

### Certificate of Analysis

Laboratory Reference:230123-032

Attention:	Nz Queenstown Lab Results	Final Report:	494814-0
Client:	VEOLIA WATER	Report Issue Date:	03-Feb-2023
Address:	74 Glenda Drive, Frankton, Queenstown, 9300	Received Date:	23-Jan-2023
		Sampled By:	DH
Client Reference:		Laboratory Activity Dates:	23-Jan-2023 - 28-Jan-2023
Purchase Order:	7300228298	Quote Reference :	48

#### Sample Details

	WATERS	WATERS
Lab Sample ID:	230123-032-1	230123-032-2
Client Sample ID:	S478	ART001AP
Sample Date/Time	23/01/2023 08:30	23/01/2023 08:50
Description:	Arthurs Point Source	ART001AP Arthurs Point Rd

#### Micro Summary View

Escherichia coli	MPN/100mL	<1.0	<1.0
Total Coliforms	MPN/100mL	<1.0	<1.0

#### Chemistry Detailed

Anions			
Chloride	mg/L	1.08 ± 0.054	-
Sulphate	mg/L	16.5 ± 1.2	-

#### Sample Parameters and Field Testing

Residual Free Chlorine (as Cl2)	mg/L	-	0.55 ± 0.028
Sampled by Watercare Laboratory Services		Yes	Yes

#### General Testing

Total Alkalinity (as CaCO3)	mg/L	100	-
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#### Metals

##### Total Metals by ICP-MS—Trace (Default Digest)

Antimony (Total)	mg/L	<0.001	-
Arsenic (Total)	mg/L	0.00012 ± 0.000025	-
Barium (Total)	mg/L	0.0026 ± 0.00042	-
Cadmium (Total)	mg/L	<0.00005	-
Calcium (Total)	mg/L	36 ± 5.7	-
Chromium (Total)	mg/L	<0.0005	-
Copper (Total)	mg/L	<0.0002	-
Lead (Total)	mg/L	0.00016 ± 0.000027	-
Magnesium (Total)	mg/L	2.8 ± 0.6	-
Mercury (Total)	mg/L	<0.00005	-
Nickel (Total)	mg/L	0.0014 ± 0.00024	-
Sodium (Total)	mg/L	2.8 ± 0.58	-

Results marked with \* are not accredited to International Accreditation New Zealand. A dash indicates no test performed.

Where samples have been supplied by the client, they are tested as received.

The results of analysis contained in this report relate only to the sample(s) tested. Where sample collection was performed by the laboratory, the results of analysis contained in this report relate only to the sample(s) collected.

#### Reference Methods

The sample(s) referred to in this report were analysed by the following method(s)

Analyte	Method Reference	MDL	Samples	Location
Micro Summary View				
Escherichia coli	APHA (online edition) 9223 B	1 MPN/100mL	1	Queenstown
Escherichia coli	APHA (online edition) 9223 B	1 MPN/100mL	2	Queenstown
Total Coliforms	APHA (online edition) 9223 B	1 MPN/100mL	1	Queenstown



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Micro Summary View				
Total Coliforms	APHA (online edition) 9223 B	1 MPN/100mL	2	Queenstown
Chemistry Detailed				
Anions				
Chloride	APHA (online edition) 4110 B	0.02 mg/L	1	Auckland
Sulphate	APHA (online edition) 4110 B	0.02 mg/L	1	Auckland
Sample Parameters and Field Testing				
Residual Free Chlorine (as Cl <sub>2</sub> )	APHA (online edition) 4500-Cl G	0.02 mg/L	2	At site
Sampled by Watercare Laboratory Services	AS/NZS 5667 Part 4 (Lakes), Part 5 (Drinking Water), Part 6 (Rivers/Streams), Part 7 (Boilers), Part 9 (Marine), Part 10 (Waste Waters), Part 11 (Groundwaters) and In-House Methods		All	At site
General Testing				
Total Alkalinity (as CaCO <sub>3</sub> ) by Titration	APHA (online edition) 2320 B	1 mg/L	1	Auckland
Metals				
Total Metals by ICP-MS—Trace (Default Digest)				
Antimony (Total)	APHA (online edition) 3125 B by ICPMS	0.001 mg/L	1	Auckland
Arsenic (Total)	APHA (online edition) 3125 B by ICPMS	0.0001 mg/L	1	Auckland
Barium (Total)	APHA (online edition) 3125 B by ICPMS	0.0002 mg/L	1	Auckland
Cadmium (Total)	APHA (online edition) 3125 B by ICPMS	0.00005 mg/L	1	Auckland
Calcium (Total)	APHA (online edition) 3125 B by ICPMS	0.01 mg/L	1	Auckland
Chromium (Total)	APHA (online edition) 3125 B by ICPMS	0.0005 mg/L	1	Auckland
Copper (Total)	APHA (online edition) 3125 B by ICPMS	0.0002 mg/L	1	Auckland
Lead (Total)	APHA (online edition) 3125 B by ICPMS	0.0001 mg/L	1	Auckland
Magnesium (Total)	APHA (online edition) 3125 B by ICPMS	0.001 mg/L	1	Auckland
Mercury (Total)	APHA (online edition) 3125 B by ICPMS	0.00005 mg/L	1	Auckland
Nickel (Total)	APHA (online edition) 3125 B by ICPMS	0.0001 mg/L	1	Auckland
Sodium (Total)	APHA (online edition) 3125 B by ICPMS	0.1 mg/L	1	Auckland
Preparations				
Digest for Total Metals in Liquids	APHA 3030E Modified ( 4:1 Nitric:Hydrochloric Acid: 95°C 2 hours)		1	Auckland
Membrane Filtration (0.45 µm)	APHA (online edition) 4500-P B (preliminary filtration)		1	Auckland
<i>The method detection limit (MDL) listed is the limit attainable in a relatively clean matrix. If dilutions are required for analysis the detection limit may be higher. For more information please contact the Compliance and Projects Manager.</i>				

Samples, with suitable preservation and stability of analytes, will be held by the laboratory for a period of two weeks after results have been reported, unless otherwise advised by the submitter.

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Anel Du Preez

KTP Signatory



David Hoekendijk

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