Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

4279

Accredited to ISO/IEC 17025:2017

Element Materials Technology Environmental UK Limited

Issue No: 069 **Issue date:** 01 May 2021

Unit C6
Emery Court
The Embankment Business Park
Heaton Mersey
Stockport
SK4 3GL

Contact: Mr Phil Waters
Tel: +44 (0)161 432 3286 /+44 (0)7811 106 816)
Fax: +44 (0)161 432 3689
E-Mail: phil.waters@element.com
Website: www.element.com

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: Element Unit C6 Emery Court The Embankment Business Park Heaton Mersey Stockport SK4 3GL	**Local contact** Dr Lee Carter Tel: +44 (0)161 432 3286 Mobile: +44 (0)7825 099422 Fax: +44 (0)161 432 3689 Email: lee.carter@element.com Website: www.element.com	**Support Functions:** Quality System Quality Audit Administration **Sampling and Testing:** Physical Testing Environmental Chemistry	OS
Address: Element Unit C6 Emery Court The Embankment Business Park Heaton Mersey Stockport SK4 3GL	**Local contact** Mr James Eldridge Tel: +44 (0)161 432 3286 Mobile: +44 (0)7826 916684 Fax: +44 (0)161 432 3689 Email: james.eldridge@element.com Website: www.element.com	**Support Functions:** Administration **Sampling and Testing:** Stack Emissions Testing	EST
Address: Element Unit 17 Fairfield Place West Mains Business Park East Kilbride G74 5LP	**Local contact** Mr Brett Philip Tel: +44 (0)141 941 2022 Mobile: +44 (0)7826 909685 Fax: +44 (0)141 952 7099 Email: brett.philip@element.com Website: www.element.com	**Support Functions:** Administration **Sampling and Testing:** Stack Emissions Testing	EGL
Address: Element 11 Aspen Close Kembrey Trade Centre Swindon SN2 8AJ	**Local contact** Mr Paul Martin Tel: +44 (0)1793 497 902 Mobile: +44 (0)7827 332 630 Email: paul.martin@element.com Website: www.element.com	**Support Functions:** Administration **Sampling and Testing:** Stack Emissions Testing	ESW

Location details		Activity	Location code
Address: Element Unit D8 North City Business Park North Road Finglas Dublin 11	**Local contact** Mr Pat O'Brien Tel: 00353 (86) 4161434 Email: patrick.obrien@element.com Website: www.element.com	**Support Functions:** Administration **Sampling and Testing:** Stack Emissions Testing	EDU
Address: Element Unit 4a Adwick Park Wath Upon Dearne Rotherham S63 5AB	**Local contact** Mr Derek Myers Tel: +44 (0) 1709 874469 Mobile: +44 (0)7870 177819 Fax: +44 (0)161 432 3689 Email: derek.myers@element.com Website: www.element.com	**Support Functions:** Administration **Sampling and Testing:** Stack Emissions Testing	ERO
Address: Element Unit 37 Evans Business Centre Western Industrial Estate Caerphilly CF83 1BE	**Local contact** Mr Paul Martin Tel: +44 (0)1793 497 902 Mobile: +44 (0)7827 332 630 Fax: +44 (0)1793 430 533 Email: paul.martin@element.com Website: www.element.com	**Support Functions:** Administration **Sampling and Testing:** Stack Emissions Testing	ECA
Address: Element Shields Road Newcastle Upon Tyne Tyne & Wear NE6 2YD	**Local contact** Mr Mark Elliott Tel: +44 (0) 141 941 2022 Mobile: +44 (0)7860 925746 Fax: +44 (0) 141 952 7099 Email: mark.elliott@element.com Website: www.element.com	**Support Functions:** Administration **Sampling and Testing:** Stack Emissions Testing	ENE
Address: Element North Luton Industrial Estate Sedgewick Road Luton Bedfordshire LU4 9DT	**Local contact** Mr Paul Martin Tel: +44 (0)1793 497 902 Mobile: +44 (0)7827 332 630 Fax: +44 (0)1793 430 533 Email: paul.martin@element.com Website: www.element.com	**Support Functions:** Administration **Sampling and Testing:** Stack Emissions Testing	ELU
Address: Element Unit 3 Wednesbury One Black Country New Road Wednesbury WS10 7NZ	**Local Contact** Mr James Eldridge Tel: +44 (0)161 432 3286 Mobile: +44 (0)7826 916684 Fax: +44 (0)161 432 3689 Email: james.eldridge@element.com Website: www.element.com	**Support Functions:** Administration **Sampling and Testing:** Stack Emissions Testing	EWE

4279 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 **Element Materials Technology Environmental UK Limited** **Issue No:** 069 **Issue date:** 01 May 2021

Testing performed by the Organisation at the locations specified

Location details		Activity	Location code
Address: Cutbush Commercial Cutbush Lane East Reading Berkshire RG2 9AF	**Local Contact** Mr Phil Waters Tel: +44 (0)161 432 3286 Mobile: +44 (0)7811 106 816 Fax: +44 (0)161 432 3689 E-Mail: phil.waters@element.com Website: www.element.com	**Support Functions:** Administration **Sampling and Testing:** Stack Emissions Testing	ERE

Site activities performed away from the locations listed above:

Location details	Activity	Location code
Customer Sites requiring Stack Emissions Testing	Stack Emissions Testing	All
Customer Landfill Sites requiring sampling	Sampling Landfill Gases	All

DETAIL OF ACCREDITATION

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 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	
	Total Particulate Matter	BS EN 13284-1:2017 (CAT-TP-01)	All except ERE
	Particulate Matter <10 micron (PM_{10} and $PM_{2.5}$)	BS EN ISO 23210:2009 (CAT-TP-18)	All except ERE
	Odour (direct sampling of dry stacks and dynamic dilution sampling of hot wet stacks)	BS EN 13725:2003 (CAT-TP-30)	All except ERE
	Oil mist, Tar and bitumen fume	BS EN 13284-1:2017 & MDHS 84 (CAT-TP-37)	All except ERE
	Hydrogen Chloride	BS EN 1911:2010 (CAT-TP-11)	All except ERE
	Hydrogen Fluoride	BS ISO 15713:2006 (CAT-TP-10)	All except ERE
	Sulphur Dioxide	BS EN 14791:2017 (CAT-TP-09)	All except ERE
	Ammonia	BS EN ISO 21877:2019 (CAT-TP-14)	All except ERE
	Hydrogen Sulphide	US EPA Method 11 (CAT-TP-15)	All except ERE
	Hydrogen Cyanide	US EPA OTM 029 (CAT-TP-12)	All except ERE
	Sulphuric Acid (Sulphuric acid mist & Sulphur Trioxide)	US EPA Method 8 (CAT-TP-42)	All except ERE

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	
	Halides and Halogens Hydrogen Bromide Chlorine Bromine	US EPA Methods 26 and 26a (CAT-TP-13)	All except ERE
	Metals	BS EN 14385:2004 (CAT-TP-06)	All except ERE
	Mercury	BS EN 13211:2001 (CAT-TP-06)	All except ERE
	Hexavalent chromium in fine particulate matter <10 micron (PM_{10} and $PM_{2.5}$)	BS EN ISO 23210:2009 (CAT-TP-18)	All except OS/EDU/ ERE
	Dioxins and Furans	BS EN 1948-1:2006 (CAT-TP-07)	All except ERE
	Dioxin-like Polychlorinated Biphenyls (PCBs)	BS EN 1948-4:2010 (CAT-TP-07)	All except ERE
	Polycyclic Aromatic Hydrocarbons (PAHs)	BS ISO 11338-1:2003 (CAT-TP-08)	All except ERE
	Isocyanates	US EPA CTM 036 (CAT-TP-17)	All except ERE
	Speciated VOCs (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	CEN TS 13649:2014 (CAT-TP-16)	All except ERE

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	
	Total Aldehydes and Formaldehyde	US EPA Method 316 (CAT-TP-19)	All except ERE
	Total Oxides of Nitrogen (NO, NO_2 and nitric acid vapour)	US EPA Method 7D (CAT-TP-35)	All except ERE
	Bioaerosols	VDI 4257 part 2:2011 (CAT-TP-36)	EST
	Sampling and On-Site Analysis		
	Water Vapour	BS EN 14790:2017 (CAT-TP-05)	All except ERE
	Sampling and On-Line Analysis		
	Water Vapour*	PD CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Pressure, Temperature and Velocity (point velocity method)	BS EN ISO 16911-1:2013 & MID (CAT-TP-41) - using differential pressure device (pitot tube) method	All except ERE
	Ammonia*	PD CEN/TS 17337:2019 (CAT-TP-22b - FTIR analyser)	All except ERE

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	
	Carbon Monoxide*	BS EN 15058:2017 (CAT-TP-21 - NDIR analyser) (CAT-TP-25 - NDIR analyser) (CAT-TP-39 - NDIR analyser) PD CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Carbon Dioxide*	ISO 12039:2001 (CAT-TP-21 - NDIR analyser) (CAT-TP-39 - NDIR analyser) PD CEN/TS 17337:2019 (CAT-TP-22b - FTIR analyser)	All except ERE
	Nitrogen Monoxide (NO)*	BS EN 14792:2017 (CAT-TP-21 - Chemiluminescent analyser) (CAT-TP-32 - Chemiluminescent analyser) (CAT-TP-39 - Chemiluminescent analyser) PDCEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Nitrogen Dioxide (NO_2)*	BS EN 14792:2017 (CAT-TP-32 - Chemiluminescent analyser) PDCEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE

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	
	Nitrous Oxide (N_2O)*	BS EN ISO 21258:2010 (CAT-TP-40 - NDIR analyser) PD CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Oxides of nitrogen (NOx)*	BS EN 14792:2017 (CAT-TP-21 - Chemiluminescent analyser) (CAT-TP-32 - Chemiluminescent analyser) (CAT-TP-39 - Chemiluminescent analyser) PD CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Sulphur Dioxide*	PD CEN/TS 17021:2017 (CAT-TP-21 - NDIR analyser)EA PD CEN/TS 17337:2019 (CAT-TP-22b - FTIR analyser)	All except ERE
	Hydrogen Chloride*	PD CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Propane*	PD CEN/TS 17337:2019 (CAT-TP-22b – Validated FTIR analyser)	All except ERE
	Methane*	PD CEN/TS 17337:2019 (CAT-TP-22b – Validated FTIR analyser)	All except ERE

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	
	Oxygen*	BS EN 14789:2017 (CAT-TP-21 - Validated Zirconium cell analyser) (CAT-TP-22 - Validated Zirconium cell analyser) (CAT-TP-25 - Paramagnetic analyser) (CAT-TP-33 - Paramagnetic analyser) (CAT-TP-39 - Paramagnetic analyser)	All except ERE
	Total Gaseous Organic* Carbon (TOC / VOC) (0 to 1000 mg/m^3)	BS EN 12619:2013 (CAT-TP-20 - FID Analyser)	All except ERE
	Halides and Halogens* 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 using this method.**	PD CEN/TS 17337:2019 (CAT-TP-22b - FTIR analyser)	All except ERE

* - 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
Stack Emissions - Continuous Emissions Monitoring Systems (CEMS)	QAL 2 and the Annual Surveillance Test (AST) for CEMS	Documented in house procedure CAT-TP-29 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 for laboratories carrying out testing of samples from stack emissions monitoring and BS EN 15259:2007	ESW EST EGL EDU ENE
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 (CAT-TP-01)	All except ERE
	Particulate Matter <10 micron (PM_{10} and $PM_{2.5}$)	IS EN ISO 23210:2009 (CAT-TP-18)	All except ERE
	Odour (direct sampling of dry stacks and dynamic dilution sampling of hot wet stacks)	IS EN 13725:2003 including Environment Agency (England) MID 13725 (CAT-TP-30)	All except ERE

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	
	Oil mist, Tar and bitumen fume	IS EN 13284-1:2017 & MDHS 84 (CAT-TP-37)	All except ERE
	Hydrogen Chloride	IS EN 1911:2010 (CAT-TP-11)	All except ERE
	Hydrogen Fluoride	IS ISO 15713:2006including Environment Agency (England) MID 15713 (CAT-TP-10)	All except ERE
	Sulphur Dioxide	IS EN 14791:2017 (CAT-TP-09)	All except ERE
	Ammonia	BS EN ISO 21877:2019 (CAT-TP-14)	All except ERE
	Hydrogen Sulphide	US EPA Method 11 (CAT-TP-15)	All except ERE
	Hydrogen Cyanide	US EPA OTM 029 (CAT-TP-12)	All except ERE
	Sulphuric Acid (Sulphuric acid mist & Sulphur Trioxide)	US EPA Method 8 (CAT-TP-42)	All except ERE
	Halides and Halogens Hydrogen Bromide Chlorine Bromine	US EPA Methods 26 and 26a (CAT-TP-13)	All except ERE
	Metals	IS EN 14385:2004 including Environment Agency (England) MID 14385 (CAT-TP-06)	All except ERE

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	
	Mercury	IS EN 13211:2001 including Environment Agency (England) MID 14385 (CAT-TP-06)	All except ERE
	Dioxins and Furans	IS EN 1948-1:2006 including Environment Agency (England) MID 1948 (CAT-TP-07)	All except ERE
	Dioxin-like Polychlorinated Biphenyls (PCBs)	IS EN 1948-4:2010 including Environment Agency (England) MID 1948 (CAT-TP-07)	All except ERE
	Polycyclic Aromatic Hydrocarbons (PAHs)	IS ISO 11338-1:2003 (CAT-TP-08)	All except ERE
	Isocyanates	US EPA CTM 036 (CAT-TP-17)	All except ERE
	Speciated VOCs (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	CEN TS 13649:2014 (CAT-TP-16)	All except ERE
	Total Aldehydes and Formaldehyde	US EPA Method 316 (CAT-TP-19)	All except ERE

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 (cont'd)	
	Total Oxides of Nitrogen (NO, NO_2 and nitric acid vapour)	US EPA Method 7D (CAT-TP-35)	All except ERE
	Bioaerosols	VDI 4257 part 2:2011 (CAT-TP-36)	EST
	Sampling and On-Site Analysis		
	Water Vapour	IS EN 14790:2017 (CAT-TP-05)	All except ERE
	Sampling and On-Line Analysis		
	Water Vapour†	CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Pressure, Temperature and Velocity (point velocity method)	IS EN ISO 16911-1:2013 including Environment Agency (England) MID 16911-1 (CAT-TP-41) - using differential pressure device (pitot tube) method	All except ERE
	Ammonia†	CEN/TS 17337:2019 (CAT-TP-22b - FTIR analyser)	All except ERE

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 (cont'd)	
	Carbon Monoxide†	IS EN 15058:2017 (CAT-TP-21 - NDIR analyser) (CAT-TP-25 - NDIR analyser) (CAT-TP-39 - NDIR analyser) CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Carbon Dioxide†	ISO 12039:2001 (CAT-TP-21 - NDIR analyser) (CAT-TP-39 - NDIR analyser) CEN/TS 17337:2019 (CAT-TP-22b - FTIR analyser)	All except ERE
	Nitrogen Monoxide (NO)†	IS EN 14792:2017 including Environment Agency (England) MID 14792 (CAT-TP-21 - Chemiluminescent analyser) (CAT-TP-32 - Chemiluminescent analyser) (CAT-TP-39 - Chemiluminescent analyser) CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE

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	
	Nitrogen Dioxide (NO_2)†	IS EN 14792:2017 including Environment Agency (England) MID 14792 (CAT-TP-32 - Chemiluminescent analyser) CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Nitrous Oxide (N_2O)†	IS EN ISO 21258:2010 (CAT-TP-40 - NDIR analyser) CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Oxides of nitrogen (NOx)†	IS EN 14792:2017 including Environment Agency (England) MID 14792 (CAT-TP-21 - Chemiluminescent analyser) (CAT-TP-32 - Chemiluminescent analyser) (CAT-TP-39 - Chemiluminescent analyser) CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE

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	
	Sulphur Dioxide†	Environment Agency (England) PD CEN/TS 17021:2017 (CAT-TP-21 - NDIR analyser) CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Hydrogen Chloride†	CEN/TS 17337:2019 (CAT-TP-22b - Validated FTIR analyser)	All except ERE
	Propane†	PD CEN/TS 17337:2019 (CAT-TP-22b – Validated FTIR analyser)	All except ERE
	Methane†	PD CEN/TS 17337:2019 (CAT-TP-22b – Validated FTIR analyser)	All except ERE

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	
	Oxygen†	IS EN 14789:2017 (CAT-TP-21 - Validated Zirconium cell analyser) (CAT-TP-22 - Validated Zirconium cell analyser) (CAT-TP-25 - Paramagnetic analyser) (CAT-TP-33 - Paramagnetic analyser) (CAT-TP-39 - Paramagnetic analyser)	All except ERE
	Total Gaseous Organic† Carbon (TOC / VOC) (0 to 1000 mg/m³)	IS EN 12619:2013 (CAT-TP-20 - FID Analyser)	All except ERE
	Halides and Halogens† 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 using this method.**	PD CEN/TS 17337:2019 (CAT-TP-22b - FTIR analyser)	All except ERE

† - 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 with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory	National, International and other recognised standards using documented In-House work instructions to meet the requirements of BS EN 15259:2007	
	Particulate Matter <10 micron (PM_{10} and $PM_{2.5}$)	US EPA Method 201A (CAT-TP-26)	All except ERE
	Condensable VOC's (sector specific to DEFRA sector guidance note SG1-06 and operator permit)	Based on BS EN 14791 (CAT-TP-23)	All except ERE
	Particulate and gaseous fluoride content	Based on BS ISO 15713:2006. Method number CAT-TP-10b.	EDU EGL
	Total acids	Based on BS EN 1911:2010. Method number CAT-TP-31.	EDU EGL
	Sulphuric Acid (Sulphuric acid mist & Sulphur Trioxide) and Sulphur dioxide – Combined sampling train	US EPA Method 8 (CAT-TP-42)	All except ERE

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>	National, International and other recognised standards using documented In-House work instructions to meet the requirements of BS EN 15259:2007	
	Determination of NO & NO_2	ISO 10849:1996 (CAT-TP-28 - Electrochemical Cell - Testo 350XL analyser)	All except ERE
	Determination of SO_2	BS 6069-4.4:1992/ISO 7935:1992 (CAT-TP-28 - Electrochemical Cell - Testo 350XL analyser))	All except ERE
	Determination of CO	ISO 12039:2001 (CAT-TP-28 - Electrochemical Cell - Testo 350XL analyser)	All except ERE
	Determination of O_2	ISO 12039:2001 (CAT-TP-28 - Electrochemical Cell - Testo 350XL analyser)	All except ERE

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
LANDFILL SITES	Sampling of Landfill Gas for Subsequent Analysis by an ISO/IEC 17025 Accredited Laboratory	Documented In-House Procedures Based on Environment Agency guidance document LFTGN04	
	Trace Components by Sorbent Tubes: Priority Trace Components: 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethene 1,2-Dichloroethene 1,3-Butadiene 1-Butanethiol 1-Pentene 1-Propanethiol 2-Butoxy Ethanol Arsenic (as As) Benzene Butyric Acid Carbon Disulphide Chloroethane Chloroethene (Vinyl Chloride) Dichloromethane Dimethyl Disulphide Dimethyl Sulphide Ethanal (Acetaldehyde) Ethanethiol Ethyl Butyrate Furan (1,4-Epoxy-1,3-Butadiene) Mercury (as Hg) Methanal (Formaldehyde) Methanethiol PCDDs/PCDFs Styrene 1,1,2,2, - Tetrachloroethane Tetrachloroethene Tetrachloromethane Toluene Trichloroethene Trimethylbenzene	Based on CEN TS 13649:2014 (CAT-TP-16)	All except ERE

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
LANDFILL SITES (cont'd)	Sampling of Landfill Gas for Subsequent Analysis by an ISO/IEC 17025 Accredited Laboratory (cont'd)	Documented In-House Procedures Based on Environment Agency guidance document LFTGN04	All except ERE
	Siloxanes Decamethylcyclopenta siloxane Decamethyltetrasiloxane Dodecamethylcyclohexa siloxane Dodecamethylpentasiloxane Hexamethylcyclotrisiloxane Hexamethyldisiloxane Octamethylcyclotetrasiloxane Octamethyltrisiloxane Trimethylsilanol	Based on CEN TS 13649:2014 (CAT-TP-16)	All except ERE
	Trace and Bulk Components By Tedlar Bags: Hydrogen Sulphide Carbon Monoxide Carbon Dioxide Oxygen Methane Nitrogen	(CAT-TP-27)	All except ERE
Landfill Sites	Sampling for landfill gas for subsequent analysis by an ISO/IEC 17025 accredited laboratory	Documented In-house procedures	ERE
	Trace and bulk components by Tedlar bags: Hydrogen sulphide Carbon monoxide Methane Carbon dioxide Oxygen Nitrogen	SPTGN04 - Based on Environment Agency guidance document LFTGN04	ERE

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Landfill Sites (cont'd)	Sampling for landfill gas for subsequent analysis by an ISO/IEC 17025 accredited laboratory (cont'd)	Documented In-house procedures	ERE
	Trace and bulk components by sorbent tube: 1, 1 - dichloroethane 1, 2 - dichloroethane 1, 1 - dichloroethene 1, 2 - dichloroethene 1, 3 - butadiene 1 - butanethiol 1 - pentene 1 - propanethiol 2 - butoxyl ethanol Arsenic (as As) Benzene Butyric acid Carbon disulphide Chloroethane Chloroethene (vinyl chloride) Dichloromethane Dimethyl disulphide Dimethyl sulphide Ethanal (acetaldehyde) Ethanethiol Ethyl butyrate Furan Methanal (formaldehyde) Methanethiol Styrene Tetrachloromethane Toluene Trichloroethene Mercury (as Hg) PCDDs/PCDFs	SPTGN04 - Based on Environment Agency guidance document LFTGN04	ERE

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Biogenic Gas Samples	Sampling and subsequent analysis by an ISO/IEC 17025 accredited laboratory	Documented In-house procedures	ERE
	Siloxanes by sorbent tube (Carbon): Hexamethyldisiloxane Hexamethylcyclotrisiloxane Octamethyltrisiloxane Octamethylcyclotetrasiloxane Decamethyltetrasiloxane Decamethylcyclopentasiloxane Dodecmethylcyclohexasiloxane Dodecamethylpentasiloxane Trimethylsilanol	SPSILOX - Based on CEN TS 13649:2014	ERE
	Siloxanes by Tedlar bag: Hexamethyldisiloxane Hexamethylcyclotrisiloxane Octamethyltrisiloxane Octamethylcyclotetrasiloxane Decamethyltetrasiloxane Decamethylcyclopentasiloxane Dodecmethylcyclohexasiloxane Dodecamethylpentasiloxane Trimethylsilanol	SPSILOX – Based on LFTGN04	ERE

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, International and other recognised standards using documented In-House work instructions to meet the requirements of DD CEN/TS 15675:2007/ BS EN 15259:2007	ERE
	Speciated VOC's (carbon and other suitable tubes) (including hot wet stacks using a modified water trap method): Amines and Amides Phenols Cresols Carboxylic acids Aldehydes Formaldehyde	Based on CEN TS 13649:2014 (SP NMVOC) (Including Modified water trap method using Environment Agency Guidance LFTGN08)	ERE
Testing of Stack emissions to Atmosphere	Sampling with subsequent analysis by an ISO/IEC 17025 accredited laboratory	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 DD CEN/TS 15675:2007/ BS EN 15259:2007	ERE
	Speciated VOC's (carbon and other suitable tubes) (direct sampling of dry stacks only): Amines and Amides Phenols Cresols Carboxylic acids Aldehydes Formaldehyde	CEN TS 13649:2014 (SP13649)	ERE
	Hydrogen Sulphide (carbon tubes) (direct sampling of dry stacks only)	CEN TS 13649:2014 (SP13649-H_2S)	ERE

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 Environment Agency specified standards including MIDs and Documented In-House work instructions to meet the requirements of the Environment Agency (MCERTS) Performance Standard and DD CEN/TS 15675:2007/ BS EN 15259:2007	ERE
	Total Particulate Matter	BS EN 13284-1:2017 (SP 13284-1)	ERE
	Sulphur dioxide	BS EN 14791:2017 (SP14791)	ERE
	Ammonia	BS EN ISO 21877:2019 (SP21877)	ERE
	Hydrogen Chloride	BS EN 1911:2010 (SP1911)	ERE
	Odour (direct sampling of dry stacks and dynamic dilution sampling of hot wet stacks)	BS EN 13725:2003 (SP13725)	ERE
	Sampling and On-Site analysis		
	Water Vapour	BS EN 14790:2017 (SP14790)	ERE

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	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 DD CEN/TS 15675:2007/ BS EN 15259:2007	ERE
	Pressure, Temperature and Velocity (Point Velocity Method)	BS EN 16911-1:2013 (SP 16911 using differential pressure device (pitot tube) method)	ERE
	Carbon Monoxide*	BS EN 15058:2017 (SP15058 - NDIR analyser)	ERE
	Oxygen*	BS EN 14789:2017 (SP14789 - Validated Zirconium cell analyser) (SP14789 - Paramagnetic analyser)	ERE
	Nitrogen Monoxide (NO)*	BS EN 14792:2017 (SP14792 - Chemiluminescence analyser)	ERE
	Nitrogen Dioxide (NO_2)*	BS EN 14792:2017 (SP14792 - Chemiluminescence analyser)	ERE
	Total Gaseous Organic Carbon* (TOC/VOC) (0 - 1000 mg/m^3)	BS EN 12619:2013 (SP12619 - FID analyser)	ERE

* - 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
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	
Filters Probe rinses (nitric acid) Impinger Solutions (nitric acid/hydrogen peroxide)	Metals, specifically: Antimony Arsenic Beryllium Cadmium Caesium Chromium Cobalt Copper Gallium Iron Lead Manganese Nickel Selenium Strontium Thallium Tin Vanadium Zinc	BS EN 14385:2004 (In House Methods CAT-AP-08 and CAT-AP-09) by Microwave digestion followed by CVAFS	OS
Filters Probe rinses (nitric acid) Impinger Solutions (sulphuric acid/potassium permanganate, nitric acid/potassium dichromate)	Mercury	BS EN 13211:2001 (In House Methods CAT-AP-08 and CAT-AP-09) by Microwave digestion followed by CVAFS	OS
Filter Papers and Rinse Solutions	Weighing of Particulate Matter	BS EN 13284-1:2017 (CAT-TP-03)	OS
	Weighing of Particulate Matter <10 micron (PM_{10} and $PM_{2.5}$)	US EPA Method 201A (CAT-TP-03) BS EN ISO 23210:2009 (CAT-TP-03)	OS

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)	Chemical Testing (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 (water)	Hydrogen Chloride	BS EN 1911:2010 using Ion Chromatography analysis (CAT-AP-01)	OS
Impinger Solutions (sodium hydroxide)	Hydrogen Fluoride	BS ISO 15713:2006 (modified) using Ion Chromatography analysis (CAT-AP-01)	OS
Impinger Solutions (hydrogen peroxide)	Sulphur Dioxide	BS EN 14791:2017 using Ion Chromatography analysis (CAT-AP-01)	OS
Impinger Solutions (water)	Formaldehyde	USEPA Method 316 (in-house method CAT-AP-05) by UV/VIS Spectroscopy	OS

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)	Chemical Tests	Documented In-House Methods based on the following national, international and other recognised standards.	
Probe Rinse Samples	**Metals, specifically:** Antimony Arsenic Beryllium Cadmium Caesium Chromium Cobalt Copper Gallium Iron Lead Manganese Nickel Selenium Strontium Thallium Tin Vanadium Zinc	BS EN 14385:2004 (In House Methods CAT-AP-07 and CAT-AP-09) by Microwave Extraction using HF & HNO_3 followed by ICP-MS	OS
Filter Samples	**Metals, specifically:** Antimony Arsenic Beryllium Cadmium Caesium Chromium Cobalt Copper Gallium Iron Lead Manganese Nickel Selenium Strontium Thallium Tin Vanadium Zinc	BS EN 14385:2004 (In House Methods CAT-AP-07 and CAT-AP-09) by Microwave Extraction using HF& HNO_3 followed by ICP-MS	OS

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)	Chemical Tests (cont'd)	Documented In-House Methods based on the following national, international and other recognised standards	
Impinger Solutions / Absorption Samples	**Metals, specifically:** Antimony Arsenic Beryllium Cadmium Caesium Chromium Cobalt Copper Gallium Iron Lead Manganese Nickel Selenium Strontium Thallium Tin Vanadium Zinc	BS EN 14385:2004 (In House Method CAT-AP-07 by ICP-MS	OS
Probe Rinse Samples	Mercury	BS EN 13211:2001 by Microwave Extraction using HF & HNO_3 followed by CVAFS (In House Method CAT-AP-08)	OS
Filter Samples	Mercury	BS EN 13211:2001 by Microwave Extraction using HF & HNO_3 followed by CVAFS (In House Method CAT-AP-08)	OS
Impinger / Absorption Samples	Mercury	BS EN 13211:2001 by CVAFS (In House Method CAT-AP-08)	OS
Impinger Solutions (hydrogen peroxide)	Sulphur Dioxide	BS EN 14791:2017 using Ion Chromatography analysis (CAT-AP-01)	OS
Impinger Solutions (sodium hydroxide)	Hydrogen Fluoride	BS ISO 15713:2006 (modified) using Ion Chromatography analysis (CAT-AP-01)	OS

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)	Chemical Tests (cont'd)	Documented In-House Methods based on the following national, international and other recognised standards	
Impinger Solutions (water)	Hydrogen Chloride	BS EN 1911:2010 using Ion Chromatography analysis (CAT-AP-01)	OS
Impinger Solutions (water)	Nitrate Sulphate Fluoride	In house method using Ion Chromatography analysis (CAT-AP-01)	OS
Impinger Solutions (water)	Total Acids expressed as HCl	Stoichiometric Calculation from fluoride, sulphate, nitrate and hydrogen chloride by Ion Chromatography (CAT-AP-01)	OS
Filter Papers and Rinse Solutions	Weighing of Particulate Matter	BS EN 13284-1:2017 (CAT-TP-03)	OS
	Weighing of Particulate Matter <10 micron (PM_{10} and $PM_{2.5}$)	US EPA Method 201A (CAT-TP-03) BS EN ISO 23210:2009 (CAT-TP-03)	OS
Impinger Solutions (water)	Formaldehyde	USEPA Method 316 (in-house method CAT-AP-05) by UV/VIS Spectroscopy	OS
IOM sampling heads (including PUF plugs and 25mm GFA filters) & 25mm GFA filters	Total Particulate Matter	MDHS 14/4 (in house method CAT TP-03) by Gravimetric determination	OS
END			