

# Schedule of Accreditation



Organisation Name Environmental Laboratory Services  
 Trading As  
 INAB Reg No 111T  
 Contact Name Maire Bradley  
 Address Acorn Business Campus, Mahon Industrial Park, Blackrock, Cork  
 Contact Phone No  
 Email maire@elsltd.com  
 Website  
 Accreditation Standard ISO 17025 T  
 Date Initially Awarded 21/01/2003  
 Scope Classification Biological and veterinary testing  
 Scope Classification Chemical testing

Services available to the public<sup>1</sup>

<sup>1</sup> Refer to document on interpreting INAB Scopes of Accreditation

Sites from which accredited services are delivered	
(the detail of the accredited services delivered at each site are on the Scope of Accreditation)	
Name	Address
1 Head Office	Acorn Business Campus, Mahon Industrial Park, Blackrock, Cork



# Scope of Accreditation

## Head Office

### Biological and Veterinary Testing

Category: A

Biology/veterinary field - Tests	Test name	Technique	Matrix	Equipment	Std. reference	
803 Culture of organisms in liquid or agar based culture media with visual or instrument monitoring for growth - .01 Culture of bacteria	Enumeration of Clostridium perfringens	Membrane Filtration	Waters - Potable water Waters - Industrial Waters - Environmental water	Membrane filtration	Documented in-house method based on: Environment Agency (UK) Microbiology of Drinking Water (2015) – Part 6 (B).	
	Enumeration of Legionella species in water and serotyping of L. pneumophila groups 1 and 2-14.		Waters - Potable water Waters - Industrial	Membrane filtration	Documented in-house method based on: ISO 11731 - Enumeration of Legionella	
	Enumeration of Pseudomonas Aeruginosa	(MPN) Most Probable Number technique	Waters - Potable water Waters - Industrial	IDEXX Pseudalert MPN	Documented in-house method based on: MofDW (2015) – Part 8 – Methods for the isolation and enumeration of Aeromonas and Pseudomonas aeruginosa	
	Total Viable Count @ 22°C and 37°C	Pour Plate	Waters - Potable water Waters - Industrial Waters - Environmental water	Pour Plate	Documented in-house method based on: ISO 6222:1999	
803 Culture of organisms in liquid or agar based culture media with visual or instrument monitoring for growth - .02 Culture of fungi	Enumeration of total coliforms and E.coli	Enumeration of total coliforms and E.coli	Bacterial condition of Potable waters Bacteriological condition of industrial waters Industrial water Bacteriological condition of environmental waters Bacteriological	(MPN) Most Probable Number technique	Documented in-house method MIC 133, based on The Microbiology of Drinking Water (2009) Part 4 by IDEXX Colilert:- (MPN) Most Probable Number technique	

			condition of trade wastes			
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Chemical Testing

Category: A

Chemistry Field - Tests	Test name	Analyte	Range of measurement	Matrix	Equipment/technique	Standard reference/SOP
756 Drugs and pharmaceuticals - .02 Quantification of pharmaceutical samples	Elemental Impurities in Drug Products	Arsenic Cadmium Cobalt Lead Mercury Molybdenum Selenium Vanadium	0.5-72 µg/g 0.2-60 µg/g 0.2-60 µg/g 0.02-60 µg/g 0.02-7.2 µg/g 1.5-450 µg/g 0.6-180 µg/g 0.2-60 µg/g	756 .01 Drugs & Pharmaceuticals Drugs Drugs	ICP-MS (USP)	Documented in-house method EM171 based on: USEPA 200.8-1999 USP232-2014 USP233-2014 by ICP-MS (USP)
766 Environmental testing (inc waters) - .01 Metal analysis	ICPMS	Total Hardness	3-330 mg/l CaCO3	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Determination of Total Hardness	Documented in-house methods calculation based on APHA 2340B (2012) Determination of Total Hardness. EW099
	ICPMS Metals Trace	Aluminium Antimony Arsenic Boron Cadmium Chromium Copper Iron Lead Manganese Mercury Nickel Selenium Sodium Barium Calcium Cobalt Magnesium Molybdenum Potassium Strontium Tin Vanadium Zinc	5.0 to 500 µg/l 0.1 to 10 µg/l 0.2 to 20 µg/l 0.02 to 2 mg/l 0.1 to 10 µg/l 1.0 to 100 µg/l 3 to 6000 µg/l 20 to 600 µg/l 0.3 to 1500 µg/l 1.0 to 200 µg/l 0.02 to 2 µg/l 0.5 to 100 µg/l 0.2 to 20 µg/l 0.5 to 50 mg/l 1.0 to 100 µg/l 1.0 to 100mg/l 1.0 to 100 µg/l 0.3 to 20mg/l 1.0 to 100 µg/l 0.2 to 20mg/l 1.0 to 100 µg/l 1.0 to 100 µg/l 1.0 to 100 µg/l 1.0 to 500 µg/l	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Metals by ICP-MS.	Documented In-house methods based on: USEPA Method 200.8 (1999) Metals by ICP-MS. EM 130
	ICPMS Total Metals	Aluminium Antimony Arsenic Barium Beryllium Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese (Manganese not	15.0-4500 µg/l 0.3-90 µg/l 1-180 µg/l 3-900 µg/l 3-900 µg/l 0.5-18 µg/l 0.3-90 µg/l 3-900 mg/l 3-900 µg/l 3-900 µg/l 3-900 µg/l 0.003-27 mg/l 60-4500 µg/l 0.9-270 µg/l 1-270 mg/l 3-900 µg/l (Manganese not	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Microwave Digestion ICP-MS	Documented in-house method EM168 based on: USEPA Method 200.8 USEPA 3051a Microwave Digestion ICP-MS

		<p>accredited for Treated Sewage Effluent)</p> <p>Mercury</p> <p>Molybdenum</p> <p>Nickel</p> <p>Potassium</p> <p>Selenium</p> <p>Sodium</p> <p>Strontium</p> <p>Tellurium</p> <p>Thallium</p> <p>Titanium</p> <p>Uranium</p> <p>Vanadium</p> <p>Zinc</p>	<p>accredited for Treated Sewage Effluent)</p> <p>0.06-18 µg/l</p> <p>3-900 µg/l</p> <p>1.5-450 µg/l</p> <p>1-180 mg/l</p> <p>3-180 µg/l</p> <p>3-450 mg/l</p> <p>4-900 µg/l</p> <p>3-900 µg/l</p> <p>3-900 µg/l</p> <p>3-900 µg/l</p> <p>3-900 µg/l</p> <p>3-900 µg/l</p> <p>10-900 µg/l</p>			
766 Environmental testing (inc waters) - .03 Chemical oxygen demand	COD	COD	8-1500 mg O <sub>2</sub> /l	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	closed Reflux Colorimetric.	Documented in-house methods based on: APHA 5220D (2012) closed Reflux Colorimetric. EW094
766 Environmental testing (inc waters) - .04 Organic	GCMS	<p>Organochlorine Range</p> <p>Pesticides</p> <p>Endrin</p> <p>Heptachlor Epoxide</p> <p>Heptachlor</p> <p>γ-HCH (lindane)</p> <p>p,p'-DDE</p> <p>p,p'-DDD</p> <p>p,p'-DDT</p>	<p>Organochlorine Range</p> <p>Pesticides</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p>	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Determination of Pesticides/PAH's by Solid Phase Extraction, GC-MS Detection	Documented In-house method based on: USEPA Method 525.2 (1994) Determination of Pesticides/PAH's by Solid Phase Extraction, GC-MS Detection. EO 129.
	GCMS -PAH	<p>PAH Range</p> <p>Acenaphthene</p> <p>Benzo(a)anthracene</p> <p>Benzo(a)pyrene</p> <p>Benzo(b)fluoranthene</p> <p>Benzo(ghi)perylene</p> <p>Benzo(k)fluoranthene</p> <p>Chrysene</p> <p>Dibenzo(ah)anthracene</p> <p>Fluoranthene</p> <p>Fluorene</p> <p>Indeno(123-cd)pyrene</p> <p>Phenanthrene</p> <p>Pyrene</p>	<p>PAH Range</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.003 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p>	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Determination of Pesticides/PAH's by Solid Phase Extraction, GC-MS Detection	Documented In-house method based on: USEPA Method 525.2 (1994) Determination of Pesticides/PAH's by Solid Phase Extraction, GC-MS Detection. EO 129.
	GCMS Pesticides	<p>Pesticides Range</p> <p>Aldrin I</p> <p>BHC Alpha isomer</p> <p>BHC Beta isomer</p> <p>BHC Delta isomer</p> <p>Dieldrin</p> <p>Endosulphan Alpha</p> <p>Endosulphan Beta</p> <p>Endosulphan Sulphate</p>	<p>Pesticides Range</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p> <p>0.01 to 0.2 µg/l</p>	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Determination of Pesticides/PAH's by Solid Phase Extraction, GC-MS Detection	Documented In-house method based on: USEPA Method 525.2 (1994) Determination of Pesticides/PAH's by Solid Phase Extraction, GC-MS Detection. EO 129.
	GCMSMS	<p>PAH's</p> <p>Acenaphthene</p> <p>Acenaphthylene</p>	<p>PAH's</p> <p>0.003 to 0.16 µg/l</p>	.01 Water for potable and domestic	Determination of Pesticides/PAH's by	Documented in-house Method EO181 -

		Anthracene Benzo (a) Anthracene Benzo (a) Pyrene Benzo (b) Fluoranthene Benzo (ghi) Perylene Benzo (k) Fluoranthene Chrysene Dibenzo (ah) Anthracene Fluoranthene Fluorene Indeno (123-cd) Pyrene Naphthalene Phenanthrene Pyrene	0.003 to 0.16 µg/l 0.010 to 0.16 µg/l 0.005 to 0.16 µg/l 0.003 to 0.162 µg/l 0.010 to 0.16 µg/l 0.010 to 0.16 µg/l 0.010 to 0.16 µg/l 0.003 to 0.2 µg/l 0.005 to 0.16 µg/l 0.010 to 0.16 µg/l 0.010 to 0.16 µg/l 0.005 to 0.16 µg/l 0.010 to 0.16 µg/l 0.010 to 0.16 µg/l 0.010 to 0.16 µg/l	purposes .99 Other waters Ground water Surface water	SPE GC-MS/MS detection	Determination of Pesticides/PAH's by SPE GC-MS/MS detection
		Pesticides:- Aldrin BHC Alpha isomer BHC Beta isomer BHC Delta isomer Cypermethrin Dichlobenil Dieldrin Endosulphan Alpha isomer Endosulphan Beta isomer Endosulphan Sulphate Endrin Aldehyde Endrin Heptachlor Heptachlor Epoxide Lindane Parathion-Ethyl (Parathion) Pendimethalin P,P' DDE P,P'-DDD P,P'-DDT	Pesticides:- 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l (Parathion) 0.003 to 0.16 µ/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l 0.010 to 0.16 µg/l 0.003 to 0.16 µg/l 0.003 to 0.16 µg/l	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Determination of Pesticides/PAH's by SPE GC-MS/MS detection	Documented in- house Method EO181 - Determination of Pesticides/PAH's by SPE GC-MS/MS detection

LCMSMS - Glyphosate	Glyphosate	0.05 to 2 µg/l for wastewater 0.005 to 0.5ug/l for all other waters	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	LCMSMS	Documented in-house method EO164 based on: USEPA 538-1-2009 USEPA 536 -2007 LCMSMS
LCMSMS - Acid Herbicides	236-Trichlorobenzoic 245-T 24-D 24-DB Bentazone Bromacil Bromoxynil Dicamba Dichloroprop (24DP) Fluroxypyr (In Potable Ground and Surface Waters only) Ioxynil MCPA MCPB Mecoprop MCPP Pentachlorophenol (PCP) Picloram Quinmerac Triclopyr	0.005 to 0.5 µg/l	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	LCMSMS	Documented in-house method EO162 based on: USEPA 538-1-2009 USEPA 535-2005
	Clopyraid	0.005 to 0.5 µg/l	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	LCMSMS	Documented in-house methods based on: USEPA Method 538-1-2009 USEPA Method 535-2005 LCMSMS EO162
LCMSMS - AMPA	AMPA	AMPA 0.005 to 0.5ug/l for all other waters (Not accredited for Treated Sewage Effluent)	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	LCMSMS	Documented in-house method EO164 based on: USEPA 538-1-2009 USEPA 536 -2007 LCMSMS
LCMSMS - Pesticides Suite A	Organo Phosphorus Pesticides: Azinphos-methyl Azinphos-ethyl Chlorfenvinphos Demeton-S-Methyl Diazinon Dichlorvos Dimethoate Malathion (Potable and surface water only) Mevinphos Phosalone Pirimiphos-methyl Propetamphos Triazophos	0.005 to 0.2 µg/l	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	LCMSMS	Documented in-house method EO165 based on: USEPA 538-1-2009 USEPA 536 -2007 LCMSMS



	<p>Triazines:  Ametryn  Atrazine (Potable and surface water only)  Cyanazine  Prometryn  Propazine  Propyzamide  Simazine  Terbutryn  Trietazine</p> <p>Urons:  Chlorotoluron  Diuron  Isoproturon  Linuron</p> <p>Other:  Carbetamide  Chloridazon (Pyrazon)  Chlorpropham  Epoxiconazole  Metaldehyde  Propiconazole  Diflufenican  Metazachlor</p>				
LCMSMS Acid Herbicides <sup>4</sup>	<p>236-Trichlorobenzoic  245-T  24-D  24-DB  Bentazone  Bromacil  Bromoxynil  Dicamba  Dichloroprop (24DP)  Fluroxypyr (In Potable Ground and Surface Waters only)  Ioxynil  MCPA  MCPB  Mecoprop MCPP  Pentachlorophenol (PCP)  Picloram  Quinmerac  Triclopyr  Clopyralid</p>	0.005 to 0.5 µg/l	<p>Waters for potable and domestic purposes  Other  Surface Water  Ground water</p>	LCMSMS <sup>4</sup>	<p>Documented in-house methods based on:  USEPA Method 538-1-2009  USEPA Method 535-2005  LCMSMS EO162</p>
LCMSMS Glyphosphate and AMPA <sup>4</sup>	<p>Glyphosate    AMPA</p>	<p>0.05 to 2 µg/l for wastewater  0.005 to 0.5ug/l for all other waters  AMPA  0.005 to 0.5ug/l for all other waters (Not accredited for Treated Sewage Effluent)</p>	<p>Waters for potable and domestic purposes  Other waters  Ground water  Surface water  Waste water  - Untreated  - Treated  - Trade</p>	LCMSMS <sup>4</sup>	<p>Documented in-house method EO164 based on:  USEPA 538-1-2009  USEPA 536 -2007  LCMSMS</p>
LCMSMS Suite A <sup>4</sup>	<p>Organo Phosphorus Pesticides:  Azinphos-methyl</p>	0.005 to 0.2 µg/l	<p>Waters for potable and domestic</p>	LCMSMS <sup>4</sup>	<p>Documented in-house method EO165 based on:</p>

	<p>Azinphos-ethyl Chlorfenvinphos Demeton-S-Methyl Diazinon Dichlorvos Dimethoate Malathion (Potable and surface water only) Mevinphos Phosalone Pirimiphos-methyl Propetamphos Triazophos Triazines: Ametryn Atrazine (Potable and surface water only) Cyanazine Prometryn Propazine Propyzamide Simazine Terbutryn Trietazine Urons: Chlorotoluron Diuron Isoproturon Linuron Other: Carbetamide Chloridazon (Pyrazon) Chlorpropham Epoxiconazole Metaldehyde Propiconazole Diflufenican Metazachlor</p>		<p>purposes Other Surface Water Ground water</p>		<p>USEPA 538-1-2009 USEPA 536 -2007 LCMSMS</p>
VOC's	<p>Benzene 1,2-Dichloroethane Tetrachloroethene Trichloroethene Tetra &amp; Tri SUM (Calc) Sum of Tetrachloroethene &amp; Trichloroethene Chloroform Bromoform Dibromochloromethane Bromodichloromethane Total THM's (Calc) Bromomethane Ethyl Ether/Diethyl Ether 1,1-Dichloroethene Iodomethane/Methyl iodide Carbon Disulphide Dichloromethane (Methylene Chloride) 2-Propenenitrile (Acrylonitrile) ChlormethylCyanide</p>	<p>0.1 to 35 µg/l 0.1 to 35 µg/l 0.1 to 35 µg/l 0.1 to 35 µg/l 0.1-70 µg/l 1.0 to 150 µg/l 1.0 to 35 µg/l 1.0 to 35 µg/l 2.0 to 35 µg/l 5 - 255 µg/l 0.5 to 35 µg/l 0.5 to 35 µg/l 0.5 to 35 µg/l 0.5-35 µg/l 0.5 to 35 µg/l 5.0 to 35 µg/l 2.0 to 35 µg/l 0.5 to 35 µg/l 0.5 to 35 µg/l 0.5 to 35 µg/l 0.5 to 35 µg/l 0.5 to 35 µg/l 0.5 to 35 µg/l 0.5 to 35 µg/l 5.0 to 35 µg/l</p>	<p>.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade</p>	<p>Determination of volatile organic carbons in water by purge and trap GC/MS</p>	<p>Documented in-house method based on: USEPA Method 524.2 (1992) Determination of volatile organic carbons in water by purge and trap GC/MS. EO 025</p>

		Chloroacetonitrile) Hexachlorobutadiene Trans-1,2- Dichloroethene Methyl t-butyl ether (MtBE) 1,1-Dichloroethane Cis-1,2-Dichloroethene Methyl Acrylate Bromochloromethane	0.5 to 35 µg/l			
		Stryrene Isopropyl Benzene Bromobenzene 1,1,2,2- Tetrachloroethane 1,2,3-Trichloropropane Propyl Benzene 2-Chlorotoluene 4-Chlorotoluene 1,3,5-Trimethylbenzene Tert Butyl Benzene 1,2,4-Trimethylbenzene Sec Butyl Benzene 1,3-Dichlorobenzene p- Isopropyltoluene 1,4- Dichlorobenzene 1,2-Dichlorobenzene n- Butyl Benzene Hexachloroethane 1,2- Dibromo 3 Chloropropane 1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene	2.0-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 2.0-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 5.0-35 µg/l 2.0-35 µg/l 0.5-35 µg/l 0.5-35 µg/l	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Determination of volatile organic carbons in water by purge and trap GC/MS	Documented in- house method based on: USEPA Method 524.2 (1992) Determination of volatile organic carbons in water by purge and trap GC/MS. EO 025
		Tetrahydrofuran 1,1,1- Trichloroethane 1-Chlorobutane Carbon Tetrachloride 1,1- Dichloropropene 1,2- Dichloropropane Dibromomethane Methyl Methacrylate 1,3- Dichloropropene, cis (MIBK)4 Methyl 2 Pentanone Toluene 1,3- Dichloropropene, trans Ethyl Methacrylate 1,1,2-Trichloroethane 1,3-Dichloropropane 2-Hexanone 1,2-Dibromoethane Chlorobenzene 1,1,1,2- Tetrachloroethane Ethyl Benzene I m & p Xylene O Xylene	5.0-35 µg/l 0.5-35µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 2.0-35 µg/l 2.0-35 µg/l 0.5-35 µg/l 2.0-35 µg/l 2.0-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 1.0-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 2.0-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l 0.5-35 µg/l	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Determination of volatile organic carbons in water by purge and trap GC/MS	Documented in- house method based on: USEPA Method 524.2 (1992) Determination of volatile organic carbons in water by purge and trap GC/MS. EO 025
766 Environmental testing (inc waters) - .05 Inorganic	AQ2	Ammonia /Ammonium	0.007 - 7mg/l N	.01 Waters for potable and domestic purposes .99 Other waters Ground water	Ammonia by Autoanalyser Spectrophotometry	Documented in- house methods based on: APHA 4500NH3G (2012) Ammonia by Autoanalyser

			Surface water Waste water - Untreated - Treated - Trade		Spectrophotometry EW154M-1
Ammonia as NH3 by calculation	0.009-8.5 mg/l NH3	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Ammonia by Autoanalyser Spectrophotometry		Documented in-house methods based on: APHA 4500NH3G (2012) Ammonia by Autoanalyser Spectrophotometry EW154M-1
Chloride	2.67-250 mg/l Cl	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Chloride by Autoanalyser		Documented in-house methods based on: HMSO (1981) Chloride by Autoanalyser Spectrophotometry. EW154M-1
Colour	2.5 to 50 mg/l Pt/Co	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Colour by Autoanalyser Spectrophotometry		Documented in-house methods based on: APHA 2120C (2012) Colour by Autoanalyser Spectrophotometry. EW154M-1
Nitrate	0.12-50 mg/l N	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Nitrate by Autoanalyser Spectrophotometry.		Documented in-house methods based on: USEPA, 353.1 (1983) Nitrate by Autoanalyser Spectrophotometry. EW154M-1
Nitrate by calculation	0.53-221 mg/l NO3	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Nitrate by Autoanalyser Spectrophotometry.		Documented in-house methods based on: USEPA, 353.1 (1983) Nitrate by Autoanalyser Spectrophotometry. EW154M-1
Nitrite	0.013-1 mg/l N	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated	Nitrite by Autoanalyser Spectrophotometry		Documented in-house methods based on: USEPA 353.1 (1983) Nitrite by Autoanalyser Spectrophotometry. EW154M-1

			- Treated - Trade		
	Nitrite by calculation	0.043-3.29 mg/l NO <sub>2</sub>	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Nitrite by Autoanalyser Spectrophotometry	Documented in-house methods based on: USEPA 353.1 (1983) Nitrite by Autoanalyser Spectrophotometry. EW154M-1
	Orthophosphate Ortho Phosphate (MRP) by calculation	0.009-25 mg/IP 0.021-57.28 mg/l P <sub>2</sub> O <sub>5</sub> 0.028-76.65 mg/l PO <sub>4</sub>	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Phosphate by Autoanalyser Spectrophotometry	Documented in-house methods based on: USEPA 365.1 (1983) Phosphate by Autoanalyser Spectrophotometry. EW154M-1
	Sulphate	1 to 250 mg/l SO <sub>4</sub>	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Sulphate by Autoanalyser Spectrometry	Documented in-house methods based on: HMSO (1981) Sulphate by Autoanalyser Spectrometry. EW154M-1
	Total Oxidised Nitrogen	0.2 to 51 mg/l N	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Total Oxidised Nitrogen by Calculation.	Documented in-house methods based on: USEPA 353.1 (1983) Total Oxidised Nitrogen by Calculation. EW154M-1
AQ2- Cyanide (Free)	Cyanide (Free)	1.2 to 100 µg/l CN	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Cyanide by AQ2	Documented in-house methods based on: EPA-130-A Rev.1 Cyanide by AQ2 EW154M-1
BOD	BOD	1 to 1300 mg/L	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Biochemical Oxygen Demand	Documented in-house methods based on: APHA 5210B (2012) EN1899-1:1998 Biochemical Oxygen Demand EW001
Bromate <sup>4</sup>	Bromate	1 to 50 µg/l BrO <sub>3</sub>	Waters for potable and domestic purposes Other Surface Water Ground water	IC <sup>4</sup>	Documented in-house method on USEPA 326.0 (2002) Ion Chromatography. EW137

cBOD for Treated effluent only (Carbonaceous)	cBOD for Treated effluent only (Carbonaceous)	1 - 1300 mg/L	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Biochemical Oxygen Demand	Documented in-house methods based on: APHA 5210B (2012) EN1899-1:1998 Biochemical Oxygen Demand EW001
Dissolved Oxygen	Dissolved Oxygen	1 to 10 mg/l	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Dissolved oxygen measurement	Documented in-house methods based on: APHA 4500G(2012) Dissolved oxygen measurement EW043
Fluoride	Fluoride	0.1 to 2 mg/L	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Fluoride by IC	Documented in-house methods based on: USEPA Method 300.1 (1997). Fluoride by IC. EW137
Fluoride <sup>4</sup>		0.1 - 2 mg/l	Waters for potable and domestic purposes Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	IC <sup>4</sup>	Documented in-house method by Autoanalyser Spectrophotometry based on: EPA340.3 EW175
Gallery	Ammonia	0.005 - 0.5mg/l N	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Autoanalyser Spectrophotometry	Documented in-house method by Autoanalyser Spectrophotometry based on: APHA 4500NH3G (2012). EW175
	Ammonia by calculation	0.006 - 0.608mg/l NH3 0.006 - 0.644 mg/l NH4	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Autoanalyser Spectrophotometry	Documented in-house method by Autoanalyser Spectrophotometry based on: APHA 4500NH3G (2012). EW175
	Chloride	1-500 mg/l	.01 Water for potable and domestic purposes .99 Other waters	Autoanalyser Spectrophotometry	Documented in-house method by Autoanalyser Spectrophotometry based

		Ground water Surface water		on:APHA4500-CL G (2012) EW175
Colour	2.0-50PtCo (Hazen)	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Autoanalyser Spectrophotometry	Documented in- house method by Autoanalyser Spectrophotometry based on:APHA 2120C (2012) EW175
Cyanides-Free	1.0-100ug/l CN	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Autoanalyser Spectrophotometry	Documented in- house method by Autoanalyser Spectrophotometry based on:USEPA- Method- 335.4 EW175
Fluoride	0.1-2mg/l	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Autoanalyser Spectrophotometry	Documented in- house method by Autoanalyser Spectrophotometry based on:EPA340.3 EW175
Nitrite Nitrite by calculation	0.005 - 0.5mg/IN 0.016 - 1.6 mg/l NO2	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Autoanalyser Spectrophotometry	Documented in- house method by Autoanalyser Spectrophotometry based on:APHA 4500-NO2 (2012) EW175
Orthophosphate <sup>1</sup>	0.005-5 mg/l P <sup>1</sup> (Ortho Phosphate MRP) Phosphate by calculation 0.015 – 15.0 mg/l PO <sub>4</sub> <sup>1</sup> 0.011 – 11.5 mg/l P <sub>2</sub> O <sub>5</sub> <sup>1</sup> (Flexible Scope Application)	Waters for potable and domestic purposes Other Surface Water Ground water	UV-Vis Spectrometry <sup>1</sup> - Extension of range by Dilution	USEPA 365.1 EW175
Phosphate Phosphate by calculation	0.005 - 0.5mg/IP (Ortho Phosphate MRP) 0.015 - 1.5 mg/l PO <sub>4</sub> 0.011 - 1.15 mg/l P <sub>2</sub> O <sub>5</sub>	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Autoanalyser Spectrophotometry	Documented in- house method by Autoanalyser Spectrophotometry based on:USEPA 365.1 EW175
Sulphate	1-500 mg/l	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Autoanalyser Spectrophotometry	Documented in- house method by Autoanalyser Spectrophotometry based on:APHA 4500-SO <sub>4</sub> E (2012) EW175
TON Nitrate by Calculation	0.15 - 15mg/l N 0.15 - 15mg/l N 0.7 – 66mg/l N <sub>03</sub>	.01 Water for potable and domestic purposes .99 Other waters	Autoanalyser Spectrophotometry	Documented in- house method by Autoanalyser Spectrophotometry

			Ground water Surface water		based on:USEPA 353.1.Rev 1 EW175
Ion Chromatography	Bromate	1 to 50 µg/l BrO3	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Ion Chromatography	Documented in- house methods based on: USEPA 326.0 (2002) Ion Chromatography. EW137
Suspended Solids	Suspended Solids	5 to 1000 mg/l	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Gravimetric analysis	Documented in- house methods based on: APHA 2540D(2012) Suspended solids by Gravimetric analysis EW013
Titralab	Alkalinity	10 to1000 mg/L CaCo3	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Total Alkalinity by Titralab Measurement.	Documented in- house methods based on: APHA 2320 (2012) Total Alkalinity by Titralab Measurement. EW153
	pH	4-10 pH units	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Titralab combined conductivity pH method	Documented in- house methods based on: APHA method 2510B (2012) Titralab combined conductivity pH method EW153M-1
Titralab	Conductivity	25-6000 µS/cm	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Titralab combined conductivity pH method	Documented in- house methods based on: APHA method 2510B (2012) Titralab combined conductivity pH method EW153M-1
TOC	TOC	0.25 to 100 mg/L	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Total Organic Carbon by Combustion Oxidation	Documented in- house method based on: USEPA Method 415.3 (2003) Total Organic Carbon by Combustion Oxidation. EW123



TOC/DOC <sup>4</sup>	TOC DOC	0.25 to 100 mg/l	Waters for potable and domestic purposes Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	TOC analyzer <sup>4</sup>	Documented in- house method based on: USEPA Method 415.3 (2003) Total Organic Carbon by Combustion Oxidation. EW123
Total Dissolved Solids	Total Dissolved Solids	15-1000 mg/l	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Total Dissolved Solids at 180C	APHA 2540C (2012) Total Dissolved Solids at 180C. EW046
Total Kjeldahl Nitrogen	Total Kjeldahl Nitrogen	1.0 to 49 mg/L	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Nitrogen by calculation	Documented in- house methods based on: Nitrogen by calculation EW010
Total Nitrogen	Total Nitrogen	1 to 100 mg/L N	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	TN Analyser	Documented in- house methods based on: APHA 4500NB (2012) by TN Analyser. EW140
Total Nitrogen <sup>4</sup>		1 - 1000mg/l	Untreated Waste Water	TN Analyser <sup>4</sup>	Documented in- house methods based on: APHA 4500NB (2012) by TN Analyser. EW140
		1 to 100 mg/l N	Waters for potable and domestic purposes Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	TN Analyser <sup>4</sup>	Documented in- house methods based on: APHA 4500NB (2012) by TN Analyser. EW140
Total Phosphorus	Total Phosphorus	0.01 to 40 mg/L P 0.1 - 400 mg/l P (wastewater)	.01 Waters for potable and domestic purposes .99 Other waters Ground water Surface water Waste water - Untreated - Treated - Trade	Total Phosphorus by Ganimede	Documented in- house methods based on:APHA 4500 PJ (2012) Total Phosphorus by Ganimede. EW 146.

	Turbidity	Turbidity	0.11-150 NTU	.01 Water for potable and domestic purposes .99 Other waters Ground water Surface water	Turbidity Technique	Documented in-house methods based on: ISO 7027:1999 EW136
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