



Nickel West Leinster Operations

(Leinster Township)

Potable Water Quality Report

July 1st to September 30th, 2024.



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1. Water Provider Information

Water provider contact details	
Name of Company	BHP Nickel West Pty Ltd
Company Address	Level 43 125 St Georges Tce, Perth WA 6000
DoH Liaison Officer	Giovanna De Sousa
DoH Liaison Officer Email	Giovanna.desousa@bhp.com
DoH Liaison Contact #	0466847141

1.1 System Information

BHP Nickel West Leinster Nickel Operations is located 370 km north of Kalgoorlie. The Leinster Nickel Operations cover large mineral tenement landholdings incorporating several Nickel deposits and facilities including Leinster township (residential area, commercial facilities and SPQ accommodation village). The Average population on any given day at this location is 1000 people. With NiW recent announcement of temporary suspension, the Leinster town population is likely to reduce significantly. This change will be described on the next quarterly report.

1.1.1 Drinking Water Supply System

Drinking water for the township of Leinster is sourced from the 11 mile bore field that sits 6 km equidistant from both locations. The raw water from this bore field has historically raised levels of salinity and nitrates.

Water is stored at the 11-mile water transfer station (390 kilolitres) and is gas chlorinated prior to being pumped to storage facilities located at town and the mine site.

The town reticulation network includes a 3 million litre buffer tank which provides holding capacity and distribution head pressure. There are two reverse osmosis (RO) units located at the dry mess facility and the town medical centre to deliver higher quality water.

Drinking water supplied by BHP complies with the health-related criteria, as outlined in version 3.7 of the Australian Drinking Water Guidelines (ADWG).

1.2 Number of Drinking Water Sampling Points

Table 1 below provides the number of drinking water sample points maintained. Source water sample points are included in the monitoring program to provide data relating to changes in chemistry and microbiology of pre-treatment water. As these points are not indicative of the quality of drinking water provided for consumption, only consumer or distribution sample point information is collated in this quarterly report.

Table 1: Drinking Water Sampling Points		
Region	Consumer / Distribution Points	Source Water Points (11 mile)
Leinster Township	6	1

2. Performance Summary

Table 2 below provides the number of microbiological water samples completed throughout quarter four. The required number assessed, number within compliance and any variance within the sampling quota.

Table 2: Drinking Water Sampling Performance Summary			
Microbiological Quality	No. assessed	No. compliant	Variance
<i>Thermotolerant coliforms / E. coli</i>	30	30	0
<i>Amoeba (Thermophilic Naegleria)</i>	30	30	0
<i>Chemical - Health</i>	71	30	41
<i>Chemical - Aesthetic</i>	189	143	46
<i>Radiological</i>	2	2	0

3. Microbial Performance

Table 3 below provides a summary of microbiological compliance, including samples that require DoH notification and remedial actions.

Table 3: Microbiological - Compliance						
Region/ Scheme/Zone	Date	Microbiological Characteristic	Alert Level	Remedial Actions	Date DOH notified	Close out date
QUARTER 3 2024				No reportable actions		

4. Chemical - Health Related Performance

Due to personnel availability, sampling plan was not completed as anticipated. This has been completed in October 2024.

Table 4: Leinster Township Distribution Water Chemical Health Performance				
	Analyses Completed	ADWG Compliant	Variance	Maximum recorded value
Antimony (0.003 mg/L)	0	0	0	0
Arsenic (0.01 mg/L)	0	0	0	0
Cadmium (0.002 mg/L)	0	0	0	0
Copper (2 mg/L)	0	0	0	0
Cyanide (0.08 mg/L)	0	0	0	0
Fluoride (1.5 mg/L)	0	0	0	0
Iodide (0.5 mg/L)	0	0	0	0
Lead (0.01 mg/L)	0	0	0	0
Nickel (0.02 mg/L)	0	0	0	0
Nitrate (50 mg/L)	71	30	41	77
Nitrite (3 mg/L)	0	0	0	0
Selenium 0.01 mg/L)	0	0	0	0

4.1 Chemical - Health Related - Exception Notification

Leinster Medical Centre RO Monthly Nitrate Analysis	
Sample Date	Nitrate Value (mg/L)
19/09/2024	6.8
*22/08/2024	*23
16/07/2024	21
20/06/2024	16
16/05/2024	16
21/04/2024	16
*27/03/2024	*17
29/02/2024	19
1/02/2024	11
28/12/2023	10
28/11/2023	9.7
17/11/2023	10
29/09/2023	4.2
07/09/2023	6.6
07/07/2023	5.2

*Note: Due to planned maintenance, the Leinster Medical Centre Reverse Osmosis sampling point was unable to be sampled in March and August. The Leinster town recreational room reverse osmosis plant was sampled during this period.

5. Chemical - Aesthetic Performance

5.1 Chemical - Aesthetic Performance

Table 8: Leinster Township Distribution Water Chemical Aesthetic Performance				
	Analyses Completed	ADWG Compliant	Variance	Maximum recorded value
Aluminium (0.2 mg/L)	0	0	0	0
Ammonia (0.5 mg/L)	0	0	0	0
Chloride (250/L)	0	0	0	0
Colour (15 HU)	1	1	0	<5.0
Hardness (200 mg/L)	1	0	1	260
Iron (0.3 mg/L)	0	0	0	0
Manganese (0.1 mg/L)	0	0	0	0
pH (6.5 - 8.5)	62	58	4	7.8
Sodium (180 mg/L)	1	1	0	140
Sulfate (250 mg/L)	0	0	0	0
TDS (600 mg/L)	62	21	41	810
Turbidity (5 NTU)	62	62	0	2.3

5.1 Chemical - Aesthetic Related – Incident Specific Information

Australian Drinking Water Guidelines state based on taste total dissolved solids should ideally be less than 600 mg/L to be regarded good quality for drinking. The Australian Drinking Water Guideline also state between 600 – 900mg/L is regarded as fair quality drinking water and acceptable. Highest record value for TDS in this quarter was recorded at 810 mg/L, within “fair quality water” as defined in ADWG.

6.0 Radiological Performance

Table 9: Leinster Township Radiological Performance				
	Analyses Completed	ADWG Compliant	Variance	Maximum recorded value
Gross Alpha (0.5 Bq/L)	1	1	0	0.25
Gross Beta (0.5 Bq/L)	1	1	0	0.048

7.0 Planned Sample Summary

Table 10: Leinster Township Distribution Water Planned Sample Summary			
	Planned Analyses	Taken	% Compliance to Plan
Microbial	27	30	111
Chemical	290	260	90
Radiological	2	2	100

7.1 Planned Sample Exceptions

On July 11th, 2024, BHP announced plans to enter Nickel West into a period of temporary suspension from October 2024. During this transition period, several operational changes made have had an impact on the potable water sampling program. These changes include the suspension and closure of some water sampling locations, as well as a shortage of available personnel to conduct sampling tasks.

The Leinster medical centre reverse osmosis plant was fitted with a new chlorinator and UV filter. During this maintenance period the tank was unable to be sampled. Samples were instead taken from the recreational room RO plant during this time.

8.0 General Notes/Other News

A Water Services Licence was granted by the Economic Regulation Authority (ERA) for the town of Leinster in September 2020 (commenced 16/9/2020 and expires 15/9/2045).