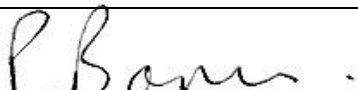


Laboratory Accreditation Programmes

Schedule to CERTIFICATE OF ACCREDITATION	
Eurofins ELS Wellington	Client No. 1701
PO Box 36105, Wellington Mail Centre, Lower Hutt, 5045 85 Port Rd, Seaview, Lower Hutt, 5010	
Telephone 04 576-5016	www.eurofins.co.nz
Authorised Representative Mr Rob Deacon General Manager - Environmental	
Programme Chemical Testing Laboratory	
Accreditation Number 414	Initial Accreditation Date 13 December 1990
Conformance Standard NZS ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories	
Testing Services Summary	
Water/Environmental	
2.41	Waters
2.58	Environmental Monitoring
ICP-MS/OES	
2.05	Clays, Ceramics and Related Materials
2.31	Foods
2.36	Agricultural Products and Agricultural Materials
2.41	Waters
2.50	Gases
2.58	Environmental Monitoring
2.61	Biological Specimens
2.81	Other Specified Inorganic Material
Organics	
2.31	Foods
2.36	Agricultural Products and Agricultural Materials
2.41	Waters
2.58	Environmental Monitoring
Sampling	
2.41	Waters
2.58	Environmental Monitoring

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Schedule to CERTIFICATE OF ACCREDITATION

Key Technical Personnel

Water/Environmental

Ms Mary-Lou Cabral	2.41 (selected)
Mr Wayne Edgerley	2.41, 2.58 (selected)
Mr Amitesh Kumar	2.41 (selected)
Mr Shanel Kumar	2.41 (selected)
Mrs Divina Lagazon	2.41, 2.58 (selected)
Mr Gordon McArthur	2.41, 2.58 (selected)
Ms Jennifer Mont	2.41 (selected)
Ms Tracy Morrison-Judd	2.41, 2.58 (selected)
Mrs Prashilla Singh	2.41 (selected)

ICP-MS/OES

Mr Wayne Edgerley	2.05, 2.31, 2.36, 2.41, 2.50, 2.58, 2.61, 2.81
Mr Shanel Kumar	2.05, 2.31, 2.36, 2.41, 2.50, 2.58, 2.61, 2.81
Ms Tracy Morrison-Judd	2.05, 2.31, 2.36, 2.41, 2.50, 2.58, 2.61, 2.81 (ICP-MS)
Mrs Sharon van Soest	2.05, 2.31, 2.36, 2.41, 2.50, 2.58, 2.61, 2.81 (ICP-MS)
Mr Shuyu Zhao	2.05, 2.31, 2.36, 2.41, 2.5, 2.58, 2.61, 2.81

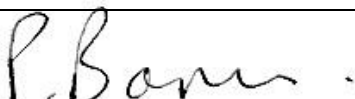
Organics

Mrs Ganeswary Ilancko	2.31, 2.36, 2.41, 2.58
Dr Alan Stanley	2.31, 2.36, 2.41, 2.58
Ms Joanna Yang	2.31, 2.36, 2.41, 2.58

Sampling

Mr Rob Deacon	2.41 (a)(b)(c)(d)(e)(f)(g), 2.58 (a)(c)
Ms Anne Rodgers	2.41 (a)(b)(c)(d)(e)(g), 2.58 (a)

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Water/Environmental

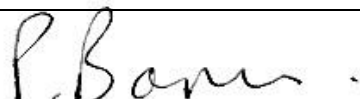
2.41 Waters

- (a) Potable waters
- (b) Non-potable waters
- (c) Sewage
- (d) Effluents and trade wastes

The following tests are in accordance with APHA "Standard Methods for the Examination of Water and Wastewater" (Online Edition) except where otherwise indicated.

Absorbance at 254, 270 & 440 nm	In-house
Acidity	2310 B
Alkalinity	2320 B
Alkalinity to pH 4.5	2320 B
Alkalinity to pH 8.3	2320 B
Ammonia	4500-NH ₃ H (modified)
Ammonia	Discrete analyser
Ammonia (acidified)	Discrete analyser
Ammonia nitrogen	Discrete analyser
Ammoniacal nitrogen	4500-NH ₃ H (modified)
Apparent Colour	2120 C (modified)
Biochemical Oxygen Demand (BOD)	5210 B
Calcium	3500-Ca B
Calcium hardness	3500-Ca B
Chemical Oxygen Demand (COD)	5220 D
Chemical Oxygen Demand (COD)	USEPA 8000 (HACH DR/4000)
Chloride	4500-Cl ⁻ B
Chlorine	4500-Cl ₂ A
Chlorine	4500-Cl ₂ F
Chlorophyll	10200 H
Chromium (VI)	Manufacturer's methodology / Discrete analyser
Conductivity	2510 B
Cyanides - total, free & weak acid dissociable	ASTM D2036 (potable waters only)
Cyanides - total, free & weak acid dissociable	D4374 (potable waters only)
Cyanides - total, free & weak acid dissociable	Discrete analyser (potable waters only)
Dissolved Oxygen	4500-O G
Free carbon dioxide	4500-CO ₂ B
Free carbon dioxide	4500-CO ₂ C
Hydrogen sulphide	4500-S ²⁻ H
Magnesium hardness	3500-Mg B
Nitrogen - Nitrate	4500-NO ₃ ⁻ I (FIA)
Nitrogen - Nitrate	Discrete analyser

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Accreditation Number 414

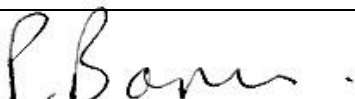
Nitrogen - Nitrate	NWASCO 38
Nitrogen - Nitrite	4500-NO ₂ ⁻ A (automated FIA)
Nitrogen - Nitrite	Discrete analyser
Nitrogen - total	4500-NO ₃ ⁻ I
Nitrogen - total	Digestion Wat. Res., 17(1983) 1721
Non-purgeable Organic Carbon - dissolved	5310 B
Non-purgeable Organic Carbon - total	5310 B
Oil and Grease	5520 B (modified)
pH	4500-H ⁺ B
Phenols	5530 B
Phenols	5530 D
Phosphorus - dissolved reactive	4500-P G
Phosphorus - dissolved reactive	Digestion Wat, Res., 17(1983)
Phosphorus - dissolved reactive	Discrete analyser
Phosphorus - total	4500-P G
Phosphorus - total	Digestion Wat, Res., 17(1983) 1721
Phosphorus - total	Discrete analyser
Phosphorus - total dissolved	4500-P G
Phosphorus - total dissolved	Digestion Wat, Res., 17(1983) 1721
Phosphorus - total dissolved	Discrete analyser
Reactive silica	USGS (1979)
Solids - settleable	2540 F
Solids - total	2540 B
Solids - total dissolved	2540 C
Solids - total suspended	2540 D
Solids - total volatile	2540 G
Solids - volatile suspended	2540 G
Sulphide	4500-S ²⁻ B
Sulphide	4500-S ²⁻ C
Sulphide	4500-S ²⁻ F
Sulphites	4500-SO ₃ ²⁻ B
Temperature	2550 B
Total Cyanide	4500-CN ⁻ C
Total Cyanide	4500-CN ⁻ E
Total Hardness	2340 C
Total Kjeldahl Nitrogen	4500-N _{org} C
Total Sediment Concentration	ASTM D3977
Turbidity	2130 B
Turbidity	ISO 7027:1999

The following elements by ion chromatography using 4110 B:

Bromide	Chloride	Fluoride	Nitrate
Nitrite	Phosphate	Sulphate	

The following elements by ion chromatography using 4110 D:

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Bromate Chlorate Chlorite

(f) Swimming pools and spas

Alkalinity	2320 B
Chlorine	4500-Cl ₂ A
Chlorine	4500-Cl ₂ F
pH	4500-H ⁺ B

(h) Boiler waters

Alkalinity	BS 1427:2009
Phosphorus (total reactive)	Discrete analyser
Sulphites	4500-SO ₃ ²⁻ B

2.58 Environmental Monitoring

In accordance with In-house methods by the following instrumentation unless otherwise stated

(a) Waters

(b) Air (filters, extracts or impinger solutions as received)

Ammonia	Flow Injection Analyser and Discrete Analyser
Chromium (VI)	Segmented Flow Analyser and Discrete Analyser
Cyanides	Segmented Flow Analyser and Discrete Analyser
Hydrogen sulphide in filters (Radiello H ₂ S)	4500-S ²⁻ F (APHA 21 st Edition)
Nitrogen - nitrate	Ion Chromatography
Nitrogen - nitrite	Segmented Flow Analyser and Discrete Analyser
Nitrogen - total	Flow Injection Analyser and Discrete Analyser
Phosphorus - dissolved reactive	Flow Injection Analyser and Discrete Analyser
Phosphorus - total	Flow Injection Analyser and Discrete Analyser
Phosphorus - total dissolved	Flow Injection Analyser and Discrete Analyser

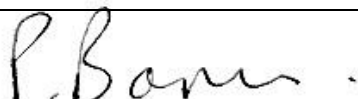
ICP-MS/OES

2.05 Clays, Ceramics and Related Materials

(a) Clays, ceramics and refractories

The performance of the following tests on leaching from ceramics and glazes, and on leachates as received by the laboratory following the First Schedule of Food (Safety) Regulations 2003, by in-house ICP-MS and ICP-OES methods:

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Arsenic Cadmium Lead Antimony

2.31 Foods

- (a) Cereals and cereal products
- (b) Edible oils, fats and their products
- (c) Nuts, fruits and vegetables and derived products
- (d) Sauces, herbs, spice and condiments
- (e) Sugars and sugar confectionery
- (f) Dairy products
- (g) Meat, poultry and derived products
- (h) Fish and fish products
- (i) Eggs and egg products
- (j) Alcoholic beverages
- (k) Non-alcoholic beverages

The following analytes in accordance with in-house ICP-OES methods following in-house digestion.

Aluminium Arsenic Cadmium Chromium
Lead Tin Zinc

The following analytes in accordance with in-house ICP-MS methods following in-house digestion.

Aluminium Antimony Arsenic Cadmium
Calcium Chromium Copper Iron
Lead Magnesium Manganese Mercury
Nickel Potassium Selenium Silver
Sodium Thallium Tin Zinc

(f) Dairy products

(butter and AMF – analysis of the extracted samples only)

The following analytes by ICP-MS in accordance with APHA Online Edition 3125 (modified).

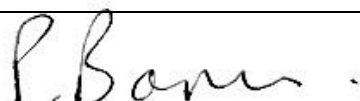
Copper Iron

(milk, milk powders, whey products, milk powder concentrates)

The following analytes by ICP-MS in accordance with BS/EN 15111(modified).

Iodine Selenium

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2.36 Agricultural Products and Agricultural Materials

(c) Stockfoods and licks

The performance of the following tests in accordance with in-house ICP-MS and ICP-OES methods following microwave digestion.

Aluminium	Arsenic	Cadmium	Chromium
Lead	Tin	Zinc	

2.41 Waters

- (a) Potable waters**
- (b) Non-potable waters**
- (c) Sewage**
- (d) Effluents and trade wastes**
- (f) Swimming pools and spas**
- (h) Boiler waters**

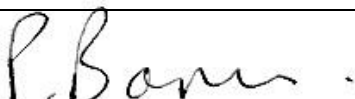
The following metals using inductively coupled argon plasma optical emission spectroscopy (ICP-OES) In-house method based on APHA 3120 B using APHA 3030E (modified) digest:

Aluminium	Antimony	Arsenic	Barium
Boron	Bismuth	Cadmium	Calcium
Chromium	Cobalt	Copper	Gallium
Indium	Iron	Lead	Lithium
Magnesium	Manganese	Molybdenum	Nickel
Phosphorus	Selenium	Silicon	Silver
Sodium	Strontium	Thallium	Tin
Titanium	Vanadium	Zinc	

The following metals using inductively coupled plasma mass spectroscopy (ICP-MS) in-house method based on APHA 3125 B using APHA 3030E (modified) digest:

Aluminium	Antimony	Arsenic	Barium
Beryllium	Boron	Cadmium	Caesium
Calcium	Chromium	Cobalt	Copper
Iron	Lead	Lithium	Magnesium
Manganese	Mercury	Molybdenum	Nickel
Potassium	Selenium	Silver	Sodium
Strontium	Thallium	Tin	Titanium
Tungsten	Uranium	Vanadium	Zinc

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2.50 Gases

- (c) **Fumes and emissions**
- (d) **Atmospheric pollution**

Performance of the following tests on filters or extracted filters and impinger solutions as received by the laboratory, in accordance with in-house methods by ICP-MS and ICP-OES:

Antimony	Arsenic	Boron	Cadmium
Chromium	Cobalt	Copper	Iron
Lead	Manganese	Mercury	Molybdenum
Nickel	Selenium	Silver	Tin
Titanium	Thallium	Tungsten	Vanadium
Zinc			

2.58 Environmental Monitoring

- (a) **Waters**
- (b) **Air (filters, extracts or impinger solutions as received)**
- (c) **Soils and sludges**

In accordance with In-house methods by ICP-MS and ICP-OES:

Aluminium	Antimony	Arsenic	Barium
Beryllium	Boron	Cadmium	Calcium
Caesium	Chromium	Cobalt	Copper
Gallium	Gold	Iron	Lead
Lithium	Magnesium	Manganese	Mercury
Molybdenum	Nickel	Potassium	Palladium
Platinum	Selenium	Silicon	Silver
Sodium	Strontium	Thallium	Tin
Titanium	Tungsten	Uranium	Vanadium
Zinc			

- (a) **Waters**
- (b) **Air (filters, extracts or impinger solutions as received)**

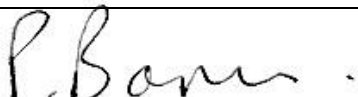
Reactive Silica APHA 3120 B

2.61 Biological Specimens

- (a) **Biological fluids including blood, serum and urine**

The performance of the following tests on pre-prepared samples as received by the laboratory in accordance

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with in-house methods by ICP-MS:

Aluminium	Cadmium	Cobalt	Copper
Lead	Mercury	Nickel	Thallium
Zinc			

(b) Residues in specified veterinary specimens

The performance of the following tests on pre-prepared canine and equine urine screening and confirmation samples as received by the laboratory in accordance with in-house methods by ICP-MS:

Cobalt

2.81 Other Specified Inorganic Material

a) Toys and playthings

Analysis of the following tests in graphic materials, in accordance with in-house ICP-MS and ICP-OES methods and to AS/NZS ISO 8124.3:2003:

Antimony	Arsenic	Barium	Cadmium
Chromium	Lead	Mercury	Selenium

References:

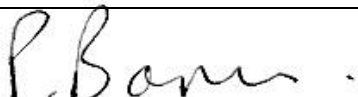
AOAC	Association of Official Analytical Chemists
APHA	Standard Methods for the Examination of Water and Wastewater
ASTM	American Society for Testing and Materials
BS	British Standards
NWASCO	National Water And Soil Conservation Organisation
USEPA	United States Environmental Protection Agency

Organics

2.31 Foods

- (a) Cereals and cereal products**
- (b) Edible oils, fats and their products**
- (c) Nuts, fruits and vegetables and derived products**
- (d) Sauces, herbs, spice and condiments**
- (e) Sugars and sugar confectionery**
- (f) Dairy products**

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- (i) **Eggs and egg products**
- (k) **Non-alcoholic beverages**

GC-MS/MS

Pesticide residues by In-house method based on AOAC 2007.1 for the above sample types.

LC-MS/MS

Pesticide residues by In-house method based on AOAC 2007.1 for the above sample types.

2.36 Agricultural Products and Agricultural Materials

- (a) **Wheat and other cereal grains and by-products**
- (b) **Oil seeds and by-products**
- (h) **Plants**

GC-MS/MS

Pesticide residues by In-house method based on AOAC 2007.1 for the above types.

- (a) **Wheat and other cereal grains and by-products**
- (b) **Oil seeds and by-products**
- (h) **Plants**
- (j) **Residues in agricultural products and related materials**

LC-MS/MS

Pesticide residues by In-house method based on AOAC 2007.1 for the above sample types.

2.41 Waters

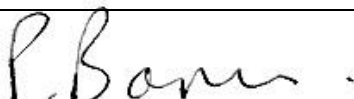
- (a) **Potable waters**
- (b) **Non-potable waters**
- (c) **Sewage**
- (d) **Effluents and trade wastes**

GC-FID

Benzene, toluene, ethylbenzene and total xylenes (BTEX)	In-house method based on those of the USEPA
Total Petroleum Hydrocarbons (TPH)	In-house method

GC-MS

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Acrylamide

In-house method based on USEPA 8032A

Semi-volatile organic compounds (SVOCs) compound classes in accordance with in-house methods based on those of the USEPA:

- Carbamate pesticides
- Organochlorine pesticides (OCs)
- Organonitrogen pesticides (ONs)
- Organophosphorus pesticides (OPs)
- Phenols and their derivatives
- Polychlorinated benzenes
- Polychlorinated biphenyls (PCBs)
- Polycyclic aromatic hydrocarbons (PAHs)
- Synthetic pyrethroids

Pesticide residues of the following compound classes by tandem mass spectrometry (GC-MS/MS) in accordance with in-house methods based on those of the USEPA:

- Carbamate and dithiocarbamate pesticides
- Organochlorine pesticides
- Organonitrogen pesticides
- Organophosphorus pesticides
- Phenoxyacetic acid herbicides
- Synthetic pyrethroids

Static Headspace (SHS) GC-MS

Volatile organic compounds (VOCs) by Static Headspace (SHS) GC-MS in the following compound classes in accordance with an in-house method:

- Hydrocarbons
- Halogenated hydrocarbons and haloforms
- Aromatics and BTEX
- Halogenated aromatics
- Carbon disulphide

Solid Phase Microextraction (SPME) GC-MS

Taste and Odour Compounds

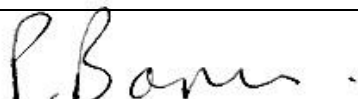
In-house method based on APHA 6040D

- (a) **Potable waters**
- (b) **Non-potable waters**

LC-MS/MS

Pesticide Residues in water by In-house method based on USEPA 3510C, 3500, 5000, 8000D
 Acid Herbicides by In-house method

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GC-MS/MS

Epichlorohydrin in water by In-house method based on the Journal of Chromatography 1201 (2008)

2.58 Environmental Monitoring

- (a) **Waters**
- (c) **Soils and sludges**

GC-FID

Benzene, toluene, ethylbenzene and total xylenes (BTEX) In-house method based on those of the USEPA
 Total Petroleum Hydrocarbons (TPH) In-house method.

GC-MS

Semi-volatile organic compounds (SVOCs) in the following compound classes in accordance with in-house methods based on those of the USEPA:

- Carbamate pesticides
- Organochlorine pesticides (OCs)
- Organonitrogen pesticides (ONs)
- Organophosphorus pesticides (OPs)
- Phenols and their derivatives
- Polychlorinated benzenes
- Polychlorinated biphenyls (PCBs)
- Polycyclic aromatic hydrocarbons (PAHs)
- Synthetic pyrethroids

Pesticide residues of the following compound classes by tandem mass spectroscopy (GC-MS/MS) in accordance with in-house methods based on those of the USEPA:

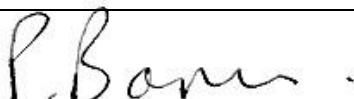
- Carbamate and dithiocarbamate pesticides
- Organochlorine pesticides
- Organonitrogen pesticides
- Organophosphorus pesticides
- Phenoxyacetic acid herbicides
- Synthetic pyrethroids

Static Headspace (SHS) GC-MS

Volatile organic compounds (VOCs) in the following compound classes in accordance with an in-house method:

- Hydrocarbons
- Halogenated hydrocarbons and haloforms
- Aromatics and BTEX

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- Halogenated aromatics
- Carbon disulphide

(a) Waters**LC-MS/MS**

Pesticide Residues in water by In-house method based on US EPA

Acid Herbicides by In-house method

Sampling**2.41 Waters**

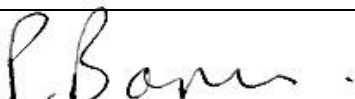
- (a) Potable waters
- (b) Non-potable waters (e.g. receiving waters, ground waters)
- (c) Sewage
- (d) Effluents and trade wastes
- (e) Cooling tower and industrial waters
- (f) Swimming pools and spas
- (g) Marine waters

Sampling in accordance with in-house procedures based on AS/NZS 5667

2.58 Environmental Monitoring

- (a) Waters
- (c) Soils and sludges

Sampling in accordance with in-house procedures based on AS/NZS 5667

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