



**Western Australia
Iron Ore**

**Annual Drinking Water
Quality Report -
Newman WL53
Operating Area**

2022 / 2023

Contents

1	Water Provider Information	3
2	Regulatory Overview.....	3
3	Drinking Water Policy Statement	4
4	Scheme Overview and Management	5
4.1	Operating Area	5
4.2	Source Water	5
4.3	Water Treatment	6
4.4	Water Distribution	7
4.5	Water Monitoring and Testing.....	8
5	Commitment to Drinking Water Framework.....	11
5.1	Fluoridation of Newman Drinking Water	11
5.2	Newman Water Treatment Plant Drinking Water Storage Upgrade	11
5.3	Review of Water Treatment Processes.....	11
5.4	Routine Stakeholder Engagement	11
5.5	Incident Management.....	11
5.6	Chemicals and Materials	11
5.7	Training	11
6	Performance Summary	12
7	Microbial Performance.....	13
7.1	Microbiological – Compliance Summary	13
7.2	Microbiological – Exception Notification	14
7.3	Microbiological – Incident Specific Information.....	14
8	Chemical – Health Related Performance.....	15
8.1	Chemical – Health Related – Compliance Summary	15
8.2	Chemical – Health Related – Exception Notifications.....	17
8.3	Chemical – Health Related – Incident Specific Information	17
9	Chemical - Aesthetic Performance	18
9.1	Chemical – Aesthetic – Compliance Summary	18
10	Radiological Performance	19
10.1	Radiological – Compliance Summary	19
10.2	Radiological – Exception Notifications	19
10.3	Radiological – Incident Specific Information.....	19
11	General Notes	20

1 Water Provider Information

Water Provider Contact Details	
Name of Company	BHP Western Australia Iron Ore
Company Address	PO Box 7122 Cloisters Square Perth WA 6850
General Manager NPI	K. Holling
DoH Liaison Officer	N. Morris
Customer Enquiries	1800 421 077

2 Regulatory Overview

BHP Western Australia Iron Ore (BHPIO) provides drinking water to our Newman operations and delivers drinking water to Water Corporation for their supply to the community of Newman in accordance with our Water Services Licence (WL53) in compliance with the *Water Services Act 2012*. WL53 is regulated by the Western Australia (WA) Economic Regulation Authority (ERA).

The licence sets minimum service and performance standards for the supply of drinking water and requires an executed Memorandum of Understanding (MoU) with the WA Department of Health (DoH). BHPIO executed a MoU with the DoH in July 2023.

The MoU incorporates the 'Framework for Management of Drinking Water Quality' and Guiding Principles set out in the Australian Drinking Water Guidelines (ADWG)¹. It also recognises the DoH as the regulator of drinking water quality in WA, enabling the DoH to audit BHPIO's water quality, management and reporting systems to provide assurance on ongoing satisfactory drinking water quality performance.

It is a requirement of the MoU that an annual water quality report for each financial year be submitted to the DoH and published, covering all drinking water quality testing results as well as information demonstrating BHPIO's performance in accordance with the MoU. The MoU also requires BHPIO to prepare quarterly reports detailing water quality testing results, including any exceptions reported in accordance with the Binding Protocols of the MoU.

The BHPIO Drinking Water Management System and associated documents form the framework of drinking water management, with key improvement items, challenges or emerging issues occurring in the reporting period being listed in the report.

BHPIO promotes strong stakeholder relationships with additional entities, including the Department of Water and Environmental Regulation (DWER) and the Water Corporation. Additional information regarding these relationships is discussed further in the report.

¹ The ADWG are published and updated by the National Health and Medical Research Council, Australia's peak research body providing authoritative guidance on safe supply of drinking water using a risk management approach. The ADWG is available to download from: <https://www.nhmrc.gov.au/about-us/publications/australian-drinking-water-guidelines>

3 Drinking Water Policy Statement

BHPIO is committed to reliably supplying high quality, safe drinking water, complying with the 12 Element Framework for Management of Drinking Water Quality as per the ADWG, in an ethical and sustainable manner.

Our people achieve this goal by ensuring the following practices are upheld:

- Managing our water resources to protect the source from contamination and ensure sustainable extraction.
- Routine water quality monitoring and reporting at all stages of the process, from the source to the customer.
- Implement and maintain drinking water management systems which identify water quality and quantity risks, as well as preventative and/or mitigating factors to control these risks.
- Regular engagement and communication with regulators, customers, communities and other stakeholders where relevant.
- Development and continual revision of procedures and response plans to ensure that incidents are responded to timely and effectively.
- Water operations personnel are appropriately trained and are personally committed to upholding water safety and hygiene best practices.
- Continually evaluating our performance and practices against industry leaders and sharing of learnings to benefit the wider community.

4 Scheme Overview and Management

4.1 Operating Area

The Operating Area of BHPIO WL53 is within the Shire of East Pilbara within the Newman Township (see Figure 1). Newman is 1,190 kilometres north-north east of Perth and 455 kilometres south of Port Hedland.

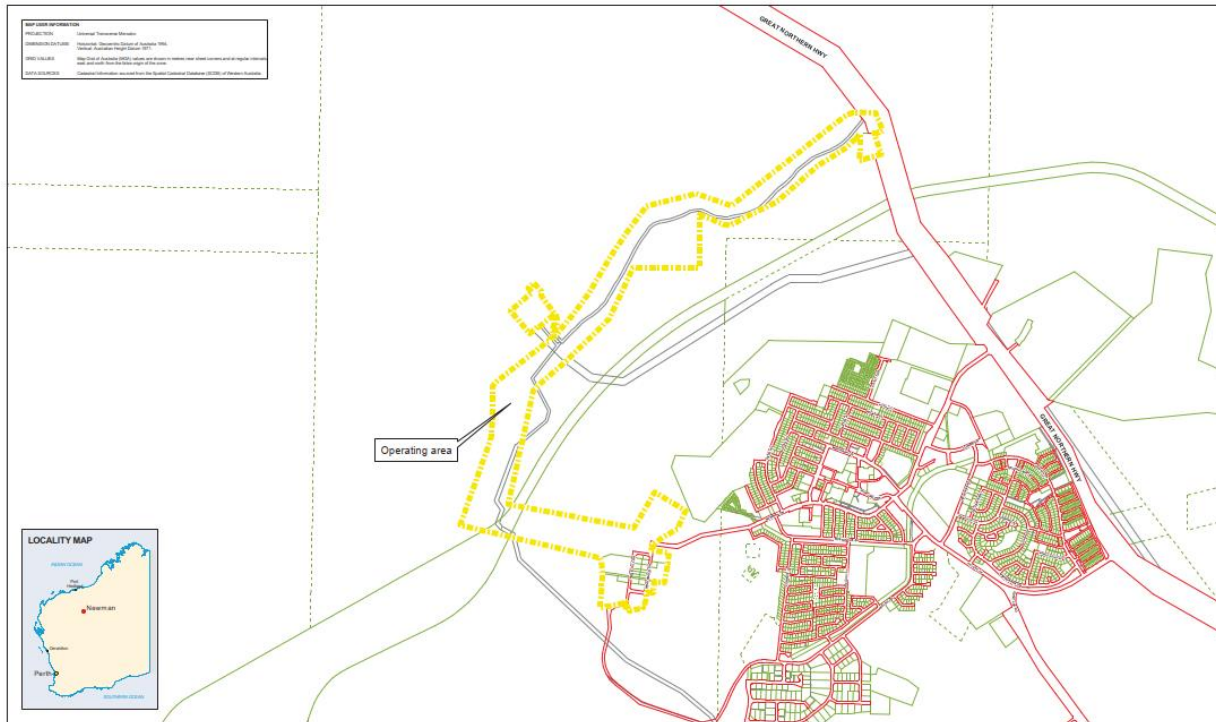


Figure 1: Licence Operating Area

BHPIO manages source water extraction, conveyance, storage, treatment and distribution of drinking water to the Operating Area, as well as its own mining assets/facilities.

4.2 Source Water

Newman's drinking water supply is sourced from the Ophthalmia and Homestead wellfields, which are located within the Newman Public Drinking Water Supply Area (PDWSA). The Ophthalmia wellfield is located approximately 10 kilometres east of Newman adjacent to Ophthalmia Dam. The Homestead wellfield is located approximately 10 kilometres northwest of Newman. BHPIO holds licences to abstract water (GWL65219(9) and GWL177235(2)) issued by DWER under section 5C of the *Rights In Water and Irrigation Act 1914*.

All production wells used for the supply of drinking water have sealed headworks and fenced security gated compounds. BHPIO undertake routine inspections to assess and confirm the integrity of assets.

The catchment within the Newman PDWSA is jointly managed between BHPIO and the Water Corporation under the *Country Areas Water Supply Act 1947*.

4.3 Water Treatment

Groundwater from the Ophthalmia and Homestead wellfields is pumped to the Newman Water Treatment Plant (WTP), which BHPIO operates.

A summary of the key treatment processes and chemical additives is provided in Table 1 below.

Table 1: Treatment process and additives

Water Supply Scheme	Treatment Process	Role of Process
Newman WL53 Operating Area – Newman WTP	Activated Carbon Filtration	Removal of organic chemicals, and taste and odour compounds
	Ultra Violet Disinfection (UV)	Disinfection
	Filtration – 1 µm Cartridge	Protection for Reverse Osmosis membranes
	Reverse Osmosis	Removal of dissolved salts. Water that has been through the filtration and UV process is used for remineralisation via a bypass line.
	Electro Chlorination	Sodium Hypochlorite generated onsite and added for residual disinfection
	pH correction by addition of Sodium Hydroxide	To adjust pH levels

4.4 Water Distribution

From the Newman WTP, drinking water is distributed through gravity mains on the south-east side to supply Water Corporation, which is responsible for the operation and maintenance of Newman Town’s drinking water system and customer management.

Gravity mains on the south-west side of the Newman WTP supply drinking water to various businesses in Newman’s Mine Services Industrial Area, the Shire of East Pilbara Wastewater Treatment Plant, Newman Power Station, and BHPIO mining operations (outside of the Operating Area).

See Table 2 for key statistics for the scheme and Figure 2 for locations of customers.

Table 2: Scheme Overview

Newman WL53 Operating Area	
Number of Consumers	~5000
Length of Mains (m)	8000
Number of Sample Localities	3

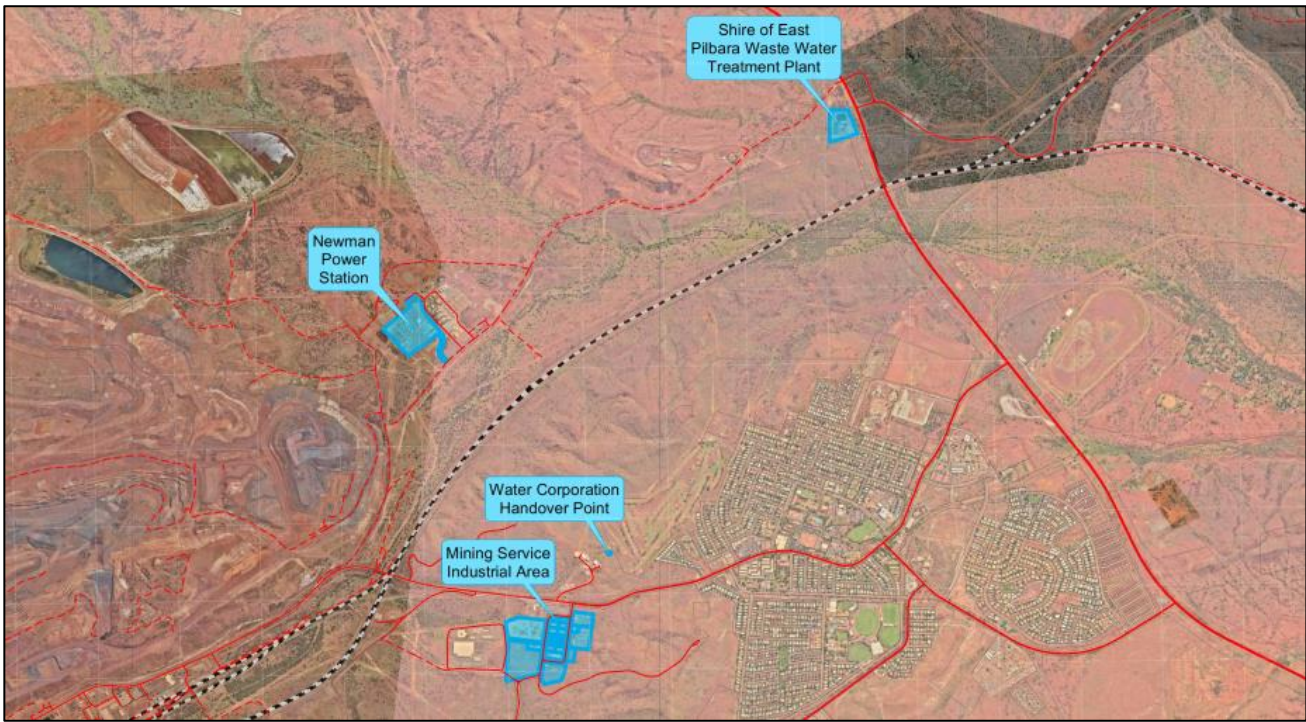


Figure 2: Customer locations

4.5 Water Monitoring and Testing

BHPIO maintain a drinking water quality monitoring program which has been developed in accordance with the DoH requirements. The sampling program is used as a final step of our multi-barrier approach for verification of water quality and has been categorised into four key groups as outlined in Table 3.

Table 3: Water testing key groups

Parameter Group	Description and Management
Microbiological	<p>Parameters used to indicate microbiological risk to the drinking water supply in accordance with ADWG requirements.</p> <p>The most common and widespread health risk associated with drinking water is contamination by pathogenic microorganisms. Organisms associated with the gut and faecal matter from humans and other warm-blooded animals cause several waterborne diseases. As it is impractical to test for the presence of all pathogenic microorganisms in drinking water supplies, the ADWG recommends testing for the microbial indicator bacterium <i>Escherichia coli</i> (<i>E. coli</i>) to indicate the presence of faecal contamination.</p> <p>The ADWG states that <i>E. coli</i> should not be present in a minimum 100mL sample of drinking water.</p> <p>Thermophilic <i>Naegleria</i> refers to a group of amoebae which includes <i>Naegleria fowleri</i>, the organism that causes the waterborne disease primary amoebic meningoencephalitis. <i>Naegleria fowleri</i> is an environmental pathogen which naturally lives in fresh warm water.</p> <p>Any detection of <i>E. coli</i> or Thermophilic <i>Naegleria</i> is responded to immediately by BHPIO to ensure the potential risk to health is managed and to ensure the drinking water supplied is safe. BHPIO will also notify DoH as per notification protocols.</p>
Chemical Health	<p>Parameters that have health guideline values as outlined in the ADWG to ensure the safety of the drinking water to consumers.</p> <p>Key chemical health parameters that BHPIO monitor include:</p> <ul style="list-style-type: none"> • Pesticides and Industrial Chemicals <p>Pesticides are chemical compounds used for the control of 'pests' (including insects, weeds, rodents). These compounds, when at a high enough concentration, may be toxic to humans, can enter the drinking water system through over-spray, wind-borne dust, transmission through groundwater and other mechanisms.</p> <p>Industrial chemicals of significance to water quality include synthetic compounds, many of which if at high enough concentrations, toxic to humans.</p> <p>The ADWG provides health-related guideline values for an extensive range of pesticides and industrial chemicals.</p> • Metals <p>Metals occur naturally in waters as a result of being in contact with rocks and soils in the aquifer. They can also accumulate in pipe sediments and be re-suspended during period of rapid changes in water flow patterns.</p> <p>Whilst not health-related, elevated concentrations of iron and manganese can discolour water.</p>

Parameter Group	Description and Management
	<p>The ADWG provides health-related guideline values for a range of metals.</p> <ul style="list-style-type: none"> Trihalomethanes <p>Trihalomethanes may be present in drinking water as a by-product of disinfection using chlorination. The ADWG specifies a health guideline value of 0.25 milligrams per litre (mg/L) based on long-term exposure.</p> <ul style="list-style-type: none"> Per- and poly-fluoroalkyl substances (PFAS) <p>PFAS refers to a large group of manufactured chemicals that do not occur naturally in the environment. They have been widely used since the 1950s in a range of common household and consumer products as well as in industrial products including firefighting foams. The ADWG incorporates two PFAS health-based guideline values for three PFAS chemicals. These are 0.07 micrograms per litre (µg/L) for combined perfluorooctane sulfonate and perfluorohexane sulfonate (PFOS and PFHxS) and 0.56 µg/L for perfluorooctanoic acid (PFOA).</p> <p>BHPIO manages the Newman WTP, which includes activated carbon filtration and reverse osmosis, and regularly monitors the drinking water to ensure that no chemical-health related compound exceeds its guideline level.</p>
Chemical Aesthetic	<p>Parameters that have aesthetic guideline values outlined in the ADWG which ensure the drinking water is aesthetically pleasing to drink.</p> <p>Key chemical aesthetic parameters that BHPIO monitor include:</p> <ul style="list-style-type: none"> Turbidity <p>Turbidity is the cloudy appearance of water caused by the presence of suspended particulate matter. The ADWG specify an aesthetic guideline value of 5 Nephelometric Turbidity Units (NTU) which is just noticeable in a glass of water. If disinfection is required, a turbidity of less than 1 NTU is desirable at the point of disinfection.</p> <ul style="list-style-type: none"> pH <p>pH is a measure of water acidity. pH 7 is neutral, low pH is acidic and high pH is alkaline. The ADWG specify a lower and upper aesthetic value of 6.5 and 8.5, respectively.</p> <ul style="list-style-type: none"> TDS <p>Total Dissolved Solids (TDS) consist of inorganic (natural) salts and small amounts of organic matter dissolved in water. TDS typically 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 high TDS tastes salty and causes scaling in pipes and fittings. The ADWG provides guidance in the palatability of drinking water according to TDS concentration, with TDS < 600 mg/L being of good quality.</p> <ul style="list-style-type: none"> Hardness <p>Hardness is caused by the presence of dissolved calcium and magnesium in water. Hard water requires more soap to obtain lather and can also cause scale to form on hot water pipes and fittings. The ADWG specify an aesthetic hardness guideline value of 200 mg/L.</p>

Parameter Group	Description and Management
	<ul style="list-style-type: none"> • Colour <p>Colour in water originates from natural mainly from natural materials, such as organic matter and minerals, following water drainage through soil and vegetation in a catchment. The ADWG specify an aesthetic guideline value based on the colour which is noticeable in a glass of water. This is generally accepted as 15 Hazen Units (HU).</p> <p>BHPIO manages the Newman WTP, which includes reverse osmosis and pH correction, to deliver drinking water complying with ADWG aesthetic guideline values (excluding chlorine).</p>
Radiological	<p>There are naturally occurring levels of radiation within the environment emanating from rocks and soil.</p> <p>Testing is undertaken for gross alpha and gross beta radioactivity, where screening levels can be determined.</p> <p>The ADWG recommend a screening level of 0.5 Becquerel per Litre (Bq/L).</p>

5 Commitment to Drinking Water Framework

Improvements to the Newman drinking water supply system are continuously being evaluated. A capital investment and continuous improvement pipeline are in place to enable gradual improvements over time. Below is a summary of the key activities relevant to the drinking water management framework over the 2022-2023 reporting period, including key improvements and challenges.

5.1 Fluoridation of Newman Drinking Water

The Minister for Health directed the Water Corporation to fluoridate the Newman drinking water supply under the *WA Fluoridation of Public Water Supplies Act 1966*. This resulted in a joint project between BHPIO and the Water Corporation to construct a Fluorosilicic acid dosing plant, which was completed after the end of the reporting period, in September 2023.

5.2 Newman Water Treatment Plant Drinking Water Storage Upgrade

A project is currently underway to increase the drinking water storage capacity at the Newman Water Treatment Plant. The project will increase the reserve storage at the Newman WTP to manage the risk during an event of an unplanned treatment plant fault or unexpected natural event. Completion of the project is currently expected in March 2024.

5.3 Review of Water Treatment Processes

BHPIO has undertaken a gap analysis of the Newman Water Treatment Plant against the updated ADWG v3.8 2022 requirements to identify any required improvements in meeting the microbial health-based target criteria. The assessment has found that the Newman WTP contains the required treatment processes to meet the ADWG v3.8 2022 health-based target criteria with additional treatment capability in reserve.

5.4 Routine Stakeholder Engagement

BHPIO holds routine meetings with key internal and external stakeholders including the Department of Health and the Water Corporation. BHPIO also recognises and supports the ongoing work of the Advisory Committee for the Purity of Water. For further information on the Advisory Committee for the Purity of Water, see [Advisory Committee for the Purity of Water \(health.wa.gov.au\)](https://www.health.wa.gov.au/advisory-committee-for-the-purity-of-water).

5.5 Incident Management

BHPIO has incident response and business continuity plans to manage water quality events with minimum possible impact. In June 2023, a mock water quality event exercise was undertaken to assess the impact of a water quality exceedance and was held jointly with Water Corporation and Department of Health representatives. The level of cooperation between the participants enabled all parties to successfully respond to the event.

No notifiable water quality incidents occurred and no customer complaints about water quality were received during the reporting period.

5.6 Chemicals and Materials

BHPIO is committed to ensuring that drinking water supply assets are compliant to the DoH [Materials, products and substances in contact with drinking water \(health.wa.gov.au\)](https://www.health.wa.gov.au/materials-products-and-substances-in-contact-with-drinking-water).

5.7 Training

BHPIO employees and contractors involved in the Newman drinking water system have appropriate training and experience to demonstrate competency with the treatment, supply and monitoring of drinking water. BHPIO utilises Nationally recognised training from the National Water Industry Training package to ensure sufficient competency.

6 Performance Summary

Water Quality Meeting the Australia Drinking Water Guidelines			
	Newman Water Treatment Plant		
	Number of Samples Assessed	Number of Samples Within Guidelines	Number of Non-Conformances to Guidelines
Microbiological			
<i>E. coli</i>	52	52	0
Amoeba (Thermophilic <i>Naegleria</i>)	52	52	0
Chemical			
Chemical - Health	211	211	0
Chemical - Aesthetic	154	154	0
Radiological	0	0	0
	Newman Mine Services Industrial Area		
	Number of Samples Assessed	Number of Samples Within Guidelines	Number of Non-Conformances to Guidelines
Microbiological			
<i>E. coli</i>	12	12	0
Amoeba (Thermophilic <i>Naegleria</i>)	12	12	0
Chemical			
Chemical - Health	12	12	0
Chemical - Aesthetic	24	24	0
Radiological	0	0	0
	Newman North West Area		
	Number of Samples Assessed	Number of Samples Within Guidelines	Number of Non-Conformances to Guidelines
Microbiological			
<i>E. coli</i>	12	12	0
Amoeba (Thermophilic <i>Naegleria</i>)	12	12	0
Chemical			
Chemical - Health	12	12	0
Chemical - Aesthetic	24	24	0
Radiological	0	0	0

7 Microbial Performance

7.1 Microbiological – Compliance Summary

Newman Water Treatment Plant				
Microbiological Parameter	Compliance Criteria	Number of samples	Number of Compliant Samples	Compliance %
Bacterial				
<i>E. coli</i>	Non-Detect	52	52	100
Amoeba				
Thermophilic <i>Naegleria</i>	Non-Detect	52	52	100

Newman Mine Services Industrial Area				
Microbiological Parameter	Compliance Criteria	Number of samples	Number of Compliant Samples	Compliance %
Bacterial				
<i>E. coli</i>	Non-Detect	12	12	100
Amoeba				
Thermophilic <i>Naegleria</i>	Non-Detect	12	12	100

Newman North West Area				
Microbiological Parameter	Compliance Criteria	Number of samples	Number of Compliant Samples	Compliance %
Bacterial				
<i>E. coli</i>	Non-Detect	12	12	100
Amoeba				
Thermophilic <i>Naegleria</i>	Non-Detect	12	12	100

7.2 Microbiological – Exception Notification

Microbiological Water Quality Exceptions						
Locality	Population served	Date Result Notified	Microbiological Parameter	Alert Level	Date DoH Notified	Close Out Date

7.3 Microbiological – Incident Specific Information

No microbiological exception notifications occurred during the reporting period.

8 Chemical – Health Related Performance

8.1 Chemical – Health Related – Compliance Summary

Newman Water Treatment Plant						
Parameter	Units	ADWG Health-Related Guideline	Number of Samples Assessed	Number of Compliant Samples	Compliance %	Maximum Value
Free Chlorine	mg/L	5	52	52	100	1.5
2,4-D	mg/L	0.03	1	1	100	<0.001
Antimony	mg/L	0.003	1	1	100	<0.001
Arsenic	mg/L	0.01	4	4	100	<0.001
Atrazine	mg/L	0.02	1	1	100	<0.001
Benzene	mg/L	0.001	4	4	100	<0.0005
Bromate	mg/L	0.02	4	4	100	<0.005
Bromoxynil	mg/L	0.01	1	1	100	<0.001
Cadmium	mg/L	0.002	4	4	100	<0.0001
Carbaryl	mg/L	0.03	1	1	100	<0.001
Chlorite	mg/L	0.8	4	4	100	<0.05
Chlorpyrifos	mg/L	0.01	1	1	100	<0.000009
Chromium (as Cr VI)	mg/L	0.05	4	4	100	<0.001
Copper	mg/L	2	1	1	100	<0.001
Cyfluthrin	mg/L	0.05	1	1	100	<0.001
Cypermethrin isomers	mg/L	0.2	1	1	100	<0.001
Deltamethrin	mg/L	0.04	1	1	100	<0.001
Diazinon	mg/L	0.004	1	1	100	<0.001
Dicamba	mg/L	0.1	1	1	100	<0.001
Dichlorvos	mg/L	0.005	1	1	100	<0.001
Dimethoate	mg/L	0.007	1	1	100	<0.0001
Diuron	mg/L	0.02	1	1	100	<0.001
Ethylbenzene	mg/L	0.3	4	4	100	<0.0005
Fenthion	mg/L	0.007	1	1	100	<0.001
Fipronil	mg/L	0.0007	1	1	100	<0.0002
Fluoride	mg/L	1.5	52	52	100	0.3
Glyphosate	mg/L	1	1	1	100	<0.01
Hexazinone	mg/L	0.4	1	1	100	<0.001
Lead	mg/L	0.01	4	4	100	<0.001
Manganese	mg/L	0.5	2	2	100	<0.001
MCpA	mg/L	0.04	1	1	100	<0.001
Mercury	mg/L	0.001	4	4	100	<0.00005
Molybdenum	mg/L	0.05	1	1	100	<0.001
Nickel	mg/L	0.02	4	4	100	<0.001
Nitrate	mg/L	50	2	2	100	1

Newman Water Treatment Plant						
Parameter	Units	ADWG Health-Related Guideline	Number of Samples Assessed	Number of Compliant Samples	Compliance %	Maximum Value
Nitrilotriacetic acid	mg/L	0.2	4	4	100	<0.02
Nitrite	mg/L	0.3	2	2	100	<0.05
Polycyclic aromatic hydrocarbons (Benzo-(a)-pyrene)	mg/L	0.00001	4	4	100	<0.000005
Perfluorooctanoic Acid (PFOA)	µg/L	0.56	4	4	100	<0.0005
Permethrin	mg/L	0.2	1	1	100	<0.001
Picloram	mg/L	0.3	1	1	100	<0.001
Sum of Perfluorooctane sulfonate (PFOS)& Perfluorohexane sulfonate (PFHxS)	µg/L	0.07	4	4	100	<0.0002
Trihalomethanes	mg/L	0.25	1	1	100	0.002
Toluene	mg/L	0.8	4	4	100	<0.0005
Triclopyr	mg/L	0.02	1	1	100	<0.001
Uranium	mg/L	0.02	12	12	100	0.002
Xylene	mg/L	0.6	4	4	100	<0.001

Newman Mine Services Industrial Area						
Parameter	Units	ADWG Health-Related Guideline	Number of Samples Assessed	Number of Compliant Samples	Compliance %	Maximum Value
Free Chlorine	mg/L	5	12	12	100	1.2

Newman North West Area						
Parameter	Units	ADWG Health-Related Guideline	Number of Samples Assessed	Number of Compliant Samples	Compliance %	Maximum Value
Free Chlorine	mg/L	5	12	12	100	1.2

Note: Chlorine (as Free Chlorine residual) measured by field test instrument.

Chemical Health results other than chlorine for Mine Services Industrial Area and North West Area represented by Newman Water Treatment Plant data.

8.2 Chemical – Health Related – Exception Notifications

Health Related Chemical Water Quality Exceptions						
Locality	Population served	Date Result Notified	Health Related Chemical Characteristic	Alert Level	Date DoH Notified	Close Out Date

8.3 Chemical – Health Related – Incident Specific Information

No chemical health-related exception notifications occurred during the reporting period.

9 Chemical - Aesthetic Performance

9.1 Chemical – Aesthetic – Compliance Summary

Newman Water Treatment Plant						
Parameter	Units	ADWG Aesthetic-Related Guideline	Number of Samples Assessed	Number of Compliant Samples	Compliance %	Maximum Value
pH		6.5-8.5	55	55	100	7.5
Turbidity	NTU	5	55	55	100	0.6
Ammonia	mg/L	0.5	2	2	100	<0.01
Chloride	mg/L	250	4	4	100	79
Colour	HU	15	2	2	100	<1
Hardness (as Calcium carbonate)	mg/L	200	4	4	100	140
Iron	mg/L	0.3	4	4	100	0.01
Silica	mg/L	80	4	4	100	17
Sodium	mg/L	180	2	2	100	67
Sulfate	mg/L	250	2	2	100	41
Total dissolved solids	mg/L	600	4	4	100	320
Zinc	mg/L	3	1	1	100	<0.005

Newman Mine Services Industrial Area						
Parameter	Units	ADWG Aesthetic-Related Guideline	Number of Samples Assessed	Number of Compliant Samples	Compliance %	Maximum Value
pH		6.5 – 8.5	12	12	100	7.5
Turbidity	NTU	5	12	12	100	0.3

Newman North West Area						
Parameter	Units	ADWG Aesthetic-Related Guideline	Number of Samples Assessed	Number of Compliant Samples	Compliance %	Maximum Value
pH		6.5 – 8.5	12	12	100	7.5
Turbidity	NTU	5	12	12	100	0.6

Note: pH and Turbidity measured by field test instrument.

Chemical Aesthetic results other than pH and turbidity for Mine Services Industrial Area and North West Area are represented by Newman Water Treatment Plant data.

To ensure effective disinfection and maintain microbial safety of drinking water throughout the system, BHPIO has made an operating decision to maintain chlorine levels above the ADWG aesthetic guideline value of 0.6 milligrams per litre.

10 Radiological Performance

10.1 Radiological – Compliance Summary

Newman Water Treatment Plant						
Parameter	Units	ADWG Screening Level	Number of Samples Assessed	Number of Compliant Samples	Compliance %	Maximum Value
Gross Alpha Activity	Bq/L	0.5	1	1	100	<0.051
Gross Beta Activity less K-40	Bq/L	0.5	1	1	100	<0.071

Note: Radiological data from October 2023. Radiological samples are collected on a 2 yearly frequency. Radiological results for Mine Services Industrial Area and North West Area are represented by Newman Water Treatment Plant data.

10.2 Radiological – Exception Notifications

Radiological Water Quality Exceptions					
Locality	Population served	Date Result Notified	Radiological Characteristic	Date DoH Notified	Close Out Date

10.3 Radiological – Incident Specific Information

No radiological exception notifications occurred during the reporting period.

11 General Notes

Reporting for Newman WL53 Operating Area started as of July 2021 following the issue of Water Services Licence (WL53) in June 2021 by ERA. For further information, see [Regulatory information | BHP](#).

Newman WTP is the supply handover point to Water Corporation. For further information on Newman town water quality data, see Water Corporation Annual Drinking Water Report ([Drinking Water Quality Perth & WA | Water Quality Testing & More \(watercorporation.com.au\)](#)).

BHPIO has prepared Customer Charter in December 2020. Any enquiries, suggestions or complaints on the way we deliver our services, or if you would like any further information about the quality of water we supply, please contact BHPIO on 1800 421 077.