Irish National Accreditation Board

Accreditation Certificate

TMS Environment Ltd

53 Broomhill Drive, Tallaght, Dublin 24

Testing Laboratory

Registration number: 150T

is accredited by the Irish National Accreditation Board (INAB) to undertake testing as detailed in the Schedule bearing the Registration Number detailed above, in compliance with the International Standard **ISO/IEC 17025:2005 2nd Edition** *"General Requirements for the Competence of Testing and Calibration Laboratories"* ***(This Certificate must be read in conjunction with the Annexed Schedule of Accreditation)***

Date of award of accreditation: **16:02:2004**
Date of last renewal of accreditation: **11:02:2014**
Expiry date of this certificate of accreditation: **11:02:2019**

This Accreditation shall remain in force until further notice subject to continuing compliance with INAB accreditation criteria, ISO/IEC 17025 and any further requirements specified by the Irish National Accreditation Board.

Manager: _____ Chairperson: _____

Dr Adrienne Duff Mr Tom O'Neill

Issued on 11 February 2014

Organisations are subject to annual surveillance and are re-assessed every five years. The renewal date on this Certificate confirms the latest date of renewal of accreditation. To confirm the validity of this Certificate, please contact the Irish National Accreditation Board.
The INAB is a signatory of the European co-operation for Accreditation (EA) Testing Multilateral Agreement (MLA) and the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement.

Metropolitan Building, James Joyce Street, Dublin 1, Ireland. Tel +353 1 6147000 E-mail inab@inab.ie Web www.inab.ie

Schedule of Accreditation

(Annex to Accreditation Certificate)

Permanent Laboratory:

Category A

TMS ENVIRONMENT LTD

Chemical Testing Laboratory

Initial Registration Date :	**16-February-2004**
Postal Address:	53 Broomhill Drive
(Address of other locations	Tallaght
as they apply)	Dublin 24
Telephone:	+353 (0)1 4626710
Fax:	+353 (0)1 4626714
E-mail:	mbrady@tmsenv.ie
Contact Name:	Marian Brady
Facilities:	Public testing service

Schedule of Accreditation

Permanent Laboratory:
Category A

THE IRISH NATIONAL ACCREDITATION BOARD (INAB) is the Irish body for the accreditation of organisations including laboratories.

Laboratory accreditation is available to testing and calibration facilities operated by manufacturing organisations, government departments, educational institutions and commercial testing/calibration services. Indeed, any organisation involved in testing, measurement or calibration in any area of technology can seek accreditation for the work it is undertaking.

Each accredited laboratory has been assessed by skilled specialist assessors and found to meet criteria which are in compliance with ISO/IEC 17025 or ISO/IEC 15189 (medical laboratories). Frequent audits, together with periodic inter-laboratory test programmes, ensure that these standards of operation are maintained.

Testing and Calibration Categories:

Category A: Permanent laboratory calibration and testing where the laboratory is erected on a fixed location for a period expected to be greater than three years.

Category B: Site calibration and testing that is performed by staff sent out on site by a permanent laboratory that is accredited by the Irish National Accreditation Board.

Category C: Site calibration and testing that is performed in a site/mobile laboratory or by staff sent out by such a laboratory, the operation of which is the responsibility of a permanent laboratory accredited by the Irish National Accreditation Board.

Category D: Site calibration and testing that is performed on site by individuals and organisations that do not have a permanent calibration/testing laboratory. Testing may be performed using

(a) portable test equipment

(b) a site laboratory

(c) a mobile laboratory or

(d) equipment from a mobile or site laboratory

Standard Specification or Test Procedure Used:

The standard specification or test procedure that is accredited is the issue that is current on the date of the most recent visit, unless otherwise stated.

Glossary of Terms

Facilities:

Public calibration/testing service: Commercial operations which actively seek work from others.

Conditionally available for public calibration/testing: Established for another primary purpose but, more commonly than not, is available for outside work.

Normally not available for public calibration/testing: Unavailable for public calibration/testing more often than not.

Laboratory users wishing to obtain assurance that calibration or test results are reliable and carried out to the Irish National Accreditation Board criteria should insist on receiving an accredited calibration certificate or test report. Users should contact the laboratory directly to ensure that this scope of accreditation is current. INAB will, on request, verify the status and scope.

Scope of Accreditation

TMS Environment Ltd

Permanent Laboratory:

Category A

Chemical Testing Laboratory

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766	**Waters**		Documented In-house methods based on APHA "Standard Methods for the Examination of Water & Wastewater" (22nd Ed 2012):
.01	Waters for potable and domestic purposes		
.03	Waters for industrial and steam raising purposes	Alkalinity (1.0 mg/LCaC03 to 3,000 mg/L CaC03)	QP-CHEM-2012 Based on APHA 2320B (Potentiometric titration)
.07	Bore waters		
.99	Other waters *Surface waters*	Turbidity (0.02 NTU to 1,000 NTU)	QP-CHEM-2014 Based on APHA 2130B (Turbidity meter)
		Colour (1-50 mg Cl/L)	QP-CHEM-2035 Based on APHA 4500-CL B (Titration)
		Flouride (0.02 - 100 mg/L)	QP-CHEM-2036 Based on APHA 4500-C (Ion Selective electrode)

Scope of Accreditation

TMS Environment Ltd

Permanent Laboratory:

Category A

Chemical Testing Laboratory

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766	**Waters**		Documented In-house methods based on APHA "Standard Methods for the Examination of Water & Waste Water" (2012):
.01	Waters for potable and domestic purposes		
.03	Waters for industrial and steam raising purposes	COD (5- 1500mg O2/L for clean matrices, 5-150, 000 mg O2/L for others)	QP-CHEM-2065 Based on APHA 5220 (Spectophotometry)
.04	Sewage	Chloride (1-20,000 mg CI/L)	QP-CHEM-2035 Based on APHA 4500-CL B (Titration)
.05	Trade wastes	Conductivity	QP-CHEM-2008 based on
.07	Bore waters	(100 µS/cm - 12,880 µS/cm)	APHA 2510B
.99	Other Waters *Surface waters* *Leachate*	pH 2-12 pH units	QP-CHEM-2007 based on APHA 4500
		Sulphate (2-1000mg/L - clean; 2-2000mg/L for others)	QP-CHEM-2050 based on Apha 4500E (Turbidimetry)
		Ammonia (0.02-100mg/L for clean; 0.5-1000mg/L for others)	QP-CHEM-2039 based on APHA 4500D (ISE)
		Suspended solids 3-200mg/L for clean matrices, 3-8000 mg/L for others	QP-CHEM-2002 based on APHA 2540 Gravimetric
766	**Waters**		QP-Site 6001, 6002 ISO5667-3:2012 ISO5667-4:1987 ISO5667-6:2005
.71	Sampling of waters	Water sampling of lakes, Rivers, Streams, Purged well. (subsequent analysis by ISO 17025 accredited Laboratory)	

Scope of Accreditation

TMS Environment Ltd

Permanent Laboratory:

Category A

Chemical Testing Laboratory

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
		Sampling waters for potable and domestic purposes with subsequent analysis by an accredited lab	QP-site-6003 based on ISO5667-5 2006
766	**Waters**	On site measurement of:	
.01	Waters for potable and domestic purposes	Temperature Range 0-40C	QP-Meas-2010 and 2011
.99	Other Waters *Lakes* *Rivers* *Stream* *Purged wells*	Dissolved oxygen Range .01 – 20 mg/l O2 Range 0.01 – 200 %O2	QP-MEAS-2019
		Electrical conductivity Range 0.01 – 100 mS/cm	QP-MEAS-2009
		pH Range 2-12pH	QP-Meas-2010 and 2011

Scope of Accreditation

TMS Environment Ltd

Permanent Laboratory:

Category D

Stack Emission Testing Laboratory

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used	Laboratory Category (A, B, C, D)
716 .01 **Fuels** Gaseous fuels	Determination of odourants in Natural gas samples Dimethyl Sulphide 0.08 – 10 mg/m^3 t-butyl mercaptan 0.23-10 mg/m3	Gas Chromatography QP-CHEM-2080 based on standard test method ASTM D5505-12 and ASTM D6228-10	A
770 .04 **Gases and Aerosols** Industrial Fuels and Emissions Sampling and on site analysis	Total particulate matter 0.1 to 50mg/m^3 20 to 1000mg/m^3	EN 13284-1:2002 and ISO 9096:2003, Isokinetic monitoring QP-SITE-2010	D
	Oxygen 0.1 – 25%	EN 14789:2005 using an Electrochemical cell analyser.	D
	Oxides of Nitrogen (2.1-2, 050 mg/m-^{3})	IS EN 14792:2005 and CEN/TS 14793:2005 QP-SITE-2009 using an electrochemical cell analyser	D
	Total Gaseous Organic carbon (0.2 – 1600 mg/m-^{3})	EN12619:2013 using flame ionisation detector, QP-site-2025	D

Scope of Accreditation

TMS Environment Ltd

Permanent Laboratory:

Category A

Chemical Testing Laboratory

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used	
.71 Sampling	Dioxin and Furans (with subsequent analysis by ISO 17025 accredited Laboratory) Range 0.007 ng/m^3 to 10ng / m^3	EN 1948-1:2006, Isokinetic monitoring, QP-SITE-2012	D
.71 Sampling	Sulphur Dioxide (SO_2) (with subsequent analysis by ISO accredited Laboratory) 0.08mg/m3 t0 2,000mg/m3 SO_2	EN 14791:2005, extraction and absorption, QP-SITE-2026	D
	Chlorides expressed as HCL 0.1-5000 mg/m^3	EN1911:2010 QP-site-2014	D
	Metals 0.005-0.5 mg/m^3 (With subsequent analysis by ISO accredited laboratory) (Pb, Ni, Zn, Mn, Cd, Tl, Hg, As, Sb, Pb, Cr, Co, Cu, Mn, Ni, V, Sn, Pb, Zn, Cd)	EN 14385:2014 and US EPA Method 29 QP-site-2017	D
	Mercury 0.001-0.5 mg/m^3 (With subsequent analysis by ISO accredited laboratory)	EN 13211:2001, QP-site-2023	D
	Speciated Organic Carbon 0.5-2000mg/m^3 (With subsequent analysis by ISO accredited laboratory)	EN 13649:2002 QP-site-2016	D

Scope of Accreditation

TMS Environment Ltd

Permanent Laboratory:

Category A

Chemical Testing Laboratory

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used	
.71	Sampling	Ammonia 0.5-2000 mg/m3	EN 14791:2005, QP-SITE-2013	D
		Hydrogen Flouride 0.1-200 mg/m3	EN15713, QP-site-2015	
		Particulate matter size fraction (PM 2.5 and PM10) 1-50mg/m3)	IS EN 23210, QP-site-2028	D
770	**Gases and Aerosols**			
.04	Industrial Fuels and Emissions	Velocity 2.8-25m/sec	EN16911-1:2013, Direct Measurement, QP-SITE-2006	D
		Velocity 0.13-40m/sec	EN16911-1-2013 Manometer with L-type pitot tube, QP-site-2027	D
		Moisture/water vapour 2% - 40%	EN 14790:2005, Extraction with gravimetric measurement, QP-SITE-2020	D
		Temperature 0-1200 C	EN 13284-1:2002 and ISO9096:2003, Direct measurement, QP-SITE-2006	D

Scope of Accreditation

TMS Environment Ltd

Permanent Laboratory:

Category A

Chemical Testing Laboratory

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used	
797	**Miscellaneous Materials and Products**	Weighing of Particulate matter – Filters 0.1 – 1,000mg	EN 13284-1:2002 and ISO 9096:2003, Gravimetric analysis, QP-CHEM-2105	A
.12	Physical Tests	Weighing of particulate matter – Inhalable Dust (0.01-200 mg) Respirable dust (0.01- 200 mg)	QP-CHEM-2055 based on methods for the determination of hazardous substances 14/4	A