

Accreditation Certificate

Environmental Laboratory Services Ltd

Acorn Business Campus, Mahon Industrial Park, Blackrock, Cork

Chemical Testing Laboratory

Registration number: 111T

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: 21:01:2003

Date of last renewal of accreditation: 09:11:2007

Expiry date of this certificate of accreditation: 09:11:2012

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: Tom Dempsey

Mr Tom Dempsey

Chairperson: Maire Walsh

Dr Máire Walsh

Issued on 09 November 2007

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.

Schedule of Accreditation

(Annex to Accreditation Certificate)



Permanent Laboratory:
Category A

ENVIRONMENTAL LABORATORY SERVICES LTD

Chemical Testing Laboratory

Initial Registration Date : 9-December-1999
Postal Address: Acorn Business Campus
(Address of other locations as they apply) Mahon Industrial Park
Blackrock
Cork
Telephone: +353 (0) 214536141
Fax: +353 (0) 214536149
E-mail:
Contact Name: Mr Brendan Murray
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



Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:
Category A

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 method based on:
.01 Waters for potable and domestic purposes	COD 8-1500 mg/l	APHA 5220D (2005) closed Reflux Colorimetric. EW094
.99 Other waters	pH 4-10 pH units	USEPA 150.1 (1982) pH Titralab Electrometric Measurement. EW138
<i>Ground water</i>	Orthophosphate 0.009-1.0 mg/l P	USEPA 365.1 (1983) Phosphate by Autoanalyser Spectrophotometry. EW154
<i>Surface water</i>	Ammonia /Ammonium 0.007 - 1mg/l N	APHA 4500NH3G (2005) Ammonia by Autoanalyser Spectrophotometry EW154
<i>Waste water</i>	Chloride 2.7-250 mg/l Cl	HMSO (1981) Chloride by Autoanalyser Spectrophotometry. EW154
	Nitrate 0.12-50 mg/l N	USEPA, 353.1 (1983) Nitrate by Autoanalyser Spectrophotometry. EW154
	Nitrite 0.013-1 mg/l N	USEPA 353.1 (1983) Nitrite by Autoanalyser Spectrophotometry. EW154

Scope of Accreditation



Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:
Category A

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 method based on:
.01 Water for potable and domestic purposes	Total Hardness 3-330 mg/l CaCO ₃	APHA 2340B (2005) Determination of Total Hardness. EW099
.99 Other waters <i>Ground water</i> <i>Surface water</i>	Suspended Solids 5-1000 mg/l	APHA 2540D (2005) Suspended Solids by Gravimetric Analysis. EW013
	Total Dissolved Solids 15-1000 mg/l	APHA 2540C (2005) Total Dissolved Solids at 180C. EW046
	Total Oxidised Nitrogen 0.2 to 51 mg/l N	USEPA 353.1 (1983) Total Oxidised Nitrogen by Calculation. EW051
	Colour 2.5-50mg/l Pt/Co	APHA 2120C (2005) Colour by Autoanalyser Spectrophotometry. EW154
	Conductivity 25 - 6000 µS/cm	APHA Method 2510B (2005) Conductivity Titralab. EW139
	Sulphate 1 to 250mg/l SO ₄	HMSO (1981) Sulphate by Autoanalyser Spectrometry. EW154

Scope of Accreditation



Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:
Category A

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 <i>Waters</i>		Documented in-house method based on:
.01 <i>Water for potable and domestic purposes</i>	Dissolved Oxygen 1 to 10 mg/l	APHA 4500G (2005) Dissolved Oxygen Measurement. EW043
.99 <i>Other waters</i>	Bromate 1 to 50µg/l BrO_3	USEPA 326.0 (2002) Ion Chromatography. EW137
<i>Ground water</i>	Turbidity 0.11-150 NTU	ISO 7027:1999 EW136
<i>Surface water</i>	Total Kejedahal Nitrogen 1.0 to 49 mg/L	Nitrogen by calculation EW010

Scope of Accreditation



Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:
Category A

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 method based on:
.01 Water for potable and domestic purposes	TOC 0.25-100 mg/L	USEPA Method 415.3 (2003) Total Organic Carbon by Combustion Oxidation. EW 123
.99 Other waters		
<i>Ground water</i>	Flouride 0.1 - 2 mg/L	USEPA Method 300.1 (1997) Flouride by IC. EW 137
<i>Surface water</i>		
<i>Wastewater</i>	BOD 1-1300 mg/L	APHA 5210B (2005) Biological Oxygen Demand 5 day test. EW001.
	Alkalinity 10-1000 mg/L CaCO ₃	APHA 2320 (2005) Total Alkalinity by Titralab Measurement. EW062
	Total Nitrogen 1-100 mg/L N	APHA 4500NB (2005) by TN Analyser. EW140
	Total Phosphorus 0.01-40 mg/L P	APHA 4500 PJ (2005) Total Phosphorus by Ganimedede. EW 146.

Scope of Accreditation



Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:
Category A

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 method based on:
.01 Waters for potable and domestic purposes	Aluminium 5.0-500 µg/l Antimony 0.1-10 µg/l Arsenic 0.2-20 µg/l	USEPA Method 200.8 (1999) Metals by ICP-MS. EW 130
.99 Other waters <i>Ground water</i> <i>Surface water</i>	Boron 0.02-2 mg/l Cadmium 0.1-10 µg/l Chromium 1.0-100 µg/l Copper 3-4000 µg/l Iron 20.0-500 µg/l Lead 0.3-30 µg/l Manganese 1.0-100 µg/l Mercury 0.02-2µg/l Nickel 0.5-50 µg/l Selenium 0.2-20 µg/l Sodium 0.5-50mg/l Barium 1.0-100 µg/l Calcium 1.0-100mg/l Cobalt 1.0-100 µg/l Magnesium 0.3-20mg/l Molybdenum 1.0-100 µg/l Potassium 0.2-20mg/l Strontium 1.0-100 µg/l Tin 1.0-100 µg/l Vanadium 1.0-100 µg/l Zinc 1.0-100 µg/l	

Scope of Accreditation



Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:
Category A

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters	Benzene 0.1-35 µg/l	Documented in-house method based on: USEPA Method 524.2 (1992) Determination of volatile organic carbons in water by purge and trap GC/MS. EO 025
.01 Waters for potable and domestic purposes	1,2-Dichloroethane 0.1-35 µg/l	
.99 Other waters <i>Ground water</i> <i>Surface water</i>	Tetrachloroethene 0.1-35 µg/l	
	Trichloroethene 0.1-35 µg/l	
	Chloroform 1.0-150 µg/l	
	Bromoform 1.0-35 µg/l	
	Dibromochloromethane 1.0-35 µg/l	
	Bromodichloromethane 2.0-35 µg/l	
	Bromomethane 0.5-35 µg/l	
	Ethyl Ether/Diethyl Ether 0.5-35 µg/l	
	1,1-Dichloroethene 0.5-35 µg/l	
	Iodomethane/Methyl Iodide 0.5-35 µg/l	
	Carbon Disulphide 0.5-35 µg/l	
	Allyl Chloride 0.5-35 µg/l	
	Methylene Chloride/DCM 5.0-35 µg/l	
	2-Propenenitrile/Acrylonitrile 2.0-35 µg/l	
	Chloromethyl	
	Cyanide/Chloroacetonitrile 0.5-35 µg/l	
	Hexachlorobutadiene 0.5-35 µg/l	
	Trans-1,2 Dichloroethene 0.5-35 µg/l	
MtBE 0.5-35 µg/l		
1,1-Dichloroethane 0.5-35 µg/l		
2,2-Dichloropropane 0.5-35 µg/l		
Cis-1,2 Dichloroethene 0.5-35 µg/l		
Methyl Acrylate 5.0-35 µg/l		
Bromochloromethane 0.5-35 µg/l		

Scope of Accreditation



Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:
Category A

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 method based on:
.01 Waters for potable and domestic purposes	Tetrahydrofuran 5.0-35 µg/l 111 Trichloroethane 0.5-35µg/l 1-Chlorobutane 0.5-35 µg/l	USEPA Method 524.2 (1992) Determination of volatile organic carbons in water by
.99 Other waters	Carbon Tetrachloride 0.5-35 µg/l 11 Dichloropropene 0.5-35 µg/l 12 Dichloropropane 0.5-35 µg/l Dibromomethane 0.5-35 µg/l Methyl Methacrylate 0.5-35 µg/l 13 Dichloropropene, cis 2.0-35 µg/l MIBK/4 Methyl 2 Pentanone 2.0-35 µg/l Toluene 0.5-35 µg/l 13 Dichloropropene, trans 2.0-35 µg/l Ethyl Methacrylate 2.0-35 µg/l 112 Trichloroethane 0.5-35 µg/l 13 Dichloropropane 0.5-35 µg/l 2 Hexanone 1.0-35 µg/l 12 Dibromoethane 0.5-35 µg/l Chlorobenzene 0.5-35 µg/l 1112 Tetrachloroethane 2.0-35 µg/l Ethyl Benzene 0.5-35 µg/l m & p Xylene 0.5-35 µg/l O Xylene 0.5-35 µg/l Stryene 2.0-35 µg/l Isopropyl Benzene 0.5-35 µg/l Bromobenzene 0.5-35 µg/l 1122 Tetrachloroethane 0.5-35 µg/l	purge and trap GC/MS. EO 025.
<i>Ground Water</i> <i>Surface Water</i>		

Scope of Accreditation



Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:
Category A

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 Method based on: USEPA Method 524.2 (1992) Determination of volatile organic carbons in water by purge and trap GC/MS. EO 025.	
.01	Water for potable and domestic purposes	123 Trichloropropane	2.0-35 µg/l		
		Propyl Benzene	0.5-35 µg/l		
		2-Chlorotoluene	0.5-35 µg/l		
.99	Other waters	4 Chlorotoluene	0.5-35 µg/l		
	<i>Ground water</i>	135 Trimethylbenzene	0.5-35 µg/l		
	<i>Surface water</i>	Tert Butyl Benzene	0.5-35 µg/l		
		124 Trimethylbenzene	0.5-35 µg/l		
		Sec Butyl Benzene	0.5-35 µg/l		
		13 Dichlorobenzene	0.5-35 µg/l		
		P Isopropyltoluene	0.5-35 µg/l		
		14 Dichlorobenzene	0.5-35 µg/l		
		12 Dichlorobenzene	0.5-35 µg/l		
		N Butyl Benzene	0.5-35 µg/l		
		Hexachloroethane	5.0-35 µg/l		
		12 Dibromo 3 Chloropropane	2.0-35 µg/l		
		124 Trichlorobenzene	0.5-35 µg/l		
		123 Trichlorobenzene	0.5-35 µg/l		
766	Waters	PAH	Range		Documented In-house method based on: USEPA Method 525.2 (1994) Determination of Pesticides/PAH's by Solid Phase Extraction, GC-MS Detection. EO 129.
.01	Water for potable and domestic purposes	Acenaphthene	0.01to .2 µg/l		
		Benzo (a) Anthracene	0.01 to .2 µg/l		
		Benzo (a) Pyrene	0.01 to .2 µg/l		
.99	Other waters	Benzo (b) Fluoranthene	0.01 to .2 µg/l		
	<i>Ground water</i>	Benzo (ghi) Perylene	0.01 to .2 µg/l		
	<i>Surface water</i>	Benzo (k) Fluoranthene	0.01 to .2µg/l		
		Chrysene	0.01 to .2 µg/l		
		Dibenzo (ah) Anthracene	0.01 to .2 µg/l		
		Fluoranthene	0.01 to .2 µg/		

Scope of Accreditation



Environmental Laboratory Services Ltd Chemical Testing Laboratory

Permanent Laboratory:
Category A

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement		Standard specifications Equipment/techniques used
766	Waters	Organochlorine	Range	Documented In-house method based on: USEPA Method 525.2 (1994) Determination of Pesticides/PAH's by Solid Phase Extraction, GC-MS Detection. EO 129.
.01	Water for potable and domestic purposes	Pesticides		
		Endrin OC	0.01 to .2 µg/l	
		Heptachlor Epoxide OC	0.01 to .2 µg/l	
		Heptachlor OC	0.01 to .2 µg/l	
.99	Other waters	Lindane OC	0.01 to .2 µg/l	
	<i>Ground water</i> <i>Surface water</i>	P,P'DDE OC	0.01 to .2 µg/l	
		P,P'DDD OC	0.01 to .2 µg/l	
		P,P'DDT OC	0.01 to .2 µg/l	