


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

 <b>UKAS</b> TESTING 1964  Accredited to <b>ISO/IEC 17025:2017</b>	<b>Marine Scotland - Science</b>	
	Issue No: 042    Issue date: 12 August 2021	
	<b>Scottish Government</b> <b>Marine Laboratory</b> 375 Victoria Road Aberdeen AB11 9DB	<b>Contact: Pamela Walsham</b> <b>Tel: +44 (0) 131 244 3543</b> <b>E-Mail: <a href="mailto:pamela.walsham@gov.scot">pamela.walsham@gov.scot</a></b> <b>Website: <a href="http://www.gov.scot/topics/marine">www.gov.scot/topics/marine</a></b>
<b>Testing performed by the Organisation at the locations specified below</b>		

### Locations covered by the organisation and their relevant activities

#### Laboratory locations:

Location details	Activity	Location code	
<b>Address</b> <b>Marine Scotland Science</b> Scottish Government Marine Laboratory 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	A

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

Location details	Activity	Location code	
<b>Marine Scotland Science</b> Scottish Government Freshwater Laboratory Faskally Pitlochry PH16 5LB	Mr A McCartney  Tel: +44 (0) 131 244 2335	Environmental testing - natural waters - Chemical	B
<b>Marine Scotland Science</b> Scottish Government Marine Laboratory Mobile Laboratory within Shipping container 375 Victoria Road Aberdeen AB11 9DB	Mr G Grewar	Chemical testing of biota and marine and estuarine waters [G1]	C



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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
NATURAL WATERS	<u>Chemical Tests</u>	Documented In-House Procedures	
	Anions: Chloride Nitrate Nitrite Sulphate	MFL100 by ion chromatography	B
	Cations: Calcium Magnesium Potassium Sodium	MFL600 using ICP-OES	B
	Alkalinity Conductivity pH	MFL060 by autotitration	B
	Monomeric Aluminium	MFL300 by UV-VIS Spectrophotometry	B
	Ions: Ammonium Silicon as Silica Soluble Phosphate	MFL500 by Skalar	B
	Total Soluble Phosphate Total Soluble Nitrogen Dissolved Organic Carbon (DOC)	MFL400 by Skalar	B
SALINE WATERS	<u>Chemical and Physical Tests</u>		
Marine and Estuarine Waters	Dissolved Oxygen	M0820 by Winkler Titration	A, C
Estuarine and Sea waters	Ammonia	M0700 Using the Bran & Luebbe QuAAtro Analyser	A
	Nitrite	M0700 using Bran and Luebbe QuAAtro Auto-analyser	A, C



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SALINE WATERS (cont'd)	<u>Chemical and Physical Tests</u> (cont'd)	Documented In-House Procedures	
Estuarine and Sea waters	Total Oxidised Nitrogen (Nitrate + Nitrite) Orthophosphate Silicate	- M0700 using Bran and Luebbe AA3 or QuAAtro Auto-analyser	A, C A, C A, C
Marine phytoplankton	Chlorophyll a	M3000 by Fluorometry	A
Fish muscle, fish liver, shellfish and sediment	<u>Chemical Tests</u>  PBDEs: PBDE-28 PBDE-47 PBDE-66 PBDE-100 PBDE-99 PBDE-85 PBDE154 PBDE-153 PBDE-183	M2900 by GC-MSD	A
Fish flesh, Fish liver, shellfish and Sediment	Polycyclic Aromatic Hydrocarbons (PAHs): C1-252 Indenopyrene Benzoperylene Acenaphthene Fluorene Dibenz[a,h]anthracene Naphthalene 2-Methylnaphthalene 1-Methylnaphthalene C2-Naphthalene C3-Naphthalene C4-Naphthalene Phenanthrene Anthracene C1-178, C2-178 C3-178 Dibenzothiophene	M0680 and M0690 by GC-MSD	A



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SEDIMENTS and BIOTA (Fish and Shellfish tissues)  Fish flesh, Fish liver, shellfish and Sediment (cont'd)	<u>Chemical and Physical Tests</u>  Polycyclic Aromatic Hydrocarbons (PAHs): (cont'd)  Fluoranthene Pyrene C1-202 C2-202 Benzo[c]phenanthrene Benz[a]anthracene Chrysene C1-228 C2-228 Benzofluoranthenes Benzo[e]pyrene Benzo[a]pyrene Perylene	M0680 and M0690 by GC-MSD	A
SEDIMENTS	<u>Chemical Tests</u>  Organic Carbon  Metals:  Arsenic Cadmium Chromium Cobalt Copper Iron Lead Manganese Mercury Nickel Uranium Zinc	M860 by Leco, Elemental Analyser  M0910 – Metals in sediment by strong partial digestion and collision cell ICPMS	A  A



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SEDIMENTS (cont'd) Marine Sediments	<u>Chemical Tests</u> (cont'd) Organotins:  Dibutyltin (DBT) Tributyltin (TBT)	Documented In-house Procedures  M0930 - Solvent extraction, ethylation and Isotope Dilution GC-MSD	A
Sediments	<u>Physical Tests</u>  Particle Size Distribution	M0840 - Automated/Manual by Malvern Mastersizer Granulometer	A
BIOTA Fish muscle, fish liver and shellfish	<u>Chemical Tests</u>  Metals:  Arsenic Barium Cadmium Chromium Cobalt Copper Iron Lead Mercury Nickel Manganese Selenium Zinc	Documented In-house Procedures  M 0920 by ICPMS	A



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FISH LIVER, SHELLFISH AND SEDIMENT	<u>Chemical Tests</u> Ortho Chlorobiphenyls:	Documented In-house Procedures M0642 by GC-MSD following ASE Extraction	A
1,2,3	CB 28		
1,2,3	CB 31		
1,2,3	CB 52		
1,2,3	CB 49		
1,2,3	CB 44		
1,2,3	CB 74		
1,3	CB 70		
1,2,3	CB 101		
1,2,3	CB 99		
2	CB 97		
1,2,3	CB 110		
1,2,3	CB 149		
1,2,3	CB 118		
1,2,3	CB 153		
1,3	CB 132		
1,2,3	CB 105		
2	CB 137		
1,2,3	CB 138		
2,3	CB 158		
1,2,3	CB 187		
1,2,3	CB 183		
1,2,3	CB 128		
1,2,3	CB 156		
2	CB 157		
1,2,3	CB 180		
1,2,3	CB 170		
2,3	CB 189		
3	CB 194		
1,2,3	CB 209		
Where: 1 = Sediment 2 = Fish Liver 3 = Shellfish			
Fish and Shellfish	Total Lipid Content	M0890 by modified SMEDEs method	A
	EROD assay	M2400 by spectrophotometer	A



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VETERINARY (Farmed Fish)	<u>Virological Tests</u>	Documented In-house Procedures	
	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 (2016) and in accordance with Commission Decision 2010/221/EC	A
	Detection of Infectious Haematopoietic Necrosis (IHN) virus antigen	MVirol 002 by tissue culture and in-house and / or BioX 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 in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A
	Detection of Infectious Pancreatic Necrosis (IPNV) Virus	MVirol 003 by tissue culture and in-house and / or BioX ELISA in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A
	Detection of Infectious Salmon Anaemia (ISA) Virus	MVirol006 by Immunohistochemistry based on OIE Manual of Diagnostic Tests for Aquatic Animals (2016) in accordance with Aquatic Animal Health (Scotland) Regulations 2013 which implements EC Directive 2006/88/EC	A



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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>  Screening of RNA Pathogens	Documented In-house Procedures	
	Infectious Haematopoietic Necrosis Virus (IHNV)	MGEN RNA and supporting procedures by QPCR/RT-QPCR using the Roche Lightcycler LC96 in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A
	Infectious Pancreatic Necrosis Virus (IPNV)	MGEN RNA and supporting procedures by QPCR/RT-QPCR using the Roche Lightcycler LC96	A
	Infectious Salmon Anaemia Virus	MGEN RNA and supporting procedures by QPCR/RT-QPCR using the Roche Lightcycler LC96 based on OIE Manual of Diagnostic Tests for Aquatic Animals 2016 in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A
	Piscine Myocarditis Virus (PMCV)	MGEN RNA and supporting procedures by QPCR/RT-QPCR using the Roche Lightcycler LC96	A





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VETERINARY (Fish and Shellfish Tissues and Tissue Culture preparations) (cont'd)	<u>Molecular Biological Tests</u> (cont'd)	Documented In-house Procedures	
	Piscine orthoreovirus (PRV)	MGEN RNA and supporting procedures by QPCR/RT-QPCR using the Roche Lightcycler in accordance with Aquatic Animal Health (Scotland) Regulations 2009	A
	Salmonid Alpha Virus	MGEN RNA and supporting procedures by QPCR/RT-QPCR using the Roche Lightcycler LC480 based on OIE Manual of Diagnostic Tests for Aquatic Animals 2016	A
	Viral Haemorrhagic Septicaemia Virus	MGEN RNA and supporting procedures by QPCR/RT-QPCR using the Roche Lightcycler LC96 based on OIE Manual of Diagnostic Tests for Aquatic Animals 2016 in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A
VETERINARY (Fish, Mollusc and Crustacean Tissues and Tissue Culture preparations)	<u>Screening for DNA of Pathogens and Parasites:</u>	Documented In-house Procedures	
	Bonamia spp. (Bonemia ostreae and Bonemia exitiosa)	MGEN DNA and supporting procedures by QPCR using the Roche Lightcycler LC96 in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A
	Marteilia refringens M and O type	MGEN DNA and supporting procedures by QPCR using the Roche Lightcycler LC96 in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A



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VETERINARY (Fish, Mollusc and Crustacean Tissues and Tissue Culture preparations) (Cont'd)	<u>Screening for DNA of Pathogens and Parasites:</u> (Cont'd)	Documented In-house Procedures	
	Oyster Herpesvirus type 1 (OsHV)	MGEN DNA and supporting procedures by QPCR using the Roche LightcyclerLC96 in accordance with EC Directive 2006/88/EC	A
	Renibacterium salmoninarum	MGEN DNA and supporting procedures by QPCR using the Roche Lightcycler LC96 in accordance with Aquatic Animal Health (Scotland) Regulations 2009 and Commission Decision 2010/221/EC	A
	Salmon gill poxvirus	MGEN DNA and supporting procedures by QPCR using Roche Lightcycler LC96	A
	White Spot Syndrome Virus	MGEN DNA and supporting procedures by QPCR using the Roche Lightcycler LC96 in accordance with Aquatic Animal Health (Scotland) Regulations 2009 in accordance with Commission Decision 2006/88/EC	A
	<i>Gyrodactylus</i> parasites (G. salaris, G. derjavinoides, G. truttae)	MGEN DNA and supporting procedures by QPCR using the Roche Lightcycler LC96 in accordance with Aquatic Animal Health (Scotland) Regulations 2009 which implements EC Directive 2006/88/EC	A
	<i>Neoparamoeba perurans</i>	MGEN DNA and supporting procedures by QPCR using the Roche Lightcycler in accordance with Aquatic Animal Health (Scotland) Regulations 2009	A



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FISH AND SHELLFISH	<u>Sensory Testing</u> Assessment of petrogenic taint in fish and shellfish	Documented In-house Procedures M2610 by Scalar method using Taste Panel	A
END			