

Model Reporting Format  
For the  
Department of Health

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Report to the Department of Health  
by Harvey Water  
for the period  
*01 July 2022 to 30 September 2022*

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## 1.0 Water Provider Information

Water Provider Contact Details			
Name of Company	South West Irrigation Management Co-Operative, Trading as Harvey Water		
Company Address	1 Turnbull street, Harvey, WA 6220		
Company Phone	(08) 9729 0100	Fax	
Company Email	<a href="mailto:admin@harveywater.com.au">admin@harveywater.com.au</a>		
Chief Executive Officer	Bruce Hathway		
CEO Email	<a href="mailto:admin@harveywater.com.au">admin@harveywater.com.au</a>		
DoH Liaison Officer	Brian Labza		
DoH Liason Officer Email	Brian.Labza@health.wa.gov.au		

## 1.1 System Information (Annual Report Only)

Locality						
Zone Name	Number of Consumers	Average amount of Water Supplied (l/day)	Sources of Water (% Bore/ Surface catchment)	Treatment Systems	Length of Mains	Number of Sample points
1						

### Catchment Details

Harvey Water has installed a bore into the Leederville aquifer to supply water for treatment to the Albemarle Lithium processing plant in Kemerton. The bore is located on lot 253, 2km away from the water treatment plant (WTP) which is located within the Albemarle lithium processing plant as indicated in Figure 1. Water from the bore is treated through a WTP designed to bring the groundwater to an acceptable potable quality in accordance with the Department of Water and Environmental Regulations (DWER), the Department of Health (DoH) and the Australian Drinking Water Guidelines (ADWG).

The bore area is situated on the Swan Coastal Plain, which is formed of shoreline and coastal dune deposits extending from the Darling Scarp to the Indian Ocean. Lakes and swamp occur in the low-lying interdunal depressions. The coastal plain is drained by the Wellesley River and a number of drains which discharge into it. Benger Swamp and Mialla Lagoon are prominent wetlands which occupy large shallow depressions in the coastal plain close to the Darling Scarp. The Wellesley River, the only major watercourse in the vicinity of the site, runs in a south-westerly direction, 2km to the east of the bore area. This is one of the major river systems in the area that flows into the Brunswick River,

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which ultimately merges with the Collie River prior to discharging into the Leschenault Inlet.

Raw water is drawn from the bore using a downhole pump activated through a level sensor. This pump provides water to the WTP where it is treated through a system of filters and chemical dosing. Water is initially passed through a 100% glass multimedia filter to remove large particulates from the source water. After the multimedia filtration, water is chlorinated using sodium hypochlorite. Chlorinated water is then passed through a DMI media filter which utilises a catalytic filtration media for the removal of iron and manganese.



Figure 1 – Location of Bore and WTP

### Distribution System

Treated water is stored in a 200kL potable water storage tank. Water within the potable water storage tank is recirculated using fixed speed recirculation pumps for the purpose of maintaining chlorination levels and pH correction. The chlorination and pH adjustments are done in order to maintain a final free chlorine concentration between 0.5 – 2.0 mg/L and a pH between 6.5 – 8.5.

Potable water is fed through the Albemarle potable water plumbing network through the use of three (3) dedicated potable water pumps, as well as to the Albemarle safety shower network through the use of three (3) dedicated safety water pumps.

The WTP has the capacity to produce up to 135kL over a 24 hour period, operating on demand. There is a single zone distribution system.

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## 2.0 Performance Summary

Water Quality Meeting the Drinking Water Guidelines/Minister of Health's Directions			
Microbiological Quality	Zone 1 <sup>(1)</sup>		
	No Assessed <sup>(2)</sup>	No Within Guidelines	Variance <sup>(3)</sup>
Thermotolerant Coliforms / <i>E.coli</i>	13	13	0
Amoeba (Thermophilic Naegleria)	11	11	0
<b>Chemical Quality<sup>(4)</sup></b>			
Chemical – Health related <sup>(5)</sup>	2	2	0
Chemical – Aesthetic <sup>(6)</sup>	2	2	2
Radiological	2	2	0

Notes:

(1) Table may be expanded or collapsed according to the number of zones

(2) Number of samples taken for the quarter/year

(3) Number of samples that do not comply with the drinking water guidelines.

(4) Chemical performance is based on the results of the quarter.

(5) Chemicals tested with a health guideline value – Refer to Small Community Sampling Grid

(6) Chemicals without health guideline values

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### **3.0 Microbial Performance - (Rolling 12 Months ending)**

#### **3.1 Microbiological - Exception Notifications**

**NIL microbiological exceptions reported during this reporting period**

Microbiological Water Quality Exceptions							
Region/Scheme/Zone/ Service Provider	Population served	Date	Microbiological Characteristic	Alert Level	Remedial Action	DoH Notified	Close Out Date

Note:

Include all exceptions for the previous 12 months to the end of the reporting quarter.

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### 3.2 Microbiological - Compliance by Zone (Summary).

Zone	No. of Bacteria samples	Thermotolerant Coliforms		Thermotolerant Coliforms 12 Mths Roll. Avg. (%)			No. of Amoeba Samples	Naegleria to >= 42C	Naegleria Fowleri	Thermophillic Naegleria 12 Mths Rolling Avg (%)		
		Non Comply	% Comply	July 2022	August 2022	Sept 2022				July 2022	August 2022	Sept 2022
1	13	0	100	100	100	100	11	0	0	100	100	100

Note:

Rolling 12 months average is calculated in the following manner:

$$\frac{\text{Number of assessable samples complying for the past 12 months}}{\text{Number of assessable samples taken in the past 12 months}} \times 100$$

#### **Example: 12 Months Rolling Average for the month of February 2011**

Number of assessable samples taken from 1 March 2010 to 28 February 2011 = **24**

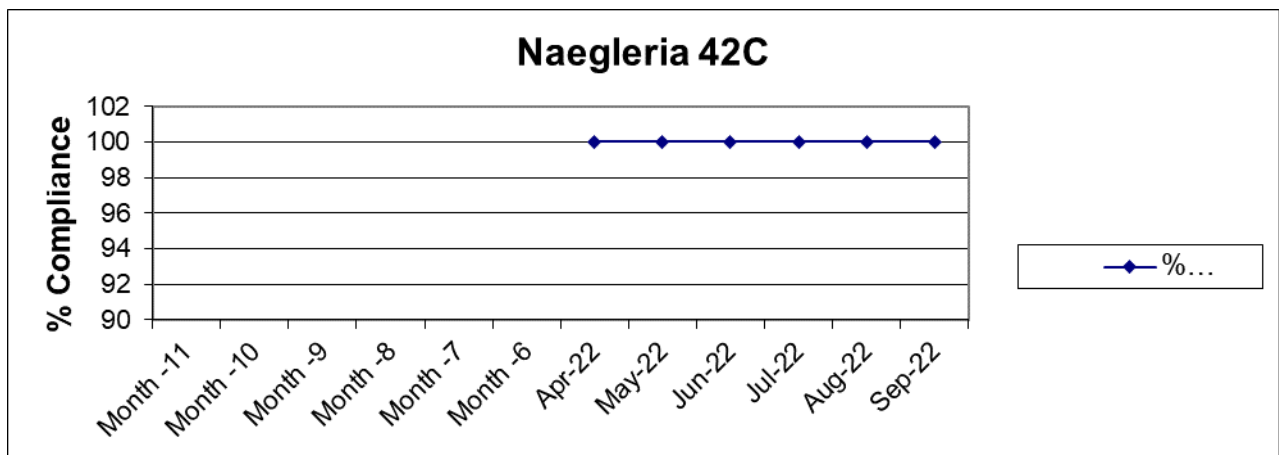
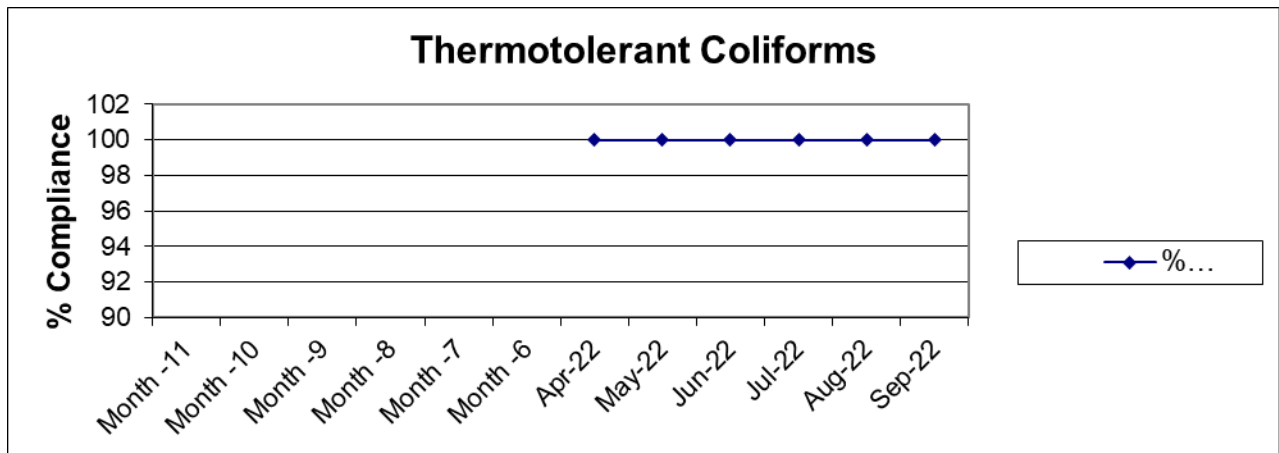
Number of assessable samples complying from 1 March 2010 to 28 February 2011 = **20**

12 Months Rolling Average = **20 ÷ 24 x 100 = 83%**

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### 3.3 Microbiological - Charts by Zone



#### Notes for all charts

- (1) All results displayed are to be on a rolling twelve (12) month basis to the end of each respective month.
- (2) Compliance target must be shown

### 3.5 Microbiological Incident Specific Information

#### 3.5.1 Zone 1

NIL Microbiological incidents recorded during reporting period.



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## **4.0 Chemical - Health Related Performance**

### **4.1 Chemical - Health Related - Exception Notifications**

**NIL chemical – health related exceptions reported during this reporting period**

Health Related Chemical Water Quality Exceptions							
Region/Scheme/Zone/ Service Provider	Population served	Date	Health Related Chemical Characteristic	MoU Alert Level	Remedial Action	DoH Notified	Close Out Date

### **4.2 Chemical - Health Related**

Text interpretation by Zone of results presented.

Nil chemical – health related exceptions reported during this reporting period

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## 5.0 Chemical - Aesthetic Performance

Text interpretation by Zone of results presented on

### 5.1 Chemical - Aesthetic – Chart

Zone			
Aesthetic Characteristic	No of Analyses	No of Analyses Complying	% Compliance
Aluminium 0.2 mg/L			
Ammonia 0.5 mg/L			
Chloride 250/L	2	2	100%
Colour 15 HU			
Hardness 200 mg/L	2	1	50%
Iron 0.3 mg/L	2	2	100%
Manganese 0.1 mg/L	2	2	100%
pH <6.5	2	2	100%
pH >8.5	2	2	100%
Sodium 180 mg/L	2	2	100%
Sulphate 250 mg/L	2	2	100%
TDS 500 mg/L	2	0	0%
Turbidity 5 NTU	2	2	100%
<b>Total samples taken</b>	<b>20</b>	<b>17</b>	<b>85%</b>

Notes:

- (1) Repeat table according to the number of zones.
- (2) Record analyses for the reporting quarter.

## 5.2 Chemical - Aesthetic - Incident Specific Information

### 5.2.1 Zone 1

Chemical – Aesthetic exceedances (based on Australian Drinking Water Guidelines) have been reported for the following analytes during the reporting period:

Analyte	Aesthetic Guideline	Maximum Level Recorded
Total Dissolved Solids	600 mg/L	660 mg/L
Hardness	200 mg/L	230 mg/L

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As detailed in the Australian Drinking Water Guidelines (ADWG), there is no specific health guideline value for total dissolved solids (TDS) as there are no adverse health effects that are directly attributable to TDS. The aesthetic guideline of 600 mg/L for TDS listed in the ADWG relates to palatability of drinking water. Water within the range of 0 – 600 mg/L of TDS is considered to be of good palatability quality, while water within the range of 600 – 900 mg/L is considered to be of fair quality. The TDS for this water source falls within the fair range. Harvey Water will continue to monitor the TDS of the potable supply in order to ensure quality does not deteriorate.

Hardness is another parameter that exceeded the aesthetic guideline in accordance with the ADWG. The main issue of concern with hardness is the formation of scaling in pipework. The optimum hardness of potable water is in the range of 60 – 200 mg/L as CaCO<sub>3</sub>. The maximum hardness level in this water source recorded during this reporting period was 230 mg/L. According to the ADWG, water with hardness in the range of 200 – 500 mg/L as CaCO<sub>3</sub> will have increasing scaling problems. Harvey Water will continue to monitor the level of hardness in the potable supply to ensure scaling does not pose an issue to the ongoing supply of water to Albemarle.

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## 6.0 Radiological Performance

### 6.1 Radiological - Exception Notifications

**NIL Radiological water exceptions recorded during the monitoring period**

Radiological Water Quality Exceptions							
Zone	Population served	Date	Radiological Characteristic	Alert Level	Remedial Action	DoH Notified	Close Out Date

### 6.2 Radiological Performance

Scheme/Service Provider	
Zone	% samples within range
1	100%

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## 7.0 Planned Sample Summary

Zone	Microbiological			Chemical			Radiological			Fluoride (if fluoridating)		
	Planned	Taken	% Taken	Planned	Taken	% Taken	Planned	Taken	% Taken	Planned	Taken	% Taken
1	12	13	108	3	2	67	1	1	100	N/A	N/A	N/A

## 7.1 Planned Sample Exceptions

Planned Sample Exceptions				
Zone	Sampling Point	Date Due	Characteristic (Microbiological/Chemical/Radiological)	Reason for missed sample
1	Harvey Water potable storage tank		Chemical	Missed one monthly sample for chemical analysis due to operator error. Sampling schedule has been revised to ensure compliance moving forward.

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## **8.0 General Notes/Other News**

This section can include reference to specific programs for maintenance, new additions to the scheme supply or report format or discussion on ongoing problems.