


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

 <p>UKAS TESTING 0956</p>	<b>Fugro Robertson Environmental Laboratories Ltd</b>	
	<b>Issue No: 024    Issue date: 20 July 2005</b>	
<b>Llandudno North Wales LL30 1SA</b>	<b>Contact: Mr J Southwood</b> <b>Tel: +44 (0)1492 581811</b> <b>Fax: +44 (0)1492 583416</b> <b>E-Mail: robenv@fugro-robertson.com</b> <b>Website: www.askdrrob.com</b>	
<b>Testing performed at permanent laboratory premises</b>		

### SUMMARY OF ACCREDITATION

#### ASBESTOS

Asbestos in bulk materials  
Identification

#### Metals

Organic extractables  
Polychlorinated biphenyls

#### ENVIRONMENTAL SAMPLES

##### Soils/sediments

Anions

BOD/COD/TSS/TDS/pH/colour/  
turbidity/conductivity

Chlorinated solvents

MBAS/TOC/Kjeldahl nitrogen/phenols

MCERTS (soils)

Metals

Moisture/LOI/pH/calorific value

Organic extractables

Polyaromatic hydrocarbons

Polychlorinated biphenyls

##### Water, drinking/potable

BOD/COD/TSS/TDS/pH/colour/  
turbidity/conductivity

Chlorinated solvents

MBAS/TOC/Kjeldahl nitrogen/phenols

Metals

Organic extractables

Polyaromatic hydrocarbons

Polychlorinated biphenyls

##### Water, process

BOD/COD/TSS/TDS/pH/colour/  
turbidity/conductivity

Chlorinated solvents

MBAS/TOC/Kjeldahl nitrogen/phenols

Metals

Organic extractables

Polychlorinated biphenyls

##### Water, waste

BOD/COD/TSS/TDS/pH/colour/  
turbidity/conductivity

Chlorinated solvents

MBAS/TOC/Kjeldahl nitrogen/phenols

Metals

Organic extractables

Polychlorinated biphenyls

##### Waters, natural

BOD/COD/TSS/TDS/pH/colour/  
turbidity/conductivity

Chlorinated solvents

MBAS/TOC/Kjeldahl nitrogen/phenols



0956

### Schedule of Accreditation

issued by

### United Kingdom Accreditation Service

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

### Fugro Robertson Environmental Laboratories Ltd

Issue No: 024 Issue date: 20 July 2005

Testing performed at permanent laboratory premises

#### DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
ASBESTOS IN BULK MATERIALS including materials and products suspected of containing asbestos	<u>Health and Hygiene</u>  Identification of: Amosite Chrysotile Crocidolite Fibrous Actinolite Fibrous Anthophyllite Fibrous Tremolite	Health and Safety Executive Methods for the Determination of Hazardous Substances in the series MDHS  MDHS 77:June 1994 by Documented In-House Method No ELSA/057 using stereo-microscopy, polarised light microscopy and dispersion staining
	<u>Chemical Tests</u>  Boron, Water Soluble  Cyanide: - Free and Total  Diesel Range Organics (DRO) C <sub>8</sub> - C <sub>36</sub> with aliphatic aromatic fractionation and carbon bonding  Elemental Analysis: - Mercury  Polycyclic Aromatic Hydrocarbons (PAHs, Speciated USEPA 16): Acenaphthene Acenaphthylene Anthracene Benz(a)anthracene Benz(a)Pyrene Benz(b)fluoranthene Benz(k)fluoranthene Benzo(ghi)perylene Chrysene Dibenzo(ah)anthracene Fluoranthene Fluorene Indeno(1,2,3,cd)Pyrene Naphthalene Phenanthrene Pyrene	Documented In-House Methods in the ELS/000 and ELSA/000 Number series  ELSA/39 by ICP-AES  ELSA/33 by Distillation/Colorimetry  ELSA/075 by solvent extraction/SPE and GC/FID  ELSA/052 using aqua regia digestion followed by Atomic Fluorescence Spectrometry  ELSA/050 using GC-MS
SOILS		



0956

**Schedule of Accreditation**

issued by

**United Kingdom Accreditation Service**

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

**Fugro Robertson Environmental Laboratories Ltd**

Issue No: 024 Issue date: 20 July 2005

Testing performed at permanent laboratory premises

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
SOILS (cont'd)	<p><u>Chemical Tests (cont'd)</u></p> <p>MBTEX - Benzene, Ethylbenzene, Toluene, m/p xylene, o-xylene</p> <p>Metallic elements: Aluminium Antimony Arsenic Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Molybdenum Nickel Potassium Selenium Sodium Vanadium Zinc</p> <p>PCBs as Aroclors 1242, 1254, 01260</p> <p>Petrol Range Organics (PRO) C<sub>5</sub> - C<sub>12</sub> with alphatic/aromatic determination and carbon banding</p> <p>pH</p> <p>Phenols, Monohydric</p> <p>Phenols, Total</p> <p>Solvent extractable matter</p> <p>Sulphate, Total Acid Soluble Sulphate, Water Soluble</p>	<p>ELSA/077 by Purge and Trap GC/FID/PID ELSA/095 by GC</p> <p>ELSA/053 using aqua regia digestion followed by ICP-AES</p> <p>ELSA/089 by GC-MS</p> <p>ELSA/076 by Purge and Trap GC/FID/PID</p> <p>ELS/001</p> <p>ELSA/35 by Distillation/Colorimetry</p> <p>ELSA/56 by HPLC with Electrochemical Detection</p> <p>ELSA/055 by Accelerated solvent extraction</p> <p>ELSA/36 ELSA/43 by ICP-AES</p>



0956

### Schedule of Accreditation

issued by

### United Kingdom Accreditation Service

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

### Fugro Robertson Environmental Laboratories Ltd

Issue No: 024 Issue date: 20 July 2005

Testing performed at permanent laboratory premises

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> Sulphur, Elemental  Thiocyanate  Semivolatile Organic Compounds  Volatile Organic Compounds: Chloroform Carbon tetrachloride 2,2-dichloropropane Bromochloromethane 1,1-dichloropropene 1,2-dichloropropene Dibromomethane 1,1,1,2-tetrachloroethane 1,3-dichloropropane Styrene n-propylbenzene 1,3,5-trimethylbenzene Benzene bromobenzene 1,3-dichlorobenzene 1,4-dichlorobenzene 1,2-dichlorobenzene 1,1,1-trichloroethane 1,1,2-trichloroethane Isopropylbenzene 1,2,4-trimethylbenzene 1,1,2-trichloro-1,2,2-trifluoromethane 1,1-dichloroethane 1,1-dichloroethene 1,2-dibromoethane 1,2-dichloroethane 1-chloro-2-methylbenzene 1-chloro-4-methylbenzene bromomethane chlorobenzene chloromethane cis-1,2-dichloroethene cis-1,2-dichloro-1-propene dichlorodifluoromethane ethylbenzene m/p xylene naphthalene	ELSA/38 by Toluene Extraction and Combustion  ELSA/34 by Colorimetry  ELSA/47 by Solvent Extraction GC/MS  ELSA/049 using Headspace GC-MS



0956

### Schedule of Accreditation

issued by

### United Kingdom Accreditation Service

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

### Fugro Robertson Environmental Laboratories Ltd

Issue No: 024 Issue date: 20 July 2005

Testing performed at permanent laboratory premises

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
SOILS (cont'd)	<p><u>Chemical Tests</u> (cont'd)</p> <p>Volatile Organic Compounds: (cont'd)</p> <p>o-xylene Tert-butylbenzene tetrachloroethene Toluene Trans-1,2-dichloroethene Trans-1,3-dichloro-1-propene trichloroethene a-methylstyrene</p> <p>Cyanide, Free and Total</p> <p>Diesel Range Organics (DRO)</p> <p>BTEX: - Benzene, Ethylbenzene, Toluene, m/p xylene, o-xylene</p> <p>Mercury</p> <p>PCBs as Aroclor 1242, 1254, 1260</p> <p>Petrol Range Organics (PRO) C<sub>5</sub>-C<sub>12</sub></p> <p>Semi-volatile Organic Compounds (SVOC) including some PAHs: 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-chloronaphthalene 2-chlorophenol 2-methylnaphthalene</p>	<p>Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soils</p> <p>ELSA/033 by Distillations/colimetry</p> <p>ELSA/045 by GC-FID</p> <p>ELSA/095 by Purge and Trap GC/FID/PID</p> <p>ELSA/052 using Aqua regia digestion followed by Atomic Fluorescence Spectrometry</p> <p>ELSA/089 by GC-MS</p> <p>ELSA/076 by Purge and Trap GC/FID/PD</p> <p>ELSA/047 by GC-MS</p>



**Schedule of Accreditation**

issued by

**United Kingdom Accreditation Service**

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

**Fugro Robertson Environmental Laboratories Ltd**

**Issue No: 024 Issue date: 20 July 2005**

Testing performed at permanent laboratory premises

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
SOILS (cont'd)	<p><u>Chemical Tests</u> (cont'd)</p> <p>Semi-volatile Organic Compounds (SVOC) including some PAHs: (cont'd)</p> <p>2-methylphenol            2-nitrophenol            4-bromophenyl phenyl ether            4-chloro-3-methylphenol            4-methylphenol            Acenaphthene            Acenaphthylene            Anthracene            Azobenzene            Benz(a)anthracene            Benz(a)pyrene            Benz(b)fluoranthene            Benz(k)fluoranthene            Benzo(ghi)perylene            Bis(2-chloroethoxy)methane            Bis(2-chloroethyl)ether            Bis(2-chloroisopropyl)ether            Bis(2-ethylhexyl)phthalate            Butylbenzenephthalate            Chrysene            Dibenz(ah)anthracene            Dibenzofuran            Diethylphthalate            Dimethylphthalate            Di-n-butylphthalate            Di-n-octylphthalate            Fluoranthene            Fluorene            Hexachloro-1,3-butadiene            Hexachlorobenzene            Hexachloroethane            Isophorone            Naphthalene            Nitrobenzene            N-nitroso-di-n-propylamine            Phenanthrene            Phenol            Pyrene            1-chloro-4-phenoxybenzene            1-methyl-2,4-dinitrobenzene            2,3,4,6-tetrachlorophenol            2,6-dinitrotoluene</p>	<p>Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soils (cont'd)</p>



0956

**Schedule of Accreditation**

issued by

**United Kingdom Accreditation Service**

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

**Fugro Robertson Environmental Laboratories Ltd**

**Issue No: 024 Issue date: 20 July 2005**

**Testing performed at permanent laboratory premises**

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
SOILS (cont'd)	<p><u>Chemical Tests</u> (cont'd)</p> <p>Thiocyanate</p> <p>Metals: Antimony Arsenic Cadmium Chromium Cobalt Copper Lead Manganese Molybdenum Nickel Selenium Vanadium Zinc</p> <p>Volatile Organic Compounds: Chloroform Carbon tetrachloride 2,2-dichloropropane Bromochloromethane 1,1-dichloropropene 1,2-dichloropropene Dibromomethane 1,1,2-tetrachloroethane 1,3-dichloropropane Styrene n-propylbenzene 1,3,5-trimethylbenzene Benzene bromobenzene 1,3-dichlorobenzene 1,4-dichlorobenzene 1,2-dichlorobenzene 1,1,1-trichloroethane 1,1,2-trichloroethane Isopropylbenzene 1,2,4-trimethylbenzene 1,1,2-trichloro-1,2,2-trifluoromethane 1,1-dichloroethane 1,1-dichloroethene</p>	<p>Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soils (cont'd)</p> <p>ELSA/034</p> <p>ELSA/053 by ICP-OES</p> <p>ELSA/049 using Headspace GC-MS</p>









**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

**Fugro Robertson Environmental Laboratories Ltd**  
Issue No: 024 Issue date: 20 July 2005

Testing performed at permanent laboratory premises

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	
Surface and Groundwaters (cont'd)	Polycyclic Aromatic Hydrocarbons (PAHs, Speciated USEPA 16): Acenaphthene Acenaphthylene Anthracene Benz(a)anthracene Benz(a)pyrene Benz(b)fluoranthene Benz(k)fluoranthene Benzo(ghi)perylene Chrysene Dibenz(ah)anthracene Fluoranthene Fluorene Indeno(1,2,3,cd)pyrene Naphthalene Phenanthrene Pyrene	ELSA/50 using GC-MS
	Solvent Extractable Matter	ELSA/32 by Solvent Extraction
	Thiocyanate	ELSA/34 by Colorimetry
	Total Petroleum Hydrocarbons (TPH) C <sub>9</sub> - C <sub>35</sub>	ELSA/045 by GC/FID
	Volatile Organic Compounds	ELSA/049 using Headspace GC-MS
	Semivolatile Organic Compounds	ELSA/47 by Solvent Extraction GC/MS
Treated and Untreated Industrial and Sewage Effluents	Cyanide - Free and Total	ELSA/33 by Distillation/Colorimetry
	Dissolved Mercury	ELSA/42 by Atomic Fluorescence Spectrometry
	pH	ELS/001
	Phenols, Monohydric	ELSA/35 by Distillation/Colorimetry
	Phenols, Total	ELSA/56 by HPLC with Electrochemical Detection
	Solvent Extractable Matter	ELSA/32 by Solvent Extraction



0956

**Schedule of Accreditation**

issued by

**United Kingdom Accreditation Service**

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

**Fugro Robertson Environmental Laboratories Ltd**

Issue No: 024 Issue date: 20 July 2005

Testing performed at permanent laboratory premises

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
WATERS (cont'd)  Treated and Untreated Industrial and Sewage Effluents (cont'd)	<u>Chemical Tests</u> (cont'd)  Thiocyanate  Total Petroleum Hydrocarbons (TPH) C <sub>9</sub> - C <sub>35</sub>  Volatile Organic Compounds  Semivolatile Organic Compounds	ELSA/34 by Colorimetry  ELSA/045 by GC/FID  ELSA/049 using Headspace GC/MS  ELSA/47 by Solvent Extraction GC/MS
	END	