



DEPARTMENT OF HEALTH REPORT

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

REPORTING PERIOD 01 APRIL 2021 TO 30 JUNE 2021

JULY 2021

REPORT TEMPLATE VERSION: 2.0.8

Document Revision

Version #	Date Changed	Requested By	Changes
1.2.2	5/10/2012		*Radiological Units to be Corrected *Header to be repeated on tables on new pages *Add Section for Assumptions *Note any value that has a less than symbol to have Zero (0) value *Remove compliance % for items that do not have AWDG Limits *Remove Raw Water ADWG Guidelines *Include Max Value for ADWG Limits *5th Percentile to be removed *Report to include document history *Include Calculations in assumptions section
1.2.3	18/10/2012		*Added Micro Results
2.0.0	9/01/2013	K Woods	*Moved Report to Excel Template
2.0.1	10/01/2014	Water Quality Committee	*Added chlorine residual explanations
2.0.2	20/05/2015	Water Quality Committee	*Remove technical zero statement from assumptions
2.0.3	19/10/2016	B Labza	* Updated Assumptions and Explanations
2.0.4	17/10/2017	K Woods	*Updated 2004 ADWG to 2011 ADWG (as of 1st July 2017) *Updated Number of Compliant Zones to Number of Compliant Samples
2.0.5	19/10/2018	K Woods	*Updated Title Page to remove acronyms (DOH & MOU)
2.0.6	18/10/2019	K. Woods / B. Labza	*Context update in Introduction sections 1.1, 1.2 & 1.3
2.0.7	27/11/2019	B. Labza	*Australian Drinking Water Guidelines (ADWG) refers to the 2011 ADWG August 2018 edition, version 3.5
2.0.8	23/04/2021	Water Quality Committee	*Update of layout to report

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.

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

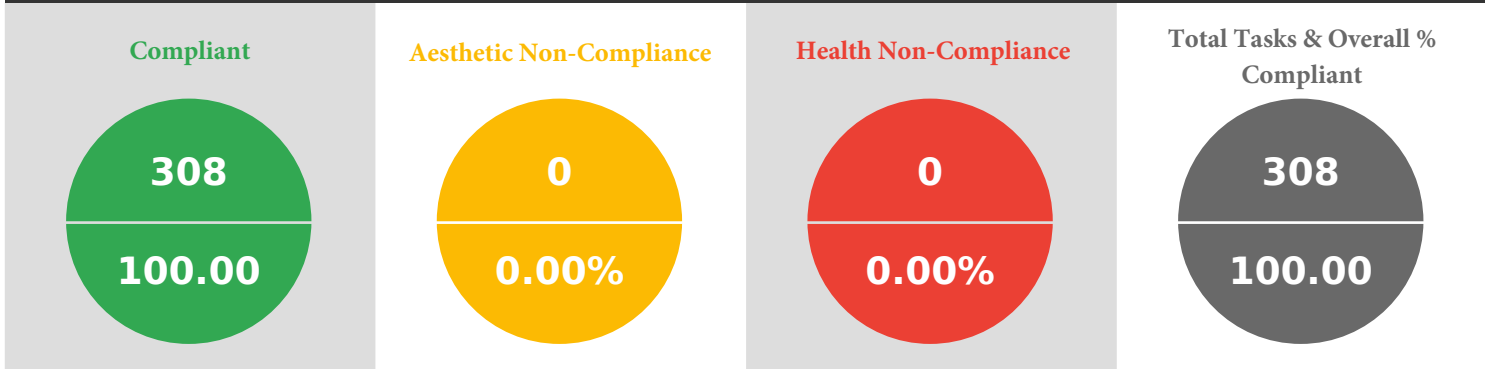
Table 1 shows the overall performance of Aqwest's drinking water against the Australian Drinking Water Guidelines (ADWG) for the period of 01 April 2021 to 30 June 2021.

Table 1: Aqwest Performance Summary Table

	Compliance From 01 April 2021 to 30 June 2021			
	Number of Samples	Number of Compliant Samples	% Compliant Samples	% Sample Compliance 12 Month Rolling Period
Microbiological				
<i>Escherichia coli</i>	154	154	100	100
Thermophilic <i>Naegleria</i>	154	154	100	100
Chemical				
Health Related	170	170	100	100
Non-Health (Aesthetic)	170	170	100	100
Radiological				
Health Related	12	12	100	100

2 Microbiological

Overall Compliance for April - June 2021 Quarter



RETICULATION

Characteristic	Units	ADWG Health	Max	Non-Compliance Health	No Sampled	% Health Compliance
<i>Escherichia coli</i>	CFU/100mL	1	<1	0	84	100
Thermophilic <i>Naegleria</i>	/250mL	D	ND	0	84	100

STORAGE

Characteristic	Units	ADWG Health	Max	Non-Compliance Health	No Sampled	% Health Compliance
<i>Escherichia coli</i>	CFU/100mL	1	<1	0	70	100
Thermophilic <i>Naegleria</i>	/250mL	D	ND	0	70	100

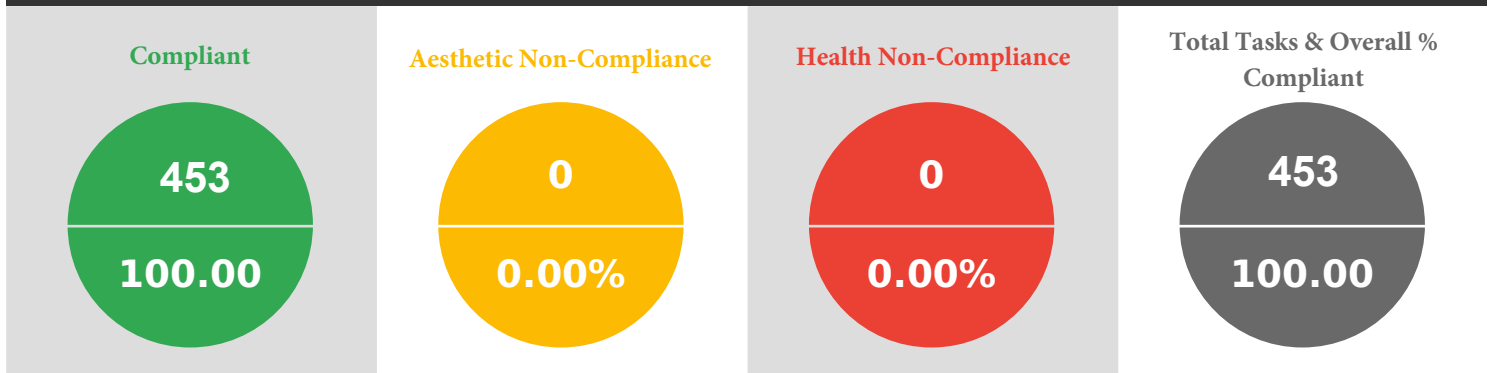
Table 2 lists those sample locations where non-compliant microbiological results were detected, and the remedial actions taken to rectify these non-compliances. An unpopulated table indicates that for the period of analysis, all results were compliant with the ADWG.

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

Sample Date	Sample Location	Parameter	Result	Units	Guideline	Comment

3 Chemical

Overall Compliance for April - June 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	0.67	0	8	79	100	90
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	120	0	0	6	100	100
Chromium	mg/L	0.05		<0.001	0	0	6	100	100
Copper	mg/L	2	1	0.012	0	0	6	100	100
Fluoride	mg/L	1.5		0.5	0	0	6	100	100
Hydrogen Sulphide	mg/L		0.05	<0.05	0	0	6	100	100
Iron	mg/L		0.3	0.05	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		0.02	0	0	6	100	100
Nitrite	mg/L	3		<0.01	0	0	6	100	100
Sodium	mg/L		180	64	0	0	6	100	100
Sulphate	mg/L		250	19	0	0	6	100	100
Zinc	mg/L		3	0.012	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	110	0	0	6	100	100
pH	-		6.5-8.5	8.1	0	0	79	100	100
TDS	mg/L		600	360	0	0	6	100	100
Temperature	°C			26	0	0	79	100	100
Turbidity	NTU		5	0.2	0	0	6	100	100
Alkalinity	mg/L			100	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			11	0	0	6	100	100
Chloroform	µg/L			6	0	0	6	100	100
Dibromochloromethane	µg/L			2	0	0	6	100	100
Total THMs	µg/L	250		19	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.

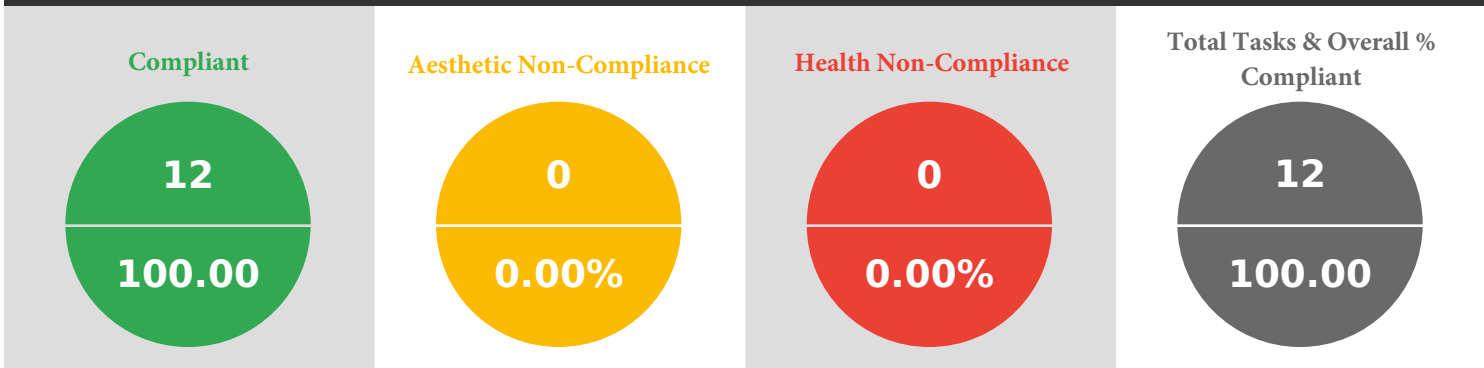
Note: Customer perception of water quality is heavily influenced by aesthetic concerns, and in an era of increasing public expectations of water suppliers, these aesthetic issues may need to be addressed in order to improve customer satisfaction.

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

Sample Date	Sample Location	Parameter	Result	Units	Guideline	Comment

5 Radiological

Overall Compliance for April - June 2021 Quarter



TREATED WATER

Characteristic	Units	ADWG Health	Max	Non-Compliance Health	No Sampled	% Health Compliance
Gross Alpha	Bq/L	0.5	0.15	0	6	100
Gross Beta	Bq/L	0.5	0.3	0	6	100

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	154	154	100%
Physical Chemical	170	170	100%

Table 7: Location and reason for missed samples

Date	Location	Schedule	Reason
	Nil		
Total	0		