Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

1015

Accredited to ISO/IEC 17025:2017

SOCOTEC UK Limited

Issue No: 142 **Issue date:** 15 February 2024

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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 SOCOTEC House Bretby Business Park Ashby Road Bretby Burton upon Trent Staffs DE15 0YZ **Local contact** Mrs Ruth Hobson Tel: +44 (0)1283 554400 Fax: +44 (0)1283 554422 Email: salesuk@socotec.com	Water Microbiology, Environmental Chemistry, Physical Testing, Gas Analysis, Occupational Hygiene & Environmental Monitoring Analysis Support Functions: Quality Management including document control, auditing and quality control	Bretby
Address 2-8 Langlands Place Kelvin South Business Park East Kilbride G75 0YF **Local contact** Mr D Hay Tel: +44 (0)7949645479 Fax: +44 (0)1355 246730 Email: salesuk@socotec.com	Atmospheric Pollutants Physical Testing Stack Emissions Testing Water Microbiology	E Kilbride
Address Unit 5 Crown Industrial Estate Kenwood Road Reddish Stockport SK5 6PH **Local contact** Mr M.Woodruff Tel: +44 (0)161-443 0980 Fax: +44 (0)161-443 0989 Email: salesuk@socotec.com	Atmospheric Pollutants Physical Testing Stack Emissions Testing	Stockport

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Testing performed by the Organisation at the locations specified

Location details		Activity	Location code
Address Unit D 2 Wilkinson Road Bankside Business Park Cirencester Gloucestershire GL7 1YT	**Local contact** Mr M Davies Tel: +44 (0)1285 700593 Email: salesuk@socotec.com	Atmospheric Pollutants Physical Testing Stack Emissions Testing Water Microbiology Environmental Chemistry	Cirencester
Address Asken Road Carcroft Doncaster DN6 8DC	**Local contact** Mr C. Mills Tel: +44 (0)1302-724455 Fax: +44 (0)1302-727233 Email: salesuk@socotec.com	Physical Testing	Carcroft
Address Unit 20 Falcon Business Centre Ashton Road Romford Essex RM3 8UR	**Local contact** Mr P.Jones Tel: +44 (0)1708 330760 Email: salesuk@socotec.com	Stack Emissions Testing	Romford

Site activities performed away from the locations listed above:

Location details	Activity	Location code
Commercial and Industrial Premises	Dust Sampling	Site - Dust
Customer Sites Requiring Stack Emissions Testing	Stack Emissions Testing	Stacks
Sites	Gas Sampling and Analysis	Site - Gas
Customer Premises	Water Sampling and Analysis	Site - Water

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
	Health and Hygiene		
WORKPLACE ATMOSPHERES	Sampling of Airborne Dust	In house method ENV/009A in accordance with MDHS 14/4	Site - Dust
Filter papers	Determination of Airborne Dust	In house method ENV/054 in accordance with MDHS 14/4 by Gravimetry	East Kilbride
Filter papers	Particulates (PM_{10} and $PM_{2.5}$)	Documented in house method ENV/054 based on BS EN 12341 :1999 Annex C using gravimetry	East Kilbride
WATER Potable water (non-regulatory), Process water (including domestic hot water systems), Groundwater, Surface water, Recreational water (swimming pools), Saline water and Trade effluent	Microbiological Testing	Documented In-House Methods based on procedures in "The Microbiology of Drinking Water 2002" unless stated otherwise	
	Enumeration of Total Coliforms and *Escherichia coli*	ENV/209 using single membrane filtration and MLGA	Bretby E Kilbride Cirencester
	Confirmation of Coliforms and *E. coli*	ENV/210 and ENV/208	Bretby E Kilbride Cirencester
	Total Viable Counts at 22 °C, 30 °C and 37 °C	ENV/206 using pour plate method based on "The Microbiology of Drinking Water 2007"	Bretby E Kilbride Cirencester
	Legionella spp.(including *L.pneumophila* SG1,2-14)	ENV/212 based on BS EN ISO 11731:2017 using filtration with washing [Matrix A & B; procedures 8,9 & 10, media C], identification with latex agglutination kit	Bretby E Kilbride

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Potable water (non-regulatory), Process water (including domestic hot water systems), Groundwater, Surface water, Recreational water (swimming pools), Saline water, Trade effluent and Bottled water	<u>Microbiological Testing</u> (cont'd)	Documented In-House Methods based on procedures in "The Microbiology of Drinking Water 2002" unless stated otherwise	
	Pseudomonas aeruginosa	ENV/246 - based on The Microbiology of Drinking Water (2010) – Part 8, using membrane filtration	Bretby
Drinking water (Non regulatory), Process water, Groundwater, Surface water, and Trade effluent	<u>Chemical Testing</u>		
	pH	Documented in house method ENV/303c	Cirencester
	Chemical Oxygen Demand	Documented in house method ENV/304	Cirencester
	Solids – Suspended, settleable and rapidly settleable	Documented in house method ENV/303a	Cirencester

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS	Physical Testing	Documented In-House Methods based on the following national, international and other recognised standards	
Filter papers and rinse solutions	Weighing of Particulate Matter	BS EN 13284-1:2017 (AE 106)	East Kilbride Stockport Cirencester
	Weighing of Particulate Matter <10 micron (PM_{10} and $PM_{2.5}$)	BS EN ISO 23210:2009 (AE 106)	East Kilbride Stockport Cirencester
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES	Chemical Testing	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	
Filter Papers and rinse solutions	Weighing of Particulate Matter	BS EN 13284-1:2017 (AE 106)	East Kilbride Stockport Cirencester
Filter Papers and rinse solutions	Weighing of Particulate Matter <10 micron (PM_{10} and $PM_{2.5}$)	BS EN ISO 23210:2009 (AE 106)	East Kilbride Stockport Cirencester

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere	<u>Sampling with Subsequent analysis by an ISO/IEC 17025 Accredited Laboratory</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 and BS EN 15259:2007	
	Iodine and Fluorine	US EPA Method 26/26A (AE 114)	Stacks
	Nitric acid vapour (measured as total oxides of nitrogen)	US EPA Method 7D (AE 139)	Stacks
	<u>Sampling and On-Line analysis</u>		
	Tar Fume, Bitumen Fume, and Oil Mist	Documented in-house methods TP105 & TP106 based on BS EN 13284-1 :2017	Stacks
	Formaldehyde	CEN/TS 17638 :2021 (AE 114)	Stacks
	Total Particulate Matter	BS EN 13284-1:2017 (AE 104)	Stacks
	Particulate Matter <10 micron (PM_{10} and $PM_{2.5}$)	BS EN ISO 23210:2009 (AE 137)	Stacks

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	Sampling with Subsequent analysis by an ISO/IEC 17025 Accredited Laboratory (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 and BS EN 15259:2007 (cont'd)	
	Hydrogen Chloride	BS EN 1911:2010 (AE 111)	Stacks
	Hydrogen Fluoride	PD CEN/TS 17340:2020 (AE 113A)	Stacks
	Halides and Halogens: Hydrogen Bromide Hydrogen Iodide Chlorine Bromine	US EPA Methods 26 and 26A (AE 114)	Stacks
	Hydrogen Cyanide Total Cyanide	US EPA OTM 29 (AE 133)	Stacks
	Isocyanates	US EPA CTM 036 (AE 116)	Stacks
	Metals	BS EN 14385:2004 (AE 108)	Stacks
	Mercury	BS EN 13211:2001 (AE 107)	Stacks
	Hexavalent Chromium (Cr^{+6})	US EPA Method 0061 (AE 148)	Stacks
	Odour	BS EN 13725 :2022 (AE 142)	Stacks
	Dioxins and Furans	BS EN 1948-1:2006 (AE 109)	Stacks
	Dioxin-like Polychlorinated Biphenyls (PCB's)	BS EN 1948-4:2010 (AE 109)	Stacks

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	Sampling with Subsequent analysis by an ISO/IEC 17025 Accredited Laboratory (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 and BS EN 15259:2007 (cont'd)	
	Polycyclic Aromatic Hydrocarbons (PAH's)	BS ISO 11338-1:2003 (AE 110)	Stacks
	Sulphur Dioxide	BS EN 14791:2017 (AE 112)	Stacks
	Sulphur Trioxide and Sulphuric Acid Mist	US EPA Method 8 (AE 114)	Stacks
	Speciated VOC's (carbon and other suitable tubes) (direct sampling of dry stacks and dynamic dilution sampling of hot wet stacks) Mercaptans Amines and Amides Phenols Cresols Carboxylic Acids Aldehydes Formaldehyde	PD CEN/TS 13649:2014 (AE 118)	Stacks
	Methanol (direct sampling of dry stacks and dynamic dilution sampling of hot wet stacks)	PC CEN/TS 13649:2014 (AE 118)	Stacks
	Ammonia	BS EN ISO 21877 :2019 (AE 115)	Stacks
	Hydrogen Sulphide	US EPA Method 11 (AE 132)	Stacks

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	<u>Sampling and On-Site analysis</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 and BS EN 15259:2007 (cont'd)	
	Water Vapour	BS EN 14790:2017 (AE 105)	Stacks
	<u>Sampling and On-Line analysis</u>		
	Pressure, Temperature and Velocity (point velocity method) for: • Periodic Compliance Monitoring	BS EN ISO 16911-1:2013 & EA MID 16911-1 (Procedure AE 154a) - using differential pressure device (pitot tube) method Procedure to meet requirements of PD CEN TR 17078:2017 Measurement Objective 1	Stacks
	Pressure, Temperature and Velocity (point velocity method) for: • Periodic Compliance Monitoring • Calibration of Continuous AMS To meet requirements of Emissions Trading Schemes	IS EN ISO 16911-1:2013 (Procedure AE 154a) - using differential pressure device (pitot tube) method Procedure to meet requirements of PD CEN TR 17078:2017 Measurement Objectives 1, 2 and 3	Stacks
	Water Vapour*	PD CEN/TS 17337:2019 (AE 063, AE 145 - Validated FTIR analyser)	Stacks
	Ammonia*	PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Hydrogen Chloride*	PD CEN/TS 17337:2019 (AE 063, AE 145 - Validated FTIR analyser)	Stacks

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	<u>Sampling and On-Line analysis</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 and BS EN 15259:2007 (cont'd)	
	Methane*	PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Methanol*	PD CEN/TS 17337 :2019 (AE016, AE063, AE 145 – FTIR analyser)	Stacks
	Carbon Dioxide*	PD CEN/TS 17405:2020 (AE 102 NDIR analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Carbon Monoxide*	BS EN 15058:2017 (AE 102 - NDIR analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - Validated FTIR analyser)	Stacks
	Nitrogen Monoxide (NO)*	BS EN 14792:2017 (AE 102- Chemiluminescence analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - Validated FTIR analyser)	Stacks
	Nitrogen Dioxide (NO_2)*	BS EN 14792:2017 (AE 102 - Chemiluminescence analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - Validated FTIR analyser)	Stacks

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	<u>Sampling and On-Line analysis</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 and BS EN 15259:2007 (cont'd)	
	Oxides of Nitrogen (NOx)*	BS EN 14792:2017 (AE 102 - Chemiluminescence analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - Validated FTIR analyser)	Stacks
	Nitrous Oxide (N_2O)*	PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Sulphur Dioxide*	PD CEN/TS 17021:2017 (AE 102- NDIR analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Oxygen*	BS EN 14789:2017 (AE 102- Paramagnetic analyser) (AE 102 - Validated Zirconium cell analyser)	Stacks
	Total Gaseous Organic Carbon* (TOC/VOC) (0 to 1000 mg/m^3)	BS EN 12619:2013 (AE 102 - FID analyser)	Stacks

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	Sampling and On-Line analysis (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 and BS EN 15259:2007 (cont'd)	
	*Halides** *Speciated VOCs** *Other inorganic gases** ***The organisation holds a flexible scope of accreditation for these tests. Please contact the organisation for details of the individual gaseous compounds they can sample and analyse to this method.***	PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
Stack Emissions - Continuous Emissions Monitoring Systems (CEMS)	QAL 2 and the Annual Surveillance Test (AST) for CEMS	Documented in-house procedure AE 063 to meet the requirements of BS EN 14181:2014, Environment Agency MID 14181 (TGN M20 Annex A) and other requirements of the Environment Agency (MCERTS) Performance Standard and BS EN 15259:2007	Stacks (East Kilbride, Stockport, Cirencester and Romford offices)
Stack Emissions - Continuous Emissions Monitoring Systems (CEMS) - Velocity	QAL 2 and the Annual Surveillance Test (AST) for CEMS - Velocity	Documented in-house procedure AE 154 to meet the requirements of BS EN 16911-2, Environment Agency MID 16911-2 and other requirements of the Environment Agency (MCERTS) Performance Standard and BS EN 15259:2007	Stacks (East Kilbride, Stockport, Cirencester and Romford offices)

* - The scale range of the analyser used for this test must be that detailed on its current MCERTS certificate or a range validated by the organisation to meet MCERTS requirements.

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere	Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory	National, European, International and Irish Environmental Protection Agency specified standards and Documented In-House work instructions to meet the requirements of Irish Environmental Protection Agency Publications AG1 and AG2 and IS EN 15259:2007	
	Total Particulate Matter	IS EN 13284-1:2017 including Environment Agency (England) MID 13284-1 (AE 104)	Stacks
	Particulate Matter <10 micron (PM_{10} and $PM_{2.5}$)	IS EN ISO 23210:2009 (AE 137)	Stacks
	Particulate size fractionation	IS EN ISO 23210:2009 (AE 136)	Stacks
	Hydrogen Chloride	IS EN 1911-2010 (AE 111)	Stacks
	Total Acids	IS EN 1911-2010 (AE 111)	Stacks
	Sulphur Dioxide	IS EN 14791:2017 (AE 112)	Stacks
	Ammonia	IS EN ISO 21877:2019 (AE 115)	Stacks

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory (cont'd)	National, European, International and Irish Environmental Protection Agency specified standards and Documented In-House work instructions to meet the requirements of Irish Environmental Protection Agency Publications AG1 and AG2 and IS EN 15259:2007	
	Hydrogen Fluoride	PD CEN/TS 17340:2020 (AE 113A)	Stacks
	Halides and Halogens Excluding: Hydrogen Chloride Hydrogen Fluoride	US EPA Methods 26 and 26a (AE 114)	Stacks
	Metals	IS EN 14385:2004 including Environment Agency (England) MID 14385 (AE 108)	Stacks
	Mercury	IS EN 13211:2001 including Environment Agency (England) MID 14385 (AE 107)	Stacks
	Odour	IS EN 13725:2022 (AE 142)	Stacks
	Dioxins and Furans	IS EN 1948-1:2006 2006 including Environment Agency (England) MID 1948 (AE 109)	Stacks
	Dioxin-like Polychlorinated Biphenyls (PCBs)	IS EN 1948-4:2010 including Environment Agency (England) MID 1948 (AE 109)	Stacks

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory (cont'd)	National, European, International and Irish Environmental Protection Agency specified standards and Documented In-House work instructions to meet the requirements of Irish Environmental Protection Agency Publications AG1 and AG2 and IS EN 15259:2007	
	Polycyclic Aromatic Hydrocarbons (PAH's)	IS ISO 11338-1:2003 (AE 110)	Stacks
	Speciated VOC's (carbon and other suitable tubes) (direct sampling of dry stacks and dynamic dilution sampling of hot wet stacks) Amines and Amides Phenols and Cresols Aldehydes	PD CEN/TS 13649:2014 (AE 118)	Stacks
	Hydrogen sulphide	US EPA Method 11 (AE 132)	Stacks
	Formaldehyde	CEN/TS 17638 :2021 (AE 114)	Stacks
	Sampling and On-Site analysis		
	Water Vapour	IS EN 14790:2017 (AE 105)	Stacks
	Sampling and On-Line analysis		
	Water Vapour■	PD CEN/TS 17337:2019 (AE 063, AE 145 - Validated FTIR analyser)	Stacks
	Ammonia■	PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	Sampling and On-Line analysis (cont'd)	National, European, International and Irish Environmental Protection Agency specified standards and Documented In-House work instructions to meet the requirements of Irish Environmental Protection Agency Publications AG1 and AG2 and IS EN 15259:2007	
	Hydrogen Chloride■	PD CEN/TS 17337:2019 (AE 063, AE 145 - Validated FTIR analyser)	Stacks
	Methane■	PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Methanol■	PD CEN/TS 17337 :2019 (AE016, AE063, AE 145 – FTIR analyser)	Stacks
	Carbon Dioxide■	PD CEN/TS 17405:2020 (AE 102 NDIR analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Carbon Monoxide■	IS EN 15058:2017 (AE 102 - NDIR analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Nitrogen Monoxide (NO)■	IS EN 14792:2017 (AE 102- Chemiluminescence analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	<u>Sampling and On-Line analysis</u> (cont'd)	National, European, International and Irish Environmental Protection Agency specified standards and Documented In-House work instructions to meet the requirements of Irish Environmental Protection Agency Publications AG1 and AG2 and IS EN 15259:2007	
	Nitrogen Dioxide (NO_2)■	IS EN 14792:2017 (AE 102 - Chemiluminescence analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Oxides of Nitrogen (NOx)■	IS EN 14792:2017 (AE 102 - Chemiluminescence analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Nitrous Oxide (N_2O)■	PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Sulphur Dioxide■	PD CEN/TS 17021:2017 (AE 102- NDIR analyser) PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Oxygen■	IS EN 14789:2017 (AE 102- Paramagnetic analyser) (AE 102 - Validated Zirconium cell analyser)	Stacks
	Total Gaseous Organic Carbon■ (TOC/VOC) (0 to 1000 mg/m³)	IS EN 12619:2013 (AE 102 - FID analyser)	Stacks

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	<u>Sampling and On-Line analysis</u> (cont'd)	National, European, International and Irish Environmental Protection Agency specified standards and Documented In-House work instructions to meet the requirements of Irish Environmental Protection Agency Publications AG1 and AG2 and IS EN 15259:2007	
	Halides■ *Speciated VOCs*■ *Other inorganic gases*■ ***The organisation holds a flexible scope of accreditation for these tests. Please contact the organisation for details of the individual gaseous compounds they can sample and analyse to this method.***	PD CEN/TS 17337:2019 (AE 063, AE 145 - FTIR analyser)	Stacks
	Pressure, Temperature and Velocity (point velocity method) for: • Periodic Compliance Monitoring	IS EN ISO 16911-1:2013 & EA MID 16911-1 (Procedure AE 154a) - using differential pressure device (pitot tube) method Procedure to meet requirements of PD CEN TR 17078:2017 Measurement Objective 1	Stacks
	Pressure, Temperature and Velocity (point velocity method) for: • Periodic Compliance Monitoring • Calibration of Continuous AMS • To meet requirements of Emissions Trading Schemes	IS EN ISO 16911-1:2013 (Procedure AE 154a) - using differential pressure device (pitot tube) method Procedure to meet requirements of PD CEN TR 17078:2017 Measurement Objectives 1, 2 and 3	Stacks

■ - The scale range of the analyser used for this test must meet the specific requirements specified in the Irish Environmental Protection Agency document "AG2 Index of Preferred Methods".

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack Emissions to Atmosphere (cont'd)	Sampling and On-Line analysis (cont'd)	National, International and other recognised standards using documented In-House work instructions to meet the requirements of BS EN 15259:2007	
	Carbon Dioxide	ISO 12039:2019 (AE 102 NDIR analyser)	Stacks
	Formaldehyde	US EPA Method 316 (AE 114)	Stacks
	Sampling with Subsequent analysis by an ISO/IEC 17025 Accredited Laboratory		
	Hydrogen Fluoride	BS ISO 15713:2006 (AE 113)	Stacks
POLLUTANTS and EFFLUENTS: ATMOSPHERIC	Physical Tests		
Passive dust samples from deposit and directional dust gauges and monitors	Dust deposition rate	Documented In-House Method ENV/FD01 based on BS 1747:Part 1:1969(91) BS 1747:Part 5:1972(91) BS 872:2005	Bretby
	Soiling	Documented In-House Method ENV/FD05 based on Beaman & Kingsbury Reflectometer Method	Bretby
Rainwater	Chemical Tests		
	pH Electrical Conductivity (Dissolved Solids)	Documented In-House Method ENV/FD03 based on BS 2690:Part 109:1984(89) BS 6068:Section 2.35:1993 and ISO 7888	Bretby

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
POLLUTANTS: ATMOSPHERIC	Health and Hygiene Analysis		
Filter samples	Mass of total and respirable dust	Documented In-House Method ENV/MORD 2 based on MDHS 14/4 (gravimetric)	Bretby
	Mass of total inhalable dust and particulate matter	Documented In-House Method ENV/MORD 2 based on MDHS 14/4	Bretby
	Chemical Tests		
	Mass of welding fume	Documented In-House Method ENV/MORD 2 based on BS EN ISO 10882-1:2001	Bretby
	Quartz in respirable dust	Documented In-House Method MDRQC1 using FTIR spectrometry based on MDHS 101, February 2005	Bretby
DUST and PARTICULATES	Qualitative Characterisation		
Dust Gauges, Occupational Dust and Environmental Deposits	Qualitative analysis in order to differentiate Silica, Coal, General dirt (Aluminosilicates), Calcium Minerals, Fly-ash, Partially combusted carbonaceous materials, plant/animal fragments	Documented In-House Method using SEM/EDS, No ENV/SEMDG7	Bretby
AMBIENT AIR	Chemical Analysis		
GAS SAMPLES Including: LANDFILL GAS NATURAL GAS DRAINED GAS SYN GAS	Carbon Dioxide Carbon Monoxide Hydrogen Helium Methane Nitrogen Oxygen	Documented In-House Methods using gas chromatography with thermal conductivity and flame ionisation detectors (ENV/GAS09)	Bretby

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
AMBIENT AIR (cont'd)	<u>Chemical Analysis</u> (cont'd)		
	Methane Ethane Propane Butane Pentane Hexane Heptane Octane	Documented In-House Methods using gas chromatography flame-ionisation detector (ENV/GAS03)	Bretby
	Gross and Net Calorific Value for C_1 to C_8 Hydrocarbons	(ENV/GAS03 Calculated value)	Bretby
LANDFILL GAS	<u>Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory</u>		
	Trace components	Documented In-House Method (ENV/GAS14) based on Environment Agency publication LFTGN 04 using adsorbent tube	Site - Gas
	Bulk gases	Documented In-House Method (ENV/GAS14) based on Environment Agency publication LFTGN 04 using Tedlar bag	Site - Gas
	<u>Sampling and On-Site analysis</u>		
	Surface methane emissions monitoring	Using Flux Box and portable Flame Ionisation Detector (FID) analyser or portable IR detector (ENV/GAS14 and LFTGN07)	Site - Gas
	Walkover survey (ppm to %)	Using portable Flame Ionisation Detector (FID) analyser or portable IR detector (ENV/GAS14)	Site - Gas

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WASTE WATERS	<u>Sampling</u>		
Groundwater, Surface water, Fresh water, Leachate (from landfill), Trade effluent (to controlled water)	"Spot" sampling of Lakes, streams, rivers, groundwaters and waste waters	Documented In-House Method ENV/GAS16	Site - Water
	<u>Analysis</u>		
	pH Conductivity Dissolved Oxygen Turbidity Temperature	Documented In-House Method ENV/GAS16	Site - Water
WASTE WATERS Trade effluent to controlled water and sewer	Sampling (for subsequent chemical testing at a laboratory accredited to ISO/IEC 17025 and the MCERTS (water) performance standard)	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 effluent to controlled water and sewer	<u>Chemical Testing</u>	Method ENV/GAS 16 using manual spot sampling	Site - Water
	pH Conductivity Temperature	Documented In-House Method ENV/GAS16	Site - Water
END			