


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

 <b>Accredited to ISO/IEC 17025:2017</b>	<b>Marchwood Scientific Services Limited (a trading division of Cawood Scientific)</b>	
	<b>Issue No:</b> 085 <b>Issue date:</b> 30 December 2024	
	<b>371 Millbrook Road West Southampton SO15 0HW</b>	<b>Contact:</b> Elizabeth Carter <b>Tel:</b> +44 (0) 23 8078 6979 <b>E-Mail:</b> Elizabeth.Carter@cawoodscientific.uk.com <b>Website:</b> www. cawood.co.uk/marchwood
<b>Testing performed by the Organisation at the locations specified below</b>		

### Locations covered by the organisation and their relevant activities

#### Laboratory locations:

Location details		Activity	Location code
<b>Address</b> 371 Millbrook Road West Southampton SO15 0HW	<b>Local contact</b> Elizabeth Carter  Tel: +44 (0)23 8078 6979 Email: Elizabeth.Carter@cawoodscientific.uk.com	<b>Testing:</b> Environmental Testing Stack Emissions Testing Food Testing Feed Testing  <b>Support Functions:</b> Quality System Quality Audit administration	A
<b>Address</b> Unit 1A.2(A) North Road Marchwood Industrial Park Marchwood Southampton SO40 4BL	<b>Local contact</b> Elizabeth Carter  Tel: +44 (0)23 8078 6979 Email: Elizabeth.Carter@cawoodscientific.uk.com	<b>Support Functions:</b> Sample Reception Environmental Testing Waste (SRF/RDF) Testing Biofuel Testing	B
<b>Address</b> Unit 5 60 Smithfold Lane Worsley Manchester M28 0GP	<b>Local contact</b> Elizabeth Carter  Tel: +44 (0)23 8078 6979 Email: Elizabeth.Carter@cawoodscientific.uk.com	<b>Support Functions:</b> Sample Reception Air testing	C



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No:** 084    **Issue date:** 30 December 2024

Testing performed by the Organisation at the locations specified

DETAIL OF ACCREDITATION

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	<u>Chemical Tests</u>	National, European, International and Environment Agency specified standards including MIDs and Documented In-House work instructions to meet the requirements of the Environment Agency (MCERTS) Performance Standard for laboratories carrying out testing of samples from stack emissions monitoring	
Filters, probe and impinger rinses (acetone, toluene, and water), XAD-2 resin trap and tubes	<u>Poly Chlorinated Dibenzo-p-Dioxins (PCDD)</u>  2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD	BS EN 1948-2:2006, and BS EN 1948-3:2006 Gas Chromatography (GC) High Resolution Mass Spectrometry (MS) by labelled internal Standards (in house method 2002b) following extraction 2043 cleanup by 2044	A
	<u>Poly Chlorinated Dibenzo Furans (PCDF)</u>  2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF		A



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES (cont'd)	<u>Chemical Tests</u> (cont'd)	National, European, International and Environment Agency specified standards including MIDs and Documented In-House work instructions to meet the requirements of the Environment Agency (MCERTS) Performance Standard for laboratories carrying out testing of samples from stack emissions monitoring	A
Filters, probe and impinger rinses (acetone, toluene, and water), XAD-2 resin trap and tubes	<u>Poly Chlorinated Biphenyls (PCB's)</u>  PCB-77 PCB-81 PCB-105 PCB-114 PCB-118 PCB-123 PCB-126 PCB-156 PCB-157 PCB-167 PCB-169 PCB-189	BS EN 1948-4:2010 Analysis by in-house method 2002b by High Resolution Gas Chromatography Mass Spectrometry (GC/MS) following extraction 2043/ cleanup by 2044 (and in accordance with BS EN 1948-4:2010)	



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES (cont'd)	<u>Chemical Tests</u> (cont'd)	National, European, International and Environment Agency specified standards including MIDs and Documented In-House work instructions to meet the requirements of the Environment Agency (MCERTS) Performance Standard for laboratories carrying out testing of samples from stack emissions monitoring	A
Filters, probe and impinger rinses (acetone, toluene, and water), XAD-2 resin trap and tubes	<u>Polycyclic Aromatic Hydrocarbons (PAH's)</u>  Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(b)naphtho[2,1-d]thiophene Benzo(c)phenanthrene Benzo(a)anthracene Chrysene Cyclopenta(cd)pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(j)fluoranthene Benzo(a)pyrene Cholanthrene Indeno(1,2,3-cd)pyrene Benzo(ghi)perylene Dibenzo(ah)anthracene Anthanthrene Dibenzo(ai)pyrene	BS ISO 11338-2:2003 Analysis by in-house method 2003 by Gas Chromatography Mass Spectrometry (GC/MS - QQQ) WI2003, following extraction WI1115 and cleanup by WI2016	



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES (cont'd)	<u>Chemical Tests</u> (cont'd)	National, European, International and Environment Agency specified standards including MIDs and Documented In-House work instructions to meet the requirements of the Environment Agency (MCERTS) Performance Standard for laboratories carrying out testing of samples from stack emissions monitoring	
Charcoal tubes	Speciated VOCs  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,2,3 Trimethylbenzene 1,2,4-Trimethylbenzene 1,2-Dibromoethane 1,2-Dichlorobenzene 1,2-Dichloroethane 1,3,5-Trimethylbenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene <u>1-Methoxy-2propylacetate</u> Benzene Bromochloromethane Bromodichloromethane Bromoform	Documented in house method WI 3048 by GC-MS (solvent desorption) based on PD CEN/TS 13649:2014 & BS ISO 16200-1:2001	C



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No:** 084    **Issue date:** 30 December 2024

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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES	<u>Chemical Tests</u> (cont'd)	National, European, International and Environment Agency specified standards including MIDs and Documented In-House work instructions to meet the requirements of the Environment Agency (MCERTS) Performance Standard for laboratories carrying out testing of samples from stack emissions monitoring	
Charcoal tubes	Speciated VOCs (cont'd)  Butyl acetate Carbon tetrachloride Chlorobenzene Chlorodibromomethane Chloroform cis-1,2-Dichloroethene Dibromomethane Ethylbenzene <u>Ethyl Acetate</u> Hexane <u>Isopropyl Acetate</u> Isopropyl benzene <u>Methyl ethyl ketone (MEK)</u> <u>Methyl iso butyl ketone (MIBK)</u> <u>Methyl tert-butyl ether(MTBE)</u> m/p-Xylene o-Xylene p-Isopropyl toluene <u>Propyl acetate</u> Propyl benzene Toluene trans-1,2-Dichloroethene <u>Tetrachloroethene</u>	Documented in house method WI 3048 by GC-MS (solvent desorption) based on PD CEN/TS 13649:2014 & BS ISO 16200-1:2001	C



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES	<u>Chemical Tests</u> (cont'd)	National, European, International and Environment Agency specified standards including MIDs and Documented In-House work instructions to meet the requirements of the Environment Agency (MCERTS) Performance Standard for laboratories carrying out testing of samples from stack emissions monitoring	
Impinger Solutions (sulphuric acid)	Ammonia	BS EN ISO 21877:2019 by IC analysis (MCR-002-WI)	C
Impinger Solutions (sulphuric acid)	Hydrogen bromide	US EPA Method 26 by IC analysis (MCR-003-WI)	C
Impinger Solutions (sodium hydroxide)	Bromine Chlorine	US EPA Method 26 by IC analysis (MCR-003-WI)	C
Impinger Solutions (sodium hydroxide)	Hydrogen fluoride	PD CEN/TS 17340:2020 by IC analysis (MCR-003-WI)	C
Impinger Solutions (water)	Hydrogen chloride	BS EN 1911:2010 by IC analysis (MCR-003-WI)	C
Impinger Solutions (water)	Hydrogen fluoride	PD CEN/TS 17340:2020 by IC analysis (MCR-003-WI)	C
Impinger Solutions (Hydrogen Peroxide)	Sulphur dioxide	BS EN 14791:2017 by IC analysis (MCR-007-WI)	C
	<u>Physical Testing</u>		
Filter Papers and Rinse Solutions	Weighing of Particulate Matter	BS EN 13284-1:2017 (MCR-005-WI)	C



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES	<u>Chemical Tests</u> (cont'd)	National, European, International and Environment Agency specified standards including MIDs and Documented In-House work instructions to meet the requirements of the Environment Agency (MCERTS) Performance Standard for laboratories carrying out testing of samples from stack emissions monitoring	
Filters, probe rinses (nitric acid), impinger solutions (nitric acid / hydrogen peroxide)	Metals specifically: Arsenic Beryllium Cadmium Cobalt Chromium Copper Manganese Nickel Lead Antimony Selenium Tin Titanium Thallium Vanadium Zinc	BS EN 14385:2004 by microwave and HF digestion followed by ICP-MS analysis (MCR-001-WI)	C
Filters, probe rinses (nitric acid), impinger Solutions (sulphuric acid/potassium permanganate, nitric acid/potassium dichromate)	Mercury	BS EN 13211:2001 and BS EN 1483:2007 [withdrawn] by microwave and HF digestion followed by: CV-AFS analysis (MCR-004-WI)	C





1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
ASH DUST EFFLUENT FOLIAGE SLUDGE SOILS  Inorganic compounds used as ingredients in animal feeds and food  Oils and grain as ingredients in animal feeds and food  ANIMAL FEED, FOODS and FATTY FOODS (including fish, meat, dairy products, eggs)	<u>Poly Chlorinated Dibenzo-p-Dioxins (PCDD)</u>  2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD  <u>Poly Chlorinated Dibenzo Furans (PCDF)</u>  2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	Documented in-house Method 2002 / 2002a, based on US EPA Method 1613. Gas Chromatography (GC) - High Resolution Mass Spectrometry (MS) by Labelled Internal Standards Following extraction by WI 3 2043/cleanup by 2044 for effluents, 2001 or 2005 and 2044 for foods, 1102 for solid foods/feed samples, 2042 for dairy and egg, 2043 and 2044 for 2,4D and 1102/2043 and 2044 for other sample types	A



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

**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
ASH DUST EFFLUENT FOLIAGE SLUDGE SOILS  Inorganic compounds used as ingredients in animal feeds and food  Oils and grain as ingredients in animal feeds and food  FOODS and FATTY FOODS (including fish, meat, dairy products, eggs)  Fish oil	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on the following national, international and other recognised standards	A
	<u>Poly Chlorinated Biphenyls (PCB's)</u>  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	Documented In-House Method 2002 / 2002a by High Resolution Gas Chromatography Mass Spectrometry (GC/MS) following extraction 2043/cleanup by 2044 for effluents, 2001 or 2005 and 2044 for foods, 2042 for dairy and egg, and 1102/2043 and 2044 for other sample types	
	<u>Polycyclic aromatic hydrocarbons (PAHs)</u>  Benzo(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Benzo(g,h,i)perylene Chrysene Dibenz(a,h)anthracene Indeno(1,2,3,c,d)pyrene	Documented in house method WI-3051 by gas chromatography-high resolution mass spectrometry (GC-HRMS)	A



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
Fish oil	<u>Chemical Tests</u> (cont'd)  PAH4 (sum of Benzo(a)pyrene, Chrysene, Benz(a)anthracene, benzo(b)fluoranthene)  PAH8 (sum of Benzo(a)pyrene, Chrysene, Benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene)	Documented In-House Methods based on the following national, international and other recognised standards  Documented in house method WI-3051 by gas chromatography-high resolution mass spectrometry (GC-HRMS)	A
Fish Oil	Arsenic, Cadmium, Mercury, Lead	Documented in-house method WI-3050 by ICP-MS/MS	B
Fats and oils	Arsenic, Cadmium, Mercury, Lead	Documented in-house method WI-3050 by ICP-MS/MS	B
Inorganic compounds used as ingredients in animal feeds and food	Arsenic, Cadmium, Mercury, Lead	Documented in-house method WI-3050 by ICP-MS/MS	B
Inorganic compounds used as ingredients in animal feeds and food	Copper, Iron, Manganese, Zinc	Documented in-house method WI 3052 by ICP-OES	B



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

**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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on the following national, international and other recognised standards	
Filters, probe and impinger rinses (acetone, toluene, and water), XAD-2 resin trap and tubes	<u>Poly Chlorinated Dibenzo-p-Dioxins (PCDD)</u>	BS EN 1948-2:2006, and BS EN 1948-3:2006 or US EPA Method 23 or, for PU Filters only, US EPA Method 1613 Gas Chromatography (GC) High Resolution Mass Spectrometry (MS) by labelled internal Standards (in house method 2002 / 2002a) following extraction 2043 cleanup by 2044	A
Polyurethane Foams	2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD		
	<u>Poly Chlorinated Dibenzo Furans (PCDF)</u>	BS EN 1948-2:2006, and BS EN 1948-3:2006 or US EPA Method 23 Gas Chromatography (GC) High Resolution Mass Spectrometry (MS) by labelled internal Standards (in house method 2002 / 2002a) following extraction 2043/ cleanup by 2044	A
	2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF		
Air, sampled onto DNPH treated silica gel adsorption tubes	<u>Determination of mass of Carbonyl Compounds in Air:</u>	Documented Method MSSL WI 3044. Based on BS ISO 16000-3:2011 & MDHS 102 by HPLC-UV	C
	Formaldehyde Acetaldehyde Propionaldehyde Crotonaldehyde Butyraldehyde Benzaldehyde Isovaleraldehyde Valeraldehyde Hexaldehyde 2,5 -Dimethylbenzaldehyde		



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

**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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on the following national, international and other recognised standards	
Filters, probe and impinger rinses (acetone, toluene, and water), XAD-2 resin trap and tubes	<u>Poly Chlorinated Biphenyls (PCB's)</u>	BS EN 1948-4:2010 Analysis by in-house method 2002 / 2002a by High Resolution Gas Chromatography Mass Spectrometry (GC/MS) following extraction 2043/ cleanup by 2044 (and in accordance with BS EN 1948-4:2010 for PU filters)	A
Polyurethane Foams	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		
Air, sampled onto charcoal sorbent	<u>Siloxanes:</u>  Hexamethyldisiloxane Hexamethylcyclotrisiloxane Octamethyltrisiloxane Octamethylcyclotetrasiloxane Decamethyltetrasiloxane Decamethylcyclopentasiloxane Dodecamethylpentasiloxane Dodecamethylcyclohexasiloxane	Documented in house method 3038 by GC-MS based on PD CEN/TS 13649:2014	C



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on the following national, international and other recognised standards	
Air, sampled onto charcoal sorbent	<u>Speciated VOCs</u>  Ethanol, Acetone, Isopropyl Alcohol, Metyl tert-butyl ether, Hexane, 2-Butanone, Ethyl acetate, Isobutanol, Isopropyl acetate, Benzene, 1-Butanol, 1-Methoxy-2-propanol, Propyl acetate, 4-Methyl-2-pentanone, Toluene, 1-Methoxy-2-propyl acetate, Ethylbenzene, m/p-Xylene, o-Xylene, 1,3,5-Trimethylbenzene, 1,2,4-Trimethylbenzene, 1,2,3-Trimethylbenzene	Documented in house method WI 3042 by GC-MS	C
Air, sampled onto charcoal sorbent	<u>Speciated VOCs</u>  1,1-Dichloroethene 1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,2,4-Trimethylbenzene 1,2-Dibromomethane 1,2-Dichlorobenzene 1,2-Dichloroethane 1,3,5-Trimethylbenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzene	Documented in house method WI 3048 by GC-MS (solvent desorption) based on PD CEN/TS 13649:2014 & BS ISO 16200-1:2001	C



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES (cont'd)  Air, sampled onto charcoal sorbent (cont'd)	<u>Chemical Tests</u> (cont'd)  <u>Speciated VOCs</u> (cont'd)  Bromochloromethane Bromodichloromethane Bromoform Butylbenzene Carbon tetrachloride Chlorobenzene Chlorodibromomethane Chloroform cis-1,2-Dichloroethene Dibromomethane Dichloromethane (DCM) Ethylbenzene Isopropylbenzene m/p-Xylene o-Xylene p-Isopropyltoluene Propylbenzene Toluene trans-1,2-Dichloroethene	Documented In-House Methods based on the following national, international and other recognised standards  Documented in house method WI 3048 by GC-MS (solvent desorption) based on PD CEN/TS 13649:2014 & BS ISO 16200-1:2001	C



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

**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
<p>ATMOSPHERIC POLLUTANTS AND EFFLUENTS – GAS SAMPLES (cont'd)</p> <p>Air, sampled onto Tenax/Sulficarb</p> <ul style="list-style-type: none"> <li>-ambient air</li> <li>- landfill gas</li> </ul>	<p><u>Chemical Tests</u> (cont'd)</p> <p><u>Speciated VOCs</u></p> <p>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-Dibromomethane 1,2-Dichlorobenzene 1,2-Dichloroethane 1,2-Dichloropropane 1,3,5-Trimethylbenzene 1,3-Butadiene 1,3-Dichlorobenzene 1,3-Dichloropropane 1,4-Dichlorobenzene 1-Pentene 2,2 Dichloropropane 2-Butoxyethanol 2-Chlorotoluene 3-Chloro-1,2-dibromopropane 4-Chlorotoluene Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform Butanethiol Butylbenzene Butyric acid Carbon tetrachloride Chlorobenzene Chlorodibromomethane Chloroethane Chloroform cis-1,2-Dichloroethene cis-1,3-Dichloropropene</p>	<p>Documented In-House Methods based on the following national, international and other recognised standards</p> <p>Documented in house method WI 3047 by GC-MS (thermal desorption) based on MDHS72 (1993), LFTGN04 v 3.0 2010, , BS ISO 16000-6:2021, BS EN ISO 16017-1:2001 &amp; PD CEN/TS 13649:2014</p>	C





1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

**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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS – GAS SAMPLES (cont'd)	<u>Chemical Tests (cont'd)</u>	Documented In-House Methods based on the following national, international and other recognised standards	
Air, sampled onto Tenax/Sulficarb -ambient air - landfill gas (cont'd)	<u>Speciated VOCs</u>  Dibromomethane Dimethyldisulphide Ethylbenzene Ethylbutyrate Furan Hexachloro-1,3-butadiene Isopropylbenzene m/p-Xylene Naphthalene o-Xylene p-Isopropyltoluene Propanethiol Propylbenzene sec-Butylbenzene Styrene tert-Butylbenzene Toluene trans-1,2-Dichloroethene trans-1,3-Dichloropropene Trichloroethylene Tetrachloroethene	Documented in house method WI 3047 by GC-MS (thermal desorption) based on MDHS72 (1993), LFTGN04 v 3.0 2010, , BS ISO 16000-6:2021, BS EN ISO 16017-1:2001 & PD CEN/TS 13649:2014	C
Collected in Tedlar bags Ambient air Landfill gas Syngas	<u>Bulk gas components</u> Hydrogen (100ppm to 100%) Methane (100ppm to 100%) Oxygen (0.3% to 100%) Nitrogen (1.0% to 100%) Carbon monoxide (100ppm to 100%) Carbon dioxide (100ppm to 100%)	Documented in house method WI 3046 by GC-TCD	C
Air, sampled onto charcoal sorbent - landfill gas - Biogenic gas	Arsenic	Documented in house method WI 3054 by ICP-OES	C



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

**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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS – GAS SAMPLES (cont'd)	<u>Chemical Tests (cont'd)</u>	Documented In-House Methods based on the following national, international and other recognised standards	
Workplace Atmospheres - Filters	Particulate matter	Documented in house method WI 3045 based on MDHS 14/4, PD CEN/TR 15230:2005 and BS ISO 15767:2009	C
Workplace Atmospheres: Filters PUFs (Polyurethane foams from IOM cartridges)	Metals, specifically:  Aluminium Arsenic Barium Beryllium Calcium Cadmium Cobalt Chromium Copper Iron Magnesium Manganese Molybdenum Sodium Nickel Lead Antimony Selenium Tin Strontium Titanium Thallium Vanadium Zinc	Documented in house method WI 3054 by ICP-OES	C
Filters	Respirable crystalline silica (quartz and cristobalite)	Documented in-house method MCR-006-WI based on MDHS101/2 by X-ray diffraction (XRD)	C



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
ATMOSPHERIC POLLUTANTS AND EFFLUENTS –STACK GAS SAMPLES	<u>Chemical Tests (cont'd)</u>	Documented In-House Methods based on the following national, international and other recognised standards	
Impinger Solutions (sulphuric acid)	Hydrogen bromide Hydrogen chloride Hydrogen fluoride	US EPA Method 26 by IC analysis (MCR-003-WI)	C
Impinger Solutions (sodium hydroxide)	Chlorine Bromine	US EPA Method 26 by IC analysis (MCR-003-WI)	C
Impinger Solutions (sodium hydroxide)	Hydrogen fluoride	In house method based on BS ISO 15713:2006 by IC analysis (MCR-003-WI)	C
Impinger Solutions (water)	Hydrogen fluoride	PD CEN/TS 17340:2020 by IC analysis (MCR-003-WI)	C
Impinger Solutions (water)	Hydrogen chloride	BS EN 1911:2010 by IC analysis (MCR-003-WI)	C
Impinger Solutions (water)	Hydrogen bromide	In house Method by IC analysis (MCR-003-WI)	C
WATERS Natural waters & sea waters	AOX	Documented in house method 3023 by CL10-AOX analyser	B
Potable Water (non regulatory), Surface Waters and Ground Water	Poly and Perfluorinated Alkyl Substances (PFAS), specifically:  PFMOPrA PFPeA FPrPA PFBS PFMOBA	In-house test method MB-009-WI based on EPA Method 1633 & EPA method 537.1 Rev.2 by LCMSMS	A



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No:** 084    **Issue date:** 30 December 2024

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
Potable Water (non regulatory), Surface Waters and Ground Water	<u>Chemical Testing (cont'd):</u>  Poly and Perfluorinated Alkyl Substances (PFAS), specifically:  PFEESA NFDHA 4:2 FTS PFHxA PFPeS HFPO-DA FBSA PFHpA PFHxS ADONA FPePA PFECHS 6:2 FTS PFOA PFHpS FHxSA PFOS PFNA FHpPA HFPO-TA 9Cl-PF3ONS PFNS 8:2 FTS PFDA MeFOSAA PFDS PFUdA EtFOSAA FOSA 11Cl-PF3OUdS PFUdS PFDoA 10:2 FTS PFDoS PFTTrDA PFTeDA PFHxDA 8:2-diPAP	In-house test method MB-009-WI based on EPA Method 1633 & EPA method 537.1 Rev.2 by LCMSMS	A



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
FUELS	<u>Chemical and Physical Tests</u>	Documented In-House Methods based on the following national, international and other recognised standards	
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Moisture	Documented in house method 3013 by Gravimetry based on BS EN 15414-3:2011	B
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Ash Content including loss on ignition	Documented in house method 3014 by Gravimetry based on BS EN 15403:2011	B
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Calorific Value (Gross Calorific Value)	Documented in house method 3015 by Bomb Calorimetry based on BS EN 15400:2011	B
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Net Calorific Value	By Calculation	B
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Oxygen	By Calculation based on BS EN 15407:2011	B
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Sulphur, Chlorine, Fluorine, Bromine	Documented in house method 3021 by Ion Chromatography (following bomb calorimetry) based on BS EN 15408:2011	B
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Carbon, Hydrogen and Nitrogen	Documented in house method 3024 by Elemental Analyser based on BS EN 15407:2011	B
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Copper, Lead, Nickel and Zinc	Documented in house method MW 003 WI by ICP OES based on BS EN 15657:2002 (digestion) and BS EN 15411:2011	B
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Volatile Matter	Documented in house method 3027 by Gravimetry based on BS EN 15402:2011	B



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

**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
FUELS (cont'd)	<u>Chemical and Physical Tests</u> (cont'd)	Documented In-House Methods based on the following national, international and other recognised standards	
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Biomass Content	Documented in house method 3009 by Dissolution, Gravimetry and Calculation based on BS EN 15440:2011	B
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Biomass/Non-Biomass Content by CV	By Calculation	B
Solid Recovered Fuels (SRF) Refuse Derived Fuel (RDF)	Biomass/Non-Biomass Content by total C	By Calculation	B
Solid Biofuels (Biomass)	Moisture	Documented in house method 3013 by Gravimetry based on BS EN 18134-3:2015	B
Solid Biofuels (Biomass)	Ash Content including loss on ignition	Documented in house method 3014 by Gravimetry based on ISO 18122:2015	B
Solid Biofuels (Biomass)	Calorific Value (Gross Calorific Value)	Documented in house method 3015 by Bomb Calorimetry based on BS EN 18125:2017	B
Solid Biofuels (Biomass)	Net Calorific Value	By Calculation	B
Solid Biofuels (Biomass)	Oxygen	By Calculation based on BS EN 16948:2015	B
Solid Biofuels (Biomass)	Sulphur, Chlorine	Documented in house method 3021 by Ion Chromatography (following bomb calorimetry) based on EN 16994:2016	B
Solid Biofuels (Biomass)	Carbon, Hydrogen and Nitrogen	Documented in house method 3024 by Elemental Analyser based on EN 16948:2015	B



1668  
Accredited to  
ISO/IEC 17025:2017

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

**Marchwood Scientific Services Limited**  
**Issue No: 084    Issue date: 30 December 2024**

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
FUELS (cont'd)	<u>Chemical and Physical Tests</u> (cont'd)	Documented In-House Methods based on the following national, international and other recognised standards	
Solid Biofuels (Biomass)	Copper, Lead, Nickel and Zinc	Documented in house method MW 003 WI by ICP OES based on BS EN 15657:2002 (digestion) and BS EN 16968:2015	B
Solid Biofuels (Biomass)	Volatile Matter	Documented in house method 3027 by Gravimetry based on BS EN 15148:2009	B
WASTE	<u>Chemical and Physical Tests</u>		
RECYCLED WASTE Trommel Fines	Loss on Ignition at 440°C	Documented in house method 3025 by Gravimetry in accordance with HMRC Excise Notice LFT1 27 March 2015	B
Incinerator Bottom Ash Fly Ash	Copper, Lead, Nickel and Zinc	Documented in house method MW 003 WI by ICP OES based on BS EN 15657:2002 (digestion), BS EN 15411:2011 and BS EN 16968:2015	B
END			