

Before the Expert Panel appointed under the
Fast-track Approvals Act 2024

FTAA-2604-1207

Under the Fast-track Approvals Act 2024

In the matter of the Southern Link Inland Port

By Southern Link Property Limited

**MEMORANDUM OF COUNSEL ON BEHALF OF SOUTHERN LINK PROPERTY
LIMITED FOLLOWING PANEL BRIEFING CONFERENCE**

14 July 2026



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MAY IT PLEASE THE PANEL

1. This memorandum is filed on behalf of the applicant, Southern Link Property Limited (**SLPL**) following the Panel Briefing Conference (**Conference**). At the Conference, SLPL agreed to:
 - (a) Provide an update on SLPL's position in respect of a practical solution relating to the (lack of) availability of the exemption in Rule 9.3.6.3(q) of the Dunedin District Plan (**District Plan**); and
 - (b) Provide baseline water quality monitoring results undertaken during the recent flood event.

Noise from rail activity outside of Kiwi Rail designation

2. At the Panel Convener Conference, the relevance of noise from new rail activity outside of the Kiwi Rail designation was discussed.
3. SLPL met with Dunedin City Council (**DCC**) representatives this morning, and this issue was discussed, alongside other noise related matters. SLPL have advised they are continuing to work with DCC to develop a practical solution to the full suite of noise matters currently concerning the DCC and hope to be able to resolve this issue in full.
4. SLPL will therefore lodge an updated position with respect to noise related issues in a comprehensive manner, when that work has been completed.

Framework Stormwater Management Plan – e3 Scientific recommended baseline monitoring – April results

5. A memorandum by e3 Scientific dated 5 June 2026 and filed with the EPA proposes a Stormwater Monitoring Plan. The e3 memorandum proposes, at Section 2.1.2, that prior to site development, baseline water quality monitoring will be completed within Silver Stream. Panel members at the briefing asked if monitoring had been completed during the recent rain event.

6. While samples were taken, they are at the laboratory, and results have not been received. However, results from April 2026 are available. They are attached to this memorandum.

Dated: 14 July 2026

A handwritten signature in black ink that reads "Sarah J. Scott". The signature is written in a cursive style with a large initial 'S'.

S J Scott
Counsel for Southern Link Property Limited

Certificate of Analysis

Page 1 of 7

Client:	E3 Scientific Limited	Lab No:	4188342	SPv1
Contact:	Mark Hamer C/- E3 Scientific Limited PO Box 2450 Wakatipu Queenstown 9349	Date Received:	22-Apr-2026	
		Date Reported:	27-May-2026	
		Quote No:	144514	
		Order No:		
		Client Reference:		
		Submitted By:	Mark Hamer	

Interim Report

This is an interim report, prepared before all test results are completed. As all final Q.C. checks may not have been possible, it is not regarded as an official certificate of analysis. The final, official report will be issued upon completion of all tests.

Sample Type: Sediment				
Sample Name:		Upgradient 21-Apr-2026 11:00 am		Downgradient 21-Apr-2026 10:30 am
Lab Number:		4188342.3		4188342.4
Individual Tests				
Dry Matter	g/100g as rcvd	73		73
Total Organic Carbon	g/100g dry wt	0.14		0.29
Heavy metals, trace As,Cd,Cr,Cu,Ni,Pb,Zn,Hg				
Total Recoverable Arsenic	mg/kg dry wt	7.5		5.7
Total Recoverable Cadmium	mg/kg dry wt	0.023		0.020
Total Recoverable Chromium	mg/kg dry wt	11.7		15.0
Total Recoverable Copper	mg/kg dry wt	8.9		8.5
Total Recoverable Lead	mg/kg dry wt	5.4		6.8
Total Recoverable Mercury	mg/kg dry wt	< 0.02		< 0.02
Total Recoverable Nickel	mg/kg dry wt	14.5		16.2
Total Recoverable Zinc	mg/kg dry wt	33		36
7 Grain Sizes Profile as received				
Dry Matter of Sieved Sample	g/100g as rcvd	In Progress		In Progress
Fraction >= 2 mm	g/100g dry wt	In Progress		In Progress
Fraction < 2 mm, >= 1 mm	g/100g dry wt	In Progress		In Progress
Fraction < 1 mm, >= 500 µm	g/100g dry wt	In Progress		In Progress
Fraction < 500 µm, >= 250 µm	g/100g dry wt	In Progress		In Progress
Fraction < 250 µm, >= 125 µm	g/100g dry wt	In Progress		In Progress
Fraction < 125 µm, >= 63 µm	g/100g dry wt	In Progress		In Progress
Fraction < 63 µm	g/100g dry wt	In Progress		In Progress
Organochlorine Pesticides Trace in Soil				
Aldrin	mg/kg dry wt	< 0.0010		< 0.0010
alpha-BHC	mg/kg dry wt	< 0.0010		< 0.0010
beta-BHC	mg/kg dry wt	< 0.0010		< 0.0010
delta-BHC	mg/kg dry wt	< 0.0010		< 0.0010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.0010		< 0.0010
cis-Chlordane	mg/kg dry wt	< 0.0010		< 0.0010
trans-Chlordane	mg/kg dry wt	< 0.0010		< 0.0010
2,4'-DDD	mg/kg dry wt	< 0.0010		< 0.0010
4,4'-DDD	mg/kg dry wt	< 0.0010		< 0.0010
2,4'-DDE	mg/kg dry wt	< 0.0010		< 0.0010
4,4'-DDE	mg/kg dry wt	< 0.0010		< 0.0010
2,4'-DDT	mg/kg dry wt	< 0.0010		< 0.0010
4,4'-DDT	mg/kg dry wt	< 0.0010		< 0.0010
Total DDT Isomers	mg/kg dry wt	< 0.006		< 0.006
Dieldrin	mg/kg dry wt	< 0.0010		< 0.0010
Endosulfan I	mg/kg dry wt	< 0.0010		< 0.0010
Endosulfan II	mg/kg dry wt	< 0.0010		< 0.0010
Endosulfan sulphate	mg/kg dry wt	< 0.0010		< 0.0010

Sample Type: Sediment			
Sample Name:		Upgradient 21-Apr-2026 11:00 am	Downgradient 21-Apr-2026 10:30 am
Lab Number:		4188342.3	4188342.4
Organochlorine Pesticides Trace in Soil			
Endrin	mg/kg dry wt	< 0.0010	< 0.0010
Endrin aldehyde	mg/kg dry wt	< 0.0010	< 0.0010
Endrin ketone	mg/kg dry wt	< 0.0010	< 0.0010
Heptachlor	mg/kg dry wt	< 0.0010	< 0.0010
Heptachlor epoxide	mg/kg dry wt	< 0.0010	< 0.0010
Hexachlorobenzene	mg/kg dry wt	< 0.0010	< 0.0010
Methoxychlor	mg/kg dry wt	< 0.0010	< 0.0010
Polycyclic Aromatic Hydrocarbons Trace in Soil			
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.06	< 0.05
1-Methylnaphthalene	mg/kg dry wt	< 0.003	< 0.003
2-Methylnaphthalene	mg/kg dry wt	< 0.003	< 0.003
Acenaphthene	mg/kg dry wt	< 0.003	< 0.003
Acenaphthylene	mg/kg dry wt	< 0.003	< 0.003
Anthracene	mg/kg dry wt	< 0.003	< 0.003
Benzo[a]anthracene	mg/kg dry wt	< 0.003	< 0.003
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.003	< 0.003
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.003	< 0.003
Benzo[e]pyrene	mg/kg dry wt	< 0.003	< 0.003
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.003	< 0.003
Benzo[k]fluoranthene	mg/kg dry wt	< 0.003	< 0.003
Chrysene	mg/kg dry wt	< 0.003	< 0.003
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.003	< 0.003
Fluoranthene	mg/kg dry wt	< 0.003	< 0.003
Fluorene	mg/kg dry wt	< 0.003	< 0.003
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.003	< 0.003
Naphthalene	mg/kg dry wt	< 0.011	< 0.011
Perylene	mg/kg dry wt	< 0.003	< 0.003
Phenanthrene	mg/kg dry wt	< 0.003	< 0.003
Pyrene	mg/kg dry wt	< 0.003	< 0.003
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	mg/kg dry wt	< 0.0051	< 0.0051
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.0051	< 0.0050
Total Petroleum Hydrocarbons in Solids			
C7 - C9	mg/kg dry wt	< 20	< 20
C10 - C14	mg/kg dry wt	< 20	< 20
C15 - C36	mg/kg dry wt	< 40	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 80	< 80

Sample Type: Aqueous			
Sample Name:		Upgradient 21-Apr-2026 11:00 am	Downgradient 21-Apr-2026 10:30 am
Lab Number:		4188342.1	4188342.2
Individual Tests			
Turbidity	NTU	2.8	3.0
pH	pH Units	7.6	7.6
Total Alkalinity	g/m ³ as CaCO ₃	39	40
Electrical Conductivity (EC)	mS/m	14.5	14.5
Total Suspended Solids	g/m ³	< 3	< 3
Dissolved Calcium	g/m ³	11.8	11.0
Dissolved Iron	g/m ³	0.31	0.30
Dissolved Magnesium	g/m ³	5.3	4.5
Dissolved Manganese	g/m ³	0.0044	0.0038
Total Mercury	g/m ³	< 0.00011	< 0.00011
Dissolved Potassium	g/m ³	1.39	1.36
Dissolved Sodium	g/m ³	10.0	10.2
Dissolved Zinc	g/m ³	< 0.0010	< 0.0010

Sample Type: Aqueous			
Sample Name:		Upgradient 21-Apr-2026 11:00 am	Downgradient 21-Apr-2026 10:30 am
Lab Number:		4188342.1	4188342.2
Individual Tests			
Chloride	g/m ³	14.1	13.4
Dissolved Inorganic Nitrogen	g/m ³	0.059	0.063
Total Nitrogen	g/m ³	0.26	0.28
Total Ammoniacal-N	g/m ³	< 0.010	< 0.010
Nitrite-N	g/m ³	< 0.002	< 0.002
Nitrate-N	g/m ³	0.057	0.059
Nitrate-N + Nitrite-N	g/m ³	0.059	0.061
Total Kjeldahl Nitrogen (TKN)	g/m ³	0.20	0.21
Dissolved Reactive Phosphorus	g/m ³	< 0.004	< 0.004
Total Phosphorus	g/m ³	0.016	0.017
Sulphate	g/m ³	6.5	6.4
Total Biochemical Oxygen Demand (TBOD ₅)	g O ₂ /m ³	< 2	< 2
Chemical Oxygen Demand (COD)	g O ₂ /m ³	18	18
Total Organic Carbon (TOC)	g/m ³	6.6	7.1
Total Coliforms and E.coli			
Total Coliforms	MPN / 100mL	1,414	2,420
Escherichia coli	MPN / 100mL	150	218
Heavy metals, totals, trace As,Cd,Cr,Cu,Ni,Pb,Zn			
Total Arsenic	g/m ³	< 0.0011	< 0.0011
Total Cadmium	g/m ³	< 0.000053	< 0.000053
Total Chromium	g/m ³	< 0.00053	< 0.00053
Total Copper	g/m ³	< 0.00053	0.00053
Total Lead	g/m ³	< 0.00011	< 0.00011
Total Nickel	g/m ³	0.00099	0.00095
Total Zinc	g/m ³	0.0011	0.0013
Haloethers in SVOC Water Samples by GC-MS/MS			
Bis(2-chloroethoxy) methane	g/m ³	< 0.005	< 0.005
Bis(2-chloroethyl)ether	g/m ³	< 0.005	< 0.005
Bis(2-chloro-1-methylethyl)ether	g/m ³	< 0.005	< 0.005
4-Bromophenyl phenyl ether	g/m ³	< 0.005	< 0.005
4-Chlorophenyl phenyl ether	g/m ³	< 0.005	< 0.005
Nitrogen containing compounds in SVOC Water Samples by GC-MS/MS			
2,4-Dinitrotoluene	g/m ³	< 0.005	< 0.005
2,6-Dinitrotoluene	g/m ³	< 0.005	< 0.005
Nitrobenzene	g/m ³	< 0.005	< 0.005
N-Nitrosodi-n-propylamine	g/m ³	< 0.005	< 0.005
N-Nitrosodiphenylamine + Diphenylamine	g/m ³	< 0.010	< 0.010
Organochlorine Pesticides in SVOC Water Samples by GC-MS/MS			
Aldrin	g/m ³	< 0.005	< 0.005
alpha-BHC	g/m ³	< 0.005	< 0.005
beta-BHC	g/m ³	< 0.005	< 0.005
delta-BHC	g/m ³	< 0.005	< 0.005
gamma-BHC (Lindane)	g/m ³	< 0.005	< 0.005
4,4'-DDD	g/m ³	< 0.005	< 0.005
4,4'-DDE	g/m ³	< 0.005	< 0.005
4,4'-DDT	g/m ³	< 0.005	< 0.005
Dieldrin	g/m ³	< 0.005	< 0.005
Endosulfan I	g/m ³	< 0.005	< 0.005
Endosulfan II	g/m ³	< 0.005	< 0.005
Endosulfan sulphate	g/m ³	< 0.005	< 0.005
Endrin	g/m ³	< 0.005	< 0.005
Endrin ketone	g/m ³	< 0.005	< 0.005
Heptachlor	g/m ³	< 0.005	< 0.005
Heptachlor epoxide	g/m ³	< 0.005	< 0.005

Sample Type: Aqueous			
Sample Name:		Upgradient 21-Apr-2026 11:00 am	Downgradient 21-Apr-2026 10:30 am
Lab Number:		4188342.1	4188342.2
Organochlorine Pesticides in SVOC Water Samples by GC-MS/MS			
Hexachlorobenzene	g/m ³	< 0.005	< 0.005
Polycyclic Aromatic Hydrocarbons in SVOC Water Samples by GC-MS/MS			
Acenaphthene	g/m ³	< 0.003	< 0.003
Acenaphthylene	g/m ³	< 0.003	< 0.003
Anthracene	g/m ³	< 0.003	< 0.003
Benzo[a]anthracene	g/m ³	< 0.003	< 0.003
Benzo[a]pyrene (BAP)	g/m ³	< 0.003	< 0.003
Benzo[b]fluoranthene + Benzo[j]fluoranthene	g/m ³	< 0.003	< 0.003
Benzo[g,h,i]perylene	g/m ³	< 0.003	< 0.003
Benzo[k]fluoranthene	g/m ³	< 0.003	< 0.003
1&2-Chloronaphthalene	g/m ³	< 0.005	< 0.005
Chrysene	g/m ³	< 0.003	< 0.003
Dibenzo[a,h]anthracene	g/m ³	< 0.003	< 0.003
Fluoranthene	g/m ³	< 0.003	< 0.003
Fluorene	g/m ³	< 0.003	< 0.003
Indeno(1,2,3-c,d)pyrene	g/m ³	< 0.003	< 0.003
2-Methylnaphthalene	g/m ³	< 0.003	< 0.003
Naphthalene	g/m ³	< 0.003	< 0.003
Phenanthrene	g/m ³	< 0.003	< 0.003
Pyrene	g/m ³	< 0.003	< 0.003
Phenols in SVOC Water Samples by GC-MS/MS			
4-Chloro-3-methylphenol	g/m ³	< 0.005	< 0.005
2-Chlorophenol	g/m ³	< 0.005	< 0.005
2,4-Dichlorophenol	g/m ³	< 0.005	< 0.005
2,4-Dimethylphenol	g/m ³	< 0.005	< 0.005
3 & 4-Methylphenol (m- + p-cresol)	g/m ³	< 0.005	< 0.005
2-Methylphenol (o-Cresol)	g/m ³	< 0.005	< 0.005
2-Nitrophenol	g/m ³	< 0.005	< 0.005
Pentachlorophenol (PCP)	g/m ³	< 0.005	< 0.005
Phenol	g/m ³	< 0.005	< 0.005
2,4,5-Trichlorophenol	g/m ³	< 0.005	< 0.005
2,4,6-Trichlorophenol	g/m ³	< 0.005	< 0.005
Plasticisers in SVOC Water Samples by GC-MS/MS			
Bis(2-ethylhexyl)phthalate	g/m ³	< 0.005	< 0.005
Butylbenzylphthalate	g/m ³	< 0.005	< 0.005
Di(2-ethylhexyl)adipate	g/m ³	< 0.005	< 0.005
Diethylphthalate	g/m ³	< 0.005	< 0.005
Dimethylphthalate	g/m ³	< 0.005	< 0.005
Di-n-butylphthalate	g/m ³	< 0.02	< 0.02
Di-n-octylphthalate	g/m ³	< 0.005	< 0.005
Other Halogenated compounds in SVOC Water Samples by GC-MS/MS			
1,2-Dichlorobenzene	g/m ³	< 0.005	< 0.005
1,3-Dichlorobenzene	g/m ³	< 0.005	< 0.005
1,4-Dichlorobenzene	g/m ³	< 0.005	< 0.005
Hexachlorobutadiene	g/m ³	< 0.005	< 0.005
Hexachloroethane	g/m ³	< 0.005	< 0.005
1,2,4-Trichlorobenzene	g/m ³	< 0.005	< 0.005
Other compounds in SVOC Water Samples by GC-MS/MS			
Benzyl alcohol	g/m ³	< 0.005	< 0.005
Carbazole	g/m ³	< 0.005	< 0.005
Dibenzofuran	g/m ³	< 0.005	< 0.005
Isophorone	g/m ³	< 0.005	< 0.005

Sample Type: Aqueous			
Sample Name:		Upgradient 21-Apr-2026 11:00 am	Downgradient 21-Apr-2026 10:30 am
Lab Number:		4188342.1	4188342.2
Total Petroleum Hydrocarbons in Water			
C7 - C9	g/m ³	< 0.10	< 0.10
C10 - C14	g/m ³	< 0.2	< 0.2
C15 - C36	g/m ³	< 0.4	< 0.4
Total hydrocarbons (C7 - C36)	g/m ³	< 0.7	< 0.7

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 simple 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. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Sediment			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Environmental Solids Sample Drying	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	3-4
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	3-4
Soil Prep Dry for Organics, Trace	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	3-4
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	3-4
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	-	3-4
Total Organic Carbon	Acid pretreatment to remove carbonates present followed by Catalytic Combustion (O2), separation, Thermal Conductivity Detector [Elementar Analyser].	0.05 g/100g dry wt	3-4
Heavy metals, trace As,Cd,Cr,Cu,Ni,Pb,Zn,Hg	Dried sample, <2mm fraction. Nitric/Hydrochloric acid digestion, ICP-MS, trace level.	0.010 - 0.8 mg/kg dry wt	3-4
Organochlorine Pesticides Trace in Soil	Sonication extraction, GC-ECD analysis. In-house based on US EPA 8081.	0.0010 - 0.006 mg/kg dry wt	3-4
Polycyclic Aromatic Hydrocarbons Trace in Soil	Sonication extraction, GC-MS/MS analysis. Tested on as received sample. In-house based on US EPA 8270.	0.002 - 0.03 mg/kg dry wt	3-4
7 Grain Sizes Profile as received			
Dry Matter for Grainsize samples (sieved as received)	Drying for 16 hours at 103°C, gravimetry (Free water removed before analysis).	0.10 g/100g as rcvd	3-4
Fraction >= 2 mm	Wet sieving with dispersant, as received, 2.00 mm sieve, gravimetry.	0.1 g/100g dry wt	3-4
Fraction < 2 mm, >= 1 mm	Wet sieving using dispersant, as received, 2.00 mm and 1.00 mm sieves, gravimetry (calculation by difference).	0.1 g/100g dry wt	3-4
Fraction < 1 mm, >= 500 µm	Wet sieving using dispersant, as received, 1.00 mm and 500 µm sieves, gravimetry (calculation by difference).	0.1 g/100g dry wt	3-4
Fraction < 500 µm, >= 250 µm	Wet sieving using dispersant, as received, 500 µm and 250 µm sieves, gravimetry (calculation by difference).	0.1 g/100g dry wt	3-4
Fraction < 250 µm, >= 125 µm	Wet sieving using dispersant, as received, 250 µm and 125 µm sieves, gravimetry (calculation by difference).	0.1 g/100g dry wt	3-4
Fraction < 125 µm, >= 63 µm	Wet sieving using dispersant, as received, 125 µm and 63 µm sieves, gravimetry (calculation by difference).	0.1 g/100g dry wt	3-4
Fraction < 63 µm	Wet sieving with dispersant, as received, 63 µm sieve, gravimetry (calculation by difference).	0.1 g/100g dry wt	3-4
Total Petroleum Hydrocarbons in Solids			
C7 - C9	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	3-4
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	3-4
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg dry wt	3-4

Sample Type: Sediment			
Test	Method Description	Default Detection Limit	Sample No
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg dry wt	3-4

Sample Type: Aqueous			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Filtration, Unpreserved	Sample filtration through 0.45 µm membrane filter. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch.	-	1-2
Total Digestion	Nitric acid digestion. APHA 3030 E (modified) : Online Edition.	-	1-2
Total Digestion with HCl	Nitric/hydrochloric acid digestion. APHA 3030 E (modified) : Online Edition.	-	1-2
Turbidity	Analysis by Turbidity meter. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch. APHA 2130 B (modified) : Online Edition.	0.05 NTU	1-2
pH	pH meter. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch. APHA 4500-H ⁺ B (modified) : Online Edition. Note: It is not possible to achieve the APHA Maximum Storage Recommendation for this test (15 min) when samples are analysed upon receipt at the laboratory, and not in the field. Samples and Standards are analysed at an equivalent laboratory temperature (typically 18 to 22 °C). Temperature compensation is used.	0.1 pH Units	1-2
Total Alkalinity	Titration to pH 4.5 (M-alkalinity), autotitrator. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch. APHA 2320 B (modified for Alkalinity <20) : Online Edition.	1.0 g/m ³ as CaCO ₃	1-2
Electrical Conductivity (EC)	Conductivity meter, 25°C. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch. APHA 2510 B : Online Edition.	0.1 mS/m	1-2
Total Suspended Solids	Filtration using Whatman 934 AH, Advantec GC-50 or equivalent filters (nominal pore size 1.2 - 1.5 µm), gravimetric determination. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch. APHA 2540 D (modified) : Online Edition.	3 g/m ³	1-2
Filtration for dissolved metals analysis	Sample filtration through 0.45µm membrane filter and preservation with nitric acid. APHA 3030 B : Online Edition.	-	1-2
Dissolved Calcium	Filtered sample, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.05 g/m ³	1-2
Dissolved Iron	Filtered sample, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.02 g/m ³	1-2
Dissolved Magnesium	Filtered sample, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.02 g/m ³	1-2
Dissolved Manganese	Filtered sample, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0005 g/m ³	1-2
Total Mercury	Acid digestion, ICP-MS, screen level. APHA 3125 B : Online Edition.	0.00011 g/m ³	1-2
Dissolved Potassium	Filtered sample, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.05 g/m ³	1-2
Dissolved Sodium	Filtered sample, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.02 g/m ³	1-2
Dissolved Zinc	Filtered sample, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0010 g/m ³	1-2
Chloride	Filtered sample from Christchurch. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.5 g/m ³	1-2
Dissolved Inorganic Nitrogen	Calculation: NH ₄ -N + NO ₃ -N + NO ₂ -N. In-house calculation.	0.005 g/m ³	1-2
Total Nitrogen	Calculation: TKN + Nitrate-N + Nitrite-N. Please note: The Default Detection Limit of 0.05 g/m ³ is only attainable when the TKN has been determined using a trace method utilising duplicate analyses. In cases where the Detection Limit for TKN is 0.10 g/m ³ , the Default Detection Limit for Total Nitrogen will be 0.11 g/m ³ . In-house calculation.	0.05 g/m ³	1-2
Total Ammoniacal-N	Filtered Sample from Christchurch. Phenol/hypochlorite colourimetry. Flow injection analyser. (NH ₄ -N = NH ₄ ⁺ -N + NH ₃ -N). APHA 4500-NH ₃ H (modified) : Online Edition.	0.010 g/m ³	1-2
Nitrite-N	Filtered sample from Christchurch. Automated Azo dye colorimetry, Flow injection analyser. APHA 4500-NO ₂ ⁻ I (modified) : Online Edition.	0.002 g/m ³	1-2
Nitrate-N	Calculation: (Nitrate-N + Nitrite-N) - Nitrite-N. In-House.	0.0010 g/m ³	1-2

Sample Type: Aqueous			
Test	Method Description	Default Detection Limit	Sample No
Nitrate-N + Nitrite-N	Filtered sample from Christchurch. Total oxidised nitrogen. Automated cadmium reduction, flow injection analyser. APHA 4500-NO ₃ ⁻ I (modified) : Online Edition.	0.002 g/m ³	1-2
Total Kjeldahl Nitrogen (TKN)	Total Kjeldahl digestion, automated phenol/hypochlorite colorimetry. APHA 4500-N _{org} D (modified): Online Edition.	0.10 g/m ³	1-2
Dissolved Reactive Phosphorus	Filtered sample from Christchurch. Molybdenum blue colourimetry. Flow injection analyser. APHA 4500-P G (modified) : Online Edition.	0.004 g/m ³	1-2
Total Phosphorus	Total phosphorus digestion, automated ascorbic acid colorimetry. Flow Injection Analyser. APHA 4500-P H (modified) : Online Edition.	0.002 g/m ³	1-2
Sulphate	Filtered sample from Christchurch. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.5 g/m ³	1-2
Total Biochemical Oxygen Demand (TBOD ₅)	Incubation 5 days, DO meter, no nitrification inhibitor added, seeded. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch. APHA 5210 B (modified) : Online Edition.	2 g O ₂ /m ³	1-2
Chemical Oxygen Demand (COD), trace level	Dichromate/sulphuric acid digestion in Hach tubes, colorimetry. Trace Level method. APHA 5220 D : Online Edition.	6 g O ₂ /m ³	1-2
Total Organic Carbon (TOC)	Supercritical persulphate oxidation, IR detection, for Total C. Acidification, purging for Total Inorganic C. TOC = TC - TIC. The uncertainty of the calculated result is a combination of the uncertainties of the two analytical determinands in the subtraction calculation. Where both determinands are similar in magnitude, the calculated result has a significantly higher uncertainty than would normally be achieved if one of the results was significantly less than the other. In such cases, the elevated uncertainty should be kept in mind when interpreting the data. APHA 5310 C (modified) : Online Edition.	0.5 g/m ³	1-2
Heavy metals, totals, trace As, Cd, Cr, Cu, Ni, Pb, Zn	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.000053 - 0.0011 g/m ³	1-2
Semivolatile Organic Compounds Screening in Water by GC-MS/MS	Liquid / liquid extraction, GC-MS/MS analysis. In-house based on US EPA 8270.	0.003 - 0.02 g/m ³	1-2
Dissolved Inorganic Nitrogen		0.002 - 0.010 g/m ³	1-2
Total Coliforms and E.coli			
Total Coliforms	MPN count using Colilert (Incubated at 35°C for 24 hours) and 97 wells. Analysed at Hill Laboratories - Microbiology; Unit 1, 17 Print Place, Middleton, Christchurch. APHA 9223 B : Online Edition.	1 MPN / 100mL	1-2
Escherichia coli	MPN count using Colilert (Incubated at 35°C for 24 hours) and 97 wells. Analysed at Hill Laboratories - Microbiology; Unit 1, 17 Print Place, Middleton, Christchurch. APHA 9223 B : Online Edition.	1 MPN / 100mL	1-2
Total Petroleum Hydrocarbons in Water			
C7 - C9	Solvent extraction, GC-FID analysis. In-house based on US EPA 8015.	0.10 g/m ³	1-2
C10 - C14	Solvent extraction, GC-FID analysis. In-house based on US EPA 8015.	0.2 g/m ³	1-2
C15 - C36	Solvent extraction, GC-FID analysis. In-house based on US EPA 8015.	0.4 g/m ³	1-2
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	0.7 g/m ³	1-2

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

Testing was completed between 22-Apr-2026 and 15-May-2026. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

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Client Services Manager - Environmental