# Schedule of Accreditation

**issued by**

# United Kingdom Accreditation Service

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

**1181**

**Accredited to ISO/IEC 17025:2017**

## Northumbrian Water Ltd

**Issue No:**139 **Issue date:** 01 July 2026


**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**<br>Northumberland Dock Road<br>Wallsend<br>Tyne and Wear<br>NE28 0QD | **Local contact**<br>Ms Christine Pratt<br>Mr Rick Kirkpatrick<br><br>Tel: +44 (0)191-296 8500<br>Email: Chris.Pratt2@nwl.co.uk / Rick.Kirkpatrick@nwl.co.uk | **Support Functions:**<br>Quality System<br>Quality Audit administration<br><br>**Sampling and Testing:**<br>Environmental Analysis<br>Operation of flexible scope | Howdon |
| **Address**<br>Horsley Laboratory<br>Water Lane<br>Horsley<br>Newcastle-upon-Tyne<br>NE15 0PA | **Local contact**<br>Mr Ian Lumsdon<br><br>Tel: +44 (0)191-296 8500Email: Ian.Lumsdon@nwl.co.uk | Water Sampling | Horsley |
| **Address**<br>Levenmouth Laboratory<br>Levenmouth Waste Water Treatment Works<br>Methilhaven<br>Fife<br>KY8 3LA | **Local contact**<br>Mr Rick Kirkpatrick<br><br>Tel: +44 (0)191-296 8500<br>Email: Rick.Kirkpatrick@nwl.co.uk | Environmental Analysis | Levenmouth |
| **Address**<br>Chelmsford Laboratory<br>Hanningfield Treatment Works<br>South Hanningfield<br>Chelmsford<br>Essex<br>CM3 8BD | **Local contact**<br>Mr Bob Wilson<br><br>Tel: +44 (0) 191-296 8500<br>Email: Bob.wilson@nwl.co.uk | Environmental Analysis<br>Water Microbiology | Chelmsford |

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## United Kingdom Accreditation Service

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

## Northumbrian Water Ltd

**Issue No:**139 **Issue date:** 01 July 2026

**Testing performed by the Organisation at the locations specified**

| Location details | Activity | Location code |
|---|---|---|
| **Address**<br>Horsley Laboratory<br>Water Lane<br>Horsley<br>Newcastle-upon-Tyne<br>NE15 0PA<br><br>**Local contact**<br>Mr Bob Wilson<br><br>Tel: +44 (0) 191-296 8500<br>Email: Bob.Wilson@nwl.co.uk | Environmental Analysis<br>Water Microbiology | Horsley |
| **Address**<br>Leat House<br>Pattinson Road<br>District 15<br>Washington<br>NE38 8LB<br><br>**Local contact**<br>Mr Ian Lumsdon<br><br>Tel: +44 (0)191-296 8500<br>Email: Ian.Lumsdon@nwl.co.uk | Waste water sampling | Site - Trade effluents<br>Site - Water Waste |
| **Address**<br>Horsley Laboratory<br>Water Lane<br>Horsley<br>Newcastle-upon-Tyne<br>NE15 0PA<br><br>**Local contact**<br>Mr Ian Lumsdon<br><br>Tel: +44 (0)191-296 8500<br>Email: Ian.Lumsdon@nwl.co.uk | Raw and drinking water sampling | Site - Water clean |
| **Address**<br>Chelmsford Laboratory<br>Hanningfield Treatment Works<br>South Hanningfield<br>Chelmsford<br>Essex<br>CM3 8BD<br><br>**Local contact**<br>Mr Ian Lumsdon<br><br>Tel: +44 (0)191 2968500<br>Email: Ian.Lumsdon@nwl.co.uk | Raw and drinking water sampling | Site - Water clean |
| **Address**<br>Levenmouth Laboratory<br>Levenmouth Waste Water<br>Treatment Works<br>Methilhaven<br>Fife<br>KY8 3LA<br><br>**Local contact**<br>Mr Rick Kirkpatrick<br><br>Tel: +44 (0)191-296 8500<br>Email: Rick.Kirkpatrick@nwl.co.uk | Untreated Sewage and Treated Sewage Effluent Sampling | Site - MACS |

| | |
|---|---|
| 1181<br>**Accredited to ISO/IEC 17025:2017** | **Schedule of Accreditation**<br>**issued by**<br>**United Kingdom Accreditation Service**<br>2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK |
| | **Northumbrian Water Ltd**<br>**Issue No:**139 **Issue date:** 01 July 2026 |
| **Testing performed by the Organisation at the locations specified** | |

**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 Horsley) | 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**
Accreditation to ISO/IEC 17025 only


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

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** | | | |
| | **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:**<br>• **Incorporation of additional determinands (Howdon only) or matrices (Howdon, Horsley and Chelmsford) to existing accredited methods**<br>• **Authorising the use of replacement equipment for existing methods (Howdon, Horsley and Chelmsford)**<br>• **Development of new methods for matrix types and using techniques and instruments that appear on the fixed scope (Howdon only)**<br>**Please contact the laboratory for details of the individual determinands and matrices that can be analysed.** | **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** | Howdon<br>Horsley<br>Chelmsford |
| **END of SECTION 1** | | | |

| 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** | | | |
| WATERS, drinking, surface and groundwaters | Sampling and 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)** | |
| Distribution samples including:-<br><br>Consumer taps<br>Standpipes<br>Commercial and industrial premises<br>Service reservoirs<br>Water treatment works<br>Raw waters including:<br>Impounding reservoirs<br>Spring supplies<br>Boreholes | Sampling with subsequent analysis by an ISO/IEC 17025 and DWTS Accredited Laboratory for Chemical and Microbiological testing (including cryptosporidium) | Documented In-House Methods L1 and L17 for sampling based on:<br>a) Standing Committee of Analysts Methods<br>b) "The Microbiology of Drinking Water 2010"<br>c) DWI SOP for the monitoring of Cryptosporidium oocysts to satisfy water supply (water quality) regulations 2000:Part 1 | Site-Water Clean |
| WATERS, drinking, surface and groundwaters | <u>Physical and Chemical Tests</u> | Documented In-House Methods using: | |
| Consumer taps<br>Standpipes<br>Commercial and industrial premises<br>Raw waters including:<br>Impounding reservoirs<br>Spring supplies<br>Boreholes | Free Residual Chlorine<br>Total Residual Chlorine<br><br>Temperature Measurements | Method L13 using a Colorimetric Hach SL 1000 Meter<br><br>Method L7 using Digital Thermometers | Site-Water Clean<br><br>Site-Water Clean |
| Consumer taps,<br>Commercial and industrial premises | Sampling with subsequent analysis by an ISO/IEC 17025 and DWTS Accredited Laboratory for Chemical and Microbiological testing | Method L1 | Site-Water Customer |

| 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) (cont'd) | **Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)** | |
| WATERS, drinking, surface and groundwaters | Physical and Chemical Tests (cont'd) | Documented In-House Methods using: | |
| Consumer taps, Commercial and industrial premises | Free Residual Chlorine<br>Total Residual Chlorine | Method L13 using a Colorimetric Hach SL 1000 Meter | Site-Water Customer |
| Consumer taps, Commercial and industrial premises | Temperature Measurements | Method L7 using Digital Thermometers | Site-Water Customer |
| WATERS – Drinking and Raw Waters from household & commercial taps | Sampling and on-site tesing For the purpose of the Enforcement of The Private Water Supplies (England) Regulations 2016 for Chemical & Microbiological Testing | Documented In-House Method L1 | Site-Water Customer |
| | Inorganic Testing: | | |
| Raw (Ground and Surface) and Drinking Waters | Ammonium<br>Chloride<br>Soluble reactive Phosphate (as Phosphorus)<br>Nitrite<br>Total Oxidised Nitrogen<br>Nitrate (calculated) | Method HY280 using automated colorimetry | Howdon |
| Raw (Ground and Surface), and Drinking Waters | Ammonium<br>Chloride<br>Soluble reactive Phosphate (as Phosphorus)<br>Nitrite<br>Total Oxidised Nitrogen<br>Nitrate (calculated) | Method HY280 using Automated Colorimetry | Chelmsford |
| Drinking Waters | Turbidity | Method HY272 by Turbidimeter | Horsley |
| Raw (Ground and Surface), and Drinking Waters | Turbidity | Method HY272 by Turbidimeter | Chelmsford |

| 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) (cont'd)<br><br><u>Inorganic Testing:</u> (cont'd) | **Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)** | |
| Raw (Ground and Surface) and Drinking Waters | Colour (filtered) | Method HY266 using Spectrophotometry | Howdon |
| 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 |
| Raw (Ground and Surface) and Drinking Waters | Total organic carbon (TOC)<br>Dissolved organic carbon (DOC) | Method HY210 using catalytic oxidation followed by Infra-red detection | Howdon |
| Raw (Ground and Surface) and Drinking Waters | Bromate<br>Bromide<br>Chlorate | Method HY 281 using IC-MS | Howdon |
| Raw (Ground and Surface) and Drinking Waters | Turbidity | Method HY272 using turbidity Meter | Howdon |
| Raw (Ground and Surface) and Drinking Waters | Total cyanide | Method HY243 using colorimetry | Howdon |
| Raw (Ground and Surface) and Drinking Waters | pH<br>Fluoride<br>Conductivity<br>Alkalinity<br>Carbonate (calculated)<br>Bicarbonate (calculated | Method HY283 using<br>Automated ion selective electrode<br>Automated non selective Electrode<br>Automated titration | Howdon |

| 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) (cont'd)<br><br><u>Inorganic Testing:</u> (cont'd) | **Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)** | |
| Raw (Ground and Surface) and Drinking Waters | Metals:<br>Aluminium<br>Barium<br>Iron<br>Manganese<br>Phosphorous<br>Potassium<br>Sodium<br>Total Boron<br>Soluble Boron<br>Calcium<br>Magnesium<br>Total Hardness<br>Sulphate<br>Silica as SiO2 | Method HY276 using ICP-Optical Emission Spectrometry | Howdon |
| Raw (Ground and Surface Water) and Drinking Water | Metals:<br>Antimony<br>Arsenic<br>Cadmium<br>Chromium<br>Copper<br>Lead<br>Nickel<br>Mercury<br>Selenium<br>Silver<br>Zinc | Method HY267 using ICP-MS | Howdon |

| 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) (cont'd)<br><br><u>Organic Testing:</u> | **Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)** | |
| Raw (Ground and Surface) and Drinking Waters | Trichloromethane<br>Trichloroethene<br>Tribromomethane<br>Tetrachloroethene<br>Tetrachloromethane<br>Dichlorobromomethane<br>Dibromochloromethane<br>Benzene<br>1,2 Dichloroethane<br>Vinyl Chloride | Method HY277 using Headspace GC/MS | Howdon |
| Raw (Ground and Surface) and Drinking Waters | Total THMs<br>Total Ethenes (total of those measured) | Method HY277 by Calculation | Howdon |
| Raw (Ground and Surface) and Drinking Waters | <u>Polyaromatic Hydrocarbons</u>:<br>Anthracene<br>Fluoranthene<br>Benzo(b)fluoranthene*<br>Benzo(k)fluoranthene*<br>Benzo(a)pyrene<br>Indeno(1,2,3-cd)pyrene*<br>Benzo(ghi)perylene* | Method HY 123 using GC-MS | Howdon |
| Raw (Ground and Surface) and Drinking Waters | Total PAH<br>(total of those marked *) | Method HY 123 by calculation | Howdon |

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

| 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) (cont'd)<br><br><u>Organic Testing:</u> (cont'd) | **Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)** | |
| Raw (Ground and Surface) and Drinking Waters | Metaldehyde | Method HY127 using direct injection LC-MS | Howdon |
| Raw (Ground and Surface) and Drinking Waters | <u>Alkylphenols</u>:<br>4-tert-octylphenol, nonylphenol,<br>4-n-octylphenol<br>4-n-nonylphenol | Method 239 using solid phase extraction and GC-MS | Howdon |
| Raw (Ground and Surface) and Drinking Waters | <u>Organochlorine pesticides</u>:<br>Dichlobenil<br>Pentachlorobenzene<br>Tecnazene<br>Trifluralin<br>alpha-BHC<br>Hexachlorobenzene<br>beta-BHC<br>gamma-BHC<br>Chlorthalonil<br>Alachlor<br>Heptachlor<br>Chlorthal-Dimethyl (DCPA)<br>Aldrin<br>alpha-Endosulfan<br>beta-Endosulfan<br>Endrin<br>Dieldrin<br>Heptachlor-EXO-Epoxide<br>Heptachlor-ENDO-Epoxide<br>Heptachlor-epoxides | Method HY275 using GC-MSMS | Howdon |
| Drinking Waters only | <u>Organochlorine pesticides</u>:<br>p,p-DDT | Method HY275 using GC-MSMS | Howdon |

| 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) (cont'd)<br><br><u>Organic Testing:</u> (cont'd) | **Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)** | |
| Raw (Surface and Ground Waters) and Drinking Waters | <u>Acidic Herbicides, specifically</u>:<br>Clopyralid<br>MCPP<br>MCPA<br>Dichlorprop<br>Bromoxynil<br>Triclopyr<br>Pentachlorophenol (PCP)<br>Fenoprop<br>MCPB<br>Bentazone<br>Benazolin<br>2.4-D<br>2,4,5-T<br>2,4-DB<br>Propyzamide<br>Ioxynil<br>Picloram<br>Chloridazon<br>Lenacil<br>Asulam<br>Dicamba<br>Fluorxypyr<br>Quinmerac | Method HY271 using online enrichment followed by LC-MS/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<br>AMPA | Method HY121 using Off-line FMOC-CL derivitisation followed by direct injection LC-MS/MS | Howdon |
| Surface Water, Drinking Water | Taste & Odour Compounds;<br>Geosmin<br>2-Methylisoborneol (2-MIB) | HY268 by GCMSMS | Howdon |

| 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) (cont'd)<br><br><u>Organic Testing:</u> (cont'd) | **Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)** | |
| Raw (Surface and Ground Waters) and Drinking Water | <u>Organophosphorus Pesticides, Triazine Herbicides, Fungicides and Insecticides:</u><br>Dimethoate<br>Cypermethrin<br>Propachlor<br>Simazine<br>Atrazine<br>Propazine<br>Trietazine<br>Terbuthylazine<br>Metribuzin<br>Diazinon<br>Phorate<br>Propetamphos<br>Pirimicarb<br>Metalaxyl<br>Prometryn<br>Fenpropidin<br>Terbutryn<br>Chlorpyriphos<br>Pendimethalin<br>Metazachlor<br>Chlorfenvinphos<br>Malathion<br>Fenpropimorph<br>Diflufenican | Method HY264 using solid phase extraction and GC-MS | Howdon |

| 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) (cont'd)<br><br><u>Sensory Tests</u> | **Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)** | |
| Raw (Ground and Surface), and Drinking Waters | Quantitative Taste<br>Quantitative Odour | Method 5 based on SCA "The determination of taste and odour in drinking waters (2014)" using assessed panel | Horsley<br>Chelmsford |
| | <u>Microbiological Tests</u><br><br>Enumeration: | Documented In-House Methods based on methods published in "The Microbiology of Drinking Water (MODW)" | |
| Drinking water, bottled water (Emergency Water, water from main supply into a bottle), raw (Ground and Surface) water | Total viable count at 22 °C and 37 °C | Method HY003 using pour plates based on MODW part 7 (2020) | Horsley<br>Chelmsford |
| Drinking water, bottled water (Emergency Water, water from main supply into a bottle), raw (Ground and Surface) water | Coliforms and *Escherichia coli* (presumptive and confirmed) | Method HY093 using MLGA based on MODW part 4 (2016) | Horsley |
| Drinking water, Raw (Ground Water & Surface Water), Bottled water (Emergency Water, water from main supply into a bottle) | Coliforms and *E coli* | HY073 using Colilert 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 *E coli* | HY073 using Colilert based on MODW part 4 (2016) | Chelmsford |

| 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) (cont'd)<br><br><u>Microbiological Tests</u> (cont'd)<br><br>Enumeration: (cont'd) | **Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)** | |
| 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 (2021) | 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 (2021) | 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 (2021) | 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) | *Pseudomonas aeruginosa* (presumptive and confirmed) | Method HY072 using membrane filtration based on MODW part 8 (2015) | Horsley |

| 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) (cont'd)<br><br><u>Microbiological Tests</u> (cont'd) | **Methodology meeting the requirements of The Drinking Water Testing Specification (DWTS)** | |
| Raw (Ground and Surface), Drinking water | Isolation and enumeration of *Cryptosporidium* oocysts | CM001 using the Filta-Max xpress Method based on 'the Microbiology of Drinking Water (2010) -<br>Part 14 - Methods for the isolation, identification and enumeration of *Cryptosporidium* oocysts and *Giardia* cysts' | Horsley |

**END of SECTION 2**

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| **SECTION 3 – Sampling and Analysis to MCERTS (Water)** | | | |
| WASTE WATERS | Sampling with subsequent analysis by an ISO/IEC 17025 and MCERTS (waters) Accredited Laboratory | **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** | |
| Untreated sewage<br>Treated sewage effluent<br>Trade effluent (to controlled water) | Sampling with subsequent analysis by an ISO/IEC 17025 and MCERTS waters Accredited Laboratory for Chemical Testing | Documented In-House Methods for sampling (Manual and Automatic Methods) | |
| Untreated sewage<br>Treated sewage effluent<br>Trade effluent (to controlled water) | | Method L4 using manual spot Sampling | Site-Water Waste<br>Site-Water Clean<br>Site Water Customer |
| Trade effluent (to controlled water) | On-site measurement of free and total residual chlorine | Method L25 using a colorimetric Hach SL1000 Meter<br><br>**Documented in house method to meet the requirements of The Urban Waste Water Treatment (England & Wales) Regulations 1994** | Site-Water Clean |
| Treated sewage effluent | | Method L18 using refrigerated automatic sampling equipment | Site-Water Clean |
| Untreated sewage<br>Treated sewage effluent<br>Trade effluent (to controlled water) | | Method L18 using refrigerated automatic sampling equipment | Site-Water Waste |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WASTE WATERS (cont'd) | Chemical Testing | **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** | |
| | Inorganic Testing | | |
| Untreated sewage, treated sewage effluent and trade effluent | Biochemical Oxygen Demand | In-house method H042 Manual and Robotic | Howdon |
| Untreated sewage, treated sewage effluent and trade effluent | Chemical Oxygen Demand | In-house method H171 | Howdon |
| Untreated sewage, treated sewage effluent and trade effluent | pH | In-house method H238 pH meter | Howdon |
| Untreated sewage, treated sewage effluent and trade effluent | Suspended solids | In-house method H035 | Howdon |
| Untreated sewage, treated sewage effluent and trade effluent | Aluminium<br>Cadmium<br>Copper<br>Iron<br>Manganese<br>Nickel<br>Zinc | In-house method H225 by ICP-MS | Howdon |
| Untreated sewage, treated sewage effluent and trade effluent | Phosphorus | In-house method H230 by ICP-OES | Howdon |
| Treated sewage effluent | Ammonium<br>Nitrate<br>Nitrite<br>Total Oxidised Nitorogen (TON) | In-house method H219 by discrete colorimetric analyser | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WASTE WATERS (cont'd) | Chemical Testing (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** | |
| | Inorganic Testing (cont'd) | | |
| Untreated sewage, treated sewage effluent and trade effluent | Mercury | In-house method H108 | Howdon |
| **END of SECTION 3** | | | |

| 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 | Sampling with subsequent analysis by an ISO/IEC 17025 and SEPA MACS Accredited Laboratory | **Documented In-House Methods to meet the requirements of the SEPA MACS Standard - Sampling and chemical testing of water** | |
| Wastewater:<br>Crude Sewage (untreated sewage influent)<br>Final Effluent (treated sewage effluent | Sampling of wastewater for Subsequent chemical testing | Spot sampling in-house method LEV 006<br>Automated sampling in-house Method LEV 007 | Levenmouth Site - MACS |
| WASTEWATERS to SEPA MACS scheme | Inorganic Testing | | |
| Crude Sewage (untreated sewage influent)<br>Final Effluent (treated sewage effluent) | Biochemical Oxygen Demand | H042 using oxygen meter Manual | Levenmouth |
| Crude Sewage (untreated sewage influent)<br>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** | | | |

| 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** | | | |
| WASTEWATERS | Inorganic Testing | Documented In-House Methods to meet the requirements of ISO/IEC 17025 | |
| Crude Sewage (untreated sewage influent) | Suspended Solids | H035 using Gravimetry | Levenmouth |
| Crude Sewage (untreated sewage influent) | pH | Method LEV003 using pH meter | Levenmouth |
| **END of SECTION 5** | | | |

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

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES | Chemical Tests (cont'd) | Documented In-House Methods based on the following national, international and other recognised standards | |
| Filters<br>Probe and impinger rinses (toluene, acetone and water)<br>XAD-2 resin trap | Poly Chlorinated Dibenzo-p-Dioxins (PCDD):<br>2,3,7,8-TCDD<br>1,2,3,7,8-PeCDD<br>1,2,3,6,7,8-HxCDD<br>1,2,3,4,7,8-HxCDD<br>1,2,3,7,8,9-HxCDD<br>1,2,3,4,6,7,8-HpCDD<br>OCDD<br><br>Poly Chlorinated Dibenzo Furans (PCDF):<br>2,3,7,8-TCDF<br>1,2,3,7,8-PeCDF<br>2,3,4,7,8-PeCDF<br>1,2,3,4,7,8-HxCDF<br>1,2,3,6,7,8-HxCDF<br>2,3,4,6,7,8-HxCDF<br>1,2,3,7,8,9-HxCDF<br>1,2,3,4,6,7,8-HpCDF<br>1,2,3,4,7,8,9-HpCDF<br>OCDF | BS EN 1948-2:2006 and BS EN 1948-3:2006. Extraction followed by High Resolution Gas Chromatography/High Resolution Mass Spectrometry (GCHRMS)<br>(SOP O055) | Howdon |
| Filters<br>Probe and impinger rinses (toluene, acetone and water)<br>XAD-2 resin trap | Polychlorinated Biphenyls(PCBs):<br>Congener 77<br>Congener 81<br>Congener 105<br>Congener 114<br>Congener 118<br>Congener 123<br>Congener 126<br>Congener 156<br>Congener 157<br>Congener 167<br>Congener 169<br>Congener 189 | BS EN 1948-4:2010+A1:2013. Extraction followed by GCHRMS<br>(SOP O084) | Howdon |

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

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS | Chemical Tests (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 | Alkalinity | H239 using autotitrator | Howdon |
| Landfill Leachate, Untreated Sewage, Treated sewage effluent, Trade Effluent, Groundwater | Bromide<br>Chloride<br>Fluoride<br>Sulphate | H090 using Ion Chromatography | Howdon |
| Groundwater, Surface water, Landfill Leachate Trade Effluent, Treated Sewage Effluent | Formaldehyde - free<br>- total | H040 using spectrophotometry<br>H039 using spectrophotometry | Howdon |
| Groundwater, Untreated Sewage, Treated Sewage Effluent & Trade Effluent | pH and Conductivity | H238 by pH and conductivity meter | Howdon |
| Groundwater, Surface Water, Landfill Leachate, Untreated Sewage, Treated Sewage Effluent, Trade Effluent | Boron | H228 by ICP-OES | Howdon |
| Groundwater, Surface Water, Landfill Leachate, Trade Effluent, Untreated Sewage, Treated Sewage Effluent | Mercury | H108 using Cold Vapour Atomic Fluorescence Spectrometry | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Chemical Tests (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, Trade Effluent, Treated Sewage Effluent | Settleable solids | H036 using Gravimetry | Howdon |
| Treated sewage effluent, Untreated Sewage & trade effluent | Surfactants - anionic | H227 using Manual Extraction and Colorimetry | Howdon |
| Untreated Sewage & trade effluent | - non-ionic | H235 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, Untreated Seage, & Treated Sewage Effluent | Elements:<br>Calcium<br>Magnesium<br>Potassium<br>Sodium<br>Hardness – total (by calculation) | H231 using ICP-OES | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Chemical Tests (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:<br>Aluminium<br>Antimony<br>Arsenic<br>Barium<br>Cadmium<br>Cobalt<br>Chromium<br>Copper<br>Iron<br>Lithium<br>Manganese<br>Molybdenum<br>Nickel<br>Lead<br>Selenium<br>Tin<br>Titanium<br>Thallium<br>Vanadium<br>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 |
| Groundwater, Surface water, Untreated Sewage, Treated Sewage Effluent, Trade Effluent, Landfill Leachate | Phosphorus | H230 using ICP-OES | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Chemical Tests (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 | |
| Trade Effluent, Landfill Leachate, Surface Water, Ground Water, Untreated Sewage | Cyanide – Total | H236 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 | H238 using conductivity meter | Howdon |
| Untreated Sewage, Treated Sewage Effluent and Trade Effluent, raw (ground and surface), Landfill Leachate | Elements:<br>Silver | H233 using ICPOES | Howdon |
| Trade Effluent, Landfill Leachate, Surface Water, Ground Water, Untreated Sewage | Phenolic compounds (as Phenol) | H237 using Segmented Flow Colorimetry | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Chemical Tests (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), Treated Sewage Effluent | Poly Chlorinated Dibenzo-p-Dioxins (PCDD):<br>2,3,7,8-TCDD<br>1,2,3,7,8-PeCDD<br>1,2,3,6,7,8-HxCDD<br>1,2,3,4,7,8-HxCDD<br>1,2,3,7,8,9-HxCDD<br>1,2,3,4,6,7,8-HpCDD<br>OCDD<br><br>Poly Chlorinated Dibenzo Furans (PCDF):<br>2,3,7,8-TCDF<br>1,2,3,7,8-PeCDF<br>2,3,4,7,8-PeCDF<br>1,2,3,4,7,8-HxCDF<br>1,2,3,6,7,8-HxCDF<br>2,3,4,6,7,8-HxCDF<br>1,2,3,7,8,9-HxCDF<br>1,2,3,4,6,7,8-HpCDF<br>1,2,3,4,7,8,9-HpCDF<br>OCDF | Method O036 using solvent extraction followed by HRGC/HRMS | Howdon |
| Groundwater, Surface Water, Landfill Leachate, Untreated Sewage, Treated Sewage Effluent, Trade Effluent | Anions and Cations:<br>Ammonia<br>Nitrate<br>Nitrite<br>Total Oxidised Nitrogen (TON)<br>Dissolved ortho phosphate<br>Total phosphate | In-house method H219 by discrete colorimetric analyser | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Chemical Tests (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 | Organochlorine Pesticides:<br>Aldrin<br>BHC-alpha<br>BHC-beta<br>BHC-gamma<br>DDE-op<br>DDE-pp<br>DDT-pp<br>Dieldrin<br>Endosulphan-alpha<br>Endosulphan-beta<br>Endrin<br>Hexachlorobenzene<br>Isodrin<br>TDE-op<br>TDE-pp<br>Tecnazene<br>Trifluralin | Method O052 using GCMS | Howdon |
| Ground Water, Surface Water, Treated Sewage Effluent | DDT-op | Method O052 using GCMS | |
| Groundwater, Surface Water, Treated sewage effluent, Drinking Water (non regulatory), Trade Effluent | Polychlorinated Biphenyls:<br>Congener 28/31<br>Congener 52<br>Congener 101<br>Congener 118<br>Congener 138<br>Congener 153<br>Congener 180 | Method O052 using GCMS | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Chemical Tests (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 | |
| Ground water, Surface water, Drinking Water (non regulatory), Treated Sewage Effluent | Polychlorinated Biphenyls:<br>Congener 77<br>Congener 81<br>Congener 105<br>Congener 114<br>Congener 118<br>Congener 123<br>Congener 126<br>Congener 156<br>Congener 157<br>Congener 167<br>Congener 169<br>Congener 189 | Method O084 using HRGC/HRMS | Howdon |
| Groundwater, Surface water, Treated Sewage Effluent | Triazines & Organophosphorus Pesticides:<br>Atrazine<br>Azinphos-ethyl<br>Azinphos-methyl<br>Chlorfenvinphos<br>Diazinon<br>Dichlorvos<br>Dimethoate<br>Fenitrothion<br>Malathoin<br>Propazine<br>Propetamphos<br>Trietazine<br>Simazine | Method O110 by GC-MSMS | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Chemical Tests (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, Trade effluent, Treated sewage effluent, Drinking Water (non-regulatory) | Alcohols:<br>Methanol<br>Ethanol<br>Acetone<br>Propan-2-ol<br>Butan-2-ol<br>Methyl ethyl ketone<br>Butan-l-ol<br>Isobutanol<br>Propan-l-ol<br>Methylisobutylketone | Method O015 using Headspace-GC | Howdon |
| Groundwater, Surface water, Drinking Water (non regulatory), Trade effluent, Treated Sewage Effluent | Total Petroleum Hydrocarbons | Method O082 using GC-FID | Howdon |
| Groundwater, Surface water, Drinking Water (non regulatory), Trade effluent, Treated Sewage Effluent | Aliphatic Mineral Oil fractionation | Method O082 using GC-FID | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Chemical Tests (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,Drinking Water (non regulatory) | Polynuclear Aromatic Hydrocarbons:<br>Acenaphthene<br>Acenaphthylene<br>Anthracene<br>Benz(a)anthracene<br>Benzo(b)fluoranthene<br>Benzo(k)fluoranthene<br>Benzo(a)pyrene<br>Benzo(ghi)perylene<br>Chrysene<br>Dibenz(a,h)anthracene<br>Fluoranthene<br>Fluorene<br>Indeno(1,2,3,c,d)pyrene<br>Naphthalene<br>Phenanthrene<br>Pyrene<br>Total PAH | Method O044 using GCMS | Howdon |
| Treated Sewage Effluent, Drinking Water (non-regulatory), Trade Effluent, Surface Water | Organotin Compounds:<br>Dibutyl tin (DBT)<br>Tributyl Tin (TBT)<br>Tetrabutyl Tin (TeBT)<br>Triphenyl Tin (TPT) | Method O106 using GC-MS-MS | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Chemical Tests (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 | |
| Raw Water (Ground and Surface), Trade Effluent, Treated Sewage, Landfill Leachate | Volatile Organic Compounds:<br>1,1-Dichloroethene<br>Dichloromethane<br>Trans-1,2-Dichloroethene<br>MTBE<br>1,1-Dichloroethane<br>Cis-1,2-Dichloroethene<br>2,2-Dichloropropane<br>Bromochloronethane<br>Trichloromethane<br>THF<br>1,2-Dichloroethane<br>1,1,1-Trichloroethane<br>1,1-Dichloropropene<br>Carbon Tetrachloride<br>Benzene<br>Trichloroethene<br>1,2-Dichloropropane<br>Dibromomethane<br>Cis-1,3-Dichloropropene<br>1,1,2-Trichloroethane<br>Tetrachloroethene<br>1,3-Dichloropropane<br>Dibromochloromethane<br>1,2-Dibromoethane<br>Chlorobenzene<br>1,1,1,2-Tetrachloroethane<br>Ethylbenzene<br>m+p-xylenes<br>o-xylene<br>Styrene<br>Bromoform<br>Isopropylbenzene<br>1,1,2,2-Tetrachloroethane<br>Bromobenzene | Method O102 using GC-MS | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Chemical Tests (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 | |
| Raw Water (Ground and Surface, Trade Effluent, Treated Sewage, Landfill Leachate (cont'd) | Volatile Organic Compounds: (cont'd)<br>2-Chlorotoluene<br>4-Chlorotoluene<br>1,3,5-Trimethylbenzene<br>Tert-Butylbenzene<br>1,2,4-Trimethylbenzene<br>Sec-Butylbenzene<br>1,3-Dichlorobenzene<br>Isopropyltoluene<br>1,4-Dichlorobenzene<br>1,2-Dichlorobenzene<br>n-Butylbenzene<br>1,2-Dibromo-3-Chloropropane<br>1,2,4-Trichlorobenzene<br>Hexachlorobutadiene<br>Naphthalene<br>Toluene<br>MIBK<br>1,2,3-Trichlorobenzene<br>Bromodichloromethane<br>Trans-1,3-Dichloropropene<br>1,2,3-Trichloropropane<br>n-Propylbenzene | Method O102 by GC-MS | Howdon |
| Treated sewage effluent and trade effluent | 2,4,6-Trinitrophenol<br>4-Nitrophenol<br>2,4-Dinitrophenol<br>2,6-Dinitrophenol<br>2-Nitrophenol<br>Nitrobenzene | In house method O042 by HPLC-UV | Howdon |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS, waste and groundwaters | Physical and Chemical Tests | Documented In-House Methods using: | |
| Boreholes (Ground Water & Landfill Boreholes) | Volume of Water in Boreholes | Method L15 using Electrochemical Water Detector | Site Water<br>Waste<br>Site-Water<br>Customer |
| WATERS | Chemical Tests | Documented In-House Methods: | |
| Ground Water, Surface Water, Landfill Leachate | Dissolved Oxygen | Method L10 using Electrochemical Sensor | Site-Water<br>Customer |
| Ground Water, Surface Water, Landfill Leachate, Trade Effluent, Treated Sewage, Untreated Sewage | Chemical testing | Method L4 by manual spot sampling | Site-Water<br>Customer |
| Ground Water, Surface Water, Trade Effluent, Treated Sewage, Untreated Sewage | Chemical testing | Method L4 by manual spot sampling | Site-Water<br>Waste |
| Ground Water, Surface Water, Landfill Leachate, Untreated Sewage, Treated Sewage, Trade Effluent | Temperature measurements | Method L7 using Calibrated thermometer | Site-Water<br>Waste<br>Site-Water<br>Customer |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Microbiological Tests<br><br>Enumeration: | Documented In-House Methods based on methods published in "The Microbiology of Drinking Water (MODW)" | |
| Bottled water | Total viable count at 22 °C and 37 °C | Method HY003 using pour plates based on MODW part 7 (2020) | Horsley |
| Bottled water | Coliforms and *Escherichia coli* (presumptive and confirmed) | Method HY093 using MLGA based on MODW part 4 (2016) | Horsley |
| Bottled water | *Clostridium perfringens* (presumptive and confirmed) | Method HY019 using membrane filtration TSC Agar based on MODW part 6 (2021) | Horsley |
| Bottled water | Enumeration of sulphite reducing clostridia | Method HY087 using membrane filtration based on based on MODW part 6 (2021) | Horsley |
| Bottled water | Enterococci (presumptive and confirmed) | Method HY004 using membrane filtration based on MODW part 5 (2012) | Horsley |
| Bottled water | *Pseudomonas aeruginosa* (presumptive and confirmed) | Method HY072 using membrane filtration based on MODW part 8 (2015) | Horsley |
| Final Treated and Recreational Pool Water | Isolation and enumeration of *Cryptosporidium* oocysts | CM001 using the Filta-Max xpress Method based on 'the Microbiology of Drinking Water (2010) -<br>Part 14 - Methods for the isolation, identification and enumeration of *Cryptosporidium* oocysts and *Giardia* cysts' | Horsley |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Microbiological Tests (cont'd)<br><br>Enumeration and Identification: | Documented In-House Methods based on methods published in "The Microbiology of Drinking Water (MODW)" | |
| Purified water and swimming pool water | Coliforms - faecal *Escherichia coli* (presumptive and confirmed) | Method HY093 using MLGA based on MODW part 4 (2016) | Horsley |
| Purified water and swimming pool water, Endoscope Waters, Process Water (non-drinking tap water) | *Pseudomonas aeruginosa* (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 *E coli* | 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 (2020) | Horsley<br>Chelmsford |
| Endoscope Rinse Waters | Total Viable Count Aerobic heterotrphic 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 |
| Purified water | Total viable counts at 32.5 °C | HY023 using membrane filtration and R2A agar based on Eu Pharma 2005 | Horsley |
| Purified water | Detection of Endotoxins | CM008 using LAL Gel Clot Technique | Horsley |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|---|---|---|---|
| WATERS (cont'd) | Microbiological Tests (cont'd)<br><br>Enumeration and Identification: (cont'd) | Documented In-House Methods based on methods published in "The Microbiology of Drinking Water (MODW)" | |
| Process Waters (hot and cold water systems), Man-made Recreational Waters (swimming pools, spas, Hot-tubs), Hydrotherapy Waters | Isolation, enumeration and identification of *Legionella* spp and *Legionella pneumophila* | Method LEG 01 using membrane filtration and selective media | Horsley |
| Raw (Ground and Surface) water | Algal counts and identification of Algal spp (abundance species) | BIO 1 using sedimentation with Lugol's iodine | Chelmsford |
| Process Waters – Tanked hot and cold water systems and non-regulatory drinking water | Total Viable Counts at 22°C and 37°C | Method HY011 using spread plate technique based on MoDW Part 7 (2020) | Horsley |
| Treated Sewage Effluent, Recreational Water (saline bathing water) | *Escherichia Coli* enumeration | Method HY073 IDEXX Quantitray Standard Method Based on MoSS Part 3 (2024), MoREW Part 3 (2016) | Horsley |
| WATERS Process water, Drinking water (non regulatory) and recreational water | Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory For: | 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 *Legionella* | Documented In-House Methods L1 and L26 based on BS 7592: 2022, BS 8554:2015 and The Microbiology of Drinking Water part 2 2010 | Site-Water Customer |
| END | | | |