

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 4012 Accredited to ISO/IEC 17025:2017	AWE Plc Issue No: 019 Issue date: 23 March 2023	
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Testing performed at the above address only		

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
ENVIRONMENTAL SAMPLES CLEARANCE/DECOMMISSIONING SAMPLES Water, raw and trade effluents Soils, sediments, sand, brick, concrete, plaster and dust (including tarmac dust), vegetation Soils, sediments, vegetation	<u>Radiochemical Testing</u> Sample preparation Aqueous Tritium Analysis	Documented In-house methods: MER-OPS-00325010 Preparation of water samples for Gross alpha/beta and Radiochemistry MER-OPS-00326003 Preparation of Soil, Sediment and Vegetation Samples for Gross alpha/beta and Radiochemistry (including weighing, drying, grinding, ashing and sieving of samples, as required) MER-OPS-00325595 Ashing and Furnace operations MER-OPS-00324967 Analysis via liquid scintillation counting'



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ENVIRONMENTAL SAMPLES CLEARANCE/DECOMMISSIONING SAMPLES (cont'd) Water, raw and trade effluents Soils, sediments, sand, brick, concrete, plaster, tarmac as dust, vegetation Water, raw and trade effluents Soils, sediments, sand, brick, concrete, plaster, tarmac as dust, vegetation Density range : 0.6 g/ml to 1.6 g/ml Water, raw and trade effluents and aqueous extracts	<u>Radiochemical Testing</u> (cont'd) Screening: Gross alpha activity (relative to ²⁴¹ Am) Gross beta activity (relative to ¹³⁷ Cs) Quantitative analysis: Gamma Emitting radio-nuclides (Energy range: 59 keV - 1840 keV) Tritium (³ H)	Documented In-house methods: AWE/MAS/RCG/EAT/GPC/QUAL/534 Gross Alpha/Beta QM Process Document MER-OPS-00325015 Operation of Gross Alpha/Beta Counters MER-OPS-00355823 Calibration of the Gross Alpha/Beta Counters By proportional counting MER-OPS-00369485 Validation and Process Document MER-OPS-00366838 Operation of the BEGe Gamma Spectrometry System MER-OPS-00369075 Procedure for the calibration of the BEGe gamma spectrometry system By high resolution gamma spectrometry AWE/MAS/RCG/EAT/LSC/QUAL/410 Tritium Determination QM Process Document MER-OPS-00325038 Operation of the Liquid Scintillation Counter MER-OPS-00355824 Calibration of the Liquid Scintillation Counter By liquid scintillation counting



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<p>ENVIRONMENTAL SAMPLES CLEARANCE/DECOMMISSIONING SAMPLES (cont'd)</p> <p>Waters and Effluents Soils, sediments, sand, brick, concrete, plaster, tarmac as dust, vegetation</p>	<p><u>Radiochemical Testing</u> (cont'd)</p> <p>Quantitative analysis: (cont'd)</p> <p>Uranium isotopes : ^{238}U, ^{235}U, ^{234}U</p> <p>Plutonium isotopes : $^{239+240}\text{Pu}$, ^{238}Pu</p>	<p>Documented In-house methods:</p> <p>AWE/MAS/RCG/EAT/AS/QUAL/467 Radiochemistry QM Process Document</p> <p>MER-OPS-00325557 Procedure for Operating the EMG Alpha Spectrometer</p> <p>MER-OPS-00326945 Determination of actinides in environmental samples</p> <p>By alpha spectrometry</p>
<p>HUMAN URINE</p> <p>Urine</p>	<p>Quantitative analysis:</p> <p>Tritium (^3H)</p>	<p>MER-OPS-00299442 Dosimetry Services Operating Procedure – Tritium in Urine</p> <p>MER-OPS-00325038 Operation of the Liquid Scintillation Counters</p> <p>MER-OPS-00355824 Calibration of the Liquid Scintillation Counters</p> <p>By liquid scintillation counting</p>
<p>MICRON SIZED PARTICULATE SAMPLES</p> <p>Nuclear Forensic Samples including acidic solutions and air filters</p>	<p><u>Radiochemical Analysis</u></p> <p>Peak jumping measurement of Uranium isotope ratios (U^{234} to U^{238})</p> <p>Quantitative analysis of gamma emitters in the energy range 45keV – 1.8MeV</p>	<p>MER-OPS-00048045 Documented in-house method using thermal ionisation mass spectrometry (TIMS)</p> <p>AWE/NNSP/B/13/1988 Documented in-house method using HPGe gamma spectrometry</p>



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SOILS	Chemistry Testing <u>Explosives</u> Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) <u>2,4,6-Trinitrotoluene (TNT)</u> <u>Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)</u> <u>Pentaerythritol tetranitrate (PETN)</u>	Documented in house method AWE/GOEA/OP/185 using UHPLC-HRMS
END		