of safety factors, which are applied at the precision of 'order of magnitude' (e.g., 10 for interspecies extrapolation and 10 for intraspecies variation). Quoting more significant figures misrepresents the degree of calculated precision and may lead to unfounded concern when guidelines are exceeded at the second or third significant figure. For this reason, most results are reported to one significant figure. For some parameters, guidelines values are given to two significant figures in which case results are also reported to two significant figures.

Explanation of tables

Water quality results are presented in the tables in appendices B-E.

- An explanation for some of the table headings is given in Table 9.
- Numbers in bold represent exceedances of the guideline value.
- For calculations where a measurement is below the detection limit, a value of half the detection limit is used for that measurement.

Table 9 Definitions of table headings

Table heading	Definition
>GV	The number of samples with measurements above or outside the ADWG guideline value
Min	The minimum value measured
Max	The maximum value measured
Avg	The average of all sample measurements
95th	The value at or below which 95 % of measurements can be found
ADWG	The ADWG guideline value

Appendix B
Urban Water Quality results – by parameter

Bacteriological

Table 10 Urban bacteriological results (ADWG No *E Coli*. detected)

Centre	Samples	Exceedances	% free of *E. coli*
Adelaide River	208	0	100
Alice Springs	203	0	100
Batchelor	104	0	100
Borroloola	260	0	100
Cox Peninsula	53	0	100
Daly Waters	35	0	100
Darwin	734	0	100
Elliott	149	0	100
Gunn Point	26	0	100
Katherine	176	0	100
Kings Canyon	74	0	100
Larrimah	36	0	100
Mataranka	48	0	100
Newcastle Waters	36	0	100
Pine Creek	156	0	100
Tennant Creek	208	0	100
Ti Tree	30	0	100
Timber Creek	36	0	100
Yulara	102	0	100

Health

Table 11 Water quality results for antimony (ADWG 0.003 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.0002	<0.0002	<0.0002	<0.0002
Alice Springs	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Batchelor	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Borroloola	12	0	<0.0002	0.002	0.0003	0.001
Cox Peninsula	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Daly Waters	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Darwin	18	0	<0.0002	0.0004	<0.0002	<0.0002
Elliott	7	0	<0.0002	<0.0002	<0.0002	<0.0002
Gunn Point	3	0	<0.0002	0.0004	0.0002	0.0004
Katherine	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Kings Canyon	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Larrimah	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Mataranka	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Newcastle Waters	6	0	<0.0002	0.0008	0.0002	0.0006
Pine Creek	33	0	<0.0002	<0.0002	<0.0002	<0.0002
Tennant Creek	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Ti Tree	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Timber Creek	14	0	<0.0002	<0.0002	<0.0002	<0.0002
Yulara	8	0	<0.0002	<0.0002	<0.0002	<0.0002

Table 12 Water quality results for arsenic (ADWG 0.01 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	0.001	0.002	0.002	0.002
Alice Springs	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Batchelor	6	0	<0.0005	<0.0005	<0.0005	<0.0005
Borroloola	12	0	<0.0005	<0.0005	<0.0005	<0.0005
Cox Peninsula	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Daly Waters	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Darwin	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Elliott	7	0	<0.0005	<0.0005	<0.0005	<0.0005
Gunn Point	3	0	<0.0005	<0.0005	<0.0005	<0.0005
Katherine	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Kings Canyon	4	0	0.001	0.001	0.001	0.001
Larrimah	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Mataranka	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Newcastle Waters	6	0	0.0005	0.002	0.0008	0.002
Pine Creek	33	0	0.003	0.008	0.005	0.007
Tennant Creek	2	0	0.002	0.002	0.002	0.002
Ti Tree	6	0	0.001	0.002	0.001	0.002
Timber Creek	14	0	0.001	0.001	0.001	0.001
Yulara	8	0	<0.0005	<0.0005	<0.0005	<0.0005

Table 13 Water quality results for barium (ADWG 2 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.05	<0.05	<0.05	<0.05
Alice Springs	8	0	0.1	0.1	0.1	0.1
Batchelor	6	0	<0.05	<0.05	<0.05	<0.05
Borroloola	12	0	<0.05	<0.05	<0.05	<0.05
Cox Peninsula	2	0	<0.05	<0.05	<0.05	<0.05
Daly Waters	8	0	0.05	0.05	0.05	0.05
Darwin	18	0	<0.05	<0.05	<0.05	<0.05
Elliott	7	0	0.2	0.2	0.2	0.2
Gunn Point	3	0	<0.05	0.05	<0.05	0.05
Katherine	4	0	<0.05	<0.05	<0.05	<0.05
Kings Canyon	4	0	<0.05	<0.05	<0.05	<0.05
Larrimah	4	0	0.05	0.05	0.05	0.05
Mataranka	4	0	0.1	0.1	0.1	0.1
Newcastle Waters	6	0	0.2	0.3	0.2	0.3
Pine Creek	33	0	<0.05	<0.05	<0.05	<0.05
Tennant Creek	2	0	0.05	0.05	0.05	0.05
Ti Tree	6	0	0.1	0.1	0.1	0.1
Timber Creek	14	0	1	1	1	1
Yulara	8	0	<0.05	<0.05	<0.05	<0.05

Table 14 Water quality results for beryllium (ADWG 0.06 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.001	<0.001	<0.001	<0.001
Alice Springs	8	0	<0.001	<0.001	<0.001	<0.001
Batchelor	6	0	<0.001	<0.001	<0.001	<0.001
Borroloola	12	0	<0.001	<0.001	<0.001	<0.001
Cox Peninsula	2	0	<0.001	<0.001	<0.001	<0.001
Daly Waters	8	0	<0.001	<0.001	<0.001	<0.001
Darwin	18	0	<0.001	<0.001	<0.001	<0.001
Elliott	7	0	<0.001	<0.001	<0.001	<0.001
Gunn Point	3	0	<0.001	<0.001	<0.001	<0.001
Katherine	4	0	<0.001	<0.001	<0.001	<0.001
Kings Canyon	4	0	<0.001	<0.001	<0.001	<0.001
Larrimah	4	0	<0.001	<0.001	<0.001	<0.001
Mataranka	4	0	<0.001	<0.001	<0.001	<0.001
Newcastle Waters	6	0	<0.001	<0.001	<0.001	<0.001
Pine Creek	33	0	<0.001	<0.001	<0.001	<0.001
Tennant Creek	2	0	<0.001	<0.001	<0.001	<0.001
Ti Tree	6	0	<0.001	<0.001	<0.001	<0.001
Timber Creek	14	0	<0.001	<0.001	<0.001	<0.001
Yulara	8	0	<0.001	<0.001	<0.001	<0.001

Table 15 Water quality results for boron (ADWG 4 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.02	0.04	0.02	0.04
Alice Springs	8	0	0.1	0.2	0.1	0.2
Batchelor	6	0	<0.02	<0.02	<0.02	<0.02
Borroloola	12	0	0.02	0.04	0.03	0.04
Cox Peninsula	2	0	0.02	0.02	0.02	0.02
Daly Waters	8	0	0.3	0.4	0.4	0.4
Darwin	18	0	<0.02	0.04	<0.02	0.02
Elliott	7	0	0.3	0.4	0.3	0.4
Gunn Point	3	0	<0.02	<0.02	<0.02	<0.02
Katherine	4	0	<0.02	<0.02	<0.02	<0.02
Kings Canyon	4	0	0.3	0.4	0.3	0.4
Larrimah	4	0	0.2	0.3	0.2	0.3
Mataranka	4	0	0.04	0.04	0.04	0.04
Newcastle Waters	6	0	0.3	0.3	0.3	0.3
Pine Creek	33	0	<0.02	0.02	<0.02	<0.02
Tennant Creek	2	0	0.5	0.5	0.5	0.5
Ti Tree	6	0	0.4	0.4	0.4	0.4
Timber Creek	14	0	0.1	0.1	0.1	0.1
Yulara	8	0	0.7	0.9	0.8	0.9

Table 16 Water quality results for cadmium (ADWG 0.002 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.0002	<0.0002	<0.0002	<0.0002
Alice Springs	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Batchelor	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Borroloola	12	0	<0.0002	0.0002	<0.0002	<0.0002
Cox Peninsula	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Daly Waters	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Darwin	18	0	<0.0002	<0.0002	<0.0002	<0.0002
Elliott	7	0	<0.0002	<0.0002	<0.0002	<0.0002
Gunn Point	3	0	0.0004	0.002	0.001	NA
Katherine	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Kings Canyon	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Larrimah	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Mataranka	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Newcastle Waters	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Pine Creek	33	0	<0.0002	<0.0002	<0.0002	<0.0002
Tennant Creek	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Ti Tree	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Timber Creek	14	0	<0.0002	<0.0002	<0.0002	<0.0002
Yulara	8	0	<0.0002	<0.0002	<0.0002	<0.0002

Table 17 Water quality results for chlorine (total) (ADWG 5 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	208	0	0.9	2	1	2
Alice Springs	203	0	0.6	2	1	1
Batchelor	104	0	1	2	2	2
Borroloola	260	0	0.8	2	1	1
Cox Peninsula	53	0	1	3	2	3
Daly Waters	35	0	0.6	2	1	1
Darwin	734	0	0.07	3	1	2
Elliott	142	0	0.2	2	1	2
Gunn Point	25	0	0.5	2	1	2
Katherine	176	0	0.5	2	1	2
Kings Canyon	64	0	0.7	2	1	1
Larrimah	36	0	1	2	1	2
Mataranka	48	0	1	1	1	1
Newcastle Waters	33	0	0.9	1	1	1
Pine Creek	156	0	0.6	2	1	2
Tennant Creek	208	0	0.8	2	1	1
Ti Tree	30	0	1	2	1	2
Timber Creek	36	0	1	2	1	2
Yulara	102	0	0.8	1	1	1

Table 18 Water quality results for chromium (ADWG 0.05 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.005	<0.005	<0.005	<0.005
Alice Springs	8	0	<0.005	<0.005	<0.005	<0.005
Batchelor	6	0	<0.005	<0.005	<0.005	<0.005
Borroloola	12	0	<0.005	<0.005	<0.005	<0.005
Cox Peninsula	2	0	<0.005	<0.005	<0.005	<0.005
Daly Waters	8	0	<0.005	<0.005	<0.005	<0.005
Darwin	18	0	<0.005	<0.005	<0.005	<0.005
Elliott	7	0	<0.005	<0.005	<0.005	<0.005
Gunn Point	3	0	<0.005	<0.005	<0.005	<0.005
Katherine	4	0	<0.005	<0.005	<0.005	<0.005
Kings Canyon	4	0	<0.005	0.005	<0.005	0.005
Larrimah	4	0	<0.005	<0.005	<0.005	<0.005
Mataranka	4	0	<0.005	<0.005	<0.005	<0.005
Newcastle Waters	6	0	<0.005	<0.005	<0.005	<0.005
Pine Creek	33	0	<0.005	<0.005	<0.005	<0.005
Tennant Creek	2	0	<0.005	<0.005	<0.005	<0.005
Ti Tree	6	0	<0.005	<0.005	<0.005	<0.005
Timber Creek	14	0	<0.005	<0.005	<0.005	<0.005
Yulara	8	0	<0.005	<0.005	<0.005	<0.005

Table 19 Water quality results for copper (ADWG 2 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.01	0.02	0.01	0.02
Alice Springs	8	0	<0.01	0.08	0.02	0.07
Batchelor	6	0	<0.01	0.03	0.02	0.03
Borroloola	12	0	<0.01	0.2	0.05	0.1
Cox Peninsula	2	0	<0.01	0.08	0.04	0.08
Daly Waters	8	0	<0.01	0.03	0.01	0.03
Darwin	18	0	<0.01	0.06	0.01	0.06
Elliott	7	0	<0.01	0.07	0.02	0.06
Gunn Point	3	0	<0.01	<0.01	<0.01	<0.01
Katherine	4	0	0.02	0.05	0.04	0.05
Kings Canyon	4	0	<0.01	0.06	0.03	0.06
Larrimah	4	0	<0.01	0.04	0.02	0.04
Mataranka	4	0	<0.01	0.05	0.02	0.04
Newcastle Waters	6	0	<0.01	0.4	0.1	0.4
Pine Creek	33	0	<0.01	1	0.1	0.4
Tennant Creek	2	0	<0.01	0.01	<0.01	0.01
Ti Tree	6	0	<0.01	0.02	<0.01	0.02
Timber Creek	14	0	<0.01	0.09	0.02	0.05
Yulara	8	0	<0.01	<0.01	<0.01	<0.01

Table 20 Water quality results for fluoride (ADWG 1.5 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	4	0	0.34	0.39	0.37	0.39
Alice Springs	8	0	0.43	0.48	0.46	0.48
Batchelor	6	0	<0.1	<0.1	<0.1	<0.1
Borroloola	12	0	<0.1	<0.1	<0.1	<0.1
Cox Peninsula	2	0	0.10	0.12	0.11	0.12
Daly Waters	8	0	0.14	0.21	0.17	0.21
Darwin	70	0	0.60	0.86	0.71	0.81
Elliott	6	0	0.75	0.80	0.78	0.80
Gunn Point	2	0	0.25	0.37	0.31	0.36
Katherine	56	0	0.16	0.63	0.49	0.59
Kings Canyon	4	0	0.43	0.51	0.48	0.51
Larrimah	4	0	0.14	0.18	0.17	0.18
Mataranka	4	0	0.23	0.24	0.23	0.24
Newcastle Waters	6	0	0.82	0.84	0.83	0.84
Pine Creek	6	0	0.49	0.52	0.51	0.52
Tennant Creek	36	0	1.2	1.4	1.3	1.4
Ti Tree	30	0	0.69	0.87	0.78	0.86
Timber Creek	15	3	1.2	**1.6**	1.3	NA
Yulara	8	0	0.15	0.20	0.18	0.20

Table 21 Water quality results for lead (ADWG 0.01 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.001	<0.001	<0.001	<0.001
Alice Springs	8	0	<0.001	<0.001	<0.001	<0.001
Batchelor	6	0	<0.001	0.004	0.001	0.003
Borroloola	12	0	<0.001	<0.001	<0.001	<0.001
Cox Peninsula	2	0	<0.001	0.001	<0.001	0.001
Daly Waters	8	0	<0.001	<0.001	<0.001	<0.001
Darwin	18	0	<0.001	0.002	<0.001	0.002
Elliott	7	0	<0.001	0.01	0.003	NA
Gunn Point	3	0	0.002	0.005	0.003	NA
Katherine	4	0	<0.001	<0.001	<0.001	<0.001
Kings Canyon	4	0	<0.001	0.003	0.002	0.003
Larrimah	4	0	<0.001	<0.001	<0.001	<0.001
Mataranka	4	0	<0.001	<0.001	<0.001	<0.001
Newcastle Waters	6	0	<0.001	0.008	0.003	NA
Pine Creek	33	0	<0.001	0.005	<0.001	0.003
Tennant Creek	2	0	<0.001	<0.001	<0.001	<0.001
Ti Tree	6	0	<0.001	<0.001	<0.001	<0.001
Timber Creek	14	0	<0.001	0.001	<0.001	<0.001
Yulara	8	0	<0.001	<0.001	<0.001	<0.001

Table 22 Water quality results for manganese (ADWG 0.5 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.005	0.02	<0.005	<0.005
Alice Springs	8	0	<0.005	0.005	<0.005	<0.005
Batchelor	6	0	<0.005	<0.005	<0.005	<0.005
Borroloola	12	0	<0.005	<0.005	<0.005	<0.005
Cox Peninsula	2	0	<0.005	<0.005	<0.005	<0.005
Daly Waters	8	0	<0.005	<0.005	<0.005	<0.005
Darwin	18	0	0.01	0.02	0.01	0.02
Elliott	7	0	<0.005	<0.005	<0.005	<0.005
Gunn Point	3	0	0.01	0.03	0.02	0.02
Katherine	4	0	<0.005	<0.005	<0.005	<0.005
Kings Canyon	4	0	<0.005	<0.005	<0.005	<0.005
Larrimah	4	0	<0.005	<0.005	<0.005	<0.005
Mataranka	4	0	<0.005	<0.005	<0.005	<0.005
Newcastle Waters	6	0	<0.005	<0.005	<0.005	<0.005
Pine Creek	33	0	<0.005	0.4	0.03	0.1
Tennant Creek	2	0	<0.005	<0.005	<0.005	<0.005
Ti Tree	6	0	<0.005	<0.005	<0.005	<0.005
Timber Creek	14	0	<0.005	<0.005	<0.005	<0.005
Yulara	8	0	<0.005	<0.005	<0.005	<0.005

Table 23 Water quality results for mercury (ADWG 0.001 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.0001	<0.0001	<0.0001	<0.0001
Alice Springs	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Batchelor	6	0	<0.0001	<0.0001	<0.0001	<0.0001
Borroloola	12	0	<0.0001	<0.0001	<0.0001	<0.0001
Cox Peninsula	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Daly Waters	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Darwin	18	0	<0.0001	<0.0001	<0.0001	<0.0001
Elliott	7	0	<0.0001	<0.0001	<0.0001	<0.0001
Gunn Point	3	0	<0.0001	<0.0001	<0.0001	<0.0001
Katherine	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Kings Canyon	4	0	0.0002	0.0003	0.0003	0.0003
Larrimah	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Mataranka	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Newcastle Waters	6	0	<0.0001	<0.0001	<0.0001	<0.0001
Pine Creek	33	0	<0.0001	<0.0001	<0.0001	<0.0001
Tennant Creek	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Ti Tree	6	0	<0.0001	<0.0001	<0.0001	<0.0001
Timber Creek	14	0	<0.0001	<0.0001	<0.0001	<0.0001
Yulara	8	0	<0.0001	<0.0001	<0.0001	<0.0001

Table 24 Water quality results for molybdenum (ADWG 0.05 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.005	<0.005	<0.005	<0.005
Alice Springs	8	0	<0.005	<0.005	<0.005	<0.005
Batchelor	6	0	<0.005	<0.005	<0.005	<0.005
Borroloola	12	0	<0.005	<0.005	<0.005	<0.005
Cox Peninsula	2	0	<0.005	<0.005	<0.005	<0.005
Daly Waters	8	0	<0.005	<0.005	<0.005	<0.005
Darwin	18	0	<0.005	<0.005	<0.005	<0.005
Elliott	7	0	<0.005	<0.005	<0.005	<0.005
Gunn Point	3	0	<0.005	<0.005	<0.005	<0.005
Katherine	4	0	<0.005	<0.005	<0.005	<0.005
Kings Canyon	4	0	<0.005	<0.005	<0.005	<0.005
Larrimah	4	0	<0.005	<0.005	<0.005	<0.005
Mataranka	4	0	<0.005	<0.005	<0.005	<0.005
Newcastle Waters	6	0	<0.005	<0.005	<0.005	<0.005
Pine Creek	33	0	<0.005	<0.005	<0.005	<0.005
Tennant Creek	2	0	<0.005	<0.005	<0.005	<0.005
Ti Tree	6	0	<0.005	<0.005	<0.005	<0.005
Timber Creek	14	0	<0.005	<0.005	<0.005	<0.005
Yulara	8	0	<0.005	<0.005	<0.005	<0.005

Table 25 Water quality results for nickel (ADWG 0.02 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.002	<0.002	<0.002	<0.002
Alice Springs	8	0	<0.002	<0.002	<0.002	<0.002
Batchelor	6	0	<0.002	<0.002	<0.002	<0.002
Borroloola	12	0	<0.002	<0.002	<0.002	<0.002
Cox Peninsula	2	0	<0.002	<0.002	<0.002	<0.002
Daly Waters	8	0	0.002	0.004	0.003	0.004
Darwin	18	0	<0.002	<0.002	<0.002	<0.002
Elliott	7	0	<0.002	0.002	<0.002	0.002
Gunn Point	3	0	<0.002	<0.002	<0.002	<0.002
Katherine	4	0	<0.002	<0.002	<0.002	<0.002
Kings Canyon	4	0	0.004	0.006	0.005	0.006
Larrimah	4	0	<0.002	<0.002	<0.002	<0.002
Mataranka	4	0	<0.002	<0.002	<0.002	<0.002
Newcastle Waters	6	0	<0.002	0.01	0.003	0.008
Pine Creek	33	0	<0.002	<0.002	<0.002	<0.002
Tennant Creek	2	0	<0.002	<0.002	<0.002	<0.002
Ti Tree	6	0	<0.002	<0.002	<0.002	<0.002
Timber Creek	14	0	<0.002	<0.002	<0.002	<0.002
Yulara	8	0	<0.002	<0.002	<0.002	<0.002

Table 26 Water quality results for nitrate (ADWG 50 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	4	0	0.4	0.9	0.7	0.9
Alice Springs	8	0	7	9	8	9
Batchelor	6	0	1	1	1	1
Borroloola	12	0	0.5	1	0.6	0.9
Cox Peninsula	2	0	0.1	0.3	0.2	0.3
Daly Waters	8	0	8	10	10	10
Darwin	18	0	<0.1	0.4	0.1	0.4
Elliott	6	0	10	10	10	10
Gunn Point	2	0	<0.1	0.2	0.1	0.2
Katherine	4	0	<0.1	0.7	0.3	0.7
Kings Canyon	4	0	4	6	5	6
Larrimah	4	0	3	3	3	3
Mataranka	4	0	<0.1	0.7	0.4	0.7
Newcastle Waters	6	0	9	9	9	9
Pine Creek	6	0	0.1	2	0.6	1
Tennant Creek	12	0	30	40	40	40
Ti Tree	30	1	40	60	50	50
Timber Creek	15	0	0.5	5	0.9	2
Yulara	8	0	30	40	30	40

Table 27 Water quality results for nitrite (ADWG 3 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	4	0	<0.1	<0.1	<0.1	<0.1
Alice Springs	8	0	<0.1	<0.1	<0.1	<0.1
Batchelor	6	0	<0.1	<0.1	<0.1	<0.1
Borroloola	12	0	<0.1	<0.1	<0.1	<0.1
Cox Peninsula	2	0	<0.1	<0.1	<0.1	<0.1
Daly Waters	8	0	<0.1	<0.1	<0.1	<0.1
Darwin	18	0	<0.1	2	0.2	1
Elliott	6	0	<0.1	<0.1	<0.1	<0.1
Gunn Point	2	0	<0.1	<0.1	<0.1	<0.1
Katherine	4	0	<0.1	<0.1	<0.1	<0.1
Kings Canyon	4	0	<0.1	0.1	<0.1	<0.1
Larrimah	4	0	<0.1	<0.1	<0.1	<0.1
Mataranka	4	0	<0.1	0.2	<0.1	0.2
Newcastle Waters	6	0	<0.1	<0.1	<0.1	<0.1
Pine Creek	6	0	<0.1	0.2	<0.1	0.2
Tennant Creek	12	0	<0.1	<0.1	<0.1	<0.1
Ti Tree	30	0	<0.1	0.3	<0.1	0.3
Timber Creek	15	0	<0.1	<0.1	<0.1	<0.1
Yulara	8	0	<0.1	<0.1	<0.1	<0.1

Table 28 Water quality results for perfluorooctanoic acid (ADWG 0.56 µg/L)

Centre	Samples	>GV	Min (µg/L)	Max (µg/L)	Avg (µg/L)	95th (µg/L)
Adelaide River	23	0	<0.001	<0.001	<0.001	<0.001
Alice Springs	1	0	<0.001	<0.001	<0.001	NA
Batchelor	23	0	<0.001	<0.001	<0.001	<0.001
Borroloola	1	0	<0.001	<0.001	<0.001	NA
Cox Peninsula	1	0	<0.001	<0.001	<0.001	NA
Daly Waters	1	0	<0.001	<0.001	<0.001	NA
Darwin	1	0	<0.001	<0.001	<0.001	NA
Elliott	1	0	<0.001	<0.001	<0.001	NA
Gunn Point	1	0	<0.001	<0.001	<0.001	NA
Katherine	46	0	<0.001	<0.001	<0.001	<0.001
Kings Canyon	1	0	<0.001	<0.001	<0.001	NA
Larrimah	1	0	<0.001	<0.001	<0.001	NA
Mataranka	1	0	<0.001	<0.001	<0.001	NA
Newcastle Waters	1	0	<0.001	<0.001	<0.001	NA
Pine Creek	12	0	<0.001	<0.001	<0.001	<0.001
Tennant Creek	1	0	<0.001	<0.001	<0.001	NA
Ti Tree	1	0	<0.001	<0.001	<0.001	NA
Timber Creek	1	0	<0.001	<0.001	<0.001	NA
Yulara	1	0	<0.001	<0.001	<0.001	NA

Table 29 Water quality results for PFHxS + PFOS (ADWG 0.07 µg/L)

Centre	Samples	>GV	Min (µg/L)	Max (µg/L)	Avg (µg/L)	95th (µg/L)
Adelaide River	23	0	<0.001	0.007	0.004	0.007
Alice Springs	1	0	<0.001	<0.001	<0.001	NA
Batchelor	23	0	0.004	0.009	0.007	0.009
Borroloola	1	0	<0.001	<0.001	<0.001	NA
Cox Peninsula	1	0	<0.001	<0.001	<0.001	NA
Daly Waters	1	0	<0.001	<0.001	<0.001	NA
Darwin	1	0	<0.001	<0.001	<0.001	NA
Elliott	1	0	<0.001	<0.001	<0.001	NA
Gunn Point	1	0	<0.001	<0.001	<0.001	NA
Katherine	46	0	<0.001	0.004	<0.001	0.002
Kings Canyon	1	0	<0.001	<0.001	<0.001	NA
Larrimah	1	0	<0.001	<0.001	<0.001	NA
Mataranka	1	0	<0.001	<0.001	<0.001	NA
Newcastle Waters	1	0	<0.001	<0.001	<0.001	NA
Pine Creek	12	0	<0.001	0.008	0.002	0.007
Tennant Creek	1	0	<0.001	<0.001	<0.001	NA
Ti Tree	1	0	<0.001	<0.001	<0.001	NA
Timber Creek	1	0	<0.001	<0.001	<0.001	NA
Yulara	1	0	<0.001	<0.001	<0.001	NA

Table 30 Water quality results for radiological (ADWG 1 mSv/yr)

Centre	Samples	>GV	Min (mSv/yr)	Max (mSv/yr)	Avg (mSv/yr)	95th (mSv/yr)
Adelaide River	1	0	0.08	0.08	0.08	NA
Alice Springs	3	0	0.2	0.2	0.2	0.2
Batchelor	1	0	0.04	0.04	0.04	NA
Borroloola	1	0	0.3	0.3	0.3	NA
Cox Peninsula	1	0	0.04	0.04	0.04	NA
Daly Waters	1	0	0.07	0.07	0.07	NA
Darwin	2	0	0.04	0.04	0.04	0.04
Elliott	1	0	0.2	0.2	0.2	NA
Gunn Point	1	0	0.05	0.05	0.05	NA
Katherine	1	0	0.04	0.04	0.04	NA
Kings Canyon	42	0	0.3	1	0.6	0.8
Larrimah	1	0	0.05	0.05	0.05	NA
Mataranka	1	0	0.05	0.05	0.05	NA
Newcastle Waters	1	0	0.1	0.1	0.1	NA
Pine Creek	1	0	0.04	0.04	0.04	NA
Tennant Creek	1	0	0.08	0.08	0.08	NA
Ti Tree	1	0	0.07	0.07	0.07	NA
Timber Creek	1	0	0.08	0.08	0.08	NA
Yulara	1	0	0.06	0.06	0.06	NA

Table 31 Water quality results for selenium (ADWG 0.01 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.001	<0.001	<0.001	<0.001
Alice Springs	8	0	0.001	0.002	0.001	0.002
Batchelor	6	0	<0.001	<0.001	<0.001	<0.001
Borroloola	12	0	<0.001	<0.001	<0.001	<0.001
Cox Peninsula	2	0	<0.001	<0.001	<0.001	<0.001
Daly Waters	8	0	0.002	0.002	0.002	0.002
Darwin	18	0	<0.001	<0.001	<0.001	<0.001
Elliott	7	0	0.001	0.001	0.001	0.001
Gunn Point	3	0	<0.001	<0.001	<0.001	<0.001
Katherine	4	0	<0.001	<0.001	<0.001	<0.001
Kings Canyon	4	0	0.002	0.002	0.002	0.002
Larrimah	4	0	0.001	0.002	0.002	0.002
Mataranka	4	0	<0.001	<0.001	<0.001	<0.001
Newcastle Waters	6	0	<0.001	<0.001	<0.001	<0.001
Pine Creek	33	0	<0.001	<0.001	<0.001	<0.001
Tennant Creek	2	0	0.002	0.002	0.002	0.002
Ti Tree	6	0	0.002	0.002	0.002	0.002
Timber Creek	14	0	<0.001	<0.001	<0.001	<0.001
Yulara	8	0	<0.001	<0.001	<0.001	<0.001

Table 32 Water quality results for silver (ADWG 0.1 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	26	0	<0.01	<0.01	<0.01	<0.01
Alice Springs	8	0	<0.01	<0.01	<0.01	<0.01
Batchelor	6	0	<0.01	<0.01	<0.01	<0.01
Borroloola	12	0	<0.01	<0.01	<0.01	<0.01
Cox Peninsula	2	0	<0.01	<0.01	<0.01	<0.01
Daly Waters	8	0	<0.01	<0.01	<0.01	<0.01
Darwin	18	0	<0.01	<0.01	<0.01	<0.01
Elliott	7	0	<0.01	<0.01	<0.01	<0.01
Gunn Point	3	0	<0.01	<0.01	<0.01	<0.01
Katherine	4	0	<0.01	<0.01	<0.01	<0.01
Kings Canyon	4	0	<0.01	<0.01	<0.01	<0.01
Larrimah	4	0	<0.01	<0.01	<0.01	<0.01
Mataranka	4	0	<0.01	<0.01	<0.01	<0.01
Newcastle Waters	6	0	<0.01	<0.01	<0.01	<0.01
Pine Creek	33	0	<0.01	<0.01	<0.01	<0.01
Tennant Creek	2	0	<0.01	<0.01	<0.01	<0.01
Ti Tree	6	0	<0.01	<0.01	<0.01	<0.01
Timber Creek	14	0	<0.01	<0.01	<0.01	<0.01
Yulara	8	0	<0.01	<0.01	<0.01	<0.01

Table 33 Water quality results for trihalomethanes (ADWG 0.25 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Adelaide River	2	0	0.0060	0.0090	0.0075	0.0089
Alice Springs	4	0	<0.004	<0.004	<0.004	<0.004
Batchelor	3	0	<0.004	<0.004	<0.004	<0.004
Borroloola	5	0	<0.004	<0.004	<0.004	<0.004
Cox Peninsula	1	0	<0.004	<0.004	<0.004	NA
Daly Waters	2	0	<0.004	<0.004	<0.004	<0.004
Darwin	12	0	0.067	0.12	0.087	0.11
Elliott	3	0	<0.004	<0.004	<0.004	<0.004
Gunn Point	1	0	0.0080	0.0080	0.0080	NA
Katherine	4	0	0.034	0.051	0.041	0.050
Kings Canyon	2	0	0.0060	0.0080	0.0070	0.0079
Larrimah	2	0	0.010	0.011	0.011	0.011
Mataranka	2	0	<0.004	0.0040	<0.004	<0.004
Newcastle Waters	3	0	<0.004	<0.004	<0.004	<0.004
Pine Creek	3	0	<0.004	<0.004	<0.004	<0.004
Tennant Creek	4	0	0.0040	0.018	0.0095	0.017
Ti Tree	2	0	0.0060	0.0060	0.0060	0.0060
Timber Creek	2	0	0.010	0.014	0.012	0.014
Yulara	2	0	0.0080	0.014	0.011	0.014

Table 34 Water quality results for uranium (ADWG 17 µg/L)

Centre	Samples	>GV	Min (µg/L)	Max (µg/L)	Avg (µg/L)	95th (µg/L)
Adelaide River	26	0	0.010	0.030	0.020	0.028
Alice Springs	8	0	6.3	8.8	7.5	8.7
Batchelor	6	0	0.10	0.25	0.17	0.25
Borroloola	12	0	0.26	0.59	0.34	0.46
Cox Peninsula	2	0	0.020	0.020	0.020	0.020
Daly Waters	8	0	2.7	3.2	3.0	3.2
Darwin	18	0	0.020	0.040	0.027	0.032
Elliott	7	0	5.4	5.8	5.6	5.8
Gunn Point	3	0	0.030	0.050	0.040	0.049
Katherine	4	0	<0.01	<0.01	<0.01	<0.01
Kings Canyon	4	0	1.5	2.0	1.8	2.0
Larrimah	4	0	1.4	2.5	2.0	2.5
Mataranka	4	0	0.58	0.61	0.59	0.61
Newcastle Waters	6	0	3.7	4.7	4.4	4.7
Pine Creek	33	0	0.050	0.13	0.083	0.11
Tennant Creek	2	0	7.6	8.1	7.8	8.1
Ti Tree	6	0	6.6	7.2	6.8	7.1
Timber Creek	14	0	1.9	2.1	2.0	2.1
Yulara	8	0	0.14	0.20	0.17	0.19

Aesthetic

Table 35 Water quality results for aluminium (ADWG 0.2 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	26	0	<0.02	<0.02	<0.02
Alice Springs	8	0	<0.02	0.04	<0.02
Batchelor	6	0	<0.02	<0.02	<0.02
Borroloola	12	0	<0.02	0.04	<0.02
Cox Peninsula	2	0	<0.02	<0.02	<0.02
Daly Waters	8	0	<0.02	0.08	0.02
Darwin	18	0	<0.02	0.06	<0.02
Elliott	7	0	<0.02	<0.02	<0.02
Gunn Point	3	0	<0.02	<0.02	<0.02
Katherine	4	0	<0.02	<0.02	<0.02
Kings Canyon	4	0	<0.02	<0.02	<0.02
Larrimah	4	0	<0.02	<0.02	<0.02
Mataranka	4	0	<0.02	<0.02	<0.02
Newcastle Waters	6	0	<0.02	<0.02	<0.02
Pine Creek	33	0	<0.02	0.04	<0.02
Tennant Creek	2	0	<0.02	<0.02	<0.02
Ti Tree	6	0	<0.02	<0.02	<0.02
Timber Creek	14	0	<0.02	<0.02	<0.02
Yulara	8	0	<0.02	<0.02	<0.02

Table 36 Water quality results for chloride (ADWG 250 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	4	0	19	30	25
Alice Springs	8	0	70	76	72
Batchelor	6	0	5.0	7.0	6.2
Borroloola	12	0	9.0	11	10
Cox Peninsula	2	0	11	13	12
Daly Waters	8	8	270	330	**300**
Darwin	18	0	6.0	11	8.1
Elliott	6	0	140	150	140
Gunn Point	2	0	13	14	14
Katherine	4	0	5.0	6.0	5.5
Kings Canyon	4	4	260	280	**270**
Larrimah	4	0	200	200	200
Mataranka	4	0	22	23	22
Newcastle Waters	6	0	42	44	43
Pine Creek	6	0	6.0	7.0	6.5
Tennant Creek	12	0	94	130	110
Ti Tree	30	0	68	74	72
Timber Creek	15	0	37	41	39
Yulara	8	0	91	100	98

Table 37 Water quality results for chlorine (free) (ADWG 0.6 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	208	208	0.8	2	**1**
Alice Springs	203	187	0.5	1	**0.9**
Batchelor	104	104	0.9	2	**1**
Borroloola	260	258	0.1	2	**1**
Cox Peninsula	53	53	1	3	**2**
Daly Waters	35	32	0.4	1	**1**
Darwin	734	679	0.04	3	**1**
Elliott	145	143	0.3	2	**1**
Gunn Point	26	19	0.5	2	**0.9**
Katherine	176	175	0.4	1	**1**
Kings Canyon	64	61	0.6	1	**0.9**
Larrimah	36	36	0.9	1	**1**
Mataranka	48	48	0.8	1	**1**
Newcastle Waters	36	36	0.9	2	**1**
Pine Creek	156	155	0.6	2	**1**
Tennant Creek	208	208	0.7	1	**1**
Ti Tree	30	30	1	2	**1**
Timber Creek	36	36	1	2	**1**
Yulara	102	102	0.7	1	**0.9**

Table 38 Water quality results for colour (true) (ADWG 15 HU)

Centre	Samples	>GV	Min (HU)	Max (HU)	Avg (HU)
Adelaide River	4	0	<2	2.0	<2
Alice Springs	8	0	<2	2.0	<2
Batchelor	6	0	<2	2.0	<2
Borroloola	12	0	<2	3.0	<2
Cox Peninsula	2	0	<2	<2	<2
Daly Waters	8	0	<2	2.0	<2
Darwin	18	0	<2	4.0	2.2
Elliott	6	0	<2	<2	<2
Gunn Point	2	0	<2	2.0	<2
Katherine	4	0	<2	2.0	<2
Kings Canyon	4	0	<2	<2	<2
Larrimah	4	0	<2	2.0	<2
Mataranka	4	0	<2	2.0	<2
Newcastle Waters	6	0	<2	<2	<2
Pine Creek	6	0	<2	3.0	<2
Tennant Creek	12	0	<2	2.0	<2
Ti Tree	30	0	<2	2.0	<2
Timber Creek	15	0	<2	<2	<2
Yulara	8	0	<2	2.0	<2

Table 39 Water quality results for copper (ADWG 1 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	26	0	<0.01	0.02	0.01
Alice Springs	8	0	<0.01	0.08	0.02
Batchelor	6	0	<0.01	0.03	0.02
Borroloola	12	0	<0.01	0.2	0.05
Cox Peninsula	2	0	<0.01	0.08	0.04
Daly Waters	8	0	<0.01	0.03	0.01
Darwin	18	0	<0.01	0.06	0.01
Elliott	7	0	<0.01	0.07	0.02
Gunn Point	3	0	<0.01	<0.01	<0.01
Katherine	4	0	0.02	0.05	0.04
Kings Canyon	4	0	<0.01	0.06	0.03
Larrimah	4	0	<0.01	0.04	0.02
Mataranka	4	0	<0.01	0.05	0.02
Newcastle Waters	6	0	<0.01	0.4	0.1
Pine Creek	33	0	<0.01	1	0.1
Tennant Creek	2	0	<0.01	0.01	<0.01
Ti Tree	6	0	<0.01	0.02	<0.01
Timber Creek	14	0	<0.01	0.09	0.02
Yulara	8	0	<0.01	<0.01	<0.01

Table 40 Water quality results for hardness as $CaCO_3$ (ADWG 200 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	4	0	100	100	100
Alice Springs	8	0	200	200	200
Batchelor	6	0	100	200	200
Borroloola	12	0	70	80	70
Cox Peninsula	2	0	3	3	3
Daly Waters	8	8	600	600	**600**
Darwin	18	0	20	40	30
Elliott	6	6	400	400	**400**
Gunn Point	2	0	50	60	60
Katherine	4	0	50	60	60
Kings Canyon	4	4	400	400	**400**
Larrimah	4	4	500	600	**500**
Mataranka	4	4	300	400	**400**
Newcastle Waters	6	6	300	300	**300**
Pine Creek	6	0	90	100	90
Tennant Creek	12	0	200	200	200
Ti Tree	30	0	200	200	200
Timber Creek	15	15	400	500	**400**
Yulara	8	0	70	80	70

Table 41 Water quality results for iron (ADWG 0.3 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	26	0	<0.02	0.04	<0.02
Alice Springs	8	0	<0.02	0.1	0.02
Batchelor	6	0	<0.02	<0.02	<0.02
Borroloola	12	0	<0.02	<0.02	<0.02
Cox Peninsula	2	0	<0.02	0.04	0.03
Daly Waters	8	0	<0.02	0.04	0.02
Darwin	18	0	0.04	0.1	0.06
Elliott	7	0	<0.02	0.04	<0.02
Gunn Point	3	0	0.08	0.1	0.09
Katherine	4	0	<0.02	<0.02	<0.02
Kings Canyon	4	0	0.04	0.08	0.06
Larrimah	4	0	<0.02	0.2	0.07
Mataranka	4	0	<0.02	<0.02	<0.02
Newcastle Waters	6	0	<0.02	<0.02	<0.02
Pine Creek	33	1	<0.02	2	0.09
Tennant Creek	2	0	<0.02	<0.02	<0.02
Ti Tree	6	0	<0.02	<0.02	<0.02
Timber Creek	14	0	<0.02	0.1	0.02
Yulara	8	0	<0.02	0.04	<0.02

Table 42 Water quality results for manganese (ADWG 0.1 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	26	0	<0.005	0.02	<0.005
Alice Springs	8	0	<0.005	0.005	<0.005
Batchelor	6	0	<0.005	<0.005	<0.005
Borroloola	12	0	<0.005	<0.005	<0.005
Cox Peninsula	2	0	<0.005	<0.005	<0.005
Daly Waters	8	0	<0.005	<0.005	<0.005
Darwin	18	0	0.01	0.02	0.01
Elliott	7	0	<0.005	<0.005	<0.005
Gunn Point	3	0	0.01	0.03	0.02
Katherine	4	0	<0.005	<0.005	<0.005
Kings Canyon	4	0	<0.005	<0.005	<0.005
Larrimah	4	0	<0.005	<0.005	<0.005
Mataranka	4	0	<0.005	<0.005	<0.005
Newcastle Waters	6	0	<0.005	<0.005	<0.005
Pine Creek	33	2	<0.005	0.4	0.03
Tennant Creek	2	0	<0.005	<0.005	<0.005
Ti Tree	6	0	<0.005	<0.005	<0.005
Timber Creek	14	0	<0.005	<0.005	<0.005
Yulara	8	0	<0.005	<0.005	<0.005

Table 43 Water quality results for pH (ADWG 6.5–8.5 pH unit)

Centre	Samples	>GV	Min (pH unit)	Max (pH unit)	Avg (pH unit)
Adelaide River	4	1	7.9	8.8	8.2
Alice Springs	8	0	7.4	8.2	7.8
Batchelor	6	0	7.1	7.7	7.4
Borroloola	12	0	7.8	8.0	7.9
Cox Peninsula	2	0	7.1	7.3	7.2
Daly Waters	8	0	7.3	8.1	7.5
Darwin	18	0	6.9	7.6	7.2
Elliott	6	0	7.7	7.7	7.7
Gunn Point	2	0	7.7	7.7	7.7
Katherine	4	0	7.4	7.4	7.4
Kings Canyon	4	0	6.9	7.1	7.0
Larrimah	4	0	7.5	7.8	7.6
Mataranka	4	0	7.6	7.8	7.7
Newcastle Waters	6	0	7.5	7.7	7.6
Pine Creek	6	0	6.8	7.1	6.9
Tennant Creek	12	0	7.8	8.2	7.9
Ti Tree	30	0	8.0	8.5	8.2
Timber Creek	15	0	7.0	7.4	7.2
Yulara	8	0	7.5	8.0	7.7

Table 44 Water quality results for silica (ADWG 80 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	4	0	20	30	30
Alice Springs	8	0	20	20	20
Batchelor	6	0	20	20	20
Borroloola	12	0	10	10	10
Cox Peninsula	2	0	20	30	20
Daly Waters	8	0	30	30	30
Darwin	18	0	9	10	10
Elliott	6	0	50	50	50
Gunn Point	2	0	9	10	10
Katherine	4	0	10	20	10
Kings Canyon	4	0	20	20	20
Larrimah	4	0	40	40	40
Mataranka	4	0	30	30	30
Newcastle Waters	6	0	60	60	60
Pine Creek	6	0	50	50	50
Tennant Creek	12	5	80	90	80
Ti Tree	30	30	90	100	**90**
Timber Creek	15	0	20	20	20
Yulara	8	0	10	20	10

Table 45 Water quality results for sodium (ADWG 180 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	4	0	54	86	64
Alice Springs	8	0	74	90	81
Batchelor	6	0	4.3	5.7	4.9
Borroloola	12	0	5.5	6.5	6.2
Cox Peninsula	2	0	8.3	9.7	9.0
Daly Waters	8	8	190	220	**200**
Darwin	18	0	3.4	6.2	4.2
Elliott	6	0	81	88	84
Gunn Point	2	0	9.6	12	11
Katherine	4	0	8.6	11	9.6
Kings Canyon	4	0	120	130	120
Larrimah	4	0	140	140	140
Mataranka	4	0	17	18	18
Newcastle Waters	6	0	50	53	51
Pine Creek	6	0	26	27	26
Tennant Creek	12	0	110	130	120
Ti Tree	30	0	63	71	67
Timber Creek	15	0	21	24	22
Yulara	8	0	70	75	73

Table 46 Water quality results for sulphate (ADWG 250 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	4	0	<0.2	<0.2	<0.2
Alice Springs	8	0	35	45	41
Batchelor	6	0	<0.2	<0.2	<0.2
Borroloola	12	0	<0.2	0.84	0.54
Cox Peninsula	2	0	<0.2	<0.2	<0.2
Daly Waters	8	0	140	160	150
Darwin	18	0	<0.2	<0.2	<0.2
Elliott	6	0	31	35	33
Gunn Point	2	0	<0.2	<0.2	<0.2
Katherine	4	0	<0.2	4.8	2.2
Kings Canyon	4	0	160	160	160
Larrimah	4	0	99	100	100
Mataranka	4	0	<0.2	1.7	0.78
Newcastle Waters	6	0	6.3	12	9.2
Pine Creek	6	0	<0.2	<0.2	<0.2
Tennant Creek	12	0	22	40	34
Ti Tree	30	0	20	35	30
Timber Creek	15	0	<0.2	<0.2	<0.2
Yulara	8	0	41	48	44

Table 47 Water quality results for total dissolved solids (ADWG 600 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	4	0	200	300	300
Alice Springs	8	0	400	500	400
Batchelor	6	0	100	200	200
Borroloola	12	0	100	100	100
Cox Peninsula	2	0	50	60	50
Daly Waters	8	8	1000	1000	**1000**
Darwin	18	0	40	70	50
Elliott	6	6	700	700	**700**
Gunn Point	2	0	80	90	80
Katherine	4	0	80	100	90
Kings Canyon	4	4	800	800	**800**
Larrimah	4	4	900	1000	**900**
Mataranka	4	0	400	400	400
Newcastle Waters	6	0	500	500	500
Pine Creek	6	0	200	200	200
Tennant Creek	12	4	600	700	600
Ti Tree	30	0	500	600	500
Timber Creek	15	0	500	500	500
Yulara	8	0	300	300	300

Table 48 Water quality results for turbidity (ADWG 5 NTU)

Centre	Samples	>GV	Min (NTU)	Max (NTU)	Avg (NTU)
Adelaide River	4	0	0.3	2	0.8
Alice Springs	8	0	0.2	1	0.4
Batchelor	6	0	0.3	0.5	0.4
Borroloola	12	0	0.2	0.7	0.3
Cox Peninsula	2	0	0.3	0.7	0.5
Daly Waters	8	0	0.3	5	1
Darwin	18	0	0.6	2	0.9
Elliott	6	0	0.3	0.9	0.6
Gunn Point	2	0	0.8	0.9	0.8
Katherine	4	0	0.2	0.3	0.3
Kings Canyon	4	0	0.4	0.4	0.4
Larrimah	4	0	0.3	0.9	0.6
Mataranka	4	0	0.3	0.4	0.3
Newcastle Waters	6	0	0.2	0.8	0.4
Pine Creek	6	0	0.3	2	0.7
Tennant Creek	12	0	0.2	0.4	0.3
Ti Tree	30	0	0.2	0.5	0.3
Timber Creek	15	0	0.2	0.9	0.4
Yulara	8	0	0.2	0.6	0.3

Table 49 Water quality results for zinc (ADWG 3 mg/L)

Centre	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	26	0	<0.01	0.02	<0.01
Alice Springs	8	0	<0.01	0.02	<0.01
Batchelor	6	0	<0.01	0.07	0.02
Borroloola	12	0	<0.01	<0.01	<0.01
Cox Peninsula	2	0	0.04	0.04	0.04
Daly Waters	8	0	<0.01	<0.01	<0.01
Darwin	18	0	<0.01	0.03	<0.01
Elliott	7	0	<0.01	0.04	0.02
Gunn Point	3	0	0.9	2	2
Katherine	4	0	<0.01	<0.01	<0.01
Kings Canyon	4	0	<0.01	0.2	0.1
Larrimah	4	0	<0.01	<0.01	<0.01
Mataranka	4	0	<0.01	0.01	<0.01
Newcastle Waters	6	0	0.01	0.8	0.2
Pine Creek	33	0	<0.01	0.04	0.01
Tennant Creek	2	0	<0.01	0.01	<0.01
Ti Tree	6	0	<0.01	<0.01	<0.01
Timber Creek	14	0	<0.01	0.03	<0.01
Yulara	8	0	<0.01	<0.01	<0.01

Other

Table 50 Water quality results for alkalinity as $CaCO_3$

Centre	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	4	200	200	200
Alice Springs	8	200	300	200
Batchelor	6	100	200	200
Borroloola	12	70	80	80
Cox Peninsula	2	<20	<20	<20
Daly Waters	8	400	400	400
Darwin	18	<20	40	30
Elliott	6	400	400	400
Gunn Point	2	60	60	60
Katherine	4	60	70	70
Kings Canyon	4	100	100	100
Larrimah	4	400	500	400
Mataranka	4	300	300	300
Newcastle Waters	6	400	400	400
Pine Creek	6	100	100	100
Tennant Creek	12	300	300	300
Ti Tree	30	200	200	200
Timber Creek	15	400	400	400
Yulara	8	30	30	30

Table 51 Water quality results for bromine

Centre	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	26	0.03	0.1	0.05
Alice Springs	8	0.08	0.4	0.2
Batchelor	6	0.008	0.01	0.008
Borroloola	12	0.01	0.03	0.02
Cox Peninsula	2	0.01	0.01	0.01
Daly Waters	8	0.4	1	0.9
Darwin	18	0.03	0.07	0.04
Elliott	7	0.3	0.5	0.4
Gunn Point	3	0.01	0.02	0.01
Katherine	4	0.01	0.03	0.02
Kings Canyon	4	0.6	0.9	0.7
Larrimah	4	0.2	0.5	0.4
Mataranka	4	0.03	0.06	0.04
Newcastle Waters	6	0.1	0.3	0.1
Pine Creek	33	0.01	0.04	0.02
Tennant Creek	2	0.2	0.3	0.2
Ti Tree	6	0.2	0.3	0.2
Timber Creek	14	0.05	0.1	0.09
Yulara	8	0.2	0.3	0.3

Table 52 Water quality results for calcium

Centre	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	4	20	20	20
Alice Springs	8	50	50	50
Batchelor	6	10	20	10
Borroloola	12	30	30	30
Cox Peninsula	2	0.5	0.5	0.5
Daly Waters	8	100	100	100
Darwin	18	3	9	6
Elliott	6	100	100	100
Gunn Point	2	10	10	10
Katherine	4	10	20	10
Kings Canyon	4	80	90	80
Larrimah	4	100	100	100
Mataranka	4	80	90	90
Newcastle Waters	6	70	80	80
Pine Creek	6	10	10	10
Tennant Creek	12	30	30	30
Ti Tree	30	50	60	60
Timber Creek	15	70	80	70
Yulara	8	20	20	20

Table 53 Water quality results for electrical conductivity

Centre	Samples	Min (µS/cm)	Max (µS/cm)	Avg (µS/cm)
Adelaide River	4	470	560	500
Alice Springs	8	780	850	820
Batchelor	6	290	410	350
Borroloola	12	180	200	190
Cox Peninsula	2	53	60	57
Daly Waters	8	1900	2100	2100
Darwin	18	59	110	84
Elliott	6	1200	1300	1300
Gunn Point	2	150	170	160
Katherine	4	150	160	160
Kings Canyon	4	1500	1500	1500
Larrimah	4	1600	1700	1700
Mataranka	4	700	740	720
Newcastle Waters	6	840	890	880
Pine Creek	6	280	300	290
Tennant Creek	12	950	1100	1000
Ti Tree	30	800	840	820
Timber Creek	15	890	970	930
Yulara	8	550	610	580

Table 54 Water quality results for iodine

Centre	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	26	<0.01	0.01	<0.01
Alice Springs	8	0.03	0.05	0.04
Batchelor	6	<0.01	<0.01	<0.01
Borroloola	12	<0.01	0.01	<0.01
Cox Peninsula	2	<0.01	<0.01	<0.01
Daly Waters	8	0.05	0.07	0.06
Darwin	18	<0.01	0.03	0.01
Elliott	7	0.06	0.07	0.07
Gunn Point	3	<0.01	<0.01	<0.01
Katherine	4	<0.01	<0.01	<0.01
Kings Canyon	4	0.2	0.2	0.2
Larrimah	4	0.04	0.06	0.05
Mataranka	4	<0.01	0.01	<0.01
Newcastle Waters	6	0.05	0.06	0.06
Pine Creek	33	<0.01	0.02	<0.01
Tennant Creek	2	0.1	0.1	0.1
Ti Tree	6	0.07	0.09	0.09
Timber Creek	14	0.01	0.02	0.02
Yulara	8	0.03	0.06	0.04

Table 55 Water quality results for magnesium

Centre	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	4	20	20	20
Alice Springs	8	20	20	20
Batchelor	6	30	40	30
Borroloola	12	0.8	1	0.9
Cox Peninsula	2	0.3	0.3	0.3
Daly Waters	8	50	60	60
Darwin	18	3	6	4
Elliott	6	40	50	40
Gunn Point	2	7	7	7
Katherine	4	5	6	5
Kings Canyon	4	40	50	50
Larrimah	4	50	60	60
Mataranka	4	30	30	30
Newcastle Waters	6	30	30	30
Pine Creek	6	10	20	20
Tennant Creek	12	20	30	30
Ti Tree	30	20	20	20
Timber Creek	15	60	70	70
Yulara	8	7	8	8

Table 56 Water quality results for potassium

Centre	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	4	1	2	1
Alice Springs	8	6	6	6
Batchelor	6	0.2	0.4	0.3
Borroloola	12	1	1	1
Cox Peninsula	2	0.8	0.9	0.9
Daly Waters	8	20	20	20
Darwin	18	0.4	0.7	0.5
Elliott	6	20	20	20
Gunn Point	2	0.5	0.5	0.5
Katherine	4	0.6	1	0.9
Kings Canyon	4	20	20	20
Larrimah	4	10	10	10
Mataranka	4	6	6	6
Newcastle Waters	6	30	30	30
Pine Creek	6	1	2	1
Tennant Creek	12	30	30	30
Ti Tree	30	20	20	20
Timber Creek	15	7	7	7
Yulara	8	8	9	9

Table 57 Water quality results for tin

Centre	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Adelaide River	26	<0.01	<0.01	<0.01
Alice Springs	8	<0.01	<0.01	<0.01
Batchelor	6	<0.01	<0.01	<0.01
Borroloola	12	<0.01	<0.01	<0.01
Cox Peninsula	2	<0.01	<0.01	<0.01
Daly Waters	8	<0.01	<0.01	<0.01
Darwin	18	<0.01	<0.01	<0.01
Elliott	7	<0.01	<0.01	<0.01
Gunn Point	3	<0.01	<0.01	<0.01
Katherine	4	<0.01	<0.01	<0.01
Kings Canyon	4	<0.01	<0.01	<0.01
Larrimah	4	<0.01	<0.01	<0.01
Mataranka	4	<0.01	<0.01	<0.01
Newcastle Waters	6	<0.01	<0.01	<0.01
Pine Creek	33	<0.01	<0.01	<0.01
Tennant Creek	2	<0.01	<0.01	<0.01
Ti Tree	6	<0.01	<0.01	<0.01
Timber Creek	14	<0.01	<0.01	<0.01
Yulara	8	<0.01	<0.01	<0.01

Appendix C
Urban Water Quality results – by community

Table 58 Water quality results for Adelaide River

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	26	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	26	0	0.001	0.002	0.002	0.002
Barium	2	mg/L	26	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	26	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	26	0	<0.02	0.04	0.02	0.04
Cadmium	0.002	mg/L	26	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	208	0	0.9	2	1	2
Chromium	0.05	mg/L	26	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	26	0	<0.01	0.02	0.01	0.02
Fluoride	1.5	mg/L	4	0	0.34	0.39	0.37	0.39
Lead	0.01	mg/L	26	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	26	0	<0.005	0.02	<0.005	<0.005
Mercury	0.001	mg/L	26	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	26	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	26	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	4	0	0.4	0.9	0.7	0.9
Nitrite	3	mg/L	4	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	23	0	<0.001	<0.001	<0.001	<0.001
PFHxS + PFOS	0.07	µg/L	23	0	<0.001	0.007	0.004	0.007
Radiological	1	mSv/yr	1	0	0.08	0.08	0.08	NA
Selenium	0.01	mg/L	26	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	26	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	2	0	0.0060	0.0090	0.0075	0.0089
Uranium	17	µg/L	26	0	0.010	0.030	0.020	0.028
Aesthetic								
Aluminium	0.2	mg/L	26	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	4	0	19	30	25	
Chlorine (free)	0.6	mg/L	208	208	0.8	2	**1**	
Colour (true)	15	HU	4	0	<2	2.0	<2	
Copper	1	mg/L	26	0	<0.01	0.02	0.01	
Hardness as $CaCO_3$	200	mg/L	4	0	100	100	100	
Iron	0.3	mg/L	26	0	<0.02	0.04	<0.02	
Manganese	0.1	mg/L	26	0	<0.005	0.02	<0.005	
pH	6.5-8.5	pH unit	4	1	7.9	8.8	8.2	
Silica	80	mg/L	4	0	20	30	30	
Sodium	180	mg/L	4	0	54	86	64	
Sulphate	250	mg/L	4	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	4	0	200	300	300	
Turbidity	5	NTU	4	0	0.3	2	0.8	
Zinc	3	mg/L	26	0	<0.01	0.02	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	4		200	200	200	
Bromine	NA	mg/L	26		0.03	0.1	0.05	
Calcium	NA	mg/L	4		20	20	20	
Electrical conductivity	NA	µS/cm	4		470	560	500	
Iodine	NA	mg/L	26		<0.01	0.01	<0.01	
Magnesium	NA	mg/L	4		20	20	20	
Potassium	NA	mg/L	4		1	2	1	
Tin	NA	mg/L	26		<0.01	<0.01	<0.01	

Table 59 Water quality results for Alice Springs

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	8	0	0.1	0.1	0.1	0.1
Beryllium	0.06	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	8	0	0.1	0.2	0.1	0.2
Cadmium	0.002	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	203	0	0.6	2	1	1
Chromium	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	8	0	<0.01	0.08	0.02	0.07
Fluoride	1.5	mg/L	8	0	0.43	0.48	0.46	0.48
Lead	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	8	0	<0.005	0.005	<0.005	<0.005
Mercury	0.001	mg/L	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	8	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	8	0	7	9	8	9
Nitrite	3	mg/L	8	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	3	0	0.2	0.2	0.2	0.2
Selenium	0.01	mg/L	8	0	0.001	0.002	0.001	0.002
Silver	0.1	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	4	0	<0.004	<0.004	<0.004	<0.004
Uranium	17	µg/L	8	0	6.3	8.8	7.5	8.7
Aesthetic								
Aluminium	0.2	mg/L	8	0	<0.02	0.04	<0.02	
Chloride	250	mg/L	8	0	70	76	72	
Chlorine (free)	0.6	mg/L	203	187	0.5	1	**0.9**	
Colour (true)	15	HU	8	0	<2	2.0	<2	
Copper	1	mg/L	8	0	<0.01	0.08	0.02	
Hardness as $CaCO_3$	200	mg/L	8	0	200	200	200	
Iron	0.3	mg/L	8	0	<0.02	0.1	0.02	
Manganese	0.1	mg/L	8	0	<0.005	0.005	<0.005	
pH	6.5-8.5	pH unit	8	0	7.4	8.2	7.8	
Silica	80	mg/L	8	0	20	20	20	
Sodium	180	mg/L	8	0	74	90	81	
Sulphate	250	mg/L	8	0	35	45	41	
Total dissolved solids	600	mg/L	8	0	400	500	400	
Turbidity	5	NTU	8	0	0.2	1	0.4	
Zinc	3	mg/L	8	0	<0.01	0.02	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	8		200	300	200	
Bromine	NA	mg/L	8		0.08	0.4	0.2	
Calcium	NA	mg/L	8		50	50	50	
Electrical conductivity	NA	µS/cm	8		780	850	820	
Iodine	NA	mg/L	8		0.03	0.05	0.04	
Magnesium	NA	mg/L	8		20	20	20	
Potassium	NA	mg/L	8		6	6	6	
Tin	NA	mg/L	8		<0.01	<0.01	<0.01	

Table 60 Water quality results for Batchelor

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	6	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	6	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	6	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	6	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	104	0	1	2	2	2
Chromium	0.05	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	6	0	<0.01	0.03	0.02	0.03
Fluoride	1.5	mg/L	6	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	6	0	<0.001	0.004	0.001	0.003
Manganese	0.5	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	6	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	6	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	6	0	1	1	1	1
Nitrite	3	mg/L	6	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	23	0	<0.001	<0.001	<0.001	<0.001
PFHxS + PFOS	0.07	µg/L	23	0	0.004	0.009	0.007	0.009
Radiological	1	mSv/yr	1	0	0.04	0.04	0.04	NA
Selenium	0.01	mg/L	6	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	6	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	3	0	<0.004	<0.004	<0.004	<0.004
Uranium	17	µg/L	6	0	0.10	0.25	0.17	0.25
Aesthetic								
Aluminium	0.2	mg/L	6	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	6	0	5.0	7.0	6.2	
Chlorine (free)	0.6	mg/L	104	104	0.9	2	**1**	
Colour (true)	15	HU	6	0	<2	2.0	<2	
Copper	1	mg/L	6	0	<0.01	0.03	0.02	
Hardness as $CaCO_3$	200	mg/L	6	0	100	200	200	
Iron	0.3	mg/L	6	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	6	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	6	0	7.1	7.7	7.4	
Silica	80	mg/L	6	0	20	20	20	
Sodium	180	mg/L	6	0	4.3	5.7	4.9	
Sulphate	250	mg/L	6	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	6	0	100	200	200	
Turbidity	5	NTU	6	0	0.3	0.5	0.4	
Zinc	3	mg/L	6	0	<0.01	0.07	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	6		100	200	200	
Bromine	NA	mg/L	6		0.008	0.01	0.008	
Calcium	NA	mg/L	6		10	20	10	
Electrical conductivity	NA	µS/cm	6		290	410	350	
Iodine	NA	mg/L	6		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	6		30	40	30	
Potassium	NA	mg/L	6		0.2	0.4	0.3	
Tin	NA	mg/L	6		<0.01	<0.01	<0.01	

Table 61 Water quality results for Borroloola

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	12	0	<0.0002	0.002	0.0003	0.001
Arsenic	0.01	mg/L	12	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	12	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	12	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	12	0	0.02	0.04	0.03	0.04
Cadmium	0.002	mg/L	12	0	<0.0002	0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	260	0	0.8	2	1	1
Chromium	0.05	mg/L	12	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	12	0	<0.01	0.2	0.05	0.1
Fluoride	1.5	mg/L	12	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	12	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	12	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	12	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	12	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	12	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	12	0	0.5	1	0.6	0.9
Nitrite	3	mg/L	12	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.3	0.3	0.3	NA
Selenium	0.01	mg/L	12	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	12	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	5	0	<0.004	<0.004	<0.004	<0.004
Uranium	17	µg/L	12	0	0.26	0.59	0.34	0.46
Aesthetic								
Aluminium	0.2	mg/L	12	0	<0.02	0.04	<0.02	
Chloride	250	mg/L	12	0	9.0	11	10	
Chlorine (free)	0.6	mg/L	260	258	0.1	2	**1**	
Colour (true)	15	HU	12	0	<2	3.0	<2	
Copper	1	mg/L	12	0	<0.01	0.2	0.05	
Hardness as $CaCO_3$	200	mg/L	12	0	70	80	70	
Iron	0.3	mg/L	12	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	12	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	12	0	7.8	8.0	7.9	
Silica	80	mg/L	12	0	10	10	10	
Sodium	180	mg/L	12	0	5.5	6.5	6.2	
Sulphate	250	mg/L	12	0	<0.2	0.84	0.54	
Total dissolved solids	600	mg/L	12	0	100	100	100	
Turbidity	5	NTU	12	0	0.2	0.7	0.3	
Zinc	3	mg/L	12	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	12		70	80	80	
Bromine	NA	mg/L	12		0.01	0.03	0.02	
Calcium	NA	mg/L	12		30	30	30	
Electrical conductivity	NA	µS/cm	12		180	200	190	
Iodine	NA	mg/L	12		<0.01	0.01	<0.01	
Magnesium	NA	mg/L	12		0.8	1	0.9	
Potassium	NA	mg/L	12		1	1	1	
Tin	NA	mg/L	12		<0.01	<0.01	<0.01	

Table 62 Water quality results for Cox Peninsula

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.02	0.02	0.02	0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	53	0	1	3	2	3
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.08	0.04	0.08
Fluoride	1.5	mg/L	2	0	0.10	0.12	0.11	0.12
Lead	0.01	mg/L	2	0	<0.001	0.001	<0.001	0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.1	0.3	0.2	0.3
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.04	0.04	0.04	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	1	0	<0.004	<0.004	<0.004	NA
Uranium	17	µg/L	2	0	0.020	0.020	0.020	0.020
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	11	13	12	
Chlorine (free)	0.6	mg/L	53	53	1	3	**2**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.08	0.04	
Hardness as $CaCO_3$	200	mg/L	2	0	3	3	3	
Iron	0.3	mg/L	2	0	<0.02	0.04	0.03	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.1	7.3	7.2	
Silica	80	mg/L	2	0	20	30	20	
Sodium	180	mg/L	2	0	8.3	9.7	9.0	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	50	60	50	
Turbidity	5	NTU	2	0	0.3	0.7	0.5	
Zinc	3	mg/L	2	0	0.04	0.04	0.04	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.01	0.01	0.01	
Calcium	NA	mg/L	2		0.5	0.5	0.5	
Electrical conductivity	NA	µS/cm	2		53	60	57	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		0.3	0.3	0.3	
Potassium	NA	mg/L	2		0.8	0.9	0.9	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 63 Water quality results for Daly Waters

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	8	0	0.05	0.05	0.05	0.05
Beryllium	0.06	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	8	0	0.3	0.4	0.4	0.4
Cadmium	0.002	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	35	0	0.6	2	1	1
Chromium	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	8	0	<0.01	0.03	0.01	0.03
Fluoride	1.5	mg/L	8	0	0.14	0.21	0.17	0.21
Lead	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	8	0	0.002	0.004	0.003	0.004
Nitrate	50	mg/L	8	0	8	10	10	10
Nitrite	3	mg/L	8	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.07	0.07	0.07	NA
Selenium	0.01	mg/L	8	0	0.002	0.002	0.002	0.002
Silver	0.1	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	2	0	<0.004	<0.004	<0.004	<0.004
Uranium	17	µg/L	8	0	2.7	3.2	3.0	3.2
Aesthetic								
Aluminium	0.2	mg/L	8	0	<0.02	0.08	0.02	
Chloride	250	mg/L	8	8	270	330	**300**	
Chlorine (free)	0.6	mg/L	35	32	0.4	1	**1**	
Colour (true)	15	HU	8	0	<2	2.0	<2	
Copper	1	mg/L	8	0	<0.01	0.03	0.01	
Hardness as $CaCO_3$	200	mg/L	8	8	600	600	**600**	
Iron	0.3	mg/L	8	0	<0.02	0.04	0.02	
Manganese	0.1	mg/L	8	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	8	0	7.3	8.1	7.5	
Silica	80	mg/L	8	0	30	30	30	
Sodium	180	mg/L	8	8	190	220	**200**	
Sulphate	250	mg/L	8	0	140	160	150	
Total dissolved solids	600	mg/L	8	8	1000	1000	**1000**	
Turbidity	5	NTU	8	0	0.3	5	1	
Zinc	3	mg/L	8	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	8		400	400	400	
Bromine	NA	mg/L	8		0.4	1	0.9	
Calcium	NA	mg/L	8		100	100	100	
Electrical conductivity	NA	µS/cm	8		1900	2100	2100	
Iodine	NA	mg/L	8		0.05	0.07	0.06	
Magnesium	NA	mg/L	8		50	60	60	
Potassium	NA	mg/L	8		20	20	20	
Tin	NA	mg/L	8		<0.01	<0.01	<0.01	

Table 64 Water quality results for Darwin

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	18	0	<0.0002	0.0004	<0.0002	<0.0002
Arsenic	0.01	mg/L	18	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	18	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	18	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	18	0	<0.02	0.04	<0.02	0.02
Cadmium	0.002	mg/L	18	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	734	0	0.07	3	1	2
Chromium	0.05	mg/L	18	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	18	0	<0.01	0.06	0.01	0.06
Fluoride	1.5	mg/L	70	0	0.60	0.86	0.71	0.81
Lead	0.01	mg/L	18	0	<0.001	0.002	<0.001	0.002
Manganese	0.5	mg/L	18	0	0.01	0.02	0.01	0.02
Mercury	0.001	mg/L	18	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	18	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	18	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	18	0	<0.1	0.4	0.1	0.4
Nitrite	3	mg/L	18	0	<0.1	2	0.2	1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	2	0	0.04	0.04	0.04	0.04
Selenium	0.01	mg/L	18	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	18	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	12	0	0.067	0.12	0.087	0.11
Uranium	17	µg/L	18	0	0.020	0.040	0.027	0.032
Aesthetic								
Aluminium	0.2	mg/L	18	0	<0.02	0.06	<0.02	
Chloride	250	mg/L	18	0	6.0	11	8.1	
Chlorine (free)	0.6	mg/L	734	679	0.04	3	**1**	
Colour (true)	15	HU	18	0	<2	4.0	2.2	
Copper	1	mg/L	18	0	<0.01	0.06	0.01	
Hardness as $CaCO_3$	200	mg/L	18	0	20	40	30	
Iron	0.3	mg/L	18	0	0.04	0.1	0.06	
Manganese	0.1	mg/L	18	0	0.01	0.02	0.01	
pH	6.5-8.5	pH unit	18	0	6.9	7.6	7.2	
Silica	80	mg/L	18	0	9	10	10	
Sodium	180	mg/L	18	0	3.4	6.2	4.2	
Sulphate	250	mg/L	18	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	18	0	40	70	50	
Turbidity	5	NTU	18	0	0.6	2	0.9	
Zinc	3	mg/L	18	0	<0.01	0.03	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	18		<20	40	30	
Bromine	NA	mg/L	18		0.03	0.07	0.04	
Calcium	NA	mg/L	18		3	9	6	
Electrical conductivity	NA	µS/cm	18		59	110	84	
Iodine	NA	mg/L	18		<0.01	0.03	0.01	
Magnesium	NA	mg/L	18		3	6	4	
Potassium	NA	mg/L	18		0.4	0.7	0.5	
Tin	NA	mg/L	18		<0.01	<0.01	<0.01	

Table 65 Water quality results for Elliott

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	7	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	7	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	7	0	0.2	0.2	0.2	0.2
Beryllium	0.06	mg/L	7	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	7	0	0.3	0.4	0.3	0.4
Cadmium	0.002	mg/L	7	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	142	0	0.2	2	1	2
Chromium	0.05	mg/L	7	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	7	0	<0.01	0.07	0.02	0.06
Fluoride	1.5	mg/L	6	0	0.75	0.80	0.78	0.80
Lead	0.01	mg/L	7	0	<0.001	0.01	0.003	NA
Manganese	0.5	mg/L	7	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	7	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	7	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	7	0	<0.002	0.002	<0.002	0.002
Nitrate	50	mg/L	6	0	10	10	10	10
Nitrite	3	mg/L	6	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.2	0.2	0.2	NA
Selenium	0.01	mg/L	7	0	0.001	0.001	0.001	0.001
Silver	0.1	mg/L	7	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	3	0	<0.004	<0.004	<0.004	<0.004
Uranium	17	µg/L	7	0	5.4	5.8	5.6	5.8
Aesthetic								
Aluminium	0.2	mg/L	7	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	6	0	140	150	140	
Chlorine (free)	0.6	mg/L	145	143	0.3	2	**1**	
Colour (true)	15	HU	6	0	<2	<2	<2	
Copper	1	mg/L	7	0	<0.01	0.07	0.02	
Hardness as $CaCO_3$	200	mg/L	6	6	400	400	**400**	
Iron	0.3	mg/L	7	0	<0.02	0.04	<0.02	
Manganese	0.1	mg/L	7	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	6	0	7.7	7.7	7.7	
Silica	80	mg/L	6	0	50	50	50	
Sodium	180	mg/L	6	0	81	88	84	
Sulphate	250	mg/L	6	0	31	35	33	
Total dissolved solids	600	mg/L	6	6	700	700	**700**	
Turbidity	5	NTU	6	0	0.3	0.9	0.6	
Zinc	3	mg/L	7	0	<0.01	0.04	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	6		400	400	400	
Bromine	NA	mg/L	7		0.3	0.5	0.4	
Calcium	NA	mg/L	6		100	100	100	
Electrical conductivity	NA	µS/cm	6		1200	1300	1300	
Iodine	NA	mg/L	7		0.06	0.07	0.07	
Magnesium	NA	mg/L	6		40	50	40	
Potassium	NA	mg/L	6		20	20	20	
Tin	NA	mg/L	7		<0.01	<0.01	<0.01	

Table 66 Water quality results for Gunn Point

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	3	0	<0.0002	0.0004	0.0002	0.0004
Arsenic	0.01	mg/L	3	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	3	0	<0.05	0.05	<0.05	0.05
Beryllium	0.06	mg/L	3	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	3	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	3	0	0.0004	0.002	0.001	NA
Chlorine (total)	5	mg/L	25	0	0.5	2	1	2
Chromium	0.05	mg/L	3	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	3	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	0.25	0.37	0.31	0.36
Lead	0.01	mg/L	3	0	0.002	0.005	0.003	NA
Manganese	0.5	mg/L	3	0	0.01	0.03	0.02	0.02
Mercury	0.001	mg/L	3	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	3	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	3	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	<0.1	0.2	0.1	0.2
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.05	0.05	0.05	NA
Selenium	0.01	mg/L	3	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	3	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	1	0	0.0080	0.0080	0.0080	NA
Uranium	17	µg/L	3	0	0.030	0.050	0.040	0.049
Aesthetic								
Aluminium	0.2	mg/L	3	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	13	14	14	
Chlorine (free)	0.6	mg/L	26	19	0.5	2	**0.9**	
Colour (true)	15	HU	2	0	<2	2.0	<2	
Copper	1	mg/L	3	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	0	50	60	60	
Iron	0.3	mg/L	3	0	0.08	0.1	0.09	
Manganese	0.1	mg/L	3	0	0.01	0.03	0.02	
pH	6.5-8.5	pH unit	2	0	7.7	7.7	7.7	
Silica	80	mg/L	2	0	9	10	10	
Sodium	180	mg/L	2	0	9.6	12	11	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	80	90	80	
Turbidity	5	NTU	2	0	0.8	0.9	0.8	
Zinc	3	mg/L	3	0	0.9	2	2	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		60	60	60	
Bromine	NA	mg/L	3		0.01	0.02	0.01	
Calcium	NA	mg/L	2		10	10	10	
Electrical conductivity	NA	µS/cm	2		150	170	160	
Iodine	NA	mg/L	3		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		7	7	7	
Potassium	NA	mg/L	2		0.5	0.5	0.5	
Tin	NA	mg/L	3		<0.01	<0.01	<0.01	

Table 67 Water quality results for Katherine

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	4	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	4	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	176	0	0.5	2	1	2
Chromium	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	4	0	0.02	0.05	0.04	0.05
Fluoride	1.5	mg/L	56	0	0.16	0.63	0.49	0.59
Lead	0.01	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	4	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	4	0	<0.1	0.7	0.3	0.7
Nitrite	3	mg/L	4	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	46	0	<0.001	<0.001	<0.001	<0.001
PFHxS + PFOS	0.07	µg/L	46	0	<0.001	0.004	<0.001	0.002
Radiological	1	mSv/yr	1	0	0.04	0.04	0.04	NA
Selenium	0.01	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	4	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	4	0	0.034	0.051	0.041	0.050
Uranium	17	µg/L	4	0	<0.01	<0.01	<0.01	<0.01
Aesthetic								
Aluminium	0.2	mg/L	4	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	4	0	5.0	6.0	5.5	
Chlorine (free)	0.6	mg/L	176	175	0.4	1	**1**	
Colour (true)	15	HU	4	0	<2	2.0	<2	
Copper	1	mg/L	4	0	0.02	0.05	0.04	
Hardness as $CaCO_3$	200	mg/L	4	0	50	60	60	
Iron	0.3	mg/L	4	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	4	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	4	0	7.4	7.4	7.4	
Silica	80	mg/L	4	0	10	20	10	
Sodium	180	mg/L	4	0	8.6	11	9.6	
Sulphate	250	mg/L	4	0	<0.2	4.8	2.2	
Total dissolved solids	600	mg/L	4	0	80	100	90	
Turbidity	5	NTU	4	0	0.2	0.3	0.3	
Zinc	3	mg/L	4	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	4		60	70	70	
Bromine	NA	mg/L	4		0.01	0.03	0.02	
Calcium	NA	mg/L	4		10	20	10	
Electrical conductivity	NA	µS/cm	4		150	160	160	
Iodine	NA	mg/L	4		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	4		5	6	5	
Potassium	NA	mg/L	4		0.6	1	0.9	
Tin	NA	mg/L	4		<0.01	<0.01	<0.01	

Table 68 Water quality results for Kings Canyon

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	4	0	0.001	0.001	0.001	0.001
Barium	2	mg/L	4	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	4	0	0.3	0.4	0.3	0.4
Cadmium	0.002	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	64	0	0.7	2	1	1
Chromium	0.05	mg/L	4	0	<0.005	0.005	<0.005	0.005
Copper	2	mg/L	4	0	<0.01	0.06	0.03	0.06
Fluoride	1.5	mg/L	4	0	0.43	0.51	0.48	0.51
Lead	0.01	mg/L	4	0	<0.001	0.003	0.002	0.003
Manganese	0.5	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	4	0	0.0002	0.0003	0.0003	0.0003
Molybdenum	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	4	0	0.004	0.006	0.005	0.006
Nitrate	50	mg/L	4	0	4	6	5	6
Nitrite	3	mg/L	4	0	<0.1	0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	42	0	0.3	1	0.6	0.8
Selenium	0.01	mg/L	4	0	0.002	0.002	0.002	0.002
Silver	0.1	mg/L	4	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	2	0	0.0060	0.0080	0.0070	0.0079
Uranium	17	µg/L	4	0	1.5	2.0	1.8	2.0
Aesthetic								
Aluminium	0.2	mg/L	4	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	4	4	260	280	**270**	
Chlorine (free)	0.6	mg/L	64	61	0.6	1	**0.9**	
Colour (true)	15	HU	4	0	<2	<2	<2	
Copper	1	mg/L	4	0	<0.01	0.06	0.03	
Hardness as $CaCO_3$	200	mg/L	4	4	400	400	**400**	
Iron	0.3	mg/L	4	0	0.04	0.08	0.06	
Manganese	0.1	mg/L	4	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	4	0	6.9	7.1	7.0	
Silica	80	mg/L	4	0	20	20	20	
Sodium	180	mg/L	4	0	120	130	120	
Sulphate	250	mg/L	4	0	160	160	160	
Total dissolved solids	600	mg/L	4	4	800	800	**800**	
Turbidity	5	NTU	4	0	0.4	0.4	0.4	
Zinc	3	mg/L	4	0	<0.01	0.2	0.1	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	4		100	100	100	
Bromine	NA	mg/L	4		0.6	0.9	0.7	
Calcium	NA	mg/L	4		80	90	80	
Electrical conductivity	NA	µS/cm	4		1500	1500	1500	
Iodine	NA	mg/L	4		0.2	0.2	0.2	
Magnesium	NA	mg/L	4		40	50	50	
Potassium	NA	mg/L	4		20	20	20	
Tin	NA	mg/L	4		<0.01	<0.01	<0.01	

Table 69 Water quality results for Larrimah

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	4	0	0.05	0.05	0.05	0.05
Beryllium	0.06	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	4	0	0.2	0.3	0.2	0.3
Cadmium	0.002	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	36	0	1	2	1	2
Chromium	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	4	0	<0.01	0.04	0.02	0.04
Fluoride	1.5	mg/L	4	0	0.14	0.18	0.17	0.18
Lead	0.01	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	4	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	4	0	3	3	3	3
Nitrite	3	mg/L	4	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.05	0.05	0.05	NA
Selenium	0.01	mg/L	4	0	0.001	0.002	0.002	0.002
Silver	0.1	mg/L	4	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	2	0	0.010	0.011	0.011	0.011
Uranium	17	µg/L	4	0	1.4	2.5	2.0	2.5
Aesthetic								
Aluminium	0.2	mg/L	4	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	4	0	200	200	200	
Chlorine (free)	0.6	mg/L	36	36	0.9	1	**1**	
Colour (true)	15	HU	4	0	<2	2.0	<2	
Copper	1	mg/L	4	0	<0.01	0.04	0.02	
Hardness as $CaCO_3$	200	mg/L	4	4	500	600	**500**	
Iron	0.3	mg/L	4	0	<0.02	0.2	0.07	
Manganese	0.1	mg/L	4	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	4	0	7.5	7.8	7.6	
Silica	80	mg/L	4	0	40	40	40	
Sodium	180	mg/L	4	0	140	140	140	
Sulphate	250	mg/L	4	0	99	100	100	
Total dissolved solids	600	mg/L	4	4	900	1000	**900**	
Turbidity	5	NTU	4	0	0.3	0.9	0.6	
Zinc	3	mg/L	4	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	4		400	500	400	
Bromine	NA	mg/L	4		0.2	0.5	0.4	
Calcium	NA	mg/L	4		100	100	100	
Electrical conductivity	NA	µS/cm	4		1600	1700	1700	
Iodine	NA	mg/L	4		0.04	0.06	0.05	
Magnesium	NA	mg/L	4		50	60	60	
Potassium	NA	mg/L	4		10	10	10	
Tin	NA	mg/L	4		<0.01	<0.01	<0.01	

Table 70 Water quality results for Mataranka

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	4	0	0.1	0.1	0.1	0.1
Beryllium	0.06	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	4	0	0.04	0.04	0.04	0.04
Cadmium	0.002	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	48	0	1	1	1	1
Chromium	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	4	0	<0.01	0.05	0.02	0.04
Fluoride	1.5	mg/L	4	0	0.23	0.24	0.23	0.24
Lead	0.01	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	4	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	4	0	<0.1	0.7	0.4	0.7
Nitrite	3	mg/L	4	0	<0.1	0.2	<0.1	0.2
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.05	0.05	0.05	NA
Selenium	0.01	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	4	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	2	0	<0.004	0.0040	<0.004	<0.004
Uranium	17	µg/L	4	0	0.58	0.61	0.59	0.61
Aesthetic								
Aluminium	0.2	mg/L	4	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	4	0	22	23	22	
Chlorine (free)	0.6	mg/L	48	48	0.8	1	**1**	
Colour (true)	15	HU	4	0	<2	2.0	<2	
Copper	1	mg/L	4	0	<0.01	0.05	0.02	
Hardness as $CaCO_3$	200	mg/L	4	4	300	400	**400**	
Iron	0.3	mg/L	4	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	4	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	4	0	7.6	7.8	7.7	
Silica	80	mg/L	4	0	30	30	30	
Sodium	180	mg/L	4	0	17	18	18	
Sulphate	250	mg/L	4	0	<0.2	1.7	0.78	
Total dissolved solids	600	mg/L	4	0	400	400	400	
Turbidity	5	NTU	4	0	0.3	0.4	0.3	
Zinc	3	mg/L	4	0	<0.01	0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	4		300	300	300	
Bromine	NA	mg/L	4		0.03	0.06	0.04	
Calcium	NA	mg/L	4		80	90	90	
Electrical conductivity	NA	µS/cm	4		700	740	720	
Iodine	NA	mg/L	4		<0.01	0.01	<0.01	
Magnesium	NA	mg/L	4		30	30	30	
Potassium	NA	mg/L	4		6	6	6	
Tin	NA	mg/L	4		<0.01	<0.01	<0.01	

Table 71 Water quality results for Newcastle Waters

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	6	0	<0.0002	0.0008	0.0002	0.0006
Arsenic	0.01	mg/L	6	0	0.0005	0.002	0.0008	0.002
Barium	2	mg/L	6	0	0.2	0.3	0.2	0.3
Beryllium	0.06	mg/L	6	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	6	0	0.3	0.3	0.3	0.3
Cadmium	0.002	mg/L	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	33	0	0.9	1	1	1
Chromium	0.05	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	6	0	<0.01	0.4	0.1	0.4
Fluoride	1.5	mg/L	6	0	0.82	0.84	0.83	0.84
Lead	0.01	mg/L	6	0	<0.001	0.008	0.003	NA
Manganese	0.5	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	6	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	6	0	<0.002	0.01	0.003	0.008
Nitrate	50	mg/L	6	0	9	9	9	9
Nitrite	3	mg/L	6	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.1	0.1	0.1	NA
Selenium	0.01	mg/L	6	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	6	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	3	0	<0.004	<0.004	<0.004	<0.004
Uranium	17	µg/L	6	0	3.7	4.7	4.4	4.7
Aesthetic								
Aluminium	0.2	mg/L	6	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	6	0	42	44	43	
Chlorine (free)	0.6	mg/L	36	36	0.9	2	**1**	
Colour (true)	15	HU	6	0	<2	<2	<2	
Copper	1	mg/L	6	0	<0.01	0.4	0.1	
Hardness as $CaCO_3$	200	mg/L	6	6	300	300	**300**	
Iron	0.3	mg/L	6	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	6	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	6	0	7.5	7.7	7.6	
Silica	80	mg/L	6	0	60	60	60	
Sodium	180	mg/L	6	0	50	53	51	
Sulphate	250	mg/L	6	0	6.3	12	9.2	
Total dissolved solids	600	mg/L	6	0	500	500	500	
Turbidity	5	NTU	6	0	0.2	0.8	0.4	
Zinc	3	mg/L	6	0	0.01	0.8	0.2	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	6		400	400	400	
Bromine	NA	mg/L	6		0.1	0.3	0.1	
Calcium	NA	mg/L	6		70	80	80	
Electrical conductivity	NA	µS/cm	6		840	890	880	
Iodine	NA	mg/L	6		0.05	0.06	0.06	
Magnesium	NA	mg/L	6		30	30	30	
Potassium	NA	mg/L	6		30	30	30	
Tin	NA	mg/L	6		<0.01	<0.01	<0.01	

Table 72 Water quality results for Pine Creek

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	33	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	33	0	0.003	0.008	0.005	0.007
Barium	2	mg/L	33	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	33	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	33	0	<0.02	0.02	<0.02	<0.02
Cadmium	0.002	mg/L	33	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	156	0	0.6	2	1	2
Chromium	0.05	mg/L	33	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	33	0	<0.01	1	0.1	0.4
Fluoride	1.5	mg/L	6	0	0.49	0.52	0.51	0.52
Lead	0.01	mg/L	33	0	<0.001	0.005	<0.001	0.003
Manganese	0.5	mg/L	33	0	<0.005	0.4	0.03	0.1
Mercury	0.001	mg/L	33	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	33	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	33	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	6	0	0.1	2	0.6	1
Nitrite	3	mg/L	6	0	<0.1	0.2	<0.1	0.2
Perfluorooctanoic acid	0.56	µg/L	12	0	<0.001	<0.001	<0.001	<0.001
PFHxS + PFOS	0.07	µg/L	12	0	<0.001	0.008	0.002	0.007
Radiological	1	mSv/yr	1	0	0.04	0.04	0.04	NA
Selenium	0.01	mg/L	33	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	33	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	3	0	<0.004	<0.004	<0.004	<0.004
Uranium	17	µg/L	33	0	0.050	0.13	0.083	0.11
Aesthetic								
Aluminium	0.2	mg/L	33	0	<0.02	0.04	<0.02	
Chloride	250	mg/L	6	0	6.0	7.0	6.5	
Chlorine (free)	0.6	mg/L	156	155	0.6	2	**1**	
Colour (true)	15	HU	6	0	<2	3.0	<2	
Copper	1	mg/L	33	0	<0.01	1	0.1	
Hardness as $CaCO_3$	200	mg/L	6	0	90	100	90	
Iron	0.3	mg/L	33	1	<0.02	2	0.09	
Manganese	0.1	mg/L	33	2	<0.005	0.4	0.03	
pH	6.5-8.5	pH unit	6	0	6.8	7.1	6.9	
Silica	80	mg/L	6	0	50	50	50	
Sodium	180	mg/L	6	0	26	27	26	
Sulphate	250	mg/L	6	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	6	0	200	200	200	
Turbidity	5	NTU	6	0	0.3	2	0.7	
Zinc	3	mg/L	33	0	<0.01	0.04	0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	6		100	100	100	
Bromine	NA	mg/L	33		0.01	0.04	0.02	
Calcium	NA	mg/L	6		10	10	10	
Electrical conductivity	NA	µS/cm	6		280	300	290	
Iodine	NA	mg/L	33		<0.01	0.02	<0.01	
Magnesium	NA	mg/L	6		10	20	20	
Potassium	NA	mg/L	6		1	2	1	
Tin	NA	mg/L	33		<0.01	<0.01	<0.01	

Table 73 Water quality results for Tennant Creek

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.002	0.002	0.002	0.002
Barium	2	mg/L	2	0	0.05	0.05	0.05	0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.5	0.5	0.5	0.5
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	208	0	0.8	2	1	1
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.01	<0.01	0.01
Fluoride	1.5	mg/L	36	0	1.2	1.4	1.3	1.4
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	12	0	30	40	40	40
Nitrite	3	mg/L	12	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.08	0.08	0.08	NA
Selenium	0.01	mg/L	2	0	0.002	0.002	0.002	0.002
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	4	0	0.0040	0.018	0.0095	0.017
Uranium	17	µg/L	2	0	7.6	8.1	7.8	8.1
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	12	0	94	130	110	
Chlorine (free)	0.6	mg/L	208	208	0.7	1	**1**	
Colour (true)	15	HU	12	0	<2	2.0	<2	
Copper	1	mg/L	2	0	<0.01	0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	12	0	200	200	200	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	12	0	7.8	8.2	7.9	
Silica	80	mg/L	12	5	80	90	80	
Sodium	180	mg/L	12	0	110	130	120	
Sulphate	250	mg/L	12	0	22	40	34	
Total dissolved solids	600	mg/L	12	4	600	700	600	
Turbidity	5	NTU	12	0	0.2	0.4	0.3	
Zinc	3	mg/L	2	0	<0.01	0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	12		300	300	300	
Bromine	NA	mg/L	2		0.2	0.3	0.2	
Calcium	NA	mg/L	12		30	30	30	
Electrical conductivity	NA	µS/cm	12		950	1100	1000	
Iodine	NA	mg/L	2		0.1	0.1	0.1	
Magnesium	NA	mg/L	12		20	30	30	
Potassium	NA	mg/L	12		30	30	30	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 74 Water quality results for Ti Tree

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	6	0	0.001	0.002	0.001	0.002
Barium	2	mg/L	6	0	0.1	0.1	0.1	0.1
Beryllium	0.06	mg/L	6	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	6	0	0.4	0.4	0.4	0.4
Cadmium	0.002	mg/L	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	30	0	1	2	1	2
Chromium	0.05	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	6	0	<0.01	0.02	<0.01	0.02
Fluoride	1.5	mg/L	30	0	0.69	0.87	0.78	0.86
Lead	0.01	mg/L	6	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	6	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	6	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	30	1	40	60	50	50
Nitrite	3	mg/L	30	0	<0.1	0.3	<0.1	0.3
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.07	0.07	0.07	NA
Selenium	0.01	mg/L	6	0	0.002	0.002	0.002	0.002
Silver	0.1	mg/L	6	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	2	0	0.0060	0.0060	0.0060	0.0060
Uranium	17	µg/L	6	0	6.6	7.2	6.8	7.1
Aesthetic								
Aluminium	0.2	mg/L	6	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	30	0	68	74	72	
Chlorine (free)	0.6	mg/L	30	30	1	2	**1**	
Colour (true)	15	HU	30	0	<2	2.0	<2	
Copper	1	mg/L	6	0	<0.01	0.02	<0.01	
Hardness as $CaCO_3$	200	mg/L	30	0	200	200	200	
Iron	0.3	mg/L	6	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	6	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	30	0	8.0	8.5	8.2	
Silica	80	mg/L	30	30	90	100	**90**	
Sodium	180	mg/L	30	0	63	71	67	
Sulphate	250	mg/L	30	0	20	35	30	
Total dissolved solids	600	mg/L	30	0	500	600	500	
Turbidity	5	NTU	30	0	0.2	0.5	0.3	
Zinc	3	mg/L	6	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	30		200	200	200	
Bromine	NA	mg/L	6		0.2	0.3	0.2	
Calcium	NA	mg/L	30		50	60	60	
Electrical conductivity	NA	µS/cm	30		800	840	820	
Iodine	NA	mg/L	6		0.07	0.09	0.09	
Magnesium	NA	mg/L	30		20	20	20	
Potassium	NA	mg/L	30		20	20	20	
Tin	NA	mg/L	6		<0.01	<0.01	<0.01	

Table 75 Water quality results for Timber Creek

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	14	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	14	0	0.001	0.001	0.001	0.001
Barium	2	mg/L	14	0	1	1	1	1
Beryllium	0.06	mg/L	14	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	14	0	0.1	0.1	0.1	0.1
Cadmium	0.002	mg/L	14	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	36	0	1	2	1	2
Chromium	0.05	mg/L	14	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	14	0	<0.01	0.09	0.02	0.05
Fluoride	1.5	mg/L	15	3	1.2	**1.6**	1.3	NA
Lead	0.01	mg/L	14	0	<0.001	0.001	<0.001	<0.001
Manganese	0.5	mg/L	14	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	14	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	14	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	14	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	15	0	0.5	5	0.9	2
Nitrite	3	mg/L	15	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.08	0.08	0.08	NA
Selenium	0.01	mg/L	14	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	14	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	2	0	0.010	0.014	0.012	0.014
Uranium	17	µg/L	14	0	1.9	2.1	2.0	2.1
Aesthetic								
Aluminium	0.2	mg/L	14	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	15	0	37	41	39	
Chlorine (free)	0.6	mg/L	36	36	1	2	**1**	
Colour (true)	15	HU	15	0	<2	<2	<2	
Copper	1	mg/L	14	0	<0.01	0.09	0.02	
Hardness as $CaCO_3$	200	mg/L	15	15	400	500	**400**	
Iron	0.3	mg/L	14	0	<0.02	0.1	0.02	
Manganese	0.1	mg/L	14	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	15	0	7.0	7.4	7.2	
Silica	80	mg/L	15	0	20	20	20	
Sodium	180	mg/L	15	0	21	24	22	
Sulphate	250	mg/L	15	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	15	0	500	500	500	
Turbidity	5	NTU	15	0	0.2	0.9	0.4	
Zinc	3	mg/L	14	0	<0.01	0.03	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	15		400	400	400	
Bromine	NA	mg/L	14		0.05	0.1	0.09	
Calcium	NA	mg/L	15		70	80	70	
Electrical conductivity	NA	µS/cm	15		890	970	930	
Iodine	NA	mg/L	14		0.01	0.02	0.02	
Magnesium	NA	mg/L	15		60	70	70	
Potassium	NA	mg/L	15		7	7	7	
Tin	NA	mg/L	14		<0.01	<0.01	<0.01	

Table 76 Water quality results for Yulara

Parameter	ADWG	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	8	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	8	0	0.7	0.9	0.8	0.9
Cadmium	0.002	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Chlorine (total)	5	mg/L	102	0	0.8	1	1	1
Chromium	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	8	0	0.15	0.20	0.18	0.20
Lead	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	8	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	8	0	30	40	30	40
Nitrite	3	mg/L	8	0	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid	0.56	µg/L	1	0	<0.001	<0.001	<0.001	NA
PFHxS + PFOS	0.07	µg/L	1	0	<0.001	<0.001	<0.001	NA
Radiological	1	mSv/yr	1	0	0.06	0.06	0.06	NA
Selenium	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Trihalomethanes	0.25	mg/L	2	0	0.0080	0.014	0.011	0.014
Uranium	17	µg/L	8	0	0.14	0.20	0.17	0.19
Aesthetic								
Aluminium	0.2	mg/L	8	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	8	0	91	100	98	
Chlorine (free)	0.6	mg/L	102	102	0.7	1	**0.9**	
Colour (true)	15	HU	8	0	<2	2.0	<2	
Copper	1	mg/L	8	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	8	0	70	80	70	
Iron	0.3	mg/L	8	0	<0.02	0.04	<0.02	
Manganese	0.1	mg/L	8	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	8	0	7.5	8.0	7.7	
Silica	80	mg/L	8	0	10	20	10	
Sodium	180	mg/L	8	0	70	75	73	
Sulphate	250	mg/L	8	0	41	48	44	
Total dissolved solids	600	mg/L	8	0	300	300	300	
Turbidity	5	NTU	8	0	0.2	0.6	0.3	
Zinc	3	mg/L	8	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	8		30	30	30	
Bromine	NA	mg/L	8		0.2	0.3	0.3	
Calcium	NA	mg/L	8		20	20	20	
Electrical conductivity	NA	µS/cm	8		550	610	580	
Iodine	NA	mg/L	8		0.03	0.06	0.04	
Magnesium	NA	mg/L	8		7	8	8	
Potassium	NA	mg/L	8		8	9	9	
Tin	NA	mg/L	8		<0.01	<0.01	<0.01	

Appendix D
Remote Water Quality results – by parameter

Manyallaluk water storage tank

Bacteriological

Table 77 Remote bacteriological results (ADWG No *E. coli* detected)

Community	Region	Samples	Exceedances	% free of *E. Coli*
Acacia Larrakia	Northern	36	0	100
Ali Curung	Barkly	35	0	100
Alpurrurulam	Barkly	36	0	100
Amanbidji	Katherine	27	0	100
Amoonguna	Southern	36	0	100
Ampilatwatja	Southern	36	0	100
Angurugu	Northern	153	0	100
Areyonga	Southern	36	0	100
Atitjere	Southern	36	0	100
Barunga	Katherine	36	0	100
Belyuen	Northern	36	0	100
Beswick	Katherine	36	0	100
Binjari	Katherine	36	0	100
Bulla	Katherine	33	0	100
Bulman	Katherine	36	0	100
Canteen Creek	Barkly	36	0	100
Daguragu	Katherine	22	0	100
Engawala	Southern	36	0	100
Finke	Southern	36	0	100
Galiwinku	Northern	200	0	100
Gapuwiyak	Northern	152	0	100
Gunbalanya	Northern	233	0	100
Gunyangara	Northern	48	0	100
Haasts Bluff	Southern	36	0	100
Hermannsburg	Southern	36	0	100
Imangara	Barkly	36	0	100
Imanpa	Southern	36	0	100
Jilkminggan	Katherine	39	0	100
Kalkarindji	Katherine	33	0	100
Kaltukatjara	Southern	36	0	100
Kintore	Southern	36	0	100
Kybrook Farm	Katherine	36	0	100
Lajamanu	Katherine	30	0	100
Laramba	Southern	36	0	100
Maningrida	Northern	245	0	100
Manyallaluk	Katherine	36	0	100
Milikapiti	Northern	36	0	100
Milingimbi	Northern	150	0	100
Milyakburra	Northern	39	0	100
Minjilang	Northern	36	0	100
Minyerri	Katherine	36	0	100
Mt Liebig	Southern	36	0	100
Nauiyu	Northern	53	0	100
Nganmarriyanga	Northern	44	0	100
Ngukurr	Katherine	156	0	100
Nturiya	Barkly	36	0	100
Numbulwar	Northern	153	0	100
Nyirripi	Southern	36	0	100
Papunya	Southern	36	0	100
Peppimenarti	Northern	36	0	100
Pigeon Hole	Katherine	27	0	100
Pirlangimpi	Northern	39	0	100
Pmara Jutunta	Southern	36	0	100
Ramingining	Northern	196	0	100
Rittarangu	Katherine	36	0	100
Robinson River	Katherine	35	0	100
Santa Teresa	Southern	36	0	100
Tara	Barkly	36	0	100
Titjikala	Southern	30	0	100
Umbakumba	Northern	36	0	100
Wadeye	Northern	266	0	100
Wallace Rockhole	Southern	30	0	100
Warruwi	Northern	70	0	100
Weemol	Katherine	36	0	100
Willowra	Barkly	36	0	100
Wilora	Barkly	36	0	100
Wurrumiyanga	Northern	142	0	100
Wutunugurra	Barkly	36	0	100
Yarralin	Katherine	33	0	100
Yirrkala	Northern	150	0	100
Yuelamu	Southern	36	0	100
Yuendumu	Southern	36	0	100

Health

Table 78 Water quality results for antimony (ADWG 0.003 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Ali Curung	Barkly	11	0	<0.0002	<0.0002	<0.0002	<0.0002
Alpurrurulam	Barkly	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Amanbidji	Katherine	2	0	0.0002	0.0002	0.0002	0.0002
Ampilatwatja	Southern	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Angurugu	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Areyonga	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Atitjere	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Barunga	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Belyuen	*Northern*	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Beswick	*Katherine*	8	8	0.006	0.008	0.007	**0.008**
Binjari	*Katherine*	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Bulla	*Katherine*	27	0	<0.0002	<0.0002	<0.0002	<0.0002
Bulman	*Katherine*	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Canteen Creek	*Barkly*	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Daguragu	*Katherine*	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Engawala	*Southern*	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Finke	*Southern*	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Galiwinku	*Northern*	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Gapuwiyak	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Gunbalanya	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Gunyangara	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Haasts Bluff	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Hermannsburg	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Imangara	Barkly	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Imanpa	Southern	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Jilkminggan	Katherine	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Kalkarindji	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Kaltukatjara	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Kintore	Southern	9	0	<0.0002	<0.0002	<0.0002	<0.0002
Kybrook Farm	Katherine	7	0	<0.0002	<0.0002	<0.0002	<0.0002
Lajamanu	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Laramba	Southern	26	0	<0.0002	<0.0002	<0.0002	<0.0002
Maningrida	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Manyallaluk	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002

Table 78 Water quality results for antimony (ADWG 0.003 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Milingimbi	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Milyakburra	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Minjilang	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Minyerri	Katherine	10	0	<0.0002	<0.0002	<0.0002	<0.0002
Mt Liebig	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Nauiyu	Northern	16	0	0.0002	0.0006	0.0004	0.0006
Nganmarriyanga	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Ngukurr	Katherine	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Nturiya	Barkly	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Numbulwar	Northern	11	0	<0.0002	<0.0002	<0.0002	<0.0002
Nyirripi	Southern	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Papunya	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Peppimenarti	Northern	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Pigeon Hole	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Pirlangimpi	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Pmara Jutunta	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Ramingining	Northern	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Rittarangu	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Robinson River	Katherine	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Santa Teresa	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Tara	Barkly	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Umbakumba	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Wadeye	Northern	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Wallace Rockhole	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Warruwi	Northern	62	0	<0.0002	<0.0002	<0.0002	<0.0002
Weemol	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Willowra	Barkly	18	0	<0.0002	<0.0002	<0.0002	<0.0002
Wilora	Barkly	20	0	<0.0002	0.0004	0.0002	0.0004
Wurrumiyanga	Northern	3	0	<0.0002	<0.0002	<0.0002	<0.0002
Wutunugurra	Barkly	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Yarralin	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Yirrkala	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Yuelamu	Southern	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Yuendumu	Southern	22	0	<0.0002	<0.0002	<0.0002	<0.0002

Table 79 Water quality results for arsenic (ADWG 0.01 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	0.001	0.001	0.001	0.001
Ali Curung	Barkly	11	0	<0.0005	<0.0005	<0.0005	<0.0005
Alpurrurulam	Barkly	8	0	0.002	0.002	0.002	0.002
Amanbidji	Katherine	2	0	0.001	0.001	0.001	0.001
Ampilatwatja	Southern	4	0	<0.0005	0.0005	<0.0005	0.0005
Angurugu	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Areyonga	Southern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Atitjere	Southern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barunga	Katherine	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Belyuen	Northern	2	0	0.001	0.004	0.003	NA
Beswick	Katherine	8	0	0.006	0.008	0.007	0.007
Binjari	Katherine	2	0	0.001	0.007	0.004	NA
Bulla	Katherine	27	0	<0.0005	0.003	0.0008	0.002
Bulman	Katherine	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Canteen Creek	Barkly	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Daguragu	Katherine	2	0	0.002	0.002	0.002	0.002
Engawala	Southern	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Finke	Southern	2	0	0.0005	0.0005	0.0005	0.0005
Galiwinku	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Gapuwiyak	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Gunbalanya	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Gunyangara	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Haasts Bluff	Southern	2	0	<0.0005	0.001	0.0006	0.001
Hermannsburg	Southern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Imangara	Barkly	2	0	0.001	0.001	0.001	0.001
Imanpa	Southern	6	0	<0.0005	<0.0005	<0.0005	<0.0005
Jilkminggan	Katherine	6	0	<0.0005	0.0005	<0.0005	<0.0005
Kalkarindji	Katherine	2	0	0.001	0.001	0.001	0.001
Kaltukatjara	Southern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Kintore	Southern	9	0	<0.0005	0.001	<0.0005	0.0007
Kybrook Farm	Katherine	7	0	0.002	0.003	0.002	0.003
Lajamanu	Katherine	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Laramba	Southern	26	0	<0.0005	0.001	0.0005	0.0005
Maningrida	Northern	2	0	<0.0005	0.001	0.0006	0.001
Manyallaluk	Katherine	2	0	<0.0005	<0.0005	<0.0005	<0.0005

Table 79 Water quality results for arsenic (ADWG 0.01 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Milingimbi	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Milyakburra	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Minjilang	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Minyerri	Katherine	10	0	<0.0005	0.003	0.001	0.003
Mt Liebig	Southern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Nauiyu	Northern	16	0	0.003	0.005	0.004	0.005
Nganmarriyanga	Northern	2	0	0.001	0.002	0.001	0.001
Ngukurr	Katherine	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Nturiya	Barkly	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Numbulwar	Northern	11	0	<0.0005	0.002	0.0005	0.002
Nyirripi	Southern	8	0	0.002	0.002	0.002	0.002
Papunya	Southern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Peppimenarti	Northern	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Pigeon Hole	Katherine	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Pirlangimpi	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Pmara Jutunta	Southern	2	0	0.001	0.001	0.001	0.001
Ramingining	Northern	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Rittarangu	Katherine	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Robinson River	Katherine	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Santa Teresa	Southern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Tara	Barkly	2	0	0.0005	0.0005	0.0005	0.0005
Umbakumba	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Wadeye	Northern	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Wallace Rockhole	Southern	2	0	0.001	0.001	0.001	0.001
Warruwi	Northern	62	0	<0.0005	0.0005	<0.0005	<0.0005
Weemol	Katherine	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Willowra	Barkly	18	0	0.002	0.002	0.002	0.002
Wilora	Barkly	20	0	0.002	0.002	0.002	0.002
Wurrumiyanga	Northern	3	0	<0.0005	<0.0005	<0.0005	<0.0005
Wutunugurra	Barkly	2	0	0.001	0.001	0.001	0.001
Yarralin	Katherine	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Yirrkala	Northern	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Yuelamu	Southern	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Yuendumu	Southern	22	0	<0.0005	<0.0005	<0.0005	<0.0005

Table 80 Water quality results for barium (ADWG 2 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Ali Curung	Barkly	11	0	<0.05	<0.05	<0.05	<0.05
Alpurrurulam	Barkly	8	0	0.1	0.1	0.1	0.1
Amanbidji	Katherine	2	0	0.2	0.2	0.2	0.2
Ampilatwatja	Southern	4	0	<0.05	<0.05	<0.05	<0.05
Angurugu	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Areyonga	Southern	2	0	0.1	0.1	0.1	0.1
Atitjere	Southern	2	0	0.05	0.05	0.05	0.05
Barunga	Katherine	2	0	<0.05	<0.05	<0.05	<0.05
Belyuen	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Beswick	Katherine	8	0	0.1	0.2	0.1	0.2
Binjari	Katherine	2	0	0.2	0.2	0.2	0.2
Bulla	Katherine	27	4	0.4	5	2	**4**
Bulman	Katherine	2	0	<0.05	<0.05	<0.05	<0.05
Canteen Creek	Barkly	2	0	0.2	0.2	0.2	0.2
Daguragu	Katherine	2	0	0.05	0.05	0.05	0.05
Engawala	Southern	4	0	0.2	0.2	0.2	0.2
Finke	Southern	2	0	0.2	0.2	0.2	0.2
Galiwinku	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Gapuwiyak	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Gunbalanya	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Gunyangara	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Haasts Bluff	Southern	2	0	<0.05	<0.05	<0.05	<0.05
Hermannsburg	Southern	2	0	<0.05	<0.05	<0.05	<0.05
Imangara	Barkly	2	0	0.5	0.5	0.5	0.5
Imanpa	Southern	6	0	<0.05	<0.05	<0.05	<0.05
Jilkminggan	Katherine	6	0	0.05	0.05	0.05	0.05
Kalkarindji	Katherine	2	0	0.1	0.1	0.1	0.1
Kaltukatjara	Southern	2	0	<0.05	<0.05	<0.05	<0.05
Kintore	Southern	9	0	<0.05	0.05	<0.05	<0.05
Kybrook Farm	Katherine	7	0	<0.05	<0.05	<0.05	<0.05
Lajamanu	Katherine	2	0	0.1	0.1	0.1	0.1
Laramba	Southern	26	0	0.2	0.2	0.2	0.2
Maningrida	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Manyallaluk	Katherine	2	0	<0.05	<0.05	<0.05	<0.05

Table 80 Water quality results for barium (ADWG 2 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Milingimbi	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Milyakburra	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Minjilang	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Minyerri	Katherine	10	0	0.3	0.4	0.3	0.4
Mt Liebig	Southern	2	0	<0.05	<0.05	<0.05	<0.05
Nauiyu	Northern	16	0	<0.05	<0.05	<0.05	<0.05
Nganmarriyanga	Northern	2	0	0.2	0.2	0.2	0.2
Ngukurr	Katherine	8	0	0.6	2	1	NA
Nturiya	Barkly	4	0	<0.05	<0.05	<0.05	<0.05
Numbulwar	Northern	11	0	0.2	0.3	0.2	0.3
Nyirripi	Southern	8	0	0.1	0.1	0.1	0.1
Papunya	Southern	2	0	0.1	0.1	0.1	0.1
Peppimenarti	Northern	8	0	<0.05	0.1	0.05	0.08
Pigeon Hole	Katherine	2	0	<0.05	<0.05	<0.05	<0.05
Pirlangimpi	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Pmara Jutunta	Southern	2	0	0.1	0.1	0.1	0.1
Ramingining	Northern	4	0	<0.05	<0.05	<0.05	<0.05
Rittarangu	Katherine	2	0	0.3	0.3	0.3	0.3
Robinson River	Katherine	8	0	0.9	1	1	1
Santa Teresa	Southern	2	0	0.5	0.5	0.5	0.5
Tara	Barkly	2	0	<0.05	<0.05	<0.05	<0.05
Umbakumba	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Wadeye	Northern	4	0	<0.05	<0.05	<0.05	<0.05
Wallace Rockhole	Southern	2	0	<0.05	<0.05	<0.05	<0.05
Warruwi	Northern	62	0	<0.05	<0.05	<0.05	<0.05
Weemol	Katherine	2	0	<0.05	<0.05	<0.05	<0.05
Willowra	Barkly	18	0	0.05	0.05	0.05	0.05
Wilora	Barkly	20	0	<0.05	0.05	0.05	0.05
Wurrumiyanga	Northern	3	0	<0.05	<0.05	<0.05	<0.05
Wutunugurra	Barkly	2	0	0.3	0.3	0.3	0.3
Yarralin	Katherine	2	0	0.4	0.4	0.4	0.4
Yirrkala	Northern	2	0	<0.05	<0.05	<0.05	<0.05
Yuelamu	Southern	8	0	<0.05	<0.05	<0.05	<0.05
Yuendumu	Southern	22	0	<0.05	0.05	<0.05	0.05

Table 81 Water quality results for beryllium (ADWG 0.06 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Ali Curung	Barkly	11	0	<0.001	<0.001	<0.001	<0.001
Alpurrurulam	Barkly	8	0	<0.001	<0.001	<0.001	<0.001
Amanbidji	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Ampilatwatja	Southern	4	0	<0.001	<0.001	<0.001	<0.001
Angurugu	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Areyonga	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Atitjere	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Barunga	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Belyuen	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Beswick	Katherine	8	0	<0.001	<0.001	<0.001	<0.001
Binjari	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Bulla	Katherine	27	0	<0.001	<0.001	<0.001	<0.001
Bulman	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Canteen Creek	Barkly	2	0	<0.001	<0.001	<0.001	<0.001
Daguragu	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Engawala	Southern	4	0	<0.001	<0.001	<0.001	<0.001
Finke	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Galiwinku	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Gapuwiyak	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Gunbalanya	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Gunyangara	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Haasts Bluff	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Hermannsburg	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Imangara	Barkly	2	0	<0.001	<0.001	<0.001	<0.001
Imanpa	Southern	6	0	<0.001	<0.001	<0.001	<0.001
Jilkminggan	Katherine	6	0	<0.001	<0.001	<0.001	<0.001
Kalkarindji	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Kaltukatjara	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Kintore	Southern	9	0	<0.001	<0.001	<0.001	<0.001
Kybrook Farm	Katherine	7	0	<0.001	<0.001	<0.001	<0.001
Lajamanu	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Laramba	Southern	26	0	<0.001	<0.001	<0.001	<0.001
Maningrida	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Manyallaluk	Katherine	2	0	<0.001	<0.001	<0.001	<0.001

Table 81 Water quality results for beryllium (ADWG 0.06 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Milingimbi	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Milyakburra	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Minjilang	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Minyerri	Katherine	10	0	<0.001	<0.001	<0.001	<0.001
Mt Liebig	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Nauiyu	Northern	16	0	<0.001	<0.001	<0.001	<0.001
Nganmarriyanga	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Ngukurr	Katherine	8	0	<0.001	<0.001	<0.001	<0.001
Nturiya	Barkly	4	0	<0.001	<0.001	<0.001	<0.001
Numbulwar	Northern	11	0	<0.001	<0.001	<0.001	<0.001
Nyirripi	Southern	8	0	<0.001	<0.001	<0.001	<0.001
Papunya	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Peppimenarti	Northern	8	0	<0.001	<0.001	<0.001	<0.001
Pigeon Hole	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Pirlangimpi	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Pmara Jutunta	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Ramingining	Northern	4	0	<0.001	<0.001	<0.001	<0.001
Rittarangu	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Robinson River	Katherine	8	0	<0.001	<0.001	<0.001	<0.001
Santa Teresa	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Tara	Barkly	2	0	<0.001	<0.001	<0.001	<0.001
Umbakumba	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Wadeye	Northern	4	0	<0.001	<0.001	<0.001	<0.001
Wallace Rockhole	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Warruwi	Northern	62	0	<0.001	<0.001	<0.001	<0.001
Weemol	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Willowra	Barkly	18	0	<0.001	<0.001	<0.001	<0.001
Wilora	Barkly	20	0	<0.001	<0.001	<0.001	<0.001
Wurrumiyanga	Northern	3	0	<0.001	<0.001	<0.001	<0.001
Wutunugurra	Barkly	2	0	<0.001	<0.001	<0.001	<0.001
Yarralin	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Yirrkala	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Yuelamu	Southern	8	0	<0.001	<0.001	<0.001	<0.001
Yuendumu	Southern	22	0	<0.001	<0.001	<0.001	<0.001

Table 82 Water quality results for boron (ADWG 4 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.02	<0.02	<0.02	<0.02
Ali Curung	Barkly	11	0	0.7	0.9	0.8	0.9
Alpurrurulam	Barkly	8	0	0.2	0.3	0.3	0.3
Amanbidji	Katherine	2	0	0.6	0.6	0.6	0.6
Ampilatwatja	Southern	4	0	0.3	0.4	0.3	0.4
Angurugu	Northern	2	0	<0.02	<0.02	<0.02	<0.02
Areyonga	Southern	2	0	0.2	0.2	0.2	0.2
Atitjere	Southern	2	0	0.2	0.2	0.2	0.2
Barunga	Katherine	2	0	<0.02	<0.02	<0.02	<0.02
Belyuen	Northern	2	0	<0.02	<0.02	<0.02	<0.02
Beswick	Katherine	8	0	<0.02	0.02	0.02	0.02
Binjari	Katherine	2	0	0.02	0.04	0.03	0.04
Bulla	Katherine	27	0	0.06	0.1	0.08	0.1
Bulman	Katherine	2	0	0.02	0.02	0.02	0.02
Canteen Creek	Barkly	2	0	0.3	0.3	0.3	0.3
Daguragu	Katherine	2	0	0.1	0.1	0.1	0.1
Engawala	Southern	4	0	0.2	0.2	0.2	0.2
Finke	Southern	2	0	0.08	0.08	0.08	0.08
Galiwinku	Northern	2	0	<0.02	<0.02	<0.02	<0.02
Gapuwiyak	Northern	2	0	<0.02	<0.02	<0.02	<0.02
Gunbalanya	Northern	2	0	<0.02	<0.02	<0.02	<0.02
Gunyangara	Northern	2	0	<0.02	<0.02	<0.02	<0.02
Haasts Bluff	Southern	2	0	0.4	0.4	0.4	0.4
Hermannsburg	Southern	2	0	0.2	0.2	0.2	0.2
Imangara	Barkly	2	0	0.2	0.2	0.2	0.2
Imanpa	Southern	6	0	0.8	0.9	0.9	0.9
Jilkminggan	Katherine	6	0	0.3	0.5	0.4	0.5
Kalkarindji	Katherine	2	0	0.1	0.1	0.1	0.1
Kaltukatjara	Southern	2	0	0.2	0.2	0.2	0.2
Kintore	Southern	9	0	0.3	0.4	0.3	0.4
Kybrook Farm	Katherine	7	0	0.02	0.02	0.02	0.02
Lajamanu	Katherine	2	0	0.2	0.2	0.2	0.2
Laramba	Southern	26	0	0.5	0.7	0.5	0.6
Maningrida	Northern	2	0	0.04	0.04	0.04	0.04
Manyallaluk	Katherine	2	0	<0.02	<0.02	<0.02	<0.02

Table 82 Water quality results for boron (ADWG 4 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	0.02	0.04	0.03	0.04
Milingimbi	Northern	2	0	0.04	0.04	0.04	0.04
Milyakburra	Northern	2	0	0.06	0.06	0.06	0.06
Minjilang	Northern	2	0	0.04	0.04	0.04	0.04
Minyerri	Katherine	10	0	0.1	0.2	0.2	0.2
Mt Liebig	Southern	2	0	0.3	0.3	0.3	0.3
Nauiyu	Northern	16	0	0.02	0.04	0.02	0.04
Nganmarriyanga	Northern	2	0	0.02	0.04	0.03	0.04
Ngukurr	Katherine	8	0	0.04	0.06	0.05	0.06
Nturiya	Barkly	4	0	0.6	0.7	0.6	0.7
Numbulwar	Northern	11	0	0.04	0.06	0.05	0.06
Nyirripi	Southern	8	0	0.3	0.4	0.4	0.4
Papunya	Southern	2	0	0.4	0.4	0.4	0.4
Peppimenarti	Northern	8	0	0.04	0.04	0.04	0.04
Pigeon Hole	Katherine	2	0	0.08	0.1	0.09	0.1
Pirlangimpi	Northern	2	0	<0.02	<0.02	<0.02	<0.02
Pmara Jutunta	Southern	2	0	0.3	0.3	0.3	0.3
Ramingining	Northern	4	0	<0.02	0.02	<0.02	0.02
Rittarangu	Katherine	2	0	0.04	0.04	0.04	0.04
Robinson River	Katherine	8	0	0.1	0.1	0.1	0.1
Santa Teresa	Southern	2	0	0.08	0.08	0.08	0.08
Tara	Barkly	2	0	0.5	0.5	0.5	0.5
Umbakumba	Northern	2	0	0.02	0.04	0.03	0.04
Wadeye	Northern	4	0	<0.02	0.02	<0.02	0.02
Wallace Rockhole	Southern	2	0	0.3	0.4	0.3	0.4
Warruwi	Northern	62	0	0.02	0.04	0.03	0.04
Weemol	Katherine	2	0	0.02	0.04	0.03	0.04
Willowra	Barkly	18	0	0.4	0.7	0.5	0.6
Wilora	Barkly	20	0	0.6	0.9	0.8	0.9
Wurrumiyanga	Northern	3	0	<0.02	<0.02	<0.02	<0.02
Wutunugurra	Barkly	2	0	0.2	0.2	0.2	0.2
Yarralin	Katherine	2	0	0.06	0.08	0.07	0.08
Yirrkala	Northern	2	0	<0.02	<0.02	<0.02	<0.02
Yuelamu	Southern	8	0	0.7	1	0.9	1
Yuendumu	Southern	22	0	0.3	0.4	0.3	0.4

Table 83 Water quality results for cadmium (ADWG 0.002 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Ali Curung	Barkly	11	0	<0.0002	<0.0002	<0.0002	<0.0002
Alpurrurulam	Barkly	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Amanbidji	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Ampilatwatja	Southern	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Angurugu	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Areyonga	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Atitjere	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Barunga	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Belyuen	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Beswick	Katherine	8	0	<0.0002	0.0004	<0.0002	0.0003
Binjari	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Bulla	Katherine	27	0	<0.0002	<0.0002	<0.0002	<0.0002
Bulman	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Canteen Creek	Barkly	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Daguragu	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Engawala	Southern	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Finke	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Galiwinku	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Gapuwiyak	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Gunbalanya	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Gunyangara	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Haasts Bluff	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Hermannsburg	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Imangara	Barkly	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Imanpa	Southern	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Jilkminggan	Katherine	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Kalkarindji	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Kaltukatjara	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Kintore	Southern	9	0	<0.0002	<0.0002	<0.0002	<0.0002
Kybrook Farm	Katherine	7	0	<0.0002	<0.0002	<0.0002	<0.0002
Lajamanu	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Laramba	Southern	26	0	<0.0002	<0.0002	<0.0002	<0.0002
Maningrida	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Manyallaluk	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002

Table 83 Water quality results for cadmium (ADWG 0.002 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Milingimbi	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Milyakburra	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Minjilang	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Minyerri	Katherine	10	0	<0.0002	<0.0002	<0.0002	<0.0002
Mt Liebig	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Nauiyu	Northern	16	0	<0.0002	<0.0002	<0.0002	<0.0002
Nganmarriyanga	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Ngukurr	Katherine	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Nturiya	Barkly	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Numbulwar	Northern	11	0	<0.0002	<0.0002	<0.0002	<0.0002
Nyirripi	Southern	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Papunya	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Peppimenarti	Northern	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Pigeon Hole	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Pirlangimpi	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Pmara Jutunta	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Ramingining	Northern	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Rittarangu	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Robinson River	Katherine	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Santa Teresa	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Tara	Barkly	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Umbakumba	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Wadeye	Northern	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Wallace Rockhole	Southern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Warruwi	Northern	62	0	<0.0002	<0.0002	<0.0002	<0.0002
Weemol	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Willowra	Barkly	18	0	<0.0002	<0.0002	<0.0002	<0.0002
Wilora	Barkly	20	0	<0.0002	<0.0002	<0.0002	<0.0002
Wurrumiyanga	Northern	3	0	<0.0002	<0.0002	<0.0002	<0.0002
Wutunugurra	Barkly	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Yarralin	Katherine	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Yirrkala	Northern	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Yuelamu	Southern	8	0	<0.0002	0.0002	<0.0002	0.0002
Yuendumu	Southern	22	0	<0.0002	0.0002	<0.0002	<0.0002

Table 84 Water quality results for chromium (ADWG 0.05 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Ali Curung	Barkly	11	0	<0.005	<0.005	<0.005	<0.005
Alpurrurulam	Barkly	8	0	<0.005	<0.005	<0.005	<0.005
Amanbidji	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Ampilatwatja	Southern	4	0	<0.005	<0.005	<0.005	<0.005
Angurugu	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Areyonga	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Atitjere	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Barunga	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Belyuen	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Beswick	Katherine	8	0	<0.005	<0.005	<0.005	<0.005
Binjari	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Bulla	Katherine	27	**1**	<0.005	0.1	0.006	<0.005
Bulman	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Canteen Creek	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Daguragu	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Engawala	Southern	4	0	<0.005	<0.005	<0.005	<0.005
Finke	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Galiwinku	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Gapuwiyak	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Gunbalanya	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Gunyangara	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Haasts Bluff	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Hermannsburg	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Imangara	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Imanpa	Southern	6	0	<0.005	<0.005	<0.005	<0.005
Jilkminggan	Katherine	6	0	<0.005	<0.005	<0.005	<0.005
Kalkarindji	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Kaltukatjara	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Kintore	Southern	9	0	<0.005	<0.005	<0.005	<0.005
Kybrook Farm	Katherine	7	0	<0.005	<0.005	<0.005	<0.005
Lajamanu	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Laramba	Southern	26	0	<0.005	<0.005	<0.005	<0.005
Maningrida	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Manyallaluk	Katherine	2	0	<0.005	<0.005	<0.005	<0.005

Table 84 Water quality results for chromium (ADWG 0.05 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Milingimbi	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Milyakburra	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Minjilang	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Minyerri	Katherine	10	0	<0.005	<0.005	<0.005	<0.005
Mt Liebig	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Nauiyu	Northern	16	0	<0.005	<0.005	<0.005	<0.005
Nganmarriyanga	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Ngukurr	Katherine	8	0	<0.005	<0.005	<0.005	<0.005
Nturiya	Barkly	4	0	<0.005	<0.005	<0.005	<0.005
Numbulwar	Northern	11	0	<0.005	<0.005	<0.005	<0.005
Nyirripi	Southern	8	0	<0.005	<0.005	<0.005	<0.005
Papunya	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Peppimenarti	Northern	8	0	<0.005	<0.005	<0.005	<0.005
Pigeon Hole	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Pirlangimpi	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Pmara Jutunta	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Ramingining	Northern	4	0	<0.005	<0.005	<0.005	<0.005
Rittarangu	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Robinson River	Katherine	8	0	<0.005	<0.005	<0.005	<0.005
Santa Teresa	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Tara	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Umbakumba	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Wadeye	Northern	4	0	<0.005	<0.005	<0.005	<0.005
Wallace Rockhole	Southern	2	0	0.05	0.05	0.05	0.05
Warruwi	Northern	62	0	<0.005	0.005	<0.005	<0.005
Weemol	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Willowra	Barkly	18	0	<0.005	<0.005	<0.005	<0.005
Wilora	Barkly	20	0	<0.005	<0.005	<0.005	<0.005
Wurrumiyanga	Northern	3	0	<0.005	<0.005	<0.005	<0.005
Wutunugurra	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Yarralin	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Yirrkala	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Yuelamu	Southern	8	0	<0.005	<0.005	<0.005	<0.005
Yuendumu	Southern	22	0	<0.005	<0.005	<0.005	<0.005

Table 85 Water quality results for copper (ADWG 2 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Ali Curung	Barkly	11	0	<0.01	0.4	0.06	0.2
Alpurrurulam	Barkly	8	0	<0.01	0.1	0.04	0.1
Amanbidji	Katherine	2	0	<0.01	0.02	0.01	0.02
Ampilatwatja	Southern	4	0	<0.01	0.01	<0.01	0.01
Angurugu	Northern	2	0	<0.01	0.01	<0.01	0.01
Areyonga	Southern	2	0	<0.01	0.01	<0.01	0.01
Atitjere	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Barunga	Katherine	2	0	0.1	0.6	0.4	NA
Belyuen	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Beswick	Katherine	8	0	0.09	0.2	0.1	0.1
Binjari	Katherine	2	0	<0.01	0.1	0.07	0.1
Bulla	Katherine	27	0	<0.01	0.1	0.01	0.05
Bulman	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Canteen Creek	Barkly	2	0	0.02	0.04	0.03	0.04
Daguragu	Katherine	2	0	0.04	0.07	0.06	0.07
Engawala	Southern	4	0	<0.01	0.09	0.03	0.08
Finke	Southern	2	0	<0.01	0.01	<0.01	0.01
Galiwinku	Northern	2	0	0.01	0.02	0.02	0.02
Gapuwiyak	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Gunbalanya	Northern	2	0	0.02	0.03	0.03	0.03
Gunyangara	Northern	2	0	<0.01	0.8	0.4	NA
Haasts Bluff	Southern	2	0	<0.01	0.01	<0.01	0.01
Hermannsburg	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Imangara	Barkly	2	0	<0.01	0.01	<0.01	0.01
Imanpa	Southern	6	0	<0.01	0.01	<0.01	<0.01
Jilkminggan	Katherine	6	0	<0.01	0.1	0.03	0.1
Kalkarindji	Katherine	2	0	0.01	0.02	0.02	0.02
Kaltukatjara	Southern	2	0	0.02	0.04	0.03	0.04
Kintore	Southern	9	0	<0.01	0.1	0.03	0.1
Kybrook Farm	Katherine	7	0	<0.01	0.09	0.02	0.07
Lajamanu	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Laramba	Southern	26	0	<0.01	0.1	0.01	0.06
Maningrida	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Manyallaluk	Katherine	2	0	0.01	0.04	0.03	0.04

Table 85 Water quality results for copper (ADWG 2 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Milingimbi	Northern	2	0	0.01	0.02	0.02	0.02
Milyakburra	Northern	2	0	0.05	0.07	0.06	0.07
Minjilang	Northern	2	0	<0.01	0.03	0.02	0.03
Minyerri	Katherine	10	0	<0.01	0.02	<0.01	0.02
Mt Liebig	Southern	2	0	<0.01	0.01	<0.01	0.01
Nauiyu	Northern	16	0	<0.01	0.05	0.01	0.04
Nganmarriyanga	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Ngukurr	Katherine	8	0	<0.01	0.01	<0.01	0.01
Nturiya	Barkly	4	0	<0.01	0.02	0.01	0.02
Numbulwar	Northern	11	0	<0.01	0.3	0.03	0.2
Nyirripi	Southern	8	0	<0.01	0.1	0.02	0.08
Papunya	Southern	2	0	<0.01	0.01	<0.01	0.01
Peppimenarti	Northern	8	0	<0.01	<0.01	<0.01	<0.01
Pigeon Hole	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Pirlangimpi	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Pmara Jutunta	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Ramingining	Northern	4	0	<0.01	0.02	0.01	0.02
Rittarangu	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Robinson River	Katherine	8	0	<0.01	<0.01	<0.01	<0.01
Santa Teresa	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Tara	Barkly	2	0	0.06	0.2	0.1	0.1
Umbakumba	Northern	2	0	0.02	0.03	0.03	0.03
Wadeye	Northern	4	0	<0.01	0.03	0.02	0.03
Wallace Rockhole	Southern	2	0	<0.01	0.03	0.02	0.03
Warruwi	Northern	62	0	<0.01	1	0.03	0.03
Weemol	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Willowra	Barkly	18	0	<0.01	0.08	<0.01	0.02
Wilora	Barkly	20	0	<0.01	0.06	<0.01	0.02
Wurrumiyanga	Northern	3	0	0.03	0.05	0.04	0.05
Wutunugurra	Barkly	2	0	<0.01	0.06	0.03	0.06
Yarralin	Katherine	2	0	<0.01	0.04	0.02	0.04
Yirrkala	Northern	2	0	0.01	0.1	0.08	0.1
Yuelamu	Southern	8	0	<0.01	0.1	0.02	0.09
Yuendumu	Southern	22	0	<0.01	0.1	0.01	0.02

Table 86 Water quality results for fluoride (ADWG 1.5 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Ali Curung	Barkly	12	0	0.82	1.1	0.92	1.1
Alpurrurulam	Barkly	10	7	1.5	1.7	1.6	**1.7**
Amanbidji	Katherine	2	0	0.34	0.35	0.35	0.35
Ampilatwatja	Southern	2	0	1.2	1.2	1.2	1.2
Angurugu	Northern	104	0	<0.1	0.66	0.49	0.64
Areyonga	Southern	2	0	0.39	0.40	0.40	0.40
Atitjere	Southern	2	0	0.61	0.61	0.61	0.61
Barunga	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Belyuen	Northern	2	0	0.21	0.22	0.22	0.22
Beswick	Katherine	8	0	0.10	0.11	0.11	0.11
Binjari	Katherine	2	0	0.35	0.36	0.36	0.36
Bulla	Katherine	15	0	0.20	0.61	0.32	0.60
Bulman	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Canteen Creek	Barkly	2	0	0.51	0.53	0.52	0.53
Daguragu	Katherine	6	0	0.24	0.26	0.25	0.26
Engawala	Southern	4	0	0.64	0.66	0.65	0.66
Finke	Southern	2	0	0.19	0.19	0.19	0.19
Galiwinku	Northern	6	0	<0.1	<0.1	<0.1	<0.1
Gapuwiyak	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Gunbalanya	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Gunyangara	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Haasts Bluff	Southern	2	0	0.51	0.51	0.51	0.51
Hermannsburg	Southern	2	0	0.32	0.33	0.33	0.33
Imangara	Barkly	2	0	0.73	0.73	0.73	0.73
Imanpa	Southern	6	0	0.82	0.85	0.83	0.85
Jilkminggan	Katherine	6	0	0.42	0.58	0.51	0.58
Kalkarindji	Katherine	5	0	0.27	0.30	0.28	0.30
Kaltukatjara	Southern	2	0	0.42	0.42	0.42	0.42
Kintore	Southern	8	0	0.33	0.42	0.37	0.41
Kybrook Farm	Katherine	6	0	0.66	0.72	0.68	0.72
Lajamanu	Katherine	2	0	0.33	0.33	0.33	0.33
Laramba	Southern	27	0	0.97	1.2	1.0	1.1
Maningrida	Northern	101	0	<0.1	0.75	0.45	0.70
Manyallaluk	Katherine	2	0	<0.1	<0.1	<0.1	<0.1

Table 86 Water quality results for fluoride (ADWG 1.5 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Milingimbi	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Milyakburra	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Minjilang	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Minyerri	Katherine	8	0	0.28	0.31	0.29	0.31
Mt Liebig	Southern	2	0	1.1	1.1	1.1	1.1
Nauiyu	Northern	15	0	0.33	0.41	0.36	0.40
Nganmarriyanga	Northern	5	0	0.22	0.26	0.24	0.26
Ngukurr	Katherine	8	0	0.15	0.23	0.20	0.23
Nturiya	Barkly	4	0	0.91	1.1	1.0	1.1
Numbulwar	Northern	6	0	0.11	0.14	0.13	0.14
Nyirripi	Southern	8	**8**	1.6	1.7	1.6	**1.7**
Papunya	Southern	2	0	0.82	0.85	0.84	0.85
Peppimenarti	Northern	8	0	0.52	0.58	0.53	0.57
Pigeon Hole	Katherine	2	0	0.26	0.27	0.27	0.27
Pirlangimpi	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Pmara Jutunta	Southern	2	0	0.78	0.78	0.78	0.78
Ramingining	Northern	4	0	<0.1	<0.1	<0.1	<0.1
Rittarangu	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Robinson River	Katherine	8	0	0.89	1.1	0.99	1.1
Santa Teresa	Southern	2	0	0.18	0.18	0.18	0.18
Tara	Barkly	2	0	0.86	0.86	0.86	0.86
Umbakumba	Northern	5	0	<0.1	1.0	0.37	NA
Wadeye	Northern	109	0	<0.1	0.73	0.54	0.66
Wallace Rockhole	Southern	2	0	0.68	0.68	0.68	0.68
Warruwi	Northern	59	0	<0.1	0.52	<0.1	<0.1
Weemol	Katherine	2	0	0.11	0.11	0.11	0.11
Willowra	Barkly	20	0	0.73	0.84	0.79	0.83
Wilora	Barkly	18	0	0.88	1.1	0.94	1.1
Wurrumiyanga	Northern	104	0	<0.1	0.61	0.35	0.61
Wutunugurra	Barkly	2	0	0.29	0.29	0.29	0.29
Yarralin	Katherine	2	0	0.10	0.10	0.10	0.10
Yirrkala	Northern	5	0	<0.1	<0.1	<0.1	<0.1
Yuelamu	Southern	8	0	0.36	0.76	0.59	0.76
Yuendumu	Southern	24	0	0.41	0.71	0.48	0.64

Table 87 Water quality results for lead (ADWG 0.01 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Ali Curung	Barkly	11	0	<0.001	0.01	0.002	NA
Alpurrurulam	Barkly	8	0	<0.001	0.004	0.001	0.003
Amanbidji	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Ampilatwatja	Southern	4	0	<0.001	<0.001	<0.001	<0.001
Angurugu	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Areyonga	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Atitjere	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Barunga	Katherine	2	0	<0.001	0.001	<0.001	0.001
Belyuen	Northern	2	0	<0.001	0.004	0.002	NA
Beswick	Katherine	8	0	<0.001	<0.001	<0.001	<0.001
Binjari	Katherine	2	0	<0.001	0.003	0.002	NA
Bulla	Katherine	27	0	<0.001	0.001	<0.001	<0.001
Bulman	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Canteen Creek	Barkly	2	0	<0.001	0.001	<0.001	0.001
Daguragu	Katherine	2	0	<0.001	0.001	<0.001	0.001
Engawala	Southern	4	0	<0.001	<0.001	<0.001	<0.001
Finke	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Galiwinku	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Gapuwiyak	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Gunbalanya	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Gunyangara	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Haasts Bluff	Southern	2	0	<0.001	0.002	0.001	0.002
Hermannsburg	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Imangara	Barkly	2	0	<0.001	<0.001	<0.001	<0.001
Imanpa	Southern	6	0	<0.001	<0.001	<0.001	<0.001
Jilkminggan	Katherine	6	0	<0.001	<0.001	<0.001	<0.001
Kalkarindji	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Kaltukatjara	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Kintore	Southern	9	0	<0.001	0.001	<0.001	<0.001
Kybrook Farm	Katherine	7	0	<0.001	0.003	0.001	0.003
Lajamanu	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Laramba	Southern	26	0	<0.001	0.004	<0.001	0.003
Maningrida	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Manyallaluk	Katherine	2	0	<0.001	0.004	0.002	NA

Table 87 Water quality results for lead (ADWG 0.01 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.001	0.002	0.001	0.002
Milingimbi	Northern	2	0	<0.001	0.001	<0.001	0.001
Milyakburra	Northern	2	0	0.002	0.004	0.003	NA
Minjilang	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Minyerri	Katherine	10	0	<0.001	<0.001	<0.001	<0.001
Mt Liebig	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Nauiyu	Northern	16	0	<0.001	<0.001	<0.001	<0.001
Nganmarriyanga	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Ngukurr	Katherine	8	0	<0.001	<0.001	<0.001	<0.001
Nturiya	Barkly	4	0	<0.001	0.001	<0.001	<0.001
Numbulwar	Northern	11	0	<0.001	<0.001	<0.001	<0.001
Nyirripi	Southern	8	0	<0.001	<0.001	<0.001	<0.001
Papunya	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Peppimenarti	Northern	8	0	<0.001	<0.001	<0.001	<0.001
Pigeon Hole	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Pirlangimpi	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Pmara Jutunta	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Ramingining	Northern	4	0	<0.001	0.002	<0.001	0.002
Rittarangu	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Robinson River	Katherine	8	0	<0.001	<0.001	<0.001	<0.001
Santa Teresa	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Tara	Barkly	2	0	<0.001	0.002	0.001	0.002
Umbakumba	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Wadeye	Northern	4	0	<0.001	0.002	<0.001	0.002
Wallace Rockhole	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Warruwi	Northern	62	0	<0.001	0.003	<0.001	0.001
Weemol	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Willowra	Barkly	18	0	<0.001	<0.001	<0.001	<0.001
Wilora	Barkly	20	0	<0.001	0.005	0.001	0.005
Wurrumiyanga	Northern	3	0	<0.001	<0.001	<0.001	<0.001
Wutunugurra	Barkly	2	0	<0.001	0.002	0.001	0.002
Yarralin	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Yirrkala	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Yuelamu	Southern	8	0	<0.001	0.002	<0.001	0.001
Yuendumu	Southern	22	1	<0.001	0.03	0.002	<0.001

Table 88 Water quality results for manganese (ADWG 0.5 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Ali Curung	Barkly	11	0	<0.005	<0.005	<0.005	<0.005
Alpurrurulam	Barkly	8	0	<0.005	<0.005	<0.005	<0.005
Amanbidji	Katherine	2	0	0.005	0.02	0.01	0.02
Ampilatwatja	Southern	4	0	<0.005	<0.005	<0.005	<0.005
Angurugu	Northern	2	0	<0.005	0.005	<0.005	0.005
Areyonga	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Atitjere	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Barunga	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Belyuen	Northern	2	0	<0.005	0.2	0.09	NA
Beswick	Katherine	8	0	<0.005	<0.005	<0.005	<0.005
Binjari	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Bulla	Katherine	27	4	0.05	**1**	0.4	NA
Bulman	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Canteen Creek	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Daguragu	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Engawala	Southern	4	0	<0.005	<0.005	<0.005	<0.005
Finke	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Galiwinku	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Gapuwiyak	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Gunbalanya	Northern	2	0	<0.005	0.01	0.006	0.01
Gunyangara	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Haasts Bluff	Southern	2	0	<0.005	0.02	0.01	0.02
Hermannsburg	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Imangara	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Imanpa	Southern	6	0	<0.005	0.01	0.006	0.01
Jilkminggan	Katherine	6	0	0.005	0.2	0.08	0.2
Kalkarindji	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Kaltukatjara	Southern	2	0	<0.005	0.005	<0.005	0.005
Kintore	Southern	9	0	<0.005	<0.005	<0.005	<0.005
Kybrook Farm	Katherine	7	0	<0.005	0.2	0.04	0.1
Lajamanu	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Laramba	Southern	26	0	<0.005	<0.005	<0.005	<0.005
Maningrida	Northern	2	0	<0.005	0.005	<0.005	0.005
Manyallaluk	Katherine	2	0	<0.005	<0.005	<0.005	<0.005

Table 88 Water quality results for manganese (ADWG 0.5 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Milingimbi	Northern	2	0	<0.005	0.03	0.01	0.02
Milyakburra	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Minjilang	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Minyerri	Katherine	10	0	0.02	0.3	0.1	NA
Mt Liebig	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Nauiyu	Northern	16	3	0.01	**1**	0.4	NA
Nganmarriyanga	Northern	2	1	0.1	**2**	0.8	NA
Ngukurr	Katherine	8	0	<0.005	<0.005	<0.005	<0.005
Nturiya	Barkly	4	0	<0.005	<0.005	<0.005	<0.005
Numbulwar	Northern	11	0	0.03	0.5	0.1	NA
Nyirripi	Southern	8	0	<0.005	<0.005	<0.005	<0.005
Papunya	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Peppimenarti	Northern	8	0	0.01	0.05	0.03	0.05
Pigeon Hole	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Pirlangimpi	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Pmara Jutunta	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Ramingining	Northern	4	0	<0.005	<0.005	<0.005	<0.005
Rittarangu	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Robinson River	Katherine	8	0	<0.005	<0.005	<0.005	<0.005
Santa Teresa	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Tara	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Umbakumba	Northern	2	0	<0.005	0.04	0.02	0.03
Wadeye	Northern	4	0	<0.005	<0.005	<0.005	<0.005
Wallace Rockhole	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Warruwi	Northern	62	0	<0.005	0.5	0.03	0.1
Weemol	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Willowra	Barkly	18	0	<0.005	<0.005	<0.005	<0.005
Wilora	Barkly	20	0	<0.005	<0.005	<0.005	<0.005
Wurrumiyanga	Northern	3	0	<0.005	<0.005	<0.005	<0.005
Wutunugurra	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Yarralin	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Yirrkala	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Yuelamu	Southern	8	0	<0.005	<0.005	<0.005	<0.005
Yuendumu	Southern	22	0	<0.005	0.01	<0.005	0.005

Table 89 Water quality results for mercury (ADWG 0.001 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Ali Curung	Barkly	11	0	<0.0001	<0.0001	<0.0001	<0.0001
Alpurrurulam	Barkly	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Amanbidji	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Ampilatwatja	Southern	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Angurugu	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Areyonga	Southern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Atitjere	Southern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Barunga	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Belyuen	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Beswick	Katherine	8	0	<0.0001	0.0002	0.0001	0.0002
Binjari	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Bulla	Katherine	27	0	<0.0001	<0.0001	<0.0001	<0.0001
Bulman	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Canteen Creek	Barkly	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Daguragu	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Engawala	Southern	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Finke	Southern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Galiwinku	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Gapuwiyak	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Gunbalanya	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Gunyangara	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Haasts Bluff	Southern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Hermannsburg	Southern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Imangara	Barkly	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Imanpa	Southern	6	0	<0.0001	0.0001	<0.0001	<0.0001
Jilkminggan	Katherine	6	0	<0.0001	<0.0001	<0.0001	<0.0001
Kalkarindji	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Kaltukatjara	Southern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Kintore	Southern	9	0	<0.0001	<0.0001	<0.0001	<0.0001
Kybrook Farm	Katherine	7	0	<0.0001	<0.0001	<0.0001	<0.0001
Lajamanu	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Laramba	Southern	26	0	<0.0001	<0.0001	<0.0001	<0.0001
Maningrida	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Manyallaluk	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001

Table 89 Water quality results for mercury (ADWG 0.001 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Milingimbi	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Milyakburra	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Minjilang	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Minyerri	Katherine	10	0	<0.0001	<0.0001	<0.0001	<0.0001
Mt Liebig	Southern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Nauiyu	Northern	16	0	<0.0001	<0.0001	<0.0001	<0.0001
Nganmarriyanga	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Ngukurr	Katherine	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Nturiya	Barkly	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Numbulwar	Northern	11	0	<0.0001	<0.0001	<0.0001	<0.0001
Nyirripi	Southern	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Papunya	Southern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Peppimenarti	Northern	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Pigeon Hole	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Pirlangimpi	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Pmara Jutunta	Southern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Ramingining	Northern	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Rittarangu	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Robinson River	Katherine	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Santa Teresa	Southern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Tara	Barkly	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Umbakumba	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Wadeye	Northern	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Wallace Rockhole	Southern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Warruwi	Northern	62	0	<0.0001	<0.0001	<0.0001	<0.0001
Weemol	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Willowra	Barkly	18	0	<0.0001	0.0002	<0.0001	<0.0001
Wilora	Barkly	20	0	<0.0001	0.0001	<0.0001	<0.0001
Wurrumiyanga	Northern	3	0	<0.0001	<0.0001	<0.0001	<0.0001
Wutunugurra	Barkly	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Yarralin	Katherine	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Yirrkala	Northern	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Yuelamu	Southern	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Yuendumu	Southern	22	0	<0.0001	<0.0001	<0.0001	<0.0001

Table 90 Water quality results for molybdenum (ADWG 0.05 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Ali Curung	Barkly	11	0	<0.005	<0.005	<0.005	<0.005
Alpurrurulam	Barkly	8	0	<0.005	0.005	<0.005	<0.005
Amanbidji	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Ampilatwatja	Southern	4	0	<0.005	<0.005	<0.005	<0.005
Angurugu	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Areyonga	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Atitjere	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Barunga	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Belyuen	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Beswick	Katherine	8	0	<0.005	<0.005	<0.005	<0.005
Binjari	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Bulla	Katherine	27	0	<0.005	0.02	<0.005	<0.005
Bulman	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Canteen Creek	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Daguragu	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Engawala	Southern	4	0	<0.005	<0.005	<0.005	<0.005
Finke	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Galiwinku	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Gapuwiyak	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Gunbalanya	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Gunyangara	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Haasts Bluff	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Hermannsburg	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Imangara	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Imanpa	Southern	6	0	<0.005	<0.005	<0.005	<0.005
Jilkminggan	Katherine	6	0	<0.005	<0.005	<0.005	<0.005
Kalkarindji	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Kaltukatjara	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Kintore	Southern	9	0	<0.005	<0.005	<0.005	<0.005
Kybrook Farm	Katherine	7	0	<0.005	<0.005	<0.005	<0.005
Lajamanu	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Laramba	Southern	26	0	<0.005	<0.005	<0.005	<0.005
Maningrida	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Manyallaluk	Katherine	2	0	<0.005	<0.005	<0.005	<0.005

Table 90 Water quality results for molybdenum (ADWG 0.05 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Milingimbi	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Milyakburra	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Minjilang	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Minyerri	Katherine	10	0	<0.005	<0.005	<0.005	<0.005
Mt Liebig	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Nauiyu	Northern	16	0	<0.005	<0.005	<0.005	<0.005
Nganmarriyanga	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Ngukurr	Katherine	8	0	<0.005	<0.005	<0.005	<0.005
Nturiya	Barkly	4	0	<0.005	<0.005	<0.005	<0.005
Numbulwar	Northern	11	0	<0.005	<0.005	<0.005	<0.005
Nyirripi	Southern	8	0	<0.005	<0.005	<0.005	<0.005
Papunya	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Peppimenarti	Northern	8	0	<0.005	<0.005	<0.005	<0.005
Pigeon Hole	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Pirlangimpi	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Pmara Jutunta	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Ramingining	Northern	4	0	<0.005	<0.005	<0.005	<0.005
Rittarangu	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Robinson River	Katherine	8	0	<0.005	<0.005	<0.005	<0.005
Santa Teresa	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Tara	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Umbakumba	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Wadeye	Northern	4	0	<0.005	<0.005	<0.005	<0.005
Wallace Rockhole	Southern	2	0	<0.005	<0.005	<0.005	<0.005
Warruwi	Northern	62	0	<0.005	<0.005	<0.005	<0.005
Weemol	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Willowra	Barkly	18	0	<0.005	<0.005	<0.005	<0.005
Wilora	Barkly	20	0	<0.005	<0.005	<0.005	<0.005
Wurrumiyanga	Northern	3	0	<0.005	<0.005	<0.005	<0.005
Wutunugurra	Barkly	2	0	<0.005	<0.005	<0.005	<0.005
Yarralin	Katherine	2	0	<0.005	<0.005	<0.005	<0.005
Yirrkala	Northern	2	0	<0.005	<0.005	<0.005	<0.005
Yuelamu	Southern	8	0	<0.005	<0.005	<0.005	<0.005
Yuendumu	Southern	22	0	<0.005	<0.005	<0.005	<0.005

Table 91 Water quality results for nickel (ADWG 0.02 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Ali Curung	Barkly	11	0	<0.002	<0.002	<0.002	<0.002
Alpurrurulam	Barkly	8	0	<0.002	0.002	<0.002	0.002
Amanbidji	Katherine	2	0	<0.002	<0.002	<0.002	<0.002
Ampilatwatja	Southern	4	0	<0.002	<0.002	<0.002	<0.002
Angurugu	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Areyonga	Southern	2	0	0.004	0.004	0.004	0.004
Atitjere	Southern	2	0	<0.002	<0.002	<0.002	<0.002
Barunga	Katherine	2	0	<0.002	<0.002	<0.002	<0.002
Belyuen	Northern	2	0	<0.002	0.002	0.002	0.002
Beswick	Katherine	8	0	<0.002	<0.002	<0.002	<0.002
Binjari	Katherine	2	0	<0.002	<0.002	<0.002	<0.002
Bulla	Katherine	27	0	<0.002	0.002	<0.002	<0.002
Bulman	Katherine	2	0	<0.002	<0.002	<0.002	<0.002
Canteen Creek	Barkly	2	0	<0.002	0.002	0.002	0.002
Daguragu	Katherine	2	0	<0.002	<0.002	<0.002	<0.002
Engawala	Southern	4	0	<0.002	<0.002	<0.002	<0.002
Finke	Southern	2	0	<0.002	<0.002	<0.002	<0.002
Galiwinku	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Gapuwiyak	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Gunbalanya	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Gunyangara	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Haasts Bluff	Southern	2	0	0.006	0.006	0.006	0.006
Hermannsburg	Southern	2	0	<0.002	<0.002	<0.002	<0.002
Imangara	Barkly	2	0	<0.002	<0.002	<0.002	<0.002
Imanpa	Southern	6	0	0.002	0.004	0.003	0.004
Jilkminggan	Katherine	6	0	<0.002	0.004	0.002	0.003
Kalkarindji	Katherine	2	0	<0.002	<0.002	<0.002	<0.002
Kaltukatjara	Southern	2	0	<0.002	<0.002	<0.002	<0.002
Kintore	Southern	9	0	<0.002	<0.002	<0.002	<0.002
Kybrook Farm	Katherine	7	0	<0.002	<0.002	<0.002	<0.002
Lajamanu	Katherine	2	0	<0.002	<0.002	<0.002	<0.002
Laramba	Southern	26	0	<0.002	<0.002	<0.002	<0.002
Maningrida	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Manyallaluk	Katherine	2	0	<0.002	<0.002	<0.002	<0.002

Table 91 Water quality results for nickel (ADWG 0.02 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Milingimbi	Northern	2	0	0.002	0.002	0.002	0.002
Milyakburra	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Minjilang	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Minyerri	Katherine	10	0	<0.002	<0.002	<0.002	<0.002
Mt Liebig	Southern	2	0	<0.002	<0.002	<0.002	<0.002
Nauiyu	Northern	16	0	<0.002	<0.002	<0.002	<0.002
Nganmarriyanga	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Ngukurr	Katherine	8	0	<0.002	0.002	<0.002	0.002
Nturiya	Barkly	4	0	<0.002	<0.002	<0.002	<0.002
Numbulwar	Northern	11	0	<0.002	<0.002	<0.002	<0.002
Nyirripi	Southern	8	0	<0.002	<0.002	<0.002	<0.002
Papunya	Southern	2	0	<0.002	<0.002	<0.002	<0.002
Peppimenarti	Northern	8	0	<0.002	<0.002	<0.002	<0.002
Pigeon Hole	Katherine	2	0	<0.002	<0.002	<0.002	<0.002
Pirlangimpi	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Pmara Jutunta	Southern	2	0	<0.002	<0.002	<0.002	<0.002
Ramingining	Northern	4	0	<0.002	<0.002	<0.002	<0.002
Rittarangu	Katherine	2	0	<0.002	<0.002	<0.002	<0.002
Robinson River	Katherine	8	0	<0.002	<0.002	<0.002	<0.002
Santa Teresa	Southern	2	0	<0.002	<0.002	<0.002	<0.002
Tara	Barkly	2	0	0.004	0.004	0.004	0.004
Umbakumba	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Wadeye	Northern	4	0	<0.002	<0.002	<0.002	<0.002
Wallace Rockhole	Southern	2	0	0.002	0.002	0.002	0.002
Warruwi	Northern	62	0	<0.002	0.006	<0.002	0.002
Weemol	Katherine	2	0	<0.002	<0.002	<0.002	<0.002
Willowra	Barkly	18	0	<0.002	<0.002	<0.002	<0.002
Wilora	Barkly	20	0	<0.002	<0.002	<0.002	<0.002
Wurrumiyanga	Northern	3	0	<0.002	<0.002	<0.002	<0.002
Wutunugurra	Barkly	2	0	<0.002	<0.002	<0.002	<0.002
Yarralin	Katherine	2	0	<0.002	<0.002	<0.002	<0.002
Yirrkala	Northern	2	0	<0.002	<0.002	<0.002	<0.002
Yuelamu	Southern	8	0	<0.002	0.004	<0.002	0.003
Yuendumu	Southern	22	0	<0.002	0.006	<0.002	<0.002

Table 92 Water quality results for nitrate (ADWG 50 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	0.3	0.3	0.3	0.3
Ali Curung	Barkly	12	0	20	20	20	20
Alpurrurulam	Barkly	10	0	3	4	3	3
Amanbidji	Katherine	2	0	0.4	0.4	0.4	0.4
Ampilatwatja	Southern	2	0	30	30	30	30
Angurugu	Northern	2	0	0.5	0.6	0.6	0.6
Areyonga	Southern	2	0	6	8	7	8
Atitjere	Southern	2	0	30	30	30	30
Barunga	Katherine	2	0	0.4	0.5	0.5	0.5
Belyuen	Northern	2	0	<0.1	0.1	<0.1	0.1
Beswick	Katherine	8	0	0.1	0.5	0.3	0.5
Binjari	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Bulla	Katherine	15	0	<0.1	0.7	0.2	0.4
Bulman	Katherine	2	0	0.3	0.3	0.3	0.3
Canteen Creek	Barkly	2	0	10	20	10	10
Daguragu	Katherine	6	0	3	3	3	3
Engawala	Southern	4	0	30	40	30	30
Finke	Southern	2	0	9	9	9	9
Galiwinku	Northern	6	0	0.7	1	0.8	1
Gapuwiyak	Northern	2	0	2	2	2	2
Gunbalanya	Northern	2	0	0.6	2	1	2
Gunyangara	Northern	2	0	0.2	0.2	0.2	0.2
Haasts Bluff	Southern	2	0	8	8	8	8
Hermannsburg	Southern	2	0	5	5	5	5
Imangara	Barkly	2	0	6	6	6	6
Imanpa	Southern	6	0	20	30	30	30
Jilkminggan	Katherine	6	0	0.1	0.8	0.4	0.8
Kalkarindji	Katherine	5	0	4	5	4	5
Kaltukatjara	Southern	2	0	<0.1	0.1	<0.1	0.1
Kintore	Southern	8	0	10	30	20	20
Kybrook Farm	Katherine	6	0	<0.1	0.2	0.1	0.2
Lajamanu	Katherine	2	0	4	4	4	4
Laramba	Southern	27	0	30	40	40	40
Maningrida	Northern	2	0	0.3	0.5	0.4	0.5
Manyallaluk	Katherine	2	0	0.2	0.2	0.2	0.2

Table 92 Water quality results for nitrate (ADWG 50 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	0.6	0.6	0.6	0.6
Milingimbi	Northern	2	0	3	3	3	3
Milyakburra	Northern	2	0	0.3	0.4	0.4	0.4
Minjilang	Northern	2	0	0.9	0.9	0.9	0.9
Minyerri	Katherine	8	0	<0.1	0.4	0.2	0.4
Mt Liebig	Southern	2	0	20	20	20	20
Nauiyu	Northern	15	0	<0.1	5	0.5	2
Nganmarriyanga	Northern	5	0	<0.1	0.2	0.1	0.2
Ngukurr	Katherine	8	0	1	2	1	2
Nturiya	Barkly	4	0	50	50	50	NA
Numbulwar	Northern	6	0	<0.1	0.2	<0.1	0.2
Nyirripi	Southern	8	0	30	30	30	30
Papunya	Southern	2	0	20	20	20	20
Peppimenarti	Northern	8	0	0.1	0.3	0.2	0.3
Pigeon Hole	Katherine	2	0	10	10	10	10
Pirlangimpi	Northern	2	0	<0.1	0.5	0.3	0.5
Pmara Jutunta	Southern	2	0	50	50	50	NA
Ramingining	Northern	4	0	0.5	0.7	0.7	0.7
Rittarangu	Katherine	2	0	1	1	1	1
Robinson River	Katherine	8	0	<0.1	6	5	6
Santa Teresa	Southern	2	0	8	8	8	8
Tara	Barkly	2	0	20	20	20	20
Umbakumba	Northern	2	0	0.8	0.9	0.9	0.9
Wadeye	Northern	4	0	<0.1	0.4	0.2	0.4
Wallace Rockhole	Southern	2	0	10	20	10	10
Warruwi	Northern	59	0	<0.1	1	0.4	0.9
Weemol	Katherine	2	0	0.2	0.3	0.3	0.3
Willowra	Barkly	20	0	30	40	40	40
Wilora	Barkly	18	0	20	20	20	20
Wurrumiyanga	Northern	3	0	0.3	0.3	0.3	0.3
Wutunugurra	Barkly	2	0	7	7	7	7
Yarralin	Katherine	2	0	7	7	7	7
Yirrkala	Northern	5	0	<0.1	0.2	0.1	0.2
Yuelamu	Southern	8	0	2	10	5	9
Yuendumu	Southern	24	0	4	5	5	5

Table 93 Water quality results for nitrite (ADWG 3 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Ali Curung	Barkly	12	0	<0.1	<0.1	<0.1	<0.1
Alpurrurulam	Barkly	10	0	<0.1	<0.1	<0.1	<0.1
Amanbidji	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Ampilatwatja	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Angurugu	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Areyonga	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Atitjere	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Barunga	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Belyuen	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Beswick	Katherine	8	0	<0.1	<0.1	<0.1	<0.1
Binjari	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Bulla	Katherine	15	0	<0.1	<0.1	<0.1	<0.1
Bulman	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Canteen Creek	Barkly	2	0	<0.1	<0.1	<0.1	<0.1
Daguragu	Katherine	6	0	<0.1	<0.1	<0.1	<0.1
Engawala	Southern	4	0	<0.1	<0.1	<0.1	<0.1
Finke	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Galiwinku	Northern	6	0	<0.1	<0.1	<0.1	<0.1
Gapuwiyak	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Gunbalanya	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Gunyangara	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Haasts Bluff	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Hermannsburg	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Imangara	Barkly	2	0	<0.1	<0.1	<0.1	<0.1
Imanpa	Southern	6	0	<0.1	<0.1	<0.1	<0.1
Jilkminggan	Katherine	6	0	<0.1	<0.1	<0.1	<0.1
Kalkarindji	Katherine	5	0	<0.1	<0.1	<0.1	<0.1
Kaltukatjara	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Kintore	Southern	8	0	<0.1	0.2	<0.1	0.2
Kybrook Farm	Katherine	6	0	<0.1	<0.1	<0.1	<0.1
Lajamanu	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Laramba	Southern	27	0	<0.1	0.2	<0.1	0.2
Maningrida	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Manyallaluk	Katherine	2	0	<0.1	<0.1	<0.1	<0.1

Table 93 Water quality results for nitrite (ADWG 3 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Milingimbi	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Milyakburra	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Minjilang	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Minyerri	Katherine	8	0	<0.1	<0.1	<0.1	<0.1
Mt Liebig	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Nauiyu	Northern	15	0	<0.1	<0.1	<0.1	<0.1
Nganmarriyanga	Northern	5	0	<0.1	1	0.3	1
Ngukurr	Katherine	8	0	<0.1	<0.1	<0.1	<0.1
Nturiya	Barkly	4	0	<0.1	<0.1	<0.1	<0.1
Numbulwar	Northern	6	0	<0.1	<0.1	<0.1	<0.1
Nyirripi	Southern	8	0	<0.1	<0.1	<0.1	<0.1
Papunya	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Peppimenarti	Northern	8	0	<0.1	<0.1	<0.1	<0.1
Pigeon Hole	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Pirlangimpi	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Pmara Jutunta	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Ramingining	Northern	4	0	<0.1	<0.1	<0.1	<0.1
Rittarangu	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Robinson River	Katherine	8	0	<0.1	1	0.2	0.8
Santa Teresa	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Tara	Barkly	2	0	<0.1	<0.1	<0.1	<0.1
Umbakumba	Northern	2	0	<0.1	<0.1	<0.1	<0.1
Wadeye	Northern	4	0	<0.1	<0.1	<0.1	<0.1
Wallace Rockhole	Southern	2	0	<0.1	<0.1	<0.1	<0.1
Warruwi	Northern	59	0	<0.1	<0.1	<0.1	<0.1
Weemol	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Willowra	Barkly	20	0	<0.1	0.5	0.1	0.5
Wilora	Barkly	18	0	<0.1	<0.1	<0.1	<0.1
Wurrumiyanga	Northern	3	0	<0.1	<0.1	<0.1	<0.1
Wutunugurra	Barkly	2	0	<0.1	<0.1	<0.1	<0.1
Yarralin	Katherine	2	0	<0.1	<0.1	<0.1	<0.1
Yirrkala	Northern	5	0	<0.1	<0.1	<0.1	<0.1
Yuelamu	Southern	8	0	<0.1	<0.1	<0.1	<0.1
Yuendumu	Southern	24	0	<0.1	<0.1	<0.1	<0.1

Table 94 Water quality results for radiological (ADWG 1 mSv/yr)

Community	Region	Samples	>GV	Min (mSv/yr)	Max (mSv/yr)	Avg (mSv/yr)	95th (mSv/yr)
Acacia Larrakia	Northern	1	0	0.02	0.02	0.02	NA
Ali Curung	Barkly	1	0	0.02	0.02	0.02	NA
Alpurrurulam	Barkly	1	0	0.1	0.1	0.1	NA
Amanbidji	Katherine	1	0	0.05	0.05	0.05	NA
Ampilatwatja	Southern	2	0	0.1	0.2	0.1	0.2
Angurugu	Northern	1	0	0.02	0.02	0.02	NA
Areyonga	Southern	1	0	0.1	0.1	0.1	NA
Atitjere	Southern	1	0	0.05	0.05	0.05	NA
Barunga	Katherine	1	0	0.02	0.02	0.02	NA
Belyuen	Northern	1	0	0.04	0.04	0.04	NA
Beswick	Katherine	1	0	0.02	0.02	0.02	NA
Binjari	Katherine	1	0	0.7	0.7	0.7	NA
Bulla	Katherine	1	0	0.05	0.05	0.05	NA
Bulman	Katherine	1	0	0.02	0.02	0.02	NA
Canteen Creek	Barkly	1	0	0.2	0.2	0.2	NA
Daguragu	Katherine	1	0	0.1	0.1	0.1	NA
Engawala	Southern	1	0	0.05	0.05	0.05	NA
Finke	Southern	1	0	0.06	0.06	0.06	NA
Galiwinku	Northern	1	0	0.03	0.03	0.03	NA
Gapuwiyak	Northern	1	0	0.02	0.02	0.02	NA
Gunbalanya	Northern	1	0	0.02	0.02	0.02	NA
Gunyangara	Northern	1	0	0.02	0.02	0.02	NA
Haasts Bluff	Southern	1	0	0.1	0.1	0.1	NA
Hermannsburg	Southern	1	0	0.08	0.08	0.08	NA
Imangara	Barkly	1	0	0.2	0.2	0.2	NA
Imanpa	Southern	1	0	0.2	0.2	0.2	NA
Jilkminggan	Katherine	1	0	0.1	0.1	0.1	NA
Kalkarindji	Katherine	1	0	0.1	0.1	0.1	NA
Kaltukatjara	Southern	2	0	0.03	0.04	0.04	0.04
Kintore	Southern	1	0	0.02	0.02	0.02	NA
Kybrook Farm	Katherine	3	0	0.01	0.03	0.02	0.03
Lajamanu	Katherine	1	0	0.02	0.02	0.02	NA
Laramba	Southern	1	0	0.2	0.2	0.2	NA
Maningrida	Northern	1	0	0.06	0.06	0.06	NA
Manyallaluk	Katherine	1	0	0.02	0.02	0.02	NA

Table 94 Water quality results for radiological (ADWG 1 mSv/yr) *continued*

Community	Region	Samples	>GV	Min (mSv/yr)	Max (mSv/yr)	Avg (mSv/yr)	95th (mSv/yr)
Milikapiti	Northern	1	0	0.02	0.02	0.02	NA
Milingimbi	Northern	1	0	0.03	0.03	0.03	NA
Milyakburra	Northern	1	0	0.02	0.02	0.02	NA
Minjilang	Northern	1	0	0.02	0.02	0.02	NA
Minyerri	Katherine	1	0	0.02	0.02	0.02	NA
Mt Liebig	Southern	1	0	0.08	0.08	0.08	NA
Nauiyu	Northern	1	0	0.04	0.04	0.04	NA
Nganmarriyanga	Northern	1	0	0.03	0.03	0.03	NA
Ngukurr	Katherine	1	0	0.03	0.03	0.03	NA
Nturiya	Barkly	1	0	0.1	0.1	0.1	NA
Numbulwar	Northern	1	0	0.02	0.02	0.02	NA
Nyirripi	Southern	1	0	0.08	0.08	0.08	NA
Papunya	Southern	1	0	0.08	0.08	0.08	NA
Peppimenarti	Northern	1	0	0.03	0.03	0.03	NA
Pigeon Hole	Katherine	1	0	0.03	0.03	0.03	NA
Pirlangimpi	Northern	1	0	0.02	0.02	0.02	NA
Pmara Jutunta	Southern	1	0	0.06	0.06	0.06	NA
Ramingining	Northern	1	0	0.02	0.02	0.02	NA
Rittarangu	Katherine	1	0	0.03	0.03	0.03	NA
Robinson River	Katherine	1	0	0.04	0.04	0.04	NA
Santa Teresa	Southern	1	0	0.08	0.08	0.08	NA
Tara	Barkly	1	0	0.3	0.3	0.3	NA
Umbakumba	Northern	1	0	0.02	0.02	0.02	NA
Wadeye	Northern	1	0	0.04	0.04	0.04	NA
Wallace Rockhole	Southern	1	0	0.2	0.2	0.2	NA
Warruwi	Northern	1	0	0.02	0.02	0.02	NA
Weemol	Katherine	1	0	0.02	0.02	0.02	NA
Willowra	Barkly	1	0	0.1	0.1	0.1	NA
Wilora	Barkly	0	NA	NA	NA	NA	NA
Wurrumiyanga	Northern	1	0	0.02	0.02	0.02	NA
Wutunugurra	Barkly	1	0	0.04	0.04	0.04	NA
Yarralin	Katherine	1	0	0.06	0.06	0.06	NA
Yirrkala	Northern	1	0	0.02	0.02	0.02	NA
Yuelamu	Southern	1	0	0.04	0.04	0.04	NA
Yuendumu	Southern	1	0	0.3	0.3	0.3	NA

Table 95 Water quality results for selenium (ADWG 0.01 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Ali Curung	Barkly	11	0	<0.001	<0.001	<0.001	<0.001
Alpurrurulam	Barkly	8	0	0.002	0.002	0.002	0.002
Amanbidji	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Ampilatwatja	Southern	4	0	0.002	0.002	0.002	0.002
Angurugu	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Areyonga	Southern	2	0	0.001	0.002	0.002	0.002
Atitjere	Southern	2	0	0.003	0.003	0.003	0.003
Barunga	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Belyuen	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Beswick	Katherine	8	0	<0.001	<0.001	<0.001	<0.001
Binjari	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Bulla	Katherine	27	0	<0.001	<0.001	<0.001	<0.001
Bulman	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Canteen Creek	Barkly	2	0	0.001	0.002	0.002	0.002
Daguragu	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Engawala	Southern	4	0	0.003	0.003	0.003	0.003
Finke	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Galiwinku	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Gapuwiyak	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Gunbalanya	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Gunyangara	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Haasts Bluff	Southern	2	0	0.002	0.002	0.002	0.002
Hermannsburg	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Imangara	Barkly	2	0	<0.001	0.001	<0.001	0.001
Imanpa	Southern	6	0	0.003	0.004	0.004	0.004
Jilkminggan	Katherine	6	0	<0.001	0.002	0.001	0.002
Kalkarindji	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Kaltukatjara	Southern	2	0	<0.001	<0.001	<0.001	<0.001
Kintore	Southern	9	0	<0.001	0.004	<0.001	0.003
Kybrook Farm	Katherine	7	0	<0.001	<0.001	<0.001	<0.001
Lajamanu	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Laramba	Southern	26	0	0.003	0.004	0.003	0.004
Maningrida	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Manyallaluk	Katherine	2	0	<0.001	<0.001	<0.001	<0.001

Table 95 Water quality results for selenium (ADWG 0.01 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Milingimbi	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Milyakburra	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Minjilang	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Minyerri	Katherine	10	0	<0.001	<0.001	<0.001	<0.001
Mt Liebig	Southern	2	0	0.002	0.002	0.002	0.002
Nauiyu	Northern	16	0	<0.001	<0.001	<0.001	<0.001
Nganmarriyanga	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Ngukurr	Katherine	8	0	<0.001	<0.001	<0.001	<0.001
Nturiya	Barkly	4	0	0.004	0.005	0.004	0.005
Numbulwar	Northern	11	0	<0.001	<0.001	<0.001	<0.001
Nyirripi	Southern	8	0	0.002	0.003	0.002	0.003
Papunya	Southern	2	0	0.005	0.005	0.005	0.005
Peppimenarti	Northern	8	0	<0.001	<0.001	<0.001	<0.001
Pigeon Hole	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Pirlangimpi	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Pmara Jutunta	Southern	2	0	0.002	0.002	0.002	0.002
Ramingining	Northern	4	0	<0.001	<0.001	<0.001	<0.001
Rittarangu	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Robinson River	Katherine	8	0	<0.001	<0.001	<0.001	<0.001
Santa Teresa	Southern	2	0	0.003	0.003	0.003	0.003
Tara	Barkly	2	0	0.002	0.002	0.002	0.002
Umbakumba	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Wadeye	Northern	4	0	<0.001	<0.001	<0.001	<0.001
Wallace Rockhole	Southern	2	0	0.003	0.004	0.004	0.004
Warruwi	Northern	62	0	<0.001	<0.001	<0.001	<0.001
Weemol	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Willowra	Barkly	18	0	0.003	0.004	0.004	0.004
Wilora	Barkly	20	0	0.005	0.006	0.005	0.006
Wurrumiyanga	Northern	3	0	<0.001	<0.001	<0.001	<0.001
Wutunugurra	Barkly	2	0	<0.001	<0.001	<0.001	<0.001
Yarralin	Katherine	2	0	<0.001	<0.001	<0.001	<0.001
Yirrkala	Northern	2	0	<0.001	<0.001	<0.001	<0.001
Yuelamu	Southern	8	0	<0.001	<0.001	<0.001	<0.001
Yuendumu	Southern	22	0	0.002	0.002	0.002	0.002

Table 96 Water quality results for silver (ADWG 0.1 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Acacia Larrakia	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Ali Curung	Barkly	11	0	<0.01	<0.01	<0.01	<0.01
Alpurrurulam	Barkly	8	0	<0.01	<0.01	<0.01	<0.01
Amanbidji	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Ampilatwatja	Southern	4	0	<0.01	<0.01	<0.01	<0.01
Angurugu	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Areyonga	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Atitjere	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Barunga	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Belyuen	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Beswick	Katherine	8	0	<0.01	<0.01	<0.01	<0.01
Binjari	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Bulla	Katherine	27	0	<0.01	<0.01	<0.01	<0.01
Bulman	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Canteen Creek	Barkly	2	0	<0.01	<0.01	<0.01	<0.01
Daguragu	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Engawala	Southern	4	0	<0.01	<0.01	<0.01	<0.01
Finke	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Galiwinku	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Gapuwiyak	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Gunbalanya	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Gunyangara	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Haasts Bluff	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Hermannsburg	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Imangara	Barkly	2	0	<0.01	<0.01	<0.01	<0.01
Imanpa	Southern	6	0	<0.01	<0.01	<0.01	<0.01
Jilkminggan	Katherine	6	0	<0.01	<0.01	<0.01	<0.01
Kalkarindji	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Kaltukatjara	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Kintore	Southern	9	0	<0.01	<0.01	<0.01	<0.01
Kybrook Farm	Katherine	7	0	<0.01	<0.01	<0.01	<0.01
Lajamanu	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Laramba	Southern	26	0	<0.01	<0.01	<0.01	<0.01
Maningrida	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Manyallaluk	Katherine	2	0	<0.01	<0.01	<0.01	<0.01

Table 96 Water quality results for silver (ADWG 0.1 mg/L) *continued*

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)	95th (mg/L)
Milikapiti	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Milingimbi	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Milyakburra	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Minjilang	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Minyerri	Katherine	10	0	<0.01	<0.01	<0.01	<0.01
Mt Liebig	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Nauiyu	Northern	16	0	<0.01	<0.01	<0.01	<0.01
Nganmarriyanga	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Ngukurr	Katherine	8	0	<0.01	<0.01	<0.01	<0.01
Nturiya	Barkly	4	0	<0.01	<0.01	<0.01	<0.01
Numbulwar	Northern	11	0	<0.01	<0.01	<0.01	<0.01
Nyirripi	Southern	8	0	<0.01	<0.01	<0.01	<0.01
Papunya	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Peppimenarti	Northern	8	0	<0.01	<0.01	<0.01	<0.01
Pigeon Hole	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Pirlangimpi	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Pmara Jutunta	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Ramingining	Northern	4	0	<0.01	<0.01	<0.01	<0.01
Rittarangu	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Robinson River	Katherine	8	0	<0.01	<0.01	<0.01	<0.01
Santa Teresa	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Tara	Barkly	2	0	<0.01	<0.01	<0.01	<0.01
Umbakumba	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Wadeye	Northern	4	0	<0.01	<0.01	<0.01	<0.01
Wallace Rockhole	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Warruwi	Northern	62	0	<0.01	<0.01	<0.01	<0.01
Weemol	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Willowra	Barkly	18	0	<0.01	<0.01	<0.01	<0.01
Wilora	Barkly	20	0	<0.01	<0.01	<0.01	<0.01
Wurrumiyanga	Northern	3	0	<0.01	<0.01	<0.01	<0.01
Wutunugurra	Barkly	2	0	<0.01	<0.01	<0.01	<0.01
Yarralin	Katherine	2	0	<0.01	<0.01	<0.01	<0.01
Yirrkala	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Yuelamu	Southern	8	0	<0.01	<0.01	<0.01	<0.01
Yuendumu	Southern	22	0	<0.01	<0.01	<0.01	<0.01

Table 97 Water quality results for uranium (ADWG 17 µg/L)

Community	Region	Samples	>GV	Min (µg/L)	Max (µg/L)	Avg (µg/L)	95th (µg/L)
Acacia Larrakia	Northern	2	0	0.44	0.45	0.45	0.45
Ali Curung	Barkly	11	0	0.15	0.30	0.22	0.30
Alpurrurulam	Barkly	8	0	10	12	11	11
Amanbidji	Katherine	2	0	1.1	1.1	1.1	1.1
Ampilatwatja	Southern	4	0	8.7	9.0	8.9	9.0
Angurugu	Northern	2	0	0.030	0.030	0.030	0.030
Areyonga	Southern	2	0	9.1	12	11	NA
Atitjere	Southern	2	0	7.0	7.1	7.1	7.1
Barunga	Katherine	2	0	0.090	0.11	0.10	0.11
Belyuen	Northern	2	0	1.1	1.4	1.3	1.4
Beswick	Katherine	8	0	0.19	0.25	0.22	0.25
Binjari	Katherine	2	0	1.2	1.2	1.2	1.2
Bulla	Katherine	27	0	0.030	0.25	0.12	0.25
Bulman	Katherine	2	0	0.27	0.28	0.28	0.28
Canteen Creek	Barkly	2	0	1.6	2.0	1.8	2.0
Daguragu	Katherine	2	0	1.9	1.9	1.9	1.9
Engawala	Southern	4	0	4.1	4.9	4.4	4.8
Finke	Southern	2	0	3.1	3.2	3.2	3.2
Galiwinku	Northern	2	0	0.030	0.030	0.030	0.030
Gapuwiyak	Northern	2	0	0.020	0.020	0.020	0.020
Gunbalanya	Northern	2	0	0.030	0.040	0.035	0.040
Gunyangara	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Haasts Bluff	Southern	2	0	9.9	10	9.9	9.9
Hermannsburg	Southern	2	0	4.3	4.4	4.3	4.3
Imangara	Barkly	2	0	11	11	11	11
Imanpa	Southern	6	0	9.8	11	10	11
Jilkminggan	Katherine	6	0	8.9	11	10	11
Kalkarindji	Katherine	2	0	1.8	1.8	1.8	1.8
Kaltukatjara	Southern	2	0	<0.01	<0.01	<0.01	<0.01
Kintore	Southern	9	0	0.15	1.7	0.34	1.1
Kybrook Farm	Katherine	7	0	0.45	0.49	0.47	0.48
Lajamanu	Katherine	2	0	1.3	1.3	1.3	1.3
Laramba	Southern	26	26	29	57	38	**54**
Maningrida	Northern	2	0	0.060	0.10	0.080	0.098
Manyallaluk	Katherine	2	0	0.070	0.070	0.070	0.070

Table 97 Water quality results for uranium (ADWG 17 µg/L) *continued*

Community	Region	Samples	>GV	Min (µg/L)	Max (µg/L)	Avg (µg/L)	95th (µg/L)
Milikapiti	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Milingimbi	Northern	2	0	0.23	0.25	0.24	0.25
Milyakburra	Northern	2	0	0.030	0.030	0.030	0.030
Minjilang	Northern	2	0	0.080	0.090	0.085	0.090
Minyerri	Katherine	10	0	<0.01	<0.01	<0.01	<0.01
Mt Liebig	Southern	2	0	5.6	5.7	5.7	5.7
Nauiyu	Northern	16	0	0.060	0.14	0.094	0.14
Nganmarriyanga	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Ngukurr	Katherine	8	0	0.39	0.86	0.62	0.86
Nturiya	Barkly	4	0	16	16	16	NA
Numbulwar	Northern	11	0	0.030	0.050	0.045	0.050
Nyirripi	Southern	8	0	8.7	10	9.1	10
Papunya	Southern	2	0	8.7	8.8	8.8	8.8
Peppimenarti	Northern	8	0	<0.01	<0.01	<0.01	<0.01
Pigeon Hole	Katherine	2	0	1.8	1.8	1.8	1.8
Pirlangimpi	Northern	2	0	<0.01	<0.01	<0.01	<0.01
Pmara Jutunta	Southern	2	0	6.5	6.5	6.5	6.5
Ramingining	Northern	4	0	0.020	0.030	0.025	0.030
Rittarangu	Katherine	2	0	0.45	0.45	0.45	0.45
Robinson River	Katherine	8	0	2.1	2.4	2.2	2.4
Santa Teresa	Southern	2	0	2.9	2.9	2.9	2.9
Tara	Barkly	2	0	4.3	4.4	4.4	4.4
Umbakumba	Northern	2	0	0.010	0.010	0.010	0.010
Wadeye	Northern	4	0	0.13	0.19	0.15	0.18
Wallace Rockhole	Southern	2	0	4.0	4.1	4.0	4.0
Warruwi	Northern	62	0	0.040	0.65	0.16	0.44
Weemol	Katherine	2	0	0.35	0.35	0.35	0.35
Willowra	Barkly	18	18	22	26	24	**26**
Wilora	Barkly	20	20	18	23	21	**23**
Wurrumiyanga	Northern	3	0	<0.01	<0.01	<0.01	<0.01
Wutunugurra	Barkly	2	0	1.2	1.2	1.2	1.2
Yarralin	Katherine	2	0	2.3	2.4	2.4	2.4
Yirrkala	Northern	2	0	0.080	0.080	0.080	0.080
Yuelamu	Southern	8	0	1.8	5.7	4.0	5.5
Yuendumu	Southern	22	1	9.9	**19**	15	NA

Aesthetic

Table 98 Water quality results for aluminium (ADWG 0.2 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0	0	<0.02	<0.02
Ali Curung	Barkly	11	0	<0.02	<0.02	<0.02
Alpurrurulam	Barkly	8	0	<0.02	0.06	0.02
Amanbidji	Katherine	2	0	<0.02	<0.02	<0.02
Ampilatwatja	Southern	4	0	<0.02	<0.02	<0.02
Angurugu	Northern	2	0	<0.02	0.02	0.02
Areyonga	Southern	2	0	<0.02	<0.02	<0.02
Atitjere	Southern	2	0	<0.02	0.02	0.02
Barunga	Katherine	2	0	<0.02	<0.02	<0.02
Belyuen	Northern	2	0	<0.02	0.06	0.04
Beswick	Katherine	8	0	<0.02	0.06	0.02
Binjari	Katherine	2	0	0.02	0.1	0.06
Bulla	Katherine	27	0	<0.02	0.1	0.02
Bulman	Katherine	2	0	<0.02	<0.02	<0.02
Canteen Creek	Barkly	2	0	<0.02	<0.02	<0.02
Daguragu	Katherine	2	0	<0.02	<0.02	<0.02
Engawala	Southern	4	0	<0.02	<0.02	<0.02
Finke	Southern	2	0	<0.02	<0.02	<0.02
Galiwinku	Northern	2	0	<0.02	<0.02	<0.02
Gapuwiyak	Northern	2	0	<0.02	<0.02	<0.02
Gunbalanya	Northern	2	2	0.4	0.4	**0.4**
Gunyangara	Northern	2	0	<0.02	<0.02	<0.02
Haasts Bluff	Southern	2	0	<0.02	<0.02	<0.02
Hermannsburg	Southern	2	0	<0.02	<0.02	<0.02
Imangara	Barkly	2	0	<0.02	<0.02	<0.02
Imanpa	Southern	6	0	<0.02	0.04	0.02
Jilkminggan	Katherine	6	0	<0.02	<0.02	<0.02
Kalkarindji	Katherine	2	0	<0.02	<0.02	<0.02
Kaltukatjara	Southern	2	0	<0.02	<0.02	<0.02
Kintore	Southern	9	0	<0.02	<0.02	<0.02
Kybrook Farm	Katherine	7	0	<0.02	0.02	<0.02
Lajamanu	Katherine	2	0	<0.02	<0.02	<0.02
Laramba	Southern	26	0	<0.02	0.2	0.02
Maningrida	Northern	2	**1**	<0.02	0.3	0.1
Manyallaluk	Katherine	2	0	0.02	0.02	0.02
Milikapiti	Northern	2	0	<0.02	0.04	0.03
Milingimbi	Northern	2	0	0.08	0.1	0.09
Milyakburra	Northern	2	0	<0.02	<0.02	<0.02
Minjilang	Northern	2	0	0.1	0.1	0.1
Minyerri	Katherine	10	0	<0.02	<0.02	<0.02
Mt Liebig	Southern	2	0	<0.02	<0.02	<0.02
Nauiyu	Northern	16	0	<0.02	0.06	<0.02
Nganmarriyanga	Northern	2	0	<0.02	<0.02	<0.02
Ngukurr	Katherine	8	0	<0.02	<0.02	<0.02
Nturiya	Barkly	4	0	<0.02	<0.02	<0.02
Numbulwar	Northern	11	0	<0.02	<0.02	<0.02
Nyirripi	Southern	8	**0**	<0.02	0.04	<0.02
Papunya	Southern	2	0	<0.02	<0.02	<0.02
Peppimenarti	Northern	8	0	<0.02	<0.02	<0.02
Pigeon Hole	Katherine	2	0	<0.02	<0.02	<0.02
Pirlangimpi	Northern	2	0	0.02	0.04	0.03
Pmara Jutunta	Southern	2	0	<0.02	0.2	0.1
Ramingining	Northern	4	0	<0.02	<0.02	<0.02
Rittarangu	Katherine	2	0	<0.02	<0.02	<0.02
Robinson River	Katherine	8	0	<0.02	<0.02	<0.02
Santa Teresa	Southern	2	0	<0.02	<0.02	<0.02
Tara	Barkly	2	0	<0.02	0.04	0.03
Umbakumba	Northern	2	0	<0.02	<0.02	<0.02
Wadeye	Northern	4	0	<0.02	<0.02	<0.02
Wallace Rockhole	Southern	2	0	<0.02	<0.02	<0.02
Warruwi	Northern	62	3	<0.02	0.4	0.07
Weemol	Katherine	2	0	<0.02	<0.02	<0.02
Willowra	Barkly	18	0	<0.02	0.02	<0.02
Wilora	Barkly	20	**1**	<0.02	1	0.07
Wurrumiyanga	Northern	3	0	<0.02	<0.02	<0.02
Wutunugurra	Barkly	2	0	<0.02	<0.02	<0.02
Yarralin	Katherine	2	0	<0.02	<0.02	<0.02
Yirrkala	Northern	2	0	<0.02	<0.02	<0.02
Yuelamu	Southern	8	0	<0.02	0.02	<0.02
Yuendumu	Southern	22	0	<0.02	0.04	<0.02

Table 99 Water quality results for chloride (ADWG 250 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0	7.0	7.0	7.0
Ali Curung	Barkly	12	0	32	59	41
Alpurrurulam	Barkly	10	0	180	200	190
Amanbidji	Katherine	2	0	110	110	110
Ampilatwatja	Southern	2	0	170	170	170
Angurugu	Northern	2	0	11	12	12
Areyonga	Southern	2	0	120	120	120
Atitjere	Southern	2	0	130	130	130
Barunga	Katherine	2	0	5.0	6.0	5.5
Belyuen	Northern	2	0	5.0	5.0	5.0
Beswick	Katherine	8	0	6.0	8.0	6.8
Binjari	Katherine	2	0	10	11	11
Bulla	Katherine	15	0	18	41	27
Bulman	Katherine	2	0	8.0	8.0	8.0
Canteen Creek	Barkly	2	0	110	110	110
Daguragu	Katherine	6	0	19	21	20
Engawala	Southern	4	0	190	200	200
Finke	Southern	2	0	170	170	170
Galiwinku	Northern	6	0	10	11	10
Gapuwiyak	Northern	2	0	11	11	11
Gunbalanya	Northern	2	0	5.0	5.0	5.0
Gunyangara	Northern	2	0	13	13	13
Haasts Bluff	Southern	2	2	370	370	**370**
Hermannsburg	Southern	2	0	110	110	110
Imangara	Barkly	2	0	36	38	37
Imanpa	Southern	6	6	400	420	**410**
Jilkminggan	Katherine	6	4	200	320	**270**
Kalkarindji	Katherine	5	0	24	29	26
Kaltukatjara	Southern	2	0	79	81	80
Kintore	Southern	8	0	36	62	42
Kybrook Farm	Katherine	6	0	8.0	17	12
Lajamanu	Katherine	2	0	53	53	53
Laramba	Southern	27	0	87	120	100
Maningrida	Northern	2	0	9.0	10	9.5
Manyallaluk	Katherine	2	0	6.0	7.0	6.5
Milikapiti	Northern	2	0	10	11	11
Milingimbi	Northern	2	0	40	41	41
Milyakburra	Northern	2	0	83	84	84
Minjilang	Northern	2	0	19	20	20
Minyerri	Katherine	8	0	11	17	14
Mt Liebig	Southern	2	0	120	120	120
Nauiyu	Northern	15	0	4.0	7.0	5.2
Nganmarriyanga	Northern	5	0	27	28	28
Ngukurr	Katherine	8	4	38	340	180
Nturiya	Barkly	4	4	330	350	**340**
Numbulwar	Northern	6	0	38	41	40
Nyirripi	Southern	8	**0**	110	150	130
Papunya	Southern	2	0	190	220	210
Peppimenarti	Northern	8	0	14	16	15
Pigeon Hole	Katherine	2	0	11	13	12
Pirlangimpi	Northern	2	0	8.0	9.0	8.5
Pmara Jutunta	Southern	2	0	71	73	72
Ramingining	Northern	4	0	10	10	10
Rittarangu	Katherine	2	0	24	24	24
Robinson River	Katherine	8	0	29	40	36
Santa Teresa	Southern	2	0	11	11	11
Tara	Barkly	2	2	330	340	**340**
Umbakumba	Northern	2	0	39	41	40
Wadeye	Northern	4	0	6.0	8.0	6.5
Wallace Rockhole	Southern	2	0	130	130	130
Warruwi	Northern	59	0	34	52	42
Weemol	Katherine	2	0	10	10	10
Willowra	Barkly	20	0	160	180	170
Wilora	Barkly	18	18	490	560	**520**
Wurrumiyanga	Northern	3	0	7.0	7.0	7.0
Wutunugurra	Barkly	2	0	65	65	65
Yarralin	Katherine	2	0	14	14	14
Yirrkala	Northern	5	0	12	14	13
Yuelamu	Southern	8	0	16	30	25
Yuendumu	Southern	24	20	200	300	**270**

Table 100 Water quality results for chlorine (free) (ADWG 0.6 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	30	30	0.8	2	**1**
Ali Curung	Barkly	27	26	0.6	2	**1**
Alpurrurulam	Barkly	29	29	0.9	2	**1**
Amanbidji	Katherine	21	21	0.8	1	**1**
Ampilatwatja	Southern	30	30	1	2	**1**
Angurugu	Northern	90	90	0.7	2	**1**
Areyonga	Southern	30	30	0.7	1	**0.9**
Atitjere	Southern	30	30	0.8	1	**1**
Barunga	Katherine	30	30	0.8	2	**1**
Belyuen	Northern	30	30	0.9	2	**1**
Beswick	Katherine	27	27	0.9	2	**1**
Binjari	Katherine	30	30	0.7	1	**1**
Bulla	Katherine	27	27	0.9	2	**1**
Bulman	Katherine	27	27	0.8	1	**1**
Canteen Creek	Barkly	30	30	0.8	2	**1**
Daguragu	Katherine	18	18	0.8	2	**1**
Engawala	Southern	30	30	0.7	1	**1**
Finke	Southern	27	27	0.7	2	**1**
Galiwinku	Northern	164	164	0.8	2	**1**
Gapuwiyak	Northern	125	125	1	2	**1**
Gunbalanya	Northern	157	130	0.02	2	**1**
Gunyangara	Northern	42	42	0.9	1	**1**
Haasts Bluff	Southern	27	27	0.9	1	**1**
Hermannsburg	Southern	27	27	0.9	1	**1**
Imangara	Barkly	30	30	0.8	2	**1**
Imanpa	Southern	30	30	0.8	1	**1**
Jilkminggan	Katherine	30	29	0.6	2	**1**
Kalkarindji	Katherine	27	25	0.5	1	**0.9**
Kaltukatjara	Southern	30	30	0.7	2	**1**
Kintore	Southern	15	15	0.9	1	**1**
Kybrook Farm	Katherine	30	30	0.8	2	**1**
Lajamanu	Katherine	3	3	1	1	**1**
Laramba	Southern	30	30	0.9	2	**1**
Maningrida	Northern	196	195	0.3	2	**1**
Manyallaluk	Katherine	27	27	0.9	1	1
Milikapiti	Northern	30	30	0.9	2	**1**
Milingimbi	Northern	120	120	0.8	2	**1**
Milyakburra	Northern	30	30	0.9	1	**1**
Minjilang	Northern	30	30	0.7	2	**1**
Minyerri	Katherine	30	30	0.7	1	**1**
Mt Liebig	Southern	30	27	0.3	2	**1**
Nauiyu	Northern	39	37	0.1	2	**1**
Nganmarriyanga	Northern	38	38	1	2	**1**
Ngukurr	Katherine	132	132	0.8	2	**1**
Nturiya	Barkly	27	15	0.2	1	**0.7**
Numbulwar	Northern	125	125	0.8	2	**1**
Nyirripi	Southern	30	30	0.8	1	**1**
Papunya	Southern	30	30	0.8	1	**1**
Peppimenarti	Northern	27	27	0.9	1	**1**
Pigeon Hole	Katherine	24	18	0.4	2	**1**
Pirlangimpi	Northern	33	33	0.7	2	**1**
Pmara Jutunta	Southern	30	30	1	2	**1**
Ramingining	Northern	161	161	0.7	2	**1**
Rittarangu	Katherine	30	30	0.7	2	**1**
Robinson River	Katherine	27	27	1	2	**1**
Santa Teresa	Southern	30	30	0.8	1	**1**
Tara	Barkly	30	27	0.5	2	**1**
Umbakumba	Northern	27	27	1	1	**1**
Wadeye	Northern	216	215	0.4	2	**1**
Wallace Rockhole[1]	Southern	717	715	0.4	1	**1**
Warruwi	Northern	55	55	0.9	2	**1**
Weemol	Katherine	27	24	0.6	1	**0.9**
Willowra	Barkly	30	30	0.9	1	**1**
Wilora[2]	Barkly	0	NA	NA	NA	NA
Wurrumiyanga	Northern	117	117	0.8	2	**1**
Wutunugurra	Barkly	30	30	0.8	1	**1**
Yarralin	Katherine	27	24	0.5	2	**1**
Yirrkala	Northern	123	123	1	2	**1**
Yuelamu	Southern	27	27	0.7	2	**1**
Yuendumu	Southern	30	30	0.8	1	**1**

[1] Samples taken in accordance with Drinking Water Quality Monitoring program unavailable. Daily chlorine read data used instead.

[2] Disinfection is via UV only. Chlorination is not used.

Table 101 Water quality results for colour (true) (ADWG 15 HU)

Community	Region	Samples	>GV	Min (HU)	Max (HU)	Avg (HU)
Acacia Larrakia	Northern	2	0	<2	2.0	<2
Ali Curung	Barkly	12	0	<2	3.0	<2
Alpurrurulam	Barkly	10	0	<2	2.0	<2
Amanbidji	Katherine	2	0	<2	<2	<2
Ampilatwatja	Southern	2	0	<2	<2	<2
Angurugu	Northern	2	0	<2	<2	<2
Areyonga	Southern	2	0	<2	<2	<2
Atitjere	Southern	2	0	<2	<2	<2
Barunga	Katherine	2	0	<2	<2	<2
Belyuen	Northern	2	0	<2	<2	<2
Beswick	Katherine	8	0	<2	6.0	2.1
Binjari	Katherine	2	0	<2	3.0	2.0
Bulla	Katherine	15	0	<2	3.0	<2
Bulman	Katherine	2	0	<2	<2	<2
Canteen Creek	Barkly	2	0	<2	<2	<2
Daguragu	Katherine	6	0	<2	2.0	<2
Engawala	Southern	4	0	<2	<2	<2
Finke	Southern	2	0	<2	2.0	<2
Galiwinku	Northern	6	0	<2	2.0	<2
Gapuwiyak	Northern	2	0	<2	2.0	<2
Gunbalanya	Northern	2	1	14	18	**16**
Gunyangara	Northern	2	0	<2	<2	<2
Haasts Bluff	Southern	2	0	<2	<2	<2
Hermannsburg	Southern	2	0	<2	<2	<2
Imangara	Barkly	2	0	<2	<2	<2
Imanpa	Southern	6	0	<2	<2	<2
Jilkminggan	Katherine	6	0	<2	<2	<2
Kalkarindji	Katherine	5	0	<2	2.0	<2
Kaltukatjara	Southern	2	0	<2	2.0	<2
Kintore	Southern	8	0	<2	2.0	<2
Kybrook Farm	Katherine	6	0	<2	2.0	<2
Lajamanu	Katherine	2	0	<2	<2	<2
Laramba	Southern	27	0	<2	2.0	<2
Maningrida	Northern	2	0	<2	<2	<2
Manyallaluk	Katherine	2	0	<2	<2	<2
Milikapiti	Northern	2	0	<2	2.0	<2
Milingimbi	Northern	2	0	<2	<2	<2
Milyakburra	Northern	2	0	<2	<2	<2
Minjilang	Northern	2	0	<2	<2	<2
Minyerri	Katherine	8	0	<2	3.0	<2
Mt Liebig	Southern	2	0	<2	<2	<2
Nauiyu	Northern	15	0	<2	2.0	<2
Nganmarriyanga	Northern	5	0	<2	2.0	<2
Ngukurr	Katherine	8	0	<2	<2	<2
Nturiya	Barkly	4	0	2.0	2.0	2.0
Numbulwar	Northern	6	0	<2	<2	<2
Nyirripi	Southern	8	**0**	<2	<2	<2
Papunya	Southern	2	0	<2	<2	<2
Peppimenarti	Northern	8	0	<2	3.0	<2
Pigeon Hole	Katherine	2	0	<2	<2	<2
Pirlangimpi	Northern	2	0	2.0	2.0	2.0
Pmara Jutunta	Southern	2	0	<2	<2	<2
Ramingining	Northern	4	0	<2	<2	<2
Rittarangu	Katherine	2	0	<2	<2	<2
Robinson River	Katherine	8	0	<2	<2	<2
Santa Teresa	Southern	2	0	<2	<2	<2
Tara	Barkly	2	0	<2	<2	<2
Umbakumba	Northern	2	0	<2	<2	<2
Wadeye	Northern	4	0	<2	<2	<2
Wallace Rockhole	Southern	2	0	<2	<2	<2
Warruwi	Northern	59	0	<2	2.0	<2
Weemol	Katherine	2	0	<2	<2	<2
Willowra	Barkly	20	0	<2	<2	<2
Wilora	Barkly	18	0	<2	<2	<2
Wurrumiyanga	Northern	3	0	<2	<2	<2
Wutunugurra	Barkly	2	0	<2	<2	<2
Yarralin	Katherine	2	0	<2	<2	<2
Yirrkala	Northern	5	0	<2	<2	<2
Yuelamu	Southern	8	0	<2	2.0	<2
Yuendumu	Southern	24	0	<2	2.0	<2

Table 102 Water quality results for copper (ADWG 1 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0	<0.01	<0.01	<0.01
Ali Curung	Barkly	11	0	<0.01	0.4	0.06
Alpurrurulam	Barkly	8	0	<0.01	0.1	0.04
Amanbidji	Katherine	2	0	<0.01	0.02	0.01
Ampilatwatja	Southern	4	0	<0.01	0.01	<0.01
Angurugu	Northern	2	0	<0.01	0.01	<0.01
Areyonga	Southern	2	0	<0.01	0.01	<0.01
Atitjere	Southern	2	0	<0.01	<0.01	<0.01
Barunga	Katherine	2	0	0.1	0.6	0.4
Belyuen	Northern	2	0	<0.01	<0.01	<0.01
Beswick	Katherine	8	0	0.09	0.2	0.1
Binjari	Katherine	2	0	<0.01	0.1	0.07
Bulla	Katherine	27	0	<0.01	0.1	0.01
Bulman	Katherine	2	0	<0.01	<0.01	<0.01
Canteen Creek	Barkly	2	0	0.02	0.04	0.03
Daguragu	Katherine	2	0	0.04	0.07	0.06
Engawala	Southern	4	0	<0.01	0.09	0.03
Finke	Southern	2	0	<0.01	0.01	<0.01
Galiwinku	Northern	2	0	0.01	0.02	0.02
Gapuwiyak	Northern	2	0	<0.01	<0.01	<0.01
Gunbalanya	Northern	2	0	0.02	0.03	0.03
Gunyangara	Northern	2	0	<0.01	0.8	0.4
Haasts Bluff	Southern	2	0	<0.01	0.01	<0.01
Hermannsburg	Southern	2	0	<0.01	<0.01	<0.01
Imangara	Barkly	2	0	<0.01	0.01	<0.01
Imanpa	Southern	6	0	<0.01	0.01	<0.01
Jilkminggan	Katherine	6	0	<0.01	0.1	0.03
Kalkarindji	Katherine	2	0	0.01	0.02	0.02
Kaltukatjara	Southern	2	0	0.02	0.04	0.03
Kintore	Southern	9	0	<0.01	0.1	0.03
Kybrook Farm	Katherine	7	0	<0.01	0.09	0.02
Lajamanu	Katherine	2	0	<0.01	<0.01	<0.01
Laramba	Southern	26	0	<0.01	0.1	0.01
Maningrida	Northern	2	0	<0.01	<0.01	<0.01
Manyallaluk	Katherine	2	0	0.01	0.04	0.03
Milikapiti	Northern	2	0	<0.01	<0.01	<0.01
Milingimbi	Northern	2	0	0.01	0.02	0.02
Milyakburra	Northern	2	0	0.05	0.07	0.06
Minjilang	Northern	2	0	<0.01	0.03	0.02
Minyerri	Katherine	10	0	<0.01	0.02	<0.01
Mt Liebig	Southern	2	0	<0.01	0.01	<0.01
Nauiyu	Northern	16	0	<0.01	0.05	0.01
Nganmarriyanga	Northern	2	0	<0.01	<0.01	<0.01
Ngukurr	Katherine	8	0	<0.01	0.01	<0.01
Nturiya	Barkly	4	0	<0.01	0.02	0.01
Numbulwar	Northern	11	0	<0.01	0.3	0.03
Nyirripi	Southern	8	0	<0.01	0.1	0.02
Papunya	Southern	2	0	<0.01	0.01	<0.01
Peppimenarti	Northern	8	0	<0.01	<0.01	<0.01
Pigeon Hole	Katherine	2	0	<0.01	<0.01	<0.01
Pirlangimpi	Northern	2	0	<0.01	<0.01	<0.01
Pmara Jutunta	Southern	2	0	<0.01	<0.01	<0.01
Ramingining	Northern	4	0	<0.01	0.02	0.01
Rittarangu	Katherine	2	0	<0.01	<0.01	<0.01
Robinson River	Katherine	8	0	<0.01	<0.01	<0.01
Santa Teresa	Southern	2	0	<0.01	<0.01	<0.01
Tara	Barkly	2	0	0.06	0.2	0.1
Umbakumba	Northern	2	0	0.02	0.03	0.03
Wadeye	Northern	4	0	<0.01	0.03	0.02
Wallace Rockhole	Southern	2	0	<0.01	0.03	0.02
Warruwi	Northern	62	0	<0.01	1	0.03
Weemol	Katherine	2	0	<0.01	<0.01	<0.01
Willowra	Barkly	18	0	<0.01	0.08	<0.01
Wilora	Barkly	20	0	<0.01	0.06	<0.01
Wurrumiyanga	Northern	3	0	0.03	0.05	0.04
Wutunugurra	Barkly	2	0	<0.01	0.06	0.03
Yarralin	Katherine	2	0	<0.01	0.04	0.02
Yirrkala	Northern	2	0	0.01	0.1	0.08
Yuelamu	Southern	8	0	<0.01	0.1	0.02
Yuendumu	Southern	22	0	<0.01	0.1	0.01

Table 103 Water quality results for hardness as $CaCO_3$ (ADWG 200 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0	200	200	200
Ali Curung	Barkly	12	0	4	10	7
Alpurrurulam	Barkly	10	10	500	500	**500**
Amanbidji	Katherine	2	2	400	400	**400**
Ampilatwatja	Southern	2	2	500	500	**500**
Angurugu	Northern	2	0	3	4	3
Areyonga	Southern	2	2	500	600	**500**
Atitjere	Southern	2	2	300	300	**300**
Barunga	Katherine	2	0	5	8	7
Belyuen	Northern	2	0	5	5	5
Beswick	Katherine	8	8	300	300	**300**
Binjari	Katherine	2	2	300	300	**300**
Bulla	Katherine	15	5	200	300	200
Bulman	Katherine	2	2	400	400	**400**
Canteen Creek	Barkly	2	0	200	200	200
Daguragu	Katherine	6	6	300	300	**300**
Engawala	Southern	4	4	500	500	**500**
Finke	Southern	2	0	200	200	200
Galiwinku	Northern	6	0	3	3	3
Gapuwiyak	Northern	2	0	4	5	4
Gunbalanya	Northern	2	0	3	4	3
Gunyangara	Northern	2	0	6	6	6
Haasts Bluff	Southern	2	2	600	600	**600**
Hermannsburg	Southern	2	2	300	300	**300**
Imangara	Barkly	2	2	300	300	**300**
Imanpa	Southern	6	6	500	600	**500**
Jilkminggan	Katherine	6	6	700	700	**700**
Kalkarindji	Katherine	5	5	300	300	**300**
Kaltukatjara	Southern	2	2	300	300	**300**
Kintore	Southern	8	0	50	100	70
Kybrook Farm	Katherine	6	0	100	200	200
Lajamanu	Katherine	2	0	200	200	200
Laramba	Southern	27	3	200	300	200
Maningrida	Northern	2	0	3	3	3
Manyallaluk	Katherine	2	0	2	3	2
Milikapiti	Northern	2	0	4	4	4
Milingimbi	Northern	2	0	10	10	10
Milyakburra	Northern	2	0	20	20	20
Minjilang	Northern	2	0	3	3	3
Minyerri	Katherine	8	0	100	100	100
Mt Liebig	Southern	2	2	300	300	**300**
Nauiyu	Northern	15	0	100	100	100
Nganmarriyanga	Northern	5	0	80	90	90
Ngukurr	Katherine	8	8	300	700	**500**
Nturiya	Barkly	4	4	300	300	**300**
Numbulwar	Northern	6	6	300	400	**400**
Nyirripi	Southern	8	8	300	300	**300**
Papunya	Southern	2	2	300	300	**300**
Peppimenarti	Northern	8	0	30	40	30
Pigeon Hole	Katherine	2	2	300	300	**300**
Pirlangimpi	Northern	2	0	1	1	1
Pmara Jutunta	Southern	2	0	200	200	200
Ramingining	Northern	4	0	4	4	4
Rittarangu	Katherine	2	2	300	300	**300**
Robinson River	Katherine	8	8	400	500	**500**
Santa Teresa	Southern	2	2	300	300	**300**
Tara	Barkly	2	2	300	300	**300**
Umbakumba	Northern	2	0	10	20	20
Wadeye	Northern	4	0	1	1	1
Wallace Rockhole	Southern	2	2	300	300	**300**
Warruwi	Northern	59	0	20	70	30
Weemol	Katherine	2	2	400	400	**400**
Willowra	Barkly	20	18	200	300	**300**
Wilora	Barkly	18	18	600	700	**600**
Wurrumiyanga	Northern	3	0	2	10	5
Wutunugurra	Barkly	2	0	200	200	200
Yarralin	Katherine	2	2	400	400	**400**
Yirrkala	Northern	5	0	5	6	6
Yuelamu	Southern	8	0	50	60	50
Yuendumu	Southern	24	24	400	600	**500**

Table 104 Water quality results for iron (ADWG 0.3 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0	<0.02	0.04	0.03
Ali Curung	Barkly	11	0	<0.02	<0.02	<0.02
Alpurrurulam	Barkly	8	0	<0.02	0.04	<0.02
Amanbidji	Katherine	2	0	0.04	0.06	0.05
Ampilatwatja	Southern	4	0	<0.02	0.02	<0.02
Angurugu	Northern	2	0	<0.02	0.04	0.03
Areyonga	Southern	2	0	<0.02	<0.02	<0.02
Atitjere	Southern	2	0	<0.02	<0.02	<0.02
Barunga	Katherine	2	0	0.02	0.04	0.03
Belyuen	Northern	2	1	0.04	1	**0.5**
Beswick	Katherine	8	0	<0.02	<0.02	<0.02
Binjari	Katherine	2	1	0.04	1	**0.6**
Bulla	Katherine	27	4	<0.02	2	0.2
Bulman	Katherine	2	0	<0.02	<0.02	<0.02
Canteen Creek	Barkly	2	0	0.02	0.2	0.09
Daguragu	Katherine	2	0	<0.02	<0.02	<0.02
Engawala	Southern	4	0	<0.02	0.04	0.02
Finke	Southern	2	0	0.02	0.04	0.03
Galiwinku	Northern	2	0	<0.02	<0.02	<0.02
Gapuwiyak	Northern	2	0	<0.02	0.02	0.02
Gunbalanya	Northern	2	0	0.2	0.3	0.3
Gunyangara	Northern	2	0	<0.02	0.1	0.07
Haasts Bluff	Southern	2	1	0.04	1	**0.7**
Hermannsburg	Southern	2	0	<0.02	0.04	0.03
Imangara	Barkly	2	0	<0.02	0.02	0.02
Imanpa	Southern	6	0	<0.02	0.08	0.03
Jilkminggan	Katherine	6	1	<0.02	0.5	0.1
Kalkarindji	Katherine	2	0	<0.02	<0.02	<0.02
Kaltukatjara	Southern	2	0	0.04	0.08	0.06
Kintore	Southern	9	0	<0.02	<0.02	<0.02
Kybrook Farm	Katherine	7	1	<0.02	0.5	0.1
Lajamanu	Katherine	2	0	<0.02	<0.02	<0.02
Laramba	Southern	26	0	<0.02	0.2	0.02
Maningrida	Northern	2	1	<0.02	0.9	**0.4**
Manyallaluk	Katherine	2	0	<0.02	<0.02	<0.02
Milikapiti	Northern	2	1	<0.02	0.4	0.2
Milingimbi	Northern	2	0	<0.02	<0.02	<0.02
Milyakburra	Northern	2	0	0.06	0.06	0.06
Minjilang	Northern	2	0	<0.02	<0.02	<0.02
Minyerri	Katherine	10	8	0.1	2	**0.9**
Mt Liebig	Southern	2	0	0.02	0.04	0.03
Nauiyu	Northern	16	3	<0.02	0.6	0.2
Nganmarriyanga	Northern	2	1	0.1	0.8	**0.5**
Ngukurr	Katherine	8	0	<0.02	0.1	0.02
Nturiya	Barkly	4	0	0.02	0.2	0.08
Numbulwar	Northern	11	5	0.1	2	**0.6**
Nyirripi	Southern	8	**0**	<0.02	<0.02	<0.02
Papunya	Southern	2	0	<0.02	<0.02	<0.02
Peppimenarti	Northern	8	1	0.08	0.4	0.2
Pigeon Hole	Katherine	2	0	<0.02	<0.02	<0.02
Pirlangimpi	Northern	2	0	0.02	0.04	0.03
Pmara Jutunta	Southern	2	0	<0.02	<0.02	<0.02
Ramingining	Northern	4	0	<0.02	0.04	0.02
Rittarangu	Katherine	2	0	<0.02	<0.02	<0.02
Robinson River	Katherine	8	0	<0.02	<0.02	<0.02
Santa Teresa	Southern	2	0	<0.02	<0.02	<0.02
Tara	Barkly	2	0	0.02	0.02	0.02
Umbakumba	Northern	2	0	<0.02	<0.02	<0.02
Wadeye	Northern	4	0	<0.02	<0.02	<0.02
Wallace Rockhole	Southern	2	0	0.08	0.08	0.08
Warruwi	Northern	62	4	<0.02	1	0.1
Weemol	Katherine	2	0	<0.02	<0.02	<0.02
Willowra	Barkly	18	0	<0.02	0.06	<0.02
Wilora	Barkly	20	0	<0.02	0.08	<0.02
Wurrumiyanga	Northern	3	0	<0.02	0.02	<0.02
Wutunugurra	Barkly	2	0	<0.02	0.04	0.03
Yarralin	Katherine	2	0	<0.02	<0.02	<0.02
Yirrkala	Northern	2	0	<0.02	<0.02	<0.02
Yuelamu	Southern	8	0	<0.02	0.08	0.03
Yuendumu	Southern	22	0	<0.02	0.3	0.05

Table 105 Water quality results for manganese (ADWG 0.1 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0	<0.005	<0.005	<0.005
Ali Curung	Barkly	11	0	<0.005	<0.005	<0.005
Alpurrurulam	Barkly	8	0	<0.005	<0.005	<0.005
Amanbidji	Katherine	2	0	0.005	0.02	0.01
Ampilatwatja	Southern	4	0	<0.005	<0.005	<0.005
Angurugu	Northern	2	0	<0.005	0.005	<0.005
Areyonga	Southern	2	0	<0.005	<0.005	<0.005
Atitjere	Southern	2	0	<0.005	<0.005	<0.005
Barunga	Katherine	2	0	<0.005	<0.005	<0.005
Belyuen	Northern	2	1	<0.005	0.2	0.09
Beswick	Katherine	8	0	<0.005	<0.005	<0.005
Binjari	Katherine	2	0	<0.005	<0.005	<0.005
Bulla	Katherine	27	23	0.05	1	**0.4**
Bulman	Katherine	2	0	<0.005	<0.005	<0.005
Canteen Creek	Barkly	2	0	<0.005	<0.005	<0.005
Daguragu	Katherine	2	0	<0.005	<0.005	<0.005
Engawala	Southern	4	0	<0.005	<0.005	<0.005
Finke	Southern	2	0	<0.005	<0.005	<0.005
Galiwinku	Northern	2	0	<0.005	<0.005	<0.005
Gapuwiyak	Northern	2	0	<0.005	<0.005	<0.005
Gunbalanya	Northern	2	0	<0.005	0.01	0.006
Gunyangara	Northern	2	0	<0.005	<0.005	<0.005
Haasts Bluff	Southern	2	0	<0.005	0.02	0.01
Hermannsburg	Southern	2	0	<0.005	<0.005	<0.005
Imangara	Barkly	2	0	<0.005	<0.005	<0.005
Imanpa	Southern	6	0	<0.005	0.01	0.006
Jilkminggan	Katherine	6	2	0.005	0.2	0.08
Kalkarindji	Katherine	2	0	<0.005	<0.005	<0.005
Kaltukatjara	Southern	2	0	<0.005	0.005	<0.005
Kintore	Southern	9	0	<0.005	<0.005	<0.005
Kybrook Farm	Katherine	7	1	<0.005	0.2	0.04
Lajamanu	Katherine	2	0	<0.005	<0.005	<0.005
Laramba	Southern	26	0	<0.005	<0.005	<0.005
Maningrida	Northern	2	0	<0.005	0.005	<0.005
Manyallaluk	Katherine	2	0	<0.005	<0.005	<0.005
Milikapiti	Northern	2	0	<0.005	<0.005	<0.005
Milingimbi	Northern	2	0	<0.005	0.03	0.01
Milyakburra	Northern	2	0	<0.005	<0.005	<0.005
Minjilang	Northern	2	0	<0.005	<0.005	<0.005
Minyerri	Katherine	10	4	0.02	0.3	0.1
Mt Liebig	Southern	2	0	<0.005	<0.005	<0.005
Nauiyu	Northern	16	11	0.01	1	**0.4**
Nganmarriyanga	Northern	2	1	0.1	2	**0.8**
Ngukurr	Katherine	8	0	<0.005	<0.005	<0.005
Nturiya	Barkly	4	0	<0.005	<0.005	<0.005
Numbulwar	Northern	11	2	0.03	0.5	0.1
Nyirripi	Southern	8	**0**	<0.005	<0.005	<0.005
Papunya	Southern	2	0	<0.005	<0.005	<0.005
Peppimenarti	Northern	8	0	0.01	0.05	0.03
Pigeon Hole	Katherine	2	0	<0.005	<0.005	<0.005
Pirlangimpi	Northern	2	0	<0.005	<0.005	<0.005
Pmara Jutunta	Southern	2	0	<0.005	<0.005	<0.005
Ramingining	Northern	4	0	<0.005	<0.005	<0.005
Rittarangu	Katherine	2	0	<0.005	<0.005	<0.005
Robinson River	Katherine	8	0	<0.005	<0.005	<0.005
Santa Teresa	Southern	2	0	<0.005	<0.005	<0.005
Tara	Barkly	2	0	<0.005	<0.005	<0.005
Umbakumba	Northern	2	0	<0.005	0.04	0.02
Wadeye	Northern	4	0	<0.005	<0.005	<0.005
Wallace Rockhole	Southern	2	0	<0.005	<0.005	<0.005
Warruwi	Northern	62	3	<0.005	0.5	0.03
Weemol	Katherine	2	0	<0.005	<0.005	<0.005
Willowra	Barkly	18	0	<0.005	<0.005	<0.005
Wilora	Barkly	20	0	<0.005	<0.005	<0.005
Wurrumiyanga	Northern	3	0	<0.005	<0.005	<0.005
Wutunugurra	Barkly	2	0	<0.005	<0.005	<0.005
Yarralin	Katherine	2	0	<0.005	<0.005	<0.005
Yirrkala	Northern	2	0	<0.005	<0.005	<0.005
Yuelamu	Southern	8	0	<0.005	<0.005	<0.005
Yuendumu	Southern	22	0	<0.005	0.01	<0.005

Table 106 Water quality results for pH (ADWG 6.5-8.5 pH unit)

Community	Region	Samples	>GV	Min (pH unit)	Max (pH unit)	Avg (pH unit)
Acacia Larrakia	Northern	2	0	7.9	7.9	7.9
Ali Curung	Barkly	12	0	7.3	7.9	7.7
Alpurrurulam	Barkly	10	0	7.4	7.8	7.6
Amanbidji	Katherine	2	0	7.8	7.8	7.8
Ampilatwatja	Southern	2	0	7.8	7.8	7.8
Angurugu	Northern	2	2	4.9	5.0	**5.0**
Areyonga	Southern	2	0	7.6	7.8	7.7
Atitjere	Southern	2	0	8.1	8.1	8.1
Barunga	Katherine	2	2	5.6	5.7	**5.7**
Belyuen	Northern	2	0	7.3	7.4	7.4
Beswick	Katherine	8	0	7.2	7.7	7.5
Binjari	Katherine	2	0	7.3	7.5	7.4
Bulla	Katherine	15	0	8.0	8.4	8.1
Bulman	Katherine	2	0	7.8	7.8	7.8
Canteen Creek	Barkly	2	0	7.0	7.1	7.0
Daguragu	Katherine	6	0	7.7	8.3	8.0
Engawala	Southern	4	0	7.7	7.9	7.8
Finke	Southern	2	0	7.8	7.9	7.9
Galiwinku	Northern	6	6	4.9	5.0	**4.9**
Gapuwiyak	Northern	2	2	5.7	5.7	**5.7**
Gunbalanya	Northern	2	2	5.6	5.6	**5.6**
Gunyangara	Northern	2	0	7.0	7.0	7.0
Haasts Bluff	Southern	2	0	8.3	8.3	8.3
Hermannsburg	Southern	2	0	7.9	7.9	7.9
Imangara	Barkly	2	0	7.9	7.9	7.9
Imanpa	Southern	6	0	8.0	8.4	8.2
Jilkminggan	Katherine	6	0	7.3	7.4	7.4
Kalkarindji	Katherine	5	0	7.6	7.7	7.6
Kaltukatjara	Southern	2	0	7.8	7.9	7.9
Kintore	Southern	8	0	7.1	7.7	7.4
Kybrook Farm	Katherine	6	0	7.1	7.3	7.2
Lajamanu	Katherine	2	0	7.7	7.7	7.7
Laramba	Southern	27	0	7.3	8.1	7.5
Maningrida	Northern	2	2	5.6	5.6	**5.6**
Manyallaluk	Katherine	2	2	5.2	5.2	**5.2**
Milikapiti	Northern	2	2	6.0	6.1	**6.1**
Milingimbi	Northern	2	2	4.8	4.9	**4.8**
Milyakburra	Northern	2	2	5.4	5.4	**5.4**
Minjilang	Northern	2	2	4.7	4.7	**4.7**
Minyerri	Katherine	8	0	7.3	7.5	7.4
Mt Liebig	Southern	2	0	7.8	7.8	7.8
Nauiyu	Northern	15	0	7.4	7.6	7.5
Nganmarriyanga	Northern	5	0	7.7	7.8	7.7
Ngukurr	Katherine	8	0	7.5	7.9	7.7
Nturiya	Barkly	4	0	7.7	7.9	7.8
Numbulwar	Northern	6	0	7.7	7.8	7.7
Nyirripi	Southern	8	**0**	7.7	8.2	8.0
Papunya	Southern	2	0	7.9	7.9	7.9
Peppimenarti	Northern	8	0	6.9	7.2	7.0
Pigeon Hole	Katherine	2	0	7.2	7.4	7.3
Pirlangimpi	Northern	2	2	6.2	6.2	**6.2**
Pmara Jutunta	Southern	2	0	7.7	7.7	7.7
Ramingining	Northern	4	4	5.4	5.8	**5.6**
Rittarangu	Katherine	2	0	7.8	7.8	7.8
Robinson River	Katherine	8	0	7.8	8.1	7.9
Santa Teresa	Southern	2	0	7.9	7.9	7.9
Tara	Barkly	2	0	7.1	7.1	7.1
Umbakumba	Northern	2	2	5.3	5.7	**5.5**
Wadeye	Northern	4	4	5.1	5.7	**5.3**
Wallace Rockhole	Southern	2	0	7.6	7.6	7.6
Warruwi	Northern	59	42	4.8	6.8	**5.8**
Weemol	Katherine	2	0	7.4	7.5	7.4
Willowra	Barkly	20	0	7.6	8.2	8.0
Wilora	Barkly	18	0	7.7	8.0	7.8
Wurrumiyanga	Northern	3	3	5.0	5.4	**5.1**
Wutunugurra	Barkly	2	0	7.6	7.6	7.6
Yarralin	Katherine	2	0	7.5	7.5	7.5
Yirrkala	Northern	5	5	5.5	5.7	**5.6**
Yuelamu	Southern	8	0	7.7	8.1	7.8
Yuendumu	Southern	24	0	7.6	8.1	7.8

Table 107 Water quality results for silica (ADWG 80 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0	20	20	20
Ali Curung	Barkly	12	0	60	60	60
Alpurrurulam	Barkly	10	0	60	60	60
Amanbidji	Katherine	2	0	30	30	30
Ampilatwatja	Southern	2	0	40	40	40
Angurugu	Northern	2	0	10	10	10
Areyonga	Southern	2	0	20	20	20
Atitjere	Southern	2	0	30	30	30
Barunga	Katherine	2	0	20	20	20
Belyuen	Northern	2	0	40	40	40
Beswick	Katherine	8	0	20	20	20
Binjari	Katherine	2	0	30	30	30
Bulla	Katherine	15	0	20	20	20
Bulman	Katherine	2	0	20	20	20
Canteen Creek	Barkly	2	0	50	50	50
Daguragu	Katherine	6	0	30	30	30
Engawala	Southern	4	0	60	60	60
Finke	Southern	2	0	10	20	20
Galiwinku	Northern	6	0	10	10	10
Gapuwiyak	Northern	2	0	10	10	10
Gunbalanya	Northern	2	0	10	10	10
Gunyangara	Northern	2	0	10	10	10
Haasts Bluff	Southern	2	0	50	50	50
Hermannsburg	Southern	2	0	10	10	10
Imangara	Barkly	2	0	80	80	80
Imanpa	Southern	6	0	20	20	20
Jilkminggan	Katherine	6	0	50	60	50
Kalkarindji	Katherine	5	0	20	20	20
Kaltukatjara	Southern	2	0	10	10	10
Kintore	Southern	8	2	80	90	80
Kybrook Farm	Katherine	6	0	40	40	40
Lajamanu	Katherine	2	2	100	100	**100**
Laramba	Southern	27	13	60	90	80
Maningrida	Northern	2	0	10	10	10
Manyallaluk	Katherine	2	0	20	20	20
Milikapiti	Northern	2	0	10	10	10
Milingimbi	Northern	2	0	20	20	20
Milyakburra	Northern	2	0	20	20	20
Minjilang	Northern	2	0	10	10	10
Minyerri	Katherine	8	0	30	30	30
Mt Liebig	Southern	2	0	40	40	40
Nauiyu	Northern	15	0	30	40	40
Nganmarriyanga	Northern	5	0	40	40	40
Ngukurr	Katherine	8	0	20	30	20
Nturiya	Barkly	4	0	70	70	70
Numbulwar	Northern	6	0	20	20	20
Nyirripi	Southern	8	2	80	90	80
Papunya	Southern	2	0	60	60	60
Peppimenarti	Northern	8	0	20	20	20
Pigeon Hole	Katherine	2	0	60	60	60
Pirlangimpi	Northern	2	0	10	10	10
Pmara Jutunta	Southern	2	2	90	90	**90**
Ramingining	Northern	4	0	10	20	10
Rittarangu	Katherine	2	0	20	20	20
Robinson River	Katherine	8	0	30	40	40
Santa Teresa	Southern	2	0	20	20	20
Tara	Barkly	2	0	20	20	20
Umbakumba	Northern	2	0	10	10	10
Wadeye	Northern	4	0	10	10	10
Wallace Rockhole	Southern	2	0	10	10	10
Warruwi	Northern	59	0	10	10	10
Weemol	Katherine	2	0	30	30	30
Willowra	Barkly	20	1	80	90	80
Wilora	Barkly	18	2	80	90	80
Wurrumiyanga	Northern	3	0	10	10	10
Wutunugurra	Barkly	2	0	70	70	70
Yarralin	Katherine	2	0	30	30	30
Yirrkala	Northern	5	0	10	10	10
Yuelamu	Southern	8	0	70	80	70
Yuendumu	Southern	24	0	10	20	20

Table 108 Water quality results for sodium (ADWG 180 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0	5.8	6.0	5.9
Ali Curung	Barkly	12	0	66	91	74
Alpurrurulam	Barkly	10	0	140	170	150
Amanbidji	Katherine	2	0	170	180	170
Ampilatwatja	Southern	2	0	130	130	130
Angurugu	Northern	2	0	6.9	7.1	7.0
Areyonga	Southern	2	0	62	68	65
Atitjere	Southern	2	0	120	120	120
Barunga	Katherine	2	0	4.6	5.1	4.8
Belyuen	Northern	2	0	7.6	7.7	7.6
Beswick	Katherine	8	0	5.5	7.1	5.9
Binjari	Katherine	2	0	10	11	10
Bulla	Katherine	15	0	12	28	19
Bulman	Katherine	2	0	8.2	8.3	8.3
Canteen Creek	Barkly	2	0	92	97	95
Daguragu	Katherine	6	0	31	33	32
Engawala	Southern	4	0	89	97	94
Finke	Southern	2	0	92	93	93
Galiwinku	Northern	6	0	6.0	6.2	6.2
Gapuwiyak	Northern	2	0	8.1	8.2	8.1
Gunbalanya	Northern	2	0	2.8	3.0	2.9
Gunyangara	Northern	2	0	8.6	8.7	8.6
Haasts Bluff	Southern	2	0	170	170	170
Hermannsburg	Southern	2	0	64	65	64
Imangara	Barkly	2	0	34	34	34
Imanpa	Southern	6	6	210	260	**250**
Jilkminggan	Katherine	6	0	110	180	150
Kalkarindji	Katherine	5	0	32	34	33
Kaltukatjara	Southern	2	0	53	55	54
Kintore	Southern	8	0	62	66	64
Kybrook Farm	Katherine	6	0	52	71	56
Lajamanu	Katherine	2	0	52	53	53
Laramba	Southern	27	0	110	140	120
Maningrida	Northern	2	0	5.5	5.6	5.6
Manyallaluk	Katherine	2	0	5.8	6.1	5.9
Milikapiti	Northern	2	0	10	11	11
Milingimbi	Northern	2	0	20	21	21
Milyakburra	Northern	2	0	46	47	46
Minjilang	Northern	2	0	12	13	12
Minyerri	Katherine	8	0	24	27	25
Mt Liebig	Southern	2	0	110	110	110
Nauiyu	Northern	15	0	15	20	16
Nganmarriyanga	Northern	5	0	38	46	42
Ngukurr	Katherine	8	0	16	90	52
Nturiya	Barkly	4	4	250	270	**260**
Numbulwar	Northern	6	0	22	24	23
Nyirripi	Southern	8	0	89	93	92
Papunya	Southern	2	2	250	260	**250**
Peppimenarti	Northern	8	0	16	18	17
Pigeon Hole	Katherine	2	0	26	28	27
Pirlangimpi	Northern	2	0	6.0	6.2	6.1
Pmara Jutunta	Southern	2	0	68	68	68
Ramingining	Northern	4	0	7.3	8.0	7.8
Rittarangu	Katherine	2	0	15	15	15
Robinson River	Katherine	8	0	19	24	21
Santa Teresa	Southern	2	0	7.6	7.7	7.6
Tara	Barkly	2	2	230	230	**230**
Umbakumba	Northern	2	0	23	23	23
Wadeye	Northern	4	0	4.1	5.4	4.5
Wallace Rockhole	Southern	2	0	83	84	84
Warruwi	Northern	59	0	18	29	23
Weemol	Katherine	2	0	10	11	10
Willowra	Barkly	20	0	130	140	140
Wilora	Barkly	18	18	190	330	**300**
Wurrumiyanga	Northern	3	0	4.4	4.6	4.5
Wutunugurra	Barkly	2	0	49	50	49
Yarralin	Katherine	2	0	15	15	15
Yirrkala	Northern	5	0	7.5	9.0	8.3
Yuelamu	Southern	8	0	26	43	37
Yuendumu	Southern	24	0	130	140	130

Table 109 Water quality results for sulphate (ADWG 250 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0	<0.2	<0.2	<0.2
Ali Curung	Barkly	12	0	2.5	5.4	3.4
Alpurrurulam	Barkly	10	0	58	76	67
Amanbidji	Katherine	2	0	150	150	150
Ampilatwatja	Southern	2	0	190	190	190
Angurugu	Northern	2	0	<0.2	<0.2	<0.2
Areyonga	Southern	2	0	72	92	82
Atitjere	Southern	2	0	140	140	140
Barunga	Katherine	2	0	<0.2	<0.2	<0.2
Belyuen	Northern	2	0	<0.2	<0.2	<0.2
Beswick	Katherine	8	0	<0.2	<0.2	<0.2
Binjari	Katherine	2	0	<0.2	<0.2	<0.2
Bulla	Katherine	15	0	<0.2	<0.2	<0.2
Bulman	Katherine	2	0	<0.2	<0.2	<0.2
Canteen Creek	Barkly	2	0	21	23	22
Daguragu	Katherine	6	0	<0.2	<0.2	<0.2
Engawala	Southern	4	0	74	78	76
Finke	Southern	2	0	58	59	59
Galiwinku	Northern	6	0	0.72	1.1	0.92
Gapuwiyak	Northern	2	0	<0.2	<0.2	<0.2
Gunbalanya	Northern	2	0	<0.2	0.30	0.23
Gunyangara	Northern	2	0	<0.2	<0.2	<0.2
Haasts Bluff	Southern	2	0	240	250	250
Hermannsburg	Southern	2	0	42	42	42
Imangara	Barkly	2	0	<0.2	<0.2	<0.2
Imanpa	Southern	6	4	250	280	**260**
Jilkminggan	Katherine	6	0	160	240	210
Kalkarindji	Katherine	5	0	<0.2	<0.2	<0.2
Kaltukatjara	Southern	2	0	47	50	48
Kintore	Southern	8	0	<0.2	4.2	2.7
Kybrook Farm	Katherine	6	0	<0.2	<0.2	<0.2
Lajamanu	Katherine	2	0	<0.2	<0.2	<0.2
Laramba	Southern	27	0	24	54	38
Maningrida	Northern	2	0	<0.2	<0.2	<0.2
Manyallaluk	Katherine	2	0	<0.2	<0.2	<0.2
Milikapiti	Northern	2	0	0.66	0.72	0.69
Milingimbi	Northern	2	0	<0.2	0.39	0.27
Milyakburra	Northern	2	0	<0.2	<0.2	<0.2
Minjilang	Northern	2	0	2.7	2.8	2.8
Minyerri	Katherine	8	0	8.3	11	9.4
Mt Liebig	Southern	2	0	92	96	94
Nauiyu	Northern	15	0	<0.2	0.69	<0.2
Nganmarriyanga	Northern	5	0	10	17	14
Ngukurr	Katherine	8	0	<0.2	7.9	3.3
Nturiya	Barkly	4	0	160	170	170
Numbulwar	Northern	6	0	170	190	180
Nyirripi	Southern	8	0	12	31	25
Papunya	Southern	2	0	67	77	72
Peppimenarti	Northern	8	0	0.30	2.2	1.6
Pigeon Hole	Katherine	2	0	<0.2	<0.2	<0.2
Pirlangimpi	Northern	2	0	<0.2	<0.2	<0.2
Pmara Jutunta	Southern	2	0	32	32	32
Ramingining	Northern	4	0	<0.2	<0.2	<0.2
Rittarangu	Katherine	2	0	<0.2	<0.2	<0.2
Robinson River	Katherine	8	0	<0.2	<0.2	<0.2
Santa Teresa	Southern	2	0	<0.2	<0.2	<0.2
Tara	Barkly	2	0	140	140	140
Umbakumba	Northern	2	0	1.9	2.6	2.2
Wadeye	Northern	4	0	<0.2	<0.2	<0.2
Wallace Rockhole	Southern	2	0	46	47	47
Warruwi	Northern	59	0	2.7	12	6.4
Weemol	Katherine	2	0	<0.2	<0.2	<0.2
Willowra	Barkly	20	0	55	69	64
Wilora	Barkly	18	0	180	220	200
Wurrumiyanga	Northern	3	0	<0.2	<0.2	<0.2
Wutunugurra	Barkly	2	0	6.1	6.6	6.4
Yarralin	Katherine	2	0	<0.2	<0.2	<0.2
Yirrkala	Northern	5	0	0.75	1.1	0.96
Yuelamu	Southern	8	0	2.1	7.2	4.7
Yuendumu	Southern	24	0	91	130	120

Table 110 Water quality results for total dissolved solids (ADWG 600 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0	200	200	200
Ali Curung	Barkly	12	0	200	300	300
Alpurrurulam	Barkly	10	10	900	1000	**900**
Amanbidji	Katherine	2	2	900	900	**900**
Ampilatwatja	Southern	2	2	900	900	**900**
Angurugu	Northern	2	0	20	30	30
Areyonga	Southern	2	2	700	700	**700**
Atitjere	Southern	2	2	700	700	**700**
Barunga	Katherine	2	0	40	40	40
Belyuen	Northern	2	0	60	70	70
Beswick	Katherine	8	0	300	300	300
Binjari	Katherine	2	0	300	300	300
Bulla	Katherine	15	0	200	300	300
Bulman	Katherine	2	0	300	300	300
Canteen Creek	Barkly	2	0	500	500	500
Daguragu	Katherine	6	0	300	400	400
Engawala	Southern	4	4	800	900	**900**
Finke	Southern	2	0	500	500	500
Galiwinku	Northern	6	0	40	40	40
Gapuwiyak	Northern	2	0	30	40	40
Gunbalanya	Northern	2	0	20	20	20
Gunyangara	Northern	2	0	40	40	40
Haasts Bluff	Southern	2	2	1000	1000	**1000**
Hermannsburg	Southern	2	0	500	500	500
Imangara	Barkly	2	0	400	500	400
Imanpa	Southern	6	6	1000	2000	**1000**
Jilkminggan	Katherine	6	6	1000	1000	**1000**
Kalkarindji	Katherine	5	0	300	300	300
Kaltukatjara	Southern	2	0	400	500	400
Kintore	Southern	8	0	300	400	300
Kybrook Farm	Katherine	6	0	300	300	300
Lajamanu	Katherine	2	0	400	400	400
Laramba	Southern	27	12	600	700	**700**
Maningrida	Northern	2	0	30	30	30
Manyallaluk	Katherine	2	0	40	40	40
Milikapiti	Northern	2	0	50	60	60
Milingimbi	Northern	2	0	80	90	90
Milyakburra	Northern	2	0	100	100	100
Minjilang	Northern	2	0	60	80	70
Minyerri	Katherine	8	0	200	200	200
Mt Liebig	Southern	2	0	600	600	600
Nauiyu	Northern	15	0	200	200	200
Nganmarriyanga	Northern	5	0	200	200	200
Ngukurr	Katherine	8	4	300	1000	600
Nturiya	Barkly	4	4	1000	1000	**1000**
Numbulwar	Northern	6	0	500	600	500
Nyirripi	Southern	8	**2**	600	700	600
Papunya	Southern	2	2	900	1000	**1000**
Peppimenarti	Northern	8	0	90	100	100
Pigeon Hole	Katherine	2	0	400	500	400
Pirlangimpi	Northern	2	0	30	40	40
Pmara Jutunta	Southern	2	0	500	500	500
Ramingining	Northern	4	0	30	50	30
Rittarangu	Katherine	2	0	300	300	300
Robinson River	Katherine	8	0	400	500	500
Santa Teresa	Southern	2	0	300	300	300
Tara	Barkly	2	2	1000	1000	**1000**
Umbakumba	Northern	2	0	90	100	90
Wadeye	Northern	4	0	30	30	30
Wallace Rockhole	Southern	2	0	600	600	600
Warruwi	Northern	59	0	70	100	100
Weemol	Katherine	2	0	400	400	400
Willowra	Barkly	20	20	700	800	**700**
Wilora	Barkly	18	18	2000	2000	**2000**
Wurrumiyanga	Northern	3	0	30	30	30
Wutunugurra	Barkly	2	0	400	400	400
Yarralin	Katherine	2	0	400	400	400
Yirrkala	Northern	5	0	30	60	50
Yuelamu	Southern	8	0	100	200	200
Yuendumu	Southern	24	24	700	1000	**1000**

Table 111 Water quality results for turbidity (ADWG 5 NTU)

Community	Region	Samples	>GV	Min (NTU)	Max (NTU)	Avg (NTU)
Acacia Larrakia	Northern	2	0	0.4	3	2
Ali Curung	Barkly	12	0	0.2	0.5	0.3
Alpurrurulam	Barkly	10	0	0.2	0.4	0.3
Amanbidji	Katherine	2	0	0.5	0.7	0.6
Ampilatwatja	Southern	2	0	0.4	0.5	0.4
Angurugu	Northern	2	0	0.3	0.4	0.3
Areyonga	Southern	2	0	0.3	0.3	0.3
Atitjere	Southern	2	0	0.4	0.5	0.4
Barunga	Katherine	2	0	0.3	0.4	0.4
Belyuen	Northern	2	0	0.5	5	3
Beswick	Katherine	8	0	0.2	2	0.6
Binjari	Katherine	2	0	0.3	1	0.8
Bulla	Katherine	15	2	1	10	4
Bulman	Katherine	2	0	0.2	0.3	0.3
Canteen Creek	Barkly	2	0	0.6	2	1
Daguragu	Katherine	6	0	0.2	0.4	0.3
Engawala	Southern	4	0	0.3	0.4	0.3
Finke	Southern	2	0	0.4	0.6	0.5
Galiwinku	Northern	6	0	0.2	0.4	0.3
Gapuwiyak	Northern	2	0	0.3	1	0.8
Gunbalanya	Northern	2	0	5	5	5
Gunyangara	Northern	2	0	0.2	0.8	0.5
Haasts Bluff	Southern	2	**1**	0.5	10	**7**
Hermannsburg	Southern	2	0	0.4	0.6	0.5
Imangara	Barkly	2	0	0.3	0.5	0.4
Imanpa	Southern	6	0	0.4	1	0.7
Jilkminggan	Katherine	6	0	0.3	3	1
Kalkarindji	Katherine	5	0	0.3	1	0.5
Kaltukatjara	Southern	2	0	0.7	1	0.9
Kintore	Southern	8	0	0.2	0.4	0.3
Kybrook Farm	Katherine	6	0	0.3	5	1
Lajamanu	Katherine	2	0	0.2	0.2	0.2
Laramba	Southern	27	0	0.2	0.5	0.3
Maningrida	Northern	2	0	0.3	5	3
Manyallaluk	Katherine	2	0	0.3	0.4	0.3
Milikapiti	Northern	2	0	0.4	2	1
Milingimbi	Northern	2	0	0.2	0.3	0.3
Milyakburra	Northern	2	0	0.3	0.3	0.3
Minjilang	Northern	2	0	0.2	0.2	0.2
Minyerri	Katherine	8	0	0.9	5	3
Mt Liebig	Southern	2	0	0.4	0.4	0.4
Nauiyu	Northern	15	8	0.9	20	**6**
Nganmarriyanga	Northern	5	2	2	30	**9**
Ngukurr	Katherine	8	0	0.3	0.5	0.4
Nturiya	Barkly	4	0	0.3	2	0.9
Numbulwar	Northern	6	0	0.5	2	1
Nyirripi	Southern	8	0	0.2	0.4	0.3
Papunya	Southern	2	0	0.3	0.4	0.3
Peppimenarti	Northern	8	0	0.6	2	1
Pigeon Hole	Katherine	2	0	0.2	0.3	0.3
Pirlangimpi	Northern	2	0	0.5	0.5	0.5
Pmara Jutunta	Southern	2	0	0.3	0.4	0.3
Ramingining	Northern	4	0	0.3	0.5	0.4
Rittarangu	Katherine	2	0	0.2	0.3	0.2
Robinson River	Katherine	8	0	0.2	0.6	0.4
Santa Teresa	Southern	2	0	0.2	0.3	0.2
Tara	Barkly	2	0	0.3	0.4	0.4
Umbakumba	Northern	2	0	0.2	0.6	0.4
Wadeye	Northern	4	0	0.2	0.3	0.2
Wallace Rockhole	Southern	2	0	0.8	0.8	0.8
Warruwi	Northern	59	0	0.2	3	0.5
Weemol	Katherine	2	0	0.2	0.5	0.4
Willowra	Barkly	20	0	0.2	1	0.5
Wilora	Barkly	18	0	0.3	0.6	0.3
Wurrumiyanga	Northern	3	0	0.4	0.5	0.4
Wutunugurra	Barkly	2	0	0.2	0.5	0.4
Yarralin	Katherine	2	0	0.2	0.3	0.3
Yirrkala	Northern	5	0	0.3	3	0.8
Yuelamu	Southern	8	0	0.3	0.5	0.4
Yuendumu	Southern	24	0	0.2	3	0.8

Table 112 Water quality results for zinc (ADWG 3 mg/L)

Community	Region	Samples	>GV	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0	<0.01	<0.01	<0.01
Ali Curung	Barkly	11	0	<0.01	0.05	0.02
Alpurrurulam	Barkly	8	0	<0.01	0.05	0.02
Amanbidji	Katherine	2	0	<0.01	0.01	<0.01
Ampilatwatja	Southern	4	0	<0.01	0.03	0.02
Angurugu	Northern	2	0	<0.01	<0.01	<0.01
Areyonga	Southern	2	0	0.01	0.02	0.02
Atitjere	Southern	2	0	<0.01	<0.01	<0.01
Barunga	Katherine	2	0	0.08	0.09	0.09
Belyuen	Northern	2	0	0.01	0.01	0.01
Beswick	Katherine	8	0	0.02	0.05	0.03
Binjari	Katherine	2	0	<0.01	0.1	0.05
Bulla	Katherine	27	0	<0.01	0.03	<0.01
Bulman	Katherine	2	0	<0.01	0.01	<0.01
Canteen Creek	Barkly	2	0	0.04	0.06	0.05
Daguragu	Katherine	2	0	0.02	0.03	0.03
Engawala	Southern	4	0	0.03	0.03	0.03
Finke	Southern	2	0	0.05	0.07	0.06
Galiwinku	Northern	2	0	<0.01	<0.01	<0.01
Gapuwiyak	Northern	2	0	0.1	0.1	0.1
Gunbalanya	Northern	2	0	<0.01	<0.01	<0.01
Gunyangara	Northern	2	0	<0.01	<0.01	<0.01
Haasts Bluff	Southern	2	0	0.06	0.07	0.07
Hermannsburg	Southern	2	0	<0.01	<0.01	<0.01
Imangara	Barkly	2	0	<0.01	0.01	<0.01
Imanpa	Southern	6	0	<0.01	0.03	0.02
Jilkminggan	Katherine	6	0	<0.01	0.04	0.01
Kalkarindji	Katherine	2	0	<0.01	0.2	0.1
Kaltukatjara	Southern	2	0	0.02	0.03	0.03
Kintore	Southern	9	0	<0.01	0.01	<0.01
Kybrook Farm	Katherine	7	0	<0.01	0.06	0.02
Lajamanu	Katherine	2	0	<0.01	<0.01	<0.01
Laramba	Southern	26	0	<0.01	0.2	0.03
Maningrida	Northern	2	0	<0.01	0.03	0.02
Manyallaluk	Katherine	2	0	<0.01	0.02	0.01
Milikapiti	Northern	2	0	0.01	0.01	0.01
Milingimbi	Northern	2	0	<0.01	<0.01	<0.01
Milyakburra	Northern	2	0	0.01	0.03	0.02
Minjilang	Northern	2	0	0.08	0.09	0.09
Minyerri	Katherine	10	0	<0.01	0.04	0.01
Mt Liebig	Southern	2	0	<0.01	<0.01	<0.01
Nauiyu	Northern	16	0	<0.01	0.04	<0.01
Nganmarriyanga	Northern	2	0	0.03	0.06	0.05
Ngukurr	Katherine	8	0	<0.01	0.01	<0.01
Nturiya	Barkly	4	0	0.05	0.06	0.05
Numbulwar	Northern	11	0	<0.01	<0.01	<0.01
Nyirripi	Southern	8	**0**	<0.01	0.02	<0.01
Papunya	Southern	2	0	<0.01	<0.01	<0.01
Peppimenarti	Northern	8	0	<0.01	0.01	<0.01
Pigeon Hole	Katherine	2	0	<0.01	<0.01	<0.01
Pirlangimpi	Northern	2	0	<0.01	<0.01	<0.01
Pmara Jutunta	Southern	2	0	<0.01	0.02	0.01
Ramingining	Northern	4	0	<0.01	0.02	0.01
Rittarangu	Katherine	2	0	<0.01	<0.01	<0.01
Robinson River	Katherine	8	0	<0.01	<0.01	<0.01
Santa Teresa	Southern	2	0	<0.01	<0.01	<0.01
Tara	Barkly	2	0	0.02	0.03	0.03
Umbakumba	Northern	2	0	0.01	0.02	0.02
Wadeye	Northern	4	0	0.02	0.03	0.02
Wallace Rockhole	Southern	2	0	0.08	0.09	0.09
Warruwi	Northern	62	0	<0.01	0.03	<0.01
Weemol	Katherine	2	0	<0.01	0.01	<0.01
Willowra	Barkly	18	0	<0.01	0.04	0.01
Wilora	Barkly	20	0	0.03	0.1	0.06
Wurrumiyanga	Northern	3	0	<0.01	<0.01	<0.01
Wutunugurra	Barkly	2	0	0.01	0.02	0.02
Yarralin	Katherine	2	0	<0.01	0.01	<0.01
Yirrkala	Northern	2	0	<0.01	<0.01	<0.01
Yuelamu	Southern	8	0	0.01	0.8	0.2
Yuendumu	Southern	22	0	<0.01	0.3	0.09

Other

Table 113 Water quality results for alkalinity as $CaCO_3$

Community	Region	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	200	200	200
Ali Curung	Barkly	12	100	100	100
Alpurrurulam	Barkly	10	500	500	500
Amanbidji	Katherine	2	400	400	400
Ampilatwatja	Southern	2	300	300	300
Angurugu	Northern	2	<20	<20	<20
Areyonga	Southern	2	300	400	400
Atitjere	Southern	2	200	200	200
Barunga	Katherine	2	<20	<20	<20
Belyuen	Northern	2	<20	20	20
Beswick	Katherine	8	300	300	300
Binjari	Katherine	2	300	300	300
Bulla	Katherine	15	200	300	200
Bulman	Katherine	2	300	300	300
Canteen Creek	Barkly	2	200	200	200
Daguragu	Katherine	6	300	300	300
Engawala	Southern	4	300	300	300
Finke	Southern	2	100	100	100
Galiwinku	Northern	6	<20	<20	<20
Gapuwiyak	Northern	2	<20	<20	<20
Gunbalanya	Northern	2	<20	<20	<20
Gunyangara	Northern	2	<20	<20	<20
Haasts Bluff	Southern	2	200	200	200
Hermannsburg	Southern	2	200	200	200
Imangara	Barkly	2	300	300	300
Imanpa	Southern	6	200	200	200
Jilkminggan	Katherine	6	500	500	500
Kalkarindji	Katherine	5	300	300	300
Kaltukatjara	Southern	2	200	200	200
Kintore	Southern	8	100	200	100
Kybrook Farm	Katherine	6	200	300	200
Lajamanu	Katherine	2	200	200	200
Laramba	Southern	27	300	300	300
Maningrida	Northern	2	<20	<20	<20
Manyallaluk	Katherine	2	<20	<20	<20
Milikapiti	Northern	2	<20	<20	<20
Milingimbi	Northern	2	<20	<20	<20
Milyakburra	Northern	2	<20	<20	<20
Minjilang	Northern	2	<20	<20	<20
Minyerri	Katherine	8	200	200	200
Mt Liebig	Southern	2	300	300	300
Nauiyu	Northern	15	100	200	100
Nganmarriyanga	Northern	5	100	100	100
Ngukurr	Katherine	8	300	400	300
Nturiya	Barkly	4	200	200	200
Numbulwar	Northern	6	200	200	200
Nyirripi	Southern	8	**300**	300	300
Papunya	Southern	2	400	400	400
Peppimenarti	Northern	8	50	60	50
Pigeon Hole	Katherine	2	300	300	300
Pirlangimpi	Northern	2	<20	<20	<20
Pmara Jutunta	Southern	2	200	200	200
Ramingining	Northern	4	<20	<20	<20
Rittarangu	Katherine	2	300	300	300
Robinson River	Katherine	8	400	500	500
Santa Teresa	Southern	2	200	200	200
Tara	Barkly	2	200	200	200
Umbakumba	Northern	2	<20	<20	<20
Wadeye	Northern	4	<20	<20	<20
Wallace Rockhole	Southern	2	200	200	200
Warruwi	Northern	59	<20	40	<20
Weemol	Katherine	2	400	400	400
Willowra	Barkly	20	200	200	200
Wilora	Barkly	18	400	400	400
Wurrumiyanga	Northern	3	<20	<20	<20
Wutunugurra	Barkly	2	200	200	200
Yarralin	Katherine	2	300	300	300
Yirrkala	Northern	5	<20	<20	<20
Yuelamu	Southern	8	90	90	90
Yuendumu	Southern	24	200	300	300

Table 114 Water quality results for bromine

Community	Region	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	0.01	0.01	0.01
Ali Curung	Barkly	11	0.1	0.4	0.2
Alpurrurulam	Barkly	8	0.2	0.7	0.4
Amanbidji	Katherine	2	0.1	0.2	0.2
Ampilatwatja	Southern	4	0.2	0.7	0.5
Angurugu	Northern	2	0.01	0.02	0.02
Areyonga	Southern	2	0.2	0.2	0.2
Atitjere	Southern	2	0.1	0.2	0.2
Barunga	Katherine	2	0.006	0.008	0.007
Belyuen	Northern	2	0.008	0.01	0.009
Beswick	Katherine	8	0.01	0.02	0.02
Binjari	Katherine	2	0.02	0.03	0.02
Bulla	Katherine	27	0.05	0.2	0.1
Bulman	Katherine	2	0.02	0.02	0.02
Canteen Creek	Barkly	2	0.2	0.2	0.2
Daguragu	Katherine	2	0.06	0.08	0.07
Engawala	Southern	4	0.2	0.6	0.4
Finke	Southern	2	0.2	0.2	0.2
Galiwinku	Northern	2	0.01	0.01	0.01
Gapuwiyak	Northern	2	0.01	0.02	0.02
Gunbalanya	Northern	2	0.02	0.02	0.02
Gunyangara	Northern	2	0.01	0.01	0.01
Haasts Bluff	Southern	2	0.2	0.3	0.3
Hermannsburg	Southern	2	0.4	0.4	0.4
Imangara	Barkly	2	0.2	0.2	0.2
Imanpa	Southern	6	0.9	2	2
Jilkminggan	Katherine	6	0.6	2	1
Kalkarindji	Katherine	2	0.07	0.07	0.07
Kaltukatjara	Southern	2	0.2	0.3	0.2
Kintore	Southern	9	0.1	0.6	0.3
Kybrook Farm	Katherine	7	0.01	0.04	0.03
Lajamanu	Katherine	2	0.2	0.2	0.2
Laramba	Southern	26	0.1	0.5	0.2
Maningrida	Northern	2	0.004	0.02	0.01
Manyallaluk	Katherine	2	0.01	0.01	0.01
Milikapiti	Northern	2	0.03	0.03	0.03
Milingimbi	Northern	2	0.05	0.07	0.06
Milyakburra	Northern	2	0.06	0.07	0.07
Minjilang	Northern	2	0.05	0.06	0.06
Minyerri	Katherine	10	0.02	0.07	0.04
Mt Liebig	Southern	2	0.2	0.2	0.2
Nauiyu	Northern	16	0.01	0.03	0.02
Nganmarriyanga	Northern	2	0.04	0.04	0.04
Ngukurr	Katherine	8	0.07	0.8	0.3
Nturiya	Barkly	4	0.5	1	0.7
Numbulwar	Northern	11	0.07	0.2	0.1
Nyirripi	Southern	8	0.2	0.2	0.2
Papunya	Southern	2	0.3	0.3	0.3
Peppimenarti	Northern	8	0.01	0.02	0.02
Pigeon Hole	Katherine	2	0.07	0.08	0.07
Pirlangimpi	Northern	2	0.02	0.02	0.02
Pmara Jutunta	Southern	2	0.08	0.09	0.09
Ramingining	Northern	4	0.01	0.02	0.02
Rittarangu	Katherine	2	0.05	0.05	0.05
Robinson River	Katherine	8	0.07	0.1	0.1
Santa Teresa	Southern	2	0.07	0.07	0.07
Tara	Barkly	2	1	1	1
Umbakumba	Northern	2	0.05	0.07	0.06
Wadeye	Northern	4	0.008	0.01	0.01
Wallace Rockhole	Southern	2	0.2	0.2	0.2
Warruwi	Northern	62	0.05	0.2	0.09
Weemol	Katherine	2	0.01	0.03	0.02
Willowra	Barkly	18	0.1	0.6	0.4
Wilora	Barkly	20	3	4	4
Wurrumiyanga	Northern	3	0.004	0.008	0.005
Wutunugurra	Barkly	2	0.3	0.3	0.3
Yarralin	Katherine	2	0.07	0.07	0.07
Yirrkala	Northern	2	0.02	0.02	0.02
Yuelamu	Southern	8	0.2	0.6	0.4
Yuendumu	Southern	22	0.3	1	0.8

Table 115 Water quality results for calcium

Community	Region	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	50	50	50
Ali Curung	Barkly	12	0.5	3	1
Alpurrurulam	Barkly	10	60	70	70
Amanbidji	Katherine	2	70	70	70
Ampilatwatja	Southern	2	100	100	100
Angurugu	Northern	2	0.2	0.5	0.4
Areyonga	Southern	2	90	100	100
Atitjere	Southern	2	50	50	50
Barunga	Katherine	2	0.9	2	1
Belyuen	Northern	2	0.8	0.9	0.9
Beswick	Katherine	8	60	70	70
Binjari	Katherine	2	80	80	80
Bulla	Katherine	15	30	50	40
Bulman	Katherine	2	70	70	70
Canteen Creek	Barkly	2	30	30	30
Daguragu	Katherine	6	60	60	60
Engawala	Southern	4	100	100	100
Finke	Southern	2	70	70	70
Galiwinku	Northern	6	<0.03	0.1	0.03
Gapuwiyak	Northern	2	0.4	0.5	0.5
Gunbalanya	Northern	2	0.2	0.4	0.3
Gunyangara	Northern	2	2	2	2
Haasts Bluff	Southern	2	100	100	100
Hermannsburg	Southern	2	70	70	70
Imangara	Barkly	2	50	50	50
Imanpa	Southern	6	100	100	100
Jilkminggan	Katherine	6	100	100	100
Kalkarindji	Katherine	5	50	60	60
Kaltukatjara	Southern	2	60	60	60
Kintore	Southern	8	8	20	10
Kybrook Farm	Katherine	6	20	30	20
Lajamanu	Katherine	2	30	30	30
Laramba	Southern	27	30	50	40
Maningrida	Northern	2	<0.03	0.1	0.06
Manyallaluk	Katherine	2	0.1	0.2	0.2
Milikapiti	Northern	2	0.5	0.7	0.6
Milingimbi	Northern	2	2	2	2
Milyakburra	Northern	2	3	3	3
Minjilang	Northern	2	0.1	0.2	0.2
Minyerri	Katherine	8	30	30	30
Mt Liebig	Southern	2	70	80	80
Nauiyu	Northern	15	30	30	30
Nganmarriyanga	Northern	5	20	30	20
Ngukurr	Katherine	8	60	100	90
Nturiya	Barkly	4	90	90	90
Numbulwar	Northern	6	100	100	100
Nyirripi	Southern	8	50	60	50
Papunya	Southern	2	50	60	60
Peppimenarti	Northern	8	8	10	10
Pigeon Hole	Katherine	2	70	80	70
Pirlangimpi	Northern	2	0.1	0.1	0.1
Pmara Jutunta	Southern	2	50	50	50
Ramingining	Northern	4	0.4	0.7	0.5
Rittarangu	Katherine	2	60	60	60
Robinson River	Katherine	8	50	50	50
Santa Teresa	Southern	2	70	70	70
Tara	Barkly	2	40	40	40
Umbakumba	Northern	2	1	5	3
Wadeye	Northern	4	<0.03	<0.03	<0.03
Wallace Rockhole	Southern	2	70	70	70
Warruwi	Northern	59	0.8	10	4
Weemol	Katherine	2	80	80	80
Willowra	Barkly	20	50	60	50
Wilora	Barkly	18	100	100	100
Wurrumiyanga	Northern	3	0.1	4	1
Wutunugurra	Barkly	2	30	30	30
Yarralin	Katherine	2	80	80	80
Yirrkala	Northern	5	0.9	2	1
Yuelamu	Southern	8	20	20	20
Yuendumu	Southern	24	80	100	100

Table 116 Water quality results for electrical conductivity

Community	Region	Samples	Min (µS/cm)	Max (µS/cm)	Avg (µS/cm)
Acacia Larrakia	Northern	2	500	500	500
Ali Curung	Barkly	12	400	500	400
Alpurrurulam	Barkly	10	2000	2000	2000
Amanbidji	Katherine	2	2000	2000	2000
Ampilatwatja	Southern	2	2000	2000	2000
Angurugu	Northern	2	50	50	50
Areyonga	Southern	2	1000	1000	1000
Atitjere	Southern	2	1000	1000	1000
Barunga	Katherine	2	40	50	40
Belyuen	Northern	2	60	60	60
Beswick	Katherine	8	500	700	600
Binjari	Katherine	2	600	600	600
Bulla	Katherine	15	500	600	500
Bulman	Katherine	2	700	700	700
Canteen Creek	Barkly	2	800	900	900
Daguragu	Katherine	6	700	700	700
Engawala	Southern	4	1000	2000	1000
Finke	Southern	2	1000	1000	1000
Galiwinku	Northern	6	40	50	40
Gapuwiyak	Northern	2	60	60	60
Gunbalanya	Northern	2	30	30	30
Gunyangara	Northern	2	60	60	60
Haasts Bluff	Southern	2	2000	2000	2000
Hermannsburg	Southern	2	900	900	900
Imangara	Barkly	2	700	800	700
Imanpa	Southern	6	2000	2000	2000
Jilkminggan	Katherine	6	2000	2000	2000
Kalkarindji	Katherine	5	600	700	600
Kaltukatjara	Southern	2	800	800	800
Kintore	Southern	8	400	600	400
Kybrook Farm	Katherine	6	500	500	500
Lajamanu	Katherine	2	700	700	700
Laramba	Southern	27	1000	1000	1000
Maningrida	Northern	2	40	40	40
Manyallaluk	Katherine	2	40	40	40
Milikapiti	Northern	2	60	70	70
Milingimbi	Northern	2	200	200	200
Milyakburra	Northern	2	300	300	300
Minjilang	Northern	2	90	90	90
Minyerri	Katherine	8	400	400	400
Mt Liebig	Southern	2	1000	1000	1000
Nauiyu	Northern	15	300	300	300
Nganmarriyanga	Northern	5	400	400	400
Ngukurr	Katherine	8	700	2000	1000
Nturiya	Barkly	4	2000	2000	2000
Numbulwar	Northern	6	800	900	800
Nyirripi	Southern	8	1000	1000	1000
Papunya	Southern	2	2000	2000	2000
Peppimenarti	Northern	8	200	200	200
Pigeon Hole	Katherine	2	700	700	700
Pirlangimpi	Northern	2	40	40	40
Pmara Jutunta	Southern	2	800	800	800
Ramingining	Northern	4	50	50	50
Rittarangu	Katherine	2	600	600	600
Robinson River	Katherine	8	800	1000	900
Santa Teresa	Southern	2	500	500	500
Tara	Barkly	2	2000	2000	2000
Umbakumba	Northern	2	200	200	200
Wadeye	Northern	4	30	40	30
Wallace Rockhole	Southern	2	900	900	900
Warruwi	Northern	59	100	300	200
Weemol	Katherine	2	800	800	800
Willowra	Barkly	20	1000	1000	1000
Wilora	Barkly	18	3000	3000	3000
Wurrumiyanga	Northern	3	30	40	30
Wutunugurra	Barkly	2	600	600	600
Yarralin	Katherine	2	700	700	700
Yirrkala	Northern	5	60	70	60
Yuelamu	Southern	8	200	300	300
Yuendumu	Southern	24	1000	2000	2000

Table 117 Water quality results for iodine

Community	Region	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	<0.01	<0.01	<0.01
Ali Curung	Barkly	11	0.06	0.1	0.08
Alpurrurulam	Barkly	8	0.09	0.1	0.1
Amanbidji	Katherine	2	0.02	0.02	0.02
Ampilatwatja	Southern	4	0.1	0.2	0.1
Angurugu	Northern	2	<0.01	<0.01	<0.01
Areyonga	Southern	2	0.07	0.07	0.07
Atitjere	Southern	2	0.04	0.05	0.05
Barunga	Katherine	2	<0.01	<0.01	<0.01
Belyuen	Northern	2	<0.01	<0.01	<0.01
Beswick	Katherine	8	<0.01	<0.01	<0.01
Binjari	Katherine	2	<0.01	<0.01	<0.01
Bulla	Katherine	27	<0.01	0.01	<0.01
Bulman	Katherine	2	<0.01	<0.01	<0.01
Canteen Creek	Barkly	2	0.1	0.1	0.1
Daguragu	Katherine	2	0.01	0.01	0.01
Engawala	Southern	4	0.05	0.07	0.06
Finke	Southern	2	0.03	0.03	0.03
Galiwinku	Northern	2	<0.01	<0.01	<0.01
Gapuwiyak	Northern	2	<0.01	<0.01	<0.01
Gunbalanya	Northern	2	<0.01	<0.01	<0.01
Gunyangara	Northern	2	<0.01	<0.01	<0.01
Haasts Bluff	Southern	2	0.2	0.2	0.2
Hermannsburg	Southern	2	0.04	0.04	0.04
Imangara	Barkly	2	0.06	0.06	0.06
Imanpa	Southern	6	0.4	0.5	0.5
Jilkminggan	Katherine	6	0.07	0.1	0.1
Kalkarindji	Katherine	2	0.01	0.01	0.01
Kaltukatjara	Southern	2	0.08	0.08	0.08
Kintore	Southern	9	0.03	0.1	0.05
Kybrook Farm	Katherine	7	<0.01	<0.01	<0.01
Lajamanu	Katherine	2	0.04	0.05	0.05
Laramba	Southern	26	0.2	0.3	0.3
Maningrida	Northern	2	<0.01	<0.01	<0.01
Manyallaluk	Katherine	2	<0.01	0.01	<0.01
Milikapiti	Northern	2	<0.01	<0.01	<0.01
Milingimbi	Northern	2	<0.01	<0.01	<0.01
Milyakburra	Northern	2	0.03	0.03	0.03
Minjilang	Northern	2	<0.01	<0.01	<0.01
Minyerri	Katherine	10	<0.01	<0.01	<0.01
Mt Liebig	Southern	2	0.1	0.1	0.1
Nauiyu	Northern	16	<0.01	0.02	0.02
Nganmarriyanga	Northern	2	<0.01	<0.01	<0.01
Ngukurr	Katherine	8	<0.01	<0.01	<0.01
Nturiya	Barkly	4	0.2	0.3	0.3
Numbulwar	Northern	11	<0.01	0.01	<0.01
Nyirripi	Southern	8	0.09	0.2	0.1
Papunya	Southern	2	0.2	0.2	0.2
Peppimenarti	Northern	8	<0.01	<0.01	<0.01
Pigeon Hole	Katherine	2	0.01	0.01	0.01
Pirlangimpi	Northern	2	<0.01	<0.01	<0.01
Pmara Jutunta	Southern	2	0.09	0.1	0.1
Ramingining	Northern	4	<0.01	0.01	<0.01
Rittarangu	Katherine	2	<0.01	<0.01	<0.01
Robinson River	Katherine	8	0.01	0.02	0.02
Santa Teresa	Southern	2	0.02	0.02	0.02
Tara	Barkly	2	0.3	0.3	0.3
Umbakumba	Northern	2	<0.01	<0.01	<0.01
Wadeye	Northern	4	<0.01	<0.01	<0.01
Wallace Rockhole	Southern	2	0.1	0.1	0.1
Warruwi	Northern	62	<0.01	<0.01	<0.01
Weemol	Katherine	2	<0.01	<0.01	<0.01
Willowra	Barkly	18	0.1	0.2	0.2
Wilora	Barkly	20	0.2	0.4	0.3
Wurrumiyanga	Northern	3	<0.01	<0.01	<0.01
Wutunugurra	Barkly	2	0.05	0.05	0.05
Yarralin	Katherine	2	<0.01	<0.01	<0.01
Yirrkala	Northern	2	<0.01	<0.01	<0.01
Yuelamu	Southern	8	0.08	0.1	0.1
Yuendumu	Southern	22	0.2	0.3	0.2

Table 118 Water quality results for magnesium

Community	Region	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	30	30	30
Ali Curung	Barkly	12	0.6	2	1
Alpurrurulam	Barkly	10	80	90	80
Amanbidji	Katherine	2	60	60	60
Ampilatwatja	Southern	2	60	60	60
Angurugu	Northern	2	0.6	0.6	0.6
Areyonga	Southern	2	70	70	70
Atitjere	Southern	2	50	50	50
Barunga	Katherine	2	0.7	0.8	0.8
Belyuen	Northern	2	0.7	0.7	0.7
Beswick	Katherine	8	30	40	40
Binjari	Katherine	2	30	30	30
Bulla	Katherine	15	30	40	30
Bulman	Katherine	2	40	40	40
Canteen Creek	Barkly	2	30	30	30
Daguragu	Katherine	6	30	40	30
Engawala	Southern	4	70	70	70
Finke	Southern	2	10	10	10
Galiwinku	Northern	6	0.6	0.7	0.7
Gapuwiyak	Northern	2	0.7	0.8	0.8
Gunbalanya	Northern	2	0.6	0.7	0.7
Gunyangara	Northern	2	0.4	0.4	0.4
Haasts Bluff	Southern	2	80	80	80
Hermannsburg	Southern	2	40	40	40
Imangara	Barkly	2	40	40	40
Imanpa	Southern	6	60	70	70
Jilkminggan	Katherine	6	90	100	100
Kalkarindji	Katherine	5	30	30	30
Kaltukatjara	Southern	2	30	30	30
Kintore	Southern	8	8	20	10
Kybrook Farm	Katherine	6	20	20	20
Lajamanu	Katherine	2	30	30	30
Laramba	Southern	27	20	30	20
Maningrida	Northern	2	0.6	0.7	0.7
Manyallaluk	Katherine	2	0.5	0.5	0.5
Milikapiti	Northern	2	0.6	0.6	0.6
Milingimbi	Northern	2	2	2	2
Milyakburra	Northern	2	3	3	3
Minjilang	Northern	2	0.7	0.7	0.7
Minyerri	Katherine	8	10	10	10
Mt Liebig	Southern	2	30	30	30
Nauiyu	Northern	15	10	10	10
Nganmarriyanga	Northern	5	6	7	6
Ngukurr	Katherine	8	40	90	70
Nturiya	Barkly	4	30	30	30
Numbulwar	Northern	6	20	20	20
Nyirripi	Southern	8	30	30	30
Papunya	Southern	2	30	30	30
Peppimenarti	Northern	8	2	3	2
Pigeon Hole	Katherine	2	40	40	40
Pirlangimpi	Northern	2	0.2	0.2	0.2
Pmara Jutunta	Southern	2	20	20	20
Ramingining	Northern	4	0.6	0.6	0.6
Rittarangu	Katherine	2	40	40	40
Robinson River	Katherine	8	70	100	90
Santa Teresa	Southern	2	20	20	20
Tara	Barkly	2	60	60	60
Umbakumba	Northern	2	2	3	2
Wadeye	Northern	4	0.3	0.3	0.3
Wallace Rockhole	Southern	2	30	30	30
Warruwi	Northern	59	3	7	5
Weemol	Katherine	2	50	50	50
Willowra	Barkly	20	30	30	30
Wilora	Barkly	18	90	100	90
Wurrumiyanga	Northern	3	0.3	0.5	0.4
Wutunugurra	Barkly	2	20	20	20
Yarralin	Katherine	2	40	40	40
Yirrkala	Northern	5	0.5	0.7	0.6
Yuelamu	Southern	8	0.5	1	1
Yuendumu	Southern	24	40	60	60

Table 119 Water quality results for potassium

Community	Region	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	1	1	1
Ali Curung	Barkly	12	10	20	10
Alpurrurulam	Barkly	10	7	8	8
Amanbidji	Katherine	2	4	4	4
Ampilatwatja	Southern	2	30	30	30
Angurugu	Northern	2	0.1	0.1	0.1
Areyonga	Southern	2	9	9	9
Atitjere	Southern	2	9	9	9
Barunga	Katherine	2	0.7	0.9	0.8
Belyuen	Northern	2	4	4	4
Beswick	Katherine	8	2	2	2
Binjari	Katherine	2	4	4	4
Bulla	Katherine	15	2	5	3
Bulman	Katherine	2	3	3	3
Canteen Creek	Barkly	2	10	10	10
Daguragu	Katherine	6	4	4	4
Engawala	Southern	4	9	9	9
Finke	Southern	2	7	7	7
Galiwinku	Northern	6	0.2	0.3	0.3
Gapuwiyak	Northern	2	0.1	0.2	0.2
Gunbalanya	Northern	2	0.3	0.3	0.3
Gunyangara	Northern	2	0.3	0.5	0.4
Haasts Bluff	Southern	2	30	30	30
Hermannsburg	Southern	2	7	7	7
Imangara	Barkly	2	30	30	30
Imanpa	Southern	6	30	30	30
Jilkminggan	Katherine	6	20	30	20
Kalkarindji	Katherine	5	5	5	5
Kaltukatjara	Southern	2	10	10	10
Kintore	Southern	8	2	2	2
Kybrook Farm	Katherine	6	2	2	2
Lajamanu	Katherine	2	8	8	8
Laramba	Southern	27	30	30	30
Maningrida	Northern	2	1	1	1
Manyallaluk	Katherine	2	0.5	0.5	0.5
Milikapiti	Northern	2	0.7	0.8	0.8
Milingimbi	Northern	2	0.3	0.3	0.3
Milyakburra	Northern	2	0.4	0.4	0.4
Minjilang	Northern	2	0.1	0.1	0.1
Minyerri	Katherine	8	5	6	6
Mt Liebig	Southern	2	10	10	10
Nauiyu	Northern	15	0.7	1	0.9
Nganmarriyanga	Northern	5	6	8	7
Ngukurr	Katherine	8	5	6	5
Nturiya	Barkly	4	30	30	30
Numbulwar	Northern	6	3	3	3
Nyirripi	Southern	8	30	30	30
Papunya	Southern	2	10	10	10
Peppimenarti	Northern	8	6	7	6
Pigeon Hole	Katherine	2	3	3	3
Pirlangimpi	Northern	2	<0.1	0.1	<0.1
Pmara Jutunta	Southern	2	20	20	20
Ramingining	Northern	4	0.3	0.4	0.3
Rittarangu	Katherine	2	3	3	3
Robinson River	Katherine	8	3	4	4
Santa Teresa	Southern	2	4	4	4
Tara	Barkly	2	30	30	30
Umbakumba	Northern	2	0.7	0.8	0.8
Wadeye	Northern	4	0.1	0.1	0.1
Wallace Rockhole	Southern	2	10	10	10
Warruwi	Northern	59	<0.1	0.7	0.2
Weemol	Katherine	2	3	3	3
Willowra	Barkly	20	30	30	30
Wilora	Barkly	18	60	60	60
Wurrumiyanga	Northern	3	0.1	0.1	0.1
Wutunugurra	Barkly	2	10	10	10
Yarralin	Katherine	2	3	3	3
Yirrkala	Northern	5	0.6	0.7	0.6
Yuelamu	Southern	8	0.2	0.5	0.4
Yuendumu	Southern	24	20	20	20

Table 120 Water quality results for tin

Community	Region	Samples	Min (mg/L)	Max (mg/L)	Avg (mg/L)
Acacia Larrakia	Northern	2	<0.01	<0.01	<0.01
Ali Curung	Barkly	11	<0.01	<0.01	<0.01
Alpurrurulam	Barkly	8	<0.01	<0.01	<0.01
Amanbidji	Katherine	2	<0.01	<0.01	<0.01
Ampilatwatja	Southern	4	<0.01	<0.01	<0.01
Angurugu	Northern	2	<0.01	<0.01	<0.01
Areyonga	Southern	2	<0.01	<0.01	<0.01
Atitjere	Southern	2	<0.01	<0.01	<0.01
Barunga	Katherine	2	<0.01	<0.01	<0.01
Belyuen	Northern	2	<0.01	<0.01	<0.01
Beswick	Katherine	8	<0.01	<0.01	<0.01
Binjari	Katherine	2	<0.01	<0.01	<0.01
Bulla	Katherine	27	<0.01	<0.01	<0.01
Bulman	Katherine	2	<0.01	<0.01	<0.01
Canteen Creek	Barkly	2	<0.01	<0.01	<0.01
Daguragu	Katherine	2	<0.01	<0.01	<0.01
Engawala	Southern	4	<0.01	<0.01	<0.01
Finke	Southern	2	<0.01	<0.01	<0.01
Galiwinku	Northern	2	<0.01	<0.01	<0.01
Gapuwiyak	Northern	2	<0.01	<0.01	<0.01
Gunbalanya	Northern	2	<0.01	<0.01	<0.01
Gunyangara	Northern	2	<0.01	<0.01	<0.01
Haasts Bluff	Southern	2	<0.01	<0.01	<0.01
Hermannsburg	Southern	2	<0.01	<0.01	<0.01
Imangara	Barkly	2	<0.01	<0.01	<0.01
Imanpa	Southern	6	<0.01	<0.01	<0.01
Jilkminggan	Katherine	6	<0.01	<0.01	<0.01
Kalkarindji	Katherine	2	<0.01	<0.01	<0.01
Kaltukatjara	Southern	2	<0.01	<0.01	<0.01
Kintore	Southern	9	<0.01	<0.01	<0.01
Kybrook Farm	Katherine	7	<0.01	<0.01	<0.01
Lajamanu	Katherine	2	<0.01	<0.01	<0.01
Laramba	Southern	26	<0.01	<0.01	<0.01
Maningrida	Northern	2	<0.01	<0.01	<0.01
Manyallaluk	Katherine	2	<0.01	<0.01	<0.01
Milikapiti	Northern	2	<0.01	<0.01	<0.01
Milingimbi	Northern	2	<0.01	<0.01	<0.01
Milyakburra	Northern	2	<0.01	<0.01	<0.01
Minjilang	Northern	2	<0.01	<0.01	<0.01
Minyerri	Katherine	10	<0.01	<0.01	<0.01
Mt Liebig	Southern	2	<0.01	<0.01	<0.01
Nauiyu	Northern	16	<0.01	<0.01	<0.01
Nganmarriyanga	Northern	2	<0.01	<0.01	<0.01
Ngukurr	Katherine	8	<0.01	<0.01	<0.01
Nturiya	Barkly	4	<0.01	<0.01	<0.01
Numbulwar	Northern	11	<0.01	<0.01	<0.01
Nyirripi	Southern	8	<0.01	<0.01	<0.01
Papunya	Southern	2	<0.01	<0.01	<0.01
Peppimenarti	Northern	8	<0.01	<0.01	<0.01
Pigeon Hole	Katherine	2	<0.01	<0.01	<0.01
Pirlangimpi	Northern	2	<0.01	<0.01	<0.01
Pmara Jutunta	Southern	2	<0.01	<0.01	<0.01
Ramingining	Northern	4	<0.01	<0.01	<0.01
Rittarangu	Katherine	2	<0.01	<0.01	<0.01
Robinson River	Katherine	8	<0.01	<0.01	<0.01
Santa Teresa	Southern	2	<0.01	<0.01	<0.01
Tara	Barkly	2	<0.01	<0.01	<0.01
Umbakumba	Northern	2	<0.01	<0.01	<0.01
Wadeye	Northern	4	<0.01	<0.01	<0.01
Wallace Rockhole	Southern	2	<0.01	<0.01	<0.01
Warruwi	Northern	62	<0.01	<0.01	<0.01
Weemol	Katherine	2	<0.01	<0.01	<0.01
Willowra	Barkly	18	<0.01	<0.01	<0.01
Wilora	Barkly	20	<0.01	<0.01	<0.01
Wurrumiyanga	Northern	3	<0.01	<0.01	<0.01
Wutunugurra	Barkly	2	<0.01	<0.01	<0.01
Yarralin	Katherine	2	<0.01	<0.01	<0.01
Yirrkala	Northern	2	<0.01	<0.01	<0.01
Yuelamu	Southern	8	<0.01	<0.01	<0.01
Yuendumu	Southern	22	<0.01	<0.01	<0.01

Appendix E
Remote Water Quality results – by community

Table 121 Water quality results for Acacia Larrakia

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.001	0.001	0.001	0.001
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.3	0.3	0.3	0.3
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.44	0.45	0.45	0.45
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	7.0	7.0	7.0	
Chlorine (free)	0.6	mg/L	30	30	0.8	2	**1**	
Colour (true)	15	HU	2	0	<2	2.0	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	0	200	200	200	
Iron	0.3	mg/L	2	0	<0.02	0.04	0.03	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.9	7.9	7.9	
Silica	80	mg/L	2	0	20	20	20	
Sodium	180	mg/L	2	0	5.8	6.0	5.9	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	200	200	200	
Turbidity	5	NTU	2	0	0.4	3	2	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		0.01	0.01	0.01	
Calcium	NA	mg/L	2		50	50	50	
Electrical conductivity	NA	µS/cm	2		500	500	500	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		30	30	30	
Potassium	NA	mg/L	2		1	1	1	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 122 Water quality results for Ali Curung

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	11	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	11	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	11	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	11	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	11	0	0.7	0.9	0.8	0.9
Cadmium	0.002	mg/L	11	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	11	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	11	0	<0.01	0.4	0.06	0.2
Fluoride	1.5	mg/L	12	0	0.82	1.1	0.92	1.1
Lead	0.01	mg/L	11	0	<0.001	0.01	0.002	NA
Manganese	0.5	mg/L	11	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	11	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	11	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	11	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	12	0	20	20	20	20
Nitrite	3	mg/L	12	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	11	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	11	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	11	0	0.15	0.30	0.22	0.30
Aesthetic								
Aluminium	0.2	mg/L	11	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	12	0	32	59	41	
Chlorine (free)	0.6	mg/L	27	26	0.6	2	**1**	
Colour (true)	15	HU	12	0	<2	3.0	<2	
Copper	1	mg/L	11	0	<0.01	0.4	0.06	
Hardness as $CaCO_3$	200	mg/L	12	0	4	10	7	
Iron	0.3	mg/L	11	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	11	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	12	0	7.3	7.9	7.7	
Silica	80	mg/L	12	0	60	60	60	
Sodium	180	mg/L	12	0	66	91	74	
Sulphate	250	mg/L	12	0	2.5	5.4	3.4	
Total dissolved solids	600	mg/L	12	0	200	300	300	
Turbidity	5	NTU	12	0	0.2	0.5	0.3	
Zinc	3	mg/L	11	0	<0.01	0.05	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	12		100	100	100	
Bromine	NA	mg/L	11		0.1	0.4	0.2	
Calcium	NA	mg/L	12		0.5	3	1	
Electrical conductivity	NA	µS/cm	12		400	500	400	
Iodine	NA	mg/L	11		0.06	0.1	0.08	
Magnesium	NA	mg/L	12		0.6	2	1	
Potassium	NA	mg/L	12		10	20	10	
Tin	NA	mg/L	11		<0.01	<0.01	<0.01	

Table 123 Water quality results for Alpurrululam

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	8	0	0.002	0.002	0.002	0.002
Barium	2	mg/L	8	0	0.1	0.1	0.1	0.1
Beryllium	0.06	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	8	0	0.2	0.3	0.3	0.3
Cadmium	0.002	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	8	0	<0.01	0.1	0.04	0.1
Fluoride	1.5	mg/L	10	7	1.5	1.7	1.6	**1.7**
Lead	0.01	mg/L	8	0	<0.001	0.004	0.001	0.003
Manganese	0.5	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	8	0	<0.005	0.005	<0.005	<0.005
Nickel	0.02	mg/L	8	0	<0.002	0.002	<0.002	0.002
Nitrate	50	mg/L	10	0	3	4	3	3
Nitrite	3	mg/L	10	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.1	0.1	0.1	NA
Selenium	0.01	mg/L	8	0	0.002	0.002	0.002	0.002
Silver	0.1	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	8	0	10	12	11	11
Aesthetic								
Aluminium	0.2	mg/L	8	0	<0.02	0.06	0.02	
Chloride	250	mg/L	10	0	180	200	190	
Chlorine (free)	0.6	mg/L	29	29	0.9	2	**1**	
Colour (true)	15	HU	10	0	<2	2.0	<2	
Copper	1	mg/L	8	0	<0.01	0.1	0.04	
Hardness as $CaCO_3$	200	mg/L	10	10	500	500	**500**	
Iron	0.3	mg/L	8	0	<0.02	0.04	<0.02	
Manganese	0.1	mg/L	8	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	10	0	7.4	7.8	7.6	
Silica	80	mg/L	10	0	60	60	60	
Sodium	180	mg/L	10	0	140	170	150	
Sulphate	250	mg/L	10	0	58	76	67	
Total dissolved solids	600	mg/L	10	10	900	1000	**900**	
Turbidity	5	NTU	10	0	0.2	0.4	0.3	
Zinc	3	mg/L	8	0	<0.01	0.05	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	10		500	500	500	
Bromine	NA	mg/L	8		0.2	0.7	0.4	
Calcium	NA	mg/L	10		60	70	70	
Electrical conductivity	NA	µS/cm	10		2000	2000	2000	
Iodine	NA	mg/L	8		0.09	0.1	0.1	
Magnesium	NA	mg/L	10		80	90	80	
Potassium	NA	mg/L	10		7	8	8	
Tin	NA	mg/L	8		<0.01	<0.01	<0.01	

Table 124 Water quality results for Amanbidji

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	0.0002	0.0002	0.0002	0.0002
Arsenic	0.01	mg/L	2	0	0.001	0.001	0.001	0.001
Barium	2	mg/L	2	0	0.2	0.2	0.2	0.2
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.6	0.6	0.6	0.6
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.01	0.02	0.01	0.02
Copper	2	mg/L	2	0	0.34	0.35	0.35	0.35
Fluoride	1.5	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Lead	0.01	mg/L	2	0	0.005	0.02	0.01	0.02
Manganese	0.5	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Mercury	0.001	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Molybdenum	0.05	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nickel	0.02	mg/L	2	0	0.4	0.4	0.4	0.4
Nitrate	50	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Nitrite	3	mg/L	1	0	0.05	0.05	0.05	NA
Radiological	1	mSv/yr	2	0	1.1	1.1	1.1	1.1
Selenium	0.01	mg/L	14	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	14	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	14	0	0.0019	0.0021	0.0020	0.0021
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	110	110	110	
Chlorine (free)	0.6	mg/L	21	21	0.8	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.02	0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	400	400	**400**	
Iron	0.3	mg/L	2	0	0.04	0.06	0.05	
Manganese	0.1	mg/L	2	0	0.005	0.02	0.01	
pH	6.5-8.5	pH unit	2	0	7.8	7.8	7.8	
Silica	80	mg/L	2	0	30	30	30	
Sodium	180	mg/L	2	0	170	180	170	
Sulphate	250	mg/L	2	0	150	150	150	
Total dissolved solids	600	mg/L	2	2	900	900	**900**	
Turbidity	5	NTU	2	0	0.5	0.7	0.6	
Zinc	3	mg/L	2	0	<0.01	0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		400	400	400	
Bromine	NA	mg/L	2		0.1	0.2	0.2	
Calcium	NA	mg/L	2		70	70	70	
Electrical conductivity	NA	µS/cm	2		2000	2000	2000	
Iodine	NA	mg/L	2		0.02	0.02	0.02	
Magnesium	NA	mg/L	2		60	60	60	
Potassium	NA	mg/L	2		4	4	4	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 125 Water quality results for Ampilatwatja

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	4	0	<0.0005	0.0005	<0.0005	0.0005
Barium	2	mg/L	4	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	4	0	0.3	0.4	0.3	0.4
Cadmium	0.002	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	4	0	<0.01	0.01	<0.01	0.01
Fluoride	1.5	mg/L	2	0	1.2	1.2	1.2	1.2
Lead	0.01	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	4	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	30	30	30	30
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	2	0	0.1	0.2	0.1	0.2
Selenium	0.01	mg/L	4	0	0.002	0.002	0.002	0.002
Silver	0.1	mg/L	4	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	4	0	8.7	9.0	8.9	9.0
Aesthetic								
Aluminium	0.2	mg/L	4	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	170	170	170	
Chlorine (free)	0.6	mg/L	30	30	1	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	4	0	<0.01	0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	500	500	**500**	
Iron	0.3	mg/L	4	0	<0.02	0.02	<0.02	
Manganese	0.1	mg/L	4	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.8	7.8	7.8	
Silica	80	mg/L	2	0	40	40	40	
Sodium	180	mg/L	2	0	130	130	130	
Sulphate	250	mg/L	2	0	190	190	190	
Total dissolved solids	600	mg/L	2	2	900	900	**900**	
Turbidity	5	NTU	2	0	0.4	0.5	0.4	
Zinc	3	mg/L	4	0	<0.01	0.03	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		300	300	300	
Bromine	NA	mg/L	4		0.2	0.7	0.5	
Calcium	NA	mg/L	2		100	100	100	
Electrical conductivity	NA	µS/cm	2		2000	2000	2000	
Iodine	NA	mg/L	4		0.1	0.2	0.1	
Magnesium	NA	mg/L	2		60	60	60	
Potassium	NA	mg/L	2		30	30	30	
Tin	NA	mg/L	4		<0.01	<0.01	<0.01	

Table 126 Water quality results for Angurugu

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.01	0.01	<0.01	0.01
Copper	2	mg/L	104	0	<0.1	0.66	0.49	0.64
Fluoride	1.5	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Lead	0.01	mg/L	2	0	<0.005	0.005	<0.005	0.005
Manganese	0.5	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Mercury	0.001	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Molybdenum	0.05	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nickel	0.02	mg/L	2	0	0.5	0.6	0.6	0.6
Nitrate	50	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Nitrite	3	mg/L	1	0	0.02	0.02	0.02	NA
Radiological	1	mSv/yr	2	0	0.030	0.030	0.030	0.030
Selenium	0.01	mg/L	14	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	14	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	14	0	0.0019	0.0021	0.0020	0.0021
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	0.02	0.02	
Chloride	250	mg/L	2	0	11	12	12	
Chlorine (free)	0.6	mg/L	90	90	0.7	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	0	3	4	3	
Iron	0.3	mg/L	2	0	<0.02	0.04	0.03	
Manganese	0.1	mg/L	2	0	<0.005	0.005	<0.005	
pH	6.5-8.5	pH unit	2	2	4.9	5.0	**5.0**	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	6.9	7.1	7.0	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	20	30	30	
Turbidity	5	NTU	2	0	0.3	0.4	0.3	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.01	0.02	0.02	
Calcium	NA	mg/L	2		0.2	0.5	0.4	
Electrical conductivity	NA	µS/cm	2		50	50	50	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		0.6	0.6	0.6	
Potassium	NA	mg/L	2		0.1	0.1	0.1	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 127 Water quality results for Areyonga

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	0.1	0.1	0.1	0.1
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.2	0.2	0.2	0.2
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.01	0.01	<0.01	0.01
Copper	2	mg/L	2	0	0.39	0.40	0.40	0.40
Fluoride	1.5	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Lead	0.01	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Manganese	0.5	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Mercury	0.001	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Molybdenum	0.05	mg/L	2	0	0.004	0.004	0.004	0.004
Nickel	0.02	mg/L	2	0	6	8	7	8
Nitrate	50	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Nitrite	3	mg/L	1	0	0.1	0.1	0.1	NA
Radiological	1	mSv/yr	2	0	9.1	12	11	NA
Selenium	0.01	mg/L	14	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	14	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	14	0	0.0019	0.0021	0.0020	0.0021
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	120	120	120	
Chlorine (free)	0.6	mg/L	30	30	0.7	1	**0.9**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	500	600	**500**	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.6	7.8	7.7	
Silica	80	mg/L	2	0	20	20	20	
Sodium	180	mg/L	2	0	62	68	65	
Sulphate	250	mg/L	2	0	72	92	82	
Total dissolved solids	600	mg/L	2	2	700	700	**700**	
Turbidity	5	NTU	2	0	0.3	0.3	0.3	
Zinc	3	mg/L	2	0	0.01	0.02	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		300	400	400	
Bromine	NA	mg/L	2		0.2	0.2	0.2	
Calcium	NA	mg/L	2		90	100	100	
Electrical conductivity	NA	µS/cm	2		1000	1000	1000	
Iodine	NA	mg/L	2		0.07	0.07	0.07	
Magnesium	NA	mg/L	2		70	70	70	
Potassium	NA	mg/L	2		9	9	9	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 128 Water quality results for Atitjere

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	0.05	0.05	0.05	0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.2	0.2	0.2	0.2
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	0.61	0.61	0.61	0.61
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	30	30	30	30
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.05	0.05	0.05	NA
Selenium	0.01	mg/L	2	0	0.003	0.003	0.003	0.003
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	7.0	7.1	7.1	7.1
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	0.02	0.02	
Chloride	250	mg/L	2	0	130	130	130	
Chlorine (free)	0.6	mg/L	30	30	0.8	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	8.1	8.1	8.1	
Silica	80	mg/L	2	0	30	30	30	
Sodium	180	mg/L	2	0	120	120	120	
Sulphate	250	mg/L	2	0	140	140	140	
Total dissolved solids	600	mg/L	2	2	700	700	**700**	
Turbidity	5	NTU	2	0	0.4	0.5	0.4	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		0.1	0.2	0.2	
Calcium	NA	mg/L	2		50	50	50	
Electrical conductivity	NA	µS/cm	2		1000	1000	1000	
Iodine	NA	mg/L	2		0.04	0.05	0.05	
Magnesium	NA	mg/L	2		50	50	50	
Potassium	NA	mg/L	2		9	9	9	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 129 Water quality results for Barunga

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.1	0.6	0.4	NA
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	0.001	<0.001	0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.4	0.5	0.5	0.5
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.090	0.11	0.10	0.11
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	5.0	6.0	5.5	
Chlorine (free)	0.6	mg/L	30	30	0.8	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	0.1	0.6	0.4	
Hardness as $CaCO_3$	200	mg/L	2	0	5	8	7	
Iron	0.3	mg/L	2	0	0.02	0.04	0.03	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	2	5.6	5.7	**5.7**	
Silica	80	mg/L	2	0	20	20	20	
Sodium	180	mg/L	2	0	4.6	5.1	4.8	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	40	40	40	
Turbidity	5	NTU	2	0	0.3	0.4	0.4	
Zinc	3	mg/L	2	0	0.08	0.09	0.09	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.006	0.008	0.007	
Calcium	NA	mg/L	2		0.9	2	1	
Electrical conductivity	NA	µS/cm	2		40	50	40	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		0.7	0.8	0.8	
Potassium	NA	mg/L	2		0.7	0.9	0.8	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 130 Water quality results for Belyuen

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.001	0.004	0.003	NA
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	0.21	0.22	0.22	0.22
Lead	0.01	mg/L	2	0	<0.001	0.004	0.002	NA
Manganese	0.5	mg/L	2	0	<0.005	0.2	0.09	NA
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	0.002	0.002	0.002
Nitrate	50	mg/L	2	0	<0.1	0.1	<0.1	0.1
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.04	0.04	0.04	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	1.1	1.4	1.3	1.4
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	0.06	0.04	
Chloride	250	mg/L	2	0	5.0	5.0	5.0	
Chlorine (free)	0.6	mg/L	30	30	0.9	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	0	5	5	5	
Iron	0.3	mg/L	2	1	0.04	1	**0.5**	
Manganese	0.1	mg/L	2	1	<0.005	0.2	0.09	
pH	6.5-8.5	pH unit	2	0	7.3	7.4	7.4	
Silica	80	mg/L	2	0	40	40	40	
Sodium	180	mg/L	2	0	7.6	7.7	7.6	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	60	70	70	
Turbidity	5	NTU	2	0	0.5	5	3	
Zinc	3	mg/L	2	0	0.01	0.01	0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	20	20	
Bromine	NA	mg/L	2		0.008	0.01	0.009	
Calcium	NA	mg/L	2		0.8	0.9	0.9	
Electrical conductivity	NA	µS/cm	2		60	60	60	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		0.7	0.7	0.7	
Potassium	NA	mg/L	2		4	4	4	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 131 Water quality results for Beswick

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	8	8	0.006	0.008	0.007	**0.008**
Arsenic	0.01	mg/L	8	0	0.006	0.008	0.007	0.007
Barium	2	mg/L	8	0	0.1	0.2	0.1	0.2
Beryllium	0.06	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	8	0	<0.02	0.02	0.02	0.02
Cadmium	0.002	mg/L	8	0	<0.0002	0.0004	<0.0002	0.0003
Chromium	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	8	0	0.09	0.2	0.1	0.1
Fluoride	1.5	mg/L	8	0	0.10	0.11	0.11	0.11
Lead	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	8	0	<0.0001	0.0002	0.0001	0.0002
Molybdenum	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	8	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	8	0	0.1	0.5	0.3	0.5
Nitrite	3	mg/L	8	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	8	0	0.19	0.25	0.22	0.25
Aesthetic								
Aluminium	0.2	mg/L	8	0	<0.02	0.06	0.02	
Chloride	250	mg/L	8	0	6.0	8.0	6.8	
Chlorine (free)	0.6	mg/L	27	27	0.9	2	**1**	
Colour (true)	15	HU	8	0	<2	6.0	2.1	
Copper	1	mg/L	8	0	0.09	0.2	0.1	
Hardness as $CaCO_3$	200	mg/L	8	8	300	300	**300**	
Iron	0.3	mg/L	8	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	8	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	8	0	7.2	7.7	7.5	
Silica	80	mg/L	8	0	20	20	20	
Sodium	180	mg/L	8	0	5.5	7.1	5.9	
Sulphate	250	mg/L	8	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	8	0	300	300	300	
Turbidity	5	NTU	8	0	0.2	2	0.6	
Zinc	3	mg/L	8	0	0.02	0.05	0.03	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	8		300	300	300	
Bromine	NA	mg/L	8		0.01	0.02	0.02	
Calcium	NA	mg/L	8		60	70	70	
Electrical conductivity	NA	µS/cm	8		500	700	600	
Iodine	NA	mg/L	8		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	8		30	40	40	
Potassium	NA	mg/L	8		2	2	2	
Tin	NA	mg/L	8		<0.01	<0.01	<0.01	

Table 132 Water quality results for Binjari

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.001	0.007	0.004	NA
Barium	2	mg/L	2	0	0.2	0.2	0.2	0.2
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.02	0.04	0.03	0.04
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.1	0.07	0.1
Fluoride	1.5	mg/L	2	0	0.35	0.36	0.36	0.36
Lead	0.01	mg/L	2	0	<0.001	0.003	0.002	NA
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.7	0.7	0.7	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	1.2	1.2	1.2	1.2
Aesthetic								
Aluminium	0.2	mg/L	2	0	0.02	0.1	0.06	
Chloride	250	mg/L	2	0	10	11	11	
Chlorine (free)	0.6	mg/L	30	30	0.7	1	**1**	
Colour (true)	15	HU	2	0	<2	3.0	2.0	
Copper	1	mg/L	2	0	<0.01	0.1	0.07	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	1	0.04	1	**0.6**	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.3	7.5	7.4	
Silica	80	mg/L	2	0	30	30	30	
Sodium	180	mg/L	2	0	10	11	10	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	300	300	300	
Turbidity	5	NTU	2	0	0.3	1	0.8	
Zinc	3	mg/L	2	0	<0.01	0.1	0.05	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		300	300	300	
Bromine	NA	mg/L	2		0.02	0.03	0.02	
Calcium	NA	mg/L	2		80	80	80	
Electrical conductivity	NA	µS/cm	2		600	600	600	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		30	30	30	
Potassium	NA	mg/L	2		4	4	4	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 133 Water quality results for Bulla

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	27	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	27	0	<0.0005	0.003	0.0008	0.002
Barium	2	mg/L	27	4	0.4	5	2	**4**
Beryllium	0.06	mg/L	27	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	27	0	0.06	0.1	0.08	0.1
Cadmium	0.002	mg/L	27	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	27	1	<0.005	0.1	0.006	<0.005
Copper	2	mg/L	27	0	<0.01	0.1	0.01	0.05
Fluoride	1.5	mg/L	15	0	0.20	0.61	0.32	0.60
Lead	0.01	mg/L	27	0	<0.001	0.001	<0.001	<0.001
Manganese	0.5	mg/L	27	4	0.05	**1**	0.4	NA
Mercury	0.001	mg/L	27	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	27	0	<0.005	0.02	<0.005	<0.005
Nickel	0.02	mg/L	27	0	<0.002	0.002	<0.002	<0.002
Nitrate	50	mg/L	15	0	<0.1	0.7	0.2	0.4
Nitrite	3	mg/L	15	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.05	0.05	0.05	NA
Selenium	0.01	mg/L	27	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	27	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	27	0	0.030	0.25	0.12	0.25
Aesthetic								
Aluminium	0.2	mg/L	27	0	<0.02	0.1	0.02	
Chloride	250	mg/L	15	0	18	41	27	
Chlorine (free)	0.6	mg/L	27	27	0.9	2	**1**	
Colour (true)	15	HU	15	0	<2	3.0	<2	
Copper	1	mg/L	27	0	<0.01	0.1	0.01	
Hardness as $CaCO_3$	200	mg/L	15	5	200	300	200	
Iron	0.3	mg/L	27	4	<0.02	2	0.2	
Manganese	0.1	mg/L	27	23	0.05	1	**0.4**	
pH	6.5-8.5	pH unit	15	0	8.0	8.4	8.1	
Silica	80	mg/L	15	0	20	20	20	
Sodium	180	mg/L	15	0	12	28	19	
Sulphate	250	mg/L	15	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	15	0	200	300	300	
Turbidity	5	NTU	15	2	1	10	4	
Zinc	3	mg/L	27	0	<0.01	0.03	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	15		200	300	200	
Bromine	NA	mg/L	27		0.05	0.2	0.1	
Calcium	NA	mg/L	15		30	50	40	
Electrical conductivity	NA	µS/cm	15		500	600	500	
Iodine	NA	mg/L	27		<0.01	0.01	<0.01	
Magnesium	NA	mg/L	15		30	40	30	
Potassium	NA	mg/L	15		2	5	3	
Tin	NA	mg/L	27		<0.01	<0.01	<0.01	

Table 134 Water quality results for Bulman

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.02	0.02	0.02	0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.3	0.3	0.3	0.3
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.27	0.28	0.28	0.28
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	8.0	8.0	8.0	
Chlorine (free)	0.6	mg/L	27	27	0.8	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	400	400	**400**	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.8	7.8	7.8	
Silica	80	mg/L	2	0	20	20	20	
Sodium	180	mg/L	2	0	8.2	8.3	8.3	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	300	300	300	
Turbidity	5	NTU	2	0	0.2	0.3	0.3	
Zinc	3	mg/L	2	0	<0.01	0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		300	300	300	
Bromine	NA	mg/L	2		0.02	0.02	0.02	
Calcium	NA	mg/L	2		70	70	70	
Electrical conductivity	NA	µS/cm	2		700	700	700	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		40	40	40	
Potassium	NA	mg/L	2		3	3	3	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 135 Water quality results for Canteen Creek

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	0.2	0.2	0.2	0.2
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.3	0.3	0.3	0.3
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.02	0.04	0.03	0.04
Fluoride	1.5	mg/L	2	0	0.51	0.53	0.52	0.53
Lead	0.01	mg/L	2	0	<0.001	0.001	<0.001	0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	0.002	0.002	0.002
Nitrate	50	mg/L	2	0	10	20	10	10
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.2	0.2	0.2	NA
Selenium	0.01	mg/L	2	0	0.001	0.002	0.002	0.002
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	1.6	2.0	1.8	2.0
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	110	110	110	
Chlorine (free)	0.6	mg/L	30	30	0.8	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	0.02	0.04	0.03	
Hardness as $CaCO_3$	200	mg/L	2	0	200	200	200	
Iron	0.3	mg/L	2	0	0.02	0.2	0.09	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.0	7.1	7.0	
Silica	80	mg/L	2	0	50	50	50	
Sodium	180	mg/L	2	0	92	97	95	
Sulphate	250	mg/L	2	0	21	23	22	
Total dissolved solids	600	mg/L	2	0	500	500	500	
Turbidity	5	NTU	2	0	0.6	2	1	
Zinc	3	mg/L	2	0	0.04	0.06	0.05	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		0.2	0.2	0.2	
Calcium	NA	mg/L	2		30	30	30	
Electrical conductivity	NA	µS/cm	2		800	900	900	
Iodine	NA	mg/L	2		0.1	0.1	0.1	
Magnesium	NA	mg/L	2		30	30	30	
Potassium	NA	mg/L	2		10	10	10	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 136 Water quality results for Daguragu

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.002	0.002	0.002	0.002
Barium	2	mg/L	2	0	0.05	0.05	0.05	0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.1	0.1	0.1	0.1
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.04	0.07	0.06	0.07
Fluoride	1.5	mg/L	6	0	0.24	0.26	0.25	0.26
Lead	0.01	mg/L	2	0	<0.001	0.001	<0.001	0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	6	0	3	3	3	3
Nitrite	3	mg/L	6	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.1	0.1	0.1	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	1.9	1.9	1.9	1.9
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	6	0	19	21	20	
Chlorine (free)	0.6	mg/L	18	18	0.8	2	**1**	
Colour (true)	15	HU	6	0	<2	2.0	<2	
Copper	1	mg/L	2	0	0.04	0.07	0.06	
Hardness as $CaCO_3$	200	mg/L	6	6	300	300	**300**	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	6	0	7.7	8.3	8.0	
Silica	80	mg/L	6	0	30	30	30	
Sodium	180	mg/L	6	0	31	33	32	
Sulphate	250	mg/L	6	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	6	0	300	400	400	
Turbidity	5	NTU	6	0	0.2	0.4	0.3	
Zinc	3	mg/L	2	0	0.02	0.03	0.03	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	6		300	300	300	
Bromine	NA	mg/L	2		0.06	0.08	0.07	
Calcium	NA	mg/L	6		60	60	60	
Electrical conductivity	NA	µS/cm	6		700	700	700	
Iodine	NA	mg/L	2		0.01	0.01	0.01	
Magnesium	NA	mg/L	6		30	40	30	
Potassium	NA	mg/L	6		4	4	4	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 137 Water quality results for Engawala

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	4	0	0.2	0.2	0.2	0.2
Beryllium	0.06	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	4	0	0.2	0.2	0.2	0.2
Cadmium	0.002	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	4	0	<0.01	0.09	0.03	0.08
Fluoride	1.5	mg/L	4	0	0.64	0.66	0.65	0.66
Lead	0.01	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	4	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	4	0	30	40	30	30
Nitrite	3	mg/L	4	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.05	0.05	0.05	NA
Selenium	0.01	mg/L	4	0	0.003	0.003	0.003	0.003
Silver	0.1	mg/L	4	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	4	0	4.1	4.9	4.4	4.8
Aesthetic								
Aluminium	0.2	mg/L	4	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	4	0	190	200	200	
Chlorine (free)	0.6	mg/L	30	30	0.7	1	**1**	
Colour (true)	15	HU	4	0	<2	<2	<2	
Copper	1	mg/L	4	0	<0.01	0.09	0.03	
Hardness as $CaCO_3$	200	mg/L	4	4	500	500	**500**	
Iron	0.3	mg/L	4	0	<0.02	0.04	0.02	
Manganese	0.1	mg/L	4	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	4	0	7.7	7.9	7.8	
Silica	80	mg/L	4	0	60	60	60	
Sodium	180	mg/L	4	0	89	97	94	
Sulphate	250	mg/L	4	0	74	78	76	
Total dissolved solids	600	mg/L	4	4	800	900	**900**	
Turbidity	5	NTU	4	0	0.3	0.4	0.3	
Zinc	3	mg/L	4	0	0.03	0.03	0.03	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	4		300	300	300	
Bromine	NA	mg/L	4		0.2	0.6	0.4	
Calcium	NA	mg/L	4		100	100	100	
Electrical conductivity	NA	µS/cm	4		1000	2000	1000	
Iodine	NA	mg/L	4		0.05	0.07	0.06	
Magnesium	NA	mg/L	4		70	70	70	
Potassium	NA	mg/L	4		9	9	9	
Tin	NA	mg/L	4		<0.01	<0.01	<0.01	

Table 138 Water quality results for Finke

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.0005	0.0005	0.0005	0.0005
Barium	2	mg/L	2	0	0.2	0.2	0.2	0.2
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.08	0.08	0.08	0.08
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.01	<0.01	0.01
Fluoride	1.5	mg/L	2	0	0.19	0.19	0.19	0.19
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	9	9	9	9
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.06	0.06	0.06	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	3.1	3.2	3.2	3.2
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	170	170	170	
Chlorine (free)	0.6	mg/L	27	27	0.7	2	**1**	
Colour (true)	15	HU	2	0	<2	2.0	<2	
Copper	1	mg/L	2	0	<0.01	0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	0	200	200	200	
Iron	0.3	mg/L	2	0	0.02	0.04	0.03	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.8	7.9	7.9	
Silica	80	mg/L	2	0	10	20	20	
Sodium	180	mg/L	2	0	92	93	93	
Sulphate	250	mg/L	2	0	58	59	59	
Total dissolved solids	600	mg/L	2	0	500	500	500	
Turbidity	5	NTU	2	0	0.4	0.6	0.5	
Zinc	3	mg/L	2	0	0.05	0.07	0.06	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		100	100	100	
Bromine	NA	mg/L	2		0.2	0.2	0.2	
Calcium	NA	mg/L	2		70	70	70	
Electrical conductivity	NA	µS/cm	2		1000	1000	1000	
Iodine	NA	mg/L	2		0.03	0.03	0.03	
Magnesium	NA	mg/L	2		10	10	10	
Potassium	NA	mg/L	2		7	7	7	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 139 Water quality results for Galiwinku

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.01	0.02	0.02	0.02
Fluoride	1.5	mg/L	6	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	6	0	0.7	1	0.8	1
Nitrite	3	mg/L	6	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.03	0.03	0.03	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.030	0.030	0.030	0.030
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	6	0	10	11	10	
Chlorine (free)	0.6	mg/L	164	164	0.8	2	**1**	
Colour (true)	15	HU	6	0	<2	2.0	<2	
Copper	1	mg/L	2	0	0.01	0.02	0.02	
Hardness as $CaCO_3$	200	mg/L	6	0	3	3	3	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	6	6	4.9	5.0	**4.9**	
Silica	80	mg/L	6	0	10	10	10	
Sodium	180	mg/L	6	0	6.0	6.2	6.2	
Sulphate	250	mg/L	6	0	0.72	1.1	0.92	
Total dissolved solids	600	mg/L	6	0	40	40	40	
Turbidity	5	NTU	6	0	0.2	0.4	0.3	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	6		<20	<20	<20	
Bromine	NA	mg/L	2		0.01	0.01	0.01	
Calcium	NA	mg/L	6		<0.03	0.1	0.03	
Electrical conductivity	NA	µS/cm	6		40	50	40	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	6		0.6	0.7	0.7	
Potassium	NA	mg/L	6		0.2	0.3	0.3	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 140 Water quality results for Gapuwiyak

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	2	2	2	2
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.020	0.020	0.020	0.020
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	11	11	11	
Chlorine (free)	0.6	mg/L	125	125	1	2	**1**	
Colour (true)	15	HU	2	0	<2	2.0	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	0	4	5	4	
Iron	0.3	mg/L	2	0	<0.02	0.02	0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	2	5.7	5.7	**5.7**	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	8.1	8.2	8.1	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	30	40	40	
Turbidity	5	NTU	2	0	0.3	1	0.8	
Zinc	3	mg/L	2	0	0.1	0.1	0.1	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.01	0.02	0.02	
Calcium	NA	mg/L	2		0.4	0.5	0.5	
Electrical conductivity	NA	µS/cm	2		60	60	60	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		0.7	0.8	0.8	
Potassium	NA	mg/L	2		0.1	0.2	0.2	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 141 Water quality results for Gunbalanya

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.02	0.03	0.03	0.03
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	0.01	0.006	0.01
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.6	2	1	2
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.030	0.040	0.035	0.040
Aesthetic								
Aluminium	0.2	mg/L	2	2	0.4	0.4	**0.4**	
Chloride	250	mg/L	2	0	5.0	5.0	5.0	
Chlorine (free)	0.6	mg/L	157	130	0.02	2	**1**	
Colour (true)	15	HU	2	1	14	18	**16**	
Copper	1	mg/L	2	0	0.02	0.03	0.03	
Hardness as $CaCO_3$	200	mg/L	2	0	3	4	3	
Iron	0.3	mg/L	2	0	0.2	0.3	0.3	
Manganese	0.1	mg/L	2	0	<0.005	0.01	0.006	
pH	6.5-8.5	pH unit	2	2	5.6	5.6	**5.6**	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	2.8	3.0	2.9	
Sulphate	250	mg/L	2	0	<0.2	0.30	0.23	
Total dissolved solids	600	mg/L	2	0	20	20	20	
Turbidity	5	NTU	2	0	5	5	5	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.02	0.02	0.02	
Calcium	NA	mg/L	2		0.2	0.4	0.3	
Electrical conductivity	NA	µS/cm	2		30	30	30	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		0.6	0.7	0.7	
Potassium	NA	mg/L	2		0.3	0.3	0.3	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 142 Water quality results for Gunyangara

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.8	0.4	NA
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.2	0.2	0.2	0.2
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	<0.01	<0.01	<0.01	<0.01
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	13	13	13	
Chlorine (free)	0.6	mg/L	42	42	0.9	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.8	0.4	
Hardness as $CaCO_3$	200	mg/L	2	0	6	6	6	
Iron	0.3	mg/L	2	0	<0.02	0.1	0.07	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.0	7.0	7.0	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	8.6	8.7	8.6	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	40	40	40	
Turbidity	5	NTU	2	0	0.2	0.8	0.5	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.01	0.01	0.01	
Calcium	NA	mg/L	2		2	2	2	
Electrical conductivity	NA	µS/cm	2		60	60	60	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		0.4	0.4	0.4	
Potassium	NA	mg/L	2		0.3	0.5	0.4	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 143 Water quality results for Haasts Bluff

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	0.001	0.0006	0.001
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.4	0.4	0.4	0.4
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.01	<0.01	0.01
Fluoride	1.5	mg/L	2	0	0.51	0.51	0.51	0.51
Lead	0.01	mg/L	2	0	<0.001	0.002	0.001	0.002
Manganese	0.5	mg/L	2	0	<0.005	0.02	0.01	0.02
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	0.006	0.006	0.006	0.006
Nitrate	50	mg/L	2	0	8	8	8	8
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.1	0.1	0.1	NA
Selenium	0.01	mg/L	2	0	0.002	0.002	0.002	0.002
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	9.9	10	9.9	9.9
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	2	370	370	**370**	
Chlorine (free)	0.6	mg/L	27	27	0.9	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	600	600	**600**	
Iron	0.3	mg/L	2	1	0.04	1	**0.7**	
Manganese	0.1	mg/L	2	0	<0.005	0.02	0.01	
pH	6.5-8.5	pH unit	2	0	8.3	8.3	8.3	
Silica	80	mg/L	2	0	50	50	50	
Sodium	180	mg/L	2	0	170	170	170	
Sulphate	250	mg/L	2	0	240	250	250	
Total dissolved solids	600	mg/L	2	2	1000	1000	**1000**	
Turbidity	5	NTU	2	1	0.5	10	**7**	
Zinc	3	mg/L	2	0	0.06	0.07	0.07	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		0.2	0.3	0.3	
Calcium	NA	mg/L	2		100	100	100	
Electrical conductivity	NA	µS/cm	2		2000	2000	2000	
Iodine	NA	mg/L	2		0.2	0.2	0.2	
Magnesium	NA	mg/L	2		80	80	80	
Potassium	NA	mg/L	2		30	30	30	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 144 Water quality results for Hermannsburg

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.2	0.2	0.2	0.2
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	0.32	0.33	0.33	0.33
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	5	5	5	5
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.08	0.08	0.08	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	4.3	4.4	4.3	4.3
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	110	110	110	
Chlorine (free)	0.6	mg/L	27	27	0.9	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	0	<0.02	0.04	0.03	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.9	7.9	7.9	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	64	65	64	
Sulphate	250	mg/L	2	0	42	42	42	
Total dissolved solids	600	mg/L	2	0	500	500	500	
Turbidity	5	NTU	2	0	0.4	0.6	0.5	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		0.4	0.4	0.4	
Calcium	NA	mg/L	2		70	70	70	
Electrical conductivity	NA	µS/cm	2		900	900	900	
Iodine	NA	mg/L	2		0.04	0.04	0.04	
Magnesium	NA	mg/L	2		40	40	40	
Potassium	NA	mg/L	2		7	7	7	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 145 Water quality results for Imangara

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.001	0.001	0.001	0.001
Barium	2	mg/L	2	0	0.5	0.5	0.5	0.5
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.2	0.2	0.2	0.2
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.01	<0.01	0.01
Fluoride	1.5	mg/L	2	0	0.73	0.73	0.73	0.73
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	6	6	6	6
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.2	0.2	0.2	NA
Selenium	0.01	mg/L	2	0	<0.001	0.001	<0.001	0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	11	11	11	11
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	36	38	37	
Chlorine (free)	0.6	mg/L	30	30	0.8	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	0	<0.02	0.02	0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.9	7.9	7.9	
Silica	80	mg/L	2	0	80	80	80	
Sodium	180	mg/L	2	0	34	34	34	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	400	500	400	
Turbidity	5	NTU	2	0	0.3	0.5	0.4	
Zinc	3	mg/L	2	0	<0.01	0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		300	300	300	
Bromine	NA	mg/L	2		0.2	0.2	0.2	
Calcium	NA	mg/L	2		50	50	50	
Electrical conductivity	NA	µS/cm	2		700	800	700	
Iodine	NA	mg/L	2		0.06	0.06	0.06	
Magnesium	NA	mg/L	2		40	40	40	
Potassium	NA	mg/L	2		30	30	30	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 146 Water quality results for Imanpa

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	6	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	6	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	6	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	6	0	0.8	0.9	0.9	0.9
Cadmium	0.002	mg/L	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	6	0	<0.01	0.01	<0.01	<0.01
Fluoride	1.5	mg/L	6	0	0.82	0.85	0.83	0.85
Lead	0.01	mg/L	6	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	6	0	<0.005	0.01	0.006	0.01
Mercury	0.001	mg/L	6	0	<0.0001	0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	6	0	0.002	0.004	0.003	0.004
Nitrate	50	mg/L	6	0	20	30	30	30
Nitrite	3	mg/L	6	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.2	0.2	0.2	NA
Selenium	0.01	mg/L	6	0	0.003	0.004	0.004	0.004
Silver	0.1	mg/L	6	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	6	0	9.8	11	10	11
Aesthetic								
Aluminium	0.2	mg/L	6	0	<0.02	0.04	0.02	
Chloride	250	mg/L	6	6	400	420	**410**	
Chlorine (free)	0.6	mg/L	30	30	0.8	1	**1**	
Colour (true)	15	HU	6	0	<2	<2	<2	
Copper	1	mg/L	6	0	<0.01	0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	6	6	500	600	**500**	
Iron	0.3	mg/L	6	0	<0.02	0.08	0.03	
Manganese	0.1	mg/L	6	0	<0.005	0.01	0.006	
pH	6.5-8.5	pH unit	6	0	8.0	8.4	8.2	
Silica	80	mg/L	6	0	20	20	20	
Sodium	180	mg/L	6	6	210	260	**250**	
Sulphate	250	mg/L	6	4	250	280	**260**	
Total dissolved solids	600	mg/L	6	6	1000	2000	**1000**	
Turbidity	5	NTU	6	0	0.4	1	0.7	
Zinc	3	mg/L	6	0	<0.01	0.03	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	6		200	200	200	
Bromine	NA	mg/L	6		0.9	2	2	
Calcium	NA	mg/L	6		100	100	100	
Electrical conductivity	NA	µS/cm	6		2000	2000	2000	
Iodine	NA	mg/L	6		0.4	0.5	0.5	
Magnesium	NA	mg/L	6		60	70	70	
Potassium	NA	mg/L	6		30	30	30	
Tin	NA	mg/L	6		<0.01	<0.01	<0.01	

Table 147 Water quality results for Jilkminggan

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	6	0	<0.0005	0.0005	<0.0005	<0.0005
Barium	2	mg/L	6	0	0.05	0.05	0.05	0.05
Beryllium	0.06	mg/L	6	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	6	0	0.3	0.5	0.4	0.5
Cadmium	0.002	mg/L	6	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	6	0	<0.01	0.1	0.03	0.1
Fluoride	1.5	mg/L	6	0	0.42	0.58	0.51	0.58
Lead	0.01	mg/L	6	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	6	0	0.005	0.2	0.08	0.2
Mercury	0.001	mg/L	6	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	6	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	6	0	<0.002	0.004	0.002	0.003
Nitrate	50	mg/L	6	0	0.1	0.8	0.4	0.8
Nitrite	3	mg/L	6	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.1	0.1	0.1	NA
Selenium	0.01	mg/L	6	0	<0.001	0.002	0.001	0.002
Silver	0.1	mg/L	6	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	6	0	8.9	11	10	11
Aesthetic								
Aluminium	0.2	mg/L	6	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	6	4	200	320	**270**	
Chlorine (free)	0.6	mg/L	30	29	0.6	2	**1**	
Colour (true)	15	HU	6	0	<2	<2	<2	
Copper	1	mg/L	6	0	<0.01	0.1	0.03	
Hardness as $CaCO_3$	200	mg/L	6	6	700	700	**700**	
Iron	0.3	mg/L	6	1	<0.02	0.5	0.1	
Manganese	0.1	mg/L	6	2	0.005	0.2	0.08	
pH	6.5-8.5	pH unit	6	0	7.3	7.4	7.4	
Silica	80	mg/L	6	0	50	60	50	
Sodium	180	mg/L	6	0	110	180	150	
Sulphate	250	mg/L	6	0	160	240	210	
Total dissolved solids	600	mg/L	6	6	1000	1000	**1000**	
Turbidity	5	NTU	6	0	0.3	3	1	
Zinc	3	mg/L	6	0	<0.01	0.04	0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	6		500	500	500	
Bromine	NA	mg/L	6		0.6	2	1	
Calcium	NA	mg/L	6		100	100	100	
Electrical conductivity	NA	µS/cm	6		2000	2000	2000	
Iodine	NA	mg/L	6		0.07	0.1	0.1	
Magnesium	NA	mg/L	6		90	100	100	
Potassium	NA	mg/L	6		20	30	20	
Tin	NA	mg/L	6		<0.01	<0.01	<0.01	

Table 148 Water quality results for Kalkarindji

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.001	0.001	0.001	0.001
Barium	2	mg/L	2	0	0.1	0.1	0.1	0.1
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.1	0.1	0.1	0.1
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.01	0.02	0.02	0.02
Fluoride	1.5	mg/L	5	0	0.27	0.30	0.28	0.30
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	5	0	4	5	4	5
Nitrite	3	mg/L	5	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.1	0.1	0.1	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	1.8	1.8	1.8	1.8
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	5	0	24	29	26	
Chlorine (free)	0.6	mg/L	27	25	0.5	1	**0.9**	
Colour (true)	15	HU	5	0	<2	2.0	<2	
Copper	1	mg/L	2	0	0.01	0.02	0.02	
Hardness as $CaCO_3$	200	mg/L	5	5	300	300	**300**	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	5	0	7.6	7.7	7.6	
Silica	80	mg/L	5	0	20	20	20	
Sodium	180	mg/L	5	0	32	34	33	
Sulphate	250	mg/L	5	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	5	0	300	300	300	
Turbidity	5	NTU	5	0	0.3	1	0.5	
Zinc	3	mg/L	2	0	<0.01	0.2	0.1	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	5		300	300	300	
Bromine	NA	mg/L	2		0.07	0.07	0.07	
Calcium	NA	mg/L	5		50	60	60	
Electrical conductivity	NA	µS/cm	5		600	700	600	
Iodine	NA	mg/L	2		0.01	0.01	0.01	
Magnesium	NA	mg/L	5		30	30	30	
Potassium	NA	mg/L	5		5	5	5	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 149 Water quality results for Kaltukatjara

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.2	0.2	0.2	0.2
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.02	0.04	0.03	0.04
Fluoride	1.5	mg/L	2	0	0.42	0.42	0.42	0.42
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	0.005	<0.005	0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	<0.1	0.1	<0.1	0.1
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	2	0	0.03	0.04	0.04	0.04
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	<0.01	<0.01	<0.01	<0.01
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	79	81	80	
Chlorine (free)	0.6	mg/L	30	30	0.7	2	**1**	
Colour (true)	15	HU	2	0	<2	2.0	<2	
Copper	1	mg/L	2	0	0.02	0.04	0.03	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	0	0.04	0.08	0.06	
Manganese	0.1	mg/L	2	0	<0.005	0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.8	7.9	7.9	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	53	55	54	
Sulphate	250	mg/L	2	0	47	50	48	
Total dissolved solids	600	mg/L	2	0	400	500	400	
Turbidity	5	NTU	2	0	0.7	1	0.9	
Zinc	3	mg/L	2	0	0.02	0.03	0.03	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		0.2	0.3	0.2	
Calcium	NA	mg/L	2		60	60	60	
Electrical conductivity	NA	µS/cm	2		800	800	800	
Iodine	NA	mg/L	2		0.08	0.08	0.08	
Magnesium	NA	mg/L	2		30	30	30	
Potassium	NA	mg/L	2		10	10	10	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 150 Water quality results for Kintore

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	9	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	9	0	<0.0005	0.001	<0.0005	0.0007
Barium	2	mg/L	9	0	<0.05	0.05	<0.05	<0.05
Beryllium	0.06	mg/L	9	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	9	0	0.3	0.4	0.3	0.4
Cadmium	0.002	mg/L	9	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	9	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	9	0	<0.01	0.1	0.03	0.1
Fluoride	1.5	mg/L	8	0	0.33	0.42	0.37	0.41
Lead	0.01	mg/L	9	0	<0.001	0.001	<0.001	<0.001
Manganese	0.5	mg/L	9	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	9	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	9	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	9	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	8	0	10	30	20	20
Nitrite	3	mg/L	8	0	<0.1	0.2	<0.1	0.2
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	9	0	<0.001	0.004	<0.001	0.003
Silver	0.1	mg/L	9	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	9	0	0.15	1.7	0.34	1.1
Aesthetic								
Aluminium	0.2	mg/L	9	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	8	0	36	62	42	
Chlorine (free)	0.6	mg/L	15	15	0.9	1	**1**	
Colour (true)	15	HU	8	0	<2	2.0	<2	
Copper	1	mg/L	9	0	<0.01	0.1	0.03	
Hardness as $CaCO_3$	200	mg/L	8	0	50	100	70	
Iron	0.3	mg/L	9	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	9	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	8	0	7.1	7.7	7.4	
Silica	80	mg/L	8	2	80	90	80	
Sodium	180	mg/L	8	0	62	66	64	
Sulphate	250	mg/L	8	0	<0.2	4.2	2.7	
Total dissolved solids	600	mg/L	8	0	300	400	300	
Turbidity	5	NTU	8	0	0.2	0.4	0.3	
Zinc	3	mg/L	9	0	<0.01	0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	8		100	200	100	
Bromine	NA	mg/L	9		0.1	0.6	0.3	
Calcium	NA	mg/L	8		8	20	10	
Electrical conductivity	NA	µS/cm	8		400	600	400	
Iodine	NA	mg/L	9		0.03	0.1	0.05	
Magnesium	NA	mg/L	8		8	20	10	
Potassium	NA	mg/L	8		2	2	2	
Tin	NA	mg/L	9		<0.01	<0.01	<0.01	

Table 151 Water quality results for Kybrook Farm

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	7	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	7	0	0.002	0.003	0.002	0.003
Barium	2	mg/L	7	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	7	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	7	0	0.02	0.02	0.02	0.02
Cadmium	0.002	mg/L	7	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	7	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	7	0	<0.01	0.09	0.02	0.07
Fluoride	1.5	mg/L	6	0	0.66	0.72	0.68	0.72
Lead	0.01	mg/L	7	0	<0.001	0.003	0.001	0.003
Manganese	0.5	mg/L	7	0	<0.005	0.2	0.04	0.1
Mercury	0.001	mg/L	7	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	7	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	7	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	6	0	<0.1	0.2	0.1	0.2
Nitrite	3	mg/L	6	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	3	0	0.01	0.03	0.02	0.03
Selenium	0.01	mg/L	7	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	7	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	7	0	0.45	0.49	0.47	0.48
Aesthetic								
Aluminium	0.2	mg/L	7	0	<0.02	0.02	<0.02	
Chloride	250	mg/L	6	0	8.0	17	12	
Chlorine (free)	0.6	mg/L	30	30	0.8	2	**1**	
Colour (true)	15	HU	6	0	<2	2.0	<2	
Copper	1	mg/L	7	0	<0.01	0.09	0.02	
Hardness as $CaCO_3$	200	mg/L	6	0	100	200	200	
Iron	0.3	mg/L	7	1	<0.02	0.5	0.1	
Manganese	0.1	mg/L	7	1	<0.005	0.2	0.04	
pH	6.5-8.5	pH unit	6	0	7.1	7.3	7.2	
Silica	80	mg/L	6	0	40	40	40	
Sodium	180	mg/L	6	0	52	71	56	
Sulphate	250	mg/L	6	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	6	0	300	300	300	
Turbidity	5	NTU	6	0	0.3	5	1	
Zinc	3	mg/L	7	0	<0.01	0.06	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	6		200	300	200	
Bromine	NA	mg/L	7		0.01	0.04	0.03	
Calcium	NA	mg/L	6		20	30	20	
Electrical conductivity	NA	µS/cm	6		500	500	500	
Iodine	NA	mg/L	7		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	6		20	20	20	
Potassium	NA	mg/L	6		2	2	2	
Tin	NA	mg/L	7		<0.01	<0.01	<0.01	

Table 152 Water quality results for Lajamanu

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	0.1	0.1	0.1	0.1
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.2	0.2	0.2	0.2
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	0.33	0.33	0.33	0.33
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	4	4	4	4
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	1.3	1.3	1.3	1.3
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	53	53	53	
Chlorine (free)	0.6	mg/L	3	3	1	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	0	200	200	200	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.7	7.7	7.7	
Silica	80	mg/L	2	2	100	100	**100**	
Sodium	180	mg/L	2	0	52	53	53	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	400	400	400	
Turbidity	5	NTU	2	0	0.2	0.2	0.2	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		0.2	0.2	0.2	
Calcium	NA	mg/L	2		30	30	30	
Electrical conductivity	NA	µS/cm	2		700	700	700	
Iodine	NA	mg/L	2		0.04	0.05	0.05	
Magnesium	NA	mg/L	2		30	30	30	
Potassium	NA	mg/L	2		8	8	8	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 153 Water quality results for Laramba

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	26	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	26	0	<0.0005	0.001	0.0005	0.0005
Barium	2	mg/L	26	0	0.2	0.2	0.2	0.2
Beryllium	0.06	mg/L	26	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	26	0	0.5	0.7	0.5	0.6
Cadmium	0.002	mg/L	26	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	26	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	26	0	<0.01	0.1	0.01	0.06
Fluoride	1.5	mg/L	27	0	0.97	1.2	1.0	1.1
Lead	0.01	mg/L	26	0	<0.001	0.004	<0.001	0.003
Manganese	0.5	mg/L	26	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	26	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	26	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	26	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	27	0	30	40	40	40
Nitrite	3	mg/L	27	0	<0.1	0.2	<0.1	0.2
Radiological	1	mSv/yr	1	0	0.2	0.2	0.2	NA
Selenium	0.01	mg/L	26	0	0.003	0.004	0.003	0.004
Silver	0.1	mg/L	26	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	26	26	29	57	38	**54**
Aesthetic								
Aluminium	0.2	mg/L	26	0	<0.02	0.2	0.02	
Chloride	250	mg/L	27	0	87	120	100	
Chlorine (free)	0.6	mg/L	30	30	0.9	2	**1**	
Colour (true)	15	HU	27	0	<2	2.0	<2	
Copper	1	mg/L	26	0	<0.01	0.1	0.01	
Hardness as $CaCO_3$	200	mg/L	27	3	200	300	200	
Iron	0.3	mg/L	26	0	<0.02	0.2	0.02	
Manganese	0.1	mg/L	26	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	27	0	7.3	8.1	7.5	
Silica	80	mg/L	27	13	60	90	80	
Sodium	180	mg/L	27	0	110	140	120	
Sulphate	250	mg/L	27	0	24	54	38	
Total dissolved solids	600	mg/L	27	12	600	700	**700**	
Turbidity	5	NTU	27	0	0.2	0.5	0.3	
Zinc	3	mg/L	26	0	<0.01	0.2	0.03	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	27		300	300	300	
Bromine	NA	mg/L	26		0.1	0.5	0.2	
Calcium	NA	mg/L	27		30	50	40	
Electrical conductivity	NA	µS/cm	27		1000	1000	1000	
Iodine	NA	mg/L	26		0.2	0.3	0.3	
Magnesium	NA	mg/L	27		20	30	20	
Potassium	NA	mg/L	27		30	30	30	
Tin	NA	mg/L	26		<0.01	<0.01	<0.01	

Table 154 Water quality results for Maningrida

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	0.001	0.0006	0.001
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.04	0.04	0.04	0.04
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	101	0	<0.1	0.75	0.45	0.70
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	0.005	<0.005	0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.3	0.5	0.4	0.5
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.06	0.06	0.06	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.060	0.10	0.080	0.098
Aesthetic								
Aluminium	0.2	mg/L	2	1	<0.02	0.3	0.1	
Chloride	250	mg/L	2	0	9.0	10	9.5	
Chlorine (free)	0.6	mg/L	196	195	0.3	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	0	3	3	3	
Iron	0.3	mg/L	2	1	<0.02	0.9	**0.4**	
Manganese	0.1	mg/L	2	0	<0.005	0.005	<0.005	
pH	6.5-8.5	pH unit	2	2	5.6	5.6	**5.6**	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	5.5	5.6	5.6	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	30	30	30	
Turbidity	5	NTU	2	0	0.3	5	3	
Zinc	3	mg/L	2	0	<0.01	0.03	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.004	0.02	0.01	
Calcium	NA	mg/L	2		<0.03	0.1	0.06	
Electrical conductivity	NA	µS/cm	2		40	40	40	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		0.6	0.7	0.7	
Potassium	NA	mg/L	2		1	1	1	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 155 Water quality results for Manyallaluk

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.01	0.04	0.03	0.04
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	0.004	0.002	NA
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.2	0.2	0.2	0.2
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.070	0.070	0.070	0.070
Aesthetic								
Aluminium	0.2	mg/L	2	0	0.02	0.02	0.02	
Chloride	250	mg/L	2	0	6.0	7.0	6.5	
Chlorine (free)	0.6	mg/L	27	27	0.9	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	0.01	0.04	0.03	
Hardness as $CaCO_3$	200	mg/L	2	0	2	3	2	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	2	5.2	5.2	**5.2**	
Silica	80	mg/L	2	0	20	20	20	
Sodium	180	mg/L	2	0	5.8	6.1	5.9	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	40	40	40	
Turbidity	5	NTU	2	0	0.3	0.4	0.3	
Zinc	3	mg/L	2	0	<0.01	0.02	0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.01	0.01	0.01	
Calcium	NA	mg/L	2		0.1	0.2	0.2	
Electrical conductivity	NA	µS/cm	2		40	40	40	
Iodine	NA	mg/L	2		<0.01	0.01	<0.01	
Magnesium	NA	mg/L	2		0.5	0.5	0.5	
Potassium	NA	mg/L	2		0.5	0.5	0.5	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 156 Water quality results for Milikapiti

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.02	0.04	0.03	0.04
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	0.002	0.001	0.002
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.6	0.6	0.6	0.6
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	<0.01	<0.01	<0.01	<0.01
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	0.04	0.03	
Chloride	250	mg/L	2	0	10	11	11	
Chlorine (free)	0.6	mg/L	30	30	0.9	2	**1**	
Colour (true)	15	HU	2	0	<2	2.0	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	0	4	4	4	
Iron	0.3	mg/L	2	1	<0.02	0.4	0.2	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	2	6.0	6.1	**6.1**	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	10	11	11	
Sulphate	250	mg/L	2	0	0.66	0.72	0.69	
Total dissolved solids	600	mg/L	2	0	50	60	60	
Turbidity	5	NTU	2	0	0.4	2	1	
Zinc	3	mg/L	2	0	0.01	0.01	0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.03	0.03	0.03	
Calcium	NA	mg/L	2		0.5	0.7	0.6	
Electrical conductivity	NA	µS/cm	2		60	70	70	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		0.6	0.6	0.6	
Potassium	NA	mg/L	2		0.7	0.8	0.8	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 157 Water quality results for Milingimbi

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.04	0.04	0.04	0.04
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.01	0.02	0.02	0.02
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	0.001	<0.001	0.001
Manganese	0.5	mg/L	2	0	<0.005	0.03	0.01	0.02
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	0.002	0.002	0.002	0.002
Nitrate	50	mg/L	2	0	3	3	3	3
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.03	0.03	0.03	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.23	0.25	0.24	0.25
Aesthetic								
Aluminium	0.2	mg/L	2	0	0.08	0.1	0.09	
Chloride	250	mg/L	2	0	40	41	41	
Chlorine (free)	0.6	mg/L	120	120	0.8	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	0.01	0.02	0.02	
Hardness as $CaCO_3$	200	mg/L	2	0	10	10	10	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	0.03	0.01	
pH	6.5-8.5	pH unit	2	2	4.8	4.9	**4.8**	
Silica	80	mg/L	2	0	20	20	20	
Sodium	180	mg/L	2	0	20	21	21	
Sulphate	250	mg/L	2	0	<0.2	0.39	0.27	
Total dissolved solids	600	mg/L	2	0	80	90	90	
Turbidity	5	NTU	2	0	0.2	0.3	0.3	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.05	0.07	0.06	
Calcium	NA	mg/L	2		2	2	2	
Electrical conductivity	NA	µS/cm	2		200	200	200	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		2	2	2	
Potassium	NA	mg/L	2		0.3	0.3	0.3	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 158 Water quality results for Milyakburra

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.06	0.06	0.06	0.06
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.05	0.07	0.06	0.07
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	0.002	0.004	0.003	NA
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.3	0.4	0.4	0.4
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.030	0.030	0.030	0.030
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	83	84	84	
Chlorine (free)	0.6	mg/L	30	30	0.9	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	0.05	0.07	0.06	
Hardness as $CaCO_3$	200	mg/L	2	0	20	20	20	
Iron	0.3	mg/L	2	0	0.06	0.06	0.06	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	2	5.4	5.4	**5.4**	
Silica	80	mg/L	2	0	20	20	20	
Sodium	180	mg/L	2	0	46	47	46	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	100	100	100	
Turbidity	5	NTU	2	0	0.3	0.3	0.3	
Zinc	3	mg/L	2	0	0.01	0.03	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.06	0.07	0.07	
Calcium	NA	mg/L	2		3	3	3	
Electrical conductivity	NA	µS/cm	2		300	300	300	
Iodine	NA	mg/L	2		0.03	0.03	0.03	
Magnesium	NA	mg/L	2		3	3	3	
Potassium	NA	mg/L	2		0.4	0.4	0.4	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 159 Water quality results for Minjilang

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.04	0.04	0.04	0.04
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.03	0.02	0.03
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.9	0.9	0.9	0.9
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.080	0.090	0.085	0.090
Aesthetic								
Aluminium	0.2	mg/L	2	0	0.1	0.1	0.1	
Chloride	250	mg/L	2	0	19	20	20	
Chlorine (free)	0.6	mg/L	30	30	0.7	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.03	0.02	
Hardness as $CaCO_3$	200	mg/L	2	0	3	3	3	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	2	4.7	4.7	**4.7**	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	12	13	12	
Sulphate	250	mg/L	2	0	2.7	2.8	2.8	
Total dissolved solids	600	mg/L	2	0	60	80	70	
Turbidity	5	NTU	2	0	0.2	0.2	0.2	
Zinc	3	mg/L	2	0	0.08	0.09	0.09	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.05	0.06	0.06	
Calcium	NA	mg/L	2		0.1	0.2	0.2	
Electrical conductivity	NA	µS/cm	2		90	90	90	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		0.7	0.7	0.7	
Potassium	NA	mg/L	2		0.1	0.1	0.1	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 160 Water quality results for Minyerri

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	10	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	10	0	<0.0005	0.003	0.001	0.003
Barium	2	mg/L	10	0	0.3	0.4	0.3	0.4
Beryllium	0.06	mg/L	10	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	10	0	0.1	0.2	0.2	0.2
Cadmium	0.002	mg/L	10	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	10	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	10	0	<0.01	0.02	<0.01	0.02
Fluoride	1.5	mg/L	8	0	0.28	0.31	0.29	0.31
Lead	0.01	mg/L	10	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	10	0	0.02	0.3	0.1	NA
Mercury	0.001	mg/L	10	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	10	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	10	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	8	0	<0.1	0.4	0.2	0.4
Nitrite	3	mg/L	8	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	10	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	10	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	10	0	<0.01	<0.01	<0.01	<0.01
Aesthetic								
Aluminium	0.2	mg/L	10	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	8	0	11	17	14	
Chlorine (free)	0.6	mg/L	30	30	0.7	1	**1**	
Colour (true)	15	HU	8	0	<2	3.0	<2	
Copper	1	mg/L	10	0	<0.01	0.02	<0.01	
Hardness as $CaCO_3$	200	mg/L	8	0	100	100	100	
Iron	0.3	mg/L	10	8	0.1	2	**0.9**	
Manganese	0.1	mg/L	10	4	0.02	0.3	0.1	
pH	6.5-8.5	pH unit	8	0	7.3	7.5	7.4	
Silica	80	mg/L	8	0	30	30	30	
Sodium	180	mg/L	8	0	24	27	25	
Sulphate	250	mg/L	8	0	8.3	11	9.4	
Total dissolved solids	600	mg/L	8	0	200	200	200	
Turbidity	5	NTU	8	0	0.9	5	3	
Zinc	3	mg/L	10	0	<0.01	0.04	0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	8		200	200	200	
Bromine	NA	mg/L	10		0.02	0.07	0.04	
Calcium	NA	mg/L	8		30	30	30	
Electrical conductivity	NA	µS/cm	8		400	400	400	
Iodine	NA	mg/L	10		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	8		10	10	10	
Potassium	NA	mg/L	8		5	6	6	
Tin	NA	mg/L	10		<0.01	<0.01	<0.01	

Table 161 Water quality results for Mt Liebig

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.3	0.3	0.3	0.3
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.01	<0.01	0.01
Fluoride	1.5	mg/L	2	0	1.1	1.1	1.1	1.1
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	20	20	20	20
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.08	0.08	0.08	NA
Selenium	0.01	mg/L	2	0	0.002	0.002	0.002	0.002
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	5.6	5.7	5.7	5.7
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	120	120	120	
Chlorine (free)	0.6	mg/L	30	27	0.3	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	0	0.02	0.04	0.03	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.8	7.8	7.8	
Silica	80	mg/L	2	0	40	40	40	
Sodium	180	mg/L	2	0	110	110	110	
Sulphate	250	mg/L	2	0	92	96	94	
Total dissolved solids	600	mg/L	2	0	600	600	600	
Turbidity	5	NTU	2	0	0.4	0.4	0.4	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		300	300	300	
Bromine	NA	mg/L	2		0.2	0.2	0.2	
Calcium	NA	mg/L	2		70	80	80	
Electrical conductivity	NA	µS/cm	2		1000	1000	1000	
Iodine	NA	mg/L	2		0.1	0.1	0.1	
Magnesium	NA	mg/L	2		30	30	30	
Potassium	NA	mg/L	2		10	10	10	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 162 Water quality results for Nauiyu

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	16	0	0.0002	0.0006	0.0004	0.0006
Arsenic	0.01	mg/L	16	0	0.003	0.005	0.004	0.005
Barium	2	mg/L	16	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	16	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	16	0	0.02	0.04	0.02	0.04
Cadmium	0.002	mg/L	16	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	16	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	16	0	<0.01	0.05	0.01	0.04
Fluoride	1.5	mg/L	15	0	0.33	0.41	0.36	0.40
Lead	0.01	mg/L	16	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	16	3	0.01	**1**	0.4	NA
Mercury	0.001	mg/L	16	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	16	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	16	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	15	0	<0.1	5	0.5	2
Nitrite	3	mg/L	15	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.04	0.04	0.04	NA
Selenium	0.01	mg/L	16	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	16	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	16	0	0.060	0.14	0.094	0.14
Aesthetic								
Aluminium	0.2	mg/L	16	0	<0.02	0.06	<0.02	
Chloride	250	mg/L	15	0	4.0	7.0	5.2	
Chlorine (free)	0.6	mg/L	39	37	0.1	2	**1**	
Colour (true)	15	HU	15	0	<2	2.0	<2	
Copper	1	mg/L	16	0	<0.01	0.05	0.01	
Hardness as $CaCO_3$	200	mg/L	15	0	100	100	100	
Iron	0.3	mg/L	16	3	<0.02	0.6	0.2	
Manganese	0.1	mg/L	16	11	0.01	1	**0.4**	
pH	6.5-8.5	pH unit	15	0	7.4	7.6	7.5	
Silica	80	mg/L	15	0	30	40	40	
Sodium	180	mg/L	15	0	15	20	16	
Sulphate	250	mg/L	15	0	<0.2	0.69	<0.2	
Total dissolved solids	600	mg/L	15	0	200	200	200	
Turbidity	5	NTU	15	8	0.9	20	**6**	
Zinc	3	mg/L	16	0	<0.01	0.04	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	15		100	200	100	
Bromine	NA	mg/L	16		0.01	0.03	0.02	
Calcium	NA	mg/L	15		30	30	30	
Electrical conductivity	NA	µS/cm	15		300	300	300	
Iodine	NA	mg/L	16		<0.01	0.02	0.02	
Magnesium	NA	mg/L	15		10	10	10	
Potassium	NA	mg/L	15		0.7	1	0.9	
Tin	NA	mg/L	16		<0.01	<0.01	<0.01	

Table 163 Water quality results for Nganmarriyanga

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.001	0.002	0.001	0.001
Barium	2	mg/L	2	0	0.2	0.2	0.2	0.2
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.02	0.04	0.03	0.04
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	5	0	0.22	0.26	0.24	0.26
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	1	0.1	**2**	0.8	NA
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	5	0	<0.1	0.2	0.1	0.2
Nitrite	3	mg/L	5	0	<0.1	1	0.3	1
Radiological	1	mSv/yr	1	0	0.03	0.03	0.03	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	<0.01	<0.01	<0.01	<0.01
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	5	0	27	28	28	
Chlorine (free)	0.6	mg/L	38	38	1	2	**1**	
Colour (true)	15	HU	5	0	<2	2.0	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	5	0	80	90	90	
Iron	0.3	mg/L	2	1	0.1	0.8	**0.5**	
Manganese	0.1	mg/L	2	1	0.1	2	**0.8**	
pH	6.5-8.5	pH unit	5	0	7.7	7.8	7.7	
Silica	80	mg/L	5	0	40	40	40	
Sodium	180	mg/L	5	0	38	46	42	
Sulphate	250	mg/L	5	0	10	17	14	
Total dissolved solids	600	mg/L	5	0	200	200	200	
Turbidity	5	NTU	5	2	2	30	**9**	
Zinc	3	mg/L	2	0	0.03	0.06	0.05	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	5		100	100	100	
Bromine	NA	mg/L	2		0.04	0.04	0.04	
Calcium	NA	mg/L	5		20	30	20	
Electrical conductivity	NA	µS/cm	5		400	400	400	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	5		6	7	6	
Potassium	NA	mg/L	5		6	8	7	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 164 Water quality results for Ngukurr

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	8	0	0.6	2	1	NA
Beryllium	0.06	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	8	0	0.04	0.06	0.05	0.06
Cadmium	0.002	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	8	0	<0.01	0.01	<0.01	0.01
Fluoride	1.5	mg/L	8	0	0.15	0.23	0.20	0.23
Lead	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	8	0	<0.002	0.002	<0.002	0.002
Nitrate	50	mg/L	8	0	1	2	1	2
Nitrite	3	mg/L	8	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.03	0.03	0.03	NA
Selenium	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	8	0	0.39	0.86	0.62	0.86
Aesthetic								
Aluminium	0.2	mg/L	8	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	8	4	38	340	180	
Chlorine (free)	0.6	mg/L	132	132	0.8	2	**1**	
Colour (true)	15	HU	8	0	<2	<2	<2	
Copper	1	mg/L	8	0	<0.01	0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	8	8	300	700	**500**	
Iron	0.3	mg/L	8	0	<0.02	0.1	0.02	
Manganese	0.1	mg/L	8	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	8	0	7.5	7.9	7.7	
Silica	80	mg/L	8	0	20	30	20	
Sodium	180	mg/L	8	0	16	90	52	
Sulphate	250	mg/L	8	0	<0.2	7.9	3.3	
Total dissolved solids	600	mg/L	8	4	300	1000	600	
Turbidity	5	NTU	8	0	0.3	0.5	0.4	
Zinc	3	mg/L	8	0	<0.01	0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	8		300	400	300	
Bromine	NA	mg/L	8		0.07	0.8	0.3	
Calcium	NA	mg/L	8		60	100	90	
Electrical conductivity	NA	µS/cm	8		700	2000	1000	
Iodine	NA	mg/L	8		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	8		40	90	70	
Potassium	NA	mg/L	8		5	6	5	
Tin	NA	mg/L	8		<0.01	<0.01	<0.01	

Table 165 Water quality results for Nturiya

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	4	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	4	0	0.6	0.7	0.6	0.7
Cadmium	0.002	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	4	0	<0.01	0.02	0.01	0.02
Fluoride	1.5	mg/L	4	0	0.91	1.1	1.0	1.1
Lead	0.01	mg/L	4	0	<0.001	0.001	<0.001	<0.001
Manganese	0.5	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	4	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	4	0	50	50	50	NA
Nitrite	3	mg/L	4	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.1	0.1	0.1	NA
Selenium	0.01	mg/L	4	0	0.004	0.005	0.004	0.005
Silver	0.1	mg/L	4	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	4	0	16	16	16	NA
Aesthetic								
Aluminium	0.2	mg/L	4	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	4	4	330	350	**340**	
Chlorine (free)	0.6	mg/L	27	15	0.2	1	**0.7**	
Colour (true)	15	HU	4	0	2.0	2.0	2.0	
Copper	1	mg/L	4	0	<0.01	0.02	0.01	
Hardness as $CaCO_3$	200	mg/L	4	4	300	300	**300**	
Iron	0.3	mg/L	4	0	0.02	0.2	0.08	
Manganese	0.1	mg/L	4	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	4	0	7.7	7.9	7.8	
Silica	80	mg/L	4	0	70	70	70	
Sodium	180	mg/L	4	4	250	270	**260**	
Sulphate	250	mg/L	4	0	160	170	170	
Total dissolved solids	600	mg/L	4	4	1000	1000	**1000**	
Turbidity	5	NTU	4	0	0.3	2	0.9	
Zinc	3	mg/L	4	0	0.05	0.06	0.05	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	4		200	200	200	
Bromine	NA	mg/L	4		0.5	1	0.7	
Calcium	NA	mg/L	4		90	90	90	
Electrical conductivity	NA	µS/cm	4		2000	2000	2000	
Iodine	NA	mg/L	4		0.2	0.3	0.3	
Magnesium	NA	mg/L	4		30	30	30	
Potassium	NA	mg/L	4		30	30	30	
Tin	NA	mg/L	4		<0.01	<0.01	<0.01	

Table 166 Water quality results for Numbulwar

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	11	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	11	0	<0.0005	0.002	0.0005	0.002
Barium	2	mg/L	11	0	0.2	0.3	0.2	0.3
Beryllium	0.06	mg/L	11	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	11	0	0.04	0.06	0.05	0.06
Cadmium	0.002	mg/L	11	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	11	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	11	0	<0.01	0.3	0.03	0.2
Fluoride	1.5	mg/L	6	0	0.11	0.14	0.13	0.14
Lead	0.01	mg/L	11	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	11	0	0.03	0.5	0.1	NA
Mercury	0.001	mg/L	11	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	11	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	11	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	6	0	<0.1	0.2	<0.1	0.2
Nitrite	3	mg/L	6	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	11	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	11	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	11	0	0.030	0.050	0.045	0.050
Aesthetic								
Aluminium	0.2	mg/L	11	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	6	0	38	41	40	
Chlorine (free)	0.6	mg/L	125	125	0.8	2	**1**	
Colour (true)	15	HU	6	0	<2	<2	<2	
Copper	1	mg/L	11	0	<0.01	0.3	0.03	
Hardness as $CaCO_3$	200	mg/L	6	6	300	400	**400**	
Iron	0.3	mg/L	11	5	0.1	2	**0.6**	
Manganese	0.1	mg/L	11	2	0.03	0.5	0.1	
pH	6.5-8.5	pH unit	6	0	7.7	7.8	7.7	
Silica	80	mg/L	6	0	20	20	20	
Sodium	180	mg/L	6	0	22	24	23	
Sulphate	250	mg/L	6	0	170	190	180	
Total dissolved solids	600	mg/L	6	0	500	600	500	
Turbidity	5	NTU	6	0	0.5	2	1	
Zinc	3	mg/L	11	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	6		200	200	200	
Bromine	NA	mg/L	11		0.07	0.2	0.1	
Calcium	NA	mg/L	6		100	100	100	
Electrical conductivity	NA	µS/cm	6		800	900	800	
Iodine	NA	mg/L	11		<0.01	0.01	<0.01	
Magnesium	NA	mg/L	6		20	20	20	
Potassium	NA	mg/L	6		3	3	3	
Tin	NA	mg/L	11		<0.01	<0.01	<0.01	

Table 167 Water quality results for Nyirripi

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	8	0	0.002	0.002	0.002	0.002
Barium	2	mg/L	8	0	0.1	0.1	0.1	0.1
Beryllium	0.06	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	8	0	0.3	0.4	0.4	0.4
Cadmium	0.002	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	8	0	<0.01	0.1	0.02	0.08
Fluoride	1.5	mg/L	8	8	1.6	1.7	1.6	**1.7**
Lead	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	8	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	8	0	30	30	30	30
Nitrite	3	mg/L	8	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.08	0.08	0.08	NA
Selenium	0.01	mg/L	8	0	0.002	0.003	0.002	0.003
Silver	0.1	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	8	0	8.7	10	9.1	10
Aesthetic								
Aluminium	0.2	mg/L	8	0	<0.02	0.04	<0.02	
Chloride	250	mg/L	8	0	110	150	130	
Chlorine (free)	0.6	mg/L	30	30	0.8	1	**1**	
Colour (true)	15	HU	8	0	<2	<2	<2	
Copper	1	mg/L	8	0	<0.01	0.1	0.02	
Hardness as $CaCO_3$	200	mg/L	8	8	300	300	**300**	
Iron	0.3	mg/L	8	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	8	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	8	0	7.7	8.2	8.0	
Silica	80	mg/L	8	2	80	90	80	
Sodium	180	mg/L	8	0	89	93	92	
Sulphate	250	mg/L	8	0	12	31	25	
Total dissolved solids	600	mg/L	8	2	600	700	600	
Turbidity	5	NTU	8	0	0.2	0.4	0.3	
Zinc	3	mg/L	8	0	<0.01	0.02	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	8		300	300	300	
Bromine	NA	mg/L	8		0.2	0.2	0.2	
Calcium	NA	mg/L	8		50	60	50	
Electrical conductivity	NA	µS/cm	8		1000	1000	1000	
Iodine	NA	mg/L	8		0.09	0.2	0.1	
Magnesium	NA	mg/L	8		30	30	30	
Potassium	NA	mg/L	8		30	30	30	
Tin	NA	mg/L	8		<0.01	<0.01	<0.01	

Table 168 Water quality results for Papunya

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	0.1	0.1	0.1	0.1
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.4	0.4	0.4	0.4
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.01	<0.01	0.01
Fluoride	1.5	mg/L	2	0	0.82	0.85	0.84	0.85
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	20	20	20	20
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.08	0.08	0.08	NA
Selenium	0.01	mg/L	2	0	0.005	0.005	0.005	0.005
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	8.7	8.8	8.8	8.8
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	190	220	210	
Chlorine (free)	0.6	mg/L	30	30	0.8	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.9	7.9	7.9	
Silica	80	mg/L	2	0	60	60	60	
Sodium	180	mg/L	2	2	250	260	**250**	
Sulphate	250	mg/L	2	0	67	77	72	
Total dissolved solids	600	mg/L	2	2	900	1000	**1000**	
Turbidity	5	NTU	2	0	0.3	0.4	0.3	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		400	400	400	
Bromine	NA	mg/L	2		0.3	0.3	0.3	
Calcium	NA	mg/L	2		50	60	60	
Electrical conductivity	NA	µS/cm	2		2000	2000	2000	
Iodine	NA	mg/L	2		0.2	0.2	0.2	
Magnesium	NA	mg/L	2		30	30	30	
Potassium	NA	mg/L	2		10	10	10	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 169 Water quality results for Peppimenarti

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	8	0	<0.05	0.1	0.05	0.08
Beryllium	0.06	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	8	0	0.04	0.04	0.04	0.04
Cadmium	0.002	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	8	0	0.52	0.58	0.53	0.57
Lead	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	8	0	0.01	0.05	0.03	0.05
Mercury	0.001	mg/L	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	8	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	8	0	0.1	0.3	0.2	0.3
Nitrite	3	mg/L	8	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.03	0.03	0.03	NA
Selenium	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	8	0	<0.01	<0.01	<0.01	<0.01
Aesthetic								
Aluminium	0.2	mg/L	8	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	8	0	14	16	15	
Chlorine (free)	0.6	mg/L	27	27	0.9	1	**1**	
Colour (true)	15	HU	8	0	<2	3.0	<2	
Copper	1	mg/L	8	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	8	0	30	40	30	
Iron	0.3	mg/L	8	1	0.08	0.4	0.2	
Manganese	0.1	mg/L	8	0	0.01	0.05	0.03	
pH	6.5-8.5	pH unit	8	0	6.9	7.2	7.0	
Silica	80	mg/L	8	0	20	20	20	
Sodium	180	mg/L	8	0	16	18	17	
Sulphate	250	mg/L	8	0	0.30	2.2	1.6	
Total dissolved solids	600	mg/L	8	0	90	100	100	
Turbidity	5	NTU	8	0	0.6	2	1	
Zinc	3	mg/L	8	0	<0.01	0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	8		50	60	50	
Bromine	NA	mg/L	8		0.01	0.02	0.02	
Calcium	NA	mg/L	8		8	10	10	
Electrical conductivity	NA	µS/cm	8		200	200	200	
Iodine	NA	mg/L	8		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	8		2	3	2	
Potassium	NA	mg/L	8		6	7	6	
Tin	NA	mg/L	8		<0.01	<0.01	<0.01	

Table 170 Water quality results for Pigeon Hole

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.08	0.1	0.09	0.1
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	0.26	0.27	0.27	0.27
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	10	10	10	10
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.03	0.03	0.03	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	1.8	1.8	1.8	1.8
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	11	13	12	
Chlorine (free)	0.6	mg/L	24	18	0.4	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.2	7.4	7.3	
Silica	80	mg/L	2	0	60	60	60	
Sodium	180	mg/L	2	0	26	28	27	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	400	500	400	
Turbidity	5	NTU	2	0	0.2	0.3	0.3	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		300	300	300	
Bromine	NA	mg/L	2		0.07	0.08	0.07	
Calcium	NA	mg/L	2		70	80	70	
Electrical conductivity	NA	µS/cm	2		700	700	700	
Iodine	NA	mg/L	2		0.01	0.01	0.01	
Magnesium	NA	mg/L	2		40	40	40	
Potassium	NA	mg/L	2		3	3	3	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 171 Water quality results for Pirlangimpi

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	<0.1	0.5	0.3	0.5
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	<0.01	<0.01	<0.01	<0.01
Aesthetic								
Aluminium	0.2	mg/L	2	0	0.02	0.04	0.03	
Chloride	250	mg/L	2	0	8.0	9.0	8.5	
Chlorine (free)	0.6	mg/L	33	33	0.7	2	**1**	
Colour (true)	15	HU	2	0	2.0	2.0	2.0	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	0	1	1	1	
Iron	0.3	mg/L	2	0	0.02	0.04	0.03	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	2	6.2	6.2	**6.2**	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	6.0	6.2	6.1	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	30	40	40	
Turbidity	5	NTU	2	0	0.5	0.5	0.5	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.02	0.02	0.02	
Calcium	NA	mg/L	2		0.1	0.1	0.1	
Electrical conductivity	NA	µS/cm	2		40	40	40	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		0.2	0.2	0.2	
Potassium	NA	mg/L	2		<0.1	0.1	<0.1	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 172 Water quality results for Pmara Jutunta

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.001	0.001	0.001	0.001
Barium	2	mg/L	2	0	0.1	0.1	0.1	0.1
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.3	0.3	0.3	0.3
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	0.78	0.78	0.78	0.78
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	50	50	50	NA
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.06	0.06	0.06	NA
Selenium	0.01	mg/L	2	0	0.002	0.002	0.002	0.002
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	6.5	6.5	6.5	6.5
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	0.2	0.1	
Chloride	250	mg/L	2	0	71	73	72	
Chlorine (free)	0.6	mg/L	30	30	1	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	0	200	200	200	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.7	7.7	7.7	
Silica	80	mg/L	2	2	90	90	**90**	
Sodium	180	mg/L	2	0	68	68	68	
Sulphate	250	mg/L	2	0	32	32	32	
Total dissolved solids	600	mg/L	2	0	500	500	500	
Turbidity	5	NTU	2	0	0.3	0.4	0.3	
Zinc	3	mg/L	2	0	<0.01	0.02	0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		0.08	0.09	0.09	
Calcium	NA	mg/L	2		50	50	50	
Electrical conductivity	NA	µS/cm	2		800	800	800	
Iodine	NA	mg/L	2		0.09	0.1	0.1	
Magnesium	NA	mg/L	2		20	20	20	
Potassium	NA	mg/L	2		20	20	20	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 173 Water quality results for Ramingining

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	4	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	4	0	<0.02	0.02	<0.02	0.02
Cadmium	0.002	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	4	0	<0.01	0.02	0.01	0.02
Fluoride	1.5	mg/L	4	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	4	0	<0.001	0.002	<0.001	0.002
Manganese	0.5	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	4	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	4	0	0.5	0.7	0.7	0.7
Nitrite	3	mg/L	4	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	4	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	4	0	0.020	0.030	0.025	0.030
Aesthetic								
Aluminium	0.2	mg/L	4	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	4	0	10	10	10	
Chlorine (free)	0.6	mg/L	161	161	0.7	2	**1**	
Colour (true)	15	HU	4	0	<2	<2	<2	
Copper	1	mg/L	4	0	<0.01	0.02	0.01	
Hardness as $CaCO_3$	200	mg/L	4	0	4	4	4	
Iron	0.3	mg/L	4	0	<0.02	0.04	0.02	
Manganese	0.1	mg/L	4	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	4	4	5.4	5.8	**5.6**	
Silica	80	mg/L	4	0	10	20	10	
Sodium	180	mg/L	4	0	7.3	8.0	7.8	
Sulphate	250	mg/L	4	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	4	0	30	50	30	
Turbidity	5	NTU	4	0	0.3	0.5	0.4	
Zinc	3	mg/L	4	0	<0.01	0.02	0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	4		<20	<20	<20	
Bromine	NA	mg/L	4		0.01	0.02	0.02	
Calcium	NA	mg/L	4		0.4	0.7	0.5	
Electrical conductivity	NA	µS/cm	4		50	50	50	
Iodine	NA	mg/L	4		<0.01	0.01	<0.01	
Magnesium	NA	mg/L	4		0.6	0.6	0.6	
Potassium	NA	mg/L	4		0.3	0.4	0.3	
Tin	NA	mg/L	4		<0.01	<0.01	<0.01	

Table 174 Water quality results for Rittarangu

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	0.3	0.3	0.3	0.3
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.04	0.04	0.04	0.04
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	1	1	1	1
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.03	0.03	0.03	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.45	0.45	0.45	0.45
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	24	24	24	
Chlorine (free)	0.6	mg/L	30	30	0.7	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.8	7.8	7.8	
Silica	80	mg/L	2	0	20	20	20	
Sodium	180	mg/L	2	0	15	15	15	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	300	300	300	
Turbidity	5	NTU	2	0	0.2	0.3	0.2	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		300	300	300	
Bromine	NA	mg/L	2		0.05	0.05	0.05	
Calcium	NA	mg/L	2		60	60	60	
Electrical conductivity	NA	µS/cm	2		600	600	600	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		40	40	40	
Potassium	NA	mg/L	2		3	3	3	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 175 Water quality results for Robinson River

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	8	0	0.9	1	1	1
Beryllium	0.06	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	8	0	0.1	0.1	0.1	0.1
Cadmium	0.002	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	8	0	0.89	1.1	0.99	1.1
Lead	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	8	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	8	0	<0.1	6	5	6
Nitrite	3	mg/L	8	0	<0.1	1	0.2	0.8
Radiological	1	mSv/yr	1	0	0.04	0.04	0.04	NA
Selenium	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	8	0	2.1	2.4	2.2	2.4
Aesthetic								
Aluminium	0.2	mg/L	8	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	8	0	29	40	36	
Chlorine (free)	0.6	mg/L	27	27	1	2	**1**	
Colour (true)	15	HU	8	0	<2	<2	<2	
Copper	1	mg/L	8	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	8	8	400	500	**500**	
Iron	0.3	mg/L	8	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	8	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	8	0	7.8	8.1	7.9	
Silica	80	mg/L	8	0	30	40	40	
Sodium	180	mg/L	8	0	19	24	21	
Sulphate	250	mg/L	8	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	8	0	400	500	500	
Turbidity	5	NTU	8	0	0.2	0.6	0.4	
Zinc	3	mg/L	8	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	8		400	500	500	
Bromine	NA	mg/L	8		0.07	0.1	0.1	
Calcium	NA	mg/L	8		50	50	50	
Electrical conductivity	NA	µS/cm	8		800	1000	900	
Iodine	NA	mg/L	8		0.01	0.02	0.02	
Magnesium	NA	mg/L	8		70	100	90	
Potassium	NA	mg/L	8		3	4	4	
Tin	NA	mg/L	8		<0.01	<0.01	<0.01	

Table 176 Water quality results for Santa Teresa

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	0.5	0.5	0.5	0.5
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.08	0.08	0.08	0.08
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	0.18	0.18	0.18	0.18
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	8	8	8	8
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.08	0.08	0.08	NA
Selenium	0.01	mg/L	2	0	0.003	0.003	0.003	0.003
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	2.9	2.9	2.9	2.9
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	11	11	11	
Chlorine (free)	0.6	mg/L	30	30	0.8	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.9	7.9	7.9	
Silica	80	mg/L	2	0	20	20	20	
Sodium	180	mg/L	2	0	7.6	7.7	7.6	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	300	300	300	
Turbidity	5	NTU	2	0	0.2	0.3	0.2	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		0.07	0.07	0.07	
Calcium	NA	mg/L	2		70	70	70	
Electrical conductivity	NA	µS/cm	2		500	500	500	
Iodine	NA	mg/L	2		0.02	0.02	0.02	
Magnesium	NA	mg/L	2		20	20	20	
Potassium	NA	mg/L	2		4	4	4	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 177 Water quality results for Tara

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.0005	0.0005	0.0005	0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.5	0.5	0.5	0.5
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.06	0.2	0.1	0.1
Fluoride	1.5	mg/L	2	0	0.86	0.86	0.86	0.86
Lead	0.01	mg/L	2	0	<0.001	0.002	0.001	0.002
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	0.004	0.004	0.004	0.004
Nitrate	50	mg/L	2	0	20	20	20	20
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.3	0.3	0.3	NA
Selenium	0.01	mg/L	2	0	0.002	0.002	0.002	0.002
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	4.3	4.4	4.4	4.4
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	0.04	0.03	
Chloride	250	mg/L	2	2	330	340	**340**	
Chlorine (free)	0.6	mg/L	30	27	0.5	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	0.06	0.2	0.1	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	0	0.02	0.02	0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.1	7.1	7.1	
Silica	80	mg/L	2	0	20	20	20	
Sodium	180	mg/L	2	2	230	230	**230**	
Sulphate	250	mg/L	2	0	140	140	140	
Total dissolved solids	600	mg/L	2	2	1000	1000	**1000**	
Turbidity	5	NTU	2	0	0.3	0.4	0.4	
Zinc	3	mg/L	2	0	0.02	0.03	0.03	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		1	1	1	
Calcium	NA	mg/L	2		40	40	40	
Electrical conductivity	NA	µS/cm	2		2000	2000	2000	
Iodine	NA	mg/L	2		0.3	0.3	0.3	
Magnesium	NA	mg/L	2		60	60	60	
Potassium	NA	mg/L	2		30	30	30	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 178 Water quality results for Umbakumba

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.02	0.04	0.03	0.04
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.02	0.03	0.03	0.03
Fluoride	1.5	mg/L	5	0	<0.1	1.0	0.37	NA
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	0.04	0.02	0.03
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.8	0.9	0.9	0.9
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.010	0.010	0.010	0.010
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	39	41	40	
Chlorine (free)	0.6	mg/L	27	27	1	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	0.02	0.03	0.03	
Hardness as $CaCO_3$	200	mg/L	2	0	10	20	20	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	0.04	0.02	
pH	6.5-8.5	pH unit	2	2	5.3	5.7	**5.5**	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	23	23	23	
Sulphate	250	mg/L	2	0	1.9	2.6	2.2	
Total dissolved solids	600	mg/L	2	0	90	100	90	
Turbidity	5	NTU	2	0	0.2	0.6	0.4	
Zinc	3	mg/L	2	0	0.01	0.02	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		<20	<20	<20	
Bromine	NA	mg/L	2		0.05	0.07	0.06	
Calcium	NA	mg/L	2		1	5	3	
Electrical conductivity	NA	µS/cm	2		200	200	200	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		2	3	2	
Potassium	NA	mg/L	2		0.7	0.8	0.8	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 179 Water quality results for Wadeye

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	4	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	4	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	4	0	<0.02	0.02	<0.02	0.02
Cadmium	0.002	mg/L	4	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	4	0	<0.01	0.03	0.02	0.03
Fluoride	1.5	mg/L	109	0	<0.1	0.73	0.54	0.66
Lead	0.01	mg/L	4	0	<0.001	0.002	<0.001	0.002
Manganese	0.5	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	4	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	4	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	4	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	4	0	<0.1	0.4	0.2	0.4
Nitrite	3	mg/L	4	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.04	0.04	0.04	NA
Selenium	0.01	mg/L	4	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	4	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	4	0	0.13	0.19	0.15	0.18
Aesthetic								
Aluminium	0.2	mg/L	4	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	4	0	6.0	8.0	6.5	
Chlorine (free)	0.6	mg/L	216	215	0.4	2	**1**	
Colour (true)	15	HU	4	0	<2	<2	<2	
Copper	1	mg/L	4	0	<0.01	0.03	0.02	
Hardness as $CaCO_3$	200	mg/L	4	0	1	1	1	
Iron	0.3	mg/L	4	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	4	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	4	4	5.1	5.7	**5.3**	
Silica	80	mg/L	4	0	10	10	10	
Sodium	180	mg/L	4	0	4.1	5.4	4.5	
Sulphate	250	mg/L	4	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	4	0	30	30	30	
Turbidity	5	NTU	4	0	0.2	0.3	0.2	
Zinc	3	mg/L	4	0	0.02	0.03	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	4		<20	<20	<20	
Bromine	NA	mg/L	4		0.008	0.01	0.01	
Calcium	NA	mg/L	4		<0.03	<0.03	<0.03	
Electrical conductivity	NA	µS/cm	4		30	40	30	
Iodine	NA	mg/L	4		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	4		0.3	0.3	0.3	
Potassium	NA	mg/L	4		0.1	0.1	0.1	
Tin	NA	mg/L	4		<0.01	<0.01	<0.01	

Table 180 Water quality results for Wallace Rockhole

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.001	0.001	0.001	0.001
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.3	0.4	0.3	0.4
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	0.05	0.05	0.05	0.05
Copper	2	mg/L	2	0	<0.01	0.03	0.02	0.03
Fluoride	1.5	mg/L	2	0	0.68	0.68	0.68	0.68
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	0.002	0.002	0.002	0.002
Nitrate	50	mg/L	2	0	10	20	10	10
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.2	0.2	0.2	NA
Selenium	0.01	mg/L	2	0	0.003	0.004	0.004	0.004
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	4.0	4.1	4.0	4.0
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	130	130	130	
Chlorine (free)	0.6	mg/L	0	NA	NA	NA	NA	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.03	0.02	
Hardness as $CaCO_3$	200	mg/L	2	2	300	300	**300**	
Iron	0.3	mg/L	2	0	0.08	0.08	0.08	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.6	7.6	7.6	
Silica	80	mg/L	2	0	10	10	10	
Sodium	180	mg/L	2	0	83	84	84	
Sulphate	250	mg/L	2	0	46	47	47	
Total dissolved solids	600	mg/L	2	0	600	600	600	
Turbidity	5	NTU	2	0	0.8	0.8	0.8	
Zinc	3	mg/L	2	0	0.08	0.09	0.09	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		0.2	0.2	0.2	
Calcium	NA	mg/L	2		70	70	70	
Electrical conductivity	NA	µS/cm	2		900	900	900	
Iodine	NA	mg/L	2		0.1	0.1	0.1	
Magnesium	NA	mg/L	2		30	30	30	
Potassium	NA	mg/L	2		10	10	10	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 181 Water quality results for Warruwi

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	62	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	62	0	<0.0005	0.0005	<0.0005	<0.0005
Barium	2	mg/L	62	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	62	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	62	0	0.02	0.04	0.03	0.04
Cadmium	0.002	mg/L	62	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	62	0	<0.005	0.005	<0.005	<0.005
Copper	2	mg/L	62	0	<0.01	1	0.03	0.03
Fluoride	1.5	mg/L	59	0	<0.1	0.52	<0.1	<0.1
Lead	0.01	mg/L	62	0	<0.001	0.003	<0.001	0.001
Manganese	0.5	mg/L	62	0	<0.005	0.5	0.03	0.1
Mercury	0.001	mg/L	62	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	62	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	62	0	<0.002	0.006	<0.002	0.002
Nitrate	50	mg/L	59	0	<0.1	1	0.4	0.9
Nitrite	3	mg/L	59	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	62	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	62	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	62	0	0.040	0.65	0.16	0.44
Aesthetic								
Aluminium	0.2	mg/L	62	3	<0.02	0.4	0.07	
Chloride	250	mg/L	59	0	34	52	42	
Chlorine (free)	0.6	mg/L	55	55	0.9	2	**1**	
Colour (true)	15	HU	59	0	<2	2.0	<2	
Copper	1	mg/L	62	0	<0.01	1	0.03	
Hardness as $CaCO_3$	200	mg/L	59	0	20	70	30	
Iron	0.3	mg/L	62	4	<0.02	1	0.1	
Manganese	0.1	mg/L	62	3	<0.005	0.5	0.03	
pH	6.5-8.5	pH unit	59	42	4.8	6.8	**5.8**	
Silica	80	mg/L	59	0	10	10	10	
Sodium	180	mg/L	59	0	18	29	23	
Sulphate	250	mg/L	59	0	2.7	12	6.4	
Total dissolved solids	600	mg/L	59	0	70	100	100	
Turbidity	5	NTU	59	0	0.2	3	0.5	
Zinc	3	mg/L	62	0	<0.01	0.03	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	59		<20	40	<20	
Bromine	NA	mg/L	62		0.05	0.2	0.09	
Calcium	NA	mg/L	59		0.8	10	4	
Electrical conductivity	NA	µS/cm	59		100	300	200	
Iodine	NA	mg/L	62		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	59		3	7	5	
Potassium	NA	mg/L	59		<0.1	0.7	0.2	
Tin	NA	mg/L	62		<0.01	<0.01	<0.01	

Table 182 Water quality results for Weemol

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.02	0.04	0.03	0.04
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Fluoride	1.5	mg/L	2	0	0.11	0.11	0.11	0.11
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	0.2	0.3	0.3	0.3
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.35	0.35	0.35	0.35
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	10	10	10	
Chlorine (free)	0.6	mg/L	27	24	0.6	1	**0.9**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	<0.01	<0.01	
Hardness as $CaCO_3$	200	mg/L	2	2	400	400	**400**	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.4	7.5	7.4	
Silica	80	mg/L	2	0	30	30	30	
Sodium	180	mg/L	2	0	10	11	10	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	400	400	400	
Turbidity	5	NTU	2	0	0.2	0.5	0.4	
Zinc	3	mg/L	2	0	<0.01	0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		400	400	400	
Bromine	NA	mg/L	2		0.01	0.03	0.02	
Calcium	NA	mg/L	2		80	80	80	
Electrical conductivity	NA	µS/cm	2		800	800	800	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		50	50	50	
Potassium	NA	mg/L	2		3	3	3	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 183 Water quality results for Willowra

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	18	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	18	0	0.002	0.002	0.002	0.002
Barium	2	mg/L	18	0	0.05	0.05	0.05	0.05
Beryllium	0.06	mg/L	18	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	18	0	0.4	0.7	0.5	0.6
Cadmium	0.002	mg/L	18	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	18	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	18	0	<0.01	0.08	<0.01	0.02
Fluoride	1.5	mg/L	20	0	0.73	0.84	0.79	0.83
Lead	0.01	mg/L	18	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	18	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	18	0	<0.0001	0.0002	<0.0001	<0.0001
Molybdenum	0.05	mg/L	18	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	18	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	20	0	30	40	40	40
Nitrite	3	mg/L	20	0	<0.1	0.5	0.1	0.5
Radiological	1	mSv/yr	1	0	0.1	0.1	0.1	NA
Selenium	0.01	mg/L	18	0	0.003	0.004	0.004	0.004
Silver	0.1	mg/L	18	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	18	18	22	26	24	**26**
Aesthetic								
Aluminium	0.2	mg/L	18	0	<0.02	0.02	<0.02	
Chloride	250	mg/L	20	0	160	180	170	
Chlorine (free)	0.6	mg/L	30	30	0.9	1	**1**	
Colour (true)	15	HU	20	0	<2	<2	<2	
Copper	1	mg/L	18	0	<0.01	0.08	<0.01	
Hardness as $CaCO_3$	200	mg/L	20	18	200	300	**300**	
Iron	0.3	mg/L	18	0	<0.02	0.06	<0.02	
Manganese	0.1	mg/L	18	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	20	0	7.6	8.2	8.0	
Silica	80	mg/L	20	1	80	90	80	
Sodium	180	mg/L	20	0	130	140	140	
Sulphate	250	mg/L	20	0	55	69	64	
Total dissolved solids	600	mg/L	20	20	700	800	**700**	
Turbidity	5	NTU	20	0	0.2	1	0.5	
Zinc	3	mg/L	18	0	<0.01	0.04	0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	20		200	200	200	
Bromine	NA	mg/L	18		0.1	0.6	0.4	
Calcium	NA	mg/L	20		50	60	50	
Electrical conductivity	NA	µS/cm	20		1000	1000	1000	
Iodine	NA	mg/L	18		0.1	0.2	0.2	
Magnesium	NA	mg/L	20		30	30	30	
Potassium	NA	mg/L	20		30	30	30	
Tin	NA	mg/L	18		<0.01	<0.01	<0.01	

Table 184 Water quality results for Wilora

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	20	0	<0.0002	0.0004	0.0002	0.0004
Arsenic	0.01	mg/L	20	0	0.002	0.002	0.002	0.002
Barium	2	mg/L	20	0	<0.05	0.05	0.05	0.05
Beryllium	0.06	mg/L	20	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	20	0	0.6	0.9	0.8	0.9
Cadmium	0.002	mg/L	20	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	20	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	20	0	<0.01	0.06	<0.01	0.02
Fluoride	1.5	mg/L	18	0	0.88	1.1	0.94	1.1
Lead	0.01	mg/L	20	0	<0.001	0.005	0.001	0.005
Manganese	0.5	mg/L	20	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	20	0	<0.0001	0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	20	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	20	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	18	0	20	20	20	20
Nitrite	3	mg/L	18	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	0	NA	NA	NA	NA	NA
Selenium	0.01	mg/L	20	0	0.005	0.006	0.005	0.006
Silver	0.1	mg/L	20	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	20	20	18	23	21	**23**
Aesthetic								
Aluminium	0.2	mg/L	20	1	<0.02	1	0.07	
Chloride	250	mg/L	18	18	490	560	**520**	
Chlorine (free)	0.6	mg/L	0	NA	NA	NA	NA	
Colour (true)	15	HU	18	0	<2	<2	<2	
Copper	1	mg/L	20	0	<0.01	0.06	<0.01	
Hardness as $CaCO_3$	200	mg/L	18	18	600	700	**600**	
Iron	0.3	mg/L	20	0	<0.02	0.08	<0.02	
Manganese	0.1	mg/L	20	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	18	0	7.7	8.0	7.8	
Silica	80	mg/L	18	2	80	90	80	
Sodium	180	mg/L	18	18	190	330	**300**	
Sulphate	250	mg/L	18	0	180	220	200	
Total dissolved solids	600	mg/L	18	18	2000	2000	**2000**	
Turbidity	5	NTU	18	0	0.3	0.6	0.3	
Zinc	3	mg/L	20	0	0.03	0.1	0.06	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	18		400	400	400	
Bromine	NA	mg/L	20		3	4	4	
Calcium	NA	mg/L	18		100	100	100	
Electrical conductivity	NA	µS/cm	18		3000	3000	3000	
Iodine	NA	mg/L	20		0.2	0.4	0.3	
Magnesium	NA	mg/L	18		90	100	90	
Potassium	NA	mg/L	18		60	60	60	
Tin	NA	mg/L	20		<0.01	<0.01	<0.01	

Table 185 Water quality results for Wurrumiyanga

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	3	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	3	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	3	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	3	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	3	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	3	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	3	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	3	0	0.03	0.05	0.04	0.05
Fluoride	1.5	mg/L	104	0	<0.1	0.61	0.35	0.61
Lead	0.01	mg/L	3	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	3	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	3	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	3	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	3	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	3	0	0.3	0.3	0.3	0.3
Nitrite	3	mg/L	3	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	3	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	3	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	3	0	<0.01	<0.01	<0.01	<0.01
Aesthetic								
Aluminium	0.2	mg/L	3	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	3	0	7.0	7.0	7.0	
Chlorine (free)	0.6	mg/L	117	117	0.8	2	**1**	
Colour (true)	15	HU	3	0	<2	<2	<2	
Copper	1	mg/L	3	0	0.03	0.05	0.04	
Hardness as $CaCO_3$	200	mg/L	3	0	2	10	5	
Iron	0.3	mg/L	3	0	<0.02	0.02	<0.02	
Manganese	0.1	mg/L	3	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	3	3	5.0	5.4	**5.1**	
Silica	80	mg/L	3	0	10	10	10	
Sodium	180	mg/L	3	0	4.4	4.6	4.5	
Sulphate	250	mg/L	3	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	3	0	30	30	30	
Turbidity	5	NTU	3	0	0.4	0.5	0.4	
Zinc	3	mg/L	3	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	3		<20	<20	<20	
Bromine	NA	mg/L	3		0.004	0.008	0.005	
Calcium	NA	mg/L	3		0.1	4	1	
Electrical conductivity	NA	µS/cm	3		30	40	30	
Iodine	NA	mg/L	3		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	3		0.3	0.5	0.4	
Potassium	NA	mg/L	3		0.1	0.1	0.1	
Tin	NA	mg/L	3		<0.01	<0.01	<0.01	

Table 186 Water quality results for Wutunugurra

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	0.001	0.001	0.001	0.001
Barium	2	mg/L	2	0	0.3	0.3	0.3	0.3
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.2	0.2	0.2	0.2
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.06	0.03	0.06
Fluoride	1.5	mg/L	2	0	0.29	0.29	0.29	0.29
Lead	0.01	mg/L	2	0	<0.001	0.002	0.001	0.002
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	7	7	7	7
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.04	0.04	0.04	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	1.2	1.2	1.2	1.2
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	65	65	65	
Chlorine (free)	0.6	mg/L	30	30	0.8	1	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.06	0.03	
Hardness as $CaCO_3$	200	mg/L	2	0	200	200	200	
Iron	0.3	mg/L	2	0	<0.02	0.04	0.03	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.6	7.6	7.6	
Silica	80	mg/L	2	0	70	70	70	
Sodium	180	mg/L	2	0	49	50	49	
Sulphate	250	mg/L	2	0	6.1	6.6	6.4	
Total dissolved solids	600	mg/L	2	0	400	400	400	
Turbidity	5	NTU	2	0	0.2	0.5	0.4	
Zinc	3	mg/L	2	0	0.01	0.02	0.02	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		200	200	200	
Bromine	NA	mg/L	2		0.3	0.3	0.3	
Calcium	NA	mg/L	2		30	30	30	
Electrical conductivity	NA	µS/cm	2		600	600	600	
Iodine	NA	mg/L	2		0.05	0.05	0.05	
Magnesium	NA	mg/L	2		20	20	20	
Potassium	NA	mg/L	2		10	10	10	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 187 Water quality results for Yarralin

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	0.4	0.4	0.4	0.4
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	0.06	0.08	0.07	0.08
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	<0.01	0.04	0.02	0.04
Fluoride	1.5	mg/L	2	0	0.10	0.10	0.10	0.10
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	2	0	7	7	7	7
Nitrite	3	mg/L	2	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.06	0.06	0.06	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	2.3	2.4	2.4	2.4
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	2	0	14	14	14	
Chlorine (free)	0.6	mg/L	27	24	0.5	2	**1**	
Colour (true)	15	HU	2	0	<2	<2	<2	
Copper	1	mg/L	2	0	<0.01	0.04	0.02	
Hardness as $CaCO_3$	200	mg/L	2	2	400	400	**400**	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	2	0	7.5	7.5	7.5	
Silica	80	mg/L	2	0	30	30	30	
Sodium	180	mg/L	2	0	15	15	15	
Sulphate	250	mg/L	2	0	<0.2	<0.2	<0.2	
Total dissolved solids	600	mg/L	2	0	400	400	400	
Turbidity	5	NTU	2	0	0.2	0.3	0.3	
Zinc	3	mg/L	2	0	<0.01	0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	2		300	300	300	
Bromine	NA	mg/L	2		0.07	0.07	0.07	
Calcium	NA	mg/L	2		80	80	80	
Electrical conductivity	NA	µS/cm	2		700	700	700	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	2		40	40	40	
Potassium	NA	mg/L	2		3	3	3	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 188 Water quality results for Yirrkala

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	2	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	2	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	2	0	<0.02	<0.02	<0.02	<0.02
Cadmium	0.002	mg/L	2	0	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	2	0	0.01	0.1	0.08	0.1
Fluoride	1.5	mg/L	5	0	<0.1	<0.1	<0.1	<0.1
Lead	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Manganese	0.5	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	2	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	2	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	2	0	<0.002	<0.002	<0.002	<0.002
Nitrate	50	mg/L	5	0	<0.1	0.2	0.1	0.2
Nitrite	3	mg/L	5	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.02	0.02	0.02	NA
Selenium	0.01	mg/L	2	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	2	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	2	0	0.080	0.080	0.080	0.080
Aesthetic								
Aluminium	0.2	mg/L	2	0	<0.02	<0.02	<0.02	
Chloride	250	mg/L	5	0	12	14	13	
Chlorine (free)	0.6	mg/L	123	123	1	2	**1**	
Colour (true)	15	HU	5	0	<2	<2	<2	
Copper	1	mg/L	2	0	0.01	0.1	0.08	
Hardness as $CaCO_3$	200	mg/L	5	0	5	6	6	
Iron	0.3	mg/L	2	0	<0.02	<0.02	<0.02	
Manganese	0.1	mg/L	2	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	5	5	5.5	5.7	**5.6**	
Silica	80	mg/L	5	0	10	10	10	
Sodium	180	mg/L	5	0	7.5	9.0	8.3	
Sulphate	250	mg/L	5	0	0.75	1.1	0.96	
Total dissolved solids	600	mg/L	5	0	30	60	50	
Turbidity	5	NTU	5	0	0.3	3	0.8	
Zinc	3	mg/L	2	0	<0.01	<0.01	<0.01	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	5		<20	<20	<20	
Bromine	NA	mg/L	2		0.02	0.02	0.02	
Calcium	NA	mg/L	5		0.9	2	1	
Electrical conductivity	NA	µS/cm	5		60	70	60	
Iodine	NA	mg/L	2		<0.01	<0.01	<0.01	
Magnesium	NA	mg/L	5		0.5	0.7	0.6	
Potassium	NA	mg/L	5		0.6	0.7	0.6	
Tin	NA	mg/L	2		<0.01	<0.01	<0.01	

Table 189 Water quality results for Yuelamu

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	8	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	8	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	8	0	<0.05	<0.05	<0.05	<0.05
Beryllium	0.06	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	8	0	0.7	1	0.9	1
Cadmium	0.002	mg/L	8	0	<0.0002	0.0002	<0.0002	0.0002
Chromium	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	8	0	<0.01	0.1	0.02	0.09
Fluoride	1.5	mg/L	8	0	0.36	0.76	0.59	0.76
Lead	0.01	mg/L	8	0	<0.001	0.002	<0.001	0.001
Manganese	0.5	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Mercury	0.001	mg/L	8	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	8	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	8	0	<0.002	0.004	<0.002	0.003
Nitrate	50	mg/L	8	0	2	10	5	9
Nitrite	3	mg/L	8	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.04	0.04	0.04	NA
Selenium	0.01	mg/L	8	0	<0.001	<0.001	<0.001	<0.001
Silver	0.1	mg/L	8	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	8	0	1.8	5.7	4.0	5.5
Aesthetic								
Aluminium	0.2	mg/L	8	0	<0.02	0.02	<0.02	
Chloride	250	mg/L	8	0	16	30	25	
Chlorine (free)	0.6	mg/L	27	27	0.7	2	**1**	
Colour (true)	15	HU	8	0	<2	2.0	<2	
Copper	1	mg/L	8	0	<0.01	0.1	0.02	
Hardness as $CaCO_3$	200	mg/L	8	0	50	60	50	
Iron	0.3	mg/L	8	0	<0.02	0.08	0.03	
Manganese	0.1	mg/L	8	0	<0.005	<0.005	<0.005	
pH	6.5-8.5	pH unit	8	0	7.7	8.1	7.8	
Silica	80	mg/L	8	0	70	80	70	
Sodium	180	mg/L	8	0	26	43	37	
Sulphate	250	mg/L	8	0	2.1	7.2	4.7	
Total dissolved solids	600	mg/L	8	0	100	200	200	
Turbidity	5	NTU	8	0	0.3	0.5	0.4	
Zinc	3	mg/L	8	0	0.01	0.8	0.2	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	8		90	90	90	
Bromine	NA	mg/L	8		0.2	0.6	0.4	
Calcium	NA	mg/L	8		20	20	20	
Electrical conductivity	NA	µS/cm	8		200	300	300	
Iodine	NA	mg/L	8		0.08	0.1	0.1	
Magnesium	NA	mg/L	8		0.5	1	1	
Potassium	NA	mg/L	8		0.2	0.5	0.4	
Tin	NA	mg/L	8		<0.01	<0.01	<0.01	

Table 190 Water quality results for Yuendumu

Parameter	Guideline	Units	Samples	>GV	Min	Max	Avg	95th
Health								
Antimony	0.003	mg/L	22	0	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	0.01	mg/L	22	0	<0.0005	<0.0005	<0.0005	<0.0005
Barium	2	mg/L	22	0	<0.05	0.05	<0.05	0.05
Beryllium	0.06	mg/L	22	0	<0.001	<0.001	<0.001	<0.001
Boron	4	mg/L	22	0	0.3	0.4	0.3	0.4
Cadmium	0.002	mg/L	22	0	<0.0002	0.0002	<0.0002	<0.0002
Chromium	0.05	mg/L	22	0	<0.005	<0.005	<0.005	<0.005
Copper	2	mg/L	22	0	<0.01	0.1	0.01	0.02
Fluoride	1.5	mg/L	24	0	0.41	0.71	0.48	0.64
Lead	0.01	mg/L	22	1	<0.001	0.03	0.002	<0.001
Manganese	0.5	mg/L	22	0	<0.005	0.01	<0.005	0.005
Mercury	0.001	mg/L	22	0	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum	0.05	mg/L	22	0	<0.005	<0.005	<0.005	<0.005
Nickel	0.02	mg/L	22	0	<0.002	0.006	<0.002	<0.002
Nitrate	50	mg/L	24	0	4	5	5	5
Nitrite	3	mg/L	24	0	<0.1	<0.1	<0.1	<0.1
Radiological	1	mSv/yr	1	0	0.3	0.3	0.3	NA
Selenium	0.01	mg/L	22	0	0.002	0.002	0.002	0.002
Silver	0.1	mg/L	22	0	<0.01	<0.01	<0.01	<0.01
Uranium	17	µg/L	22	1	9.9	**19**	15	NA
Aesthetic								
Aluminium	0.2	mg/L	22	0	<0.02	0.04	<0.02	
Chloride	250	mg/L	24	20	200	300	**270**	
Chlorine (free)	0.6	mg/L	30	30	0.8	1	**1**	
Colour (true)	15	HU	24	0	<2	2.0	<2	
Copper	1	mg/L	22	0	<0.01	0.1	0.01	
Hardness as $CaCO_3$	200	mg/L	24	24	400	600	**500**	
Iron	0.3	mg/L	22	0	<0.02	0.3	0.05	
Manganese	0.1	mg/L	22	0	<0.005	0.01	<0.005	
pH	6.5-8.5	pH unit	24	0	7.6	8.1	7.8	
Silica	80	mg/L	24	0	10	20	20	
Sodium	180	mg/L	24	0	130	140	130	
Sulphate	250	mg/L	24	0	91	130	120	
Total dissolved solids	600	mg/L	24	24	700	1000	**1000**	
Turbidity	5	NTU	24	0	0.2	3	0.8	
Zinc	3	mg/L	22	0	<0.01	0.3	0.09	
Other								
Alkalinity as $CaCO_3$	NA	mg/L	24		200	300	300	
Bromine	NA	mg/L	22		0.3	1	0.8	
Calcium	NA	mg/L	24		80	100	100	
Electrical conductivity	NA	µS/cm	24		1000	2000	2000	
Iodine	NA	mg/L	22		0.2	0.3	0.2	
Magnesium	NA	mg/L	24		40	60	60	
Potassium	NA	mg/L	24		20	20	20	
Tin	NA	mg/L	22		<0.01	<0.01	<0.01	

Appendix E

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