

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p>Accredited to ISO/IEC 17025:2005</p>	<h3>Catalyst Environmental Limited</h3> <p>Issue No: 019 Issue date: 28 March 2012</p>	
	<p>Unit C6 Emery Court The Embankment Business Park Heaton Mersey Stockport SK4 3GL</p>	<p>Contact: Mr James Harmer Tel: +44 (0)161 432 3286 (07776 185935) Fax: +44 (0)161 432 3689 E-Mail: james.harmer@cat-env.com Website: www.cat-env.com</p>
<p>Testing performed by the Organisation at the locations specified below</p>		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
<p>Address: Unit C6 Emery Court The Embankment Business Park Heaton Mersey Stockport SK4 3GL</p> <p>Local contact Mr Alastair Wolff Tel: +44 (0)161 432 3286 +44 (0)7886 533 130 Fax: +44 (0)161 432 3689 Email: alastair.wolff@cat-env.com Website: www.cat-env.com</p>	<p>Support Functions: Quality System Quality Audit Administration</p> <p>Sampling and Testing: Stack Emissions Testing Physical Testing Environmental Chemistry</p>	CST
<p>Address: Unit 1C Langlands Square Langlands Business Park East Kilbride G75 0YY</p> <p>Local contact Mr Barry Grant Tel: +44 (0)1355 264 740 +44 (0) 7826 916 683 Fax: +44 (0)1355 249 083 Email: barry.grant@cat-env.com Website: www.cat-env.com</p>	<p>Support Functions: Administration</p> <p>Sampling and Testing: Stack Emissions Testing</p>	CEK
<p>Address: 11 Aspen Close Kembry Trade Centre Swindon SN2 8AJ</p> <p>Local contact Mr Stuart Davidson Tel: +44 (0)1793 497 902 +44 (0) 7957 554 956 Fax: +44 (0)1793 430 533 Email: stuart.davidson@cat-env.com Website: www.cat-env.com</p>	<p>Support Functions: Administration</p> <p>Sampling and Testing: Stack Emissions Testing</p>	CSW
<p>Address: Unit 18 Tallaght Business Centre Whitestown Business Park Tallaght Dublin 24</p> <p>Local contact Mr Barry Grant Tel: +353 (0) 1 458 5252 +44 (0) 7826 916 683 Fax: +353 (0) 1 458 5218 Email: barry.grant@cat-env.com Website: www.cat-env.com</p>	<p>Support Functions: Administration</p> <p>Sampling and Testing: Stack Emissions Testing</p>	CDU



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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



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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	<u>Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory</u>	National, European, International and Environment Agency specified standards including MID's 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	
	Total Particulate Matter (0 to 50 mg/m ³)	BS EN 13284-1:2002 (CAT-TP-01)	All
	Total Particulate Matter (20 to 1000 mg/m ³)	BS ISO 9096:2003 (CAT-TP-02)	All
	Particulate Matter <10 micron (PM ₁₀ and PM _{2.5})	BS EN ISO 23210:2009 (CAT-TP-18)	All
	Odour (direct sampling of dry stacks and dynamic dilution sampling of hot wet stacks)	BS EN 13725:2003 (CAT-TP-30)	All
	Hydrogen Chloride	BS EN 1911:2010 (CAT-TP-11)	All
	Hydrogen Fluoride	BS ISO 15713:2006 (CAT-TP-10)	All
	Sulphur Dioxide	BS EN 14791:2005 (CAT-TP-09)	All
	Ammonia	BS EN 14791:2005 (CAT-TP-14)	All
	Hydrogen Sulphide	US EPA Method 11 (CAT-TP-15)	All
Hydrogen Cyanide	US EPA OTM 029 (CAT-TP-12)	All	



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Testing of Stack Emissions to Atmosphere (cont'd)	<u>Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory</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 DD CEN/TS 15675:2007/ BS EN 15259:2007	
	<u>Halides and Halogens</u> Hydrogen Bromide Chlorine Bromine	US EPA Methods 26 and 26a (CAT-TP-13)	All
	Metals	BS EN 14385:2004 (CAT-TP-06)	All
	Mercury	BS EN 13211:2001 (CAT-TP-06)	All
	Dioxins and Furans	BS EN 1948-1:2006 (CAT-TP-07)	All
	Dioxin-like Polychlorinated Biphenyls (PCBs)	BS EN 1948-4:2010 (CAT-TP-07)	All
	Polycyclic Aromatic Hydrocarbons (PAHs)	BS ISO 11338-1:2003 (CAT-TP-08)	All
	Isocyanates	US EPA CTM 036 (CAT-TP-17)	All
	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	BS EN 13649:2002 (CAT-TP-16)	All



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Testing of Stack Emissions to Atmosphere (cont'd)	<u>Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory</u> (cont'd)	National, European, International and Environment Agency specified standards including MID's 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	
	Total Aldehydes and Formaldehyde	US EPA Method 316 (CAT-TP-19)	All
	Total Oxides of Nitrogen (NO, NO ₂ and nitric acid vapour)	US EPA Method 7D (CAT-TP-35)	All
	<u>Sampling and On-Site Analysis</u>		
	Water Vapour	BS EN 14790:2005 (CAT-TP-05)	All
	<u>Sampling and On-Line Analysis</u>		
	Water Vapour*	EA TGN M22 (CAT-TP-22b - Validated FTIR analyser)	All
	Pressure, Temperature and Velocity	ISO 10780:1994 BS EN 13284-1:2002 (CAT-TP-04)	All
	Ammonia*	EA TGN M22 (CAT-TP-22b - FTIR analyser)	All
Carbon Monoxide*	BS EN 15058:2006 (CAT-TP-21 - NDIR analyser) (CAT-TP-25 - NDIR analyser) EA TGN M22 (CAT-TP-22b - Validated FTIR analyser)	All	



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Testing of Stack Emissions to Atmosphere (cont'd)	<u>Sampling and On-Site Analysis</u> (cont'd)	National, European, International and Environment Agency specified standards including MID's 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	
	Carbon Dioxide*	ISO 12039:2001 (CAT-TP-21 - NDIR analyser) EA TGN M22 (CAT-TP-22b - FTIR analyser)	All
	Nitrogen Monoxide (NO)*	BS EN 14792:2005 (CAT-TP-21 - Chemiluminescent analyser) (CAT-TP-32 - Chemiluminescent analyser) EA TGN M22 (CAT-TP-22b - Validated FTIR analyser)	All
	Nitrogen Dioxide (NO ₂)*	BS EN 14792:2005 (CAT-TP-32 - Chemiluminescent analyser) EA TGN M22 (CAT-TP-22b - Validated FTIR analyser)	All
	Nitrous Oxide (N ₂ O)*	EA TGN M22 (CAT-TP-22b - FTIR analyser)	All
	Oxides of nitrogen (NO _x)*	BS EN 14792:2005 (CAT-TP-21 - Chemiluminescent analyser) (CAT-TP-32 - Chemiluminescent analyser) EA TGN M22 (CAT-TP-22b - Validated FTIR analyser)	All



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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 DD CEN/TS 15675:2007/ BS EN 15259:2007	
	Sulphur Dioxide*	EA TGN M21 (CAT-TP-21 - NDIR analyser) EA TGN M22 (CAT-TP-22b - FTIR analyser)	All
	Sulphur Trioxide*	EA TGN M22 (CAT-TP-22b - FTIR analyser)	All
	Hydrogen Chloride*	EA TGN M22 (CAT-TP-22b - Validated FTIR analyser)	All
	Hydrogen Cyanide*	EA TGN M22 (CAT-TP-22b - FTIR analyser)	All
	Hydrogen Fluoride*	EA TGN M22 (CAT-TP-22b - FTIR analyser)	All
	Oxygen*	BS EN 14789:2005 (CAT-TP-21 - Validated Zirconium cell analyser) (CAT-TP-22 - Validated Zirconium cell analyser) (CAT-TP-25 - Paramagnetic analyser) (CAT-TP-33 - Paramagnetic analyser)	All
	Total Gaseous Organic* Carbon (TOC / VOC) (20 to 500 mg/m ³)	BS EN 13526:2002 (CAT-TP-20 - FID analyser)	All
Total Gaseous Organic* Carbon (TOC / VOC) (0 to 20 mg/m ³)	BS EN 12619:1999 (CAT-TP-20 - FID Analyser)	All	



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Testing of Stack Emissions to Atmosphere (cont'd)	<u>Sampling and On-Line Analysis</u> (cont'd) 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.	National, European, International and Environment Agency specified standards including MID's 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 EA TGN M22 (CAT-TP-22b - FTIR analyser)	All
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 14181:2004, Environment Agency MID 14181 and other requirements of the Environment Agency (MCERTS) Performance Standard and DD CEN/TS 15675:2007/ BS EN 15259:2007	CSW CST CEK

* - 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.



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Testing of Stack Emissions to Atmosphere	<u>Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory</u>	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	
	Particulate Matter <10 micron (PM ₁₀ and PM _{2.5})	US EPA Method 201A (CAT-TP-26)	All
	Condensable VOC's (sector specific to DEFRA sector guidance note SG1-06 and operator permit)	Based on BS EN 14791 (CAT-TP-23)	All
	<u>Sampling and On-Line Analysis</u>		
	Water Vapour	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All
	Ammonia	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All
	Carbon Monoxide	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All
	Carbon Dioxide	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All
	Oxides of Nitrogen	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All
	Nitrous Oxide	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All
	Sulphur Dioxide	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All
	Sulphur Trioxide	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All
Hydrogen Chloride	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All	



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Testing of Stack Emissions to Atmosphere (cont'd)	<u>Sampling and On-Line Analysis</u> (cont'd)	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	
	Hydrogen Cyanide	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All
	Hydrogen Fluoride	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All
	Halides and Halogens Speciated VOCs Other inorganic gases	ASTM D-6348-03 (CAT-TP-22 - FTIR analyser)	All
	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.		
	Carbon Monoxide	ISO 12039:2001 (CAT-TP-28 - Electrochemical cell analyser)	All
	Oxygen	ISO 12039:2001 (CAT-TP-28 - Electrochemical cell analyser)	All
	Carbon Dioxide	ISO 12039:2001 (CAT-TP-28 - Electrochemical cell analyser)	All
	Oxides of Nitrogen	ISO 10849:1996 (CAT-TP-28 - Electrochemical cell analyser)	All
Sulphur Dioxide	ISO 7935:1992 (BS 6069-4.4:1993 (CAT-TP-28 - Electrochemical cell analyser)	All	



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LANDFILL SITES	<u>Sampling of Landfill Gas for Subsequent Analysis by an ISO/IEC 17025 Accredited Laboratory</u> Trace Components by Sorbent Tubes: Priority Trace Components: 1,1-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) Dimethyl Disulphide Dimethyl Sulphide Ethanal (Acetaldehyde) Ethanethiol Ethyl Butyrate Furan (1,4-Epoxy-1,3-Butadiene) Methanal (Formaldehyde) Tetrachloromethane Trichloroethene	Documented In-House Procedures Based on Environment Agency guidance document LFTGN04 Based on BS EN 13649 (CAT-TP-16)	All
	Trace Components by Sorbent Tubes: Additional Components: 1,2-Dichloroethane 1,1,2,2-Tetrachloroethane Dichloromethane Tetrachloroethene Toluene Trimethylbenzene Mercury (as Hg)	Based on BS EN 13649 (CAT-TP-16)	



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LANDFILL SITES (cont'd)	<u>Sampling of Landfill Gas for Subsequent Analysis by an ISO/IEC 17025 Accredited Laboratory (cont'd)</u>	Documented In-House Procedures Based on Environment Agency guidance document LFTGN04	
	Trace and Bulk Components by Tedlar Bags: Priority Trace Components: Hydrogen Sulphide	CAT-TP-27	All
	Trace and Bulk Components By Tedlar Bags: Additional Components Carbon Monoxide Carbon Dioxide Oxygen Methane Nitrogen	CAT-TP-27	All
ATMOSPHERIC POLLUTANTS AND EFFLUENTS – STACK GAS SAMPLES	<u>Chemical Tests</u>	Documented In-House Methods based on the following national, international and other recognised standards.	
Impinger Solutions (hydrogen peroxide)	Sulphur Dioxide	BS EN 14791:2005 using Ion Chromatography analysis (CAT-AP-01)	CST
Impinger Solutions (sodium hydroxide)	Hydrogen Fluoride	BS ISO 15713:2006 (modified) using Ion Chromatography analysis (CAT-AP-01)	CST
Impinger Solutions (water)	Hydrogen Chloride	BS EN 1911:2010 using Ion Chromatography analysis (CAT-AP-01)	CST
Impinger Solutions (water)	Nitrate Sulphate Phosphate Bromide Fluoride	In house method using Ion Chromatography analysis (CAT-AP-01)	CST



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ATMOSPHERIC POLLUTANTS AND EFFLUENTS – STACK GAS SAMPLES (cont'd)	<u>Physical Testing</u>	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 13284-1:2002 BS ISO 9096:2003 (CAT-TP-03)	CST
	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)	CST
END			