

# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

	<b>ALcontrol Technichem</b>	
	Issue No: 018    Issue date: 26 April 2005	
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<b>Testing performed at permanent laboratory premises</b>		

### SUMMARY OF ACCREDITATION

#### ASBESTOS

Asbestos fibres in air  
Fibre counting  
Asbestos in bulk materials  
Identification

#### ENVIRONMENTAL SAMPLES

##### Leachates

Anions  
BOD/COD/TSS/TDS/pH/colour/  
turbidity/conductivity  
Non-metallic cations

##### Soils/sediments

Anions  
Chlorinated solvents  
MBAS/TOC/Kjeldahl nitrogen/phenols  
MCERTS (soils)  
Metals  
Moisture/LOI/pH/calorific value  
Non-chlorinated organic compounds  
Non-metallic cations  
Organic extractables  
Polyaromatic hydrocarbons  
Polychlorinated biphenyls

##### Water, drinking/potable

Anions  
BOD/COD/TSS/TDS/pH/colour/  
turbidity/conductivity  
MBAS/TOC/Kjeldahl nitrogen/phenols  
Metals  
Non-chlorinated organic compounds  
Non-metallic cations  
Organic extractables  
Polyaromatic hydrocarbons  
Polychlorinated biphenyls

##### Water, waste

Anions  
BOD/COD/TSS/TDS/pH/colour/  
turbidity/conductivity  
Chlorinated solvents  
MBAS/TOC/Kjeldahl nitrogen/phenols  
Metals  
Non-chlorinated organic compounds  
Non-metallic cations  
Organic extractables  
Polyaromatic hydrocarbons  
Polychlorinated biphenyls

##### Waters, natural

Anions  
BOD/COD/TSS/TDS/pH/colour/  
turbidity/conductivity  
Chlorinated solvents  
MBAS/TOC/Kjeldahl nitrogen/phenols  
Metals  
Non-chlorinated organic compounds  
Non-metallic cations  
Organic extractables  
Polyaromatic hydrocarbons  
Polychlorinated biphenyls



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DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
ASBESTOS FIBRES IN AIR	<u>Health and Hygiene</u>  Fibre counting	Health and Safety Executive Methods for the Determination of Hazardous Substances in the series MDHS  MDHS 39/4 : November 1995 Membrane Filter Method using Phase Contrast Microscopy (PCM)
ASBESTOS IN BULK MATERIALS including materials and products suspected of containing asbestos	Identification of: Amosite Chrysotile Crocidolite Fibrous Actinolite Fibrous Anthophyllite Fibrous Tremolite	MDHS 77 : June 1994 by Documented In-House Procedure 001 incorporating MDHS 77 using stereo-microscopy, polarised light microscopy, dispersion staining and phase contrast
SEDIMENTS SLUDGES SOILS	<u>Chemical Tests</u>  Alkali and non-routine metals: - Iron  Ammonia (exchangeable)  Carbonates  Leaching Test Method - Water extractable matter  Moisture content  Organic matter (Acidic dichromate oxidisable matter)  Sulphate  Sulphur (elemental)  Solvent extractable matter	Documented In-House Methods identified by method number  062 by ICP  018  023 by acid decomposition and titration  004  021 by air drying oven  026 by wet oxidation  025 based on BS 1377 by gravimetric determination  025a and 016 by inductively coupled plasma spectroscopy (ICP-OES)  032 by High Performance Liquid Chromatography (HPLC)  012 by Gravimetry



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
SEDIMENTS SLUDGES SOILS (cont'd)  SEDIMENTS SLUDGES SOILS WATERS Raw and potable WASTE WATERS Untreated and treated domestic and industrial waste waters	<u>Chemical Tests</u> (cont'd)  Total petroleum hydrocarbons on as received soil (C8 - C40)  Total petroleum hydrocarbons on dried soils (C10 - C40)  Weight loss on ignition  <u>Chemical Tests</u>  Anions (water soluble for soils) including: Chloride Nitrate Sulphate  Chromium (Hexavalent)  Cyanide (NaOH Soluble/Easily liberated)  Cyanide (NaOH Soluble/Total)  Cyanide - Complex - Free  Electrical conductivity  Fluoride (water soluble for soils)  Freon Extractable Matter (Hydrocarbon oils)	065 by GC-FID  041 by GC-FID  019  011 by Ion Chromatography (IC)  007 by Colorimetry  017 by steam distillation  005 by steam distillation  061 by Skalar  033 by conductivity meter  056 by Ion Selective Electrode (ISE)  030 by IR







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SEDIMENTS SLUDGES SOILS WATERS Raw and potable WASTE WATERS Untreated and treated domestic and industrial waste waters (cont'd)	<p><u>Chemical Tests</u> (cont'd)</p> <p>Polynuclear Aromatic Hydrocarbons (PAH) including:            Acenaphthalene            Acenaphthene            Anthracene            Benzo(a)anthracene            Benzo(a)pyrene            Benzo(b)fluoranthene            Benzo(g,h,i)perylene            Benzo(k)fluoranthene            Chrysene            Dibenzo(a,h)anthracene            Fluoranthene            Fluorene            Indeno(123cd)Pyrene            Naphthalene            Phenanthrene            Pyrene</p> <p>Semivolatile Organic Compounds (SVOC's):</p> <p>1,2,4-trichlorobenzene            1,2-dichlorobenzene            1,3-dichlorobenzene            1,4-dichlorobenzene            2,3,4,6-tetrachlorophenol            2,4,5-trichlorophenol            2,4,6-trichlorophenol            2,4-dichlorophenol            2,4-dimethylphenol            2,4-dinitrotoluene            2,6-dichlorophenol            2,6-dinitrotoluene            2-chloronaphthalene            2-chlorophenol            2-methylphenol            2-nitrophenol            4-chloro-3-methyl phenol            4-chlorophenyl phenyl ether            4-methylphenol            4-nitrophenol            Acenaphthene            Acenaphthylene            Aniline            Anthracene</p>	<p>022 by Gas Chromatography Mass Spectrometry (GC-MS)</p> <p>053S and 053W by Gas Chromatography Mass Spectrometry (GC-MS)</p>



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SEDIMENTS SLUDGES SOILS WATERS Raw and potable WASTE WATERS Untreated and treated domestic and industrial waste waters (cont'd)	<u>Chemical Tests</u> (cont'd)  Semivolatile Organic Compounds (SVOC's): (cont'd)  Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Anthraquinone Azobenzene Bis(2-chloroethoxy)methane Bis(2-chloroethyl)ether Bis(2-chloroisopropyl)ether Bromo phenyl phenyl ether Butyl benzyl phthalate Diethyl phthalate Dimethylphthalate Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachloroethane Isophorone Naphthalene Nitrobenzene n-nitroso-di-n-propyl-1-propanamine Phenol Benzo(k)fluoranthene Chrysene Di-n-butyl phthalate Fluoranthene Indeno (1,2,3-cd)pyrene Pentachlorophenol Phenanthrene Pyrene	
SOILS (only)	<u>Chemical Tests</u>  Cyanide - Total - Thiocyanate  Sulphur (elemental)	Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil  061 by Skalar  032 by High Performance Liquid Chromatography (HPLC)



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SOILS (only) (cont'd)	<u>Chemical Tests</u> (cont'd)  Boron (water soluble)  Sulphate (acid soluble)  Polychlorinated Biphenyls (PCB's): PCB Congener 101 PCB Congener 118 PCB Congener 138 PCB Congener 153 PCB Congener 180  Polynuclear Aromatic Hydrocarbons (PAH) including: Acenaphthene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Fluoranthene Indeno(1,2,3-cd)pyrene Naphthalene Phenanthrene Pyrene  pH  Semivolatile Organic Compounds (SVOC's): 1,2,4-trichlorobenzene 1,2-dichlorobenzene 1,3-dichlorobenzene 1,4-dichlorobenzene 2,4,5-trichlorophenol 2,4,6-trichlorophenol 2,4-dichlorophenol 2,4-dimethylphenol 2,4-dinitrotoluene 2,6-dichlorophenol 2,6-dinitrotoluene 2-chloronaphthalene 2-chlorophenol	016 by Inductively Coupled Plasma Spectroscopy (ICP)  025a by Inductively Coupled Plasma Spectroscopy (ICP-OES)  039 by Gas Chromatography Mass Spectrometry (GC-MS)  022 by Gas Chromatography Mass Spectrometry (GC-MS)  009 by pH electrode  053S by Gas Chromatography Mass Spectrometry (GC-MS)



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SOILS (only) (cont'd)	<p><u>Chemical Tests</u> (cont'd)</p> <p>Semivolatile Organic Compounds (SVOC's): (cont'd)</p> <p>2-nitrophenol 4-chloro-3-methyl phenol 4-chlorophenyl phenyl ether 4-methylphenol Acenaphthene Acenaphthylene Anthracene Benzo(b)fluoranthene Benzo(g,h,i)perylene Anthraquinone Azobenzene Bis(2-chloroethoxy)methane Bis(2-chloroethyl)ether Bis(2-chloroisopropyl)ether Bromo phenyl phenyl ether Butyl benzyl phthalate Diethyl phthalate Dimethylphthalate Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachloroethane Isophorone Naphthalene Nitrobenzene n-nitroso-di-n-propyl-1-propanamine Benzo(k)fluoranthene Chrysene Di-n-butyl phthalate Fluoranthene Phenanthrene Pyrene 2-nitroaniline 4-nitroaniline 2-methylnaphthalene dibenzofuran carbazole di-n-octyl phthalate dibenz(ah)anthracene</p>	





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<b>WATERS</b> Raw and potable <b>WASTE WATERS</b> Untreated and treated domestic and industrial waste waters	<u>Chemical Tests</u>  Biological Oxygen Demand (BOD)  Solvent Extractable Matter  Mercury  Suspended solids    ] Settleable solids    ]  Total Organic Carbon (TOC) (dissolved organic carbon passing a 0.45 µm filter)	  036 by oxygen specific electrode  013 by gravimetry  028 by Atomic Fluorescence  029  010 using TOC analyser
<b>WATERS</b> Raw and potable <b>LEACHATES</b>	<u>Chemical Tests</u>  Ammonium  Chemical Oxygen Demand (COD)  Sulphide  Sulphate	  057 by ion selective  054 by colorimetry  055 by colorimetry  016 by inductively coupled plasma spectroscopy (ICP-OES)
<b>WATERS</b> Raw and Potable	<u>Chemical Tests</u>  Characterisation and semi-quantitative estimation of cyclopentane extractable hydrocarbons	  072 by LVI/GC/FID
	END	