

# Waters price list

Edition: 21.1.2







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# Waters price list

The Environmental Analysis Laboratory (EAL) is part of Southern Cross University and is set up as a commercial, teaching and research facility. EAL specialises in a range of environmental testing services for waters, acid sulfate soils, agricultural soils, composts, potting mixes, landscape soils, plants and for effluent monitoring.

EAL employs over 50 professional staff and utilises the following instruments: Perkin Elmer ICPOES 8300DV; Perkin Elmer ICPOES Avio500; NexION 2000B ICPMS; NexION 300D ICPMS; NexION 350D ICPMS with FLEXAR HPLC; LECO SC832 CS Analyser; LECO TruMac CNS Analyser; CRS Analysers; Lachat FIA Nutrient Analysers; Smartchem Nutrient Analyser; Soxtherm Oils and Grease Analysers;

Bruker XRD; Leica SEM with EDAX; Hitachi desktop SEM with EDAX; Pan-analytical XRF; Malvern Mastersizer 3000LV/SM Laser Diffraction Particle Size Analysers; Waters Ion Chromatography system; Shumatsu TOC/TN Analyser; Thermo-Finnigan IRMS; NewWave Laser Ablation System with Agilent ICPMS; Mantech AutoMax 197 pH/EC Analyser.

Specialists in the School of Environment, Science and Engineering, and Cooperative Research Centres, can also provide complete sampling, data interpretation and report production services. This includes specialists in soil science, geology, geochemistry, plant and fisheries biology, palaeontology, hydrology, marine biology and ecology.

### Important notes on charges, turnaround times and results

The following points apply to sample analysis:

- Sample specific quotes can be negotiated and customised at competitive rates on request
- An admin batch charge of \$30 +GST applies per project/ sample submission form
- Sub-contracted analyses are sent to approved laboratories
- On-site sample collection by qualified staff is available a basic rate of \$110.00 +GST per hour
- Turn-around times for individual projects vary depending on the size and complexity of the task; root are completed within five to ten working days of receiving samples
- URGENT turn-around times (TA.) a. available on request for selected tests. These cur 100% surcharge for one working day, 50% for two, 15% for three and 12.5% for four working days service (note samples must arrive at the laboratory by noon to ensure these TAT)
- Results are supplied in Excel and PDF report format. They
  detail the analytical results in relation to standard
  guidelines, where available
- Sample Receipt Notices, Results and Invoices are supplied by email and may be posted if requested.
- Payment is requested on delivery of samples (cash, eftpos, cheque). Invoices are available to regular clients. Minimum invoice amount is required

### Confidentiality and quality assurance

Confidentiality is an integral part of our quality assurance certification. Results will not be released to a third party without written client consent.

Strict quality control procedures are applied to all chemical, physical and bacteriological analyses. This involves

frequent use of replicates te monitor precision, with standard reference materials and blanks to monitor accuracy.

The laboratory is Liso routinely involved in inter-laboratory comparisons and trials, including the Australian Standards National Low Level Nutrient Collaborative Trials (NLLNCT) or grain. EAL is a member of ASPAC (Australian Soil and P ant Analysis Council) which includes a regular Quality Assurance Program for soils and plants. EAL also assists in the formulation of suitable laboratory methods for acid sulfate soil analysis.

EAL is a NATA (National Association of Testing Authorities) accredited laboratory (Lab. Acc. No. 14960). Accreditation is on selected tests (refer to final page); EAL is continually updating the number of tests directly accredited by NATA.

EAL uses many industry accepted method references as the base for NATA, ASPAC and other in-house methods of testing. These references include Standard Methods for the Examination of Water and Wastewater (APHA), Australian Standards (AS), National Acid Sulfate Soils Guidance (Sullivan, Ward, Toppler and Lancaster, 2018) and Soils Chemistry Methods – Australasia (Rayment and Lyons, 2011).

### Instructions for submitting samples

### Sample collection and preservation for Waters samples:

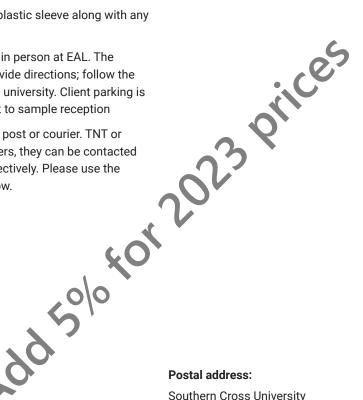
- Minimum of 500 mL required in a plastic water bottle
- Thoroughly rinse the bottle with sample water collecting a representative sample
- EAL can supply free of charge clean/sterile bottles on request
- Download <u>EAL Water Preservation Sampling Guide</u> from the EAL website for suggestions
- Label bottle with site name and date of sampling.

### Complete EAL Sample Submission Form (SSF)

- Download Sample Submission Form from the EAL website: excel versions also available
- Complete all relevant details on SSF
- Use Test Codes from the Price List e.g. SW-PACK-003
- Credit card and cheque are the preferred methods of payment.

### Package and send samples

- Package sample(s) in an insulated box or esky with freezer bricks
- Enclose the SSF in a sealed plastic sleeve along with any other instructions
- Samples can be dropped off in person at EAL. The university gatehouse will provide directions; follow the EAL signs posted around the university. Client parking is reserved in the lane way next to sample reception
- Samples can also be sent by post or courier. TNT or TOLL are our preferred couriers, they can be contacted on 131 150 or 131 531, respectively. Please use the following delivery labels below.



### **Courier address:**

Southern Cross University Environmental Analysis Laboratory (EAL) Ground floor, N Block Military Road East Lismore NSW 2480

### **EAL** contact:

P: 02 6620 3678 or

Graham Lancaster M: 0419 984 088

NOTE: URGENT DELIVERY OF SAMPLES FOR TESTING

Southern Cross University Environmental Analysis Laboratory (EAL) PO Box 157 Lismore NSW 2480

### **EAL** contact:

P: 02 6620 3678 or

Graham Lancaster M: 0419 984 088

NOTE: URGENT DELIVERY OF SAMPLES FOR TESTING

Contact details:			
Laboratory position	Contact	Phone / Fax	Email
Administration	Reception	02 6620 3678 / 02 6620 3957	eal@scu.edu.au
Senior Manager	Graham Lancaster	0419 984 088	graham.lancaster@scu.edu.au
Laboratory Manager	Nadia Toppler	0447 011 070	nadia.toppler@scu.edu.au
Waters/ICP Co-ordinator	Matt Pocock	0400 767 139	matt.pocock@scu.edu.au

Terms and conditions: Sample submission to EAL infers acceptance of the EAL Terms and Conditions.

ABN: 41 995 651 524

# **WATERS ANALYTICAL SERVICES**

## **WATER TESTING**

Metals as Total Available / Acid Soluble unless requested otherwise. All packs have preparation and digest/extract charge included.

	Metals as Total Available / Acid Soluble unless requested otherwise. All packs have preparation and d	PRICE	PRICE
ITEM CODE	SPECIFIC WATER SUITES	excl. GST	incl. GST
SW-PACK-002	Water Quality - Basic For drinking and domestic use. Includes pH, EC, Total Dissolved Salts (TDS) (calculation), Water Hardness, Total Alkalinity, Turbidity, Total Coliforms, E.Coli Bacteria.	\$70.00	\$77.00
SW-PACK-003	Water Quality - Comprehensive For drinking and domestic use. Includes pH, EC, Total Dissolved Salts (TDS) (calculation), Water Hardness, Total Alkalinity, Turbidity, Total Coliforms and E.Coli Bacteria; Nitrate; Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Manganese, Nickel, Lead, Zinc, Mercury.	\$110.00	\$121.00
SW-PACK-004	Irrigation Suitability - Basic Includes pH, EC, Total Dissolved Salts (TDS) (calculation), Iron and Manganese; Sodium, Potassium, Calcium, Magnesium, Sulfate, Chloride; Turbidity, Total Alkalinity, Water Hardness (calculation), Saturation Index; Sodium Absorption Ratio (SAR).	\$80.00	\$88.00
SW-PACK-005	Irrigation and Livestock Suitability – Comprehensive Includes pH, EC, Total Dissolved Salts (TDS) (calculation), Water Hardness, Total Alkalinity, Turbidity, Total Coliforms and E.Coli Bacteria; Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Manganese, Nickel, Lead, Zinc; Nitrate, Ammonium, Phosphate; Sodium, Potassium, Calcium, Magnesium, Chloride, Sulfate, Sodium Absorption Ratio (SAR).	\$150.00	\$165.00
SW-PACK-015	Wastewater Monitoring Includes pH, Total Suspended Solids (TSS); Biochemical Oxygen Demand (BOD); Total Oils and Green (TOG).	\$95.00	\$104.50
SW-PACK-016	Acid Sulfate Waters Includes pH, EC, Total Dissolved Salts (TDS) (calculation); Titratable Acidity; Dissolved Iron and Amminium; Sulfate, Chloride, Sulfate:Chloride Ratio.	\$70.00	\$77.00
SW-PACK-021	Aggressivity Assessment Includes pH, EC, Total Dissolved Salts (TDS) (calculation), Resistivity (Calculation), Soleble Chloride, Sulfate.	\$45.00	\$49.50
SW-PACK-007	Agricultural Stock Use Includes pH, EC, Total Dissolved Salts (TDS) (calculation); Water Hardnes, Total Al, alinity; Copper, Lead, Cadmium, Zinc, Arsenic, Selenium, Iron, Manganese, Silver, Chromium, Nickel, Aluminiu n, Mercury; Nitrate, Ammonium, Phosphate; Faecal Coliforms.	\$120.00	\$132.00
SW-PACK-041	Aquaculture Monitoring Suite Includes pH, Total Suspended Solids (TSS), Biochemical Oxygen D∈ mand (BOD), Total Nitrogen (TN), Total Phosphorus (TP).	\$90.00	\$99.00
SW-PACK-001	Bacteria Includes Total Coliforms and E.Coli.	\$45.00	\$49.50
SW-PACK-025	Dust Analysis As per Total Suspended Solids (TSS) and Method AS 3, 30.10.1.8.2.2-1991.	\$25.00	\$27.50
SW-PACK-022	Dust Ashing Analysis Includes Volatile Suspended Solids (VSS), Tital Sepended Solids (TSS), Total Dissolved Solids (TDS).	\$65.00	\$71.50
SW-PACK-018	Effluent Monitoring Includes pH, Total Suspended Solids (TSS) Biochemical Oxygen Demand (BOD); Total Oils and Grease (TOG); Total Nitrogen (TN), Total Phosphorus, TP); Nitrate, Nitrite, Phosphate, Ammonium; Faecal Coliforms.	\$190.00	\$209.00
SW-PACK-012	Environmental Monitoring a Includes pH, EC, Total Diss and Saits (TDS) (calculation); Total Suspended Solids (TSS); Nitrate, Nitrite, Phosphate, Ammonium; Total Nitrogen (TN), Total Phosphorus (TP).	\$100.00	\$110.00
SW-PACK-013	Environmental Monit ring b (EPA Suite) Includes pH, EC, Total ssolved Salts (TDS) (calculation); Total Suspended Solids (TSS); Nitrate, Nitrite, Phosphate, Ammonium; Total Nitrogen and Total Phosphorus; Biochemical Oxygen Demand (BOD).	\$130.00	\$143.00
SW-PACK-017	Environmental Monitoring 2 Includes pH, EC, Total Dissolved Salts (TDS) (calculation); Total Suspended Solids (TSS); Total Nitrogen and Total Phosphorus; Nitrate, Nitrite, Phosphate, Ammonium; Copper, Lead, Cadmium, Zinc, Arsenic, Selenium, Iron, Manganese, Silver, Chromium, Nickel, Aluminium, Mercury; Sodium, Potassium, Calcium, Magnesium, Sulfate, Chloride; Bicarbonate Alkalinity, Water Hardness (calculation); Sodium Absorption Ratio (SAR).	\$180.00	\$198.00
SW-PACK-058	Gas Contamination Monitoring for Dissolved Gases Includes Acetylene, Butane, Ethane, Ethene, Methane and Propane.	\$140.00	\$154.00
SW-PACK-056	Gas Contamination Water Quality Monitoring Includes pH, EC, Total Dissolved Salts (TDS) (calculation), Total Alkalinity, Total Suspended Solids (TSS); Total Petroleum Hydrocarbons (TPH C10-C40), BTEX (Equivalent TPH C6-C10); Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium, Silver and Zinc.	\$160.00	\$176.00
SW-PACK-026	Liquid - Fertiliser Totals Includes acid digestion then ICP analysis for Phosphorus; Sodium, Potassium, Calcium, Magnesium, Sulfur; Silicon, Cobalt, Molybdenum, Zinc, Manganese, Iron, Copper, Boron. Also includes pH, EC, Total Dissolved Salts (TDS) (calculation); Total Nitrogen (TN).	\$180.00	\$198.00
SW-PACK-057	Liquid - Hydroponic Availables Includes 0.45 um filter then ICP analysis for Sodium, Potassium, Calcium, Magnesium, Sulfur, Chloride; Available Cobalt, Molybdenum, Zinc, Manganese, Iron, Copper, Boron. Also includes pH, EC; Total Nitrogen (TN), Phosphorus (TP).	\$130.00	\$143.00

ITEM CODE	SPECIFIC WATER SUITES (Cont.)	PRICE excl. GST	PRICE incl. GST
SW-PACK-070	MRTS - FORM I - Non-potable Water Testing and Assessment Report Includes pH, EC; Sodium, Potassium, Calcium, Magnesium, Sulfate, Chloride, Sodium Absorption Ratio (SAR); Bicarbonate / Carbonate Alkalinity; Salmonella, Ecoli, Total Colilforms.	\$150.00	\$165.00
SW-PACK-020	Nutrients - Dissolved Includes Nitrate, Nitrite, Phosphate, Ammonium.	\$45.00	\$49.50
SW-PACK-019	Nutrients - Total Includes Total Nitrogen (TN), Total Phosphorus (TP).	\$50.00	\$55.00
SW-PACK-042	Petroleum Hydrocarbons Includes Total Petroleum Hydrocarbons (TPH C10-C40), BTEX (Equivalent TPH C6-C10).	\$80.00	\$88.00
SW-PACK-014	Salts Suite Includes pH, EC, Sodium, Potassium, Calcium, Magnesium, Sulfate, Chloride; Total Alkalinity, Water Hardness (calculation); Sodium Absorption Ratio (SAR).	\$70.00	\$77.00
SW-PACK-028	Volatile Fatty Acids (VFA) Includes Volatile Fatty Acids (VFA), pH, Alkalinity.	\$60.00	\$66.00
SW-PACK-071	Water quality for concrete mixes under AS1379 Includes pH, EC, TDS (by calc), Total Suspended Solids, Total Oils and Grease, Sugars (Biological Oxygen Demand), Chloride, Sodium and Sulfate.	\$140.00	\$154.00
SW-PACK-055	Water Analysis - Basic Includes pH, EC, Total Dissolved Salts (TDS) (calculation); Total Suspended Solids (TSS).	\$30.00	\$33.00
SW-PACK-073	Water Source Identification Includes pH, EC, TDS (Calc), turbidity, nitrate, nitrite, ammonia, phosphate, fluoride, Total and free residual chlorine and Ecoli bacteria (used to indicate if water is sourced from town reticulation, sewage, recycling, ground, surface or rain water – comments provided on email of results).	\$140.00	\$154.00
SW-PACK-076	Public Pools Microbiological Monitoring Microbiological analysis of Total Plate Count (ie. Heterotrophic colony count), Ecoli and Pseudomor s abruginosa. (250ml bacto sample container with thiosulfate preservative- do not rinse container).	\$100.00	\$110.00

ITEM CODE	WATERS PREPARATIONS	PRICE excl. GST	PRICE incl. GST
SW-PREP-005	As Supplied - Research Samples/External Preparation	\$0.00	\$0.00
SW-PREP-003	Filtered/Dissolved Metals Immediate filtration through 0.45 µm filter followed by acidification with Nitropacia. It is particularly important where waters are high in suspended clay matter, where Iron and Aluminium ma, be present.	\$5.00	\$5.50
SW-PREP-006	Saline Waters Instrument Setup (per batch)	\$100.00	\$110.00
SW-PREP-002	Total Available/Acid Soluble Metals Acidification with Nitric acid. Used on nearly all environmental waters, acid sulfate waters, groundwater and surfacewaters (According to ANZECC guidelines). Also usee for clean waters, drinking waters, when acidified in the field and when requested.	\$5.00	\$5.50
SW-PREP-001	Total Recoverable Metals Nitric Acid digest. Used on high sludge/solid waters an I when requested.	\$15.00	\$16.50

All packs have preparat on an o gest/extract charge included. Saline waters that request low level metals require (SW-PREP-006).

ITEM CODE	METAL SUITES	PRICE excl. GST	PRICE incl. GST
SW-PACK-031	Basic Metals Scan - As Supplie (ICPMS) Includes Aluminium, Arsenic, Cach, jum, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium, Silver and Zinc.	\$55.00	\$60.50
SW-PACK-040	Basic Metals Scan - Disso' (ea 'filtered then acidified) (ICPMS) Includes Aluminium, "senic Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium, Silver and Zinc.	\$60.00	\$66.00
SW-PACK-029	Basic Metals Scan - To al Available / Acid Soluble (acidified) (ICPMS) Includes Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium, Silver and Zinc.	\$60.00	\$66.00
SW-PACK-030	Basic Metals Scan - Total Recoverable (digested with nitric acid) (ICPMS) Includes Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium, Silver and Zinc.	\$65.00	\$71.50
SW-PACK-043	Extra Metals Scan - As Supplied (ICPMS) Includes Antimony, Barium, Beryllium, Bismuth, Boron, Bromide, Cobalt, Lithium, Molybdenum, Silicon, Strontium, Thallium, Thorium, Uranium and Vanadium.	\$55.00	\$60.50
SW-PACK-044	Extra Metals Scan - Dissolved (filtered then acidified) (ICPMS) Includes Antimony, Barium, Beryllium, Bismuth, Boron, Bromide, Cobalt, Lithium, Molybdenum, Silicon, Strontium, Thallium, Thorium, Uranium and Vanadium.	\$60.00	\$66.00
SW-PACK-045	Extra Metals Scan - Total Available/Acid Soluble (acidified) (ICPMS) Includes Antimony, Barium, Beryllium, Bismuth, Boron, Bromide, Cobalt, Lithium, Molybdenum, Silicon, Strontium, Thallium, Thorium, Uranium and Vanadium.	\$60.00	\$66.00
SW-PACK-046	Extra Metals Scan - Total Recoverable (digested with nitric acid) (ICPMS) Includes Antimony, Barium, Beryllium, Bismuth, Boron, Bromide, Cobalt, Lithium, Molybdenum, Silicon, Strontium, Thallium, Thorium, Uranium and Vanadium.	\$65.00	\$71.50
SW-PACK-060	Saline Water Metals (Low Level) > 20 mS/cm (As Supplied) (ICPMS) Includes Basic (Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium, Silver and Zinc); Extra (Barium, Beryllium, Bismuth, Cobalt, Molybdenum, Thallium, Uranium and Vanadium).	\$80.00	\$88.00
SW-PACK-061	Saline Water Metals (Low Level) > 20 mS/cm (Dissolved) (ICPMS) Includes Basic (Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium, Silver and Zinc); Extra (Barium, Beryllium, Bismuth, Cobalt, Molybdenum, Thallium, Uranium and Vanadium).	\$85.00	\$93.50

ITEM CODE	METAL SUITES (Cont.)	PRICE excl. GST	PRICE incl. GST
SW-PACK-062	Saline Water Metals (Low Level) > 20 mS/cm (Total Available/Acid Soluble) (ICPMS)	\$85.00	\$93.50
	Includes Basic (Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium,		
	Silver and Zinc); Extra (Barium, Beryllium, Bismuth, Cobalt, Molybdenum, Thallium, Uranium and Vanadium).		
SW-PACK-063	Saline Water Metals (Low Level) > 20 mS/cm (Total Recoverable) (ICPMS)	\$90.00	\$99.00
	Includes Basic (Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium,		
	Silver and Zinc); Extra (Barium, Beryllium, Bismuth, Cobalt, Molybdenum, Thallium, Uranium and Vanadium).		
SW-PACK-039	Salts Scan - As Supplied (ICPMS)	\$30.00	\$33.00
CM DACK 026	Includes Calcium, Chloride, Magnesium, Potassium, Sodium and Sulfur.	¢25.00	620 E0
SW-PACK-036	Salts Scan - Dissolved (filtered then acidified) (ICPMS) Includes Calcium, Chloride, Magnesium, Potassium, Sodium and Sulfur.	\$35.00	\$38.50
SW-PACK-037	Salts Scan - Total Available/Acid Soluble (acidified) (ICPMS)	\$35.00	\$38.50
ON 171011 007	Includes Calcium, Chloride, Magnesium, Potassium, Sodium and Sulfur.	<b>Q</b> 00.00	\$00.00
SW-PACK-038	Salts Scan - Total Recoverable (digested with nitric acid) (ICPMS)	\$40.00	\$44.00
	Includes Calcium, Chloride, Magnesium, Potassium, Sodium and Sulfur.		
SW-PACK-051	Special - Metals and Salts Combo - As Supplied (ICPMS)	\$110.00	\$121.00
	Includes Basic (Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium,		
	Silver and Zinc); Extra (Antimony, Barium, Beryllium, Bismuth, Boron, Bromide, Cobalt, Lithium, Molybdenum, Silicon,		
	Strontium, Thallium, Thorium, Uranium and Vanadium) and Salts (Calcium, Chloride, Magnesium, Potassium, Sodium		
SW-PACK-052	and Sulfur).  Special Metals and Salta Combo Disselved (filtered then saidified) (ICRMS)	\$115.00	\$126.50
5W-PACK-052	Special - Metals and Salts Combo - Dissolved (filtered then acidified) (ICPMS) Includes Basic (Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium,	\$115.00	\$120.50
	Silver and Zinc); Extra (Antimony, Barium, Beryllium, Bismuth, Boron, Bromide, Cobalt, Lithium, Molybdenum, Silicon,		
	Strontium, Thallium, Thorium, Uranium and Vanadium) and Salts ( Calcium, Chloride, Magnesium, Potas sium,		
	Sodium and Sulfur).		
SW-PACK-053	Special - Metals and Salts Combo - Total Available/Acid Soluble (acidified) (ICPMS)	\$115.00	\$126.50
	Includes Basic (Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Merc vy, Jickel, Selenium,		
	Silver and Zinc); Extra (Antimony, Barium, Beryllium, Bismuth, Boron, Bromide, Cobalt, Lithium, Moybdenum, Silicon,		
	Strontium, Thallium, Thorium, Uranium and Vanadium) and Salts ( Calcium, Chloride, Magne ium, Potassium,		
014/ 04/05/	Sodium and Sulfur).	4400.00	4400.00
SW-PACK-054	Special - Metals and Salts Combo - Total Recoverable (digested with nitric acid) (ICPN 5)	\$120.00	\$132.00
	Includes Basic (Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Lead; M., Janese, Mercury, Nickel, Selenium, Silver and Zinc); Extra (Antimony, Barium, Beryllium, Bismuth, Boron, Brome, Cobat, Lithium, Molybdenum, Silicon,		
	Strontium, Thallium, Thorium, Uranium and Vanadium) and Salts ( Calcium, Lhloride, Magnesium, Potassium,		
	Sodium and Sulfur).		
SW-PACK-067	Speciated Arsenic	\$350.00	\$385.00
	Includes toxic arsenic species AsV determination using HPLC-ICPN S (Total Arsenic analysis also included to		
	determine As III) 1% of volume HCl preservation in PP.		
SW-PACK-068	Speciated Chromium	\$350.00	\$385.00
	Includes toxic hexavalent chromium species CrVI determination using HPLC-ICPMS (Total Chromium analysis also		
	included to determine CrIII) 1 M NaOH preservation op. 3 drops/30 ml to adjust pH to 8-9.5) in PP.		
SW-PACK-066	Speciated Mercury	\$350.00	\$385.0
	Includes toxic mercury species Methyl Mercu y determination using HPLC-ICPMS (Total Mercury analysis also included to determine Hgll) 1% of volume Hgll progression in glass jar.		
SW-PACK-047	Specific - Rare Earth - As Supplied ( : PMS)	\$75.00	600 E
SW-PACK-047	Includes Cerium, Dysprosium, Erbium, Euro Jium, Gadolinium, Holmium, Lanthanum, Lutetium, Neodymium,	\$75.00	\$82.50
	Praseodymium, Samarium, Scanc um, Terbium, Thorium, Thulium, Uranium, Ytterbium and Yttrium.		
SW-PACK-048	Specific - Rare Earth - Diss Net I (figured then acidified) (ICPMS)	\$80.00	\$88.00
	Includes Cerium, Dysprosium, Stoom, Europium, Gadolinium, Holmium, Lanthanum, Lutetium, Neodymium,	*******	****
	Praseodymium, Samarium, Scandium, Terbium, Thorium, Thulium, Uranium, Ytterbium and Yttrium.		
SW-PACK-049	Specific - Rare Earth 17 Available / Acid Soluble (acidified) (ICPMS)	\$80.00	\$88.00
	Includes Cerium, Dyspin sium, Erbium, Europium, Gadolinium, Holmium, Lanthanum, Lutetium, Neodymium,		
	Praseodymium, Samarium, Scandium, Terbium, Thorium, Thulium, Uranium, Ytterbium and Yttrium.		
SW-PACK-050	Specific - Rare Earth - Total Recoverable (digested with nitric acid) (ICPMS)	\$85.00	\$93.50
SW-PACK-050	Includes Cerium, Dysprosium, Erbium, Europium, Gadolinium, Holmium, Lanthanum, Lutetium, Neodymium,		
5W-PACK-050			
	Praseodymium, Samarium, Scandium, Terbium, Thorium, Thulium, Uranium, Ytterbium and Yttrium.		
SW-PACK-050	Praseodymium, Samarium, Scandium, Terbium, Thorium, Thulium, Uranium, Ytterbium and Yttrium.  Metals Screen in Oil - Total Acid Digestable (ICPMS)	\$90.00	\$99.00
	Praseodymium, Samarium, Scandium, Terbium, Thorium, Thulium, Uranium, Ytterbium and Yttrium.	\$90.00	\$99.00

Single tests may require sample preparation.

ITEM CODE	INDIVIDUAL METAL TEOTO	PRICE	PRICE
ITEM CODE	INDIVIDUAL METAL TESTS	excl. GST	incl. GST
SW-SING-102	General Metals - As Supplied (external prep) Price per element Aluminium, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Bromide, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Sulfur, Thallium, Thorium, Uranium, Vanadium or Zinc.	\$10.00	\$11.00
SW-SING-103	General Metals - Dissolved Price per element Aluminium, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Bromide, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Sulfur, Thallium, Thorium, Uranium, Vanadium or Zinc.	\$10.00	\$11.00

ITEM CODE	INDIVIDUAL METAL TESTS (Cont.)	PRICE excl. GST	PRICE incl. GST
SW-SING-104	General Metals - Total Available/Acid Soluble Price per element Aluminium, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Bromide, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Sulfur, Thallium, Thorium, Uranium, Vanadium or Zinc.	\$10.00	\$11.00
SW-SING-105	General Metals - Total Recoverable Price per element Aluminium, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Bromide, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Sulfur, Thallium, Thorium, Uranium, Vanadium or Zinc.	\$10.00	\$11.00
SW-SING-133	General Metals - Total Acid Digestable Price per element Aluminium, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Bromide, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Sulfur, Thallium, Thorium, Uranium, Vanadium or Zinc.	\$10.00	\$11.00
SW-SING-106	Non-Standard Metals - As Supplied Price per element Cerium, Dysprosium, Erbium, Europium, Gadolinium, Gallium, Gold, Holmium, Lanthanum, Lutetium, Neodymium, Praseodymium, Rubidium, Samarium, Scandium, Terbium, Thulium, Tin, Titanium, Tungsten, Ytterbium or Yttrium.	\$15.00	\$16.50
SW-SING-107	Non-Standard Metals - Dissolved Price per element Cerium, Dysprosium, Erbium, Europium, Gadolinium, Gallium, Gold, Holmium, Lanthanum, Lutetium, Neodymium, Praseodymium, Rubidium, Samarium, Scandium, Terbium, Thulium, Tin, Titanium, Tungsten, Ytterbium, Cardium, C	\$15.00	\$16.50
SW-SING-108	Non-Standard Metals - Total Available/Acid Soluble Price per element Cerium, Dysprosium, Erbium, Europium, Gadolinium, Gallium, Gold, Holmium, Lanthanum, Lutt tiu Aeodymium, Praseodymium, Rubidium, Samarium, Scandium, Terbium, Thulium, Tin, Titanium, Tungster Ytte bium or Yttrium.	\$15.00	\$16.50
SW-SING-109	Non-Standard Metals - Total Recoverable Price per element Cerium, Dysprosium, Erbium, Europium, Gadolinium, Gallium, Gold, Holmium, Zai thanum, Jutetium, Neodymium, Praseodymium, Rubidium, Samarium, Scandium, Terbium, Thulium, Tin, Titanium, Jungsten, Ytterbium or Yttrium.	\$15.00	\$16.50

	All packs have preparation an	d digest/extract	charge included
ITEM CODE	RESIDUE SUITES	PRICE	PRICE
ITEM CODE	RESIDUE SUITES	excl. GST	incl. GST
SW-PACK-072	Complete Waters Residue Screen Includes RS1 + RS2 (OCOP Pesticides + Synthetic Pyrethroid) - 80+ Residues + Herbicide and Fungicide - 40+ Residue).	\$220.00	\$242.00
SW-PACK-009	Pesticide Screen 1a Includes Organo-chlorines (OC), Organo-phosphate OF,	\$70.00	\$77.00
SW-PACK-010	Pesticide Screen 1b Includes Organo-chlorines (OC), Organo-phos shares (OP) and Polychlorinated biphenyls (PCB).	\$90.00	\$99.00
SW-PACK-024	Pesticide Screen 2a - Low Level Includes Low Level Pesticide Analysis Organo-chlorines (OC) and Organo-phosphates (OP).	\$130.00	\$143.00
SW-PACK-027	Pesticide Screen 2b - Low Level Includes Low Level Pesticide Analysis: Organo-chlorines (OC), Organo-phosphates (OP), Polychlorinated Biphenyls (PCB).	\$140.00	\$154.00
SW-PACK-059	Pesticide Screen 3 - In Oil (Cateum est. <10 ppm) Includes Organo-chlorines (OC) Organo-phosphates (OP). Note: 25 mL required	\$150.00	\$165.00
SW-PACK-075	Pesticides/ Residue S. (een – In Oil (Detection 0.1 ppm) Includes Organo-chlorines (OC), Organo-phosphates (OP) and a Multi-residue scan. Note: 25 mL required.	\$180.00	\$198.00

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	Single tests	may require sam	
ITEM CODE	INDIVIDUAL RESIDUE TESTS	PRICE	PRICE
	INDIVIDUAL REGIDGE TESTS	excl. GST	incl. GST
SW-SING-116	Glyphosate (Round Up)	\$170.00	\$187.00
SW-SING-098	Herbicides Phenoxy Acid	\$170.00	\$187.00
SW-SING-062	Hydrocarbons - BTEX (Equivalent to TPH C6-C10)	\$50.00	\$55.00
SW-SING-008	Hydrocarbons - Polycyclic Aromatic Hydrocarbons (PAH)	\$65.00	\$71.50
SW-SING-063	Hydrocarbons - Total Petroleum (TPH C10-C40)	\$50.00	\$55.00
SW-SING-064	Organo-chlorines (OC)	\$65.00	\$71.50
SW-SING-113	Organo-chlorines (OC) - In Oil	\$120.00	\$132.00
	Note: 25 mL required.		
SW-SING-096	Organo-chlorines (OC) - Low Level	\$90.00	\$99.00
SW-SING-065	Organo-phosphates (OP)	\$65.00	\$71.50
SW-SING-114	Organo-phosphates (OP) - In Oil	\$120.00	\$132.00
	Note: 25 mL required.		
SW-SING-097	Organo-phosphates (OP) - Low Level	\$90.00	\$99.00
SW-SING-117	Organotins (MBT, TBT, DBT)	\$260.00	\$286.00

ITEM CODE	INDIVIDUAL RESIDUE TESTS (Cont.)	PRICE excl. GST	PRICE incl. GST
SW-SING-121	PFAS in water – standard level 28 suite with detection 0.01 - 0.05 µg/L Includes the analysis of per- and poly-fluoroalkyl substances (PFAS) in water.	\$150.00	\$165.00
SW-SING-134	PFAS in water – low level 28 suite with detection 0.0002 µg/L Includes the analysis of per- and poly-fluoroalkyl substances (PFAS) in water.	\$170.00	\$187.00
SW-SING-038	Phenol - Total	\$60.00	\$66.00
SW-SING-026	Phenolics - Speciated Phenols	\$90.00	\$99.00
SW-SING-066	Polychlorinated Biphenyls (PCB)	\$65.00	\$71.50
SW-SING-099	Polychlorinated Biphenyls (PCB) - Low Level	\$90.00	\$99.00
SW-SING-111	Semi-Volatile Organic Compounds (SVOC) SVOC includes Phenols.	\$220.00	\$242.00
SW-SING-037	Trihalomethanes (THM)	\$60.00	\$66.00
SW-SING-095	Volatile Halogenated Compounds (VHC)	\$90.00	\$99.00
SW-SING-094	Volatile Organic Compounds (VOC) VOC includes BTEX.	\$115.00	\$126.50

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ITEM CODE	INDIVIDUAL MICROBIAL TESTS	PRICE	PRICE
ITEM CODE	INDIVIDUAL INICIODIAL TESTS	excl. GST	incl. GST
SW-SING-039	Bacteria - Faecal Coliforms	\$35.00	\$38.50
SW-SING-040	Bacteria - Total Coliforms	\$35.00	\$38.50
SW-SING-041	E.Coli - 24h Incubation	\$40.00	\$44.00
SW-SING-042	Enterococci	\$45.00	\$49.50
SW-SING-036	Legionella	\$100.00	\$110.00
SW-SING-043	Listeria	\$60.00	\$66.00
SW-SING-044	Pseudomonas	\$45.00	\$49.50
SW-SING-045	Salmonella	\$60.00	\$66.00
SW-SING-046	Total Plate Count	\$45.00	\$49.50

Single tests may require sample preparation.

ITEM CODE	INDIVIDUAL NITROGEN TESTS	PRICE excl. GST	PRICE incl. GST
SW-SING-047	Ammonium	\$20.00	\$22.00
SW-SING-048	Nitrate	\$20.00	\$22.00
SW-SING-049	Nitrite	\$20.00	\$22.00
SW-SING-050	NOx .	\$20.00	\$22.00
SW-SING-051	Total Kjeldahl Nitrogen (TKN) Includes Total Nitrogen and NOx.	\$40.00	\$44.00
SW-SING-052	Total Nitrogen (TN)	\$30.00	\$33.00
SW-SING-118	Total Nitrogen by LECO	\$30.00	\$33.00

Single tests may require sample preparation.

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ITEM CODE	INDIVIDUAL GENERAL TESTS	PRICE excl. GST	PRICE incl. GST
SW-SING-031	Acidity (Titratable) Includes pH.	\$18.00	\$19.80
SW-SING-022	Algae - Basic ID and Coun. (Bl) e Green Algae only) by Microscopic Identification	\$110.00	\$121.00
SW-SING-123	Algae - Full ID and Courte, Microscopic Identification	\$160.00	\$176.00
SW-SING-075	Alkalinity - Bicarbonat	\$18.00	\$19.80
SW-SING-076	Alkalinity - Carbonate	\$18.00	\$19.80
SW-SING-077	Alkalinity - Total	\$18.00	\$19.80
SW-SING-110	Biochemical Oxygen Demand (BOD) - Dissolved	\$45.00	\$49.50
SW-SING-012	Biochemical Oxygen Demand (BOD) - Total	\$45.00	\$49.50
SW-SING-078	Carbon - Dissolved Organic (DOC)	\$50.00	\$55.00
SW-SING-079	Carbon - Total Organic (TOC)	\$50.00	\$55.00
SW-SING-119	Carbon - Total Organic (TOC) by LECO	\$50.00	\$55.00
SW-SING-013	Chemical Oxygen Demand (COD)	\$45.00	\$49.50
SW-SING-080	Chloride - Available	\$18.00	\$19.80
SW-SING-081	Chlorine - Free	\$18.00	\$19.80
SW-SING-082	Chlorine - Total Residual Includes Total Residual Chlorine and Free Chlorine.	\$36.00	\$39.60
SW-SING-017	Chlorophyll 'a' and Algal Biomass	\$54.00	\$59.40
SW-SING-030	Chromium VI - Hexavalent  Speciation by a screening colourimetric technique which may be subject to matrix interference. Refer to separate analysis codes for speciation using HPLC-ICPMS analysis.	\$36.00	\$39.60
SW-SING-073	Colour - Apparent	\$14.00	\$15.40
SW-SING-074	Colour - True	\$14.00	\$15.40
SW-SING-056	Conductivity - Electrical	\$10.00	\$11.00
SW-SING-029	Cyanide - Total	\$50.00	\$55.00

ITEM CODE	INDIVIDUAL GENERAL TESTS (Cont.)	PRICE excl. GST	PRICE incl. GST
SW-SING-083	Fluoride	\$30.00	\$33.00
SW-SING-116	Glyphosate (Round Up)	\$170.00	\$187.00
SW-SING-084	Hardness	\$18.00	\$19.80
SW-SING-124	Insoluble Matter – Liquid Fertilisers Includes insoluble matter mg/L.	\$30.00	\$33.00
SW-SING-027	lodine - Total	\$60.00	\$66.00
SW-SING-085	Moisture (105°C)	\$20.00	\$22.00
SW-SING-058	Oxygen - Dissolved (DO)	\$10.00	\$11.00
SW-SING-115	Particle Size Analysis - Laser Diffraction Particle size analysis using a Malvern Mastersizer 3000. Span 0.01 to 3000 µm. Size classes dictated by client requirments. Price dependent upon application and sample amounts.	\$170.00	\$187.00
SW-SING-055	pH	\$10.00	\$11.00
SW-SING-054	Phosphorus - Available Orthophosphate	\$20.00	\$22.00
SW-SING-053	Phosphorus - Total (TP) Autoclave digestion and analysis by FIA.	\$30.00	\$33.00
SW-SING-059	Redox	\$10.00	\$11.00
SW-SING-057	Salinity	\$10.00	\$11.00
SW-SING-122	Silica - Total Includes specialised NaOH high temperature fusion extraction of silicon as per dry weight.	\$150.00	\$165.00
SW-SING-120	Specific Gravity - Hydrometer method Includes specific gravity and temperature on sample volumes greater than 200 mL.  Specific Gravity - Volumetric method Includes specific gravity and temperature on samples with small volumes.  Sulfide - Dissolved  Sulfide - Total  Sulfite - Dissolved	\$20.00	\$22.00
SW-SING-035	Specific Gravity - Volumetric method Includes specific gravity and temperature on samples with small volumes.	\$20.00	\$22.00
SW-SING-067	Sulfide - Dissolved	\$30.00	\$33.00
SW-SING-068	Sulfide - Total	\$30.00	\$33.00
SW-SING-100	Sulfite - Dissolved	\$22.00	\$24.20
SW-SING-101	Sulfite - Total	\$22.00	\$24.20
SW-SING-028	Surfactant - MBAS	\$50.00	\$55.00
SW-SING-021	Tannin/Lignin	\$60.00	\$66.00
SW-SING-060	Temperature	\$10.00	\$11.00
SW-SING-061	Total Dissolved Salts (TDS) (calculation)	\$10.00	\$11.00
SW-SING-034	Total Dissolved Solids (TDS) Includes filtering and TDS by evaporation.	\$30.00	\$33.00
SW-SING-118	Total Nitrogen by LECO	\$30.00	\$33.00
SW-SING-011	Total Oils and Grease (TOG) - Hexane extractable	\$50.00	\$55.00
SW-SING-033	Total Solids	\$30.00	\$33.00
SW-SING-003	Total Suspended Solids (TSS)	\$20.00	\$22.00
SW-SING-069	Turbidity	\$12.00	\$13.20
SW-SING-070	UV Absorbency	\$25.00	\$27.50
SW-SING-072	UV Transmission - Filtered	\$25.00	\$27.50
SW-SING-071	UV Transmission - Unfiltered	\$25.00	\$27.50
SW-SING-005	Volatile Suspended Solids (\$25)	\$35.00	\$38.50

Single tests may require sample preparation.

	Siligie test	s may require sarr	ipie preparation.
ITEM CODE	INDIVIDUAL STALLE ISOTOPE TESTS	PRICE excl. GST	PRICE incl. GST
SW-SING-136	Total Inorganic Carbon (TIC) - 13C Isotopes Includes both saline and non-saline waters.	\$50.00	\$55.00
SW-SING-137	Total Organic Carbon (TOC) - 13C Isotopes Includes both saline and non-saline waters.	\$80.00	\$88.00
SW-SING-125	Total Inorganic and Organic (TIC and TOC) - 13C Isotopes Includes both saline and non-saline waters.	\$120.00	\$132.00
SW-SING-128	Dissolved Nitrogen - 15N Isotopes Includes Dissolved $N_2$ isotope testing - ratio masses 29/28 and 30/28.	\$50.00	\$55.00
SW-SING-129	Dissolved Nitrous Oxide - 15N and 180 Isotopes	\$125.00	\$137.50
SW-SING-135	Nitrate Stable Isotope Analysis - 15N and 18O Isotopes Includes Delta 15N and delta 18O of nitrate fresh and saline water samples (includes nitrate anlysis to confirm minimum 0.14mg/L N required for isotope analysis).	\$150.00	\$165.00
SW-SING-130	Dissolved Gas Analysis Includes N <sub>2</sub> /Ar in non-isotope ratio measurement.	\$50.00	\$55.00
SW-SING-138	Hydrogen Isotopes in Water - 2H Isotopes	\$50.00	\$55.00
SW-SING-139	Oxygen Isotopes in Water - 180 Isotopes	\$50.00	\$55.00
SW-SING-140	Hydrogen and Oxygen Isotopes in Water - 2H and 180 Isotopes	\$100.00	\$110.00

# NATA ACCREDITED TESTS (Lab Acc. No. 14960)



S11       Soil pH and Electrical Conductivity       In-house (re R&L 3A1, 4A1)         S4a       Total Carbon, Nitrogen, Sulfur by Combustion in Soil and Plant       In-house (re R&L 6B2b, 7AS)         S8       DTPA – Cu, Zn, Mn, Fe       In-house (re R&L 12A1)         S9c       Exchangeable bases and CEC-1M Ammonium Acetate       In-house (re R&L 15D3)         S14       Acid Neutralising Capacity       In-house (re R&L 6B3)         S15b       Total Organic Carbon in Soil by Combustion       In-house (re R&L 6B3)         S16b       Titratable Actual Acidity       In-house (re R&L 6B3)         S20       Chromium Reducible Sulfur       In-house (re National Guidance NLM-3.2)         S21       Acid Sulfate Soil pH-F and pH-F and pH-F Aux Testing       In-house (re National Guidance)         S38       Lead in Paint       In-house         W1       Turbidity       In-house         W1       Total Nitrogen/Total Phosphorous (Lachat)       In-house (re APHA 4500 NO3-1         W7       Nitrate in Waters (Lachat)       APHA 4500 NO3-1         W7       Nitrate in Waters (Lachat)       APHA 4500 NO3-1         W8       Ortho-Phosphate in Waters (Lachat)       APHA 4500 NH3-H         W26       BOD in Waters and Wastewaters       APHA 520-D         W28a       Total Oils and Grease Automa and APHA	ID	Tests	Reference
by Combustion in Soil and Plant 6B2b, 7AS)  S8 DTPA - Cu, Zn, Mn, Fe In-house (re R&L 12A1)  S9c Exchangeable bases and CEC-1M Ammonium Acetate In-house (re R&L 15D3)  S14 Acid Neutralising Capacity In-house (re R&L 15D3)  S15b Total Organic Carbon in Soil In-house (re R&L 6B3)  S16b Titratable Actual Acidity In-house (re R&L 6B3)  S16b Titratable Actual Acidity In-house (re National Guidance NLM-5.2)  S20 Chromium Reducible Sulfur In-house (re National Guidance NLM-2.1)  S21 Acid Sulfate Soil pH-F and pH-FOX Testing In-house (re National Guidance)  S38 Lead in Paint In-house  W1 Turbidity In-house  W1 Total Nitrogen/Total Phosphorous (re APHA 4500 P-H N-C)  W6 Nitrite in Waters (Lachat) APHA 4500 NO3-I  W7 Nitrate in Waters (Lachat) APHA 4500 NO3-I  W8 Ortho-Phosphate in Waters (Lachat) APHA 4500 NH3-H  W25 Total Suspended Solids APHA 5210-B  W26 BOD in Waters and Wastewaters APHA 5210-B  W27 Water pH and Conductivity APHA 4500-H & 2510-B  W38 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K Se, Ag, Na, Sr, S, Ti, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Ti, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Ti, U, V, Zn)	S1	Soil pH and Electrical Conductivity	
S9c Exchangeable bases and CEC-1M Ammonium Acetate	S4a		`
Ammonium Acetate (re R&L 15D3)  S14 Acid Neutralising Capacity In-house (re National Guidance NLM-5.2)  S15b Total Organic Carbon in Soil by Combustion In-house (re R&L 6B3)  S16b Titratable Actual Acidity In-house (re National Guidance NLM-3.2)  S20 Chromium Reducible Sulfur In-house (re National Guidance NLM-2.1)  S21 Acid Sulfate Soil pH-F and pH-FOX Testing In-house (re National Guidance)  S38 Lead in Paint In-house  W1 Turbidity In-house  W4 Total Nitrogen/Total Phosphorous (re APHA 4500 P-H N-C)  W6 Nitrite in Waters (Lachat) APHA 4500 NO3-I  W7 Nitrate in Waters (Lachat) APHA 4500 NO3-F  W8 Ortho-Phosphate in Waters (Lachat) APHA 4500 NH3-H  W25 Total Suspended Solids APHA 5210-B  W26 BOD in Waters and Wastewators APHA 5520-D  W31 Water pH and Conductivity APHA 4500-H & 2510-B  W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, TI, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, TI, U, V, Zn)	S8	DTPA – Cu, Zn, Mn, Fe	
S15b Total Organic Carbon in Soil by Combustion In-house (re R&L 6B3)  S16b Titratable Actual Acidity In-house (re National Guidance NLM-3.2)  S20 Chromium Reducible Sulfur In-house (re National Guidance NLM-3.2)  S21 Acid Sulfate Soil pH-F and pH-FOX Testing In-house (re National Guidance)  S38 Lead in Paint In-house  W1 Turbidity In-house  W4 Total Nitrogen/Total Phosphorous (Lachat) In-house  W6 Nitrite in Waters (Lachat) APHA 4500 P-H N-C)  W6 Nitrate in Waters (Lachat) APHA 4500 NO3-I  W7 Nitrate in Waters (Lachat) APHA 4500 NO3-I  W8 Ortho-Phosphate in Waters (Lachat) APHA 4500 NH3-H  W25 Total Suspended Solids APHA 5210-B  W26 BOD in Waters and Wastewaters APHA 5210-B  W27 Water pH and Conductivity APHA 4500-H & 2510-B  W31 Water pH and Conductivity APHA 4500-H & 2510-B  W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)	S9c	•	
S16b Titratable Actual Acidity  S16b Titratable Actual Acidity  S20 Chromium Reducible Sulfur  S21 Acid Sulfate Soil pH-F and pH-FOX Testing  S38 Lead in Paint  W1 Turbidity  W4 Total Nitrogen/Total Phosphorous (re APHA 4500 P-H N-C)  W6 Nitrite in Waters (Lachat)  W7 Nitrate in Waters (Lachat)  W8 Ortho-Phosphate in Waters (Lachat)  W9 Ammonia in Waters (Lachat)  W25 Total Suspended Solids  W26 BOD in Waters and Wastewaters  W32 ICPMS Metals Analysis in Soils and Waters (AI, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, TI, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (AI, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, TI, U, V, Zn)  In-house (re R&L 6B3)  In-house (re National Guidance NLM-3.2)  In-house (re National Guidance NLM-3.2)  In-house (re APHA 4500 NO3-I  APHA 4500 NO3-I  APHA 4500 NO3-I  APHA 4500 NH3-H  APHA 5210-B  APHA 5210-B  APHA 5210-B  In-house (re APHA 3125)  In-house (re APHA 3125)	S14	Acid Neutralising Capacity	(re National Guidance
S20 Chromium Reducible Sulfur In-house (re National Guidance NLM-3.2)  S21 Acid Sulfate Soil pH-F and pH-FOX Testing In-house (re National Guidance)  S38 Lead in Paint In-house W1 Turbidity In-house W4 Total Nitrogen/Total Phosphorous (Lachat) In-house (re APHA 4500 P-H N-C)  W6 Nitrite in Waters (Lachat) APHA 4500 NO3-I W7 Nitrate in Waters (Lachat) APHA 4500 NO3-I W8 Ortho-Phosphate in Waters (Lachat) APHA 4500 NH3-H W25 Total Suspended Solids APHA 2540-D W26 BOD in Waters and Wastewaters APHA 5210-B W28a Total Oils and Grease Automa d APHA 5520-D W31 Water pH and Conductivity APHA 4500-H & 2510-B W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, TI, Th, Sn, U, V, Zn) W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, TI, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, TI, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, TI, U, V, Zn)	S15b		
(re National Guidance NLM-2.1)  S21 Acid Sulfate Soil pH-F and pH-FOX Testing  S38 Lead in Paint  In-house  W1 Turbidity  In-house  W4 Total Nitrogen/Total Phosphorous (Lachat)  W6 Nitrite in Waters (Lachat)  W7 Nitrate in Waters (Lachat)  W8 Ortho-Phosphate in Waters (Lachat)  W9 Ammonia in Waters (Lachat)  W25 Total Suspended Solids  W26 BOD in Waters and Wastewaters  W28a Total Oils and Grease Automa ad  W31 Water pH and Conductivity  W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)  In-house (re APHA 3125)	S16b	Titratable Actual Acidity	(re National Guidance
pH-FOX Testing (re National Guidance)  S38 Lead in Paint In-house  W1 Turbidity In-house  W4 Total Nitrogen/Total Phosphorous (re APHA 4500 P-H N-C)  W6 Nitrite in Waters (Lachat) APHA 4500 NO3-I  W7 Nitrate in Waters (Lachat) APHA 4500 NO3-F  W8 Ortho-Phosphate in Waters (Lachat) APHA 4500 NH3-H  W25 Total Suspended Solids APHA 2540-D  W26 BOD in Waters and Wastewaters APHA 5210-B  W28a Total Oils and Grease Automa ed APHA 5520-D  W31 Water pH and Conductivity APHA 4500-H & 2510-B  W32 ICPMS Metals Analysis in Soils and Waters (AI, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, TI, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (AI, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, TI, U, V, Zn)  In-house (re APHA 3125)	S20	Chromium Reducible Sulfur	(re National Guidance
W1 Turbidity In-house W4 Total Nitrogen/Total Phosphorous (Lachat) In-house (re APHA 4500 P-H N-C) W6 Nitrite in Waters (Lachat) APHA 4500 NO3-I W7 Nitrate in Waters (Lachat) APHA 4500 NO3-F W8 Ortho-Phosphate in Waters (Lachat) APHA 4500 NH3-F W9 Ammonia in Waters (Lachat) APHA 4500 NH3-H W25 Total Suspended Solids APHA 2540-D W26 BOD in Waters and Wastewaters APHA 5210-B W28a Total Oils and Grease Automa APHA 5520-D W31 Water pH and Conductivity APHA 4500-H & 2510-B W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn) W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)  In-house (re APHA 3125)	S21		
W4 Total Nitrogen/Total Phosphorous (Lachat)  W6 Nitrite in Waters (Lachat)  W7 Nitrate in Waters (Lachat)  W8 Ortho-Phosphate in Waters (Lachat)  W9 Ammonia in Waters (Lachat)  W25 Total Suspended Solids  W26 BOD in Waters and Wastewaters  W28a Total Oils and Grease Automa d  W31 Water pH and Conductivity  W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)  In-house (re APHA 3125)	S38	Lead in Paint	In-house
(Lachat) (re APHA 4500 P-H N-C)  W6 Nitrite in Waters (Lachat) APHA 4500 NO3-I  W7 Nitrate in Waters (Lachat) APHA 4500 NO3-F  W8 Ortho-Phosphate in Waters (Lachat) APHA 4500 NH3-H  W25 Total Suspended Solids APHA 2540-D  W26 BOD in Waters and Wastewaters APHA 5210-B  W28a Total Oils and Grease Automa ed APHA 5520-D  W31 Water pH and Conductivity APHA 4500-H & 2510-B  W32 ICPMS Metals Analysis in Soils and Waters (AI, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, TI, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (AI, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, TI, U, V, Zn)  In-house (re APHA 3125)	W1	Turbidity	In-house
W7 Nitrate in Waters (Lachat) W8 Ortho-Phosphate in Waters (Lachat) W9 Ammonia in Waters (Lachat) W25 Total Suspended Solids W26 BOD in Waters and Wastewaters W28a Total Oils and Grease Automated W31 Water pH and Conductivity W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn) W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)  APHA 4500 NH3-H APHA 5520-D APHA 5520-D APHA 4500-H & 2510-B In-house (re APHA 3125)	W4		(re APHA 4500
W8 Ortho-Phosphate in Waters (Lachat) W9 Ammonia in Waters (Lachat) W25 Total Suspended Solids W26 BOD in Waters and Wastewaters W28a Total Oils and Grease Automa d W31 Water pH and Conductivity APHA 4500-H & 2510-B W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn) W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn) In-house (re APHA 3125)	W6	Nitrite in Waters (Lachat)	APHA 4500 NO3-I
W9 Ammonia in Waters (Lachat) W25 Total Suspended Solids W26 BOD in Waters and Wastewaters W28a Total Oils and Grease Automated W31 Water pH and Conductivity APHA 4500-H & 2510-B W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn) W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn) In-house (re APHA 3125)	W7	Nitrate in Waters (Lachat)	APHA 4500 NO3-F
W25 Total Suspended Solids W26 BOD in Waters and Wastewaters W28a Total Oils and Grease Automa d W31 Water pH and Conductivity APHA 5520-D W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn) W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)  In-house (re APHA 3125)	W8	Ortho-Phosphate in Waters (Lachat)	APNA 4 500 P-G
W26 BOD in Waters and Wastewaters W28a Total Oils and Grease Automa d W31 Water pH and Conductivity APHA 4500-H & 2510-B  W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)  In-house (re APHA 3125)	W9	Ammonia in Waters (Lachat)	1PHA 4500 NH3-H
W28a Total Oils and Grease Automa ed  W31 Water pH and Conductivity  APHA 4500-H & 2510-B  W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)  In-house (re APHA 3125)	W25	Total Suspended Solids	APHA 2540-D
W31 Water pH and Conductivity APHA 4500-H & 2510-B  W32 ICPMS Metals Analysis in Soils and Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)  In-house (re APHA 3125)	W26	BOD in Waters and Wastewaters	APHA 5210-B
W32 ICPMS Metals Analysis in Soils and Waters (AI, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, TI, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (AI, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, TI, U, V, Zn)	W28a	Total Oils and Grease Automa	APHA 5520-D
Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Ag, Na, Sr, S, Tl, Th, Sn, U, V, Zn)  W32a Trace Metals in Saline Water (Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)	W31	Water pH and Conductivity	APHA 4500-H & 2510-B
(Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, U, V, Zn)	W32	Waters (Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K,	
W33 Soluble Chlorine as Chloride in Waters In-house (by ICPMS)	W32a	(Al, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe,	
	W33	Soluble Chlorine as Chloride in Waters	In-house (by ICPMS)

# **ASPAC TESTS** (for Plant and Soil materials)



Soil tests	Reference
pH	R&L 4A1, 4B1, 4B2
Electrical Conductivity	R&L 3A1
Bray 1, Colwell, Olsen Phosphorus	R&L 9E2, 9B2, 9C2
Total Phosphorus	R&L 17C1
Exchangeable Cations – Ca, Mg, K, Na	R&L 15D3
Exchangeable Cations – H, Al	R&L 15G1
DTPA - Fe, Cu, Zn, Mn	R&L 12A1
Total Carbon & Nitrogen	R&L 6B2b, 7A5
Nitrate & Ammonium Nitrogen	R&L 7C2
Soluble Chloride	R&L 5A2
Extractable Boron	R&L 12C2
Extractable Sulfur	R&L 10D1
Phosphorus Buffer Inde	R&L 9I2b
Mehlich – Ca, Mc, T. N., Fe, Cu, Zn, Mn, P, S, Al, B	R&L 18F1

Acid Sulfate Soil Tests	Reference
Chromium Reducible Sulfur	NLM-2.1
Potassium Chloride pH	NLM-3.1
Titratable Actual Acidity	NLM-3.2
Potassium Chloride Extractable S	NLM-4.1
Peroxide S	NLM-2.2
4M Hydrochloric Acid Extractable S	NLM-4.1
Acid Neutralising Capacity (BT)	NLM-5.1

Plant Tissue Tests	Reference
Total Nutrients (Ca, Mg, P, K, Na, Si, B, S, Cd, Co, Fe, Pb, Mn, Mo, Se, Zn)	AE-24
LECO - C, N, S	CA-37
Soluble Chloride	BB-32

Note: Rayment & Lyons (R&L). See EAL website under 'About' for current scope of accreditation for NATA and ASPAC.