Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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



1494

Accredited to

United Utilities Water Ltd operating as United Utilities Scientific Services

Issue No: 098 Issue date: 24 November 2021

Lingley Mere Laboratory

PO Box 458

Lingley Green Avenue

Great Sankey

Warrington WA5 3LP

Tel: +44 (0)1925 677077 Fax: +44 (0)1925 678933

Contact: Mr J Perry

E-Mail: jeff.perry@uuplc.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 Lingley Mere Laboratory PO Box 458 | Local contact Mr J Perry | Environmental Analysis | А |
| Lingley Green Avenue Great Sankey Warrington WA5 3LP | Tel: +44 (0)1925 677077 Fax: +44 (0)1925 678933 E-Mail: jeff.perry@uuplc.co.uk | | |

Site activities performed away from the locations listed above:

| Location details | Activity | Location code |
|--|--|---------------|
| Waste Water Treatment Works (WWTW) Water Treatment Works (WTW) Service Reservoirs and Domestic Premises Ground and Surface Water Sources | Sampling and on-site testing | В |
| All locations suitable for the activities listed | Sampling and Testing of Bituminous materials | С |

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This schedule is ordered as follows:

Section 1
ISO 17025 + DWTS
Inorganic Chemistry
Organic Chemistry
Sensory
Radiochemistry
Microbiology and Cryptosporidium
Sampling

Section 2
ISO 17025 + MCERTS (waters)
Inorganic Chemistry
Organic Chemistry
Sampling

Section 3
ISO 17025 only
Inorganic Chemistry Waters
Organic Chemistry Waters
Inorganic Chemistry Sludges and Soils
Microbiology

Section 4
Flexible scopes

Note: accreditation to MCERTS (waters) and DWTS automatically confers an equivalent accreditation to ISO/IEC 17025:2017

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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 | |
| | Analysis for the purpose of enforcement of "The Water Supply (Water Quality)" (England) Regulations | Methodology meeting the requirements of The Drinking Water Testing Specification | |
| WATERS | <u>Chemical Tests</u> | Documented In-House Methods: | |
| Raw (surface water and groundwater), and drinking waters | Ammonia Chloride Nitrate (by calculation) Nitrite Total Oxidised Nitrogen | QI 231/62 by Quattro Continuous flow analyser | А |
| | Alkalinity | QI231/64 by Robotic Titrator | A |
| | Total Organic Carbon | QI 231/15 using persulphate oxidation by non-dispersive infra-red detector | A |
| | pH | QI 230/28 using pH Meter | A |
| | Turbidity, Electrical Conductivity and Colour | QI231/77 using robotic system | А |
| | Total Cyanide | QI 231/53 using SFA and colorimetry | А |
| | Mercury | QI 231/50 using Cold Vapour Atomic Fluorescence Spectroscopy | A |
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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) Raw (surface water and groundwater), drinking waters and bottled waters | <u>Chemical Tests</u> (cont'd) | Methodology meeting the requirements of The Drinking Water Testing Specification | |
| | Elements including: Antimony Arsenic Cadmium Chromium Copper Lead Nickel Selenium Silver Zinc Uranium | QI 231/73 by ICP-MS | A |
| | Elements including: Antimony Arsenic Cadmium Chromium Copper Lead Nickel Selenium Silver Zinc | QI 231/16 by ICP MS | A |
| | Elements including: Aluminium Manganese Iron Phosphorus Sodium Calcium Magnesium Potassium Barium Boron Total Hardness (as Calcium Carbonate) | QI 231/80 By ICP-OES | |

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| Materials/Products tested | Type of test/Properties measured/Range of | Standard specifications/ Equipment/Techniques used | Location Code |
|---|--|---|------------------|
| WATERS (cont'd) Raw (surface water and groundwater), drinking waters and bottled waters | measurement <u>Chemical Tests</u> (cont'd) | Methodology meeting the requirements of The Drinking Water Testing Specification | |
| | Sulphate Fluoride Bromide | QI 231/54 by ion chromatography | А |
| Raw (groundwater) and drinking waters | Hexavalent Chromium | QI 231/74 by Ion chromatography | А |
| Drinking, surface and Groundwaters | Bromate | QI 231/70 by Ion chromatography | А |
| Drinking, surface and Groundwaters | Chlorate Chlorite | QI 231/72 by Ion chromatography | А |
| Drinking, surface and Groundwaters (cont'd) | Halogenated Hydrocarbons including THM: Elements including: Trichloromethane° Bromodichloromethane° Dibromochloromethane° Tribromomethane° Tetrachloromethane Trichloroethene¹ Tetrachloroethene¹ Total THM (total of 4 THMs marked °) Total CHC (total of 2 CHCs marked ¹) | QI 260/11 using Headspace - Gas Chromatography with electron Capture Detector (Headspace - GC-ECD) | A |
| | Polyaromatic Hydrocarbons: Elements including: Benzo(b)fluoranthene* Benzo(k)fluoranthene* Indeno(1,2,3-cd)pyrene* Benzo(g,h,i)perylene* Benzo(a)pyrene Fluoranthene Total PAH (total of 4 PAHs marked *) | QI 260/03 using solvent extraction followed by HPLC with fluorescence detection | A |

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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) | Chemical Tests (cont'd) | Methodology meeting the requirements of The Drinking Water Testing Specification | |
| Raw (surface water and groundwater), drinking waters | Glyphosate AMPA Glufonisate-Ammonium | QI 260/69 Using LC-MS-MS | A |
| Raw (surface and groundwater) drinking waters | Asulam Metaldehyde | QI260/78 using LC MS-MS | А |
| Raw (surface and groundwater) drinking waters | Geosmin 2-Methyl isoborneol | QI260/71 using GCMS | А |
| Raw (surface and groundwater) drinking waters | Geosmin 2-Methylisoborneol 2,4,6-Trichloroanisole | QI260/99 using DiLLME-GCMS | A |
| Raw (surface water and groundwater) and drinking water | Clopyralid Dicamba Fluroxypyr Bromoxynil 2,4-D MCPA Trichlopyr loxynil Dichlorprop 2,4,5-T Mecoprop 2,4-DB MCPB Pentachlorophenol Bentazone | QI 260/92 by direct injection LC-MS-MS | A |
| Raw (surface water and groundwater) and drinking water | BTEX: Benzene 1,2- Dichlorethane MTBE Toluene Ethylbenzene m/p-Xylene o-Xylene Total Xylene | QI 260/52 by Headspace GC-MS | A |

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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) | Chemical Tests (cont'd) | Methodology meeting the requirements of The Drinking Water Testing Specification | |
| Raw (surface water and groundwater) and drinking water | Haloacetic Acids: Monochloroacetic Acid Dichloroacetic Acid Trichloroacetic Acid Monobromoacetic Acid Dibromoacetic Acid Tribromoacetic Acid Bromochloroacetic Acid Bromodichloroacetic Acid Dibromochloroacetic Acid | QI 260/05 by LC-MS/MS | A |
| Raw (surface water and groundwater) and drinking water | Herbicides and Pesticides: Chlorotoluron Metazachlor Isoproturon Diuron Linuron Carbetamide Metribuzin Simazine Atrazine Propyzamide Diazinon | QI 260/73 by LCMS-MS | A |
| Raw (surface water and groundwater) and drinking water | Polycyclic Aromatic Hydrocarbons Benzo (b) fluoranthene Benzo (k) fluoranthene Benzo (a) pyrene Benzo (g,h,i) perylene Indeno (1,2,3-cd) pyrene Fluoranthene Sensory Tests | QI 260/40 by GCMS/MS | A |
| Raw and drinking water | Quantitative Odour Quantitative Taste | QI 233/02 using assessed panel – SCA blue book: determination of taste and odour in drinking water (2014) | A |

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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) | Radiochemical Tests | Methodology meeting the requirements of The Drinking Water Testing Specification | |
| Raw and drinking water | Gross alpha | QI 232/10 using α/B multi-detector based on ISO9696:2007 | A |
| Raw and drinking water | Gross beta | QI 232/10 using α/B multi-detector based on ISO9697:2008 | A |
| Drinking Water | Gamma emitting radionuclides Range 59-2000keV | QI 232/04 by Gamma Spectrometry | A |
| Drinking and Raw Waters | Radon 222 Range 1-120Bq/l | QI 232/05 determined from Bi-214 and Pb-214 in secular equilibrium by Gamma Spectrometry | A |
| WATERS (cont'd) | Microbiological Tests Enumeration of: | Documented In-House Methods based on The Microbiology of Drinking Water 2002 and their subsequent updates - Methods for the Examination of Waters and Associated Materials. A report by the Environment Agency (EA). | |
| Drinking Water, Ground water and surface water | Colony count at 22 °C and 37 °C | QI 240/11 using manual pour plate method based on MODW 2012 Part 7 | А |
| | Isolation and enumeration and confirmation of: total coliforms and Escherichia coli | QI 240/02 manual method using membrane filtration and QI240/05 based on MODW 2016 Part 4 | А |
| | Isolation and enumeration and confirmation of <i>Enterococci</i> | QI 240/02 manual method using membrane filtration and QI240/05 based on MODW 2012 Part 5 | A |
| | Isolation, enumeration and confirmation of <i>Clostridium</i> perfringens | QI 240/02 manual method using membrane filtration and QI240/05 based on MODW 2015 Part 6 | A |
| | Speciation of Enterobacteriaceae & Intestinal Enterococci | QI 240/19 using vitek system based on in house metjod | А |

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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) | Microbiological Tests (cont'd) | Documented In-House Methods based on The Microbiology of Drinking Water 2002 and their subsequent updates - Methods for the Examination of Waters and Associated Materials. A report by the Environment Agency (EA). | |
| Drinking Water, Ground water and surface water | Cryptosporidium | QI 243/01 - using Filta-Max xpress, Dynal IMS procedure Staining, examination and identification based on MODW 2010 Part 14 | A |
| Drinking water | Legionella | QI 241/15 by membrane filtration based on ISO 11731-2:2008 (withdrawn) | A |
| Surface water | Isolation and enumeration and confirmation of Salmonella spp (excluding Salmonella typhi) | QI 241/01 membrane filtration using selective enrichment and MPN based on MORW 2016 Part 8 | A |
| Drinking and Groundwater | Enumeration/Confirmation Escherichia coli Total Coliforms | QI240/54 using defined substrate MPN method and Colilert – 18 Quanti- tray based on MODW 2016 Part 4 | А |
| Transport Swabs | Recovery of Coliform Organisms after upto 24 hours refridgeration | Method QI240/30 based on in house method | A |
| Microscopically confirmed Cryptosporidium spp oocysts from treated and raw water sources on slides | Cryptosporidium oocyst speciation and identification | Documented in-house methods QI 243/05 and 243/06, Extraction, PCR amplification of oocyst DNA and sequencing using SeqStudio Analyser | A |
| | | | |

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| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
|--|--|---|------------------|
| Drinking, ground and surface waters | For the purpose of enforcement of The Water Supply (Water Quality) Regulations 2000 (SI 2000/3184) | Where applicable the methodology meeting the requirements of The Drinking Water Testing Specification | |
| From: Consumer taps Standpipes Service reservoirs Water treatment works | Sampling: For Chemical and Microbiological Testing ((including cryptosporidium) | Documented In-house Procedures QI638/01 | В |
| Raw waters including: Surface Waters: impounding reservoirs, canals, lakes Groundwater: boreholes | On-site Testing | Documented In-House Methods: | |
| Raw (groundwater and surface water) and Drinking Water | рН | Method QI640/01 | В |
| Raw (groundwater) and Drinking Water | Free Residual Chlorine Total Residual Chlorine | Method QI510/17 | В |
| Drinking Water only | Qualitative Taste and Odour | Method QI626/01 based on SCA determination of taste and odour in drinking waters (2014) | В |

END OF SECTION 1

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| | | <u> </u> | 1 |
|---|---|---|------------------|
| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used | Location Code |
| | SECTION 2 | 2 | |
| WASTE WATERS | 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 | |
| Trade Effluents | Ammonia Total Oxidised Nitrogen | QI251/44 using Skalar Analyser | А |
| Untreated sewage Treated sewage effluent Trade effluent | Total nitrogen | QI 251/39 using Formacs total N analyser | A |
| Untreated sewage Treated sewage effluent Trade effluent | Chloride Phosphate | QI 251/45 using continuous flow analyser | A |
| Untreated sewage, Treated sewage effluent Trade effluent | Suspended solids | QI 250/12 by gravimetry | A |
| Treated sewage effluent | Anionic Surfactants | QI 251/06 by sealed tube | A |
| Treated sewage effluent | Ammonia –low level Orthophosphate Total Oxidised Nitrogen (TON) | QI250/46 using Quattro analyser | A |
| Untreated Sewage Treated sewage effluent Trade effluent (to controlled water) | Mercury | QI 251/42 by AFS | A |
| Untreated sewage Treated sewage effluent Trade Effluent | Biochemical Oxygen Demand (BOD) | QI 251/17 based on 5-day biochemical oxygen demand, semi-automated, 2 nd edition, HMSO 1998 | A |
| Untreated sewage Trade effluent | Chemical Oxygen Demand | QI251/19 high range by sealed tube automated and manual Readback | A |
| | | | |

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| Materials/Products tested | Type of test/Properties | Standard specifications/ | Location |
|---|--|---|----------|
| | measured/Range of measurement | Equipment/Techniques used | 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 | |
| Treated sewage effluent | Chemical Oxygen Demand | QI251/19 low range by sealed tube | А |
| Treated sewage effluent Trade effluent | Metals: | | |
| Treated Sewage Effluent, Untreated Sewage and Trade Effluents | Antimony Arsenic Beryllium Cadmium Chromium Copper Lead Nickel Molybdenum Selenium Thallium Zinc | QI 231/40 using ICP-MS | A |
| Untreated Sewage Treated Sewage Effluent Trade Effluent | Aluminium Calcium Cobalt Iron Magnesium Manganese Phosphorus Potassium Sodium Vanadium | QI 231/75 using ICP-OES | A |

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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) | 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 | |
| Untreated Sewage Treated Sewage Trade effluent to controlled waters Trade effluent to sewer | Antimony, Arsenic Beryllium Cadmium Chromium Copper Lead Molybdenum Nickel Phosphorus Selenium Thallium zinc | QI 231/79 By ICP-MS | A |
| Untreated Sewage Treated Sewage Effluent | OrthoPhosphate High level Ammonia Total Oxidised Nitrogen (TON) | QI251/51 using Skalar analyser | A |
| Untreated Sewage Treated Sewage Effluent Trade Effluent | Total Nitrogen | QI 251/41 | A |
| Treated Sewage Effluent | Chemical oxygen demand | QI 251/54 by automated equipment. | А |
| Treated sewage effluent Untreated Sewage Trade Effluent | Organotin Compounds: Tributyltin Triphenyltin | QI 260/29 by Iso-octane extraction and derivatisation and analysis by GC-MS | A |
| Trade Effluent | Cadmium Chromium Copper Lead Nickel Zinc | QI 231/76 by ICP-OES | A |

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|---|---|---|------------------|
| 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 | |
| Untreated Sewage, Treated Sewage and Trade Effluent | VOC's: Elements including: Dichloromethane Chloroform Carbon Tetrachloride 1,2 Dichloroethane Trichloroethene Tetrachloroethene Toluene o-xylene m+p-xylene 1,2,3 trichlorobenzene 1,2,4 trichlorobenzene 1,3,5 trichlorobenzene Bromoform Benzene MTBE n-hexane 1,1,1 trichloroethane 1,1,2 trichloroethane Dicyclopentadiene Hexachloro-1,3-butadiene | QI 260/09 by GC-MS | A |
| Treated sewage effluent | On-site measurement of: pH | Documented in-house methods: QI 640/01 using pH meter | В |
| Trade effluent | Total residual chlorine | Documented in-house method QI 510/17 using hand held | В |

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|---|---|---|------------------|
| WASTE WATERS (cont'd) | Sampling | 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 | |
| Treated sewage effluent Trade effluent to controlled waters | For chemical testing | Method QI 510/05 using manual spot sampling | В |
| | | | |

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 |
|--|---|---|------------------|
| | SECTION | 3 | |
| WATERS | Chemical Tests | | |
| Untreated Sewage Trade Effluent | Chemical oxygen demand | QI 251/19 by sealed tube method High Range | А |
| Treated Sewage Effluent | Chemical oxygen demand | QI 251/19 by sealed tube method Low Range automated and manual Readback | A |
| Untreated Sewage Trade Effluent Treated Sewage Effluent | Free and easily liberated cyanide | QI 251/53 | A |
| Untreated Sewage Treated Sewage Effluent Mixed liquor | Suspended solids | QI 250/12 based on HMSO 1980 using gravimetric technique | A |
| Untreated sewage Mixed liquor | Suspended solids, volatile material and ash | QI 250/12 based on HMSO 1980 | А |
| Untreated (Crude) Sewage Treated Sewage Effluent Raw Surface Water | Total organic carbon LOD – 25 mg/L | QI 251/40 using Formacs H analyser | A |
| Untreated Sewage Treated Sewage Effluent Trade Effluent | Total Nitrogen | QI 251/39 using Formacs Analyser | A |
| Trade Effluents Treated Sewage Effluent | Ammonia Nitrate Nitrite Total Oxidised Nitrogen | QI251/44 using Skalar Analyser | А |
| Treated Sewage Effluent Trade Effluent | Nitrite | QI251/48 using Skalar Analyser | А |
| Untreated Sewage Treated Sewage Effluent Trade Effluent | Chloride Phosphate | QI 251/45 using continuous flow analyser | A |
| Treated Sewage Effluent | Ammonia –low level Orthophosphate Total Oxidised Nitrogen (TON) | QI250/46 using Quattro analyser | A |

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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) | Chemical Tests (cont'd) | | |
| Treated Sewage Effluent Trade Effluent | Fluoride | QI251/35 using Ion Selective Electrode | А |
| Untreated Sewage Treated Sewage Effluent Trade Effluent (to controlled water) | Mercury | QI 251/42 by AFS | А |
| Untreated Sewage Treated Sewage Effluent Trade Effluent | Mercury | QI 251/55 using Cold Vapour Atomic Absorption Spectroscopy | A |
| Untreated Sewage Treated Sewage Effluent Trade Effluent | Alkalinity | QI251/47 using robotic potentiometric titration | A |
| Treated Sewage Effluent | Anionic Surfactants | QI 251/06 by sealed tube | А |
| Untreated Sewage Treated Sewage Effluent Trade Effluent | Separable oils and grease | QI 251/10 based on suspended settleable and total dissolved solids in waters and effluents HMSO 1980 | A |
| Untreated Sewage Treated Sewage Effluent Trade Effluent Surface Water | Biochemical oxygen demand (BOD) | QI 251/17 based on 5-day biochemical oxygen demand, semi-automated, 2nd edition, HMSO 1988 | A |
| Untreated Sewage Trade Effluents | Total Sulphide | QI251/33 by air segmented flow analyser | А |
| Treated and Untreated Sewage, Trade Effluent | Sulphate | QI251/52 by continuous flow analyser | А |
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|---|---|--|------------------|
| WATERS (cont'd) | Chemical Tests (cont'd) | | |
| Untreated Sewage Treated Sewage Effluent Trade Effluent | Organotin Compounds: Tributyltin Triphenyltin | QI 260/29 by Iso-octane extraction and derivatisation and analysis by GC-MS | A |
| Trade Effluent Treated Sewage Effluent | Elements including: 2-chlorophenol 4-chlorophenol 3,5-dimethylphenol 4-chloro-3-methylphenol Phenol 2-methylphenol 3 and 4-methylphenol 4-chloro-3,5-dimethylphenol 2,4-dichloro-3,5-dimethylphenol 2,4-dichlorophenol | QI 260/24 using GC-FID | A |
| Landfill Leachate Trade Effluent Surface Water | Methane | QI 260/75 using Gas Chromatography with Flame Ionisation Detector (GC-FID) | A |
| Untreated Sewage Treated Sewage Effluent Trade Effluent | VOC's: Elements including: Dichloromethane Chloroform Carbon Tetrachloride 1,2 Dichloroethane Trichloroethene Tetrachloroethene Toluene o-xylene m/p-xylene 1,2,3 trichlorobenzene 1,2,4 trichlorobenzene 1,3,5 trichlorobenzene Bromoform Benzene Naphthalene MTBE n-hexane 1,1,1 trichloroethane 1,1,2 trichloroethane Dicyclopentadiene Hexachloro-1,3-butadiene | QI 260/09 by GC-MS | A |

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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) | Chemical Tests (cont'd) | | |
| Trade effluents, Treated Sewage Effluents Crude Sewage | Chlorobenzene Ethylbenzene Styrene 4-chlorotoluene 2-chlorotoluene 3-chlorotoluene 2-ethylhexanol 1,2-diclorobenzene | QI 260/95 by GC-MS | A |
| | Chemical Tests | Documented In-House Methods | |
| SOILS only | Extractable phosphate | QI 252/14 using segmented continuous flow analyser | A |
| SLUDGE only | рН | QI 252/07 using pH electrode | Α |
| Sludge Only | Dry solids at 105 °C Organic and volatile matter at 700 °C | QI252/19 using thermogravimetric analyser | A |
| Sludge Only | Fluoride | QI251/35 using Ion Selective Electrode | A |
| Sludge | Ammonia | QI251/51 using Skalar Analyser | Α |
| Sludge and sludge filtrate | Alkalinity | QI251/47 using robotic potentiometric titration | А |
| Mixed Liquor (sludge) | Suspended Solids | QI250/12 using gravimetric technique | A |
| Filtered Sludge Liquor | Sulphate | QI251/52 by continuous flow analyser | A |

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Testing performed by the Organisation at the locations specified

| 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) | | |
| Raw Sewage Sludge Digested Sludge Cake Sludge Limed Cake Soils | Aluminium Arsenic Cadmium Chromium Copper Iron Lead Magnesium Mercury Molybdenum Nickel Phosphorous Potassium Selenium Zinc | QI231/78 by Aqua Regia Digestion followed by ICP-MS | A |

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|--|---|--|------------------|
| PROCESS WATERS, BATHING WATERS, SEWAGE AND WASTE WATERS | Microbiological Tests | Documented In-House Methods based on The Microbiology of Drinking Water 2002 and their subsequent updates - Methods for the Examination of Waters and Associated Materials. A report by the Environment Agency (EA). | A |
| Treated sewage | Isolation, enumeration and confirmation of Coliforms and Escherichia coli | QI 240/02 manual method using membrane filtration & QI 240/05 based on MORW 2016 Part 3 | A |
| Untreated sewage and treated sewage | Isolation, enumeration and confirmation of enterococci | QI 240/02 manual method using membrane filtration & QI 240/05 based on MORW 2015 Part 4 | A |
| Untreated sewage, treated sewage and sewage sludge | Isolation and enumeration and confirmation of Salmonella spp (excluding Salmonella typhi) | QI 241/01 membrane filtration using selective enrichment and MPN based on MOSS 2004 Part 4 and MORW 2016 Part 8 | A |
| Surface water | Identification of Algal spp | QI 242/01 by membrane filtration and optical microscopy based on Blue Book 139 1990 | A |
| Surface Water | Chlorophyll a | QI242/02 by Fluorimeter based on Blue Book 65, 1980 | A |
| Groundwater, Man-made Recreational Water and Drinking (Non regulatory) | Enumeration/Confirmation Escherichia coli Total Coliforms | QI240/54 using defined substrate MPN method and Colilert – 18 Quanti- tray based on MODW 2016 Part 4 | A |
| Sewage sludge | Isolation, enumeration and confirmation of Escherichia coli | QI 241/29 using Colillert based on MOSS 2003 Part 3 | A |
| Sewage sludge | Isolation and enumeration of Escherichia coli | QI 241/29 manual method using membrane filtration based on MOSS 2003 Part 3 | A |
| Recreational Waters | Detection and Enumeration of Pseudomonas aeruginosa | QI 240/15 using IDEXX Pseudalert Reagent and Quantitray based on MODW 2015 Part 8 | А |

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|---|---|--|------------------|
| Reinstatement Of Opening In Highways | Pavement Construction | Methods of test required for the New Roads and Street Works Act (1991) (Specification for the Reinstatement of Openings in Highways) using data from the test methods detailed below: | |
| | Sampling of laid and compacted materials by coring | BSEN 12697-27: 2017 | С |
| | Determination of the thickness of a bituminous pavement - destructive measurement | BSEN 12697-36:2003 | С |
| | Bulk density - sealed specimen (wax) | BSEN 12697-6:2020 | С |
| | Maximum density - volumetric procedure | BSEN 12697-5:2018 | С |
| | Air void content | BSEN 12697-8:2018 | С |
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END OF SECTION 3

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|---------------------------|--|---|------------------|
| | Section 4 | | |
| As listed on fixed scope | <u>Chemical Tests</u> | | |
| | The laboratory holds a flexible scope of accreditation for chemistry test methods at the Lingley Mere Site covering the following: | Meeting the requirements of The Drinking Water Testing Specification (DWTS) where applicable | A |
| | Incorporation of additional determinands or matrices covered by fixed scope to existing accredited methods. | Meeting the requirements of Environment Agency MCERTS Performance Standard for Chemical Testing of Water where applicable | A |
| | Authorising the use of replacement equipment for existing methods. | Documented In house generic protocol QI 275//04 for analysis using analytical techniques included in this schedule | |
| | Development of new methods for matrix types and using techniques and instruments that appear on the fixed scope. | | |
| | Please contact the laboratory for details of the individual determinands and matrices that can be analysed. | | |
| | END | | |

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