


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

 <p style="text-align: center;"><b>Accredited to ISO/IEC 17025:2005</b></p>	<b>Marine Scotland - Science</b>	
	<b>Issue No: 022</b> <b>Issue date: 14 February 2011</b>	
<b>Scottish Government Marine Laboratory PO Box 101 375 Victoria Road Aberdeen AB11 9DB</b>	<b>Contact: Mr G Grewar Tel: +44 (0)1224 876544 Fax: +44 (0)1224 295511 E-Mail: g.grewar@marlab.ac.uk Website: www.scotland.gov.uk/marinescotland</b>	

**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		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"><b>Address</b> Scottish Government Marine Laboratory PO Box 101 375 Victoria Road Aberdeen AB11 9DB</td> <td style="width: 50%;"><b>Local contact</b> Mr G Grewar</td> </tr> </table>	<b>Address</b> Scottish Government Marine Laboratory PO Box 101 375 Victoria Road Aberdeen AB11 9DB	<b>Local contact</b> Mr G Grewar	Environmental testing - biota, sediments, natural and saline waters - Chemical, microbiological Fish and Shellfish health testing - Microbiological, virological, Molecular Biological Food (shellfish) testing - microbiological	A
<b>Address</b> Scottish Government Marine Laboratory PO Box 101 375 Victoria Road Aberdeen AB11 9DB	<b>Local contact</b> Mr G Grewar			

#### Site activities performed away from the locations listed above:

Location details	Activity	Location code		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Scottish Government Freshwater Laboratory Faskally Pitlochry PH16 5LB</td> <td style="width: 50%;">Alistair McCartney  Tel: +44 (0)1796 472060</td> </tr> </table>	Scottish Government Freshwater Laboratory Faskally Pitlochry PH16 5LB	Alistair McCartney  Tel: +44 (0)1796 472060	Environmental testing - natural waters - Chemical	B
Scottish Government Freshwater Laboratory Faskally Pitlochry PH16 5LB	Alistair McCartney  Tel: +44 (0)1796 472060			
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Scottish Government Marine Laboratory PO Box 101 375 Victoria Road Aberdeen AB11 9DB</td> <td style="width: 50%;">Mr G Grewar</td> </tr> </table>	Scottish Government Marine Laboratory PO Box 101 375 Victoria Road Aberdeen AB11 9DB	Mr G Grewar	Chemical testing of biota and marine and estuarine waters [G1]	C
Scottish Government Marine Laboratory PO Box 101 375 Victoria Road Aberdeen AB11 9DB	Mr G Grewar			



1964

Accredited to  
ISO/IEC 17025:2005

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**

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

**Marine Scotland - Science**

**Issue No: 022 Issue date: 14 February 2011**

Testing performed by the Organisation at the locations specified

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
NATURAL WATERS	<u>Chemical Tests</u>	Documented In-House Procedures	
	Anions: Chloride Nitrate Nitrite Sulphate	MFL100 by ion chromatography	B
	Cations: Ammonium Calcium Magnesium Potassium Sodium		
	Conductivity at 25 °C	MFL050 by Conductivity meter	B
	Orthophosphate	MFL210 by UV-VIS Spectrophotometry	B
	Silica	MFL200 by UV-VIS Spectrophotometry	B
	Alkalinity	MFL045 by titrimetry	B
	pH	MFL040 by pH meter	B
	Monomeric Aluminium	MFL300 by UV-VIS Spectrophotometry	B
	Total Phosphate Total Nitrogen DOC Nitrate	MFL400 by Skalar	B
SALINE WATERS	<u>Chemical Tests and Physical Tests</u>	Documented In-House Procedures	
Marine and Estuarine Waters	Dissolved Oxygen	M820 by Winkler Titration	A, C
	Nitrite	M700 using Bran and Luebbe AA3 or QuAAtro Auto-analyser	A, C
	Oxidised Nitrogen (Nitrate + Nitrite)	-	A, C



1964

Accredited to  
ISO/IEC 17025:2005

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

**Marine Scotland - Science**

**Issue No: 022 Issue date: 14 February 2011**

**Testing performed by the Organisation at the locations specified**

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SALINE WATERS (cont'd)	<u>Chemical Tests and Physical Tests</u> (cont'd)	Documented In-House Procedures	
Marine and Estuarine Waters (cont'd)	Orthophosphate	-	A, C
	Silicate	-	A, C
Marine phytoplankton	Chlorophyll	M3000 by Fluorometry	A
	Quantification of Chlorophyll a and B and identification of other pigments	M3100 by HPLC	A
Fish muscle, fish liver and shellfish, sediment	<u>Chemical Tests</u>	Documented In-house Procedures	
	PBDEs: PBDE-28 PBDE-47 PBDE-66 PBDE-100 PBDE-99 PBDE-85 PBDE154 PBDE-153 PBDE-183 PBDE-209	M2900 by GC-MSD	A
SEDIMENTS and BIOTA (Fish and Shellfish tissues)	<u>Chemical Tests and Physical Tests</u>		
Fish liver and shellfish	Polycyclic Aromatic Hydrocarbons (PAHs): C1-252 Indenopyrene Benzoperylene Acenaphthylene Acenaphthene Fluorene Dibenz[ <i>a,h</i> ]anthracene Naphthalene 2-Methylnaphthalene 1-Methylnaphthalene C2-Naphthalene C3-Naphthalene C4-Naphthalene Phenanthrene Anthracene	M680 and M690 by GC-MSD	A



1964

Accredited to  
ISO/IEC 17025:2005

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

**Marine Scotland - Science**  
**Issue No: 022 Issue date: 14 February 2011**

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SEDIMENTS and BIOTA (Fish and Shellfish tissues) (cont'd)	<u>Chemical Tests and Physical Tests</u>		
Fish liver and shellfish (cont'd)	Polycyclic Aromatic Hydrocarbons (PAHs): (cont'd)  C1-178 C2-178 C3-178 Dibenzothiophene Fluoranthene Pyrene C1-202 C2-202 Benzo[c]phenanthrene Benz[a]anthracene Chrysene C1-228 C2-228 Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[e]pyrene Benzo[a]pyrene Perylene	M680 and M690 by GC-MSD	A
SEDIMENTS	<u>Chemical Tests</u>		
	Total/Organic Carbon/Total Nitrogen	M860 by Thermoquest Flash EA 1112, Elemental Analyser	A
	Metals: Aluminium Arsenic Cadmium Chromium Copper Iron Lead Lithium Manganese Nickel Zinc	M811 by HF Digest then Perkin Elmer ELAN 6100 ICP-MS	A



1964  
Accredited to  
ISO/IEC 17025:2005

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

**Marine Scotland - Science**  
**Issue No: 022 Issue date: 14 February 2011**

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SEDIMENTS (cont'd)	<u>Chemical Tests</u> (cont'd)		
	Arsenic Cadmium Chromium Copper Lead Mercury Nickel Zinc	M812 by Nitric Acid then Perkin Elmer ELAN 6100 ICP-MS	A
	Mercury	M0815 by HF digest then CV-AFS	A
	Organotins: Dibutyltin Tributyltin	M0806 by GC-MS	A
	<u>Physical Tests</u>	Documented In-house Procedures	
	Particle Size Distribution: > 500 µm fraction	M855 - by Sieving	A
	Particle Size Distribution	M840 - Automated/Manual by Malvern Mastersizer Granulometer	A
BIOTA (fish & shellfish tissues)	<u>Chemical Tests and Physical Tests</u>		
Fish muscle	Determination of Non-Ortho Substituted Chlorobiphenyls: CB77 CB126 CB 169	M0650 by GC-MSD	A
BIOTA (Fish liver, shellfish) and SEDIMENT	Chlorobiphenyls: CB 28 CB 31 CB 52 CB 49 CB 44 CB 74 CB 70 CB 101 CB 99 CB 97 CB 110	M0645 by GC- ASE Extraction	A



1964

Accredited to  
ISO/IEC 17025:2005

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

**Marine Scotland - Science**  
**Issue No: 022 Issue date: 14 February 2011**

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
BIOTA (Fish liver, shellfish) and SEDIMENT	<u>Chemical Tests and Physical Tests (cont'd)</u>  Chlorobiphenyls: (cont'd)  CB 149 CB 118 CB 153 CB 132 CB 105 CB 137 CB 138 CB 158 CB 187 CB 183 CB 128 CB 156 CB 157 CB 180 CB 170 CB 189 CB 194 CB 209	M0645 by GC- ASE Extraction	A
FISH MUSCLE AND SEDIMENT	Ortho Chlorobiphenyls: CB 28 CB 31 CB 52 CB 49 CB 44 CB 74 CB 70 CB 101 CB 99 CB 97 CB 110 CB 149 CB 118 CB 153 CB 132 CB 105 CB 137 CB 138 CB 158 CB 187 CB 183 CB 128	M0642 by GC-MDS following ASE Extraction	



1964

Accredited to  
ISO/IEC 17025:2005

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**

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

**Marine Scotland - Science**

**Issue No: 022 Issue date: 14 February 2011**

**Testing performed by the Organisation at the locations specified**

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FISH MUSCLE AND SEDIMENT (cont'd)	<u>Chemical Tests and Physical Tests</u> (cont'd)		
	Ortho Chlorobiphenyls: (cont'd)	M0642 by GC-MDS following ASE Extraction	
	CB 156 CB 157 CB 180 CB 170 CB 189 CB 194 CB 209		
Fish muscle, fish liver and shellfish	Arsenic Cadmium Chromium Cobalt Copper Lead Manganese Mercury Nickel Selenium Zinc	M816 by nitric acid then Perkin Elmer ELAN 6100 ICP-MS	A
Fish and Shellfish	Total Lipid Content	M0890 by modified SMEDEs method	A
	Assessment of petrogenic taint in fish and shellfish	M2610 by Scalar method using Taste Panel	A
	EROD assay	M2400 by spectrophotometer	A
BIOTA (Water and Phytoplankton)	<u>Microbiological Tests</u>		
	Identification and Enumeration of Marine Phytoplankton	MPhy 01 by modified Utermohl method using light microscopy, based on UK NRL standard method	A
	Photo examination and identification of phytoplankton species	MPHY02 using TEM	A



1964

Accredited to  
ISO/IEC 17025:2005

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

**Marine Scotland - Science**

**Issue No: 022 Issue date: 14 February 2011**

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FOOD AND FOOD PRODUCTS (Shellfish)	<u>Microbiological Tests</u>  Enumeration of <i>Escherichia coli</i>	Documented in-house MPN method M2150 based on ISO/TS 16649-3:2005	A
VETERINARY (Farmed Fish)	<u>Virological Tests</u>  Detection of Viral Haemorrhagic Septicaemia (VHS) virus antigen	MVirol 001 by tissue culture and ELISA in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A
	Detection of Spring Viraemia of Carp (SVC) virus antigen	MVirol 005 by tissue culture and ELISA based on the OIE Manual of Diagnostic Tests for Aquatic Animals (2009) and in accordance with Commission Decision 2004/453/EC	A
	Detection of Infectious Haematopoietic Necrosis (IHN) virus antigen	MVirol 002 by tissue culture and ELISA in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A
	Isolation and detection of Infectious Salmon Anaemia (ISA) virus	MVirol 004 by tissue culture and IFAT. Used in conjunction with QPCR (MGEN010) in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A
	Detection of Infectious Salmon Anaemia (ISA) Virus	MIMDiag-300 by Immunohistochemistry based on OIE Manual of Diagnostic Tests for Aquatic Animals (2009) in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A



1964

Accredited to  
ISO/IEC 17025:2005

**Schedule of Accreditation**  
issued by  
**United Kingdom Accreditation Service**  
21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

**Marine Scotland - Science**  
**Issue No: 022 Issue date: 14 February 2011**

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
VETERINARY (Farmed Fish) (cont'd)	<u>Virological Tests</u> (cont'd)  Detection of <i>Renibacterium salmoninarum</i> antigen (screening test)	MBACT01 by ELISA (based on OIE Manual for Diagnostic Tests for Aquaculture Animals, 2006) in accordance with Commission Decision 2004/453/EC	A
VETERINARY (Shellfish)	<u>Histopathological Tests</u>  Screening for <i>Bonamia ostreae</i> and <i>Marteilia refringens</i>	MHIST01, based on OIE Manual of Diagnostic Tests for Aquatic Animals in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A
VETERINARY (Fish and Shellfish Tissues and Tissue Culture preparations)	<u>Molecular Biological Tests</u>  Detection and/or identification of viral and bacterial pathogen and parasite DNA or RNA sequences	MGEN010 and supporting procedures, by QPCR and RT-QPCR using ABI 7000  Prism sequencing detection system, flexible scope allowing the testing of additional materials	A

END