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Report to the Department of Health

by

Lancelin South

for the period

1 Jan 2021 to 31 Mar 2021

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1.0 Water Provider Information

Table 1: Water Provider Contact Details

Name of Company	Lancelin South		
Company Address	PO Box 60, Lancelin, WA, 6044		
Company Phone	08 9655 1555	Fax	
Company Email	admin@lancelinsouthwater.com.au		
Chief Executive Officer			
CEO Email			
DoH Liaison Officer	Blair Shackleton, GHD		
DoH Liaison Officer Email	Blair.shackleton@ghd.com		

Table 2: Lancelin South System Information

Number of connections ⁽¹⁾	16
Number of customers ⁽²⁾	28
Average water supplied per connection (L/day)	206
Sources of water	100% groundwater
Treatment systems	Media filtration, GAC filtration, RO, chlorination
Length of mains	Approximately 1.6 km
Number of zones	1
Number of sample points	3 (Source SP, Treated Water Tank SP, Consumer SP)

Notes:

- (1) Number of connections refers to properties connected to services and having regular meter readings collected.
- (2) The number of customers is determined by the ERA as the number of customer accounts holders, which includes lots sold as well as lots under construction that may have not yet been connected to services.

Source Details

Raw water for the Lancelin South residential development is sourced from a single production bore, tapping the Leederville aquifer within the Lancelin South water reserve, approximately 250 m east of the Lancelin South development. The catchment within the water reserve is natural bushland.

Distribution System

The fenced Water Treatment Plant is located at the existing bore site (adjacent to Lancelin Road). Treated and chlorinated water is stored in a single tank adjacent to the water treatment plant. Potable water is supplied via a gravity system through approximately 1,600 m of DN 250 and DN 300 PVC (polyvinyl chloride) pipeline along Lancelin Road Reserve with a distribution network currently of approximately 1,900 m of HDPE (high density polyethylene) pipeline.

2.0 Performance Summary

Table 3: Water Quality Meeting the Drinking Water Guidelines / Minister of Health's Directions

	Number Assessed (¹)	Number of Non-Compliant Analyses (²)	% Compliance
Microbiological Quality			
Thermotolerant Coliforms / <i>E. coli</i>	10	0	100%
Amoeba (Thermophilic Naegleria)	3	0	100%
Chemical Quality(³)			
Chemical – Health related(⁴)	30	0	100%
Chemical – Aesthetic(⁵)	28	4	86%
Radiological(⁶)	2	0	NA

Notes:

- (1) Number of samples taken for the quarter from the Treated Water Tank Sampling Point and the Consumer Sampling Point
- (2) Number of samples that do not comply with the drinking water guidelines (ADWG).
- (3) Chemical performance is based on the results of the quarter.
- (4) Chemicals with ADWG Health guideline;
- (5) Chemicals with ADWG aesthetic guideline value
- (6) Results not available when report was completed

3.0 Microbial Performance

3.1 Microbiological - Exception Notifications

Number of microbiological incidents resulting in exception notification 0

3.2 Microbiological - Performance

Table 4: Microbiological compliance summary

	Sampling Point	Number of Analyses	Number of Non-Compliant Analyses	% Compliance this Quarter	% Compliance 12-month average
<i>E. coli</i>	Treated Water Tank	3	0	100%	100%
	Consumer	7	0	100%	100%
Thermophilic <i>Naegleria</i>	Consumer	3	0	100%	100%
<i>Naegleria fowleri</i> ⁽¹⁾	Consumer	0	0	100%	100%

Notes:

(1) Analysis for *N. fowleri* only required if thermophilic *Naegleria* detected

4.0 Chemical - Health Related Performance

4.1 Chemical - Health Related - Exception Notifications

Number of chemical, health related, incidents resulting in exception notification	0
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4.2 Chemical - Health Related - Performance

Consumer Sample Point

Number of field analyses for health-related water quality parameters	6
Number of laboratory analyses for health-related water quality parameters	18

Table 5: Summary of chemical - health related - analyses at Consumer SP

Parameter	No Samples	No Analyses	Unit	ADWG Limit (Health)	Maximum value	No of Analyses Non-Compliant (1)	% Compliance
Free Chlorine – Field	6	6	mg/L	5	0.69	0	100
Fluoride, F	1	1	mg/L	1.5	0.3	0	100
Nitrite Nitrogen, NO ₂ as NO ₂	1	1	mg/L	3	0.03	0	100
Nitrate Nitrogen, NO ₃ as NO ₃	1	1	mg/L	50	0.84	0	100
Total Antimony	1	1	mg/L	0.003	<0.001	0	100
Total Cadmium	1	1	mg/L	0.002	<0.0001	0	100
Total Chromium	1	1	mg/L	0.05	<0.0001	0	100
Total Copper	1	1	mg/L	2	0.001	0	100
Total Lead	1	1	mg/L	0.01	0.001	0	100
Total Nickel	1	1	mg/L	0.02	<0.001	0	100
2-Chlorophenol	1	1	mg/L	0.3	<0.001	0	100
2,4-Dichlorophenol	1	1	mg/L	0.2	<0.001	0	100
2,4,6-Trichlorophenol	1	1	mg/L	0.02	<0.001	0	100
Pentachlorophenol	1	1	mg/L	0.01	<0.001	0	100
Total THM's	1	1	mg/L	0.25	0.1	0	100
Chloroacetic acid	1	1	mg/L	0.15	<0.002	0	100
Dichloroacetic acid	1	1	mg/L	0.1	<0.002	0	100

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Parameter	No Samples	No Analyses	Unit	ADWG Limit (Health)	Maximum value	No of Analyses Non-Compliant (1)	% Compliance
Trichloroacetic acid	1	1	mg/L	0.1	<0.002	0	100
Chloral Hydrate	1	1	mg/L	0.1	<0.002	0	100

Treated Water Sample Point

Number of field analyses for health-related water quality parameters	6
Number of laboratory analyses for health-related water quality parameters	0

Table 6: Summary of chemical - health related - analyses at Treated Water SP

	No Samples	No Analyses	Unit	ADWG Limit (Health)	Maximum value	No of Analyses Non-Compliant (1)	% Compliance
Free Chlorine – Field	6	6	mg/L	5	0.84	0	100%

Source Sampling Point

Number of laboratory analyses for health-related water quality parameters	0
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5.0 Chemical - Aesthetic Performance

5.1 Chemical - Aesthetic - Exception Notifications

Number of chemical, aesthetic incidents resulting in exception notification	0
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5.2 Chemical – Aesthetic Performance

Consumer Sampling Point

Number of field analyses for aesthetic water quality parameters	12
Number of laboratory analyses for aesthetic water quality parameters	5

Table 7: Summary of aesthetic related analyses from consumer sampling point

Parameter	No Samples	No Analyses	Unit	ADWG Limit (Aesthetic)	Maximum value	No of Analyses Non-Compliant	% Compliance
pH – field	6	6	pH Units	6.5-8.5	9.1	1	83
Free Chlorine- Field	6	6	mg/L	0.6	0.69	1	83
Total Copper	1	1	mg/L	1	0.001	0	100
Total Zinc	1	1	mg/L	3	0.031	0	100
2-Chlorophenol ⁽¹⁾	1	1	mg/L	0.0001	<0.001	1	0
2,4-Dichlorophenol ⁽¹⁾	1	1	mg/L	0.0003	<0.001	1	0
2,4,6-Trichlorophenol	1	1	mg/L	0.002	<0.001	0	100
<i>Temperature</i> ⁽²⁾	6	6	<i>Deg C</i>	<i>N/A</i>	27.5	<i>N/A</i>	<i>N/A</i>

Notes:

(1) Laboratory Limit of Detection for 2-chlorophenol and 2,4-dichlorophenol is above the ADWG aesthetic criterion.

(2) Important water quality criteria but no guideline value in ADWG; operational target to be less than 25 degrees C.

Treated Water Tank Sampling Point

Number of field analyses for aesthetic water quality parameters	6
Number of laboratory analyses for aesthetic water quality parameters	0

Table 8: Summary of aesthetic related analyses from Treated Water Tank sampling point

	No Samples	No Analyses	Unit	ADWG Limit (Aesthetic)	Maximum value	No of Analyses Non-Compliant	% Compliance
pH	6	6	pH	6.5-8.5	8.4	0	100%
<i>Free Chlorine- Field⁽¹⁾</i>	6	6	mg/L	0.6	0.84	N/A	N/A
<i>Temperature⁽²⁾</i>	6	6	Deg C	N/A	27.8	N/A	N/A

Notes:

- (1) ADWG aesthetic value not applicable to this sample point – operational target of 0.8 – 1.0 mg/L to achieve 0.2 – 0.6 mg/L at consumer point.
- (2) Important water quality criteria but no guideline value in ADWG; operational target to be less than 25 degrees C.

Source Sampling Point

Number of field analyses for aesthetic water quality parameters	5
Number of laboratory analyses for aesthetic water quality parameters	0

Table 9: Summary of aesthetic related analyses from source sampling point

	No Samples	No Analyses	Unit	ADWG Limit (Aesthetic)	Maximum value	No of Analyses Non-Compliant	% Compliance
pH – field	5	5	pH	6.5-8.5	8.4	0	100%
<i>Temperature⁽¹⁾</i>	5	5	Deg C	N/A	27.8	N/A	N/A

Notes:

- (1) Important water quality criteria but no guideline value in ADWG; operational target to be less than 25 degrees C.

6.0 Radiological Performance

6.1 Radiological - Exception Notifications

Number of radiological water quality analyses resulting in exception notification 0

6.2 Radiological – Performance

Number of samples collected for laboratory analysis of radiological parameters 2

The results in Table 10 below are for a sample collected in Quarter 4 2020 but results were not available until after the report was issued. Similarly, results for a sample taken in this reporting period (Quarter 1 2021) were not available for inclusion in this report.

Table 10: Summary of Radiological related analyses from Consumer sampling point

	No Samples	No Analyses	Unit	ADWG Limit (Aesthetic)	Maximum value	No of Analyses Non-Compliant	% Compliance
Gross Alpha ⁽¹⁾	1	1	Bq/L	0.5	0.10	0	100
Gross Beta ⁽¹⁾	1	1	Bq/L	0.5	0.44	0	100

Notes:

- (1) Results from Quarter 4 2020 that were not available when the Q4 report was issued.

7.0 Sampling Programme

The achieved sampling compared against planned sampling is summarised in Table 11.

Table 11: Summary of achieved versus planned sampling

		Planned	Taken	% Taken
Microbiological	Treated Water SP	3	3	100
	Consumer SP	10	10	100
Chemical	Source SP	6	5	83
	Treated Water SP	12	12	100
	Consumer SP	41	41	100
Radiological	Source SP	1	1	100
	Treated Water SP	0	0	N/A
	Consumer SP	0	0	N/A

8.0 General Notes / Other

Regular fortnightly checks of pH, chlorine and water temperature using handheld instrumentation at the WTP (Source and Treated Water sampling points) and the Lancelin South sales office (Consumer sample point) are carried out by Urbaqua (previously known as Coterra Environment) on behalf of Lancelin South Water.