



DEPARTMENT OF HEALTH REPORT

**MEMORANDUM OF UNDERSTANDING -
DRINKING WATER QUALITY QUARTERLY REPORT**

REPORTING PERIOD 01 OCTOBER 2021 TO 31 DECEMBER 2021

JANUARY 2022

REPORT TEMPLATE VERSION: 2.0.9

Document Revision

Version #	Date Changed	Requested By	Changes
2.0.8	23/04/2021	Water Quality Committee	*Update of layout to report
2.0.9	15/12/2021	Water Quality Committee	*Document Revision update & link to ADWG added

Assumptions and Explanations

- 1) Field Assessable Tests (Chlorine Residual and pH) are undertaken by competent sampling staff from both Aqwest and City of Bunbury
- 2) As noted in ADWG, 0.6mg/L is the odour threshold of chlorine residual for most people.
In some instances it may be necessary to exceed the aesthetic guideline to maintain an effective disinfection residual throughout the system
- 3) Datasets presented and used for analysis in the report are from the Aqwest monitoring program which have been classed as assessable
- 4) Rounding has been undertaken for chlorine residual results to one decimal place to match ADWG, with values less than 5 rounded down and values equal or greater than 5 rounded up.
- 5) Web link to Australian Drinking Water Guidelines:

<https://www.nhmrc.gov.au/about-us/publications/australian-drinking-water-guidelines>

Legend:

Unit	Definition
CFU	Colony forming units
D	Detected
ND	Not Detected
mL	Millilitres
ADWG	Australian Drinking Water Guidelines
mg/L	Milligrams per litre
µg/L	Micrograms per litre
°C	Degrees Celsius
NTU	Nephelometric turbidity units
Bq/L	Becquerels per litre
MFL	Million Fibres per litre

1 Introduction

1.1 Water Provider Information

Name:	Aqwest
Address:	5 Mackinnon Way, Bunbury
Telephone:	+61 8 9780 9500
Facsimile:	+61 8 9780 9509
Company Email:	aqwest@aqwest.com.au
Chief Executive Officer:	Gary Hallsworth
CEO E-Mail:	gary.hallsworth@aqwest.com.au
DOH Liaison Officer:	Mark Crabtree
DOH Liaison Officer Email:	mark.crabtree@aqwest.com.au

1.2 System Information

Aqwest supplies drinking water to a customer population base of approximately 33,000 with an average system demand of 18ML/day. Aqwest supplies drinking water via 7 water treatment plants, 4 reservoirs and 8 pump stations which all feed into one large interconnected zone.

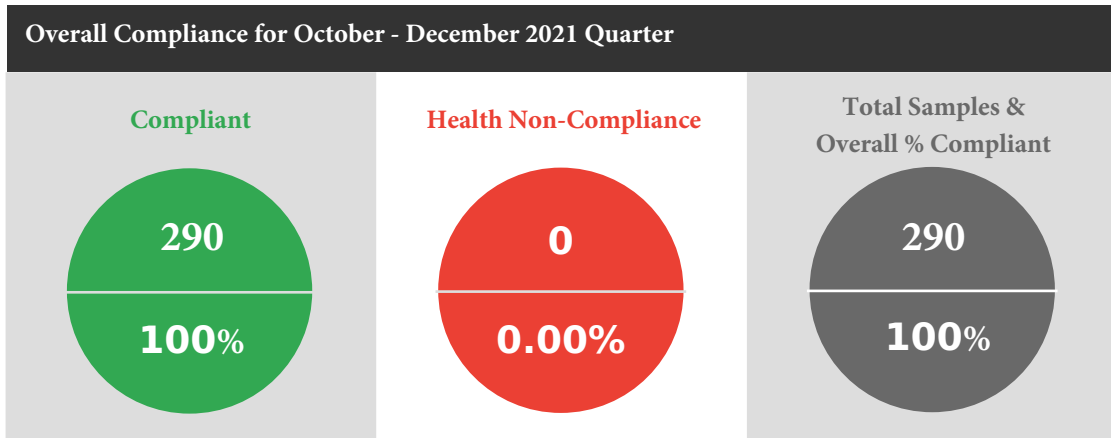
1.3 Performance Summary

Table 1 shows the overall performance of Aqwest's drinking water against the Australian Drinking Water Guidelines (ADWG) for the period of 01 October 2021 to 31 December 2021.

Table 1: Aqwest Performance Summary Table

	Compliance From 01 October 2021 to 31 December 2021			% Sample Compliance 12 Month Rolling Period
	Number of Samples	Number of Compliant Samples	% Compliant Samples	
Microbiological				
<i>Escherichia coli</i>	145	145	100	100
Thermophilic <i>Naegleria</i>	145	145	100	100
Chemical				
Health Related	151	151	100	100
Non-Health (Aesthetic)	151	151	100	100
Radiological				
Health Related	Nil	NA	NA	100

2 Microbiological



RETICULATION

Characteristic	Units	ADWG Health	Max	Non-Compliance Health	No Sampled	% Health Compliance
<i>Escherichia coli</i>	CFU/100mL	1	<1	0	80	100
Thermophilic <i>Naegleria</i>	/250mL	D	ND	0	80	100

STORAGE

Characteristic	Units	ADWG Health	Max	Non-Compliance Health	No Sampled	% Health Compliance
<i>Escherichia coli</i>	CFU/100mL	1	<1	0	65	100
Thermophilic <i>Naegleria</i>	/250mL	D	ND	0	65	100

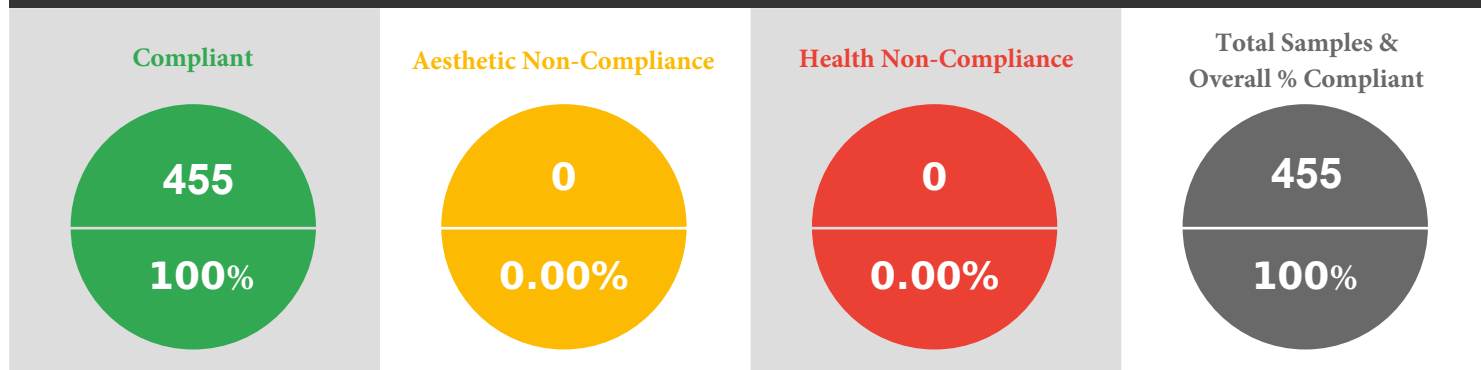
Table 2 lists those sample locations where non-compliant microbiological results were detected, and the remedial actions taken to rectify these non-compliances. An unpopulated table indicates that for the period of analysis, all results were compliant with the ADWG.

Table 2: Non-Compliant Microbiological Results and Remedial Action.

Sample Date	Sample Location	Parameter	Result	Units	Guideline	Comment

3 Chemical

Overall Compliance for October - December 2021 Quarter



RETICULATION

Characteristic	Units	ADWG Health	ADWG Aesthetic	Max	Non-Compliance Health	Non-Compliance Aesthetic	No Sampled	% Health Compliance	% Aesthetic Compliance
Chlorine	mg/L	5	0.6	0.68	0	34	79	100	57
Aluminium	mg/L		0.2	<0.01	0	0	6	100	100
Ammonia (as NH3)	mg/L		0.5	<0.02	0	0	6	100	100
Antimony	mg/L	0.003		<0.001	0	0	6	100	100
Cadmium	mg/L	0.002		<0.0001	0	0	6	100	100
Chloride	mg/L		250	180	0	0	6	100	100
Chromium	mg/L	0.05		<0.001	0	0	6	100	100
Copper	mg/L	2	1	0.013	0	0	6	100	100
Fluoride	mg/L	1.5		0.7	0	0	6	100	100
Hydrogen Sulphide	mg/L		0.05	0.05	0	0	6	100	100
Iron	mg/L		0.3	0.09	0	0	6	100	100
Lead	mg/L	0.01		0.001	0	0	6	100	100
Manganese	mg/L	0.5	0.1	<0.01	0	0	6	100	100
Nickel	mg/L	0.02		<0.001	0	0	6	100	100
Nitrate-Nitrogen	mg/L	50		<0.01	0	0	6	100	100
Nitrite	mg/L	3		<0.01	0	0	6	100	100
Sodium	mg/L		180	57	0	0	6	100	100
Sulphate	mg/L		250	17	0	0	6	100	100
Zinc	mg/L		3	0.006	0	0	6	100	100
Cyanide	mg/L	0.08		<0.005	0	0	6	100	100
Acrylamide	µg/L	0.2		<0.1	0	0	6	100	100
Trichloroethylene	µg/L			<0.5	0	0	6	100	100
Toluene	µg/L	800	25	<0.5	0	0	6	100	100
Xylene	µg/L	600	20	<3	0	0	6	100	100
Epichlorohydrin	µg/L	0.5		<0.5	0	0	6	100	100
Benzo(a)pyrene	µg/L			<0.01	0	0	6	100	100
Carbon Tetrachloride	µg/L	3		<0.5	0	0	6	100	100
Hardness	mg/L		200	100	0	0	6	100	100
pH	-		6.5-8.5	7.8	0	0	80	100	100
TDS	mg/L		600	350	0	0	6	100	100
Temperature	°C			30.3	0	0	80	100	100
Turbidity	NTU		5	0.2	0	0	6	100	100
Alkalinity	mg/L			94	0	0	6	100	100
Asbestos	MFL			<0.2	0	0	6	100	100
Bromodichloromethane	µg/L			<1	0	0	6	100	100
Bromoform	µg/L			5	0	0	6	100	100
Chloroform	µg/L			<1	0	0	6	100	100
Dibromochloromethane	µg/L			<1	0	0	6	100	100
Total THMs	µg/L	250		5	0	0	6	100	100

3 Health Related

Table 3 lists those sample locations where non-compliant health related results were detected, and the remedial actions taken to rectify these non-compliances. An unpopulated table indicates that for the period of analysis, all results were compliant with the ADWG.

Table 3: Non-Compliant Health Related Results and Remedial Action.

Sample Date	Sample Location	Parameter	Result	Units	Guideline	Comment

4 Non-Health Related (Aesthetic) Chemical

Table 4 lists those sample locations where non-compliant non-health related (Aesthetic) results were detected, and the remedial actions taken if required. An unpopulated table indicates that for the period of analysis, all results were compliant with the ADWG.

Note: Customer perception of water quality is heavily influenced by aesthetic concerns, and in an era of increasing public expectations of water suppliers, these aesthetic issues may need to be addressed in order to improve customer satisfaction.

Table 4: Non-Compliant Non-Health Related (Aesthetic) Chemical Results and Remedial Action.

Sample Date	Sample Location	Parameter	Result	Units	Guideline	Comment

5 Radiological

No Samples taken this quarter.

5 Radiological Related

Table 5 lists those sample locations where non-compliant Radiological results were detected, and the remedial actions taken to rectify these non-compliances. An unpopulated table indicates that for the period of analysis, all results were compliant with the ADWG.

Note: Completed Annually, latest Radiological testing completed April 2021.

Table 5: Non-Compliant Radiological Related Chemical Results and Remedial Action.

Sample Date	Sample Location	Parameter	Result	Units	Guideline	Comment

6 Planned Sampling Summary

Table 6 shows the number of samples that were planned for the reporting period, and the number of assessable samples already taken.

Table 6: Planned sampling regime and actual assessable samples taken.

	Number of Samples Planned to be taken	Number of samples actually taken	% of planned samples taken
Microbiological	145	145	100%
Physical Chemical	151	151	100%

Table 7: Location and reason for missed samples

Date	Location	Schedule	Reason
	Nil		
Total	0		