


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 0320 Accredited to ISO/IEC 17025:2017	Nicholls Colton Group Limited	
	Issue No: 077 Issue date: 15 October 2021	
	7-11 Harding Street Leicester LE1 4DH	Contact: Mr Guy Anderson Tel: +44 (0)116 253 6333 Fax: +44 (0)116 251 4709 E-Mail: guy.anderson@nicholls-colton.co.uk Website: www.nicholls-colton.co.uk
Testing performed by the Organisation at the locations specified		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
Address 7-11 Harding Street Leicester LE1 4DH	Local contact Mr Guy Anderson	Testing of aggregates, bitumen and bituminous mixtures, concrete and mortar and soils for civil engineering purposes. Environmental analysis and chemical testing including the Environment Agency MCERTS performance standard for soils. Identification of asbestos in bulk materials and soils
		A

Site activities performed away from the locations listed above:

Location details	Activity	Location code
All site locations suitable for the activities listed	Sampling and testing of aggregates, bituminous mixtures and road pavement surfaces, fresh concrete, concrete structures and soils for civil engineering purposes	B



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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
ASBESTOS IN SOILS - The Identification of asbestos fibres in bulk samples of soil, specifically: Soil Sediment Slurry Ballast Aggregates	<u>Fibre Screening and Identification of:</u> Amosite Chrysotile Crocidolite Fibrous actinolite Fibrous anthophyllite Fibrous tremolite	Documented In-House Method MS-AS-Asbestos based on HSG 248 using stereo microscopy, polarised light microscopy and dispersion staining.	A
ASBESTOS IN SOILS - The Identification and quantification of asbestos fibres in bulk samples of soil, specifically: Soil Ballast Aggregates	<u>Fibre Screening, Identification and Quantification of</u> Amosite Chrysotile Crocidolite Fibrous actinolite Fibrous anthophyllite Fibrous tremolite	Documented In-House Method MS-AS-Asbestos; Quantification using polarising light microscopy, gravimetric analysis, fibre counting and sizing through phase contrast optical microscopy	
ASBESTOS in BULK MATERIALS including materials and products suspected of containing asbestos	<u>Identification of:</u> Amosite Chrysotile Crocidolite Fibrous actinolite Fibrous anthophyllite Fibrous tremolite	Documented In-House Method MS-AS-Asbestos based on HSG 248 using stereo microscopy, polarised light microscopy and dispersion staining.	A
SOILS	<u>Chemical Tests</u> <u>Total Petroleum Hydrocarbons (TPH)</u> >C8 - C40 Hydrocarbon banding including >C8 - C10, >C10 - C12, >C12 - C16, >C16 - C21, >C21 - C35, >C35 - C40 DRO >C10 - C21 MRO >C21 - C40	Documented In-House Method MS-CL-TPH using GC-FID	A



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	<u>Chemical Tests (cont'd)</u> <u>Polynuclear Aromatic Hydrocarbons (PAH)</u> Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(ghi)perylene Total PAHs (summation of above 16 compounds)	Documented In-House Method MS-CL-PAH (As Received) using GC-MS	A
	<u>Volatile Organic Compounds (VOC)</u> Benzene Toluene Ethyl benzene o-xylene m-xylene p-xylene MTBE Total m/p-xylene Total xylenes (total m, p & o) Total BTEX compounds (summation of Benzene, Toluene, Ethylbenzene, m, p & o-xylene) Vinyl Chloride Chloroethane Trichlorofluoromethane 1,1-Dichloroethylene trans-1,2, -dichloroethylene 1,1-Dichloroethane	Documented In-House Method MS-CL-VOC & MBTEX using headspace GC-MS	A



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SOILS (cont'd)	<u>Chemical Tests (cont'd)</u> <u>Volatile Organic Compounds (VOC) – (cont'd)</u> 2,2-Dichloropropane cis--1,2, -dichloroethylene Bromochloromethane Chloroform 1,1,1-Trichloroethane 1,1-Dichloropropene Carbon Tetrachloride 1,2-dichloroethane Trichloroethylene 1,2-Dichloropropane Dibromomethane Bromodichloromethane cis-1,2-dichloropropylene trans-1,3-dichloropropylene 1,1,2-Trichloroethane 1,3-Dichloropropane Tetrachloroethylene Chlorodibromomethane 1,2-Dibromoethane Chlorobenzene 1,1,1,2-tetrachloroethane Isopropylbenzene Bromoform 1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane n-Propylbenzene Bromobenzene 2-chlorotoluene 4-chlorotoluene 1,2-Dichlorobenzene Dichlorodifluoromethane Chloromethane Styrene 1,3,5-Trimethylbenzene tert-butylbenzene 1,2,4-trimethylbenzene sec-Butylbenzene 4-Isopropyltoluene(P-Cymene) n-Butylbenzene	Documented In-House Method MS-CL-VOC & MBTEX using headspace GC-MS	A



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	<u>Chemical Tests (cont'd)</u>		
	<u>Metals</u> (for sand, loam and clay types)		
	Arsenic	Documented In-House Method MS-CL-ICP-Metals via aqua regia extraction and ICP-OES determination	A
	Barium		
	Beryllium		
	Cadmium		
	Chromium		
	Copper		
Lead			
Manganese			
Mercury			
Nickel			
Vanadium			
Zinc			
Total Monohydric Phenols	Documented In-House Method MS-CL-Phenols by Skalar	A	
<u>Speciated Phenols</u>	Documented In-House Method MS-CL-Phenol by HPLC	A	
- Phenol			
- Cresols			
- Xylenol			
- Trimethyl phenol			
- Total phenols (sum of individual groups)			
Total Organic Carbon	Documented In-House Method MS-CL-TOC Eltra using a TOC analyser	A	
Soil Organic Matter	By calculation from Total Organic Carbon using a factor of 0.58	A	
Fraction Organic Carbon	By calculation from Total Organic Carbon	A	
Total Monohydric Phenols	Documented In-House Method MS-CL-Phenols by Skalar to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	A	



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SOILS (cont'd)	<u>Chemical Tests (cont'd)</u>		
	Speciated Phenols - Phenol - Cresols - Xylenols	Documented In-House Method MS-CL-Phenol by HPLC to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	A
	<u>Total Petroleum Hydrocarbons (TPH)</u> >C8 - C40 Hydrocarbon banding including >C10 - C12, >C12 - C16, >C16 - C21, >C21 - C35 DRO >C10 - C21 MRO >C21 - C40	Documented In-House Method MS-CL-TPH using GC-FID to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	A
<u>Polynuclear Aromatic Hydrocarbons (PAH)</u> Naphthalene Acenaphthene Fluorene Phenanthrene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(ghi)perylene	Documented In-House Method MS-CL-PAH (As Received) using GC-MS to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	A	



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	<u>Chemical Tests (cont'd)</u> <u>Volatile Organic Compounds (VOC)</u> Benzene Toluene Ethyl benzene o-xylene m-xylene p-xylene MTBE Total m/p-xylene Total xylenes (total m, p & o) Total BTEX compounds (summation of Benzene, Toluene, Ethylbenzene, m, p & o-xylene) Vinyl Chloride Chloroethane Trichlorofluoromethane 1,1-Dichloroethylene trans-1,2, -dichloroethylene 1,1-Dichloroethane 2,2-Dichloropropane cis-1,2, -dichloroethylene Bromochloromethane Chloroform 1,1,1-Trichloroethane 1,1-Dichloropropene Carbon Tetrachloride 1,2-dichloroethane Trichloroethylene 1,2-Dichloropropane Dibromomethane Bromodichloromethane cis-1,2-dichloropropylene trans-1,3-dichloropropylene 1,1,2-Trichloroethane 1,3-Dichloropropane Tetrachloroethylene Chlorodibromomethane 1,2-Dibromoethane Chlorobenzene 1,1,1,2-tetrachloroethane Isopropylbenzene Bromoform 1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	Documented In-House Method MS-CL-VOC using headspace GC-MS to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	A



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SOILS (cont'd)	<u>Chemical Tests</u> (cont'd)		
	<u>Volatile Organic Compounds (VOC) – cont'd</u> n-Propylbenzene; Bromobenzene; 2-chlorotoluene; 4-chlorotoluene; 1,2-Dichlorobenzene	Documented In-House Method MS-CL-VOC using headspace GC-MS to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	
Soils (sand, loam & clay types)	<u>Metals</u> <i>(for sand, loam and clay types)</i> Arsenic Barium Beryllium Cadmium Copper Lead Manganese Nickel Zinc	Documented In-House Method MS-CL-ICP Metals via aqua regia extraction and ICP-OES determination to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	A
	pH	Documented In-House Method MS-CL-pH in soil using the Jenway 3300 and Fisher Accumet pH instrumentation systems to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	A
	Total Organic Carbon (TOC)	Documented In-House Method MS-CL-TOC Eltra in soil using a TOC analyser to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	A
	Total cyanide	Documented In-House Method MS-CL-Cyanide by Skalar in soil to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	A



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AGGREGATES	Water-soluble chloride salts (reference method)	EN 1744-1:2009 + A1:2012	A
	Water-soluble sulfates	EN 1744-1:2009 + A1:2012	A
	Total sulfur content	EN 1744-1:2009 + A1:2012	A
	Total Sulphur Content	EN BS 1744-1:2009 +A1:2012 Clause 11.2; TS EN 1744 and Eltra CS-800 Carbon/Sulphur Analyser	A
	Particle size distribution	BS EN 933-1:2012	A
	Water content	BS EN 1097-5:2008	A
	Magnesium sulphate test	BS EN 1367-2:2009	A
	Uniformity coefficient	Specification for Highway Works: Series 600: Table 6-1: Footnote 5	A
	Classification for the constituents of coarse recycled aggregate	BS EN 933-11: 2009	A
BITUMINOUS MIXTURES for roads and other paved areas	Maximum density – volumetric procedure	BS EN 12697-5:2018	A
	Bulk density - dry; - saturated surface dry (SSD); - sealed specimens; - by dimensions	BS EN 12697-6:2020	A
	Determination of the dimensions of a bituminous sample	BS EN 12697-29:2002	A
	Visual examination, description and measurement of pavement cores	Documented In-House Method MS - Visual examination, description and measurement of pavement cores	A
BITUMINOUS ROAD SURFACING	Sampling by core drilling	Documented In-House Method MS- 6B Sampling by core drilling	B



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CONCRETE - hardened	Cement content - insoluble residue; - soluble silica (ICP-OES); - calcium oxide (ICP-OES); - sodium and potassium oxide (alkalis)	BS 1881:Part 124:2015	A
	Chloride content	BS 1881:Part 124:2015	A
	Chloride content by Aquakem discrete selective photometric analyser	Documented In-House Method MS-Chloride in Hardened Concrete by Aquakem Discrete Analyser with extraction to BS 1881:Part 124:1998	A
	Sulphate content	BS 1881:Part 124:2015	A
	Sulphate content	Documented In-House Method MS-Sulphate in hardened concrete by ICP.	A
	Carbonation	BS EN 14630:2006	A
	Depth of carbonation	Documented In-House Method MS12C - Depth of carbonation	B
	Presence of High Alumina Cement by rapid chemical method	BRE Information Sheet IS 15/74	A
	Compressive strength of cubes - including curing; - shape & dimensions	BS EN 12390-1:2012 BS EN 12390-3:2019 BS EN 12390-2:2019	A
	Cored Specimens – examining and testing in compression - including curing; - shape & dimensions	BS EN 12504-1:2019 BS EN 12390-1:2012 BS EN 12390-2:2019	A
	Density	BS EN 12390-7:2019	A
	Capillary porosity	BS 1881:Part 124:2015	A
	Original water/cement ratio	BS 1881:Part 124:2015	A
Resistivity	BS 1881:Part 201:1986	B	



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CONCRETE - hardened (cont'd)	Resistivity	Documented In-House Method MS – 11C Resistivity of concrete – four probe method	B
	Location of reinforcement	BS 1881:Part 204:1988	B
	Location of reinforcement	Documented In-House Method – MS-23C Survey of Reinforced Concrete by Ferrosan	B
	Half-cell potential of uncoated reinforcing steel in concrete	ASTM C 876-15	B
	Half-cell potential of uncoated reinforcing steel in concrete	Documented In-House Method MS – 9C Half-cell potential	B
	Taking concrete cores	BS EN 12504-1:2019	B
	Sampling of concrete by drilling	Documented In-House Method MS – 13C Sampling of concrete by drilling	B
MORTARS, RENDERS, SCREEDS and PLASTERS	Chemical analysis and aggregate grading - freshly mixed and hardened mortars, screeds and plasters - insoluble residue; - soluble silica (Gravimetric); - calcium oxide (Gravimetric); - alkalis	BS 4551:2005 + A2:2013	A
GROUT, MORTAR and CONCRETE	Moisture content	Documented In-House Method MS - Moisture content of grout, mortar and concrete	A
SOILS and AGGREGATES for civil engineering purposes	Water soluble sulphur	TRL 447: 2005: Test 1	A
	Acid soluble sulphur	TRL 447: 2005: Test 2	A
	Total sulphur	TRL 447: 2005: Test 4 A using ICP-OES	A
	Total Sulphur Content	TRL447:2005 Test 4; TS TRL447 and Eltra CS-800 Carbon/Sulphur Analyser	A



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SOILS for civil engineering purposes	Total potential sulphate	TRL 447: 2005: Test 4 calculation	A
	Organic matter content	BS 1377:Part 3: 2018	A
	Loss on Ignition	BS 1377:Part 3: 2018	A
	Sulphate content of soil and ground water - gravimetric method	BS 1377:Part 3: 2018	A
	pH value	BS 1377:Part 3: 2018	A
	Total Sulphur Content	BS1377-3:2018 Clause 7.10 and TS BS 1377 and Eltra CS-800 Carbon/Sulphur Analyser	A
	Equivalent CBR values using a Dynamic Cone Penetrometer	Documented In-House Method MS 4S- Determination of Equivalent CBR values using a Dynamic Cone Penetrometer	B
	Undrained shear strength - triaxial compression without measurement of pore pressure	BS 1377:Part 7:1990	A
Undrained shear strength - triaxial compression with multistage loading and without measurement of pore pressure	BS 1377:Part 7:1990	A	
Moisture content - oven drying method	BS 1377:Part 2:1990	A	
	Liquid limit - cone penetrometer - definitive method	BS 1377:Part 2:1990	A
	Liquid limit - cone penetrometer - one point	BS 1377:Part 2:1990	A
	Plastic limit	BS 1377:Part 2:1990	A
	Plasticity index	BS 1377:Part 2:1990	A
	Linear shrinkage	BS 1377:Part 2:1990	A



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SOILS for civil engineering purposes (cont'd)	Particle density - gas jar	BS 1377:Part 2:1990	A
	Particle density - small pyknometer	BS 1377:Part 2:1990	A
	Particle size distribution - wet sieving	BS 1377:Part 2:1990	A
	Particle size distribution - dry sieving	BS 1377:Part 2:1990	A
	Particle size distribution - sedimentation - pipette method	BS 1377:Part 2:1990	A
	Dry density/moisture content relationship (2.5 kg rammer)	BS 1377:Part 4:1990	A
	Dry density/moisture content relationship (4.5 kg rammer)	BS 1377:Part 4:1990	A
	Dry density/moisture content relationship (vibrating hammer)	BS 1377:Part 4:1990	A
	Moisture condition value (MCV)	BS 1377:Part 4:1990	A
	MCV - natural moisture content	BS 1377:Part 4:1990	A & B
	Uniformity coefficient	Specification for Highway Works November 2007:footnote 5 to Table 6/1	A
Sampling earthworks materials - from stockpiles, laid materials and excavations	Documented In-House Method MS 1S - Sampling earthworks materials from stockpiles, laid materials and excavations	B	

END