


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 <p>1181 Accredited to ISO/IEC 17025:2017</p>	Northumbrian Water Ltd Issue No: 116 Issue date: 07 April 2020	
	Northumberland Dock Road Howdon Wallsend Tyne and Wear NE28 0QD	Contact: Mrs S Alexander Tel: +44 (0)870 320 4567 Fax: +44 (0)191 296 8560 E-Mail: sarah.alexander@nwl.co.uk Website: www.nwss-labs.co.uk

Testing performed by the Organisation at the locations specified below

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
Address Northumberland Dock Road Wallsend Tyne and Wear NE28 0QD Local contact Mr I Barnabas Ms H Routledge Tel: +44 (0)191-296 8500 Fax: +44 (0)191-296 8560 Email: Steve.Wilson@nwl.co.uk Helen.Routledge@nwl.co.uk	Support Functions: Quality System Quality Audit administration Sampling and Testing: Environmental Analysis Operation of flexible scope	Howdon
Address Northumberland Dock Road Wallsend Tyne and Wear NE28 0QD Local contact Mr J Kenefec Tel: +44 (0)191-296 8500 Fax: +44 (0)191-296 8560 Email: Jonathan.Kenefec@nwl.co.uk	Water Sampling	Howdon
Address Levenmouth Laboratory Levenmouth Waste Water Treatment Works Methilhaven Fife KY8 3LA Local contact Ms H Routledge Tel: +44 (0)191-296 8500 Fax: +44 (0)191-296 8560 Email: Helen.Routledge@nwl.co.uk	Environmental Analysis	Levenmouth
Address Cork Laboratory Carrigrennan WWTW Courttown Industrial Estate Little Island Cork, Eire Local contact Ms H Routledge Tel: +44 (0)191-296 8500 Fax: +44 (0)191-296 8560 Email: Helen.Routledge@nwl.co.uk	Environmental Analysis	Cork



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Location details		Activity	Location code
<p>Address Chelmsford Laboratory Hanningfield Treatment Works South Hanningfield Chelmsford Essex CM3 8HS</p>	<p>Local contact Mr D Edwards Tel: +44 (0) 191-296 8500 Fax: +44 (0) 191-296 8560 Email: Diran.Edwards@nwl.co.uk</p>	<p>Environmental Analysis Water Microbiology</p>	<p>Chelmsford</p>
<p>Address Horsley Laboratory Water Lane Horsley Newcastle-upon-Tyne NE15 0PA</p>	<p>Local contact Mr J Cooper Tel: +44 (0) 191-296 8500 Fax: +44 (0) 191-296 8560 Email: John.Cooper1@nwl.co.uk</p>	<p>Environmental Analysis Water Microbiology</p>	<p>Horsley</p>
<p>Address Leat House Pattinson Road District 15 Washington NE38 8LB</p>	<p>Local contact Mr Ian Lumsdon Tel: +44 (0)191-296 8500 Fax: +44 (0)191-296 8560 Email: Ian.Lumsdon@nwl.co.uk</p>	<p>Waste water sampling</p>	<p>Site - Trade effluents Site – Water Waste</p>
<p>Address Horsley Laboratory Water Lane Horsley Newcastle-upon-Tyne NE15 0PA</p>	<p>Local contact Mr Ian Lumsdon Tel: +44 (0)191-296 8500 Fax: +44 (0)191-296 8560 Email: Ian.Lumsdon@nwl.co.uk</p>	<p>Raw and drinking water sampling</p>	<p>Site - Water clean</p>
<p>Address Chelmsford Laboratory Hanningfield Treatment Works South Hanningfield Chelmsford Essex CM3 8HS</p>	<p>Local contact Mr Ian Lumsdon Tel: +44 (0)191 2968500 Fax: +44 (0)191 2968560 Email: Ian.Lumsdon@nwl.co.uk</p>	<p>Raw and drinking water sampling</p>	<p>Site - Water clean</p>
<p>Address Levenmouth Laboratory Levenmouth Waste Water Treatment Works Methilhaven Fife KY8 3LA</p>	<p>Local contact Ms H Routledge Tel: +44 (0)191-296 8500 Fax: +44 (0)191-296 8560 Email: Helen.Routledge@nwl.co.uk</p>	<p>Untreated Sewage and Treated Sewage Effluent Sampling</p>	<p>Site - MACS</p>



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Site activities performed away from the locations listed above:

Location details	Activity	Location code
Waste water treatment works	Sampling (teams from Washington)	Site - Water waste
Customer premises - Trade effluents	Sampling (teams from Washington)	Site - Trade effluent
Water treatment works (to include trade effluent to controlled water), service reservoirs and commercial, industrial and domestic premises	Sampling (teams from Horsley and Chelmsford)	Site - Water clean
Commercial, industrial and domestic premises	Sampling (teams from Howdon)	Site-Water Customer
Waste Water treatment works – untreated sewage and treated sewage effluent to MACS requirements	Sampling (teams from Levenmouth)	Site - MACS

This schedule is ordered as follows:

Section 1

Laboratory Flexible scope of accreditation to ISO/IEC 17025, the Drinking Water Testing Specification (DWTS) and the EA MCERTS: performance standard for organisations undertaking sampling and chemical testing of water (waters)

Section 2

Accreditation to ISO/IEC 17025 and the Drinking Water Testing Specification (DWTS)

Section 3

Accreditation to ISO/IEC 17025 and the EA MCERTS: performance standard for organisations undertaking sampling and chemical testing of water (waters)

Section 4 - Levenmouth

Accreditation to ISO/IEC 17025 and the SEPA MACS Performance Standard MACS-WAT-01 Sampling and chemical testing of water

Section 5 - Levenmouth

Accreditation to ISO/IEC 17025 only

Section 6 - Cork

Accreditation to ISO/IEC 17025 only

Section 7

Accreditation to ISO/IEC 17025 only

Note: accreditation to MCERTS (waters), MACS (waters) and DWTS automatically confers an equivalent accreditation to ISO/IEC 17025



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DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SECTION 1 – Flexible Scope			
	<p>The laboratory holds a flexible scope of accreditation for inorganic and organic chemistry test methods managed by the Howdon Laboratory in accordance with TI347 covering the following:</p> <ul style="list-style-type: none"> • Incorporation of additional determinands (Howdon only) or matrices (Howdon, Horsely and Chelmsford) to existing accredited methods • Authorising the use of replacement equipment for existing methods (Howdon, Horsely and Chelmsford) • Development of new methods for matrix types and using techniques and instruments that appear on the fixed scope (Howdon only) <p>Please contact the laboratory for details of the individual determinands and matrices that can be analysed.</p>	<p>Meeting the requirements of The Drinking Water Testing Specification (DWTS) and the requirements of the Environment Agency MCERTS Performance Standard - sampling and chemical testing of untreated sewage, sewage effluent and trade effluent as applicable</p>	<p>Howdon Horsely Chelmsford</p>
END of SECTION 1			



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SECTION 2 – Sampling and Analysis to DWTS specification			
<p>WATERS, drinking, surface and groundwaters</p> <p>Distribution samples including:-</p> <p>Consumer taps Standpipes Commercial and industrial premises Service reservoirs Water treatment works Raw waters including: Impounding reservoirs Spring supplies Boreholes</p>	<p>Sampling and Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)</p> <p>Sampling with subsequent analysis by an ISO/IEC 17025 and DWTS Accredited Laboratory for Chemical and Microbiological testing (including cryptosporidium)</p>	<p>Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)</p> <p>Documented In-House Methods L1 and L17 for sampling based on:</p> <p>a) Standing Committee of Analysts Methods b) "The Microbiology of Drinking Water 2010" c) DWI SOP for the monitoring of Cryptosporidium oocysts to satisfy water supply (water quality) regulations 2000:Part 1</p>	<p>Site-Water Clean</p>
<p>WATERS, drinking, surface and groundwaters</p> <p>Consumer taps Standpipes Commercial and industrial premises Raw waters including: Impounding reservoirs Spring supplies Boreholes</p>	<p><u>Physical and Chemical Tests</u></p> <p>Free Residual Chlorine Total Residual Chlorine</p> <p>Temperature Measurements</p>	<p>Documented In-House Methods using:</p> <p>Method L13 using a Colorimeter</p> <p>Method L7 using Digital Thermometers</p>	<p>Site-Water Clean</p> <p>Site-Water Clean</p>
<p>Consumer taps, Commercial and industrial premises</p>	<p>Sampling with subsequent analysis by an ISO/IEC 17025 and DWTS Accredited Laboratory for Chemical and Microbiological testing</p>	<p>Method L1</p>	<p>Site-Water Customer</p>



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WATERS, drinking, surface and groundwaters (cont'd)	Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)	Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)	
WATERS, drinking, surface and groundwaters	<u>Physical and Chemical Tests</u>	Documented In-House Methods using:	
Consumer taps, Commercial and industrial premises	Free Residual Chlorine Total Residual Chlorine	Method L13 using a Colorimeter	Site-Water Customer
Consumer taps, Commercial and industrial premises	Temperature Measurements	Method L7 using Digital Thermometers	Site-Water Customer
	<u>Inorganic Testing:</u>		
Raw (Ground and Surface), and Drinking Waters	Alkalinity	Method 80 using auto-titrator	Chelmsford
Raw (Ground and Surface) and Drinking Waters	Ammonium Chloride Soluble reactive Phosphate (as Phosphorus) Nitrite Total Oxidised Nitrogen Nitrate (calculated)	Method HY207 using automated colorimetry	Howdon
Raw (Ground and Surface), and Drinking Waters	Ammonium Chloride Soluble reactive Phosphate (as Phosphorus) Nitrite Total Oxidised Nitrogen Nitrate (calculated)	Method 68 using Automated Colorimetry	Chelmsford



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WATERS, drinking, surface and groundwaters (cont'd)	Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)	Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)	
	<u>Inorganic Testing:</u> (cont'd)		
Raw (Ground and Surface) and Drinking Waters	Colour (filtered)	Method HY266 using Spectrophotometry	Howdon
Raw (Ground and Surface) and Drinking Waters	Colour (filtered)	Method 92 by spectrophotometry	Chelmsford
Raw (Ground and Surface) and Drinking Waters	Conductivity	Method HY201 using automated water analyser or using conductivity Meter	Howdon
Raw (Ground and Surface), and Drinking Waters	Conductivity	Method 79 using auto-titrator	Chelmsford
Raw (Ground and Surface) and Drinking Waters	Dry Residues	Method HY212 using gravimetry	Howdon
Raw (Ground and Surface) and Drinking Waters	Suspended solids	Method HY217 using gravimetry	Howdon
Raw (Ground and Surface) and Drinking Waters	Total dissolved solids	Method HY225 using gravimetry	Howdon
Drinking Waters (only)	Permanganate Index	Method HY216 using oxidation and titration	Howdon



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WATERS, drinking, surface and groundwaters (cont'd)	Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)	Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)	
	<u>Inorganic Testing:</u> (cont'd)		
Raw (Ground and Surface) and Drinking Waters	pH	Method HY201 using automated water analyser or using pH meter	Howdon
Raw (Ground and Surface), and Drinking Waters	pH	Method 78 using auto-titrator	Chelmsford
Raw (Ground and Surface) and Drinking Waters	Total organic carbon (TOC) Dissolved organic carbon (DOC)	Method HY210 using catalytic oxidation followed by Infra-red detection	Howdon
Raw (Ground and Surface) and Drinking Waters	Bromate Bromide Chlorate	Method HY 228 using Ion Chromatography	Howdon
Raw (Ground and Surface) and Drinking Waters	Turbidity	Method HY201 using turbidity Meter	Howdon
Raw (Ground and Surface) and Drinking Waters	Turbidity	Method HY272 using turbidity Meter	Howdon
Raw (Ground and Surface) and Drinking Waters	Turbidity	Method HY201 by manual turbidity meter	Horsley
Raw (Ground and Surface), and Drinking Waters	Turbidity	Method 73 using turbidity meter	Chelmsford



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WATERS, drinking, surface and groundwaters (cont'd)	Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)	Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)	
	<u>Inorganic Testing:</u> (cont'd)		
Raw (Ground and Surface) and Drinking Waters	Surfactants	Method HY215 using Solvent extraction followed by colorimetry	Howdon
Raw (Ground and Surface) and Drinking Waters	Total cyanide	Method HY243 using colorimetry	Howdon
Raw (Ground and Surface) and Drinking Waters	Fluoride	Method HY209 using automated Ion selective electrode	Howdon
Raw (Ground and Surface) and Drinking Waters	Metals: Aluminium Barium Iron Manganese Phosphorous Potassium Sodium Total Boron Soluble Boron Calcium Magnesium Total Hardness Sulphate Silicon as SiO ₂	Method HY251 using ICP-Optical Emission Spectrometry	Howdon
Raw (Ground and Surface Water) and Drinking Water	Metals: Antimony Arsenic Cadmium Chromium Copper Lead Nickel Mercury Selenium Silver Zinc	Method HY267 using ICP-MS	Howdon



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WATERS, drinking, surface and groundwaters (cont'd)	Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)	Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)	
Raw (Ground and Surface) and Drinking Waters	<u>Organic Testing:</u> Trichloromethane Trichloroethene Tribromomethane Tetrachloroethene Tetrachloromethane Dichlorobromomethane Dibromochloromethane Benzene 1,2 Dichloroethane	Method HY 114 using Purge and Trap Gas Chromatography with Mass Spectroscopy Detection	Howdon
Raw (Ground and Surface) and Drinking Waters	Total THMs Total Ethenes (total of those measured)	Method HY 114 by Calculation	Howdon
Raw (Ground and Surface) and Drinking Waters	<u>Polyaromatic Hydrocarbons:</u> Anthracene Fluoranthene Benzo(b)fluoranthene* Benzo(k)fluoranthene* Benzo(a)pyrene Indeno(1,2,3-cd)pyrene* Benzo(ghi)perylene*	Method HY 123 using GC-MS	Howdon
Raw (Ground and Surface) and Drinking Waters	Total PAH (total of those marked *)	Method HY 123 by calculation	Howdon



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WATERS, drinking, surface and groundwaters (cont'd)	Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)	Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)	
Raw (Ground and Surface) and Drinking Waters	<u>Organic Testing: (cont'd)</u> <u>Uron herbicides, conazoles and pesticides:</u> Carbetamide Carbofuran Metamitron Metoxuron Monuron Tebuthiuron Chlortoluron Methabenzthiazuron Isoproturon Diuron Linuron Epoxiconazole Tebuconazole Propiconazole Prothioconazole Carbendazim Quinmerac	Method HY124 using LC-MS-MS	Howdon



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<p>WATERS, drinking, surface and groundwaters (cont'd)</p> <p>Raw (Ground and Surface) and Drinking Waters</p>	<p>Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)</p> <p><u>Organic Testing:</u> (cont'd)</p> <p><u>Phenyl Urea Herbicides and Conazoles:</u> Metamitron (41394-05-2) Metoxuron (19937-59-8) Carbetamide (16118-49-3) Monuron (150-68-5) Carbofuran (1563-66-2) Tebuthiuron (34014-18-1) Chlortoluron (15545-48-9) Methabenzthiazuron (18691-97-9) Isoproturon (34123-59-6) Diuron (330-54-1) Linuron (330-55-2) Epoxiconazole (133855-98-8) Tebuconazole (107534-96-3) Prothioconazole (178928-70-6) Propiconazole(60207-90-1) Carbendazim (10605-21-7) Dimethenamid (163515-14-8) Ethofumesate,(26225-79- 6) Triallate(2303- 17-5) Prosulfcarb (52888-80-9) Flufenacet(142459-58-3) Oxamyl (23135-22-0)</p>	<p>Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)</p> <p>Method HY270 using LC-MS-MS</p>	<p>Howdon</p>



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS, drinking, surface and groundwaters (cont'd)	Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)	Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)	
	<u>Organic Testing:</u> (cont'd)		
Raw (Ground and Surface) and Drinking Waters	Metaldehyde	Method HY127 using direct injection LC-MS	Howdon
Raw (Ground and Surface) and Drinking Waters	Alkylphenols: 4-tert-octylphenol, nonylphenol, 4-n-octylphenol 4-n-nonylphenol	Method 239 using solid phase extraction and GC-MS	Howdon
Raw (Ground and Surface) and Drinking Waters	Organochlorine pesticides: Dichlobenil Pentachlorobenzene Tecnazene Trifluralin alpha-HCH Hexachlorobenzene beta-HCH gamma-HCH Chlorthalonil Alachlor Heptachlor Chlorthal-Dimethyl (DCPA) Isodrin Aldrin alpha-Endosulfan beta-Endosulfan Endrin Dieldrin 4,4-DDT Heptachlor-EXO-Epoxide Heptachlor-ENDO-Epoxide Heptachlor-epoxides	Method 241 using solid phase extraction and GC-MS	Howdon
Raw (Surface and Ground Waters) and Drinking Waters	Acid Herbicides: Dicamba Fluroxypyr	Method HY126 by solid phase extraction and LC-MS-MS	Howdon



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WATERS, drinking, surface and groundwaters (cont'd)	Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)	Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)	
Raw (Surface and Ground Waters) and Drinking Waters	<u>Organic Testing:</u> (cont'd) Acidic Herbicides, specifically: Clopyralid MCPD MCPA Dichlorprop Bromoxynil Triclopyr Pentachlorophenol (PCP) Fenoprop MCPB Bentazone Benazolin 2,4-D 2,4,5-T 2,4-DB Propyzamide Ioxynil Picloram Chloridazon Lenacil Asulam	Method HY265 using online enrichment followed by LC-MS	Howdon
Raw (Ground and Surface) and Drinking Waters	Chlormequat	Method HY118 by LC-MS/MS	Howdon
Raw (Ground and Surface) and Drinking Waters	Glyphosate AMPA	Method HY121 using solid phase extraction and LC-MS/MS	Howdon



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS, drinking, surface and groundwaters (cont'd)	Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)	Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)	
Raw (Surface and Ground Waters) and Drinking Water	<u>Organic Testing:</u> (cont'd) Organophosphorus Pesticides, Triazine Herbicides, Fungicides and Insecticides: Dimethoate Cypermethrin Propachlor Simazine Atrazine Propazine Trietazine Terbutylazine Metribuzin Diazinon Phorate Propetamphos Pirimicarb Metalaxyl Prometryn Fenpropidin Terbutryn Chlorpyrifos Pendimethalin Metazachlor Chlorfenvinphos Malathion Fenpropimorph Diflufenican	Method HY264 using solid phase extraction and GC-MS	Howdon



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WATERS, drinking, surface and groundwaters (cont'd)	Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)	Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)	
Groundwater and drinking water only	<u>Sensory Tests</u> Quantitative Taste Quantitative Odour	Method HY220 based on SCA "The determination of taste and odour in drinking waters (2014)" using assessed panel	Horsley
Raw (Ground and Surface), and Drinking Waters	Quantitative Taste Quantitative Odour <u>Microbiological Tests</u>	Method 5 based on SCA "The determination of taste and odour in drinking waters (2014)" using assessed panel Documented In-House Methods based on methods published in "The Microbiology of Drinking Water (MODW)"	Chelmsford
Drinking water, bottled water (Emergency Water, water from main supply into a bottle), raw (Ground and Surface) water	Enumeration: Total viable count at 22 °C and 37 °C	Method HY003 using pour plates based on MODW part 7 (2012)	Horsley Chelmsford
Raw (Ground and Surface) water	Coliforms - faecal <i>Escherichia coli</i> (presumptive and confirmed)	Method HY002 using membrane filtration based on MODW part 4 (2016)	Horsley
Drinking water, bottled water (Emergency Water, water from main supply into a bottle), raw (Ground and Surface) water	Coliforms and <i>Escherichia coli</i> (presumptive and confirmed)	Method HY093 using MLGA based on MODW part 4 (2016)	Horsley
Drinking water	Coliforms and <i>E coli</i>	HY073 using Colilert based on MODW part 4 (2016)	Horsley



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	<u>Microbiological Tests</u> (cont'd)		
Drinking water, bottled Water (Emergency Water, water from main supply into a bottle), Raw (Ground and Surface) Water	Coliforms and <i>E coli</i>	HY073 using Colilert based on MODW part 4 (2016)	Chelmsford
Drinking water, bottled water (Emergency Water, water from main supply into a bottle), raw (Ground and Surface) water	Clostridium perfringens (presumptive and confirmed)	Method HY019 using membrane filtration TSC Agar based on MODW part 6 (2015)	Horsley
Drinking water, raw (Ground and Surface) water	Clostridium perfringens (presumptive and confirmed)	Method HY019 using membrane filtration TSC Agar based on MODW part 6 (2015)	Chelmsford
Drinking water, bottled water (Emergency Water, water from main supply into a bottle)	Enumeration of sulphite reducing clostridia	Method HY087 using membrane filtration based on based on MODW part 6 (2015)	Horsley
Drinking water, bottled water (Emergency Water, water from main supply into a bottle), raw (Ground and Surface) water	Enterococci (presumptive and confirmed)	Method HY004 using membrane filtration based on MODW part 5 (2012)	Horsley
Drinking water, raw (Ground and Surface) water	Enterococci (presumptive and confirmed)	Method HY004 using membrane filtration based on MODW part 5 (2012)	Chelmsford
Drinking water, bottled water (Emergency Water, water from main supply into a bottle)	<i>Pseudomonas aeruginosa</i> (presumptive and confirmed)	Method HY072 using membrane filtration based on MODW part 8 (2015)	Horsley
Drinking Waters	Total viable counts at 22 °C and 37 °C	Method HY011 using spread plate technique based on MODW part 7 (2012)	Horsley



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS, drinking, surface and groundwaters (cont'd)	Analysis for the purpose of enforcement of The Water Supply (Water Quality) Regulations 2016 (SI 2016/614)	Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)	
Raw (Ground and Surface), Drinking water	<u>Microbiological Tests</u> (cont'd) Isolation and enumeration of <i>Cryptosporidium</i> oocysts	CM001 using the Filta-Max xpress Method based on 'the Microbiology of Drinking Water (2010) - Part 14 - Methods for the isolation, identification and enumeration of <i>Cryptosporidium</i> oocysts and <i>Giardia</i> cysts'	Horsley
Bacterial Colony Isolated from Drinking water	Bacteria identification: Gram negative rods Enterobacteriaceae	HY016 Documented In-House Method using API 20E Biochemical Diagnostic method API 20E using Method	Horsley
END of SECTION 2			



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code	
WASTE WATERS (cont'd)	<u>Chemical Testing</u>	Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - sampling and chemical testing of untreated sewage, sewage effluent and trade effluent	Howdon	
	<u>Inorganic Testing</u>			
Untreated sewage, treated sewage effluent and trade effluent	Aluminium Iron Manganese			In-house method H205 by ICP-MS
Untreated sewage, treated sewage effluent and trade effluent	Biochemical Oxygen Demand			In-house method H042 Manual and Robotic
Untreated sewage, treated sewage effluent and trade effluent	Chemical Oxygen Demand			In-house method H171
Untreated sewage, treated sewage effluent and trade effluent	pH			In-house method H031
Untreated sewage, treated sewage effluent and trade effluent	Suspended solids			In-house method H035
Untreated sewage and treated sewage effluent	Cadmium Copper			In-house method H205 by ICP-MS
Untreated sewage, treated sewage effluent and trade effluent	Aluminium Cadmium Copper Iron Manganese	In-house method H225 by ICP-MS	Howdon	



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WASTE WATERS (cont'd)	<u>Chemical Testing</u> (cont'd)	Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - sampling and chemical testing of untreated sewage, sewage effluent and trade effluent	
	<u>Inorganic Testing</u> (cont'd)		
Untreated sewage, treated sewage effluent and trade effluent	Phosphorus	In-house method H168 by ICP-OES	Howdon
Treated sewage effluent	Ammonium Nitrate Nitrite Total Oxidised Nitrogen (TON)	In-house method H219 by discrete colorimetric analyser	Howdon
Untreated sewage, treated sewage effluent and trade effluent	Mercury	In-house method H108	Howdon
	<u>Organic Testing</u>		
Treated sewage effluent and trade effluent	2,4,6-Trinitrophenol 4-Nitrophenol 2,4-Dinitrophenol 2,6-Dinitrophenol 2-Nitrophenol Nitrobenzene	In house method O042 by HPLC-UV	Howdon

END of SECTION 3



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SECTION 4 – Sampling and Analysis to SEPA MACS (Water) and ISO/IEC 17025 LEVENMOUTH laboratory			
WASTEWATERS to SEPA MACS scheme	<u>Sampling with subsequent analysis by an ISO/IEC 17025 and SEPA MACS Accredited Laboratory</u>	Documented In-House Methods to meet the requirements of the SEPA MACS Standard - Sampling and chemical testing of water	
Wastewater: Crude Sewage (untreated sewage influent) Final Effluent (treated sewage effluent)	Sampling of wastewater for Subsequent chemical testing	Spot sampling in-house method LEV 006 Automated sampling in-house Method LEV 007	Levenmouth Site - MACS
WASTEWATERS to SEPA MACS scheme	<u>Inorganic Testing</u>		
Crude Sewage (untreated sewage influent) Final Effluent (treated sewage effluent)	Biochemical Oxygen Demand	H042 using oxygen meter Manual	Levenmouth
Crude Sewage (untreated sewage influent) Final Effluent (treated sewage effluent)	Chemical Oxygen Demand	H171 using colorimetry	Levenmouth
Final Effluent (treated sewage effluent)	Suspended Solids	H035 using Gravimetry	Levenmouth
Final Effluent (treated sewage effluent)	pH	Method LEV003 using pH meter	Levenmouth
END of SECTION 4			



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SECTION 5 –Analysis to ISO/IEC 17025 only LEVENMOUTH laboratory			
<p>WASTEWATERS</p> <p>Crude Sewage (untreated sewage influent)</p> <p>Crude Sewage (untreated sewage influent)</p>	<p><u>Inorganic Testing</u></p> <p>Suspended Solids</p> <p>pH</p>	<p>Documented In-House Methods to meet the requirements of ISO/IEC 17025</p> <p>H035 using Gravimetry</p> <p>Method LEV003 using pH meter</p>	
END of SECTION 5			



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SECTION 6 Analysis to ISO/IEC 17025 CORK Laboratory			
WATERS	<u>Chemical Tests</u>	Documented In-House Methods	
Crude Sewage (untreated sewage influent) Treated Sewage Effluent	Suspended solids	H035 using Gravimetry	Cork
Crude Sewage (untreated sewage influent) Treated Sewage Effluent	Biochemical oxygen demand	H042 using oxygen meter Manual	Cork
Crude Sewage (untreated sewage influent) Treated Sewage Effluent	Chemical oxygen demand	H171 using colorimetry	Cork
SEDIMENTS/ SLUDGES	<u>Chemical Tests (cont'd)</u>	Documented In-House Methods	
Sewage Sludges	Dry solids and volatile matter	Method C006	Cork
Sewage Sludges	pH	Method C003 using pH meter	Cork
END of SECTION 6			



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SECTION 7 Sampling and Analysis to ISO/IEC 17025			
SEDIMENTS/ SLUDGES	<u>Chemical Tests</u>	Documented In-House Methods	
Sludge	pH	H058 using pH meter	Howdon
Sludge, ashes, soils, sediments and dusts	Poly Chlorinated Dibenzo-p-Dioxins (PCDD): 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,6,7,8-HxCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD Poly Chlorinated Dibenzo Furans (PCDF): 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	Method O036 using solvent extraction followed by HRGC/HRMS	Howdon
Sludge, ashes, soils, sediments and dusts	Polychlorinated biphenyls: Congener 77 Congener 81 Congener 105 Congener 114 Congener 118 Congener 123 Congener 126 Congener 156 Congener 157 Congener 167 Congener 169 Congener 189	Method O084 using HRGC/HRMS	Howdon



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
<p>SEDIMENTS/ SLUDGES</p> <p>Sludge, ashes, soils, sediments and dusts</p> <p>ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES</p> <p>Filters Probe and impinger rinses (toluene, acetone and water) XAD-2 resin trap</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Identification of Oil Pollutants Animal fat Mineral oil Vegetable oil</p> <p>Poly Chlorinated Dibenzo-p-Dioxins (PCDD): 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,6,7,8-HxCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD</p> <p>Poly Chlorinated Dibenzo Furans (PCDF): 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF</p>	<p>Documented In-House Methods</p> <p>Method O013 using GC-FID Method O012 using GC-FID Method O013 using GC-FID</p> <p>Documented In-House Methods based on the following national, international and other recognised standards</p> <p>BS EN 1948-2:2006 and BS EN 1948-3:2006. Extraction followed by High Resolution Gas Chromatography/High Resolution Mass Spectrometry (GCHRMS) (SOP O055)</p>	<p>Howdon</p> <p>Howdon</p>



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<p>ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES</p> <p>Filters Probe and impinger rinses (toluene, acetone and water) XAD-2 resin trap</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Polychlorinated Biphenyls(PCBs): Congener 77 Congener 81 Congener 105 Congener 114 Congener 118 Congener 123 Congener 126 Congener 156 Congener 157 Congener 167 Congener 169 Congener 189</p>	<p>Documented In-House Methods based on the following national, international and other recognised standards</p> <p>BS EN 1948-4:2010+A1:2013. Extraction followed by GCHRMS (SOP O084)</p>	<p>Howdon</p>



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS – DIGESTER GASES	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods	
Digester gases including biomethane Collected on Tenax TA sorbent tube	Siloxanes: Octamethyltrisiloxane Octamethylcyclotetrasiloxane Decamethyltetrasiloxane Decamethylcyclopentasiloxane Dodecamethylpentasiloxane Dodecamethylcyclohexasiloxane	Method O108 using Thermal Desorption and Ion Trap GC-MS	Howdon
Digester gases including biomethane Collected in Tedlar bags	Bulk and Trace components: Methane Ethane Ethylene Propane, Carbon dioxide Oxygen Nitrogen Hydrogen Hydrogen sulphide	Method O109 using GCFID, GCTCD and GCFPD	Howdon



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS	<u>Chemical Tests</u>	Documented In-House Methods based on 'Methods for the Examination of Water and Associated Materials', Department of the Environment Standing Committee of Analysts, Methods developed by instrument manufacturers	
Groundwater, Surface water, Landfill Leachate, Trade Effluent, Treated Sewage Effluent	Alkalinity	H109 using autotitrator	Howdon
Landfill Leachate, Untreated Sewage, Treated sewage effluent, Trade Effluent, Groundwater	Bromide Chloride Fluoride Sulphate	H090 using Ion Chromatography	Howdon
Groundwater, Surface water, Landfill Leachate Trade Effluent, Treated Sewage Effluent	Formaldehyde - free - total	H040 using spectrophotometry H039 using spectrophotometry	Howdon
Groundwater, Untreated Sewage, Treated Sewage Effluent & Trade Effluent	pH	H031 by pH meter	Howdon
Ground water, Surface Water, Landfill Leachate, Untreated Sewage, Treated Sewage Effluent, Trade Effluent	Total organic carbon	H154 using combustion/NDIR	Howdon
Groundwater, Landfill Leachate, Treated Sewage Effluent, Trade Effluent	Boron	H141	Howdon



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on 'Methods for the Examination of Water and Associated Materials', Department of the Environment Standing Committee of Analysts, Methods developed by instrument manufacturers	
Groundwater, Surface Water, Landfill Leachate, Trade Effluent, Untreated Sewage, Treated Sewage Effluent	Mercury	H108 using Cold Vapour Atomic Fluorescence Spectrometry	Howdon
Groundwater, Surface Water, Landfill Leachate, Untreated Sewage, Trade Effluent, Treated Sewage Effluent	Settleable solids	H036 using Gravimetry	Howdon
Ground water, treated sewage effluent & trade effluent	Surfactants - anionic	H104 using Manual Extraction and Colorimetry	Howdon
Ground water, treated sewage effluent & trade effluent	- non-ionic	H052 using Colorimetry	Howdon
Groundwater, Surface water, Landfill Leachate, Untreated Sewage, Treated Sewage Effluent, Trade Effluent	Suspended solids	H035 using Gravimetry	Howdon
Groundwater, Surface water, Landfill Leachate, Trade Effluent, Treated Sewage Effluent	Elements: Calcium Magnesium Potassium Sodium Hardness – total (by calculation)	H206 using ICP-OES	Howdon



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WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on 'Methods for the Examination of Water and Associated Materials', Department of the Environment Standing Committee of Analysts, Methods developed by instrument manufacturers	
Groundwater, Surface water, Landfill Leachate, Untreated Sewage, Treated Sewage Effluent, Trade Effluent	Elements: Aluminium Cadmium Copper Iron Manganese	H205 using ICP-MS	Howdon
Groundwater, Surface water, Landfill Leachate, Trade Effluent, Treated Sewage Effluent	Elements: Arsenic Antimony Barium Beryllium Chromium Cobalt Lead Lithium Molybdenum Nickel Selenium Thallium Tin Vanadium Zinc	H205 using ICP-MS	Howdon



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WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on 'Methods for the Examination of Water and Associated Materials', Department of the Environment Standing Committee of Analysts, Methods developed by instrument manufacturers	
Groundwater, Surface water, Landfill Leachate, Untreated Sewage, Treated Sewage Effluent, Trade Effluent to Sewer, Trade Effluent to controlled Water	Elements: Aluminium Antimony Arsenic Barium Cadmium Cobalt Chromium Copper Iron Lithium Manganese Molybdenum Nickel Lead Selenium Tin Titanium Thallium Vanadium Zinc	H225 using ICP-MS	Howdon
Groundwater, Surface water, Landfill Leachate, Untreated Sewage, Treated Sewage Effluent, Trade Effluent to Sewer	Beryllium	H225 using ICP-MS	Howdon



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on 'Methods for the Examination of Water and Associated Materials', Department of the Environment Standing Committee of Analysts, Methods developed by instrument manufacturers	
Groundwater, Surface water, Untreated Sewage, Treated Sewage Effluent, Trade Effluent	Phosphorus	H168 using ICP-OES	Howdon
Treated Sewage Effluent, Trade Effluent, Landfill Leachate, Prepared Leachate, Surface Water, Ground Water	Cyanide – Free Cyanide – Total	H127 using Segmented Flow Colorimetry	Howdon
Groundwater, Surface water, Landfill Leachate Trade Effluent, Treated Sewage Effluent	Sulphides	H041 using spectrophotometry	Howdon
Groundwater, Surface water, Landfill Leachate, Untreated Sewage, Treated Sewage Effluent, Trade Effluent	Biochemical oxygen demand	H042 using oxygen meter Manual and Robotic	Howdon
Groundwater, Surface water, Landfill Leachate, Untreated Sewage, Treated Sewage Effluent, Trade Effluent	Chemical oxygen demand	H171 using colorimetry	Howdon
Groundwater, Surface water, Landfill Leachate, Trade Effluent, Treated Sewage Effluent	Conductivity	H032 using meter/autotitrator	Howdon
Untreated Sewage, Treated Sewage Effluent and Trade Effluent	Elements: Silver	H217 using ICPOES	Howdon



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on 'Methods for the Examination of Water and Associated Materials', Department of the Environment Standing Committee of Analysts, Methods developed by instrument manufacturers	
Treated Sewage Effluent, Trade Effluent, Landfill Leachate, Prepared Leachate, Surface Water, Ground Water	Phenolic compounds (as Phenol)	H128 using Segmented Flow Colorimetry	Howdon
Groundwater, Surface water, Drinking Water (non regulatory), Treated Sewage Effluent	Poly Chlorinated Dibenzo-p-Dioxins (PCDD): 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,6,7,8-HxCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD Poly Chlorinated Dibenzo Furans (PCDF): 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	Method O036 using solvent extraction followed by HRGC/HRMS	Howdon
Surface Water, Landfill Leachate, Trade Effluent, Untreated Sewage, Treated Sewage Effluent	Nitrogen - Total Nitrogen – Kjeldahl by calculation	H172 using Chemilumiscence	Howdon



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on 'Methods for the Examination of Water and Associated Materials', Department of the Environment Standing Committee of Analysts, Methods developed by instrument manufacturers	
Groundwater, Surface Water, Landfill Leachate, Untreated Sewage, Treated Sewage Effluent, Trade Effluent	Anions and Cations: Ammonia Nitrate Nitrite Total Oxidised Nitrogen (TON) Dissolved ortho phosphate Total phosphate	In-house method H219 by discrete colorimetric analyser	Howdon
Groundwater, Surface Water, Treated sewage effluent, Drinking Water (non regulatory) , Landfill Leachate, Trade Effluent	Organochlorine Pesticides: Aldrin BHC-alpha BHC-beta BHC-gamma DDE-op DDE-pp DDT-pp Dieldrin Endosulphan-alpha Endosulphan-beta Endrin Hexachlorobenzene Isodrin TDE-op TDE-pp Tecnazene Trifluralin	Method O052 using GCMS	Howdon



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on 'Methods for the Examination of Water and Associated Materials', Department of the Environment Standing Committee of Analysts, Methods developed by instrument manufacturers	
Groundwater, Surface Water, Treated sewage effluent, Drinking Water (non regulatory), Trade Effluent	Polychlorinated biphenyls: Congener 28/31 Congener 52 Congener 101 Congener 118 Congener 138 Congener 153 Congener 180	Method O052 using GCMS	Howdon
Groundwater, Surface Water, Treated Sewage Effluent	DDT-op	Method O052 using GCMS	Howdon
Ground water, Surface water, Drinking Water (non regulatory), Treated Sewage Effluent	Polychlorinated Biphenyls: Congener 77 Congener 81 Congener 105 Congener 114 Congener 118 Congener 123 Congener 126 Congener 156 Congener 157 Congener 167 Congener 169 Congener 189	Method O084 using HRGC/HRMS	Howdon



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on 'Methods for the Examination of Water and Associated Materials', Department of the Environment Standing Committee of Analysts, Methods developed by instrument manufacturers	
Groundwater, Surface water, Landfill Leachate, Trade Effluent, Treated Sewage Effluent	Triazines: Atrazine Trietazine Propazine Simazine	Method O053 by GC-MS	Howdon
Groundwater, Surface water, Landfill leachate, Trade effluent, Treated sewage effluent	Alcohols: Methanol Ethanol Acetone Propan-2-ol Butan-2-ol Methyl ethyl ketone Butan-1-ol Isobutanol Propan-1-ol Methylisobutylketone	Method O015 using Headspace-GC	Howdon
Waters and effluents	Identification of Oil Pollutants Animal fat Mineral oil Vegetable oil	Method O013 using GC-FID Method O012 using GC-FID Method O013 using GC-FID	Howdon



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on 'Methods for the Examination of Water and Associated Materials', Department of the Environment Standing Committee of Analysts, Methods developed by instrument manufacturers	
Groundwater, Surface water, Drinking Water (non regulatory), Landfill leachate, Trade effluent, Treated Sewage Effluent	Total Petroleum Hydrocarbons	Method O082 using GC-FID	Howdon
Groundwater, Surface water, Drinking Water (non regulatory), Landfill leachate, Trade effluent, Treated Sewage Effluent	Aliphatic (Mineral Oil) fractionation of Total Petroleum Hydrocarbons	Method O082 using GC-FID	Howdon
Groundwater, Surface water, Drinking Water (non regulatory)	Polynuclear Aromatic Hydrocarbons: Acenaphthene Acenaphthylene Anthracene Benz(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Benzo(ghi)perylene Chrysene Dibenz(a,h)anthracene Fluoranthene Fluorene Indeno(1,2,3,c,d)pyrene Naphthalene Phenanthrene Pyrene Total PAH	Method O044 using GCMS	Howdon



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on 'Methods for the Examination of Water and Associated Materials', Department of the Environment Standing Committee of Analysts, Methods developed by instrument manufacturers	
Treated Sewage Effluent, Drinking Water (non-regulatory), Trade Effluent, Surface Water	Organotin Compounds: Dibutyl tin (DBT) Tributyl Tin (TBT) Tetrabutyl Tin (TeBT) Triphenyl Tin (TPT)	Method O106 using GC-MS-MS	Howdon
Surface water, Ground Water, Treated Sewage Effluent and Trade Effluent	Methane	Method O100 by GC-FID	Howdon
WATERS, waste and groundwaters	<u>Physical and Chemical Tests</u>	Documented In-House Methods using:	
Boreholes	Volume of Water in Boreholes	Method L15 using Electrochemical Water Detector	Site Water Waste Site-Water Customer
WASTE WATERS	<u>Chemical Tests</u>	Documented In-House Methods:	
Effluents	Dissolved Oxygen	Method L10 using Electrochemical Sensor	Site-Water Customer



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WASTE WATERS	<u>Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory For:</u>	Documented In-House Methods for sampling	
Effluents	Chemical testing	Method L4 by manual spot sampling	Site-Water Waste Site-Water Customer
Effluents	Temperature measurements	Method L7 using Calibrated thermometer	Site-Water Waste Site-Water Customer
WATERS (cont'd)	<u>Microbiological Tests</u>	Documented In-House Methods based on methods published in "The Microbiology of Drinking Water (MODW)"	
Bottled water	Enumeration: Total viable count at 22 °C and 37 °C	Method HY003 using pour plates based on MODW part 7 (2012)	Horsley
Bottled water	Coliforms and <i>Escherichia coli</i> (presumptive and confirmed)	Method HY093 using MLGA based on MODW part 4 (2016)	Horsley
Bottled water	<i>Clostridium perfringens</i> (presumptive and confirmed)	Method HY019 using membrane filtration TSC Agar based on MODW part 6 (2015)	Horsley
Bottled water	Enumeration of sulphite reducing clostridia	Method HY087 using membrane filtration based on based on MODW part 6 (2015)	Horsley
Bottled water	Enterococci (presumptive and confirmed)	Method HY004 using membrane filtration based on MODW part 5 (2012)	Horsley
Bottled water	<i>Pseudomonas aeruginosa</i> (presumptive and confirmed)	Method HY072 using membrane filtration based on MODW part 8 (2015)	Horsley



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WATERS (cont'd)	<u>Microbiological Tests</u>	Documented In-House Methods based on methods published in "The Microbiology of Drinking Water (MODW)"	
Final Treated and Recreational Pool Water	Enumeration: Isolation and enumeration of <i>Cryptosporidium</i> oocysts	CM001 using the Filta-Max xpress Method based on 'the Microbiology of Drinking Water (2010) - Part 14 - Methods for the isolation, identification and enumeration of <i>Cryptosporidium</i> oocysts and <i>Giardia</i> cysts'	Horsley
Wastewater - Effluent	Enumeration and Identification: Coliforms - faecal <i>Escherichia coli</i> (presumptive and confirmed)	Method HY002 using membrane filtration based on MODW part 4 (2016)	Horsley
Purified water and swimming pool water	Coliforms - faecal <i>Escherichia coli</i> (presumptive and confirmed)	Method HY093 using MLGA based on MODW part 4 (2016)	Horsley
Purified water and swimming pool water	<i>Pseudomonas aeruginosa</i> (presumptive and confirmed)	Method HY072 using membrane filtration based on MODW part 8 (2015)	Horsley
Wastewater - Effluent: Swimming pool Water	Enterococci (presumptive and confirmed)	HY004 using membrane filtration based on MODW part 5 (2012)	Horsley
Swimming pool Water	Coliforms and <i>E coli</i>	HY073 using Colilert based on MODW part 4 (2016)	Chelmsford
Swimming pool water	Total viable count at 22 °C and 37 °C	Method HY003 using pour plates based on MODW part 7 (2012)	Horsley Chelmsford
Endoscope Rinse Waters	Total Viable Count Aerobic heterotrophic mesophilic microorganisms at 30°C	Method HY 097 using membrane filtration and culture on R2A agar in duplicate based on Health Technical Memorandum 01-06; Decontamination of flexible endoscopes (HTM01-06)	Horsley



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WATERS (cont'd)	<u>Microbiological Tests</u>	Documented In-House Methods based on methods published in "The Microbiology of Drinking Water (MODW)"	
Purified water	Enumeration and Identification: Total viable counts at 32.5 °C	HY023 using membrane filtration and R2A agar based on Eu Pharma 2005	Horsley
Purified water and water for injection	Detection of Endotoxins	CM008 using LAL Gel Clot Technique	Horsley
Process Waters (hot and cold water systems)	Isolation, enumeration and identification of <i>Legionella</i> spp and <i>Legionella pneumophila</i>	Method LEG 01 using membrane filtration and selective media	Horsley Chelmsford
Raw (Ground and Surface) water	Algal counts and identification of Algal spp (abundance species)	BIO 1 using sedimentation with Lugols iodine	Chelmsford
WATERS Process water, Drinking water (non regulatory) and recreational water	<u>Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory For:</u>	Documented In-House Methods for sampling	
Potable waters and Non-potable waters from domestic hot and cold water systems, Calorifiers, water dispensers, cold water tanks, humidifiers/water spray, Spa Pools, TMV/Mixer taps, instantaneous water heaters and showers/spray taps	Sampling for the purpose of facilities management and as a standalone practice for microbiological testing including <i>Legionella</i>	Documented In-House Methods L1 and L26 based on BS 7592:2008, BS 8554:2015 and The Microbiology of Drinking Water part 2 2010	Site-Water Customer
END			