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Certificate of Analysis

Client:	The Kopu Water Company	**Lab No:**	2158957 SPv1
Contact:	Justin Mahy	**Date Received:**	11-Apr-2019
	C/- The Kopu Water Company	**Date Reported:**	18-Apr-2019
	1117 State Street	**Quote No:**	98381
	Santa Barbara	**Order No:**	
	California	**Client Reference:**	
	93101	**Submitted By:**	Justin Mahy
	UNITED STATES OF AMERICA		

Sample Type: Aqueous

Sample Name:		Kopu - Pure Sparkling Water 10-Apr-2019				
Lab Number:		2158957.1				
Individual Tests						
Total Dissolved Solids (TDS)	g/m³	126	-	-	-	-
Total Aluminium	g/m³	0.037	-	-	-	-
Total Antimony	g/m³	0.00031	-	-	-	-
Total Barium	g/m³	0.0114	-	-	-	-
Total Beryllium	g/m³	< 0.00011	-	-	-	-
Total Calcium	g/m³	2.8	-	-	-	-
Total Iron	g/m³	< 0.021	-	-	-	-
Total Magnesium	g/m³	1.48	-	-	-	-
Total Manganese	g/m³	0.00065	-	-	-	-
Total Mercury	g/m³	< 0.00008	-	-	-	-
Total Potassium	g/m³	2.6	-	-	-	-
Total Selenium	g/m³	< 0.0011	-	-	-	-
Total Silver	g/m³	0.0039	-	-	-	-
Total Sodium	g/m³	12.0	-	-	-	-
Total Thallium	g/m³	< 0.000053	-	-	-	-
Total Cyanide	g/m³	< 0.002	-	-	-	-
Chloride*	g/m³	6.8	-	-	-	-
Fluoride	g/m³	0.24	-	-	-	-
Nitrite-N*	g/m³	< 0.002	-	-	-	-
Nitrate-N	g/m³	0.003	-	-	-	-
Nitrate-N + Nitrite-N	g/m³	0.003	-	-	-	-
Reactive Silica*	g/m³ as SiO_2	97	-	-	-	-
Sulphate*	g/m³	< 0.5	-	-	-	-
Hazen Colour Profile						
Apparent Hazen Colour	Hazen units	< 10	-	-	-	-
Heavy metals, totals, trace As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Arsenic	g/m³	< 0.0011	-	-	-	-
Total Cadmium	g/m³	< 0.000053	-	-	-	-
Total Chromium	g/m³	< 0.00053	-	-	-	-
Total Copper	g/m³	< 0.00053	-	-	-	-
Total Lead	g/m³	< 0.00011	-	-	-	-
Total Nickel	g/m³	< 0.00053	-	-	-	-
Total Zinc	g/m³	< 0.0011	-	-	-	-

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.
Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Aqueous

Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Filtration, Unpreserved	Sample filtration through 0.45µm membrane filter.	-	1
Total Digestion	Nitric acid digestion. APHA 3030 E (modified) 23rd ed. 2017.	-	1
Total acid digest for Silver analysis	Boiling nitric / hydrochloric acid digestion (5:1 ratio). APHA 3030 F (modified) 23rd ed. 2017.	-	1
Total Dissolved Solids (TDS)	Filtration through GF/C (1.2 µm), gravimetric. APHA 2540 C (modified; drying temperature of 103 - 105°C used rather than 180 ± 2°C) 23rd ed. 2017.	10 g/m³	1
Total Aluminium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017 / US EPA 200.8.	0.0032 g/m³	1
Total Antimony	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017 / US EPA 200.8.	0.00021 g/m³	1
Total Barium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017 / US EPA 200.8.	0.0053 g/m³	1
Total Beryllium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017 / US EPA 200.8.	0.00011 g/m³	1
Total Calcium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.053 g/m³	1
Total Iron	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.021 g/m³	1
Total Magnesium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.021 g/m³	1
Total Manganese	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017 / US EPA 200.8.	0.00053 g/m³	1
Total Mercury	Bromine Oxidation followed by Atomic Fluorescence. US EPA Method 245.7, Feb 2005.	0.00008 g/m³	1
Total Potassium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.053 g/m³	1
Total Selenium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017 / US EPA 200.8.	0.0011 g/m³	1
Total Silver	Boiling nitric / hydrochloric acid digestion (5:1 ratio), ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.00011 g/m³	1
Total Sodium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.021 g/m³	1
Total Thallium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017 / US EPA 200.8.	0.000053 g/m³	1
Total Cyanide Trace	On-line distillation, colorimetry, trace level. ISO 14403:2012(E) (modified).	0.002 g/m³	1
Chloride*	Filtered sample. Ion Chromatography. APHA 4110 B (modified) 23rd ed. 2017.	0.5 g/m³	1
Fluoride	Direct measurement, ion selective electrode. APHA 4500-F^- C 23rd ed. 2017.	0.05 g/m³	1
Nitrite-N*	Automated Azo dye colorimetry, Flow injection analyser. APHA 4500-NO_3^- I (modified) 23rd ed. 2017.	0.002 g/m³	1
Nitrate-N	Calculation: (Nitrate-N + Nitrite-N) - NO2N. In-House.	0.0010 g/m³	1
Nitrate-N + Nitrite-N	Total oxidised nitrogen. Automated cadmium reduction, flow injection analyser. APHA 4500-NO_3^- I (modified) 23rd ed. 2017.	0.002 g/m³	1
Reactive Silica*	Filtered sample. Heteropoly blue colorimetry. Discrete analyser. APHA 4500-SiO_2 F (modified from flow injection analysis) 23rd ed. 2017.	0.10 g/m³ as SiO_2	1
Sulphate*	Filtered sample. Ion Chromatography. APHA 4110 B (modified) 23rd ed. 2017.	0.5 g/m³	1
Heavy metals, totals, trace As,Cd,Cr,Cu,Ni,Pb,Zn	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 22nd ed. 2012 / US EPA 200.8	0.000053 - 0.0011 g/m³	1
Hazen Colour Profile			
Apparent Hazen Colour	Determined on original sample without filtration or centrifugation, determination by Lovibond colorimeter. Note: Sample pH was verified at the time of analysis. APHA 2120 B (modified) 23rd ed. 2017.	10 Hazen units	1

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

Carole Rodgers-Carroll BA, NZCS
Client Services Manager - Environmental