

Water Quality Summary - April 2023 (amended 19.07.2023 to include Mn results)

Hunter Water provides safe and reliable drinking water to over half a million customers in the Lower Hunter. The drinking water we supply is routinely tested throughout our water supply systems.

Whole of Hunter Water Distribution System

Drinking water results for the distribution system are based on samples representative of water supplied to customer's taps. Distribution system results for microbiological and key physical/chemical parameters are summarised below.

Whole of Llunter	Water Dietrik	ution Custom	kov boolth analytes

Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)		% of E. coli results < 1 over the last 12 months	Met performance standard			
E. coli	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1	99.95%		Yes			
Analyte	Units of measure ADWG healt guideline valu		Performance standard (assessment over previous 12 months)	Average for Month	95th Percentile over the last 12 months	Met performance standard			
Fluoride	mg/L	1.5		0.99	1.00	Yes			
Chlorine	mg/L	5.0		0.88	1.72	Yes			
Copper	mg/L	2.0	95th percentile of test results less than respective ADWG health guideline value	0.005	0.015	Yes			
Lead	mg/L	0.01		0.000	0.001	Yes			
Manganese	mg/L	0.5		0.006	0.011	Yes			
Trihalomethanes	mg/L	0.25		0.099	0.170	Yes			

Whole of Hunter Water Distribution System - PFOS, PFHxS & PFOA

Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	Maximum detection over the last 12 months	Met performance standard
PFOS + PFHxS	ug/L	0.07	100% of test results less than	<0.004	0.004	Yes
PFOA	ug/L	0.56	respective ADWG health guideline value	<0.002	<0.002	Yes

Whole of Hunter Water Distribution System - key aesthetic analytes

Analyte	Units of measure	ADWG aesthetic guideline value	Performance standard (assessment over previous 12 months)	Average for Month	12 month average result	Met performance standard
Iron	mg/L	0.3	Average of test results less than	0.041	0.026	Yes
Aluminium	mg/L	0.2		0.056	0.043	Yes
Copper	mg/L	1.0		0.005	0.006	Yes
Zinc	mg/L	3.0	respective ADWG aesthetic guideline	0.003	0.003	Yes
Manganese	mg/L	0.1	value	0.006	0.004	Yes
Turbidity	NTU	5.0		0.4	0.3	Yes
Colour-True	HU	15.0		5	5	Yes
рН	pH units	6.5-9.2	Average of test results between 6.5-9.2 pH units	7.68	7.61	Yes

Brief explanation of key parameters:	Key Physical, Chemical and Microbiological Parameters
A 95th percentile is a statistical method to evaluate the long-term performance standard for Drinking Water Guidelines 2011 (ADWG).	Health-related analytes. Additional information is available in Section 10.3.2 and Information Sheet 3.3 of the Australian
For more detail please refer:	Australian Drinking Water Guidelines 2011
Map showing water quality zones:	Water Quality Zones at Hunter Water

Water Quality Zones						
Anna Bay and Nelson Bay Zone - key h	health analytes					
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)		% of E. coli results < 1 over the last 12 months	Met performanc standard
E. coli	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1		100.00%	Yes
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	95th Percentile over the last 12 months	Met performand standard
Fluoride	mg/L	1.5		1.00	1.10	Yes
Chlorine	mg/L	5.0		1.44	2.26	Yes
Copper	mg/L	2.0	95th percentile of test results less than	0.006	0.028	Yes
Lead	mg/L	0.01	respective ADWG health guideline value	0.000	0.001	Yes
Manganese	mg/L	0.5		0.003	0.009	Yes
Trihalomethanes	mg/L	0.25		0.071	0.107	Yes
Anna Bay and Nelson Bay Zone - PFOS	S, PFHxS & PFOA					ı
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	Maximum detection over the last 12 months	Met performand standard
PFOS + PFHxS	ug/L	0.07	100% of test results less than	<0.004	<0.004	Yes
PFOA	ug/L	0.56	respective ADWG health guideline value	<0.002	<0.002	Yes
Anna Bay and Nelson Bay Zone - key a		1 11				
Analyte	Units of measure	ADWG aesthetic guideline value	Performance standard (assessment over previous 12 months)	Average for Month	12 month average result	Met performand standard
Iron	mg/L	0.3		0.029	0.033	Yes
Aluminium	mg/L	0.2		0.043	0.045	Yes
Copper	mg/L	1.0	Average of test results less than	0.006	0.009	Yes
Zinc	mg/L	3.0	respective ADWG aesthetic guideline value	0.002	0.004	Yes
Manganese Turbidity	mg/L NTU	0.1 5.0		0.003	0.004	Yes Yes
Colour-True	HU	15.0	-	5	5	Yes
рН	pH units	6.5-9.2	Average of test results between 6.5-9.2 pH units	7.50	7.49	Yes
Chichester Zone - key health analytes Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)		% of E. coli results < 1 over the last 12 months	Met performand standard
E. coli	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1		100.00%	Yes
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	95th Percentile over the last 12 months	Met performand standard
Fluoride	mg/L	1.5		1.00	1.00	Yes
Chlorine	mg/L	5.0		0.84	1.45	Yes
Copper	mg/L	2.0	95th percentile of test results less than	0.004	0.008	Yes
Lead	mg/L	0.01	respective ADWG health guideline value	0.000	0.000	Yes
Manganese Trihalomethanes	mg/L mg/L	0.5		0.001	0.004	Yes Yes
Chichester Zone - PFOS, PFHxS & PFC		0.25		0.001	0.000	169
	- 					
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	Maximum detection over the last 12 months	Met performand standard
PFOS + PFHxS	ug/L	0.07	100% of test results less than	<0.004	<0.004	Yes
PFOA	ug/L	0.56	respective ADWG health guideline value	<0.002	<0.002	Yes
Chichester Zone - key aesthetic analyt						
Analyte	Units of measure	ADWG aesthetic guideline value	Performance standard (assessment over previous 12 months)	Average for Month	12 month average result	Met performand standard
Iron	mg/L	0.3		0.022	0.021	Yes
Aluminium	mg/L	0.2		0.038	0.038	Yes
Copper	mg/L	1.0	Average of test results less than	0.004	0.004	Yes
Zinc	mg/L	3.0	respective ADWG aesthetic guideline	0.001	0.002	Yes
	mg/L	0.1	value	0.001	0.002	Yes
Manganese			1			
Turbidity	NTU	5.0		0.2	0.2	Yes
		5.0 15.0	Average of test results between 6.5-9.2	0.2 5	0.2 5	Yes Yes

Grahamstown Zone - key health analytes						
Granamstown Zone - key fleatin analytes					% of E. coli	
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)		results < 1 over the last 12 months	Met performance standard
E. coli	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1		99.90%	Yes
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	95th Percentile over the last 12	Met performance standard
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Fluoride	mg/L	1.5		0.99	1.00	Yes
Chlorine	mg/L	5.0		0.80	1.45	Yes
Copper	mg/L	2.0	95th percentile of test results less than respective ADWG health guideline value	0.005	0.015	Yes
Manganese	mg/L	0.01		0.000	0.001	Yes Yes
Trihalomethanes	mg/L	0.25		0.107	0.190	Yes
Grahamstown Zone - PFOS, PFHxS & PFOA		0.20		0.107	0.100	100
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	Maximum detection over the last 12 months	Met performance standard
PFOS + PFHxS	ug/L	0.07	100% of test results less than	<0.004	0.004	Yes
PFOA	ug/L	0.56	respective ADWG health guideline value	<0.002	<0.002	Yes
Grahamstown Zone - key aesthetic analytes	1992	0.30		V0.002	V0.002	163
Oraniamstown zone key destrictio analytes						
Analyte	Units of measure	ADWG aesthetic guideline value	Performance standard (assessment over previous 12 months)	Average for Month	12 month average result	Met performance standard
Iron	mg/L	0.3		0.042	0.025	Yes
Aluminium	mg/L	0.2		0.120	0.055	Yes
Copper	mg/L	1.0	Average of test results less than	0.005	0.004	Yes
Zinc	mg/L	3.0	respective ADWG aesthetic guideline	0.003	0.003	Yes
Manganese	mg/L	0.1	value	0.006	0.005	Yes
Turbidity	NTU	5.0		0.4	0.3	Yes
Colour-True	HU	15.0		5	5	Yes
рН	pH units	6.5-9.2	Average of test results between 6.5-9.2 pH units	7.68	7.57	Yes
Gresford Zone - key health analytes						
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)		% of E. coli results < 1 over the last 12 months	Met performance standard
E. coli	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1		100.00%	Yes
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	95th Percentile over the last 12 months	Met performance standard
Chlorine	mg/L	5.0	95th percentile of test results less than respective ADWG health guideline value	0.97	1.27	Yes
Gresford Zone - PFOS, PFHxS & PFOA						
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month #	Maximum detection over the last 12 months	Met performance standard
PFOS + PFHxS	ug/L	0.07	100% of test results less than	<0.004	<0.004	Yes
PFOA	ug/L	0.56	respective ADWG health guideline value	<0.002	<0.002	Yes
Gresford Zone - key aesthetic analytes		1				
oresiona zone - key aestrietto anarytes						
Analyte	Units of measure	ADWG aesthetic guideline value	Performance standard (assessment over previous 12 months)	Average for Month	12 month average result	Met performance standard
Turbidity	NTU	5.0	Average of test results less than respective ADWG aesthetic guideline value	0.1	0.2	Yes

Lemon Tree Passage Zone - key health a					% of E. coli	
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)		% of E. coli results < 1 over the last 12 months	Met performanc standard
E. coli	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1		100.00%	Yes
Analyte	Units of measure	ADWG health guideline value			95th Percentile over the last 12 months	Met performand standard
Fluoride	mg/L	1.5		0.97	1.00	Yes
Chlorine	mg/L	5.0	1	0.95	1.95	Yes
Copper	mg/L	2.0	95th percentile of test results less than	0.006	0.010	Yes
Lead	mg/L	0.01	respective ADWG health guideline value	0.000	0.001	Yes
Manganese	mg/L	0.5		0.027	0.010	Yes
Trihalomethanes	mg/L	mg/L 0.25		0.107	0.135	Yes
Lemon Tree Passage Zone - PFOS, PFHx	S & PFOA					
Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	Maximum detection over the last 12 months	Met performanc standard
					last 12 months	
PFOS + PFHxS	ug/L	0.07	100% of test results less than	<0.004	<0.004	Yes
PFOS + PFHxS PFOA	ug/L ug/L	0.07 0.56	100% of test results less than respective ADWG health guideline value	<0.004 <0.002		Yes Yes
	ug/L				<0.004	
PFOA Lemon Tree Passage Zone - key aestheti	ug/L				<0.004	Yes
PFOA	ug/L c analytes	0.56 ADWG aesthetic	respective ADWG health guideline value	<0.002	<0.004 <0.002	Yes Met performance
PFOA Lemon Tree Passage Zone - key aesthetid Analyte	ug/L c analytes Units of measure	0.56 ADWG aesthetic guideline value	respective ADWG health guideline value	<0.002 Average for Month	<0.004 <0.002 12 month average result	Yes Met performand standard
PFOA Lemon Tree Passage Zone - key aesthetid Analyte Iron Aluminium	ug/L c analytes Units of measure mg/L	0.56 ADWG aesthetic guideline value 0.3	respective ADWG health guideline value Performance standard (assessment over previous 12 months)	<0.002 Average for Month 0.106	<0.004 <0.002 12 month average result 0.044	Yes Met performanc standard Yes
PFOA Lemon Tree Passage Zone - key aesthetid Analyte Iron Aluminium Copper	ug/L c analytes Units of measure mg/L mg/L	ADWG aesthetic guideline value 0.3 0.2	respective ADWG health guideline value Performance standard (assessment over previous 12 months) Average of test results less than respective ADWG aesthetic guideline	<0.002 Average for Month 0.106 0.035	<0.004 <0.002 12 month average result 0.044 0.037	Met performand standard Yes Yes
PFOA Lemon Tree Passage Zone - key aesthetic Analyte Iron Aluminium Copper	ug/L c analytes Units of measure mg/L mg/L mg/L mg/L	ADWG aesthetic guideline value 0.3 0.2 1.0	Performance standard (assessment over previous 12 months) Average of test results less than	<0.002 Average for Month 0.106 0.035 0.006	<0.004 <0.002 12 month average result 0.044 0.037 0.005	Met performand standard Yes Yes Yes Yes
PFOA Lemon Tree Passage Zone - key aesthetic Analyte ron Aluminium Copper Zinc Manganese	ug/L c analytes Units of measure mg/L mg/L mg/L mg/L mg/L	ADWG aesthetic guideline value 0.3 0.2 1.0 3.0	respective ADWG health guideline value Performance standard (assessment over previous 12 months) Average of test results less than respective ADWG aesthetic guideline	<0.002 Average for Month 0.106 0.035 0.006 0.004	<0.004 <0.002 12 month average result 0.044 0.037 0.005 0.004	Met performand standard Yes Yes Yes Yes Yes
PFOA Lemon Tree Passage Zone - key aesthetid Analyte Iron	ug/L	0.56 ADWG aesthetic guideline value 0.3 0.2 1.0 3.0 0.1	respective ADWG health guideline value Performance standard (assessment over previous 12 months) Average of test results less than respective ADWG aesthetic guideline	<0.002 Average for Month 0.106 0.035 0.006 0.004 0.027	<0.004 <0.002 12 month average result 0.044 0.037 0.005 0.004 0.005	Met performand standard Yes Yes Yes Yes Yes Yes

PFOS, PFHxS and PFOA Results for Clear Water Tanks - April 2023

Clear water tanks (CWTs) are the final point at each water treatment plant before water enters the distribution system for delivery to customers. Maximum drinking water results in the CWTs of the water treatment plants monitored during the month are summarised below.

Analyte	Units of measure	ADWG health guideline value	Grahamstown CWT
PFOS + PFHxS	ug/L	0.07	<0.004
PFOA	ug/L	0.56	<0.002

PFOS, PFHxS and PFOA Results for Raw Waters - April 2023

Raw water monitoring points are representative of water received at the water treatment plants, prior to any treatment occurring. Maximum raw water results of the water treatment plants monitored during the month are summarised below.

Analyte	Units of measure	ADWG health guideline value	Grahamstown Raw - East Main ^	Grahamstown Raw - West Main	Lemon Tree Passage WTP - Raw Water
PFOS + PFHxS	ug/L	0.07	<0.004	<0.004	<0.004
PFOA	ug/L	0.56	<0.002	<0.002	<0.002

^ Water sourced from the Tomago Borefield -when operational -is delivered to Grahamstown WTP via the East'Main. When the Tomago Borefield is not being used as part of the drinking water supply mix for the Lower Hunter, the East'and West'monitoring points are both representative of water sourced from Grahamstown Dam.

^{*} Gresford WTP can be supplied from either the Allyn or Paterson Rivers. The plant was supplied from the Paterson River for the month.

[#] One sample is collected per month in the Gresford Zone