CENTRAL ENVIRONMENTAL LABORATORIES

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Analytical Report

COA No: 26/04253-1

Palmerston North City Council
32 The Square
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Palmerston North 4442

Compliance of samples tested are assessed according to 'Water Services (Drinking Water Standards for New Zealand) Regulations 2022'

Sample date: 14/07/2026 **Sample type:** Source

Sample	Test	Result	Units	Comments	Uncertainty
26/04253-01	**Date received:** 14/07/2026		**Time received:** 14:58	**Sampled by:** Josh Green	
Sample time: 12:36	**Order no.:** PO 4064				
Bunnythorpe Bore	Alkalinity - Total	120	g/m³ CaCO3		
G00914	Arsenic - Total	< 0.003	g/m³	Complies with MAV of 0.01	
	Barium - Total	0.02	g/m³	Complies with MAV of 1.5	
	Calcium - Total	37.4	g/m³	Below GV of 100	
	Magnesium Hardness Calculation	29	g/m³ CaCO3	Below GV of 100	
	Total Hardness Calculation	120	g/m³ CaCO3	Within the GV range	
	Calcium Hardness Calculation	93	g/m³ CaCO3	Below GV of 100	
	Cadmium - Total	< 0.00006	g/m³	Complies with MAV of 0.004	
	Chloride	21.7	g/m³	Below GV of 250	
	Chromium - Total	< 0.001	g/m³	Complies with MAV of 0.05	
	Copper - Total	< 0.001	g/m³	Complies with MAV of 2	
	Mercury - Total **	< 0.0021	g/m³	Complies with MAV of 0.007	
	Magnesium - Total	7.0	g/m³	Below GV of 100	
	Sodium - Total	14.0	g/m³	Below GV of 200	
	Nickel - Total	< 0.008	g/m³	Complies with MAV of 0.08	
	Lead - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Sulfate	12.3	g/m³ SO4	Below GV of 250	
	Antimony - Total	< 0.004	g/m³	Complies with MAV of 0.02	
26/04253-02	**Date received:** 14/07/2026		**Time received:** 14:58	**Sampled by:** Josh Green	
Sample time: 10:00	**Order no.:** PO 4064				
Longburn Bore	Alkalinity - Total	130	g/m³ CaCO3		
G00259	Arsenic - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Barium - Total	0.01	g/m³	Complies with MAV of 1.5	
	Calcium - Total	37.1	g/m³	Below GV of 100	
	Magnesium Hardness Calculation	33	g/m³ CaCO3	Below GV of 100	
	Total Hardness Calculation	130	g/m³ CaCO3	Within the GV range	
	Calcium Hardness Calculation	93	g/m³ CaCO3	Below GV of 100	
	Cadmium - Total	< 0.00006	g/m³	Complies with MAV of 0.004	
	Chloride	18.0	g/m³	Below GV of 250	
	Chromium - Total	< 0.001	g/m³	Complies with MAV of 0.05	
	Copper - Total	< 0.001	g/m³	Complies with MAV of 2	
	Mercury - Total **	< 0.0021	g/m³	Complies with MAV of 0.007	
	Magnesium - Total	7.9	g/m³	Below GV of 100	

Sample	Test	Result	Units	Comments	Uncertainty
	Sodium - Total	13.7	g/m³	Below GV of 200	
	Nickel - Total	< 0.008	g/m³	Complies with MAV of 0.08	
	Lead - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Sulfate	6.91	g/m³ SO4	Below GV of 250	
	Antimony - Total	< 0.004	g/m³	Complies with MAV of 0.02	

26/04253-03 **Date received:** 14/07/2026 **Time received:** 14:58 **Sampled by:** Josh Green

Sample time: 13:45 **Order no.:** PO 4075

Ashhurst Bore	Alkalinity - Total	110	g/m³ CaCO3	
G00110	Arsenic - Total	< 0.001	g/m³	Complies with MAV of 0.01
	Barium - Total	< 0.01	g/m³	Complies with MAV of 1.5
	Calcium - Total	30.1	g/m³	Below GV of 100
	Magnesium Hardness Calculation	23	g/m³ CaCO3	Below GV of 100
	Total Hardness Calculation	99	g/m³ CaCO3	Below GV of 100
	Calcium Hardness Calculation	75	g/m³ CaCO3	Below GV of 100
	Cadmium - Total	< 0.00006	g/m³	Complies with MAV of 0.004
	Chloride	7.58	g/m³	Below GV of 250
	Chromium - Total	< 0.001	g/m³	Complies with MAV of 0.05
	Copper - Total	0.002	g/m³	Complies with MAV of 2
	Mercury - Total **	< 0.0021	g/m³	Complies with MAV of 0.007
	Magnesium - Total	5.7	g/m³	Below GV of 100
	Sodium - Total	8.2	g/m³	Below GV of 200
	Nickel - Total	< 0.008	g/m³	Complies with MAV of 0.08
	Lead - Total	< 0.001	g/m³	Complies with MAV of 0.01
	Sulfate	12.1	g/m³ SO4	Below GV of 250
	Antimony - Total	< 0.004	g/m³	Complies with MAV of 0.02

26/04253-04 **Date received:** 14/07/2026 **Time received:** 14:58 **Sampled by:** Josh Green

Sample time: 11:29 **Order no.:** PO 4064

Keith Street Bore 1	Alkalinity - Total	100	g/m³ CaCO3	
G01208	Arsenic - Total	< 0.001	g/m³	Complies with MAV of 0.01
	Barium - Total	0.01	g/m³	Complies with MAV of 1.5
	Calcium - Total	28.3	g/m³	Below GV of 100
	Magnesium Hardness Calculation	22	g/m³ CaCO3	Below GV of 100
	Total Hardness Calculation	92	g/m³ CaCO3	Below GV of 100
	Calcium Hardness Calculation	71	g/m³ CaCO3	Below GV of 100
	Cadmium - Total	< 0.00006	g/m³	Complies with MAV of 0.004
	Chloride	8.20	g/m³	Below GV of 250
	Chromium - Total	< 0.001	g/m³	Complies with MAV of 0.05
	Copper - Total	< 0.001	g/m³	Complies with MAV of 2
	Mercury - Total **	< 0.0021	g/m³	Complies with MAV of 0.007
	Magnesium - Total	5.3	g/m³	Below GV of 100
	Sodium - Total	10.1	g/m³	Below GV of 200
	Nickel - Total	< 0.008	g/m³	Complies with MAV of 0.08
	Lead - Total	< 0.001	g/m³	Complies with MAV of 0.01
	Sulfate	11.0	g/m³ SO4	Below GV of 250
	Antimony - Total	< 0.004	g/m³	Complies with MAV of 0.02

26/04253-05 **Date received:** 14/07/2026 **Time received:** 14:58 **Sampled by:** Josh Green

Sample time: 10:55 **Order no.:** PO 4064

Sample	Test	Result	Units	Comments	Uncertainty
Papaioea Park Bore 1	Alkalinity - Total	120	g/m³ CaCO3		
G00104	Arsenic - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Barium - Total	0.01	g/m³	Complies with MAV of 1.5	
	Calcium - Total	34.7	g/m³	Below GV of 100	
	Magnesium Hardness Calculation	26	g/m³ CaCO3	Below GV of 100	
	Total Hardness Calculation	110	g/m³ CaCO3	Within the GV range	
	Calcium Hardness Calculation	87	g/m³ CaCO3	Below GV of 100	
	Cadmium - Total	< 0.00006	g/m³	Complies with MAV of 0.004	
	Chloride	21.5	g/m³	Below GV of 250	
	Chromium - Total	< 0.001	g/m³	Complies with MAV of 0.05	
	Copper - Total	< 0.001	g/m³	Complies with MAV of 2	
	Mercury - Total **	< 0.0021	g/m³	Complies with MAV of 0.007	
	Magnesium - Total	6.3	g/m³	Below GV of 100	
	Sodium - Total	14.1	g/m³	Below GV of 200	
	Nickel - Total	< 0.008	g/m³	Complies with MAV of 0.08	
	Lead - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Sulfate	13.1	g/m³ SO4	Below GV of 250	
	Antimony - Total	< 0.004	g/m³	Complies with MAV of 0.02	

26/04253-06 **Date received:** 14/07/2026 **Time received:** 14:58 **Sampled by:** Josh Green

Sample time: 10:37 **Order no.:** PO 4064

Papaioea Park Bore 2	Alkalinity - Total	89	g/m³ CaCO3		
G01412	Arsenic - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Barium - Total	0.01	g/m³	Complies with MAV of 1.5	
	Calcium - Total	26.1	g/m³	Below GV of 100	
	Magnesium Hardness Calculation	19	g/m³ CaCO3	Below GV of 100	
	Total Hardness Calculation	84	g/m³ CaCO3	Below GV of 100	
	Calcium Hardness Calculation	65	g/m³ CaCO3	Below GV of 100	
	Cadmium - Total	< 0.00006	g/m³	Complies with MAV of 0.004	
	Chloride	6.94	g/m³	Below GV of 250	
	Chromium - Total	< 0.001	g/m³	Complies with MAV of 0.05	
	Copper - Total	< 0.001	g/m³	Complies with MAV of 2	
	Mercury - Total **	< 0.0021	g/m³	Complies with MAV of 0.007	
	Magnesium - Total	4.6	g/m³	Below GV of 100	
	Sodium - Total	9.6	g/m³	Below GV of 200	
	Nickel - Total	< 0.008	g/m³	Complies with MAV of 0.08	
	Lead - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Sulfate	11.7	g/m³ SO4	Below GV of 250	
	Antimony - Total	< 0.004	g/m³	Complies with MAV of 0.02	

26/04253-07

Sample time: 00:00 **Order no.:** PO 4064

Roberts Line Bore 1 G00106	Notes	Offline

26/04253-08

Sample time: 00:00 **Order no.:** PO 4064

Roberts Line Bore 2 G01736	Notes	Offline

26/04253-09 **Date received:** 14/07/2026 **Time received:** 14:58 **Sampled by:** Josh Green

Sample	Test	Result	Units	Comments	Uncertainty
Sample time: 14:26	**Order no.:** PO 4064				
Takaro Bore	Alkalinity - Total	100	g/m³ CaCO3		
G00105	Arsenic - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Barium - Total	0.01	g/m³	Complies with MAV of 1.5	
	Calcium - Total	27.5	g/m³	Below GV of 100	
	Magnesium Hardness Calculation	23	g/m³ CaCO3	Below GV of 100	
	Total Hardness Calculation	92	g/m³ CaCO3	Below GV of 100	
	Calcium Hardness Calculation	69	g/m³ CaCO3	Below GV of 100	
	Cadmium - Total	< 0.00006	g/m³	Complies with MAV of 0.004	
	Chloride	11.2	g/m³	Below GV of 250	
	Chromium - Total	< 0.001	g/m³	Complies with MAV of 0.05	
	Copper - Total	< 0.001	g/m³	Complies with MAV of 2	
	Mercury - Total **	< 0.0021	g/m³	Complies with MAV of 0.007	
	Magnesium - Total	5.5	g/m³	Below GV of 100	
	Sodium - Total	11.1	g/m³	Below GV of 200	
	Nickel - Total	< 0.008	g/m³	Complies with MAV of 0.08	
	Lead - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Sulfate	4.75	g/m³ SO4	Below GV of 250	
	Antimony - Total	< 0.004	g/m³	Complies with MAV of 0.02	
26/04253-10	**Date received:** 14/07/2026		**Time received:** 14:58	**Sampled by:** Josh Green	
Sample time: 12:05	**Order no.:** PO 4064				
Railway Road Bore	Alkalinity - Total	100	g/m³ CaCO3		
G03043	Arsenic - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Barium - Total	0.01	g/m³	Complies with MAV of 1.5	
	Calcium - Total	30.8	g/m³	Below GV of 100	
	Magnesium Hardness Calculation	19	g/m³ CaCO3	Below GV of 100	
	Total Hardness Calculation	96	g/m³ CaCO3	Below GV of 100	
	Calcium Hardness Calculation	77	g/m³ CaCO3	Below GV of 100	
	Cadmium - Total	< 0.00006	g/m³	Complies with MAV of 0.004	
	Chloride	7.97	g/m³	Below GV of 250	
	Chromium - Total	< 0.001	g/m³	Complies with MAV of 0.05	
	Copper - Total	< 0.001	g/m³	Complies with MAV of 2	
	Mercury - Total **	< 0.0021	g/m³	Complies with MAV of 0.007	
	Magnesium - Total	4.7	g/m³	Below GV of 100	
	Sodium - Total	10.6	g/m³	Below GV of 200	
	Nickel - Total	< 0.008	g/m³	Complies with MAV of 0.08	
	Lead - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Sulfate	14.7	g/m³ SO4	Below GV of 250	
	Antimony - Total	< 0.004	g/m³	Complies with MAV of 0.02	
26/04253-11	**Date received:** 14/07/2026		**Time received:** 14:58	**Sampled by:** Josh Green	
Sample time: 08:56	**Order no.:** PO 4061				
Turitea Dam	Alkalinity - Total	15	g/m³ CaCO3		
S00082	Arsenic - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Barium - Total	0.02	g/m³	Complies with MAV of 1.5	
	Calcium - Total	3.4	g/m³	Below GV of 100	
	Magnesium Hardness Calculation	6	g/m³ CaCO3	Below GV of 100	
	Total Hardness Calculation	15	g/m³ CaCO3	Below GV of 100	
	Calcium Hardness Calculation	9	g/m³ CaCO3	Below GV of 100	

Sample	Test	Result	Units	Comments	Uncertainty
	Cadmium - Total	< 0.00006	g/m³	Complies with MAV of 0.004	
	Chloride	14.8	g/m³	Below GV of 250	
	Chromium - Total	< 0.001	g/m³	Complies with MAV of 0.05	
	Copper - Total	< 0.001	g/m³	Complies with MAV of 2	
	Mercury - Total **	< 0.0021	g/m³	Complies with MAV of 0.007	
	Magnesium - Total	1.6	g/m³	Below GV of 100	
	Sodium - Total	9.9	g/m³	Below GV of 200	
	Nickel - Total	< 0.008	g/m³	Complies with MAV of 0.08	
	Lead - Total	< 0.001	g/m³	Complies with MAV of 0.01	
	Sulfate	4.57	g/m³ SO4	Below GV of 250	
	Antimony - Total	< 0.004	g/m³	Complies with MAV of 0.02	

< is less than > is more than, g/m³ is equivalent to mg/L and ppm, MAV - Maximum Acceptable Value. GV - Guideline Value

Observations, Comments and Calculations are not Accredited. Calculations are available on request.

Notes: ** This test has been outsourced. Subcontracted reports can be supplied on request.

Test Code	Test	Methodology	Detection Limit
Alk.001	Alkalinity - Total	APHA 24th Ed. 2320 B	1 g/m³ CaCO3
As.079	Arsenic - Total	APHA 24th Ed. 3125 B, Nitric acid digestion	0.001 g/m³
Ba.079	Barium - Total	APHA 24th Ed. 3125 B, Nitric acid digestion	0.001 g/m³
Ca.079	Calcium - Total	APHA 24th Ed. 3125 B, Nitric acid digestion	0.1 g/m³
Calc.003	Magnesium Hardness Calculation	Non-endorsed calculation: 4.118 x Magnesium	1 g/m³ CaCO3
Calc.006	Total Hardness Calculation	Non-endorsed calculation: Calcium Hardness + Magnesium Hardness	1 g/m³ CaCO3
Calc.013	Calcium Hardness Calculation	Non-endorsed calculation: 2.479 x Calcium	1 g/m³ CaCO3
Cd.079	Cadmium - Total	APHA 24th Ed. 3125 B, Nitric acid digestion	0.00006 g/m³
Cl.002CG	Chloride	APHA 24th Ed. 4110 B	0.1 g/m³
Cr.079	Chromium - Total	APHA 24th Ed. 3125 B, Nitric acid digestion	0.001 g/m³
Cu.079	Copper - Total	APHA 24th Ed. 3125 B, Nitric acid digestion	0.001 g/m³
Hg.126	Mercury - Total	APHA Online Ed. 3125 B, Nitric acid digestion	g/m³
Mg.079	Magnesium - Total	APHA 24th Ed. 3125 B, Nitric acid digestion	0.1 g/m³
Na.079	Sodium - Total	APHA 24th Ed. 3125 B, Nitric acid digestion	0.1 g/m³
Ni.079	Nickel - Total	APHA 24th Ed. 3125 B, Nitric acid digestion	0.008 g/m³
Obs.016	Notes	Non-endorsed observation.	
Pb.079	Lead - Total	APHA 24th Ed. 3125 B, Nitric acid digestion (sum of 206Pb, 207Pb and 208Pb)	0.001 g/m³
S.002CG	Sulfate	APHA 24th Ed. 4110 B	0.05 g/m³ SO4
Sb.079	Antimony - Total	APHA 24th Ed. 3125 B, Nitric acid digestion	0.004 g/m³

Test analysis was initiated between 14/07/2026 and 24/07/2026. For start dates of individual analyses please contact the laboratory.



Report released by **Johan Bosch** **Date: 24 July 2026**

Principal Analyst

Key Technical Person:

Ashleigh Renwick

Johan Bosch

Nishani Thennakoon

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Tests and sampling procedures have been performed in accordance with the conditions of our accreditation.
Where not supplied, detection limits and uncertainties are available on request.
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