

POWER AND WATER CORPORATION

DRINKING WATER QUALITY SUMMARY REPORT²⁰¹¹



PowerWater

EXTRACT FROM
THE 2010-2011
IES ANNUAL REPORT

WE VALUE SAFETY

INTEGRITY

TEAMWORK

COMMITMENT

COMMUNICATION



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1 OUR WATER SUPPLY SYSTEMS

Power and Water supplies drinking water from ground and surface water sources to 20 Growth Towns and 52 remote communities across the Northern Territory.

The Northern Territory's water supply varies with communities experiencing different climatic conditions from deserts in the south, to the seasonal contrasts of the wet and dry seasons in the north. Rainfall is vital to recharge aquifers for groundwater supply in all communities but is particularly important in "water stressed" communities where groundwater is limited.

Sixty-two communities source their water from groundwater, contained in underground water bodies known as aquifers, which is extracted through production bores. Surface water is sourced from rivers, creeks and dams for three communities; freshwater springs supply Barunga and Pirlangimpi, while Yuelamu draws water from a

dam. Five communities – Angurugu, Gudabijin (Bulla), Gunbalanya, Ngukurr and Mungoobada (Robinson River) – use a combination of surface and groundwater. Another two communities – Amoonguna and Pmara Jutunta – are connected to urban reticulation systems (more detail can be found in Tables 1 to 4).

Most water supply systems involve a number of production bores which pump water from the underground aquifer to a central storage area. The water is disinfected and delivered to consumers via the distribution system using gravity. There are more than 200 production bores that supply drinking water to remote Indigenous communities.

Water treatment processes are used to improve the quality of

water supplied to a number of communities. This involves the raw water being treated before being disinfected and distributed to the community. Three different treatment methods are used including filtration, aeration and disinfection.

The water quality at all communities is monitored regularly to ensure that the drinking water supplied is consistent with the Australian Drinking Water Guidelines. Monitoring includes both regular collection of samples to test for microbiological contamination and daily testing for chlorine residual to ensure effective disinfection.

The process and infrastructure involved in providing drinking water to communities can be seen in the figure below.

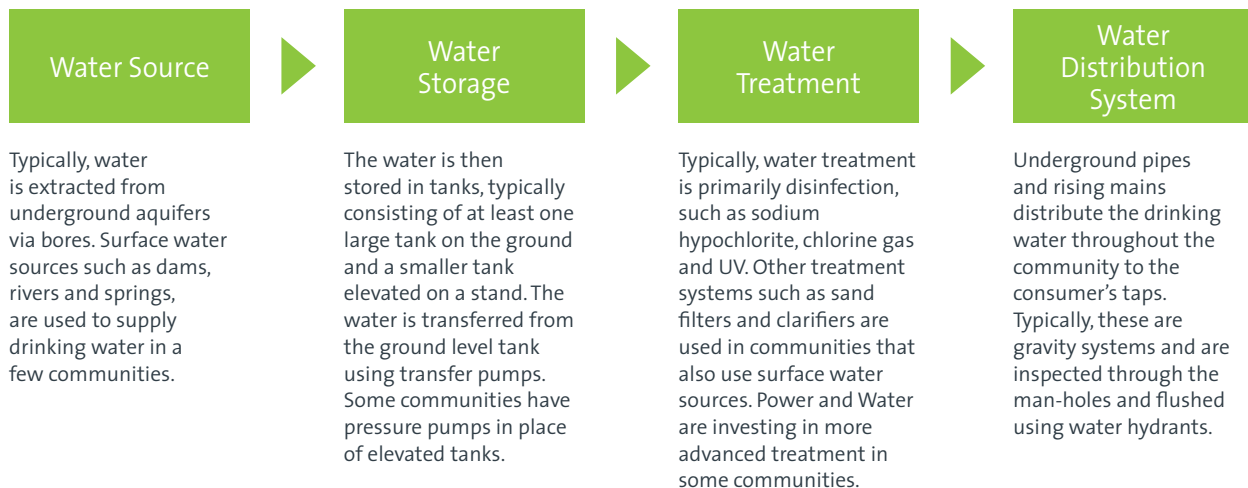


TABLE 1: NORTHERN REGION WATER SUPPLY SYSTEMS

Community	Alternative name ¹	Supply comment	Source of supply	Source licenced	Treatment	Disinfection type
Acacia Larrakeyah	Acacia Gap		Groundwater			Sodium hypochlorite
Angurugu		Treatment provided by GEMCO	Groundwater and surface water	Angurugu River	Soda ash	Sodium hypochlorite
Belyuen	Delisaville		Groundwater			Sodium hypochlorite
Galiwinku	Elcho Island		Groundwater			Sodium hypochlorite
Gapuwiyak	Lake Evella		Groundwater			Sodium hypochlorite
Gunbalanya	Oenpelli		Ground and surface water			Sodium hypochlorite and UV
Gunyangara	Ski Beach		Groundwater			Sodium hypochlorite
Maningrida			Groundwater			Calcium hypochlorite and UV
Milikapiti	Snake Bay		Groundwater			Sodium hypochlorite
Milingimbi			Groundwater			Sodium hypochlorite
Milyakburra	Bickerton Island		Groundwater			Sodium hypochlorite
Minjilang	Croker Island		Groundwater			Sodium hypochlorite
Naiyu	Daly River		Groundwater			Sodium hypochlorite
Nganmariyanga	Palumpa		Groundwater			Sodium hypochlorite
Numbulwar			Groundwater			Sodium hypochlorite
Peppimenarti			Groundwater			Sodium hypochlorite
Pirlangimpi	Garden Point		Groundwater		Sand filtration	Sodium hypochlorite and UV
Ramingining			Groundwater			Sodium hypochlorite
Wulkabimirri (outstation)		Ramingining water grid	Groundwater			Sodium hypochlorite
Umbakumba			Groundwater			Sodium hypochlorite
Wadeye			Groundwater			Sodium hypochlorite
Waruwi			Groundwater			Sodium hypochlorite
Wurrumiyanga	Nguiu, Bathurst Island		Groundwater			Sodium hypochlorite
4 Mile Camp (outstation)		Wurrumiyanga water grid	Groundwater			Sodium hypochlorite
Yirrkala			Groundwater			Sodium hypochlorite

¹The alternative names provided are commonly known; other titles for the majority of these communities also exist.

TABLE 2: KATHERINE REGION WATER SUPPLY SYSTEMS

Community	Alternative name ¹	Supply comment	Source of supply	Source licenced	Treatment	Disinfection type
Amanbidji	Kildurk		Groundwater			Sodium hypochlorite
Barunga			Surface water	Bamyili Spring	Cartridge filtration	Sodium hypochlorite and UV
Beswick			Groundwater			Sodium hypochlorite
Binjari			Groundwater			Sodium hypochlorite
Bunbidee	Pigeon Hole		Groundwater			Sodium hypochlorite
Dagaragu			Groundwater			Chlorine gas
Gudabijin	Bulla		Ground and surface water	East Baines River	Sand filtration	Sodium hypochlorite
Gulin Gulin	Bulman		Groundwater			Sodium hypochlorite
Jilkminggan	Duck Creek		Groundwater			Sodium hypochlorite
Jodetluk (outstation)	Gorge Camp	Katherine water grid	Groundwater			Sodium hypochlorite
Kalkarindji	Wave Hill		Groundwater			Chlorine gas
Kybrook Farm			Groundwater			Sodium hypochlorite
Lajamanu			Groundwater			Sodium hypochlorite
Manyallaluk	Eva Valley		Groundwater			Sodium hypochlorite
Minyerri			Groundwater			Sodium hypochlorite
Mungoobada	Robinson River		Ground and surface water	Robinson River		Sodium hypochlorite
Ngukurr			Ground and surface water	Roper River	Sand filtration	Chlorine gas
Rittarangu	Urapunga		Groundwater			Sodium hypochlorite
Weemol			Groundwater			Sodium hypochlorite
Yarralin			Groundwater			Sodium hypochlorite

¹The alternative names provided are commonly known; other titles for the majority of these communities also exist.

TABLE 3: BARKLY REGION WATER SUPPLY SYSTEMS

Community	Alternative name ¹	Supply comment	Source of supply	Source licenced	Treatment	Disinfection type
Alpurrurulam	Lake Nash		Groundwater			Calcium hypochlorite
Imangara	Murray Downs		Groundwater	Groundwater		Sodium hypochlorite
Nturiya	Ti Tree Station		Groundwater	Groundwater		UV
Orwaitilla	Canteen Creek		Groundwater			Sodium hypochlorite
Tara			Groundwater	Groundwater		Sodium hypochlorite
Warrabri	Ali Curung		Groundwater	Groundwater		Sodium hypochlorite
Willowra			Groundwater			Sodium hypochlorite
Wilora	Stirling		Groundwater	Groundwater		UV
Wutunugurra	Epenarra		Groundwater			Sodium hypochlorite

¹The alternative names provided are commonly known; other titles for the majority of these communities also exist.



TABLE 4: SOUTHERN REGION WATER SUPPLY SYSTEMS

Community	Alternative name ¹	Supply comment	Source of supply	Source licenced	Treatment	Disinfection type
Amoonguna		Alice Springs water grid	Groundwater			Chlorine gas
Ampilatwatja	Ammaroo		Groundwater			UV
Amunturangu	Mt Liebig		Groundwater			Sodium hypochlorite
Apatula	Finke		Groundwater			Sodium hypochlorite
Areyonga			Groundwater			Sodium hypochlorite
Atitjere	Hart Range		Groundwater			Sodium hypochlorite
Engawala	Alcoota		Groundwater			Sodium hypochlorite
Ikuntji	Haasts Bluff		Groundwater			Sodium hypochlorite
Imanpa			Groundwater		Aeration	Sodium hypochlorite
Kaltukatjara	Docker River		Groundwater		Aeration	Sodium hypochlorite
Kaporilya (outstation)		Ntaria water grid	Groundwater			Sodium hypochlorite
Laramba	Napperby		Groundwater			Sodium hypochlorite
Lyilyalanama (outstation)		Ntaria water grid	Groundwater			Sodium hypochlorite
Ntaria	Hermannsburg		Groundwater			Sodium hypochlorite
Nyirripi			Groundwater			Sodium hypochlorite
Papunya			Groundwater			Sodium hypochlorite
Pmara Jutunta	Ti Tree 6 Mile	Ti Tree water grid	Groundwater	Groundwater		Sodium hypochlorite
Santa Teresa			Groundwater			Sodium hypochlorite
Titjikala	Maryvale		Groundwater			Sodium hypochlorite
Tjuwanpa Resource Centre		Ntaria water grid	Groundwater			Sodium hypochlorite
Ulpunda (outstation)		Ntaria water grid	Groundwater			Sodium hypochlorite
Walangkula	Kintore		Groundwater			UV
Wallace Rockhole			Groundwater			Sodium hypochlorite
Yuelamu	Mt Allan		Surface water	Yuelamu Dam	Sand filtration	Calcium hypochlorite and UV
Yuendumu			Groundwater			Sodium hypochlorite

¹The alternative names provided are commonly known; other titles for the majority of these communities also exist.

2 PROTECTING OUR WATER SUPPLIES

Over the past couple of years, Power and Water has worked to implement a multiple barrier approach to prevent contamination and minimise potential hazards in order to provide safe drinking water to consumers.

This approach is based on the 2004 Australian Drinking Water Guidelines, and includes:

- Protecting catchments
- Ensuring tanks and bores are sealed to prevent contamination
- Water treatment and disinfection of water
- Maintaining chlorine residuals through water distribution systems

Chlorine is used as a disinfectant and low levels helps to keep the water safe throughout the reticulation system. The drinking water is regularly tested to ensure that the chlorine residual is in the optimum range – high enough to combat any microbiological contamination but low enough to be drinkable.

INSTALLATION OF WATER TREATMENT SYSTEMS

Power and Water has been working with 15 communities to identify alternate water sources or treatment options. Water treatment systems will be installed in the remote communities of Warrabri (Ali Curung), Walangkula (Kintore) and Yuelamu to improve the quality of drinking water. Yuelamu has a limited drinking water supply from a local surface water source and treating the groundwater to Australian Drinking Water Guidelines will increase the security of supply. The quality of the potable water supply at Warrabri (Ali Curung) and Walangkula (Kintore) will be improved with these treatment systems.

2.1 PROTECTING AND MONITORING WATER SUPPLIES

Power and Water runs an extensive Drinking Water Quality Monitoring Program. This ensures the processes and infrastructures are in place to protect and enhance water quality provided to consumers. It also increases understanding of the water supply system, identifies hazards and improves knowledge of the systems. The Drinking Water Quality Monitoring Program is developed and reviewed in consultation with the Department of Health and is approved by the Chief Health Officer in accordance with the Australian Drinking Water Guidelines.

More than 5000 water samples were taken in 2010-11 from water sources, treatment plants and water distribution pipe networks which supply consumers. Analytical laboratories contracted by Power and Water performed around 90 500 analyses to determine microbiological, physio-chemical, trace metal and radiological characteristics of the water. For more detail on the water quality testing see Section 3.



2.2 REPORTING WATER QUALITY RELATED TO HEALTH

Power and Water has finalised a Memorandum of Understanding (MoU) with the Department of Health for managing drinking water quality in its area of control. The MoU has replaced the Drinking Water Reporting Triggers and Protocol previously in place.

The MoU outlines the actions that need to be taken when water tests identify issues, including when *E. coli* is detected in the distribution

system as part of the Drinking Water Quality Monitoring Program. In some instances, the Department of Health will take an extra protective step and issue a Precautionary Advice for Drinking Water to advise the community that drinking water should be boiled before consumption.

During 2010-11, positive *E. coli* detections occurred at Acacia Larrakeyah, Beswick, Gudabijin (Bulla), Jilkminngan (Duck Creek), Ikuntji (Haasts Bluff), Laramba (Napperby), **Nganmariyanga** (Palumpa), Ntaria (Hermansburg) and Wadeye. Of these detections, only one, Laramba, indicated a significant risk

to public health and the Department of Health issued a Precautionary Advice for Drinking Water. Additional information on this incident, including immediate responses, investigations and improvements are provided below in Table 5.

Two other Precautionary Advice for Drinking Water alerts were issued for Tiwi Islands and Belyuen on 16 February 2011 and Daly River on 19 February 2011. (Table 5). In both instances, the security of the water supply could not be assured due to the extreme weather event of Tropical and ex-Tropical Cyclone Carlos.

TABLE 5: DETAILS OF INCIDENTS RESULTING IN PRECAUTIONARY ADVICE FOR DRINKING WATER IN 2010-11

Community	Date of Issue	Incident Details
Tiwi Islands and Belyuen	16 February 2011	<p>Due to high winds and heavy rainfall associated with Tropical Cyclone Carlos, a Precautionary Advice was issued to Tiwi Island communities and Belyuen.</p> <p>After the cyclone had passed and the security of the water supply was assured, the Department of Health lifted the Precautionary Advice on 18 February.</p>
Naiyu Nambiyu (Daly River)	19 February 2011	<p>Due to heavy rain associated with ex-Tropical Cyclone Carlos, localised flooding prevented Power and Water from being able to maintain the chlorine system and ensure the safety of the water supply.</p> <p>When the weather eased and access was resumed, Power and Water manually added chlorine to the water supply system until the automatic chlorinator was reinstated and adequate chlorine residual levels were achieved. The Department of Health lifted the Precautionary Advice on 2 March.</p>
Laramba (Napperby)	24 March 2011	<p>Significant levels of <i>E. coli</i> were detected in Laramba's water supply and a Precautionary Advice was issued.</p> <p>Power and Water undertook an inspection to identify the source of contamination and dosed the production bores and storage tanks. The system was then comprehensively flushed to draw the chlorinated water through the rising main and reticulation system to ensure disinfection of the whole water supply system. Following this, analyses of additional water samples confirmed that the water was clear from <i>E. coli</i> and other indicator bacteria and the Department of Health lifted the Precautionary Notice on 11 April.</p>

3 UNDERSTANDING WATER QUALITY TEST RESULTS

This summary is intended to assist the reader interpret results presented in Appendix A (pg 14).

Additional information can be obtained by referring to the Australian Drinking Water Guidelines. Fact sheets are available at nhmrc.gov.au/publications/synopses/eh19syn.htm

3.1 HEALTH PARAMETERS

Health parameters are water quality characteristics which may present a risk to the health of the consumer, if the consumer were exposed to concentrations above Australian Drinking Water Guidelines levels over a lifetime.

3.1.1 ESCHERICHIA COLI (*E. COLI*)

E. coli is a bacterial coliform excreted from the intestines of warm-blooded animals, including humans, and is an indicator of recent faecal contamination. If *E. coli* is detected in a drinking water supply, immediate action is taken in accordance with established protocols to safeguard public health.

3.1.2 ARSENIC

The Australian Drinking Water Guidelines recommend the concentration of arsenic in drinking water should not exceed 0.007mg/L. Arsenic can be introduced into ground and surface water naturally through the dissolution of minerals and ores. These sources can make a significant contribution to the arsenic concentration in drinking water. Industrial effluent, atmospheric deposition (through the burning of fossil fuels and waste incineration), drainage from old gold mines, or the use of some types of sheep dip are also sources of arsenic.

In Australia, arsenic concentrations typically range from less than 0.005mg/L to 0.015mg/L. Studies into the consumption of drinking water containing arsenic above 0.3mg/L over

five to 25 years have shown effects on the skin, vascular system and nervous system, with the possibility of being carcinogenic.

3.1.3 BARIUM

The primary source of barium in drinking water is from natural sources. The Australian Drinking Water Guidelines recommend barium to be less than 0.7mg/L in drinking water. A number of epidemiological studies have been carried out on the effects of barium in drinking water on cardiovascular disease. No adverse effects were found with barium concentrations up to 7mg/L. In a study using a small number of volunteers, no adverse effects were observed after eight weeks exposure to drinking water with up to 10mg/L barium.

3.1.4 FLUORIDE

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 toothpaste. Additional fluoride is not added to any community water supplies.

The concentration of natural fluoride in Northern 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 (around <0.1 to 0.5mg/L) and groundwater sources may have relatively high levels (range from 1-10 mg/L), particularly when the rock surrounding the water in the aquifer is rich in fluoride. The minimum fluoride for protection against dental caries is about 0.5mg/L, although around 1mg/L is required in temperate climates for optimal caries prevention. At concentrations of 1.5 to 2mg/L, teeth may become mottled due to dental fluorosis.

The majority of water supplies in the Northern and Katherine regions have naturally low fluoride levels due to the nature of the shallow groundwater supplies and use of surface water supplies in some communities. The majority of communities in the Barkly and Southern regions have fluoride levels between 0.5mg/L and 1.5mg/L, of which three experience fluoride at or above the Australian Drinking Water Guidelines value of 1.5mg/L (Figure 2).

3.1.5 NITRATE

In the Northern Territory, elevated nitrate concentrations have been partially attributed to nitrogen fixing by native vegetation and cyanobacteria crusts on soils. Termite mounds also 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 the walls of mounds. The Australian Drinking Water Guidelines recommend that nitrate levels between 50-100mg/L are a health consideration for infants less than three months, although levels up to 100mg/L can be safely consumed by adults.

3.1.6 URANIUM

Uranium is widely distributed in geological formations and can be found in groundwater aquifers surrounded by granite rocks and pegmatites and in some sedimentary rocks like sandstones. Uranium occurs as three naturally occurring isotopes and under the appropriate conditions can become soluble and therefore present in a region's groundwater. The transport of uranium in groundwater varies widely according to the aquifer conditions. Uranium may also be present in the environment as a result of mine tailings and the use of phosphate pesticides.

FIGURE 2
COMMUNITIES IDENTIFIED WITH AVERAGE FLUORIDE LEVELS AT OR GREATER THAN 1.5MG/L IN DRINKING WATER

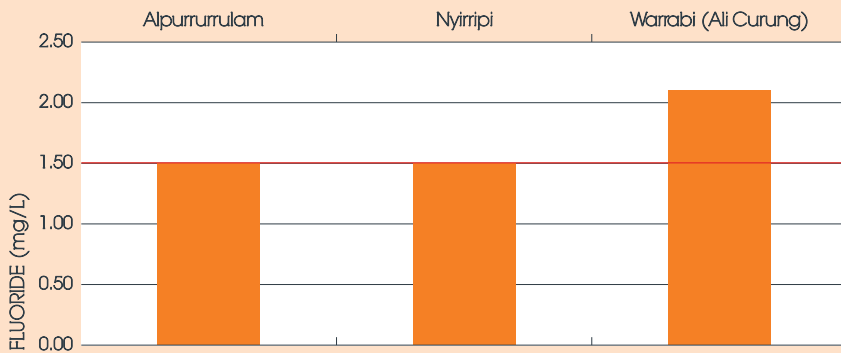
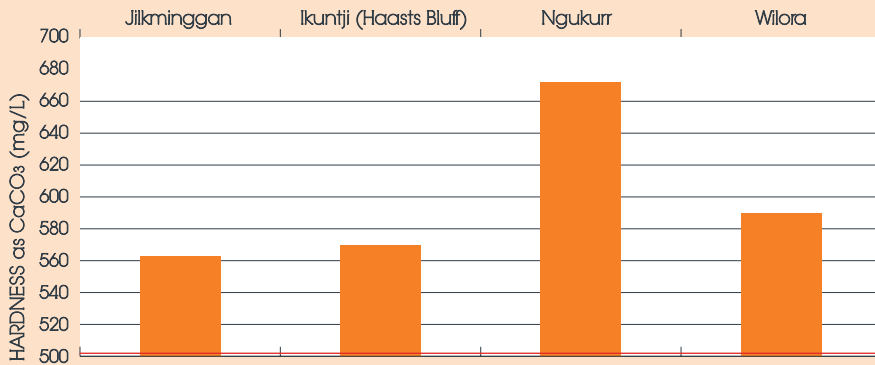


FIGURE 3
COMMUNITIES IDENTIFIED WITH AVERAGE HARDNESS LEVELS GREATER THAN 500MG/L IN DRINKING WATER



3.2 AESTHETIC PARAMETERS

Aesthetic parameters are water quality characteristic associated with the acceptability of water to the consumer in terms of appearance, taste and odour.

3.2.1 HARDNESS (AS CALCIUM CARBONATE)

Hardness is primarily the amount of calcium and magnesium ions in water and is expressed as a calcium carbonate (CaCO₃) equivalent.

High hardness usually requires more soap to achieve lather and may lead to excessive scaling in hot water pipes and fittings. 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 Australian Drinking Water Guidelines recommend hardness levels below 200mg/L to minimise scaling in hot water systems.

The Australian Drinking Water Guidelines describe various degrees of hardness as:

<60mg/L CaCO ₃	soft but possibly corrosive
60-200mg/L CaCO ₃	good quality
200-500mg/L CaCO ₃	increasing scaling problems
>500mg/L CaCO ₃	severe scaling

Hard water or water with calcium carbonate levels above 500mg/L (Figure 3) may lead to excessive scaling of pipes and fittings, which can impact on infrastructure service life and indirectly impact health through impeding access to water.

3.2.2 IRON

Iron has a taste threshold of about 0.3mg/L in water and becomes objectionable above 3mg/L. High iron concentrations give water an undesirable rust-brown appearance and can cause staining of laundry and plumbing fittings, fouling of ion-exchange softeners and blockages in irrigation systems. Growths of iron bacteria, which increase the concentration of iron, may cause taste and odour problems and lead to pipe restrictions, blockages and corrosion. The concentration of iron at the tap can also be influenced by factors such as rusting iron pipes.

There are a number of communities regularly monitored for iron levels above 0.3mg/L and a limited number above 1mg/L (Figure 4). Power and Water has identified alternative groundwater sources for Nauiyu (Daly River) and expect to equip some of these in 2010-11 to reduce the iron levels.

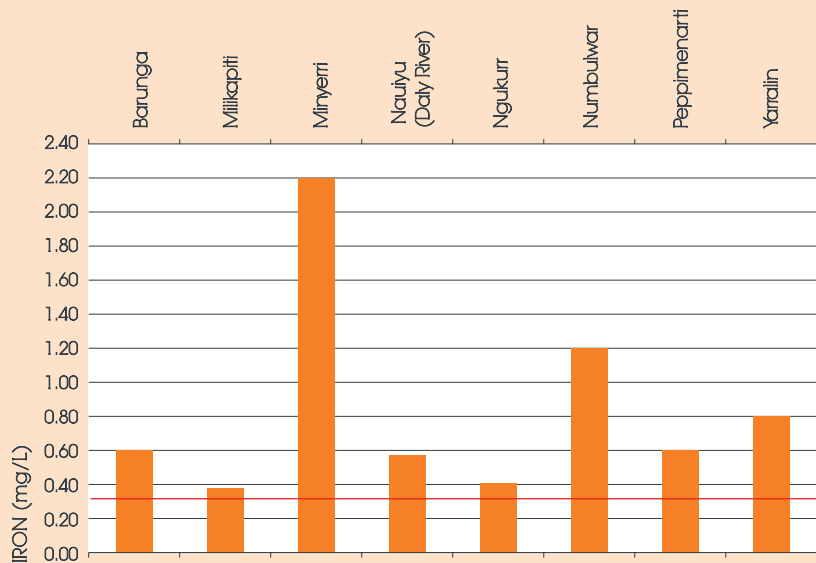
Options to reduce iron levels in other communities with high levels are being investigated. Short-term solutions to reduce iron levels such as blending water supplies are being trialled.

3.2.3 pH

pH is a measure of the hydrogen ion concentration of water. It is measured on a logarithmic scale from 0 to 14. A pH of 7 is neutral, greater than 7 is alkaline and less than 7 is acidic.

The Australian Drinking Water Guidelines recommend that pH levels in drinking water should be between 6.5-8.5 pH units. Levels below 6.5 pH units are likely to cause corrosion of pipes and fittings while levels above 8.5 pH units can cause scaling particularly on hot water systems.

FIGURE 4
 COMMUNITIES WITH AN AVERAGE IRON CONCENTRATION GREATER THAN 0.3MG/L IN THE DISTRIBUTION SYSTEM



3.2.4 SODIUM

Sodium is an essential element for humans although there is currently no agreement on the minimum amount required. The sodium ion is widespread in water due to the high solubility of sodium salts and the abundance of mineral deposits. The Australian Drinking Water Guidelines recommend a trigger value of 180mg/L, when the taste becomes appreciable.

3.2.5 TOTAL DISSOLVED SOLIDS

Total dissolved solids (TDS) are small organic and inorganic particles dissolved in water that can affect how the water tastes. TDS comprises of 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 500mg/L will affect taste and could cause scaling in taps, pipes and hot water systems. Levels greater than 800mg/L significantly affect taste and may also cause moderate to severe scaling. Based on taste, the Australian Drinking

Water Guidelines recommends TDS levels should be below 500mg/L. The Australian Drinking Water Guidelines provide guidance in the palatability of drinking water according to TDS concentration:

<80mg/L	Excellent quality for most domestic users
80-500mg/L	Good quality
500-800mg/L	Fair quality
800-1000mg/L	Poor quality
>1000mg/L	May increase scaling, corrosion and taste



APPENDIX A – 2010-11 WATER QUALITY DATA

NORTHERN REGION

	Reported unit	ADWG 2004	Acacia Larrakeyah	Angurugu	Belyuen	Galiwinku (Elcho Island)	Gapuwiyak (Lake Evella)	Gunbalanya (Oenpelli)	Guruyangara (Ski Beach)
HEALTH CHARACTERISTICS²									
<i>E. coli</i> Detections	per year	0	1	0	0	0	0	0	0
<i>E. coli</i> Performance	%	98	97	100	100	100	100	100	100
Antimony	mg/L	0.003	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Arsenic	mg/L	0.007	0.0008	0.0005 ⁵	0.0009	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵
Barium	mg/L	0.7	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.05 ⁵
Boron	mg/L	4	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵
Cadmium	mg/L	0.002	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Chromium	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Fluoride	mg/L	1.5	0.1 ⁵	0.1 ⁵	0.2 ⁵	0.1 ⁵	0.1 ⁵	0.1 ⁵	0.1 ⁵
Lead	mg/L	0.01	0.001 ⁵	0.0002 ⁵	0.002 ⁵	0.001 ⁵	0.006	0.001 ⁵	0.001 ⁵
Mercury	mg/L	0.001	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵
Molybdenum	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Nickel	mg/L	0.02	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵
Nitrate	mg/L	50	2 ⁵	1 ⁵	1 ⁵	1 ⁵	2 ⁵	1 ⁵	1 ⁵
Annual Exposure to Radioactivity	mSv/yr	1	0.1 ⁵	0.09	0.18 ⁵	0.1 ⁵	0.11 ⁵	0.11 ⁵	0.12 ⁵
Selenium	mg/L	0.1	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Silver	mg/L	0.1	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Uranium	mg/L	0.02	0.0004	0.00003	0.001	0.00001 ⁵	0.00002	0.00003	0.00001 ⁵
AESTHETIC CHARACTERISTICS²									
Aluminum	mg/L	0.2	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.12	0.02 ⁵
Chloride	mg/L	250	7	10	8 ⁵	11	12	8 ⁵	13
Copper	mg/L	2	0.01 ⁵	0.03	0.07 ⁵	0.02	0.09	0.03 ⁵	0.01 ⁵
Hardness	CaCO ₃ mg/L	200	219	9	16	6	7	6	10
Iodine	mg/L	0.15	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Iron	mg/L	0.3	0.02 ⁵	0.02 ⁵	0.1 ⁵	0.08 ⁵	0.19 ⁵	0.17	0.03 ⁵
Manganese	mg/L	0.1	0.005 ⁵	0.005 ⁵	0.009 ⁵	0.005 ⁵	0.007 ⁵	0.008 ⁵	0.005 ⁵
pH	pH Units	6.5-8.5	8.0	6.8	6.3	5.7	6	5.9	6.9
Sodium	mg/L	180	4	25	7	7	8	4	8
Sulfate	mg/L	250	2	1	1	1	0.3 ⁵	1	0.2 ⁵
Total Dissolved Solids	mg/L	500	237	89	69	41	46	60	31
True Colour	CU	15	2.6 ⁵	28.3 ⁵	2.6 ⁵	4.0	3.8 ⁵	7.0	1.8 ⁵
Turbidity	NTU	5	0.85 ⁵	11.6	1.7	0.5	1.1	2.8	0.9
Zinc	mg/L	3	0.01 ⁵	0.04	0.03 ⁵	0.02	0.03 ⁵	0.02 ⁵	0.02 ⁵
OTHER CHARACTERISTICS²									
Alkalinity	mg/L	#	219	51 ⁵	25 ⁵	20 ⁵	13 ⁵	12 ⁵	15 ⁵
Beryllium	mg/L	#	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Bromine	mg/L	#	0.015	0.023	0.009	0.018	0.02	0.02	0.026
Calcium	mg/L	#	44	2	6	1	2	1	3
Conductivity	µS/cm	#	439	119	58	55	55	34	57
Magnesium	mg/L	#	26.8	0.7	0.6	0.7	0.8	0.5	0.6
Potassium	mg/L	#	1.48	0.1 ⁵	3.4	0.8	0.1 ⁵	0.2	0.2 ⁵
Silica	mg/L	#	20.8	11	33.6	14	11.4	11.8	11
Tin	mg/L	#	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵

No guidelines set (ADWG 2004)

² 95th percentile reported

³ Represents a single reticulation value

⁴ Value includes data from 2006-2011

⁵ One or more values in calculation were below detection limits; result may be higher than actual value

NORTHERN REGION

	Reported unit	ADWG 2004	Maningrida	Milikapiti (Snake Bay)	Milingimbi	Mityakburra (Bickerton Island)	Minjilang (Crocker Island)	Naiyu (Daly River)	Nogamnyanga (Palumpa)	Numbulwar
HEALTH CHARACTERISTICS²										
<i>E. coli</i> Detections	per year	0	0	0	0	0	0	0	3	0
<i>E. coli</i> Performance	%	98	100	100	100	100	100	100	92	100
Antimony	mg/L	0.003	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0005	0.0002 ⁵	0.0002 ⁵
Arsenic	mg/L	0.007	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵	0.004	0.0005 ⁵	0.001
Barium	mg/L	0.7	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.15 ⁵	0.28
Boron	mg/L	4	0.02 ⁵	0.02 ⁵	0.04	0.05	0.02	0.02	0.03 ⁵	0.04
Cadmium	mg/L	0.002	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Chromium	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Fluoride	mg/L	1.5	0.1 ⁵	0.1 ⁵	0.1 ⁵	0.1 ⁵	0.1 ⁵	0.4	0.2 ⁵	0.1
Lead	mg/L	0.01	0.002 ⁵	0.002 ⁵	0.002	0.004	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Mercury	mg/L	0.001	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵
Molybdenum	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Nickel	mg/L	0.02	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵
Nitrate	mg/L	50	1 ⁵	1 ⁵	4	1 ⁵	1 ⁵	1 ⁵	1 ⁵	1 ⁵
Annual Exposure to Radioactivity	mSv/yr	1	0.14 ⁵	0.12 ⁵	0.16 ⁵	0.12 ⁵	0.13 ⁵	0.15 ⁵	0.12 ⁵	0.13 ⁵
Selenium	mg/L	0.1	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Silver	mg/L	0.1	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Uranium	mg/L	0.02	0.00005	0.00001 ⁵	0.0002	0.00003	0.0002	0.0001	0.00001 ⁵	0.00004
AESTHETIC CHARACTERISTICS²										
Aluminum	mg/L	0.2	0.02 ⁵	0.03 ⁵	0.06	0.02 ⁵	0.09	0.13 ⁵	0.02 ⁵	0.02 ⁵
Chloride	mg/L	250	9	12	79	58	17	8 ⁵	24	24
Copper	mg/L	2	0.01 ⁵	0.02	0.03 ⁵	0.04 ⁵	0.02	0.01 ⁵	0.02 ⁵	0.01 ⁵
Hardness	CaCO ₃ mg/L	200	5	13	41	25	12 ⁵	132	55	196
Iodine	mg/L	0.15	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.03	0.01 ⁵	0.01 ⁵
Iron	mg/L	0.3	0.06 ⁵	0.38 ⁵	0.06 ⁵	0.07 ⁵	0.1 ⁵	0.57 ⁵	0.26 ⁵	1.2 ⁵
Manganese	mg/L	0.1	0.005 ⁵	0.005 ⁵	0.014 ⁵	0.026 ⁵	0.006 ⁵	0.4	0.06 ⁵	0.16
pH	pH Units	6.5-8.5	6.1	5.8	5.2	5.6	5.3	7.7	7.2	8.1
Sodium	mg/L	180	5	9	43	34	12	17	32	19
Sulfate	mg/L	250	1	1	8	4	4	5	9	34
Total Dissolved Solids	mg/L	500	39	50	177	127	57	194	162	282
True Colour	CU	15	2.5 ⁵	3.0 ⁵	2.8 ⁵	3.2 ⁵	2.3 ⁵	5.6 ⁵	5.5	6.7
Turbidity	NTU	5	0.8	2.8	0.7 ⁵	0.9	1.5	13.4	2.3	12.3
Zinc	mg/L	3	0.05 ⁵	0.04 ⁵	0.08	0.03	0.1	0.03 ⁵	0.01 ⁵	0.01 ⁵
OTHER CHARACTERISTICS²										
Alkalinity	mg/L	#	13 ⁵	21 ⁵	14 ⁵	15 ⁵	15 ⁵	172	86 ⁵	179
Beryllium	mg/L	#	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Bromine	mg/L	#	0.024	0.024	0.2	0.2	0.055	0.022	0.033	0.075
Calcium	mg/L	#	1	4	9	6	4	29	16	64
Conductivity	µS/cm	#	43	61	322	231	84	332	269	485
Magnesium	mg/L	#	0.7	0.6 ⁵	4.9	2.3	0.7	14.5	3.7	10.3
Potassium	mg/L	#	1.1	0.6 ⁵	0.7	0.3	0.1 ⁵	1	2.8 ⁵	2.4
Silica	mg/L	#	13.8	12.3	18.1	15.9	12.9	38.8	30.6	16.9
Tin	mg/L	#	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵

No guidelines set (ADWG 2004)

² 95th percentile reported

³ Represents a single reticulation value

⁴ Value includes data from 2006-2011

⁵ One or more values in calculation were below detection limits; result may be higher than actual value

NORTHERN REGION

	Reported unit	ADWG 2004	Peppimenarti	Pirlangimpi (Garden Point)	Ramingining	Umbakumba	Wadeye	Warruwi	Wurrinyanga (Nguiu)	Yirrkala
HEALTH CHARACTERISTICS²										
<i>E. coli</i> Detections	per year	0	0	0	0	0	1	0	0	0
<i>E. coli</i> Performance	%	98	100	100	100	100	99	100	100	100
Antimony	mg/L	0.003	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Arsenic	mg/L	0.007	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵
Barium	mg/L	0.7	0.08	0.06 ⁵	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.05 ⁵
Boron	mg/L	4	0.03	0.02 ⁵	0.02 ⁵	0.2	0.02 ⁵	0.02	0.02 ⁵	0.02 ⁵
Cadmium	mg/L	0.002	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Chromium	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Fluoride	mg/L	1.5	0.5	0.1 ⁵	0.1 ⁵	0.1 ⁵	0.1 ⁵	0.1 ⁵	0.1 ⁵	0.1 ⁵
Lead	mg/L	0.01	0.001 ⁵	0.002 ⁵	0.003 ⁵	0.003	0.001 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵
Mercury	mg/L	0.001	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵
Molybdenum	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Nickel	mg/L	0.02	0.003 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.003	0.002 ⁵	0.002 ⁵	0.002 ⁵
Nitrate	mg/L	50	1 ⁵	1 ⁵	1 ⁵	1 ⁵	1 ⁵	1 ⁵	1 ⁵	1 ⁵
Annual Exposure to Radioactivity	mSv/yr	1	0.13 ⁵	0.1 ⁵	0.09 ⁵	0.13 ⁵	0.09 ⁵	0.11 ⁵	0.13 ⁵	0.12 ⁵
Selenium	mg/L	0.1	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Silver	mg/L	0.1	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Uranium	mg/L	0.02	0.00005 ⁵	0.00002 ⁵	0.00003	0.00001	0.0002	0.00006	0.00001 ⁵	0.0001
AESTHETIC CHARACTERISTICS²										
Aluminum	mg/L	0.2	0.02 ⁵	0.1	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.06	0.02 ⁵	0.22 ⁵
Chloride	mg/L	250	15	10	10 ⁵	40	14 ⁵	40	9 ⁵	11
Copper	mg/L	2	0.02 ⁵	0.3 ⁵	0.02	0.03 ⁵	0.02 ⁵	0.03 ⁵	0.01 ⁵	0.02 ⁵
Hardness	CaCO ₃ mg/L	200	69	5 ⁵	17	21	13	32	13	7
Iodine	mg/L	0.15	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Iron	mg/L	0.3	0.6 ⁵	0.12 ⁵	0.07 ⁵	0.02 ⁵	0.06 ⁵	0.05 ⁵	0.02 ⁵	0.17 ⁵
Manganese	mg/L	0.1	0.14	0.005 ⁵	0.005 ⁵	0.009 ⁵	0.01 ⁵	0.006 ⁵	0.005 ⁵	0.005 ⁵
pH	pH Units	6.5-8.5	7.2	6	5.7	5.8	5.8	5.3	6.1	5.9
Sodium	mg/L	180	16	7	6	22	7	21	5	7
Sulfate	mg/L	250	3	0.4	0.3 ⁵	4	0.6 ⁵	7	0.3	2
Total Dissolved Solids	mg/L	500	126	26	55	102	40	96	31	25
True Colour	CU	15	3.7 ⁵	7.6	2.0 ⁵	2.5 ⁵	3.0 ⁵	2.4 ⁵	2.4 ⁵	2.0 ⁵
Turbidity	NTU	5	4.9	3.4	1	1.9	1.6	1	0.9	48.8
Zinc	mg/L	3	0.04 ⁵	0.03 ⁵	0.01 ⁵	0.03 ⁵	0.03	0.04 ⁵	0.06 ⁵	0.02 ⁵
OTHER CHARACTERISTICS²										
Alkalinity	mg/L	#	95	12 ⁵	17 ⁵	16 ⁵	17 ⁵	19 ⁵	19 ⁵	15 ⁵
Beryllium	mg/L	#	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Bromine	mg/L	#	0.033	0.012	0.008	0.08	0.02	0.086	0.011	0.023
Calcium	mg/L	#	17	2	5	4	4	7	5 ⁵	2
Conductivity	µS/cm	#	227	36	47.6	153.3	50.7	171.4	41.2	56
Magnesium	mg/L	#	6.2	0.2	0.9	2.6	0.6	3.6	0.4	0.7
Potassium	mg/L	#	5.7	0.1 ⁵	0.3	0.7	0.3	0.2 ⁵	0.1 ⁵	0.5
Silica	mg/L	#	28.1	10.2	14.8	9.6	15.6	10.7	13.5	12
Tin	mg/L	#	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵

No guidelines set (ADWG 2004)

² 95th percentile reported

³ Represents a single reticulation value

⁴ Value includes data from 2006-2011

⁵ One or more values in calculation were below detection limits; result may be higher than actual value

KATHERINE REGION

	Reported unit	ADWG 2004	Amanbidji (Kildurk)	Barunga	Beswick	Binjari	Bunbidee (Pigeon Hole)	Dagaragu	Gudabijin (Bulla)
HEALTH CHARACTERISTICS²									
<i>E. coli</i> Detections	per year	0	0	0	3	0	0	0	1
<i>E. coli</i> Performance	%	98	100	100	92	100	100	100	97
Antimony	mg/L	0.003	0.0003 ⁵	0.0013 ⁵	0.0068	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Arsenic	mg/L	0.007	0.0015	0.0015 ⁵	0.0066	0.0014	0.0005 ⁵	0.0013	0.001 ⁵
Barium	mg/L	0.7	0.17	0.07 ⁵	0.15 ⁵	0.18	0.05 ⁵	0.07	4.11
Boron	mg/L	4	0.52	0.02 ⁵	0.02 ⁵	0.02	0.08	0.08	0.12
Cadmium	mg/L	0.002	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Chromium	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Fluoride	mg/L	1.5	0.1 ⁵	0.1 ⁵	0.1	0.4	0.3	0.2	0.7
Lead	mg/L	0.01	0.001 ⁵	0.001 ⁵	0.004 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Mercury	mg/L	0.001	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵
Molybdenum	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Nickel	mg/L	0.02	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵
Nitrate	mg/L	50	1 ⁵	1 ⁵	1 ⁵	1 ⁵	20	3	1 ⁵
Annual Exposure to Radioactivity	mSv/yr	1	0.12 ⁵	0.11 ⁵	0.09 ⁵	0.85 ⁵	0.12 ⁵	0.16	0.17 ⁵
Selenium	mg/L	0.1	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Silver	mg/L	0.1	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Uranium	mg/L	0.02	0.0009	0.00007 ⁵	0.0002	0.001	0.002	0.001	0.0002
AESTHETIC CHARACTERISTICS²									
Aluminum	mg/L	0.2	0.03 ⁵	0.05	0.03 ⁵	0.03 ⁵	0.02 ⁵	0.02 ⁵	0.03 ⁵
Chloride	mg/L	250	145	8 ⁵	7 ⁵	14 ⁵	29	24	48
Copper	mg/L	2	0.01 ⁵	0.04 ⁵	0.1	0.01 ⁵	0.01 ⁵	0.02 ⁵	0.01 ⁵
Hardness	CaCO ₃ mg/L	200	381	174	304	290	312	251	240
Iodine	mg/L	0.15	0.02	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.02	0.02	0.01 ⁵
Iron	mg/L	0.3	0.16 ⁵	0.6 ⁵	0.06 ⁵	0.08 ⁵	0.02	0.02 ⁵	0.17 ⁵
Manganese	mg/L	0.1	0.014	0.008 ⁵	0.016 ⁵	0.007 ⁵	0.005 ⁵	0.026 ⁵	0.088 ⁵
pH	pH Units	6.5-8.5	7.8	6.8	7.5	7.6	7.3	7.9	8.3
Sodium	mg/L	180	190	7	6	10	26	28	29
Sulfate	mg/L	250	171	2	2	6	7	8	2
Total Dissolved Solids	mg/L	500	917	204	317	335	429	316	304
True Colour	CU	15	2.8 ⁵	7.7	2.6	3.2 ⁵	2	2.3 ⁵	4.1 ⁵
Turbidity	NTU	5	2	1.9	0.6	1.1	0.7	1.2	2.2
Zinc	mg/L	3	0.02 ⁵	0.4	0.4	0.02 ⁵	0.01 ⁵	0.03 ⁵	0.02 ⁵
OTHER CHARACTERISTICS²									
Alkalinity	mg/L	#	472	180 ⁵	323	315	355	296	264
Beryllium	mg/L	#	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Bromine	mg/L	#	0.2	0.021	0.015	0.062	0.068	0.083	0.098
Calcium	mg/L	#	60	34	59	64	69	48	34
Conductivity	µS/cm	#	1542	339.9	594.2	602.4	705	609	613
Magnesium	mg/L	#	56.8	21.5	38.4	32.2	34	31.6	37.5
Potassium	mg/L	#	4.2	1.5	2.1	4.7	2.1	4	5.3
Silica	mg/L	#	33.3	22.1	23.2	27.9	56.5	25.4	18.8
Tin	mg/L	#	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵

No guidelines set (ADWG 2004)

² 95th percentile reported

³ Represents a single reticulation value

⁴ Value includes data from 2006-2011

⁵ One or more values in calculation were below detection limits; result may be higher than actual value

KATHERINE REGION

	Reported unit	ADWG 2004	Gulin Gulin (Bulman)	Jilkminngan (Duck Creek)	Jodetluk (Gorge Camp)	Kalkarindji (Wave Hill)	Kybrook Farm	Lajamanu	Manyalalluk (Eva Valley)
HEALTH CHARACTERISTICS²									
<i>E. coli</i> Detections	per year	0	0	1	0	0	0	0	0
<i>E. coli</i> Performance	%	98	100	98	100	100	100	100	100
Antimony	mg/L	0.003	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0003 ⁵	0.0003 ⁵	0.0002 ⁵
Arsenic	mg/L	0.007	0.0005 ⁵	0.0007 ⁵	0.0005 ⁵	0.0014	0.008	0.0006 ⁵	0.0005 ⁵
Barium	mg/L	0.7	0.05 ⁵	0.05 ⁵	0.05 ⁵	0.11	0.05 ⁵	0.12	0.05 ⁵
Boron	mg/L	4	0.02	0.45	0.02 ⁵	0.12	0.02 ⁵	0.20	0.02 ⁵
Cadmium	mg/L	0.002	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Chromium	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Fluoride	mg/L	1.5	0.1 ⁵	0.5	0.1 ⁵	0.3	0.7	0.3	0.1 ⁵
Lead	mg/L	0.01	0.001 ⁵	0.003 ⁵	0.001 ⁵	0.001 ⁵	0.002 ⁵	0.001 ⁵	0.002 ⁵
Mercury	mg/L	0.001	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵
Molybdenum	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Nickel	mg/L	0.02	0.002 ⁵	0.004 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.004 ⁵
Nitrate	mg/L	50	1 ⁵	1 ⁵	1 ⁵	5	1 ⁵	8	1 ⁵
Annual Exposure to Radioactivity	mSv/yr	1	0.12 ⁵	0.52	N/A	0.21 ⁵	0.12 ⁵	0.17 ⁵	0.14 ⁵
Selenium	mg/L	0.1	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.002 ⁵	0.001 ⁵
Silver	mg/L	0.1	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Uranium	mg/L	0.02	0.0003	0.01	0.00001 ⁵	0.002	0.0003	0.002	0.00007
AESTHETIC CHARACTERISTICS²									
Aluminum	mg/L	0.2	0.02 ⁵	0.09 ⁵	0.02 ⁵	0.02 ⁵	0.04 ⁵	0.02 ⁵	0.02
Chloride	mg/L	250	10	255	8 ⁵	31	10 ⁵	132	8 ⁵
Copper	mg/L	2	0.01 ⁵	0.03 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.02 ⁵	0.02 ⁵
Hardness	CaCO ₃ mg/L	200	315	578	6	262	145	288	8
Iodine	mg/L	0.15	0.01 ⁵	0.19	0.01 ⁵	0.02	0.01 ⁵	0.17	0.01 ⁵
Iron	mg/L	0.3	0.03 ⁵	0.2 ⁵	0.1 ⁵	0.02 ⁵	0.1 ⁵	0.07 ⁵	0.26 ⁵
Manganese	mg/L	0.1	0.005 ⁵	0.17	0.006 ⁵	0.005 ⁵	0.06 ⁵	0.005 ⁵	0.005 ⁵
pH	pH Units	6.5-8.5	7.8	7.4	7.3	7.9	7.1	7.7	5.1
Sodium	mg/L	180	8	196	6	37	43	89	3
Sulfate	mg/L	250	1	216	0.2	13	3	57	0.2
Total Dissolved Solids	mg/L	500	328	1270	33	361	263	630	43
True Colour	CU	15	3.0 ⁵	3.6 ⁵	3.6 ⁵	1.7 ⁵	4.1 ⁵	2.0 ⁵	2.0 ⁵
Turbidity	NTU	5	0.3	1.9	0.6	0.7	1.9	1.0 ⁵	0.8
Zinc	mg/L	3	0.02 ⁵	0.05	0.06	0.01 ⁵	0.02	0.02	0.06
OTHER CHARACTERISTICS²									
Alkalinity	mg/L	#	348	517	24 ⁵	307	222	260	17 ⁵
Beryllium	mg/L	#	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Bromine	mg/L	#	0.022	1.4	0.01	0.1	0.026	0.7	0.025
Calcium	mg/L	#	61	91	1	52	24	44	2
Conductivity	µS/cm	#	620	2046	43.5	678	448	1021	29
Magnesium	mg/L	#	39.8	86.1	0.8	31.8	20.6	43.1	0.6
Potassium	mg/L	#	2.5	25.7	0.5	4.5	1.4	8.6	0.4
Silica	mg/L	#	24.8	60	15.7	25	43.4	100	23
Tin	mg/L	#	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵

No guidelines set (ADWG 2004)

² 95th percentile reported

³ Represents a single reticulation value

⁴ Value includes data from 2006-2011

⁵ One or more values in calculation were below detection limits; result may be higher than actual value

KATHERINE REGION

	Reported unit	ADWG 2004	Minyerri	Mungoobada (Robinson River)	Ngukurr	Rittarangu	Weemol	Yarralin
HEALTH CHARACTERISTICS²								
<i>E. coli</i> Detections	per year	0	0	0	0	0	0	0
<i>E. coli</i> Performance	%	98	100	100	100	100	100	100
Antimony	mg/L	0.003	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Arsenic	mg/L	0.007	0.003 ⁵	0.0005 ⁵	0.0006 ⁵	0.0005 ⁵	0.0005 ⁵	0.003
Barium	mg/L	0.7	0.34	1.15	0.64	0.15	0.05 ⁵	0.96
Boron	mg/L	4	0.18	0.12	0.06	0.04	0.032	0.09
Cadmium	mg/L	0.002	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Chromium	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Fluoride	mg/L	1.5	0.3	0.9	0.2	0.1	0.1	0.1
Lead	mg/L	0.01	0.001 ⁵	0.001 ⁵	0.003 ⁵	0.001 ⁵	0.001 ⁵	0.002 ⁵
Mercury	mg/L	0.001	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵
Molybdenum	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Nickel	mg/L	0.02	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵
Nitrate	mg/L	50	1 ⁵	4	1 ⁵	3 ⁵	1 ⁵	3 ⁵
Annual Exposure to Radioactivity	mSv/yr	1	0.14 ⁵	0.13 ⁵	0.15 ⁵	0.12 ⁵	0.12 ⁵	0.14 ⁵
Selenium	mg/L	0.1	0.001 ⁵	0.001 ⁵	0.002 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Silver	mg/L	0.1	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Uranium	mg/L	0.02	0.00001 ⁵	0.003	0.001	0.0009	0.0003	0.001
AESTHETIC CHARACTERISTICS²								
Aluminum	mg/L	0.2	0.02 ⁵	0.03 ⁵	0.15 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵
Chloride	mg/L	250	16 ⁵	30	398	70	10	33
Copper	mg/L	2	0.02 ⁵	0.02 ⁵	0.05 ⁵	0.02 ⁵	0.02 ⁵	0.01 ⁵
Hardness	CaCO ₃ mg/L	200	101	495	638	282	358	380
Iodine	mg/L	0.15	0.01 ⁵	0.03 ⁵	0.02 ⁵	0.01	0.01 ⁵	0.04 ⁵
Iron	mg/L	0.3	2.2 ⁵	0.06 ⁵	0.41 ⁵	0.02 ⁵	0.02 ⁵	0.8 ⁵
Manganese	mg/L	0.1	0.25 ⁵	0.008 ⁵	0.014 ⁵	0.005 ⁵	0.005 ⁵	0.068
pH	pH Units	6.5-8.5	7.3	7.5	7.6	7.6	7.4	7.5
Sodium	mg/L	180	24	20	99	29	10	31
Sulfate	mg/L	250	11	6	36	3	0.3	7
Total Dissolved Solids	mg/L	500	181	552	985	381	391	490
True Colour	CU	15	4.2 ⁵	2.6 ⁵	4.3 ⁵	1.8 ⁵	3.7 ⁵	3.8 ⁵
Turbidity	NTU	5	31.8	1.3	3.3	0.2	0.3	3.8
Zinc	mg/L	3	0.1	0.05 ⁵	0.04 ⁵	0.02 ⁵	0.02	0.1
OTHER CHARACTERISTICS²								
Alkalinity	mg/L	#	131	535	322	284	391	439
Beryllium	mg/L	#	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Bromine	mg/L	#	0.039	0.3	1.2	0.2	0.028	0.2
Calcium	mg/L	#	22	43	112	52	64	69
Conductivity	µS/cm	#	318	1000	1843	724	690	871
Magnesium	mg/L	#	11.6	94	88.4	36.8	48.1	50.4
Potassium	mg/L	#	5.1	3.9	6.5	2.7	2.8	3.2
Silica	mg/L	#	31	33.7	25.3	23.2	34.1	41.9
Tin	mg/L	#	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵

No guidelines set (ADWG 2004)

² 95th percentile reported

³ Represents a single reticulation value

⁴ Value includes data from 2006-2011

⁵ One or more values in calculation were below detection limits; result may be higher than actual value

BARKLY REGION

	Reported unit	ADWG 2004	Alpururulam (Lake Nash)	Imangara (Murray Downs)	Nturiya ⁴	Owaitilla (Canteen Creek) ⁴	Tara	Warrabri (Ali Curung)	Willowra	Wilora (Stirling) ⁴	Wutunugurra (Epenarra) ⁴
HEALTH CHARACTERISTICS²											
<i>E. coli</i> Detections	per year	0	0	0	0	0	0	0	0	0	0
<i>E. coli</i> Performance	%	98	100	100	100	100	100	100	100	100	100
Antimony	mg/L	0.003	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0003 ⁵	0.0002 ⁵
Arsenic	mg/L	0.007	0.0015	0.001	0.0005 ⁵	0.0005 ⁵	0.0006 ⁵	0.0026	0.0018	0.0016	0.0006 ⁵
Barium	mg/L	0.7	0.1	0.5	0.05 ⁵	0.1	0.05 ⁵	0.09	0.05	0.05 ⁵	0.44
Boron	mg/L	4	0.25	0.25	0.56	0.22	0.43	0.72	0.45	0.69	0.12
Cadmium	mg/L	0.002	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Chromium	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Fluoride	mg/L	1.5	1.5	0.7	0.9	0.5	0.9	2.1	0.8	0.9	0.2
Lead	mg/L	0.01	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Mercury	mg/L	0.001	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵
Molybdenum	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Nickel	mg/L	0.02	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.003 ⁵	0.008 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.002 ⁵
Nitrate	mg/L	50	3	9	38	7	24	81	36	17	4
Annual Exposure to Radioactivity	mSv/yr	1	0.26	0.71	0.5 ⁵	0.4	0.61	0.81	0.83	0.71	0.22 ⁵
Selenium	mg/L	0.1	0.002 ⁵	0.001 ⁵	0.003 ⁵	0.001 ⁵	0.002	0.003	0.003	0.005	0.001 ⁵
Silver	mg/L	0.1	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Uranium	mg/L	0.02	0.01	0.012	0.015	0.001	0.004	0.011	0.025	0.021	0.002
AESTHETIC CHARACTERISTICS²											
Aluminum	mg/L	0.2	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.03 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵
Chloride	mg/L	250	192	25	337	92	554	200	176	518	42
Copper	mg/L	2	0.07 ⁵	0.01 ⁵	0.02 ⁵	0.03 ⁵	0.04 ⁵	0.04 ⁵	0.01 ⁵	0.04 ⁵	0.01 ⁵
Hardness	CaCO ₃ mg/L	200	461	152	303	121	292	246	250	597	179
Iodine	mg/L	0.15	0.18	0.1	0.33	0.14	0.33	0.31	0.26	0.43	0.08
Iron	mg/L	0.3	0.05 ⁵	0.03 ⁵	0.1 ⁵	0.08 ⁵	0.1 ⁵	0.06 ⁵	0.07 ⁵	0.1 ⁵	0.03 ⁵
Manganese	mg/L	0.1	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.014 ⁵	0.017 ⁵
pH	pH Units	6.5-8.5	7.7	8	7.6	7.3	7	8.1	8.1	7.8	7.5
Sodium	mg/L	180	145	30	221	88	209	211	138	295	30
Sulfate	mg/L	250	89	12	180	38	151	96	80	233	11
Total Dissolved Solids	mg/L	500	924	440	1150	487	1039	968	756	1708	321
True Colour	CU	15	2.6 ⁵	1.5 ⁵	3.7 ⁵	3.3	2.3 ⁵	3.4 ⁵	2.8 ⁵	5.3 ⁵	3.0 ⁵
Turbidity	NTU	5	0.9	0.2	0.6	0.9	1.2	0.9 ⁵	0.8	0.5 ⁵	1
Zinc	mg/L	3	0.02	0.01 ⁵	0.03 ⁵	0.03 ⁵	0.05 ⁵	0.01 ⁵	0.04	0.02	0.03
OTHER CHARACTERISTICS²											
Alkalinity	mg/L	#	482	336	217	249	198	373	263	400	200
Beryllium	mg/L	#	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Bromine	mg/L	#	0.8	0.1	1.8	0.5	1.6	1.0	1.0	3.0	0.2
Calcium	mg/L	#	60	39	68	27	38	32	49	95	40
Conductivity	µS/cm	#	1556	732.5	1827	847	1717	1626	1238	2650	555
Magnesium	mg/L	#	76	38.6	33.3	30.9	55	40	31	88.7	19.3
Potassium	mg/L	#	7.4	29.5	24.3	12.6	27.7	50.4	32.4	59.4	7.6
Silica	mg/L	#	67.4	79.5	76.8	60	21	60.2	86.1	90.3	61.3
Tin	mg/L	#	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵

No guidelines set (ADWG 2004)

² 95th percentile reported

³ Represents a single reticulation value

⁴ Value includes data from 2006-2011

⁵ One or more values in calculation were below detection limits; result may be higher than actual value

SOUTHERN REGION

	Reported unit	ADWG 2004	Ampilawatja (Ammaroo)	Amunturangu (Mt Liebig)	Apatula (Finke)	Areyonga	Attijere (Harts Range)	Engawala (Alcoota)	Ikuntji (Haasts Bluff)
HEALTH CHARACTERISTICS²									
<i>E. coli</i> Detections	per year	0	0	0	0	0	0	0	2
<i>E. coli</i> Performance	%	98	100	100	100	100	100	100	94
Antimony	mg/L	0.003	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0003 ⁵
Arsenic	mg/L	0.007	0.0005 ⁵	0.0006 ⁵	0.0005 ⁵	0.0008 ⁵	0.0005 ⁵	0.0005 ⁵	0.0005 ⁵
Barium	mg/L	0.7	0.05 ⁵	0.05 ⁵	0.12	0.1	0.06	0.12	0.05 ⁵
Boron	mg/L	4	0.28	0.26	0.07	0.18	0.14	0.14	0.32
Cadmium	mg/L	0.002	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0003 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Chromium	mg/L	0.05	0.005 ⁵	0.006 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Fluoride	mg/L	1.5	1.1	1.2	0.2	0.4	0.5	0.6	0.5
Lead	mg/L	0.01	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.002 ⁵	0.001 ⁵	0.003 ⁵
Mercury	mg/L	0.001	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵
Molybdenum	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Nickel	mg/L	0.02	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.01	0.002 ⁵	0.002 ⁵	0.003 ⁵
Nitrate	mg/L	50	29	18	9	8	30	13	7 ⁵
Annual Exposure to Radioactivity	mSv/yr	1	0.44	0.28	0.21	0.37	0.2	0.15 ⁵	0.6
Selenium	mg/L	0.1	0.002 ⁵	0.001 ⁵	0.001 ⁵	0.002 ⁵	0.002	0.002	0.002 ⁵
Silver	mg/L	0.1	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Uranium	mg/L	0.02	0.008	0.006	0.001 ⁵	0.008	0.007	0.005	0.01
AESTHETIC CHARACTERISTICS²									
Aluminum	mg/L	0.2	0.16 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵
Chloride	mg/L	250	165	117	146	109	119	135	367
Copper	mg/L	2	0.01 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.03	0.02 ⁵	0.05 ⁵
Hardness	CaCO ₃ mg/L	200	446	270	187	410	279	383	578
Iodine	mg/L	0.15	0.18	0.23	0.03	0.1	0.1	0.13	0.24
Iron	mg/L	0.3	0.08 ⁵	0.08 ⁵	0.08 ⁵	0.12 ⁵	0.14 ⁵	0.13 ⁵	0.06 ⁵
Manganese	mg/L	0.1	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
pH	pH Units	6.5-8.5	7.8	7.7	7.7	8.1	8	7.9	7.6
Sodium	mg/L	180	115	98	85	57	113	82	165
Sulfate	mg/L	250	224	93	56	76	134	59	258
Total Dissolved Solids	mg/L	500	993	615	461	643	703	695	1275
True Colour	CU	15	2.9 ⁵	1.9 ⁵	2.3 ⁵	1.8 ⁵	3.7 ⁵	3.2 ⁵	4.1 ⁵
Turbidity	NTU	5	0.4 ⁵	1.1	0.8	1.7	0.8	4.5	1.4
Zinc	mg/L	3	0.03 ⁵	0.03	0.2	0.05 ⁵	0.04	0.03	0.2
OTHER CHARACTERISTICS²									
Alkalinity	mg/L	#	301	252	122	334	214	335	241
Beryllium	mg/L	#	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Bromine	mg/L	#	0.9	0.6	0.2	0.4	0.6	0.7	1.6
Calcium	mg/L	#	98	59	53	73	44	71	109
Conductivity	µS/cm	#	1495	1043	867	1116	1118	1177	1978
Magnesium	mg/L	#	53.8	29.8	13	55.1	41	50	74.2
Potassium	mg/L	#	23.8	13.7	6.4	8.3	8.8	7.1	28.5
Silica	mg/L	#	39.1	49.5	16.4	18.8	34.3	68.3	50.7
Tin	mg/L	#	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵

No guidelines set (ADWG 2004)

² 95th percentile reported

³ Represents a single reticulation value

⁴ Value includes data from 2006-2011

⁵ One or more values in calculation were below detection limits; result may be higher than actual value

SOUTHERN REGION

	Reported unit	ADWG 2004	Imanpa	Kaltukatjara (Docker River)	Laramba (Napperby)	Ntaria (Hermansburg)	Nyirripi	Papunya	Pmara Jutunta (Ti Tree 6 Mile)
HEALTH CHARACTERISTICS²									
<i>E. coli</i> Detections	per year	0	0	0	2	1	0	0	0
<i>E. coli</i> Performance	%	98	100	100	96	97	100	100	100
Antimony	mg/L	0.003	0.0002 ⁵	0.0002 ⁵	0.0003 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Arsenic	mg/L	0.007	0.0008 ⁵	0.0005 ⁵	0.0008 ⁵	0.0005 ⁵	0.0015 ⁵	0.0009 ⁵	0.001 ⁵
Barium	mg/L	0.7	0.05 ⁵	0.05 ⁵	0.25	0.05 ⁵	0.09	0.09	0.1
Boron	mg/L	4	0.77	0.14	0.34	0.16	0.3	0.3	0.32
Cadmium	mg/L	0.002	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Chromium	mg/L	0.05	0.006 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Fluoride	mg/L	1.5	0.8	0.4	1.1	0.4	1.5	1	0.8
Lead	mg/L	0.01	0.001 ⁵	0.001 ⁵	0.002 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.003 ⁵
Mercury	mg/L	0.001	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵
Molybdenum	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Nickel	mg/L	0.02	0.004	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.003 ⁵	0.002 ⁵	0.002 ⁵
Nitrate	mg/L	50	29	1 ⁵	36	5	26 ⁵	20	52
Annual Exposure to Radioactivity	mSv/yr	1	0.83	0.2	0.95	0.19	0.4	0.23 ⁵	0.25 ⁵
Selenium	mg/L	0.1	0.004	0.001 ⁵	0.003 ⁵	0.001 ⁵	0.002 ⁵	0.006 ⁵	0.002 ⁵
Silver	mg/L	0.1	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Uranium	mg/L	0.02	0.011	0.00001 ⁵	0.038	0.005 ⁵	0.009	0.011	0.008
AESTHETIC CHARACTERISTICS²									
Aluminum	mg/L	0.2	0.03 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵
Chloride	mg/L	250	389	85	101	114	104	197	70
Copper	mg/L	2	0.02 ⁵	0.02 ⁵	0.1 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵	0.02 ⁵
Hardness	CaCO ₃ mg/L	200	432	278	272	315	246	247	199
Iodine	mg/L	0.15	0.59	0.1	0.31	0.07	0.17	0.25	0.14
Iron	mg/L	0.3	0.16 ⁵	0.12 ⁵	0.09 ⁵	0.17 ⁵	0.03 ⁵	0.11 ⁵	0.05 ⁵
Manganese	mg/L	0.1	0.019 ⁵	0.008 ⁵	0.006 ⁵	0.008 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
pH	pH Units	6.5-8.5	8.1	8.3	7.9	7.9	8.1	8.1	8
Sodium	mg/L	180	235	55	77	62	90	227	66
Sulfate	mg/L	250	244	64	36	63	45	85	38
Total Dissolved Solids	mg/L	500	1300	464	649	548	610	937	514
True Colour	CU	15	4.8 ⁵	2.6 ⁵	2.7 ⁵	2.9 ⁵	2.3 ⁵	2.5 ⁵	3.5 ⁵
Turbidity	NTU	5	8.2	1.1	0.3 ⁵	2.4	1.6	0.4	0.8 ⁵
Zinc	mg/L	3	0.3	0.02 ⁵	0.1	0.04	0.02	0.01 ⁵	0.04
OTHER CHARACTERISTICS²									
Alkalinity	mg/L	#	208	274	306	260	292	424	210
Beryllium	mg/L	#	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Bromine	mg/L	#	1.7	0.4	0.6	0.6	0.4	1.1	0.4
Calcium	mg/L	#	82	53	55	61	46	50	45
Conductivity	µS/cm	#	1975	843	1019	969	1004	1569	783
Magnesium	mg/L	#	55.1	35.7	32.4	39.8	31.8	29.6	21.6
Potassium	mg/L	#	30	11.2	38.3	7.1	27.1	11.1	18.4
Silica	mg/L	#	29.4	12	95.5	15.3	88.8	65.3	94.1
Tin	mg/L	#	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵

No guidelines set (ADWG 2004)

² 95th percentile reported

³ Represents a single reticulation value

⁴ Value includes data from 2006-2011

⁵ One or more values in calculation were below detection limits; result may be higher than actual value

SOUTHERN REGION

	Reported unit	ADWG 2004	SantaTeresa	Titjikala (Maryvale)	Walangkula (Kintore)	Wallace Rockhole	Yuelamu (Mt Allan)	Yuendumu
HEALTH CHARACTERISTICS²								
<i>E. coli</i> Detections	per year	0	0	0	0	0	0	0
<i>E. coli</i> Performance	%	98	100	100	100	100	100	100
Antimony	mg/L	0.003	0.0009 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Arsenic	mg/L	0.007	0.0005 ⁵	0.001 ⁵	0.0009 ⁵	0.0009 ⁵	0.0007 ⁵	0.0005 ⁵
Barium	mg/L	0.7	0.51	0.31	0.05 ⁵	0.06	0.06 ⁵	0.05 ⁵
Boron	mg/L	4	0.05	0.1	0.28	0.36	0.1	0.3
Cadmium	mg/L	0.002	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵	0.0002 ⁵
Chromium	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.035 ⁵	0.005 ⁵	0.005 ⁵
Fluoride	mg/L	1.5	0.2	0.6	0.8	0.8	0.4	0.6
Lead	mg/L	0.01	0.002 ⁵	0.001 ⁵	0.001 ⁵	0.002 ⁵	0.002 ⁵	0.001 ⁵
Mercury	mg/L	0.001	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵	0.0001 ⁵
Molybdenum	mg/L	0.05	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.005 ⁵
Nickel	mg/L	0.02	0.002 ⁵	0.002 ⁵	0.002 ⁵	0.008 ⁵	0.002 ⁵	0.002 ⁵
Nitrate	mg/L	50	13	16	83	14	1 ⁵	3 ⁵
Annual Exposure to Radioactivity	mSv/yr	1	0.45	0.26 ⁵	0.13 ⁵	0.35	0.16	0.49 ⁵
Selenium	mg/L	0.1	0.003 ⁵	0.001 ⁵	0.003 ⁵	0.003 ⁵	0.001 ⁵	0.002 ⁵
Silver	mg/L	0.1	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵
Uranium	mg/L	0.02	0.005	0.004	0.002	0.005	0.006	0.009
AESTHETIC CHARACTERISTICS²								
Aluminum	mg/L	0.2	0.03 ⁵	0.02 ⁵	0.03 ⁵	0.8 ⁵	0.14 ⁵	0.02 ⁵
Chloride	mg/L	250	12	50	118	142	49	173
Copper	mg/L	2	0.02 ⁵	0.02 ⁵	0.2 ⁵	0.02 ⁵	0.07 ⁵	0.03 ⁵
Hardness	CaCO ₃ mg/L	200	249	213	462	273	94	303
Iodine	mg/L	0.15	0.02	0.04	0.15	0.13	0.08	0.25
Iron	mg/L	0.3	0.08 ⁵	0.03 ⁵	0.05 ⁵	0.25 ⁵	0.2 ⁵	0.25 ⁵
Manganese	mg/L	0.1	0.005 ⁵	0.005 ⁵	0.005 ⁵	0.006 ⁵	0.016 ⁵	0.016 ⁵
pH	pH Units	6.5-8.5	7.7	7.7	7.6	7.6	8	7.9
Sodium	mg/L	180	7	60	96	91	52	113
Sulfate	mg/L	250	11	24	68	65	73	111
Total Dissolved Solids	mg/L	500	308	404	857	580	257	677
True Colour	CU	15	2.2 ⁵	2.7 ⁵	2.3 ⁵	4.3 ⁵	5.3 ⁵	2.2 ⁵
Turbidity	NTU	5	0.9	1.2	0.5	36.7 ⁵	2.7	6.2 ⁵
Zinc	mg/L	3	0.03	0.05	0.03 ⁵	0.1	0.06 ⁵	0.2
OTHER CHARACTERISTICS²								
Alkalinity	mg/L	#	277	246	404	238	79	230
Beryllium	mg/L	#	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵	0.001 ⁵
Bromine	mg/L	#	0.05	0.1	1.1	0.5	0.3	1
Calcium	mg/L	#	63	57	72	62	27	62
Conductivity	µS/cm	#	550	718	1328	1082	471	1147
Magnesium	mg/L	#	22.6	17.1	68.6	28.7	6.5	35.8
Potassium	mg/L	#	4.4	5.4	5.3	9.1	4.8	16.3
Silica	mg/L	#	17.4	35.6	89.1	18.8	3.5	15.7
Tin	mg/L	#	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵	0.01 ⁵

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