


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p>1291</p> <p>Accredited to ISO/IEC 17025:2017</p>	<h3>ALS Life Sciences Limited</h3> <p>Issue No: 119 Issue date: 11 December 2020</p>	
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<p>Testing performed at the above address only</p>		

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
ASBESTOS IN BULK MATERIALS	<p><u>Health and Hygiene</u></p> <p>Identification of: Amosite Chrysotile Crocidolite Fibrous Actinolite Fibrous Anthophyllite Fibrous Tremolite</p>	HSG 248:2005 "Asbestos: The analysts' guide for sampling, analysis and clearance procedures", by Documented In-House Method TM048 using stereo-microscopy, polarised light microscopy and dispersion staining
ASBESTOS IN SOILS and AGGREGATES (fibre screening, identification)	<p>Asbestos fibre screening, identification of asbestos content: Amosite Chrysotile Crocidolite Fibrous Actinolite Fibrous Anthophyllite Fibrous Tremolite</p>	Documented In-House Method TM 048 using stereo microscopy, polarised light optical microscopy, phase contrast microscopy and dispersion staining
ASBESTOS IN SOILS (fibre screening, identification and quantification)	<p>Asbestos fibre screening, identification and quantification of asbestos content: Amosite Chrysotile Crocidolite Fibrous Actinolite Fibrous Anthophyllite Fibrous Tremolite</p>	Documented In-House Method TM 048 and TM 304 using stereo microscopy, polarised light optical microscopy, phase contrast microscopy and dispersion staining



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<p>NATURAL GAS</p> <p>AMBIENT AIR</p>	<p><u>Chemical Tests</u></p> <p>Monoethylene Glycol (MEG) in distributed Natural Gas</p> <p>Volatile Organic Compounds,</p> <p>1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,2,3-Trimethylbenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromoethane 1,2-Dichlorobenzene 1,2-Dichloroethane 1,2-Dichloropropane 1,2-Dichlorotetrafluoroethane 1,3,5-Trimethylbenzene 1,3-Butadiene 1,4-Dichlorobenzene 1-Propanol 2-Butanone (MEK) 2-Hexanone 2-Pentanone 3-Hexanone 3-Pentanone 4-Methyl-2-pentanone Acetone + Propanal Acetonitrile Acrolein Benzene Benzyl Chloride Bromodichloromethane Bromoform</p>	<p>Documented In-House Methods in the series TM 000</p> <p>TM 121 by Thermal desorption and GC-FID</p> <p>TM 330 based upon US EPA TO-15</p>



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<p>AMBIENT AIR (cont'd)</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Volatile Organic Compounds (cont'd), specifically:</p> <p>Bromomethane Butanal Carbon Disulfide Carbon Tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane cis-1,2-Dichloroethene cis-1,3-Dichloropropene Cyclohexane Dichlorodifluoromethane Difluorochloromethane Ethylbenzene Hexanal Hexane Iodomethane Isobutene Isoprene m/p-Xylene Methylacrolein Methylene Chloride MTBE o-Xylene Pentanal Pentane Styrene Tetrachloroethene Toluene trans-1,2-Dichloroethene trans-1,3-Dichloropropene Trichloroethene Trichlorofluoromethane Trichlorotrifluoroethane Vinyl Acetate Vinyl Chloride</p>	<p>Documented In-House Methods in the series TM 000</p> <p>TM 330 based upon US EPA TO-15 by GC-MS</p>



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SOILS	<u>Chemical Tests</u> Exchangeable Ammonium Water Soluble Anions (2:1), specifically: Chloride Bromide Nitrate Sulphate Water soluble Anions (2:1), specifically: Chloride Sulphate Total Cyanide Easily Liberated/Free Cyanide Thiocyanate Extractable Phosphorus (Olsen's Phosphorus)	TM 024 by steam distillation and titration TM 019 by Ion Chromatography (IC) TM 243 by Kone analyser TM 153 by segmented flow analyser based on AWWA/APHA 20 th Edition - Method 4500 TM 229 by Kone analyser based upon The Analysis of Agricultural Materials, MAFF, Third edition, 1986
SOILS and SEWAGE SLUDGE	Hexavalent Chromium	TM 151 by Kone analyser
SOILS and SLUDGE	Acid Extractable Fluoride Dry Matter at 105°C Total Ash at 550°C	TM397 by ion selective electrode Documented In-House Method TM 236 The Determination of the Dry Solids residue at 105°C and The Total Ash after ignition at 550°C



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
SOILS (cont'd)	<u>Chemical Tests</u> (cont'd) Elemental Sulphur Sulphide Volatile Hydrocarbons: Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane Trans-1,2-dichloroethene Dichloromethane Chloroform 1,1,1-trichloroethane 1,1-dichloropropene Benzene carbon tetrachloride dibromomethane 1,2-dichloropropane bromodichloromethane trichloroethene cis-1,3dichloropropene 1,1,2-trichloroethane Toluene 1,3-dichloropropane dibromochloromethane tetrachloroethene 1,1,1,2-tetrachloroethane chlorobenzene ethylbenzene m/p-xylene Bromoform o-xylene 1,2,3-trichloropropane isopropylbenzene bromobenzene 2-chlorotoluene propylbenzene 4-chlorotoluene	TM 136 by HPLC TM 180 by ion selective electrode TM 116 by Headspace GC-MS based on USEPA Methods 8240, 8120, 8020, 624, 610 and 602



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SOILS (cont'd)	<p><u>Chemical Tests</u> (cont'd)</p> <p>Volatile Hydrocarbons: (cont'd) 1,2,4-trimethylbenzene 1,3-dichlorobenzene 1,4-dichlorobenzene Carbon disulphide 1,1-dichloroethene 1,1-dichloroethane cis-1,2-dichloroethene bromochloromethane 1,2-dibromoethane Styrene 4-isopropyltoluene 1,3,5-trimethylbenzene tert-butylbenzene 1,2-dichlorobenzene 1,2-dibromo-3-chloropropane naphthalene 1,2,3-trichlorobenzene Tert-butyl methyl ether 1,2-Dichloroethane Tert-amyl methyl ether 1,1,2,2-Tetrachloroethane</p> <p>pH</p> <p>Monohydric Phenols: phenol cresols xylenols 2,3,5-trimethyl phenol 2-isopropylphenol Total - Sum of the above 5 Monohydric Phenols</p> <p>Dichloromethane Extractable Compounds</p>	<p>TM 116 by Headspace GC-MS based on USEPA Methods 8240, 8120, 8020, 624, 610 and 602</p> <p>TM 133 using a GL pH Meter (Ref: Modified BS 1377:Part 3:1990)</p> <p>TM 062 by HPLC</p> <p>TM 004 by Solvent Extraction Apparatus</p>



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SOILS (cont'd)	<u>Chemical Tests</u> (cont'd) Total Organic Carbon (TOC) Total Carbon Polynuclear Aromatic Hydrocarbons (PAH): Naphthalene ^{1,2} Acenaphthylene ² Acenaphthene ² Fluorene ² Phenanthrene ^{1,2} Anthracene ^{1,2} Fluoranthene ^{1,2} Pyrene ² benz(a)anthracene ^{1,2} Chrysene ^{1,2} Benzo(b)fluoranthene ² Benzo(k)fluoranthene ^{1,2} Benzo(a)pyrene ^{1,2} Indeno(123cd)pyrene ^{1,2} Dibenzo(ah)anthracene ² Benzo(ghi)perylene ^{1,2}	TM 132 by combustion method TM 132 by combustion method TM 218 by Solvent Extraction and GC-MS



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
SOILS (cont'd)	<u>Chemical Tests (cont'd)</u> PCB congeners: PCB 28 PCB 52 PCB 77 PCB 81 PCB 101 PCB 105 PCB 114 PCB 118 PCB 123 PCB 126 PCB 138 PCB 153 PCB 156 PCB 157 PCB 167 PCB 169 PCB 180 PCB 189	TM 168 using GC-MS
SLUDGE Digester liquor only	Volatile Fatty Acids: Acetic acid Propionic Acid Isobutyric Acid Butyric Acid Isovaleric Acid Valeric Acid Caproic Acid Heptanoic Acid	TM 201 by GC-FID



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SOILS	<p><u>Chemical Tests</u></p> <p>Total cyanide Easily liberated/Free cyanide Thiocyanate</p> <p>Water Soluble Boron (10:1)</p> <p>Water Soluble Anions (2:1), specifically: Chloride Bromide Nitrate Sulphate</p> <p>Elemental Sulphur</p> <p>Arsenic Beryllium Cadmium Cobalt Chromium Copper Manganese Mercury Nickel Lead Zinc</p> <p>Exchangeable Ammonium</p> <p>pH</p> <p>Loss on ignition</p> <p>Water soluble sulphate 2:1 Water soluble chloride 2:1</p> <p>Acid Extractable Sulphate</p>	<p>Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil</p> <p>TM 153 by segmented flow analyser based on AWWA/APHA 20th Edition - Method 4500</p> <p>TM 222 by ICP-OES</p> <p>TM 019 by Ion Chromatography (IC)</p> <p>TM 136 by HPLC</p> <p>TM 181 by ICP-OES</p> <p>TM 024 by steam distillation and titration</p> <p>TM 133 by automated pH probe</p> <p>TM 018 by gravimetry</p> <p>TM 243 by Kone analyser</p> <p>TM 221 by ICP-OES</p>



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SOILS (cont'd)	<u>Chemical Tests</u> (cont'd) Sulphide Total Organic Carbon (TOC) Hexavalent Chromium Polynuclear Aromatic Hydrocarbons (PAH): Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benz(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(123cd)pyrene Dibenzo(ah)anthracene Benzo(ghi)perylene	Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil (cont'd) TM 180 by ion selective electrode TM 132 by combustion method TM 151 by Kone analyser TM 218 by solvent extraction and GC-MS



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SOILS (cont'd)	<p><u>Chemical Tests</u> (cont'd)</p> <p>Volatile Hydrocarbons: Dichlorodifluoromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane Carbon Disulphide Tert-butyl methyl ether Trans-1,2-Dichloroethene 1,1-Dichloroethane Cis-1,2-Dichloroethene Bromochloromethane Chloroform 1,1,1-Trichloroethane 1,1-Dichloropropene Carbon tetrachloride 1,2-Dichloroethane Benzene 1,2-Dichloropropane Dibromomethane Bromodichloromethane Cis-1,3-Dichloropropene Toluene 1,1,2-Trichloroethane 1,3-Dichloropropane Tetrachloroethene Dibromochloromethane 1,2-Dibromoethane Chlorobenzene 1,1,1,2-tetrachloroethane Ethylbenzene o-Xylene 1,2,3-Trichloropropane Propylbenzene 1,3,5-Trimethylbenzene Bromoform Bromobenzene</p>	<p>Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil (cont'd)</p> <p>TM 116 by Headspace GC-MS based on USEPA Methods 8240, 8120, 8020, 624, 610 and 602</p>



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SOILS (cont'd)	<p><u>Chemical Tests</u> (cont'd)</p> <p>Volatile Hydrocarbons (cont'd): 2-Chlorotoluene 4-Chlorotoluene Tert-Butylbenzene 4-Isopropyltoluene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene 1,2-Dibromo-3-Chloropropane Naphthalene</p> <p>Gasoline Range Hydrocarbons, Total, in the range >C5 to C12</p> <p>Extractable Petroleum Hydrocarbons (EPH), in the range >C8 to C40</p> <p>Monohydric Phenols: phenol cresols xylenols 2,3,5-trimethyl phenol 2-isopropylphenol Total - Sum of the above 5 Monohydric Phenols</p> <p>PCB congeners: PCB 28 PCB 52 PCB 77 PCB 81 PCB 101 PCB 105 PCB 114</p>	<p>Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil (cont'd)</p> <p>TM 116 by Headspace GC-MS based on USEPA Methods 8240, 8120, 8020, 624, 610 and 602</p> <p>TM 089 Headspace GC-FID based on USEPA Methods 8020 and 602</p> <p>TM 415 by solvent extraction and GCxGC-FID</p> <p>TM 062 by HPLC based on MEWAM Book 124-1988/Second Site Property, March 2003, Method 17.7</p> <p>TM 168 using GC-MS</p>



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<p>WATERS (cont'd)</p> <p>Ground water, surface water, treated and untreated sewages, landfill leachates (cont'd)</p> <p>Ground water, surface water, treated and landfill leachates</p> <p>Ground water, surface water, treated and untreated sewages, landfill leachates</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Dissolved Metals (cont'd):</p> <p>Tin Titanium Tungsten Uranium Vanadium Zinc</p> <p>Dissolved Metals:</p> <p>Antimony</p> <p>Total Metals:</p> <p>Aluminium Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Lithium Magnesium Manganese Molybdenum Nickel Potassium Phosphorus Silver Sodium Strontium Thallium Tin Titanium Tungsten Uranium Vanadium Zinc</p>	<p>Documented In-House Method</p> <p>TM 152 by ICP-MS with KED</p> <p>TM 152 by ICP-MS with KED</p> <p>TM 152 by ICP-MS with KED</p>



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<p>WATERS (cont'd)</p> <p>Ground water, surface water, treated and landfill leachates</p> <p>Surface Water, treated sewage effluent and trade effluent</p> <p>Potable water (non-regulatory), Ground water, Surface waters and Final effluent</p> <p>Surface Waters, Ground Waters</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Dissolved Metals:</p> <p>Selenium</p> <p>Total Petroleum Hydrocarbons</p> <p>Extractable Petroleum Hydrocarbons C10 - C40</p> <p>Semi-Volatile Organic Compounds (SVOCs), specifically</p> <p>Bis(2-chloroethyl)ether 2-Chlorophenol 1,4-Dichlorobenzene 1,3-Dichlorobenzene 1,2-Dichlorobenzene 2-Methylphenol N-nitrosodi-n-propylamine Hexachloroethane 4-Methylphenol Nitrobenzene Isophorone 2-Nitrophenol 2,4-Dimethylphenol Bis(2-chloroethoxy)methane 2,4-Dichlorophenol 1,2,4-Trichlorobenzene Naphthalene Hexachlorobutadiene 4-Chloro-3-methylphenol 2-Methylnaphthalene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2-Chloronaphthalene 2-Nitroaniline Dimethyl phthalate Acenaphthylene 2,6-Dinitrotoluene</p>	<p>Documented In-House Method</p> <p>TM 152 by ICP-MS with KED</p> <p>TM 235 by Infra-red</p> <p>TM 172 by GC-FID</p> <p>TM 176 by GC-MS</p>



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<p>WATERS (cont'd)</p> <p>Surface Waters, Ground Waters (cont'd)</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Semi-Volatile Organic Compounds (SVOCs), specifically (cont'd)</p> <p>3-Nitroaniline Acenaphthene Dibenzofuran 2,4-Dinitrotoluene Fluorene Diethyl phthalate 4-Chlorophenylphenylether 4-Nitroaniline Azobenzene 4-Bromophenylphenylether Hexachlorobenzene Phenanthrene Anthracene Di-n-butylphthalate Fluoranthene Pyrene Butylbenzylphthalate Benz(a)anthracene Chrysene Bis(2-ethylhexyl)phthalate Di-n-octylphthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(ghi)perylene</p>	<p>Documented In-House Method</p> <p>TM 176 by GC-MS</p>



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<p>WATERS (cont'd)</p> <p>Surface water, Groundwater Treated and Untreated Sewages, Trade Effluent, Landfill Leachate</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Volatile Hydrocarbons: Chloromethane Vinyl Chloride Chloroethane Dichloromethane 1,1-dichloroethane tert-butyl methyl ether cis-1,2-dichloroethene bromochloromethane chloroform 1,1,1-trichloroethane 1,1-dichloropropene benzene dibromomethane trichloroethene 1,1,2-trichloroethane toluene 1,3-dichloropropane 1,2-dibromoethane tetrachloroethene chlorobenzene m/p-xylene styrene o-xylene 1,2,3-trichloropropane isopropylbenzene bromobenzene 2-chlorotoluene propylbenzene 4-chlorotoluene n-butylbenzene naphthalene Dichlorofluoromethane Trans-1,2-dichloroethene ethylbenzene 1,2-dichloropropane bromomethane Tert-amyl methyl ether Trichlorofluoromethane 1,1-dichloroethene Carbon disulphide</p>	<p>Documented In-House Method</p> <p>TM 208 by Headspace GC-MS</p>



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<p>WATERS (cont'd)</p> <p>Surface water, Groundwater Sewages, Trade Effluent, Landfill Leachate (cont'd)</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Volatile Hydrocarbons: (cont'd) Bromodichlormethane trans-1,3-dichloropropene Dibromchloromethane 1,1,1,2-tetrachloroethane Bromoform 1,3,5-trimethylbenzene Tert-butylbenzene 1,2,4-trimethylbenzene Sec-butylbenzene 4-isopropyltoluene 1,3-dichlorobenzene 1,4-dichlorobenzene 1,2,4-trichlorobenzene 1,2-dichloroethane 1,1,2,2-tetrachloroethane 1,2-dichlorobenzene Cis-1,3-dichloropropene Hexachlorobutadiene 1,2,3-trichlorobenzene</p>	<p>TM 208 by Headspace GC-MS</p>
<p>Groundwater, Surface Water, Landfill Leachate , Treated and Untreated Sewages, Trade Effluents, Saline Waters, Potable Waters (non-regulatory)</p>	<p>pH</p>	<p>TM 256 using a GL pH Meter based on BS 1377:Part 3:1990</p>
<p>Groundwater, Landfill leachate, Treated and Untreated Sewages, Trade Effluents</p>	<p>Dissolved Oxygen</p>	<p>TM 187 by titration (including auto- titrator)</p>
<p>Groundwater, Landfill Leachate, Treated and Untreated Sewages, Trade Effluents</p>	<p>Dissolved Mercury</p>	<p>TM 183 by Cold Vapour Atomic Fluorescence Spectroscopy</p>



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<p>WATERS (cont'd)</p> <p>Ground Water, Landfill Leachate, Treated and Untreated Sewages, Trade Effluent, Potable Water (non-regulatory)</p> <p>Groundwater, Surface Water, Landfill Leachate, Treated and Untreated Sewages, Trade Effluents</p> <p>Groundwater, Surface Water, Landfill Leachate, Treated and Untreated Sewages, Trade Effluents</p> <p>Groundwater, Surface Water, Landfill Leachate, Treated and Untreated Sewages, Trade Effluents</p> <p>Groundwater, Surface Water, Landfill Leachate, Treated and Untreated Sewages, Trade Effluents and Saline water</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Total Mercury</p> <p>Chemical Oxygen Demand (COD) Filtered, settled & total</p> <p>Biochemical Oxygen Demand (BOD) Settled & total</p> <p>Anions: Bromide Chloride Fluoride Nitrate Nitrate as N and NO₃ Nitrite Nitrite as N and NO₂ Phosphate Sulphate</p> <p>Alkalinity</p>	<p>TM 183 by Cold Vapour Atomic Fluorescence Spectroscopy</p> <p>TM 107, PM210 using Dr Lange Kit,</p> <p>TM 045, PM210 based on MEWAM BOD5, 2nd Edition 1988/AWWA/ APHA, 20th Edition - Method 5210B</p> <p>TM 226 by ion chromatography</p> <p>TM 043 by titration and auto-titrator based on AWWA/APHA 20th Edition - Method 2320B/ BS 2690:Part 109:1984 (Ref: BS 2690)</p>



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WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	
Groundwater, Surface Water, Saline water, Treated and Untreated Sewages, Trade Effluents	Ammonium Ammoniacal Nitrogen as N and NH ₃	TM 099 by Kone Analyser based on BS 2690 Part 7:1968/ BS 6068:Part 2.11:1984
Groundwater, surface water, Untreated Sewage, Treated Sewage, Trade Effluents	Total Inorganic Nitrogen (by calculation)	TM 184 by Kone analyser
Groundwater, Surface Water, Treated and Untreated Sewages, Trade Effluents	<u>Anions:</u> Total Oxidised Nitrogen (TON) TON as N and NO ₃ Chloride	TM 184 by automated discrete analyser (Kone)
Groundwater, Surface Water, Saline Water, Treated and Untreated Sewages, Trade Effluents	Sulphate as S and SO ₄ Phosphate as P and PO ₄ Nitrite as N and NO ₂	TM 184 by Kone analyser
Saline Water	Total Oxidised Nitrogen (TON) TON as N and NO ₃	TM 281 by Kone analyser
Groundwater, Surface Waters, Landfill Leachate, Treated and Untreated Sewages, Trade Effluents, Saline water, Potable Water (non-regulatory)	Electrical Conductivity at 20 °C	TM 120 using a Digital Conductivity Meter based on BS 2690:Part 119:1981
Ground water, surface water, Landfill leachate, Untreated Sewage, Treated Sewage, Trade Effluent	Total Nitrogen Calculation of Kjeldahl Nitrogen	TM 212 by Skalar
Groundwater, Surface Water, Treated and Untreated Sewages, Trade Effluents, Saline water, Potable Water (non-regulatory)	Total Suspended Solids	TM 022 by Gravimetric Determination based on BS 2690:Part 120:1981



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<p>Waters (Cont'd)</p> <p>Untreated Sewage, Treated Sewage, Trade Effluent</p> <p>Ground Water, Surface Water, Untreated Sewage, Treated Sewage, Trade Effluent</p> <p>Ground Water, Surface Water, Untreated Sewage, Treated Sewage, Trade Effluent</p> <p>Groundwater, Surface Water, Landfill Leachate, Treated and Untreated Sewages, Trade Effluents</p> <p>Groundwater, Surface Water</p> <p>Groundwater, Surface Water, Potable Water (non-regulatory), Landfill Leachate, Treated and Untreated Sewage Effluents</p> <p>Groundwater, Surface Water, Landfill Leachate, Treated and Untreated Sewages, Trade Effluents,</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Total Neutralised Suspended Solids Total Neutralised Suspended Solids (settled) Total Suspended Solids (settled)</p> <p>Volatile suspended solids at 500°C</p> <p>Non-volatile suspended solids at 500°C</p> <p>Total Inorganic Carbon</p> <p>Total Organic Carbon (low level)</p> <p>Total Organic Carbon</p> <p>Total Dissolved Solids</p>	<p>TM 022, PM 210</p> <p>TM 022 by gravimetry</p> <p>TM 022 based on BS 2690:1981 part 120</p> <p>TM 090 by TOC Analyser</p> <p>TM 295 by TOC Analyser</p> <p>TM 090 by TOC Analyser</p> <p>TM 021 by Gravimetric Determination based on BS 2690:Part 121:1981 or TM 123 by conductivity meter</p>



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<p>WATERS (cont'd)</p> <p>Trade Effluent, Groundwater, Treated and Untreated Sewage, Landfill Leachate</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Volatile Fatty Acids: Acetic acid Propionic Acid Isobutyric Acid Butyric Acid Isovaleric Acid Valeric Acid Caproic Acid Heptanoic Acid</p>	<p>TM 201 by GC-FID</p>
<p>Groundwater, Landfill Leachate, Treated and Untreated Sewages, Trade Effluents</p>	<p>Monohydric Phenols: Phenol Cresols Xylenols Sum of the above 3 Monohydric phenols</p>	<p>TM 259 by HPLC</p>
<p>Groundwater, Surface Water</p>	<p>Ferrous Iron</p>	<p>TM 125 using colorimetry</p>
<p>Groundwater, Potable Water (non-regulatory), Landfill Leachate, Treated and Untreated Sewages, Trade Effluents</p>	<p>Total Cyanide Easily Liberated (Free) Cyanide Thiocyanate</p>	<p>TM 227 by Segmented Flow Analyser</p>
<p>Ground Water, Surface Water, Landfill Leachate & Trade Effluents</p>	<p>Easily Liberated (Free) Cyanide Total Cyanide</p>	<p>TM 279 by SFA colorimetry</p>
<p>Groundwater, Potable Water (non-regulatory), Treated and Untreated Sewages, Trade Effluents,</p>	<p>Fluoride</p>	<p>TM 104 by Kone Analyser</p>
<p>Groundwater, Potable Water (non-regulatory), Saline Water, Treated and Untreated Sewages, Trade Effluents</p>	<p>Sulphide</p>	<p>TM 101 by automated discrete analyser (KONE)</p>



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<p>WATERS (cont'd)</p> <p>Surface Water, Ground Water, Saline Water</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Polynuclear Aromatic Hydrocarbons (PAH's): Naphthalene^{1,2} Acenaphthylene² Acenaphthene² Fluorene² Phenanthrene^{1,2} Anthracene^{1,2} Fluoranthene^{1,2} Pyrene² Benz(a)anthracene^{1,2} Chrysene^{1,2} Benzo(b)fluoranthene² Benzo(k)fluoranthene^{1,2} Benzo(a)pyrene^{1,2} Indeno(1,2,3-cd)pyrene^{1,2} Dibenzo(a,h)anthracene² Benzo(g,h,i)perylene^{1,2} Sum of "Dutch 10" PAHs (annotated ¹) Sum of "EPA 16" PAHs (annotated ²)</p>	<p>TM 178 by GC-MS</p>
<p>Surface and Saline waters</p>	<p>Volatile Hydrocarbons: Vinyl Chloride 1,1,1,2-tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-Chloropropane 1,2-Dibromoethane 1,2-Dichlorobenzene 1,2-Dichloroethane 1,2-Dichloropropane</p>	<p>TM 265 by Headspace GC-MS</p>



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<p>WATERS (cont'd)</p> <p>Surface and Saline waters (cont'd)</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Volatile Hydrocarbons: (cont'd)</p> <p>1,3,5-Trimethylbenzene 1,3-Dichlorobenzene 1,3-Dichloropropane 1,4-Dichlorobenzene 2-Chlorotoluene 4-Chlorotoluene 4-Isopropyltoluene Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform Carbon tetrachloride Chlorobenzene Chloroethane Cis-1,2-Dichloroethene Cis-1,3-Dichloropropene Dibromochloromethane Dibromomethane Ethylbenzene Hexachlorobutadiene Isopropylbenzene Naphthalene n-Butylbenzene o-Xylene p/m-Xylene Propylbenzene Sec-Butylbenzene Styrene Tert-Butylbenzene Tetrachloroethene Toluene Trans-1,2-Dichloroethene Trans-1,3-Dichloropropene Trichloroethene Trichlorofluoromethane</p> <p>Di (2-ethylhexyl) phthalate DEHP</p>	<p>TM 265 by Headspace GC-MS</p> <p>TM 423 by GC-MS</p>
<p>Surface, Ground and Saline waters</p>		



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WATERS (cont'd)	<u>Chemical Tests (cont'd)</u>	
Surface, Ground and Saline waters	Hexabromocyclododecane (HBCDD)	TM 421 by LC-MS-MS
	Cypermethrin	TM 422 by LC-MS-MS
WATERS & WASTE WATERS	<u>Chemical Testing</u>	
Groundwater, surface Water, Untreated sewage, Treated Sewage & Trade Effluent	Turbidity	TM 195 by nephelometry
Untreated Sewage, Treated Sewage, Trade Effluent	Dissolved Metals, specifically: Aluminium Arsenic Cadmium Chromium Cobalt Copper Iron Lead Nickel Phosphorus Selenium Zinc	TM 377 by ICP-MS with Kinetic Energy Discrimination (KED)
Untreated Sewage, Treated Sewage, Trade Effluent	Total Metals, specifically: Aluminium Arsenic Cadmium Chromium Cobalt Copper Iron Lead Nickel Phosphorus Zinc	TM 377 by ICP-MS with Kinetic Energy Discrimination (KED)



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<p>WATERS & WASTE WATERS</p> <p>Groundwater, Surface Water and Treated Sewage Effluent</p>	<p><u>Chemical Testing</u></p> <p>Perfluorinated substances (PFAS): Perfluoro-n-butanoic acid Perfluoro-n-pentanoic acid Perfluoro-n-hexanoic acid Perfluoro-n-buthanesulfonate Perfluoro-n-heptanoic acid 6:2 fluorotelomer sulfonate Perfluoro-n-pentanesulfonate Perfluoro-n-octanoic acid Perfluoro-n-hexanesulfonate Perfluoro-n-nonanoic acid Perfluoro-n-heptanesulfonate Perfluoro-n-decanoic acid Perfluoro-n-octanesulfonate -linear Perfluorooctane sulfonate-branched Perfluoro-n-undecanoic acid Perfluoro-n-dodecanoic acid Perfluorooctanesulfonamide</p> <p>Total PFOS (linear & Branched)</p>	<p>TM 337 by LC-MS/MS</p>



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WASTE WATERS	<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, treated sewage effluents and trade effluents
Untreated Sewage Treated Sewage Effluent Trade Effluent	Total Suspended Solids	TM 022 by Gravimetry
	Electrical Conductivity	TM 120 by Conductivity meter
	Ammonia Ammoniacal Nitrogen as N and NH ₃	TM 099 by discrete colorimetric analyser
	pH	TM 256 by pH meter
	Chemical Oxygen Demand (COD)	TM 107 by tube test
	Biochemical Oxygen Demand (BOD)	TM 045 by DO meter
	Total Nitrogen	TM 212 by Skalar
Trade Effluent Treated Sewage Effluent Untreated Sewage	Anions: Bromide Chloride Fluoride Nitrate Nitrate as N and NO ₃ Nitrite Nitrite as N and NO ₂ Total Oxidised Nitrogen (TON) as N Phosphate Sulphate	TM 226 by Ion Chromatography



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<p>WASTE WATERS (cont'd)</p> <p>Trade Effluent Treated Sewage Effluent Untreated Sewage (cont'd)</p>	<p><u>Chemical Testing</u> (cont'd)</p> <p>Total Metals, specifically: Aluminium Arsenic Cadmium Chromium Cobalt Copper Iron Lead Nickel Phosphorus Zinc</p> <p>Dissolved Metals, specifically: Aluminium Arsenic Cadmium Chromium Cobalt Copper Iron Lead Nickel Phosphorus Selenium Zinc</p>	<p>Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - sampling and chemical testing of untreated sewage, treated sewage effluents and trade effluents</p> <p>TM 377 by ICP-MS with Kinetic Energy Discrimination (KED)</p> <p>TM 377 by ICP-MS with Kinetic Energy Discrimination (KED)</p>
END		