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Report to the Department of Health

by

Lancelin South

for the period

1 April 2020 to 30 June 2020

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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>	9	0	100%
Amoeba (Thermophilic Naegleria)	3	0	100%
Chemical Quality(³)			
Chemical – Health related(⁴)	22	0	100%
Chemical – Aesthetic(⁵)	21	0	100%
Radiological	0	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

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	6	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
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Number of laboratory analyses for health related water quality parameters	9
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Table 5: Summary of chemical - health related - analyses at Consumer SP

	No Samples	No Analyses	Unit	ADWG Limit (Health)	Maximum value	No of Analyses Non-Compliant ⁽¹⁾	% Compliance
Chlorine (field)	6	6	mg/L	5	0.23	0	100%
2-Chlorophenol	1	1	µg/L	300	<1	0	100%
2,4-Dichlorophenol	1	1	µg/L	200	<1	0	100%
2,4,6-Trichlorophenol	1	1	µg/L	20	<1	0	100%
Pentachlorophenol	1	1	µg/L	10	<1	0	100%
Total THM's	1	1	µg/L	250	130	0	100%
Chloroacetic acid	1	1	µg/L	150	<2	0	100%
Dichloroacetic acid	1	1	µg/L	100	<2	0	100%
Trichloroacetic acid	1	1	µg/L	100	<2	0	100%
Chloral Hydrate	1	1	µg/L	100	<2	0	100%

Treated Water Sample Point

Number of field analyses for health related water quality parameters	7
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Number of laboratory analyses for health related water quality parameters	0
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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
Chlorine (field)	7	7	mg/L	5	0.92	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
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Number of laboratory analyses for aesthetic water quality parameters	3
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Table 7: Summary of aesthetic related analyses from consumer 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	7.1 - 7.6	0	100%
Chlorine	6	6	mg/L	<0.6	0.31	0	100%
2-Chlorophenol ⁽¹⁾	1	1	µg/L	0.1	<1		
2,4-Dichlorophenol ⁽¹⁾	1	1	µg/L	0.3	<1		
2,4,6-Trichlorophenol	1	1	µg/L	2.0	<1	0	100%
<i>Temperature</i> ⁽²⁾	6	6	Deg C	25	23.8	N/A	N/A

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.

Treated Water Tank Sampling Point

Number of field analyses for aesthetic water quality parameters	6
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Number of laboratory analyses for aesthetic water quality parameters	0
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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	7.0 - 7.7	0	100%
<i>Chlorine⁽¹⁾</i>	7	7	<i>mg/L</i>	<0.6	0.92	N/A	N/A
<i>Temperature⁽²⁾</i>	6	6	<i>Deg C</i>	25	23.7	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.

Source Sampling Point

Number of field analyses for aesthetic water quality parameters	3
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	3	3	pH	<6.5 - >8.5	6.6 - 7.1	0	100%
<i>Temperature⁽¹⁾</i>	3	3	<i>Deg C</i>	25	25.5	N/A	N/A

Notes:

- (1) Important water quality criteria but no guideline value in ADWG.

6.0 Radiological Performance

5.1 Radiological - Exception Notifications

Number of radiological water quality analyses resulting in exception notification	0
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5.2 Radiological – Performance

Number of samples collected for laboratory analysis of radiological parameters	0
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Next sampling from source sampling point for radiological analysis due in quarter 4 (October – December) 2020.

7.0 Sampling Programme

7.1 Summary of Achieved Versus Planned Sampling for Period

Table 10: Summary of achieved versus planned sampling

		Planned	Taken	% Taken
Microbiological	Treated Water SP	6	3	50%
	Consumer SP	12	9	75%
Chemical	Source SP	30	15	55%
	Treated Water SP	30	25	75%
	Consumer SP	38	32	84%
Radiological	Source SP	0	0	N/A
	Treated Water SP	0	0	N/A
	Consumer SP	0	0	N/A

7.2 Planned Sampling Summary for Next Period

Table 11: Planned sampling program for July - Sept 2020 (Q3)

		Planned sampling	Frequency	Total No. of Analyses
Microbiological	Treated Water SP	Thermotolerant Coliforms / <i>E.coli</i> Amoeba (Thermophilic Naegleria)	4 weeks	3
	Consumer SP	Thermotolerant Coliforms / <i>E.coli</i> Amoeba (Thermophilic Naegleria)	2 weeks	10
Chemical	Source SP	Field (pH, Cond'y, TDS, Temp)	2 weeks	21
		Laboratory	Once	4
	Treated Water SP	Field (Cl ₂ , pH, Cond'y, TDS, Temp)	2 weeks	28
		Laboratory		0
	Consumer SP	Field (Cl ₂ , pH, Cond'y, TDS, Temp)	2 weeks	28
		Laboratory	Once	55

8.0 General Notes / Other

Software and mechanical issue encountered between 23 April and 7 May 2020 with the DMI media filter which prevented the bore pump from running. A new filter valve has been installed. The incident had no effect on the potable water quality.

Regular fortnightly checks of pH, chlorine and water temperature using hand held instrumentation at the WTP (Source and Treated Water sampling points) and the Lancelin South sales office (Consumer sample point) are carried out by Lancelin South Water.