


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

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|  <p><b>UKAS</b><br/>TESTING</p> <p>1875</p> <p>Accredited to<br/>ISO/IEC 17025:2017</p> | <h3>Cefas Lowestoft Laboratory</h3> <p>Issue No: 032 Issue date: 22 January 2024</p> |  |
|  | <p>Pakefield Road<br/>Lowestoft<br/>Suffolk<br/>NR33 0HT</p>                         | <p>Contact: Clare Adams<br/>Tel: +44 (0)1502 524439<br/>E-Mail: <a href="mailto:clare.adams@cefas.gov.uk">clare.adams@cefas.gov.uk</a><br/>Website: <a href="http://www.cefas.co.uk">www.cefas.co.uk</a></p> |
| <p><b>Testing performed at the above address only</b></p>  |  |  |

### DETAIL OF ACCREDITATION

| Materials/Products tested   | Type of test/Properties measured/Range of measurement                  | Standard specifications/ Equipment/Techniques used  |
|---|--|---|
| <p>BIOTA, BOTANICAL MATERIALS, FISH and SHELLFISH, FOODS and FOOD PRODUCTS, MOLLUSCS, SOILS, SEDIMENTS and WATERS</p> | <p><u>Radiochemical Analysis</u></p> <p>Sample preparation methods</p> | <p>Documented In-House Methods: covering methods for storage and preparation of sample types including: drying, grinding, ashing and homogenisation of samples</p> <p>1613 (RCT 1A)<br/>1614 (STO 1A)<br/>1615 (STO 2A)<br/>1616 (WPD 1A marine fish)<br/>1617 (WPD 2A freshwater fish)<br/>1618 (WPD 3A shellfish, crustacea)<br/>1619 (WPD 4A shellfish, molluscs)<br/>1620 (WPD 5A marine and freshwater weeds)<br/>1621 (WPD 6A soils and sediments)<br/>1622 (WPD7A soils and sediments)<br/>1623 (ODS 1A oven drying)<br/>1624 (GHG 1A dry biota)<br/>1625 (GHG 2A soils and sediments)<br/>1626 (PSC 1A liquids)<br/>1628 (PSC 2A tub and disc geometries)<br/>1629 (MFA 1A ashing)<br/>1627 (WPD 8A terrestrial foods)<br/>2223 (RCT1B)</p> |



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| BIOTA, BOTANICAL MATERIALS, FISH and SHELLFISH, FOODS and FOOD PRODUCTS, MOLLUSCS, SOILS, SEDIMENTS and WATERS | <p><u>Determination of alpha emitting radionuclides</u></p> <p><u>Non-Uranic Actinides</u></p> <p>Americium - <sup>241</sup>Am<br/>Plutonium - <sup>239+240</sup>Pu, <sup>238</sup>Pu<br/>Curium - <sup>242</sup>Cm, <sup>243+244</sup>Cm</p> <p><u>Determination of alpha emitting radionuclides</u></p> <p>Lead - <sup>210</sup>Pb, and Polonium - <sup>210</sup>Po</p> <p><u>Determination of Beta emitting radionuclides</u></p> <p>Strontium - <sup>90</sup>Sr<br/>Technetium - <sup>99</sup>Tc<br/>Carbon - <sup>14</sup>C</p> | <p>Documented In-House Methods: for radiochemical separation and source preparation of alpha emitters.<br/>Alpha spectrometric counting - calibration and performance checking of alpha spectrometers and sample counting</p> <p>1648(ARS 1A), 1649(ABP 1A), 1650 (SSP 1A), 1651 (SSP 2A), 1652 (SSP 3A), 1653 (REP 1A), 1654 (CIS 1A), 1655 (QCS 1A), 1656 (PRS 1A), , 1658 (ASU 1A)</p> <p>Documented In-House Methods: for radiochemical separation and source preparation of natural alpha emitters.<br/>Alpha spectrometric counting - calibration and performance checking of alpha spectrometers and sample counting</p> <p>1663 (NAT 5A)</p> <p>Documented In-house methods using liquid scintillation</p> <p>1659 (SSP7A)<br/>1665 (SSP 6A) and<br/>1666 (SSP 9A) and<br/>1633 (DTM 1A)</p> |
| BIOTA, BOTANICAL MATERIALS, SOILS AND SEDIMENTS, AND WATERS  | Tritium - <sup>3</sup> H   |  |
| BIOTA AND SEDIMENTS  | Total Alpha Activity<br>- relative to Am-241<br>Total Beta Activity<br>- relative to K-40  | Documented In-house method using proportional counting – 1674 (TB1A)   |



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| <p>BIOTA, BOTANICAL MATERIALS, FISH and SHELLFISH, FOODS and FOOD PRODUCTS, MOLLUSCS, SOILS, SEDIMENTS and WATERS</p> <p>Milk, dairy products, vegetables, fruits, meat products, fish, cereals, grass, seaweed, honey</p> <p>Sediment</p> | <p>Quantitative analysis using gamma spectrometry<br/>(Energy Range: 60 keV - 2000 keV)</p> <p>Carbon - 14C, Tritium - 3H</p> <p><u>Chemical Tests</u></p> <p>Polychlorinated Biphenyls:<br/>PCB 18<br/>PCB 28<br/>PCB 31<br/>PCB 44<br/>PCB 47<br/>PCB 49<br/>PCB 52<br/>PCB 66<br/>PCB 101<br/>PCB 105<br/>PCB 110<br/>PCB 118<br/>PCB 128<br/>PCB 138<br/>PCB 141<br/>PCB 149<br/>PCB 151<br/>PCB 153<br/>PCB 156<br/>PCB 158<br/>PCB 170<br/>PCB 180<br/>PCB 183</p> | <p>Documented In-House methods covering calibration and performance checking of gamma spectrometers, sample analysis, and data interpretation.</p> <p>16341635, 1636 ,<br/>1637 , 1638 , 1639<br/>1640 , 1641 , 1642<br/>1643, 1644 , 1645 1646 , 1647</p> <p>Method 2241 using furnace combustion with liquid scintillation counting</p> <p>Documented In-House Method:</p> <p>Using GC-ECD<br/>SOPs , 1411, 1780, 1779, 1778, 1415 and 1600</p> |



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| Sediment (cont'd)         | <u>Chemical Tests (cont'd)</u><br>Polychlorinated Biphenyls: (cont'd)<br>PCB 187<br>PCB 194<br>SUM OF 25 PCBs<br>ICES 7 (PCB 28, 52, 101, 118, 138, 153, 180)       | Documented In-House Method:<br><br>Using GC-ECD<br>SOPs 1411, 1780, 1779, 1778, 1415 and 1600 |
| Sediment                  | Total Solids  | Total solids<br>SOP 2025  |
| Sediment                  | Trace Metals:<br>Arsenic<br>Cadmium<br>Chromium<br>Copper<br>Lead<br>Mercury<br>Nickel<br>Zinc  | Partial microwave digestion Using ICP-MS and ICP AES<br>SOPs 2037, 2043 and 2161              |
| Sediment                  | Trace Metals:<br>Aluminium<br>Arsenic<br>Cadmium<br>Chromium<br>Copper<br>Iron<br>Lead<br>Lithium<br>Manganese<br>Mercury<br>Nickel<br>Rubidium<br>Vanadium<br>Zinc | Using ICP-MS and ICP-OES after Total (HF) microwave digestion<br>SOPs 2155, 2156, 2157        |
| Biota and Sediment        | Total Hydrocarbon concentration   | Using spectrofluorimetry<br>SOPs 1597, 1598 and 1599  |



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| Biota                     | <u>Chemical Tests (cont'd)</u><br><br>Trace Metals:<br><br>Arsenic<br>Cadmium<br>Chromium<br>Copper<br>Iron<br>Lead<br>Manganese<br>Mercury<br>Nickel<br>Selenium<br>Zinc | Documented In-House Method:<br><br>Microwave digestion using ICP-MS and ICP OES<br>SOPs 1418, 1419, 2160 |
| Biota                     | Total Solids  | Documented in-house method SOP 1592  |



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| Shellfish and sediments (cont'd) | <p><u>Chemical Tests</u> (cont'd)</p> <p>Polycyclic aromatic hydrocarbons (PAHs): (cont'd)</p> <p>Polycyclic aromatic hydrocarbons (PAHs)</p> <p>Naphthalene</p> <p>2-Methyl Naphthalene</p> <p>1-Methyl Naphthalene</p> <p>C1-Naphthalenes (sum of the methyl naphthalenes)</p> <p>C2-Naphthalenes</p> <p>Acenaphthylene</p> <p>C3-Naphthalenes</p> <p>Acenaphthene</p> <p>Fluorene</p> <p>Dibenzothiophene</p> <p>Phenanthrene</p> <p>Anthracene</p> <p>C1-Dibenzothiophenes</p> <p>C1-Phenanthrenes/anthracenes</p> <p>2-Methyl Phenanthrene</p> <p>2-Methyl Anthracene</p> <p>1-Methyl Phenanthrene</p> <p>C2-Dibenzothiophenes</p> <p>C2-Phenanthrenes/anthracenes</p> <p>Fluoranthene</p> <p>C3-Dibenzothiophenes</p> <p>Pyrene</p> <p>C1-Pyrenes/fluoranthenes</p> <p>Benzo[b]naphtho[2,1-d]thiophene</p> <p>Benzo[a]anthracene</p> <p>Chrysene</p> <p>C1-Chrysenes</p> <p>Benzo[b]fluoranthene</p> <p>Benzo[k]fluoranthene</p> <p>Benzo[e]pyrene</p> <p>Benzo[a]pyrene</p> <p>Perylene</p> <p>Indeno[123-cd]Pyrene</p> <p>Dibenz(a,h)anthracene</p> <p>Benzo[ghi]perylene</p> | <p>Documented In-House Method:</p> <p>SOP 2235 using solvent extraction and GC-MS determination</p> |



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| MARINE WATERS             | <u>Biological Analysis</u><br><br>* indicates analysis performed under Food Standards Agency designation as an Official Laboratory in accordance with retained Regulation (EU) 2017/625<br><br>Identification and Enumeration of Marine Phytoplankton * | Documented In-house methods SOP 1508, 1509 and 1510 by light microscopy |
| END                       |   |   |