



DEPARTMENT OF HEALTH REPORT

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

REPORTING PERIOD 01 APRIL 2023 TO 30 JUNE 2023

APRIL 2023

REPORT TEMPLATE VERSION: 2.1.0

Document Revision

Version #	Date Changed	Requested By	Changes
1.2.2	5/10/2012		<ul style="list-style-type: none"> *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	<ul style="list-style-type: none"> *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
2.0.9	26/10/2022	R.Jeakes	<ul style="list-style-type: none"> *Updated tables to split Health and Aesthetic results *Exclusion of "0" where a parameter is not applicable
2.1.0	12/01/2023	R.Jeakes	*ug/L removed and replaced with mg/L in line with ADWG where applicable

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) "NA" will be used as "Not Applicable" where a health or aesthetic value is not present in the ADWG

1 Introduction

1.1 Water Provider Information

Name:	Aqwest
Address:	2 Hayes Street, 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:	Cristiano Carvalho
DOH Liaison Officer Email:	cristiano.carvalho@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

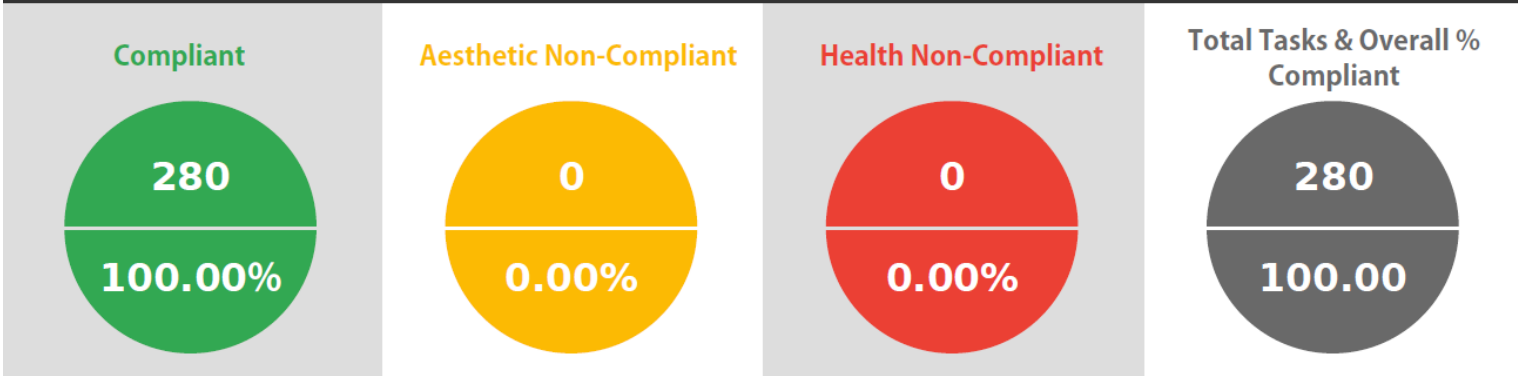
Table 1 shows the overall performance of Aqwest's drinking water against the Australian Drinking Water Guidelines (ADWG) for the period of 01 April 2023 to 30 June 2023.

Table 1: Aqwest Performance Summary Table

	Compliance From 01 April 2023 to 30 June 2023			% Sample Compliance 12 Month Rolling Period
	Number of Samples	Number of Compliant Samples	% Compliant Samples	
Microbiological				
<i>Escherichia coli</i>	140	140	100	100
Thermophilic <i>Naegleria</i>	140	140	100	100
Chemical				
Health Related	146	146	100	100
Non-Health (Aesthetic)	146	146	100	100
Radiological				
Health Related	5	5	100	100

Microbiological

Overall Compliance For The Period - April 2023 - June 2023



RETICULATION

Characteristic	Units	ADWG Health Guideline	Aqwest Max Result	Health Non-Compliance	No Sampled	% Health Compliance
<i>Escherichia coli</i>	CFU/100mL	<1	<1	0	77	100
Thermophilic <i>Naegleria</i>	/250ml	ND	ND	0	77	100

STORAGE

Characteristic	Units	ADWG Health Guideline	Aqwest Max Result	Health Non-Compliance	No Sampled	% Health Compliance
<i>Escherichia coli</i>	CFU/100mL	<1	<1	0	63	100
Thermophilic <i>Naegleria</i>	/250ml	ND	ND	0	63	100

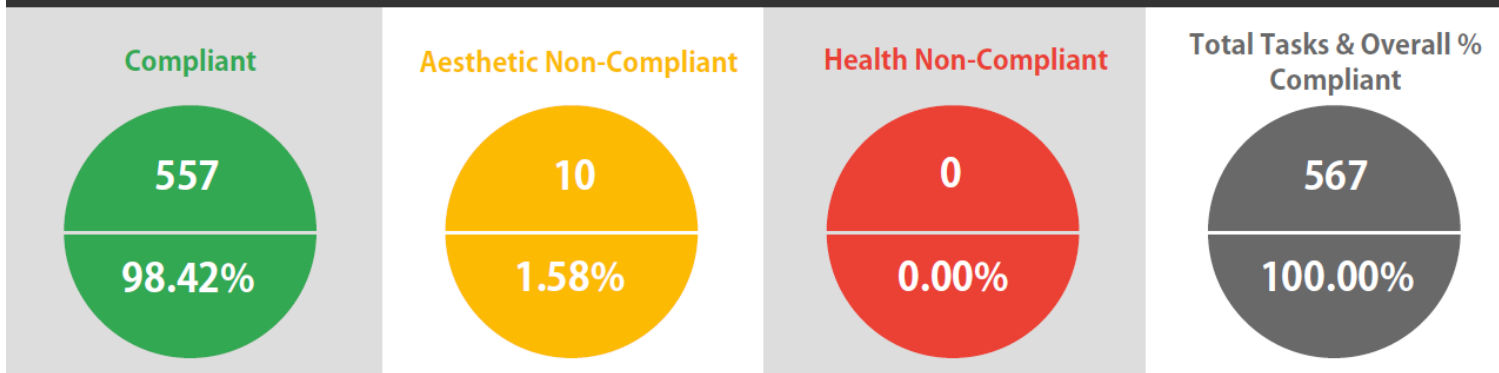
2.2 Microbiological non-compliance

Table 2 lists those sample locations where non-compliant health related results were detected, and the remedial actions taken to rectify these non-compliances.

NIL to Report

2 Chemical

Overall Compliance For The Period - April 2023 - June 2023



RETICULATION – HEALTH

Characteristic	Units	ADWG Health Guideline	Aqwest Max Result	No Non-Compliance Health	No Sampled	% Health Compliance
Chlorine	mg/L	5	0.74	0	77	100
Antimony	mg/L	0.003	<0.001	0	6	100
Cadmium	mg/L	0.002	<0.0001	0	6	100
Chromium	mg/L	0.05	<0.001	0	6	100
Copper	mg/L	2	0.33	0	6	100
Fluoride	mg/L	1.5	0.4	0	6	100
Lead	mg/L	0.01	<0.001	0	6	100
Manganese	mg/L	0.5	0.005	0	6	100
Nickel	mg/L	0.02	0.002	0	6	100
Nitrate-Nitrogen	mg/L	50	0.03	0	6	100
Nitrite	mg/L	3	<0.01	0	6	100
Cyanide	mg/L	0.08	<0.005	0	6	100
Acrylamide	mg/L	0.0002	<0.0001	0	6	100
Toluene	mg/L	0.8	<0.0005	0	6	100
Xylene	mg/L	0.6	<0.0003	0	6	100
Epichlorohydrin	mg/L	0.0005	<0.0005	0	6	100
Carbon Tetrachloride	mg/L	0.003	<0.0005	0	6	100
Total THMs	mg/L	0.25	0.005	0	6	100

RETICULATION – AESTHETIC

Characteristic	Units	ADWG Aesthetic Guideline	Aqwest Max Result	No Non-Compliance Aesthetic	No Sampled	% Aesthetic Compliance
Chlorine	mg/L	0.6	0.74	9	77	91.7
Aluminium	mg/L	0.2	<0.05	0	6	100
Ammonia (as NH3)	mg/L	0.5	<0.02	0	6	100
Chloride	mg/L	250	120	0	6	100
Hydrogen Sulphide	mg/L	0.05	<0.05	0	6	100
Iron	mg/L	0.3	0.32	1	6	83.33
Sodium	mg/L	180	69	0	6	100
Sulfate	mg/L	250	19	0	6	100
Zinc	mg/L	3	0.008	0	6	100
Trichloroethylene	µg/L		<0.5	0	6	NA
Benzo(a)pyrene	µg/L		<0.01	0	6	NA
Hardness	mg/L	200	100	0	6	100
pH	-	6.5-8.5	7.8	0	77	100
TDS	mg/L	600	290	0	6	100
Temperature	°C		26.4	0	77	NA
Turbidity	NTU	5	0.4	0	6	100
Alkalinity	mg/L		120	0	6	NA
Manganese	mg/L	0.1	0.005	0	6	100
Toluene	mg/L	0.025	<0.0005	0	6	100
Asbestos	MFL		ND	0	6	NA
Bromodichloromethane	µg/L		1.7	0	6	NA
Bromoform	µg/L		3.3	0	6	NA
Chloroform	µg/L		<1	0	6	NA
Dibromochloromethane	µg/L		<1	0	6	NA

3.1 Chemical Health Related non-compliance

Table 3 lists those sample locations where non-compliant health related results were detected, and the remedial actions taken to rectify these non-compliances.

NIL to Report

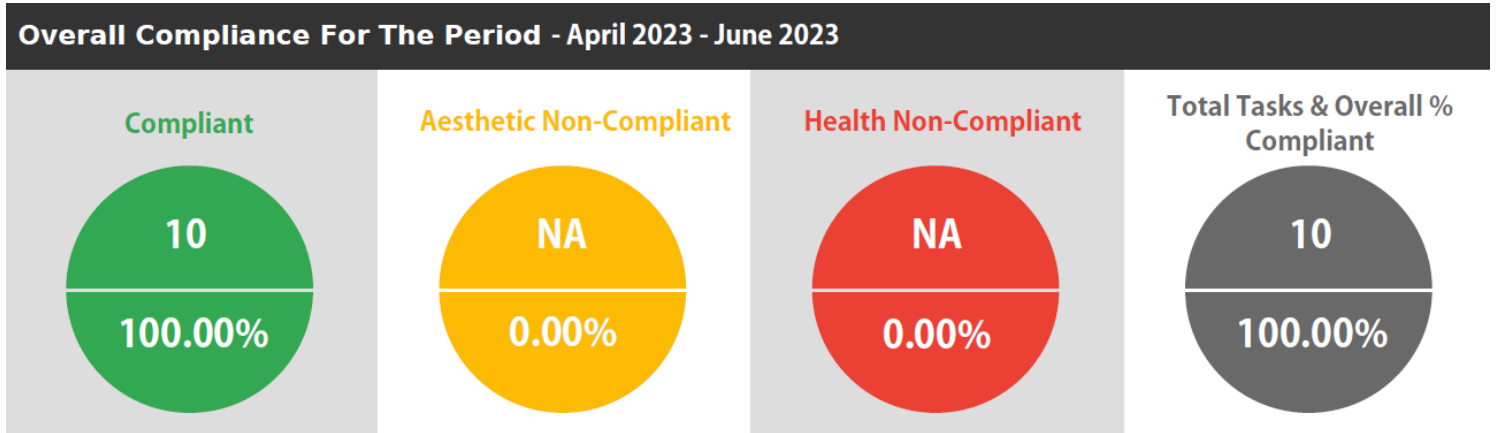
3.2 Chemical Non-Health Related (Aesthetic) Chemical non-compliance

Table 4 lists those sample locations where non-compliant non-health related (Aesthetic) results were detected, and the remedial actions taken if required.

Sample Date	Sample Location	Parameter	Result	Units	Guideline	Action
3/4/2023	BC2/093	Iron	0.32	mg/L	0.3	Re-sampled – result compliant

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.

4. Radiological



Characteristic	Units	ADWG Screening Value	Aqwest Max Result	No Sampled	Below Screening Value
Gross Alpha	Bq/L	0.5	0.35	5	Yes
Gross Beta	Bq/L	0.5	0.156	5	Yes

4.1 Radiological non-compliance

The screening values provided by the ADWG are designed to ascertain whether specific radionuclide testing is required and not that the water is unsafe for consumption. It is emphasised that these values are not to be viewed as a guideline.

Table 5 lists those sample locations where screening values were exceeded, and the remedial actions taken to rectify these non-compliances.

NIL to Report

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 6.1 Planned sampling regime vs actual samples taken.

	Number of Samples Planned to be taken	Number of samples actually taken	% of planned samples taken
Microbiological	143	140	100%
Physical Chemical	149	149	100%

Table 6.2 Location and reason for missed samples

Date	Location	Schedule	Reason
12/5/2023	BC2/008	Microbiological	Sample point disconnected as part of water main upgrade
12/6/2023	BC2/098	Microbiological	Asset not in service due to maintenance
30/6/2023	BC2/098	Microbiological	Asset not in service due to capital works