Unitywater

Low-exposure Recycled Water Quality Annual Report

2024 to 2025

unitywater.com

Acknowledgement of Country

Unitywater respectfully acknowledges the Traditional Custodians of the lands and waterways in which we live, work, and operate, the Kabi Kabi, Jinibara and Turrbal peoples.

We honour their enduring connection to these places and their deep cultural, spiritual, and environmental knowledge and stewardship over the waterways that sustain us all.

We pay our deepest respects to Elders past and present, who hold the wisdom, traditions, and stories of their people.

We are dedicated to truth-telling, promoting reconciliation and inclusion, ensuring that the voices and perspectives of First Nations peoples are heard and valued.

We commit to integrating Indigenous knowledge into our work to protect and sustain our precious water resources.

Together, as One Unitywater, we strive for a harmonious and inclusive community, united in respect, understanding and shared stewardship of our environment.

Artwork: Gilimbaa Creative Agency

Contents

Glossary of terms

<	Less than
>	Greater than
%	Percentage
µS/cm	Micro siemens per centimetre
Average	The sum of all sample result values divided by the total number of samples taken
CaCO3	Calcium carbonate
CFU	Colony Forming Units
E. coli	Escherichia coli, a bacterium which may indicate the presence of faecal contamination and therefore potential health risk
Low exposure	The uses of recycled water that are generally associated with a low level of exposure
mg/L	Milligrams per litre
MPN	Most Probable Number
NTU	Nephelometric Turbidity Units
PHR	Public Health Regulation 2018
Point of supply (POS)	Succeeding the last point where treatment of the water is undertaken
PPT	Parts per thousand

Introduction

Recycled water is supplied for customer reuse throughout the Unitywater supply region and may be used for a number of approved low-exposure purposes, including commercial, municipal and industrial applications.

Unitywater tests several physical, chemical and microbiological water quality parameters at each recycled water scheme. This report provides a summary of recycled water quality performance to assist our customers in managing their on-site activities. The Public Health Regulation 2018 outlines water quality performance requirements for recycled water schemes. The tables below define the class for each scheme, guideline requirements, and Unitywater's compliance to these requirements.

Scheme	Class
Brendale	B
Coolum	B
Kawana	B[1]
	B[2]
Landsborough	B
Maleny	B
Maroochydore	B
	D
Murrumba Downs	B
Nambour	B
	D
Noosa	B
Redcliffe	C
South Caboolture	B
Woodford	A

Class	Guideline requirements
A+	**Less than 1 *E. coli* cfu / 100mL or MPN / 100mL** in at least 95% of samples taken in the previous 12 months*
A	**Less than 10 *E. coli* cfu / 100mL or MPN / 100mL** in at least 95% of samples taken in the previous 12 months
B	**Less than 100 *E. coli* cfu / 100mL or MPN / 100mL** in at least 95% of samples taken in the previous 12 months
C	**Less than 1,000 *E. coli* cfu / 100mL or MPN / 100mL** in at least 95% of samples taken in the previous 12 months
D	**Less than 10,000 *E. coli* cfu / 100mL or MPN / 100mL** in at least 95% of samples taken in the previous 12 months

* When Class A+ recycled water is being supplied to households as part of a dual reticulation scheme, and when it is used to irrigate minimally processed crops, there are additional microbiological criteria that must be met (see Public Health Regulation Section 58).

	Unitywater's compliance with PHR recycled water quality guideline requirement:
All schemes	✓

[1]Water carrier fill station point of supply

[2]Fixed site customers point of supply

If you have any questions regarding recycled water, please visit our website.

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Recycled water quality scheme summary

Brendale

Parameter	Units	No. of samples	Average result	Max result	Min result
Alkalinity (Bicarbonate)	mg/L as CaCO3	22	215	647	64
Aluminium (Total)	mg/L	22	0.06	0.20	0.03
Arsenic	mg/L	2	0.001	0.001	<0.001
Boron	mg/L	2	0.13	0.18	0.08
Cadmium	mg/L	2	<0.0006	<0.0006	<0.0006
Chromium	mg/L	2	0.004	0.007	<0.001
Conductivity	µS/cm	22	809	627	965
Copper	mg/L	2	0.003	0.003	0.002
Lead	mg/L	2	0.002	0.003	<0.001
Manganese	mg/L	2	0.08	0.08	0.08
Mercury	mg/L	2	<0.0001	<0.0001	<0.0001
Nickel	mg/L	2	0.006	0.006	0.006
Nitrogen (Ammonia)	mg/L	41	0.77	6.97	<0.05
Nitrogen (Oxidised)	mg/L	41	3.1	6.2	0.6
Nitrogen (Total)	mg/L	41	5.4	11.7	2.2
pH	pH units	41	7.2	7.4	7
Phosphorus (Total)	mg/L	41	0.7	4.8	0.1
Selenium	mg/L	2	<0.01	<0.01	<0.01
Silver	mg/L	2	<0.001	<0.001	<0.001
Suspended Solids	mg/L	41	4	13	<2
Total Hardness	mg/L as CaCO3	22	153	208	96
Vanadium	mg/L	2	<0.001	<0.001	<0.001
Zinc	mg/L	2	0.03	0.03	0.03

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Coolum

Parameter	Units	No. of samples	Average result	Max result	Min result
Alkalinity (Bicarbonate)	mg/L as CaCO3	29	161	246	82
Aluminium (Total)	mg/L	3	0.03	0.03	0.03
Arsenic	mg/L	3	0.001	0.002	<0.001
Boron	mg/L	3	0.06	0.06	0.06
Cadmium	mg/L	3	<0.0006	<0.0006	<0.0006
Chloride	mg/L	29	110	136	88
Chromium	mg/L	3	<0.001	<0.001	<0.001
Conductivity	µS/cm	48	800	963	618
Copper	mg/L	3	<0.001	<0.001	<0.001
Lead	mg/L	3	0.001	0.001	<0.001
Manganese	mg/L	3	0.05	0.05	0.04
Mercury	mg/L	3	<0.0001	<0.0001	<0.0001
Nickel	mg/L	3	0.003	0.004	0.001
Nitrogen (Ammonia)	mg/L	48	0.87	8.76	<0.05
Nitrogen (Oxidised)	mg/L	48	3.1	9.3	0.6
Nitrogen (Total)	mg/L	48	4.8	11.3	1.9
pH	pH units	48	7.2	8.0	6.7
Phosphorus (Total)	mg/L	48	0.5	1.5	0.1
Salinity	ppt	29	0.5	0.6	0.4
Selenium	mg/L	3	<0.01	<0.01	<0.01
Silver	mg/L	3	<0.001	<0.001	<0.001
Sodium Absorption Ratio	%	29	2.6	3.3	2.2
Suspended Solids	mg/L	48	2	7	<2
Total Hardness	mg/L as CaCO3	29	186	247	116
Vanadium	mg/L	3	0.001	0.001	<0.001
Zinc	mg/L	3	0.01	0.01	0.01

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Kawana

Parameter	Units	No. of samples	Average result	Max result	Min result
Alkalinity (Bicarbonate)	mg/L as CaCO3	26	121	166	62
Aluminium (Total)	mg/L	26	0.05	0.16	0.02
Arsenic	mg/L	3	0.002	0.003	0.001
Boron	mg/L	3	0.11	0.14	0.08
Cadmium	mg/L	3	<0.0006	<0.0006	<0.0006
Chloride	mg/L	26	185	285	150
Chromium	mg/L	3	0.002	0.003	0.002
Conductivity	µS/cm	44	1085	1430	876
Copper	mg/L	3	0.006	0.009	0.004
Lead	mg/L	3	0.003	0.005	<0.001
Manganese	mg/L	3	0.12	0.25	0.05
Mercury	mg/L	3	<0.0001	<0.0001	<0.0001
Nickel	mg/L	3	0.004	0.005	0.003
Nitrogen (Ammonia)	mg/L	44	11.24	27.90	3.32
Nitrogen (Oxidised)	mg/L	44	11.4	14.8	3.6
Nitrogen (Total)	mg/L	44	25.3	43.5	16.1
pH	pH units	44	7.3	7.6	6.5
Phosphorus (Total)	mg/L	44	4.1	6.8	2.0
Salinity	ppt	24	0.7	0.9	0.6
Selenium	mg/L	3	<0.01	<0.01	<0.01
Silver	mg/L	3	<0.001	<0.001	<0.001
Sodium Absorption Ratio	%	18	4.2	6.3	3.6
Suspended Solids	mg/L	44	5	23	<2
Total Hardness	mg/L as CaCO3	18	157	219	110
Vanadium	mg/L	3	0.001	0.001	<0.001
Zinc	mg/L	3	0.01	0.02	0.01

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Landsborough

Parameter	Units	No. of samples	Average result	Max result	Min result
Alkalinity (Bicarbonate)	mg/L as CaCO3	21	129	160	88
Aluminium (Total)	mg/L	21	0.03	0.08	0.02
Arsenic	mg/L	1	<0.001	<0.001	<0.001
Boron	mg/L	1	0.09	0.09	0.09
Cadmium	mg/L	1	<0.0006	<0.0006	<0.0006
Chloride	mg/L	21	93	125	66
Chromium	mg/L	1	<0.001	<0.001	<0.001
Conductivity	µS/cm	34	675	876	440
Copper	mg/L	1	<0.001	<0.001	<0.001
Lead	mg/L	1	0.001	0.001	0.001
Manganese	mg/L	1	0.07	0.07	0.07
Mercury	mg/L	1	<0.0001	<0.0001	<0.0001
Nickel	mg/L	1	0.002	0.002	0.002
Nitrogen (Ammonia)	mg/L	34	2.3	15.6	0.6
Nitrogen (Oxidised)	mg/L	34	0.23	0.63	<0.05
Nitrogen (Total)	mg/L	34	3.6	18.1	1.7
pH	pH units	34	7.6	7.8	7.1
Phosphorus (Total)	mg/L	34	2.5	8.2	0.2
Salinity	ppt	21	0.4	0.5	0.3
Selenium	mg/L	1	<0.01	<0.01	<0.01
Silver	mg/L	1	<0.001	<0.001	<0.001
Sodium Absorption Ratio	%	21	3.0	3.7	2.2
Suspended Solids	mg/L	34	2.2	7	<2
Total Hardness	mg/L as CaCO3	21	119	138	77
Vanadium	mg/L	1	<0.001	<0.001	<0.001
Zinc	mg/L	1	0.01	0.01	0.01

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Maleny

Parameter	Units	No. of samples	Average result	Max result	Min result
Alkalinity (Bicarbonate)	mg/L as CaCO3	32	65	96	33
Aluminium (Total)	mg/L	32	0.14	0.38	0.02
Arsenic	mg/L	4	<0.001	<0.001	<0.001
Boron	mg/L	4	0.08	0.13	0.05
Cadmium	mg/L	4	<0.0006	<0.0006	<0.0006
Chloride	mg/L	32	58	87	28
Chromium	mg/L	4	<0.001	0.001	<0.001
Conductivity	µS/cm	53	532	681	275
Copper	mg/L	4	0.002	0.002	0.001
Lead	mg/L	4	0.001	0.001	<0.001
Manganese	mg/L	4	0.03	0.04	0.02
Mercury	mg/L	4	<0.0001	<0.0001	<0.0001
Nickel	mg/L	4	0.001	0.001	<0.001
Nitrogen (Ammonia)	mg/L	53	0.09	0.33	<0.05
Nitrogen (Oxidised)	mg/L	53	2.3	4.6	<0.05
Nitrogen (Total)	mg/L	53	2.9	5.6	1.3
pH	pH units	53	7.3	7.7	6.7
Phosphorus (Total)	mg/L	53	0.23	1.90	<0.05
Salinity	ppt	32	0.3	0.5	0.2
Selenium	mg/L	4	<0.01	<0.01	<0.01
Silver	mg/L	4	<0.001	<0.001	<0.001
Sodium Absorption Ratio	%	32	3.5	4.9	1.9
Suspended Solids	mg/L	53	<2	6	<2
Total Hardness	mg/L as CaCO3	32	68	89	51
Vanadium	mg/L	4	<0.001	<0.001	<0.001
Zinc	mg/L	4	0.03	0.05	0.01

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Maroochydore

Parameter	Units	No. of samples	Average result	Max result	Min result
Alkalinity (Bicarbonate)	mg/L as CaCO3	26	146	183	96
Aluminium (Total)	mg/L	2	0.02	0.02	0.02
Arsenic	mg/L	2	0.001	0.001	<0.001
Boron	mg/L	2	0.16	0.18	0.14
Cadmium	mg/L	2	<0.0006	<0.0006	<0.0006
Chloride	mg/L	24	559	746	360
Chromium	mg/L	2	<0.001	<0.001	<0.001
Conductivity	µS/cm	44	2273	2900	1660
Copper	mg/L	2	0.001	0.001	<0.001
Lead	mg/L	2	0.009	0.009	0.008
Manganese	mg/L	2	0.11	0.11	0.11
Mercury	mg/L	2	<0.0001	<0.0001	<0.0001
Nickel	mg/L	2	0.004	0.004	0.004
Nitrogen (Ammonia)	mg/L	44	0.34	2.91	<0.05
Nitrogen (Oxidised)	mg/L	44	1.0	4.6	<0.05
Nitrogen (Total)	mg/L	44	2.3	5.7	0.8
pH	pH units	45	7.2	7.6	6.8
Phosphorus (Total)	mg/L	44	0.3	1.9	0.1
Salinity	ppt	24	1.5	1.9	1.1
Selenium	mg/L	2	<0.01	<0.01	<0.01
Silver	mg/L	2	<0.001	<0.001	<0.001
Sodium Absorption Ratio	%	26	8.0	9.2	6.8
Suspended Solids	mg/L	44	4	16	<2
Total Hardness	mg/L as CaCO3	26	321	394	224
Vanadium	mg/L	2	0.001	0.001	<0.001
Zinc	mg/L	2	0.02	0.02	0.01

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Murrumba Downs

Parameter	Units	No. of samples	Average result	Max result	Min result
Alkalinity (Bicarbonate)	mg/L as CaCO3	33	184	235	112
Aluminium (Total)	mg/L	31	0.02	0.04	0.02
Arsenic	mg/L	3	<0.001	<0.001	<0.001
Boron	mg/L	3	0.11	0.15	0.08
Cadmium	mg/L	3	<0.0006	<0.0006	<0.0006
Chloride	mg/L	33	98	128	83
Chromium	mg/L	3	0.000	0.001	<0.001
Conductivity	µS/cm	51	787	981	526
Copper	mg/L	3	0.000	0.001	<0.001
Lead	mg/L	3	0.002	0.003	<0.001
Manganese	mg/L	3	0.05	0.06	0.04
Mercury	mg/L	3	<0.0001	<0.0001	<0.0001
Nickel	mg/L	3	0.002	0.002	0.001
Nitrogen (Ammonia)	mg/L	51	0.43	4.69	<0.05
Nitrogen (Oxidised)	mg/L	51	0.1	0.4	<0.05
Nitrogen (Total)	mg/L	51	1.5	8.1	0.7
pH	pH units	51	7.3	7.4	7
Phosphorus (Total)	mg/L	51	0.6	2.1	0.1
Salinity	ppt	33	0.5	0.6	0.4
Selenium	mg/L	3	<0.01	<0.01	<0.01
Silver	mg/L	2	<0.001	<0.001	<0.001
Sodium Absorption Ratio	%	31	2.9	3.4	2.6
Suspended Solids	mg/L	51	1	19	<2
Total Hardness	mg/L as CaCO3	31	176	236	133
Vanadium	mg/L	3	<0.001	<0.001	<0.001
Zinc	mg/L	3	0.02	0.02	0.01

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Nambour

Parameter	Units	Units	No. of samples	Average result	Max result
Alkalinity (Bicarbonate)	mg/L as CaCO3	20	251	339	98.5
Aluminium (Total)	mg/L	2	0.075	0.08	0.07
Arsenic	mg/L	2	0.002	0.002	0.001
Boron	mg/L	2	0.13	0.16	0.09
Cadmium	mg/L	2	<0.0006	<0.0006	<0.0006
Chloride	mg/L	17	89	105	51
Chromium	µS/cm	2	0.001	0.001	0.001
Conductivity	mg/L	34	967	1140	425
Copper	mg/L	2	0.002	0.002	0.001
Lead	mg/L	2	0.002	0.002	0.001
Manganese	mg/L	2	0.04	0.04	0.03
Mercury	mg/L	2	<0.0001	<0.0001	<0.0001
Nickel	mg/L	2	0.006	0.006	0.005
Nitrogen (Ammonia)	mg/L	34	0.18	1.57	<0.05
Nitrogen (Oxidised)	mg/L	34	3.8	9.1	1.2
Nitrogen (Total)	mg/L	34	5.0	10.6	1.5
pH	pH units	34	7.4	7.7	6.9
Phosphorus (Total)	mg/L	34	0.6	1.8	0.1
Salinity	ppt	17	0.6	0.7	0.3
Selenium	mg/L	2	<0.01	<0.01	<0.01
Silver	mg/L	2	<0.001	<0.001	<0.001
Sodium Absorption Ratio	%	19	3.2	3.6	2.2
Suspended Solids	mg/L	34	1	7	<2
Total Hardness	mg/L as CaCO3	19	211	276	93
Vanadium	mg/L	2	0.001	0.001	<0.001
Zinc	mg/L	2	0.05	0.05	0.04

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Noosa

Parameter	Units	No. of samples	Average result	Max result	Min result
Alkalinity (Bicarbonate)	mg/L as CaCO3	25	201	291	119
Aluminium (Total)	mg/L	25	0.02	0.04	<0.01
Arsenic	mg/L	3	0.002	0.002	0.001
Boron	mg/L	3	0.12	0.13	0.12
Cadmium	mg/L	3	<0.0006	<0.0006	<0.0006
Chloride	mg/L	25	356	505	291
Chromium	mg/L	3	0.003	0.003	0.003
Conductivity	µS/cm	44	1692	2200	1400
Copper	mg/L	3	0.07	0.07	0.07
Lead	mg/L	3	0.004	0.006	<0.001
Manganese	mg/L	3	0.04	0.08	0.006
Mercury	mg/L	4	<0.0001	<0.0001	<0.0001
Nickel	mg/L	3	0.004	0.006	0.002
Nitrogen (Ammonia)	mg/L	44	0.09	1.76	<0.05
Nitrogen (Oxidised)	mg/L	44	3.75	6.77	1.71
Nitrogen (Total)	mg/L	44	5.24	8.24	2.74
pH	pH units	44	7.2	7.4	7.0
Phosphorus (Total)	mg/L	44	0.4	2.2	<0.05
Salinity	ppt	25	1.1	1.5	0.9
Selenium	mg/L	3	<0.01	<0.01	<0.01
Silver	mg/L	3	<0.001	<0.001	<0.001
Sodium Absorption Ratio	%	25	6.0	7.5	5.1
Suspended Solids	mg/L	44	<2	4	<2
Total Hardness	mg/L as CaCO3	25	280	345	208
Vanadium	mg/L	3	0.001	0.001	0.001
Zinc	mg/L	3	0.02	0.02	0.01

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Redcliffe

Parameter	Units	No. of samples	Average result	Max result	Min result
Alkalinity (Bicarbonate)	mg/L as CaCO3	49	125	171	87
Aluminium (Total)	mg/L	47	0.07	1.67	<0.01
Arsenic	mg/L	3	<0.001	<0.001	<0.001
Boron	mg/L	3	0.13	0.15	0.10
Cadmium	mg/L	3	<0.0006	<0.0006	<0.0006
Chloride	mg/L	47	225	364	100
Chromium	mg/L	3	0.001	0.002	<0.001
Conductivity	µS/cm	47	1187	1720	772
Copper	mg/L	3	0.007	0.02	0.001
Lead	mg/L	3	0.004	0.006	<0.001
Manganese	mg/L	3	0.06	0.08	0.05
Mercury	mg/L	3	<0.0001	<0.0001	<0.0001
Nickel	mg/L	3	0.002	0.004	0.001
Nitrogen (Ammonia)	mg/L	47	1.24	14.30	<0.05
Nitrogen (Oxidised)	mg/L	47	3.17	9.12	0.40
Nitrogen (Total)	mg/L	47	5.64	23	1.84
pH	pH units	47	7.1	7.3	6.8
Phosphorus (Total)	mg/L	47	0.38	8.33	<0.05
Salinity	ppt	31	0.8	1.2	0.5
Selenium	mg/L	3	<0.01	<0.01	<0.01
Silver	mg/L	3	<0.001	<0.001	<0.001
Sodium Absorption Ratio	%	31	4.8	6.9	3.6
Suspended Solids	mg/L	47	7	255	<2
Total Hardness	mg/L as CaCO3	31	192	299	132
Vanadium	mg/L	3	<0.001	<0.001	<0.001
Zinc	mg/L	3	0.013	0.02	0.009

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South Caboolture

Parameter	Units	No. of samples	Average result	Max result	Min result
Alkalinity (Bicarbonate)	mg/L as CaCO3	28	72	145	39
Aluminium (Total)	mg/L	28	0.07	0.14	0.05
Arsenic	mg/L	3	<0.001	0.001	<0.001
Boron	mg/L	3	0.09	0.1	0.07
Cadmium	mg/L	3	<0.0006	<0.0006	<0.0006
Chloride	mg/L	28	95	110	72
Chromium	mg/L	3	<0.001	0.001	<0.001
Conductivity	µS/cm	42	649	794	493
Copper	mg/L	3	0.002	0.002	0.001
Lead	mg/L	3	0.001	0.001	0.001
Manganese	mg/L	3	0.05	0.07	0.04
Mercury	mg/L	3	<0.0001	<0.0001	<0.0001
Nickel	mg/L	3	0.001	0.001	<0.001
Nitrogen (Ammonia)	mg/L	42	0.45	6.07	<0.05
Nitrogen (Oxidised)	mg/L	42	2.38	5.56	0.55
Nitrogen (Total)	mg/L	42	4.51	11.2	2.22
pH	pH units	42	6.9	7.4	6.4
Phosphorus (Total)	mg/L	42	0.6	4.7	0.2
Salinity	ppt	28	0.4	0.5	0.4
Selenium	mg/L	3	<0.01	<0.01	<0.01
Silver	mg/L	3	<0.001	<0.001	<0.001
Sodium Absorption Ratio	%	28	4.0	5.3	3.2
Suspended Solids	mg/L	42	3	14	<2
Total Hardness	mg/L as CaCO3	28	82	101	52
Vanadium	mg/L	3	<0.001	0.001	<0.001
Zinc	mg/L	3	0.03	0.03	0.02

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Woodford

Parameter	Units	No. of samples	Average result	Max result	Min result
Alkalinity (Bicarbonate)	mg/L as CaCO3	35	211	316	100
Aluminium (Total)	mg/L	35	0.06	0.13	0.03
Arsenic	mg/L	4	<0.001	<0.001	<0.001
Boron	mg/L	4	0.07	0.09	0.05
Cadmium	mg/L	4	<0.0006	<0.0006	<0.0006
Chloride	mg/L	35	73	103	45
Chromium	mg/L	4	0.000	0.001	<0.001
Conductivity	µS/cm	54	775	1070	439
Copper	mg/L	4	<0.001	<0.001	<0.001
Lead	mg/L	4	0.001	0.001	<0.001
Manganese	mg/L	4	0.031	0.050	0.003
Mercury	mg/L	4	<0.0001	<0.0001	<0.0001
Nickel	mg/L	4	0.004	0.005	0.002
Nitrogen (Ammonia)	mg/L	53	0.58	8.28	<0.05
Nitrogen (Oxidised)	mg/L	53	1.47	6.55	0.06
Nitrogen (Total)	mg/L	54	2.81	10.2	0.74
pH	pH units	54	7.8	8.2	6.8
Phosphorus (Total)	mg/L	54	0.4	1.7	0.1
Salinity	ppt	35	0.5	0.7	0.3
Selenium	mg/L	4	<0.01	<0.01	<0.01
Silver	mg/L	5	<0.001	<0.001	<0.001
Sodium Absorption Ratio	%	35	2.0	2.9	1.7
Suspended Solids	mg/L	54	1	5	<2
Total Hardness	mg/L as CaCO3	35	221	322	118
Vanadium	mg/L	4	0.000	0.001	<0.001
Zinc	mg/L	4	0.005	0.010	<0.005