Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

4041

Accredited to ISO/IEC 17025:2017

I2 Analytical Ltd Trading as Normec I2 Analytical

Issue No: 130 **Issue date:** 02 November 2026

7 Woodshots Meadow
Croxley Park
Croxley Green
Hertfordshire
WD18 8YS

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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
Address 7 Woodshots Meadow Croxley Park Croxley Green Hertfordshire WD18 8YS	**Local contact** Dr Claire Stone Tel: 44 (0) 1923 225404	Environmental Analysis Receipt and Preparation Asbestos – All Support Functions	A
Address ul. Pionerów 39 41-711 Ruda Ślaska Poland	**Local contact** Ms Anna Dienst Tel: 00 48 323 426 011 Fax: 00 48 323 426 012 E-Mail: a.dienst@i2analytical.com	Environmental Analysis Environmental Sampling Atmospheric Pollutant testing Aggregates: Physical Tests Soils: Mechanical & Physical tests Health and Hygiene Asbestos – Support Functions: • *Quality Audit Administration* • *Contract Review* • *Scheduling* • *Personnel* • *Equipment* • *Measurement Traceability* • *Reporting*	B
Address Unit 8 Delta Court Sky Business Park Hayfield Lane Finningley Doncaster DN9 3GN	**Local contact** Dr Claire Stone Tel: +44 (0) 1923 225404	Sample storage, Preparation and administration	C

Location details		Activity	Location Code
Address 8 Harrowden Road Brackmills Northampton Northamptonshire NN4 7EB	**Local contact** Dr Claire Stone Tel: 44 (0) 1923 225404	Sample storage, and Preparation and administration Aggregates: Sampling from Stockpiles; Physical Testing Soils Mechanical and Physical testing	D
Address Unit 9 Langlands Place Kelvin South Business Park East Kilbride Glasgow G75 0YF	**Local contact** Dr Claire Stone Tel: 44 (0) 1923 225404	Sample receipt, Storage and Customer Service. Environmental Analysis	F
Address Maxted House 13 Maxted Road Hemel Hempstead Hertfordshire HP2 7DX	**Local contact** Dr Claire Stone Tel: 44 (0) 1923 225404	Customer Service	E
Address Empress Business Centre 380 Chester Road Manchester M16 9EA	**Local contact** Dr Claire Stone Tel: 44 (0) 1923 225404	Customer Service	H

4041 Accredited to ISO/IEC 17025:2017	**Schedule of Accreditation** **issued by** **United Kingdom Accreditation Service** 2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK
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Site activities performed away from the locations listed above:

Location details		Activity	Location code
All locations suitable for the activities listed	**Local contact** Dr Claire Stone Tel: 44 (0) 1923 225404	Testing: Soils; physical tests; Aggregates, Bituminous mixtures, Concrete - Fresh	Site

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Analysis at Site B			
	<u>Health and Hygiene</u>	Health and Safety Executive - Asbestos: The Analysts' Guide (HSG 248) – 2021	
ASBESTOS IN BULK MATERIALS including materials and products suspected of containing asbestos	Identification of: Amosite Chrysotile Crocidolite Fibrous Actinolite Fibrous Anthophyllite Fibrous Tremolite	Documented In-House Method A001B using stereo-microscopy, polarised light optical microscopy and dispersion staining based on HSG 248	B
ASBESTOS IN SOILS – The Identification of Asbestos fibres in bulk samples of Soil, *specifically*: *Soil* *Sediment*	Identification of: Amosite Chrysotile Crocidolite Fibrous Actinolite Fibrous Anthophyllite Fibrous Tremolite	Documented In-House Method A0001B using stereo-microscopy, polarised light optical microscopy and dispersion staining based on HSG 248	B
ASBESTOS IN SOILS – The Identification and Quantification of Asbestos fibres in bulk samples of Soil, *specifically:* *Soil*	Identification and Quantification of Asbestos content of: Amosite Chrysotile Crocidolite Fibrous Actinolite Fibrous Anthophyllite Fibrous Tremolite	Documented In-House Method A006B for identification using stereo-microscopy, polarised light optical microscopy and dispersion staining based on HSG 248. Documented In-House Method A006B for quantification of asbestos.	B
ASBESTOS IN SOILS (Dustiness)	Measurement of Dustiness	Documented In-House Method A007B based on BS EN15051-2:2013 +1:2016 "Measurement of the dustiness of bulk materials; Part 2: Rotating drum method" and HSG 248	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS	<u>Chemical Tests</u> Inorganic Analysis:		
	pH	L005B using pH electrode	B
	pH	L099 using Automated pH meter	B
	Electrical Conductivity	L031B using automated EC meter	B
	Loss on Ignition (LOI) at 450°C	L047B using gravimetry	B
	Metals: Arsenic Barium Beryllium Boron (total) Cadmium Chromium Cobalt Copper Iron Lead Manganese Mercury Molybdenum Nickel Selenium Tin Vanadium Zinc Antimony Sulphur (Total) Water-soluble boron Aluminium Calcium Potassium Magnesium Sodium Phosphorus	L038B using ICP-OES	B
	Water-soluble Sulphate (16hr extract)	L038B using ICP-OES	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	Chemical Tests (cont'd)		
	Inorganic Analysis: (cont'd)		
	Water-soluble Sulphate (Ihr extract)	L038B using ICP-OES	B
	Total sulphate	L038B using ICP-OES	B
	Hexavalent Chromium	L080B by segmented flow autoanalyser	B
	Calorific Value	Documented In-House Method L013B based upon : BS EN 15400:2011 and BS EN ISO 18125:2017-07 using Bomb Calorimetry	B
	Monohydric phenols	L080B using continuous flow analyser	B
	Total Cyanide Free Cyanide Complex Cyanide (By Calculation)	L080B using continuous flow analyser	B
	Water Soluble Chloride Ammonia	L082B using Discrete Analyser	B
	Elemental Sulphur	L021B using HPLC	B
	Organic Matter Total Organic Carbon (by Calculation)	L009B using Potentiometric Detection	B
	Fraction Organic Carbon by Calculation (Expressed as fraction of TOC)	L009B using Potentiometric Titration	B
	Total organic carbon Organic matter	L023B using Titration	B
	Fraction Organic Carbon by Calculation (Expressed as fraction of TOC)	L023B using Titration	B
	Sulphide	L010B using ISE	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	Chemical Tests (cont'd)	Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil	
	pH	L005B using pH meter	B
	pH	L099 using Automated pH meter	B
	Electrical Conductivity	L031B using automated EC meter	B
	Loss on Ignition (LOI) at 450 °C	L047B using gravimetry	B
	Water-soluble Sulphate (16hr extract)	L038B using ICP-OES	B
	Water-soluble Sulphate (Ihr extract)		
	Total sulphate (acid soluble)		
	Hexavalent Chromium	L080B by segmented flow autoanalyser	B
	Metals: Barium Beryllium Chromium Cobalt Copper Lead Manganese Molybdenum Nickel Vanadium Zinc Arsenic Boron Cadmium Iron Mercury Selenium Tin	L038B using ICP-OES	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	Chemical Tests (cont'd)	Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil	
	Sulphur (Total)	L038B using ICP-OES	B
	Water-soluble boron	L038B using ICP-OES	B
	Monohydric phenols	L080B using continuous flow analyser	B
	Total cyanide Free Cyanide Complex Cyanide (By Calculation)	L080B using continuous flow analyser	B
	Water Soluble Chloride Ammonia	LO82B using Discrete Analyser	B
	Organic Matter Total Organic Carbon (by Calculation)	L009B using Potentiometric Detection	B
	Fraction Organic Carbon by Calculation (Expressed as fraction of TOC)	L009B using Potentiometric Titration	B
	Total organic carbon Organic matter	L023B using Titration	B
	Fraction Organic Carbon by Calculation (Expressed as fraction of TOC)	L023B using Titration	B
	Sulphide	L010B using ISE	B
RECYCLED WASTE Trommel Fines	Loss on Ignition at 440°C	Documented in house method ref L011B – using Gravimetric Analysis in accordance with HMRC Excise Notice LFT1 27 March 2015	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS	Chemical Tests (cont'd)	Documented In-House Methods	
	Total petroleum hydrocarbons (C10-C40) with banding: C12-C35 C10-C25 C25-C40 C10-C12 C12-C16 C16-C21 C21-C35 C35-C40 C10-C20 C21-C40	L076 using GC-FID	B
	Banded Pentane-Extractable Petroleum Hydrocarbons, as specified: Banded Aliphatic Fraction: C10-C12 C12-C16 C16-C21 C21-C35 C35-C40 C16-C35 Banded Aromatic Fraction: C10-C12 C12-C16 C16-C21 C21-C35	L076B using solid phase separation and GC-FID	B
	Petroleum Range Organics C6- C10 C6– C12	L129B by Headspace GCMS	B
	Petroleum Range Organics Aliphatic and Aromatic Banding: Aliphatic band >C5-C6 Aliphatic band >C6-C8 Aliphatic band >C8-C10 Aromatic band >EC5-EC7 Aromatic band >EC7-EC8 Aromatic band >EC8-EC10 TPH >C6-C8 TPH >C8-C10	L088 by Headspace GCMS	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	Chemical Tests (cont'd)	Documented In-House Methods	
	Polynuclear aromatic hydrocarbons: Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Benzo(ghi)perylene Chrysene Dibenzo(ah)anthracene Fluoranthene Fluorene Indeno(123-cd)pyrene Naphthalene Phenanthrene Pyrene Total PAH (sum of EPA 16)	L064B using GC-MS	B
	Semi-volatile organic compounds, specifically: Phenol 2-Chlorophenol Bis(2-chloroethyl)ether 1,2-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-chloroisopropyl)ether 2-Methylphenol Hexachloroethane Nitrobenzene Isophorone 2,4-Dimethylphenol Bis(2-chloroethoxy)methane 1,2,4-Trichlorobenzene 2,4-Dichlorophenol Hexachlorobutadiene	L064B using GC-MS	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	Chemical Tests (cont'd)	Documented In-House Methods	
	Semi-volatile organic compounds, specifically: 1,2,4-Trichlorobenzene 2,4-Dichlorophenol Hexachlorobutadiene 2-Chloronaphthalene Dimethylphthalate Dibenzofuran 4-Chlorophenyl phenyl ether Diethylphthalate Bromophenyl phenyl ether Hexachlorobenzene Carbazole	L064B using GC-MS	B
Soils	Volatile Organic Compounds, specifically: Chloromethane Chloroethane Bromomethane Trichlorofluoromethane 1,1-dichloroethylene 1,1,2-trichloro 1,2,2-trifluoroethane trans 1,2-dichloroethylene Methyl tert-butyl ether 1,1-dichloroethane Chloroform 1,1,1-trichloroethane 1,2-dichloroethane 1,1-dichloropropene cis 1,2-dichloroethylene Carbon tetrachloride 1,2-dichloropropane Trichloroethylene Dibromomethane Bromodichloromethane cis 1,3-dichloropropene trans 1,3-dichloropropene 1,1,2-trichloroethane 1,3-dichloropropane Dibromochloromethane Tetrachloroethene 1,2-dibromoethane chloro benzene	L073B using Head Space GC-MS (HS/GCMS)	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	Chemical Tests (cont'd)	Documented In-House Methods	
	Volatile Organic Compounds, specifically: 1,1,1,2-tetrachloroethane Styrene Bromoform isopropylbenzene Bromobenzene n-propylbenzene 2-chlorotoluene 4-chlorotoluene 1,3,5 trimethylbenzene tert-butylbenzene 1,2,4 trimethylbenzene sec-butylbenzene 1,3-dichlorobenzene p-isopropyltoluene 1,4-dichlorobenzene 1,2-dichlorobenzene butylbenzene 1,2-dibromo-3-chloropropane 1,2,4-trichlorobenzene hexachlorobutadiene 1,2,3-trichlorobenzene	L073B using Head Space GC-MS (HS/GCMS)	B
	Volatile Organic Compounds, specifically: Benzene Toluene Ethylbenzene (m+p)-Xylenes o-Xylene Total BTEX (By calculation)	L073B using Head Space GC-MS (HS/GCMS)	B
	Polychlorinated Biphenyls: PCB Congener 28 PCB Congener 52 PCB Congener 101 PCB Congener 118 PCB Congener 138 PCB Congener 153 PCB Congener 180 Total of the seven PCB congeners listed above	L027 using GCMS	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	Chemical Tests (cont'd)	Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil	
	Speciated Phenols, specifically: Resorcinol Catechol Phenol 2,3,5-Trimethylphenol 2-Isopropylphenol Total Cresols: (Sum of: 2-Methylphenol, 4-Methylphenol and 3-Methylphenol) Total Xylenols and Ethylphenols: (Sum of 3,4-Dimethylphenol, 2,6-Dimethylphenol, 4-Ethylphenol and 2,4-Dimethylphenol) Total Napthols: (Sum of: -Naphthol and 2-Naphthol)	L030 using HPLC	B
	Elemental Sulphur	L021B using HPLC	B
	Total petroleum hydrocarbons (C10-C40) with banding: C12-C35 C10-C25 C25-C40 C10-C12 C12-C16 C16-C21 C21-C35 C35-C40 C10-C20 C21-C40	L076 using GC-FID	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	Chemical Tests (cont'd)	Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil	
	Banded Pentane-Extractable Petroleum Hydrocarbons, as specified: Banded Aliphatic Fraction: C10-C12 C12-C16 C16-C21 C21-C35 C35-C40 C16-C35 Banded Aromatic Fraction: C10-C12 C12-C16 C16-C21 C21-C35	L076B using solid phase separation and GC-FID	B
	Polynuclear aromatic hydrocarbons: Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene Dibenz(a,h)anthracene Benzo(g,h,i)perylene	L064B using GC-MS	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	Chemical Tests (cont'd)	Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil	
	Semi-volatile organic compounds: 2-Chlorophenol Bis(2-chloroethyl)ether 1,2-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-chloroisopropyl)ether 2-Methylphenol Nitrobenzene Isophorone 2,4-Dimethylphenol Bis(2-chloroethoxy)methane 1,2,4-Trichlorobenzene 2,4-Dichlorophenol Hexachlorobutadiene 2-Chloronaphthalene Dimethylphthalate Dibenzofuran 4-Chlorophenyl phenyl ether Diethylphthalate Bromophenyl phenyl ether Hexachlorobenzene Carbazole	L064B using GC-MS	B
	Volatile Organic Compounds, specifically: Benzene Toluene Ethylbenzene (m+p)-Xylenes o-Xylene Total BTEX (By calculation) chloromethane chloroethane bromomethane trichlorofluoromethane 1,1-dichloroethylene 1,1,2-trichloro 1,2,2-trifluoroethane trans 1,2-dichloroethylene methyl tert-butyl ether 1,1-dichloroethane	L073B using Head Space GC-MS (HS/GCMS)	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	Chemical Tests (cont'd)	Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil	
	Volatile Organic Compounds, specifically: chloroform 1,1,1-trichloroethane 1,2-dichloroethane 1,1-dichloropropene cis 1,2-dichloroethylene carbontetrachloride 1,2-dichloropropane trichloroethylene dibromomethane bromodichloromethane cis 1,3-dichloropropene trans 1,3-dichloropropene 1,1,2-trichloroethane 1,3-dichloropropane dibromochloromethane tetrachloroethene 1,2-dibromoethane chloro benzene 1,1,1,2-tetrachloroethane styrene bromoform isopropylbenzene bromobenzene n-propylbenzene 2-chlorotoluene 4-chlorotoluene 1,3,5 trimethylbenzene tert-butylbenzene 1,2,4 trimethylbenzene sec-butylbenzene 1,3-dichlorobenzene p-isopropyltoluene 1,4-dichlorobenzene 1,2-dichlorobenzene butylbenzene 1,2-dibromo-3-chloropropane 1,2,4-trichlorobenzene hexachlorobutadiene 1,2,3-trichlorobenzene	L073B using Head Space GC-MS (HS/GCMS)	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	Chemical Tests (cont'd)	Documented In-House Method to meet the requirements of the Environment Agency MCERTS Performance Standard - chemical testing of soil	
	Polychlorinated Biphenyls: PCB Congener 28 PCB Congener 52 PCB Congener 101 PCB Congener 118 PCB Congener 138 PCB Congener 153 PCB Congener 180 Total of the seven PCB congeners listed above	L027 using GCMS	B
	Petroleum Range Organics Aliphatic and Aromatic Banding: Aliphatic band >C5-C6 Aliphatic band >C6-C8 Aliphatic band >C8-C10 Aromatic band >EC5-EC7 Aromatic band >EC7-EC8 Aromatic band >EC8-EC10 TPH >C6-C8 TPH >C8-C10	L088 by Headspace GCMS	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS Laboratory Prepared Leachates (single stage 2:1. 10:1, & two stage 2:1 & 8:1)	<u>Chemical Tests</u>	Documented in-house methods Including Waste Acceptance Criteria Leachate Preparation to BS EN 12457-1:2002 (L043B) BS EN 12457-2:2002 (L043B) BS EN 12457-3:2002 (L043B)	
	pH	L005B using pH electrode L031B using automated pH meter	B
	Biochemical Oxygen Demand	L086B by DO meter L086B by automated robot	B B
	Alkalinity Chloride Nitrite Thiocyanate	L082 by discrete analyser	B
	Sulphate Boron	L039B by ICPOES	B
	Hardness	L045 by calculation	B
	Metals (total & dissolved): Aluminium Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Molybdenum Nickel Phosphorus	L039B by ICPOES	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS	<u>Chemical Tests</u>	Documented in-house methods Including Waste Acceptance Criteria Leachate Preparation to BS EN 12457-1:2002 (L043B) BS EN 12457-2:2002 (L043B) BS EN 12457-3:2002 (L043B)	
Laboratory Prepared Leachates (single stage 2:1, 10:1, and two stage 2:1, 8:1)	Electrical Conductivity Total Dissolved Solids (by Calculation)	L031B using automated EC meter	B
	Metals (total & dissolved)CTD: Potassium Selenium Sodium Tin Vanadium Zinc	L039B by ICPOES	B
	Metals: Cadmium Arsenic Selenium Beryllium Cobalt Copper Molybdenum Tin Zinc Nickel Vanadium Antimony Chromium Lead Manganese Barium Phosphorus Iron Sodium Magnesium Potassium Boron Aluminium	L012B by ICPMS	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	<u>Chemical Tests</u>	Documented in-house methods Including Waste Acceptance Criteria Leachate Preparation to BS EN 12457-1:2002 (L043B) BS EN 12457-2:2002 (L043B) BS EN 12457-3:2002 (L043B)	
Laboratory Prepared Leachates (single stage 10:1, & two stage 2:1, & 8:1)	Mercury	L085B using Atomic Fluorescence Spectroscopy	B
	Monohydric phenols Total Cyanide Cyanide (free) Complex cyanide (by Calculation)	L080B using continuous flow analyser	B
	Chemical Oxygen Demand (COD)	L065 by Colorimeter (HACH DR/890)	B
	Ammonia Phosphate	L082 by discrete analyser	B
	Hexavalent Chromium	L080B by segmented flow Analyser	B
	Fluoride	L033 by ion selective electrode L033 by Metrohm Analyser	B
	Anions, specifically; Fluoride Chloride Nitrite Bromide Nitrate Phosphate Sulphate Bromate	L008B using Ion Chromatography	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS - surface water, groundwater, potable (non-regulatory) and prepared leachate)	<u>Chemical Tests</u> pH	L005B using pH electrode	B
Surface water, groundwater, potable (non-regulatory) and prepared leachate), final sewage effluent and Landfill Leachate	Biochemical Oxygen Demand	L086B by DO meter	B
		L086B by automated robot (Skalar) with LDO probes based on BS ISO 17289:2014	B
	Alkalinity Chloride Nitrite Thiocyanate	L082 using discrete analyser	B
Surface water, groundwater, potable (non-regulatory) and prepared leachate), Landfill Leachate and final sewage	Sulphate Boron	L039B using ICP-OES	B
	Hardness	L045 by calculation	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	Chemical Tests (cont'd)		
Effluent	Metals (total & dissolved): Aluminium Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Molybdenum Nickel Phosphorus	L039B using ICP-OES	B
Surface water, groundwater, potable (non-regulatory) and prepared leachate), Landfill Leachate and final sewage Effluent (cont'd)	Metals (total & dissolved)CTD: Potassium Selenium Sodium Tin Vanadium Zinc	L039B using ICP-OES	B
Landfill Leachate and final sewage effluent	Silver (total & dissolved)	L039B using ICP-OES	B
WATERS – Process Water	Metals (total and Dissolved): Aluminium Copper Iron Sulphate Zinc	L039B using ICP-OES	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
	Chemical Tests (cont'd)		
WATERS - surface water, groundwater, potable (non-regulatory) and prepared leachate	Metals: Cadmium Arsenic Selenium Beryllium Cobalt Copper Molybdenum Tin Zinc Nickel Vanadium Antimony Chromium Lead Manganese Barium Phosphorous Iron Sodium Magnesium Potassium	Metals Analysis by In house method L012B using ICPMS	B
WATERS - surface water and potable water (non-regulatory)	Mercury	Metals Analysis by In house method L012B using ICPMS analysis	B
WATERS - surface water, groundwater and prepared leachate	Boron	Metals Analysis by In house method L012B using ICPMS	B
WATERS - surface water, potable (non-regulatory and prepared leachate	Aluminium	Metals Analysis by In house method L012B using ICPMS	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	Chemical Tests (cont'd)		
WATERS - surface water, groundwater, potable (non-regulatory) and prepared leachate	Mercury	In house method L085B using Atomic Fluorescence	B
Surface water, groundwater, potable (non-regulatory) and prepared leachate, final sewage effluent and landfill leachate	Monohydric phenols Total cyanide Cyanide (free) Complex cyanide (by Calculation)	L080B using continuous flow analyser	B
Surface water, groundwater, potable (non-regulatory) and prepared leachate, final sewage effluent and landfill leachate	Chemical Oxygen Demand (COD)	Hach DR/890 Colorimeter by in house method L065	B
WATERS - Surface water, groundwater and potable (non-regulatory) Water, final sewage effluent and landfill leachate	Ammonia Phosphate	L082 using discrete analyser	B
- Surface water, groundwater and potable (non-regulatory) Water, final sewage effluent landfill leachate and prepared Leachate	Hexavalent Chromium	L080B by segmented flow autoanalyzer.	B
Surface water, groundwater and potable (non-regulatory) water	Fluoride	L033 by ion selective electrode	B
Surface water, groundwater, potable (non-regulatory) water and prepared leachates final sewage effluent and landfill leachate	Fluoride	L033B by Metrohm Analyser with ion selective electrode	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	Chemical Tests (cont'd)		
Surface water, groundwater and potable (non-regulatory) water final sewage effluent and landfill leachate	Nitrate	L078 by spectrophotometry	B
Surface water, groundwater and potable (non-regulatory) water	Calcium	In house method L012B using ICPMS analysis	B
Surface water, groundwater and potable (non-regulatory) water final sewage effluent and landfill leachate	Total Organic Carbon (TOC) Dissolved Organic Carbon (DOC)	L037B by TOC analyser	B
Surface and groundwater, potable (non-regulatory) water, Sewage Effluent, Landfill Leachate and prepared Leachates	pH	L099 using Automated pH meter	B
Surface water, groundwater, potable (non-regulatory) water, Sewage Effluent, and prepared Leachates	Electrical Conductivity Total Dissolved Solids (By Calculation)	L031B using automated EC meter	B
- Surface water, groundwater and potable (non-regulatory) water (cont'd)	Volatile Organic Compounds, specifically: Chloromethane Bromomethane Chloroethane 1,1,2-Trichloro-1,2,2-trifluoroethane 1,1-Dichloroethylene MTBE *trans*-Dichloroethylene 1,1-Dichloroethane *cis*-Dichloroethylene 2,2-Dichloropropane Chloroform 1,1,1-Trichloroethane	L073B using Head Space GC-MS (HS/GCMS)	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd) - Surface water, groundwater and potable (non-regulatory) water (cont'd)	<u>Chemical Tests</u> (cont'd) Volatile Organic Compounds, specifically: (cont'd) 1,1-Dichloropropene Carbon tetrachloride 1,2-Dichloroethane Trichloroethylene 1,2-Dichloropropane Dibromomethane Bromodichloromethane *cis*-1,3-Dichloropropene 1,3-Dichloropropane *trans*-1,3-Dichloropropene 1,1,2-Trichloroethane *n*-Propylbenzene 2-Chlorotoluene 1,3,5-Trimethylbenzene 4-Chlorotoluene *tert*-Butylbenzene 1,2,4-Trimethylbenzene *sec*-Butylbenzene *p*-Isopropyltoluene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Butylbenzene 1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene Hexachlorobutadiene Naphthalene 1,2,3-Trichlorobenzene 1,1,2,2-Tetrachloroethane Tetrachloroethylene Dibromochloromethane 1,2-Dibromoethane Chlorobenzene 1,1,1,2-Tetrachloroethane Styrene Bromoform Isopropylbenzene Bromobenzene	L073B using Head Space GC-MS (HS/GCMS)	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	Chemical Tests (cont'd)		
- Surface water, groundwater and potable (non-regulatory) water	Benzene Toluene Ethylbenzene (*m*+*p*)-Xylenes *o*-Xylene Total BTEX (By calculation)	L073B using Head Space GC-MS (HS/GCMS)	B
	Total Petroleum Hydrocarbons (C10-C40) and (C12-C35)	L070B using GC-MS	B
	Polyaromatic Hydrocarbons: Naphthalene Acenaphthene Acenaphthylene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benz(a)anthracene Polyaromatic Hydrocarbons: Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benz(a)pyrene	L102B using GCMS	B
WATERS -Surface, Ground and potable (non-regulatory)	Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Benzo(g,h,i)perylene Total PAH (Sum of 16 individuals)	L102B using GCMS	B
- Surface water, groundwater and potable (non-regulatory) water	Petroleum Range Organics C6-C8 C8-C10 Banded aliphatic Fractions: C5-C6 C6-C8 C8-C10 Banded aromatic Fractions C5-C7 C7-C8	L088 using headspace GCMS	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	Chemical Tests (cont'd)		
- Surface water, groundwater and potable (non-regulatory) water	Petroleum Range Organics C6-C10 C6-C12	L129B by Headspace GCMS	B
- Surface water, groundwater and potable (non-regulatory) water, prepared leachates, final sewage effluent and landfill leachate	Anions, specifically: Fluoride Chloride Nitrite Bromide Nitrate Phosphate Sulphate	L008B using Ion Chromatography	B
Surface water, groundwater and potable (non-regulatory) water and prepared leachates	Bromate	L008B using Ion Chromatography	B
Potable water (non regulatory), surface water, groundwater, final sewage effluent, process water (closed system heating and cooling waters), landfill leachate	Total Suspended Solids at 105°C	L004B By gravimetric analysis	B
	Total Dissolved Solids at 180°C	L004B By gravimetric analysis	B
	Volatile Suspended Solids at 550°C	L004B By gravimetric analysis	B
- Surface water, groundwater and potable (non-regulatory) water	Total petroleum hydrocarbons (C10-C40) and (C12-C35) with banding:	L101 using GC/GC FID	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	Chemical Tests (cont'd)		
- Surface water, groundwater and potable (non-regulatory) water (cont'd)	Banded Aliphatic Fraction: C10-C12 C12-C16 C16-C21 C21-C35 Banded Aromatic Fraction: C10-C12 C12-C16 C16-C21 C21-C35		B
- Surface water, groundwater and potable (non-regulatory) water	Banded Aliphatic Fraction (By calculation C5-C35 Banded Aromatic Fraction (By Calculation) C5-C35	L088 using HSGCMS and L101B using GC/GC FID	B
- Surface water, groundwater and potable (non-regulatory) water	Speciated Phenols, specifically: Resorcinol Catechol Phenol 2,3,5-Trimethylphenol 2-Isopropylphenol Total Cresols: (Sum of: 2-Methylphenol, 4-Methylphenol and 3-Methylphenol) Total Xylenols and Ethylphenols: (Sum of: 3,4-Dimethylphenol, 2,6-Dimethylphenol, 4-Ethylphenol and 2,4-Dimethylphenol) Total Napthols: (Sum of:1-Naphthol and 2-Naphthol)	L030 using HPLC	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
AIR Ambient Air and Soil Vapour (in pre-collected in Summa Gas Cannisters)	<u>Chemical Tests</u> Volatile Organic Compounds: 1,1,1-trichloroethane 1,1,2,2-tetrachloroethane 1,1,2-trichloroethane 1,1-dichloroethane 1,1-dichloroethene 1,2,4-trichlorobenzene 1,2,4-trimethyl benzene 1,2-dibromoethane 1,2-dichlorobenzene 1,2-dichloroethane 1,2-dichloropropane 1,3,5-trimethyl benzene 1,3-butadiene 1,3-dichlorobenzene 1,4-dichlorobenzene 1,4-dioxane 2-hexanone (MBK) 4-ethyl toluene acetone acrolein benzene benzyl chloride bromodichloromethane bromoform bromomethane carbon disulphide carbon tetrachloride chlorobenzene chloroethane chloroform chloromethane cis-1,2-dichloroethene cis-1,3-dichloropropene cyclohexane dibromochloromethane dichlomethane dichlorodifluoromethane dichlorotetrafluoroethane ethanol ethyl acetate ethyl benzene	In house method L106B based on TO-15 using Thermal desorption and GCMS detection methodology	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
AIR (cont'd)	Chemical Tests (cont'd)		
Ambient Air and Soil Vapour (in pre-collected in Summa Gas Cannisters)	Volatile Organic Compounds (cont'd): heptane hexachlorobutadiene hexane isopropyl alcohol m/p-xylene MEK methyl methacrylate MIBK MTBE naphthalene o-xylene propene styrene tetrachloroethene THF toluene trans-1,2-dichloroethene trans-1,3-dichloropropene trichloroethene trichlorofluoromethane trichlorotrifluoroethane vinyl acetate vinyl chloride	In house method L106B based on TO-15 using Thermal desorption and GCMS detection methodology	B
Ambient Air and Soil Vapour (in pre-collected in Summa Gas Cannisters)	Petrol Range Organics including banding: Benzene toluene ethyl benzene m/p-xylene o-xylene >C5-C12 Total	In house method L107B based on TO-15 using Thermal desorption and GCMS detection methodology	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
AIR (cont'd)	Chemical Tests (cont'd)		
Ambient Air and Soil Vapour (in pre-collected in Gas Bags: Tedlar Bags/Flex Foil)	Bulk Gases: hydrogen ethylene propane propylene i-butane n-butane propadiene ethane acetylene t-2-butene 1-butene i-butylene c-2-butene i-pentane n-pentane methane 1,3-butadiene methyl-acetylene carbon monoxide t-2-pentene 1-pentene 2-methyl-2-butene c-2-pentene	In house method L108B using GCFID detection	B
Air (on Tenax TA (ATD) tubes)	VOC's: 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4- Trimethylbenzene (Pseudocumene) 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane (EDB) 1,2-Dichlorobenzene 1,2-Dichloropropane 1,3,5-Trimethylbenzene (Mesitylene) 1,3-Dichlorobenzene	In-house method Air02 by thermal desorption GCMS	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Air (Cont'd)	Chemical Tests (Cont'd)		
Air (on Tenax TA (ATD) tubes)	VOC's: 1,3-Dichloropropane 1,4-Dichlorobenzene 1,4-Dioxane 2-Chlorotoluene 2-Nitropropane 4-Chlorotoluene Benzene Bromobenzene Bromochloromethane Bromoform Chlorobenzene cis-1,3-Dichloro-1-propene cis-1,4-Dichloro-2-butene Dibromochloromethane Dibromomethane Ethyl methacrylate Ethylbenzene Hexachlorobutadiene Isopropylbenzene (Cumene) Methyl methacrylate Naphthalene n-Butylbenzene Nitrobenzene o-Xylene p&m-Xylene p-Isopropyltoluene (p-Cymene) Propylbenzene sec-Butylbenzene Styrene tert-Butylbenzene Tetrachloroethylene Toluene trans-1,3-Dichloro-1-propene trans-1,4-Dichloro-2-butene Trichloroethene	In-house method Air02 by thermal desorption GCMS	B
Air (on Molecular Sieves 5A TD tubes)	Determination of Nitrous Oxide	In-house method AIR34 by thermal desorption GCMS	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WORKPLACE & AMBIENT AIR MONITORING	Analysis of:		
Dust - Airbourne	Total Inhalable and Respirable Aerosols	MDHS 14/4 Documented in house method AIR18	B
POLLUTANTS AND EFFLUENTS: ATMOSPHERIC Diffuse pollutants from workplace atmospheres	Chemical Tests		
Filters (GFA 25mm and 37mm)	Metals: Arsenic, Beryllium, Cadmium, Cobalt, Chromium, Copper, Iron, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Lead, Tin, Thallium and Vanadium	In House Method AIR -020 based on NIOSH 7300 using ICP-OES	B
Filters (GFA 37mm)	Metals: Potassium	In House Method AIR -020 based on NIOSH 7300 using ICP-OES	B
Filters (MCE QMA, and PVC) 25mm and 37mm)	Metals: Aluminium, Arsenic, Boron, Barium, Beryllium, Calcium, Cadmium, Cobalt, Chromium, Copper, Iron, Potassium, Magnesium, Manganese, Molybdenum, Sodium, Nickel, Phosphorus, Lead, Tin, Titanium, Thallium, Vanadium	In House Method AIR -020 based on NIOSH 7300 using ICP-OES	B
Filters (MCE, QMA and PVC) (37mm)	Metals: Zinc	In House Method AIR -020 based on NIOSH 7300 using ICP-OES	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES	<u>Chemical Tests</u>		
Sorbent tubes (Activated carbon)	Siloxanes: hexamethyldisiloxane hexamethylcyclotrisiloxane octamethyltrisiloxane octamethylcyclotetrasiloxane decamethyltetrasialoxane decamethylcyclopentasiloxane dodecamethylpentasiloxane dodecamethylcyclohexasiloxane	PD CEN/TS 13649:2014 using solvent extraction and GC MS analysis (Air-03)	B
Process water (DI), Potable (non-regulatory) Groundwater, Surface water & Landfill leachate	Total Suspended Solids	Documented in house method L004F using Gravimetry	F
	pH value	Documented in house method L005F using a manual probe	F
	Electrical Conductivity (EC)	Documented in house method L031F using a manual probe	F
	Chemical Oxygen Demand	Documented in house method L065F using Colourimetry	F
	Biochemical Oxygen Demand (BOD)	Documented in house method L086F using BOD Robot (Skalar) with LDO probes	F
Process water (DI), Potable (non-regulatory) Groundwater, Surface water	Total Dissolved Solids by Calculation from EC result	Documented in house method L031F using a manual probe	F

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
	<u>Sampling</u>		
Soils	Soil Sampling	In Compliance with ISO 10381-4:2003 and ISO 10381-5:2005	B
Rivers and Streams	Water Sampling	In Compliance with ISO 5667-6:2014	B
Underground Water	Water Sampling	In Compliance with ISO 5667-11:2009	B
SOILS for civil engineering purposes	<u>Geotechnical Testing</u>		
	Sample Preparation	In house method G043	B, C, D
	Sampling earthworks materials - from stockpiles - laid materials - excavations	Documented In-House Method SS05 - Sampling Earthworks	Site
	Moisture content - oven drying method	BS 1377-2:1990; BS 1377-2:2022	D
	Moisture content - oven drying method	BS 1377-2:2022	B
	Liquid limit - cone penetrometer	BS 1377-2:2022	B
	Liquid limit - cone penetrometer - one point	BS 1377-2:2022	B
	Plastic limit	BS 1377-2:2022	B, D
	Plasticity index	BS 1377-2:2022	B
	Particle density - gas jar	BS 1377-2:2022	B, D
	Linear Shrinkage	BS 1377-2:2022	B
	Particle size distribution - wet sieving	BS 1377-2:2022	B, D
	Particle size distribution - dry sieving	BS 1377-2:2022	B, D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS for civil engineering purposes (cont'd)	Geotechnical Testing (cont'd)		
	Particle size distribution - sedimentation - hydrometer method	BS 1377-2:2022	B
	Dry density/moisture content relationship (2.5 kg rammer)	BS 1377-2:2022	B, D
	Dry density/moisture content relationship (4.5 kg rammer)	BS 1377-2:2022	B, D
	Dry density/moisture content relationship(vibrating hammer)	BS 1377-2:2022	B, D
	Moisture condition value(MCV)	BS 1377-2:2022	B, D, Site
	MCV - natural moisture content	BS 1377-2:2022	B, D, Site
	MCV/moisture content relation	BS 1377-2:2022	B, D
	California Bearing Ratio (CBR)	BS 1377-2 2022	B, D
	Swelling of soaked CBR specimen	BS 1377-2:2022	B, D
	Undrained shear strength - triaxial compression without measurement of pore pressure	BS 1377-2:2022	B
	Undrained shear strength - triaxial compression with multistage loading and without measurement of pore pressure	BS 1377-2:2022	B
	Shear strength by direct shear (small shearbox apparatus)	BS 1377-2:2022	B
	Effective shear strength – consolidated-undrained triaxial compression test with measurement of pore pressure	BS 1377-2:2022	B
	Effective shear strength – consolidated-drained triaxial compression test with measurement of volume change	BS 1377-2:2022	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS for civil engineering purposes (cont'd)	<u>Geotechnical Testing</u> (cont'd)		
	Effective shear strength – consolidated undrained multistage triaxial compression test with measurement of pore pressure	Documented in House method G084	B
	Saturation Moisture of Chalk	BS 1377-2:2022	B
	One-dimensional consolidation properties	BS 1377-2:2022	B
	Determination of Swelling and collapse Characteristics	BS 1377-2:2022	B
	In-situ density - sand replacement method (small pouring cylinder)	BS 1377-9:1990	Site
	In-situ density - sand replacement method (large pouring cylinder)	BS 1377-9:1990	Site
	In-situ density - core cutter method	BS 1377-9:1990	Site
	In-situ California Bearing Ratio (CBR)	BS 1377-9:1990	Site
	Vertical deformation and strength characteristics by the plate loading test	BS 1377-9:1990	Site
	Calculation of nominal CBR value using the plate bearing test	Design Manual for Roads and Bridges, IAN 73/06 Design of Pavement Foundations, Rev 1: 2009	Site

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS for civil engineering purposes (cont'd)	Geotechnical Testing (cont'd)		
	Dynamic Cone Penetration	Design Manual for Roads and Bridge, CS229 Data for Pavement Assessment, Rev 0: 2020	Site
	Calculation of nominal CBR value using the dynamic cone penetrometer test (DCP)	Design Manual for Roads and Bridge, CS229 Data for Pavement Assessment, Rev 0: 2020	Site
	Hand shear vane	Guideline for handheld shear vane test: New Zealand Geotechnical Society Inc, August 2001	Site D
	Permeability - Filtration Coefficient for 1x10-3 to 1 x 10-6 m/s USBCS (0.01<D20<2.00mm)	Hydrogeologia Ogolna: 1990 by Z. Pazdro and B. Kozerski	B
	Shear strength by direct shear (large shearbox apparatus)	BS 1377-2:2022	
	Shear strength by direct shear (large shearbox apparatus)	BS EN ISO 17892-10:2018	B
	Determination of effective angle of internal friction and effective cohesion of earthworks materials (using 300 mm shearbox)	Specification for Highway Works, HMSO November 2016 Clause 636	B
	MCV/moisture content relation	BS 1377-2:2022	B
	In-situ bulk density - nuclear method - absolute tests - compliance tests	BS 1377-9:1990	Site
	In-situ moisture density - nuclear method - absolute tests - compliance tests	BS 1377-9:1990	Site
	In-situ density - dielectric method	Documented In-House Method SS17	Site
	Relative compaction	BS 1377-1:2016	D
	Percentage air voids (Va)	BS 1377-1:2016	D

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS for civil engineering purposes (cont'd)	Geotechnical Testing (cont'd)		
Hydraulically Bound and Stabilized materials for Civil Engineerring Purposes	Moisture Condition Value (MCV)	BS EN 13286-46:2003	D, Site
	Laboratory reference density and water content - proctor compaction	BS EN 13286-2:2010	B, D
	Laboratory reference density and water content - vibrating hammer	BS EN 13286-4:2021	B, D
	Moisture condition value (MCV)	BS EN 13286-46:2003	B
	California bearing ratio, immediate bearing index and linear swelling	BS EN 13286-47:2021	B, D
AGGREGATES	Sampling aggregates - from stockpiles	BS EN 932-1:1997	Site
	Particle size distribution - sieving method	EN 933-1:2012 BS EN 933-1:2012	B, D
	Water Content	EN 1097-5:2008 BS EN 1097-5:2008	B, D
	Sample Reduction by quartering	EN 932-2:1999 BS EN 932-2:1999	B, C, D
	Sample reduction using a riffle box	EN 932-2:1999 BS EN 932-2:1999	B, C, D
	Uniformity Coefficient	BS EN ISO 14688-2: 2018	B, D
	Coefficient of Curvature	BS EN ISO 14688-2: 2018	B
	Resistance to fragmentation by the Los Angeles test method	EN 1097-2:2020 BS EN 1097-2:2020	B
	Method for determination of frost heave	BS 812-124:2009	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
AGGREGATES (cont'd)	Geotechnical Testing (cont'd)		
	Classification test for the constituents of coarse recycled Aggregates	EN 933-11:2009 BS EN 933-11:2009	B
	Particle shape – Flakiness Index	BS EN 933-3:2012	B
	Particle shape – Shape Index	BS EN 933-4:2008	B
	Percentage of crushed and broken surfaces in coarse aggregate	BS EN 933-5:2022	B
	Resistance to wear (Micro-Deval)	BS EN 1097-1:2023	B
	Loose Bulk Density and voids	BS EN 1097-3:1998	B
	Particle density and water absorption - wire basket method for aggregate particles between 31.5 and 63 mm	BS EN 1097-6:2022	B
	Particle density and water absorption - pyknometer method for aggregate particles between 4 mm and 31.5 mm	BS EN 1097-6:2022	B
	Particle density and water absorption - pyknometer method for aggregate particles between 0.063 mm and 4 mm	BS EN 1097-6: 2022	B
	Magnesium Sulphate test	BS EN 1367-2:2009	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
GEOTECHNICAL INVESTIGATION and TESTING - Laboratory testing of soil	<u>Geotechnical Testing</u> (cont'd)		
	Sample Preparation	In house method G043	B, C, D
	Water Content	BS EN ISO 17892-1:2014 +A1 2022	B, D
	Bulk Density – immersion in fluid method	BS EN ISO 17892-2:2014	B
	Bulk Density – Linear measurement method	BS EN ISO 17892-2:2014	B
	Determination of particle density - fluid pycnometer method	BS EN ISO 17892-3:2015	B
	Determination of particle size distribution - Sieving method	BS EN ISO 17892-4:2016	B, D
	Determination of particle size distribution - Hydrometer method	BS EN ISO 17892-4:2016	B
	Determination of liquid limit (fall cone method)	BS EN 17892-12:2018 + A2:2022	B
	Determination of liquid limit (one-point fall cone method)	BS EN 17892-12:2018 + A2:2022	B
	Determination of plastic limit	BS EN 17892-12:2018 +A2:2022	B, D
	Determination of plasticity limit	BS EN 17892-12:2018 + A2:2022	B
	Incremental loading oedometer test	BS EN ISO 17892-5:2017	B
	Unconsolidated undrained triaxial test	BS EN ISO 17892-8:2018	B
	Consolidated triaxial compression tests on water saturated soils	BS EN ISO 17892-9:2018	B
	Direct Shear Tests – Small Shearbox	BS EN ISO 17892-10:2018	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
GEOTECHNICAL INVESTIGATION and TESTING - Laboratory testing of soil (cont'd)	<u>Geotechnical Testing</u> (cont'd)		
	Unconfined compression test	BS EN ISO 17892 7:2018 & BS 1377-2:2022	B
	Determination of permeability in a Triaxial Cell	BS1377-6: 1990(Withdrawn)	B
	Determination of the permeability of clayey soils in a triaxial cell using the accelerated permeability test (Constant Head test)	Environment Agency R & D Technical Report P1-398/TR/2: January 2003	B
	Permeability tests in a triaxial cell (Constant Head test)	BS EN ISO 17892-11:2019, BS 1377-2: 2022	B
	Thermal Conductivity	ASTM D5334-22	B
	Electrical Resistivity	BS 1377-3:2018+A1:2021	B
Rock and Natural Stone	Determination of point load strength and anisotropy indices	The Complete ISRM Suggested Methods – Rock Characterization Testing and Monitoring 1974 – 2006, Editors: R Ulusay & J A Hudson	B
	Determination of Uniaxial Compressive Strength	The Complete ISRM Suggested Methods – Rock Characterization Testing and Monitoring 1974 – 2006, Editors: R Ulusay & J A Hudson	B
	Water Content of a rock sample	The Complete ISRM Suggested Methods – Rock Characterization Testing and Monitoring 1974 – 2006, Editors: R Ulusay & J A Hudson	B
Rock	Thermal Conductivity	ASTM D5334-22	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
BITUMINOUS MIXTURES for Road and other Paved Areas	Geotechnical Testing (cont'd)		
	Binder content by difference, using bottle rotation machine and pressure filter	BS EN 12697-1:2020	D
	Particle size distribution	BS EN 12697-2:2024	D
	Maximum density - volumetric procedure	BS EN 12697-5: 2018	D
	Bulk density - dry - saturated surface dry (SSD) - sealed specimen	BS EN 12697-6:2020	D
	Determination of air void content	BS EN 12697-8: 2018	D
	Temperature measurement by contact measuring device - in a lorry - of material after it has been laid and before rolling - in a heap	BS EN 12697-13:2017	Site
	Temperature measurement by infrared measuring device - in a paver	BS EN 12697-13:2017	Site
	Sampling - from the material around the augers of the paver,	BS EN 12697-27:2017	Site
	Sampling of laid and compacted materials by coring	BS EN 12697-27:2017	Site
	Preparation of samples for determining binder content, water content and grading	BS EN 12697-28:2020	D, Site
	Determination of thickness of a Bituminous pavement	BS EN 12697-36 2022	
	Rate of Spread of Coated Chippings	BS 594987:2024 Annex K	Site

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
	Geotechnical Testing (cont'd)		
BITUMINOUS ROAD SURFACING	In-Situ Density – Nuclear Method	BS 594987:2024 and Documented In-House Method SS16	Site
	In-Situ Density – Dielectric Method	BS 594987:2024 and Documented In-House Method SS15	Site
PAVEMENT SURFACES	Pavement surface macrotexture depth using a volumetric patch technique	BS EN 13036-1:2010	Site
	Surface regularity using a rolling straight-edge	Specification for Highway Works HMSO February 2016, Clause 702, TRRL Supplementary Report 290:1977	Site
	Core Logging	Manual for Roads and Bridges, CS 229 Revision 0, March 2020	D, Site
UNBOUND and HYDRAULICALLY BOUND MATERIALS	Degree of Pulverization	BS EN 13286-48 – 2005	Site
CONCRETE - Fresh	Sampling - composite sample - spot sample	BS EN 12350-1:2009	Site
	Slump Test	BS EN 12350-2:2019	Site
	Making and curing specimens for strength tests	BS EN 12390-2:2019	Site
END			