


Schedule of Accreditation

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United Kingdom Accreditation Service

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

 1873 Accredited to ISO/IEC 17025:2017	Scottish Police Authority Forensic Services	
	Issue No: 052 Issue date: 09 November 2021	
	Scottish Crime Campus Craignethan Drive Gartcosh Scotland G69 8AE	Contact: Craig Donnachie Tel: +44 (0) 1236 818108 E-Mail: craig.donnachie@spa.pnn.police.uk Website: www.spa.police.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 Scottish Crime Campus Craignethan Drive Gartcosh Scotland G69 8AE	Contact: Craig Donnachie Tel: +44 (0) 1236 818108 E-Mail: Craig.donnachie@spa.pnn.police.uk Website: www.spa.police.uk	Forensic Analysis Quality Management G
Address Rushton Court 3 West Victoria Dock Road Dundee DD1 3JT	Contact: Craig Donnachie Tel: +44 (0) 1236 818108 E-Mail: Craig.donnachie@spa.pnn.police.uk Website: www.spa.police.uk	Forensic Analysis D
Address 11 Howden Hall Road Edinburgh EH16 6TL	Contact: Craig Donnachie Tel: +44 (0) 1236 818108 E-Mail: Craig.donnachie@spa.pnn.police.uk Website: www.spa.police.uk	Forensic Analysis E
Address Nelson Street Aberdeen AB24 5EQ	Contact: Craig Donnachie Tel: +44 (0) 1236 818108 E-Mail: Craig.donnachie@spa.pnn.police.uk Website: www.spa.police.uk	Forensic Analysis A



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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
<p>BODY FLUIDS and TISSUES</p> <p>Blood</p> <ul style="list-style-type: none"> - Whole - Stains - FTA cards <p>Semen</p> <ul style="list-style-type: none"> - Whole - Azoospermic <p>Saliva</p> <ul style="list-style-type: none"> - Whole - Stains - Swabs (buccal cells) <p>Hair</p> <p>Cellular Material</p> <p>Touch DNA</p> <p>Body Tissue</p> <ul style="list-style-type: none"> - Muscle 	<p><u>Forensic Analysis</u></p> <p>DNA Profiling: Short Tandem Repeat (STR) DNA profiling for forensic analysis of:</p> <ul style="list-style-type: none"> - Crime Scene Samples - Subject Samples (Reference and Volunteer) - Elimination Database samples (VED/SED) - Crime Scene Samples meeting the requirements of the Custodian for the Purpose of Supply to the National DNA Database - Subject Samples (reference and Volunteer) meeting the requirements of the Custodian for the Purpose of Supply to the National DNA Database 	<p>Documented in house Methods using automated extraction</p> <ul style="list-style-type: none"> - Prefiler <p>Documented in house Methods using manual/automated quantification</p> <ul style="list-style-type: none"> - Quantifier <p>Documented in house Methods using manual/automated amplification (PCR) and the following chemistry:</p> <ul style="list-style-type: none"> - Globalfiler <p>Documented in house Methods using Electrophoresis Applied Biosystems 3500xL Genetic Analyser©</p>	<p>G, D</p>



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<p>BODY FLUIDS and TISSUES (cont'd)</p> <p>Blood</p> <ul style="list-style-type: none"> - Whole - Stains <p>Semen</p> <ul style="list-style-type: none"> - Whole - Azoospermic <p>Saliva</p> <ul style="list-style-type: none"> - Whole - Stains - Swabs (buccal cells) <p>Hair</p> <p>Cellular Material</p> <p>Touch DNA</p> <p>Body Tissue</p> <ul style="list-style-type: none"> - Muscle 	<p><u>Forensic Analysis (cont'd)</u></p> <p>DNA Profiling: Short Tandem Repeat (STR) DNA profiling for forensic analysis of:</p> <ul style="list-style-type: none"> - Crime Scene Samples - Subject Samples (reference) - Crime Scene Samples meeting the requirements of the Custodian for the Purpose of Supply to the National DNA Database - Subject Samples meeting the requirements of the Custodian for the Purpose of Supply to the National DNA Database - Elimination Database samples (VED/SED) <p><u>Related Opinions and Interpretation</u> Interpretation of DNA profiles generated internally from crime stains (single source/major-minor mixtures/complex mixtures) and reference samples. Statistical analysis and comparison of DNA profiles generated from crime stains with compatible reference DNA profiles (internally generated (SPA FS) or from other accredited laboratories)</p>	<p>Documented in house Methods using automated and manual extraction</p> <ul style="list-style-type: none"> - Manual extraction using QIAamp DNA mini kit and QIAamp DNA Blood Mini Kit - Automated extraction using EZ1 (Crime Scene Samples) <p>Documented in house Methods using manual quantification</p> <ul style="list-style-type: none"> - Quantifier <p>Documented in house Methods using manual amplification (PCR) and the following chemistry: GlobalFiler</p> <p>Documented in house Methods using Electrophoresis</p> <ul style="list-style-type: none"> - Applied Biosystems 3500XL Genetic Analyser© <p>Documented in house Methods using</p> <ul style="list-style-type: none"> - GMIDX v1.6 - STRmix v2.6 - MixtureCalc v2.0 	<p>A, E</p> <p>G, D, A, E</p>



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<p>BODY FLUIDS and TISSUES (cont'd)</p> <p><u>CJ Line</u> Saliva Swabs (buccal cells)</p>	<p><u>Forensic Analysis</u> (cont'd)</p> <p>DNA Profiling: Short Tandem Repeat (STR) DNA profiling for forensic analysis of:</p> <ul style="list-style-type: none"> - Subject Samples - Elimination Database samples (VED/SED and PED) - Subject Samples meeting the requirements of the Custodian for the Purpose of Supply to the National DNA Database <p><u>Related Opinions and Interpretation</u> Interpretation of DNA profiles generated internally from crime stains (single source/major-minor mixtures/complex mixtures) and reference samples</p>	<p>Documented in house methods using manual/automated extraction</p> <ul style="list-style-type: none"> - Prep-n-go - Chelex (manual extraction – hairs only) <p>Documented in house Methods using manual/automated amplification (PCR) and the following chemistry:</p> <ul style="list-style-type: none"> - GlobalFiler Express PCR Amplification Kit (CJ) <p>Documented in house Methods using Electrophoresis</p> <p>Applied Biosystems 3500xL Genetic Analyser©</p> <p>Documented in house Methods using GMIDX v1.6</p>	<p>D</p> <p>D</p>



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<p>BODY FLUIDS and TISSUES (cont'd)</p> <p><u>HID Samples</u></p> <p>Blood</p> <ul style="list-style-type: none"> - Whole - Stains <p>Hair</p> <p>Body Tissue</p> <ul style="list-style-type: none"> - Muscle - Bone - Teeth 	<p><u>Relationship Analysis</u></p> <p>Short Tandem Repeat (STR) DNA profiling for relationship testing for:</p> <ul style="list-style-type: none"> - Paternity - Maternity <p>Statistical analysis and comparison of DNA profiles generated from crime stains with compatible reference DNA profiles (internally generated or from other accredited laboratories)</p>	<p>Documented in house Methods using manual extraction</p> <ul style="list-style-type: none"> - QIAMP DNA Mini kit and QIAMP DNA Blood maxi kit <p>Documented in house Methods using manual quantification</p> <ul style="list-style-type: none"> - Quantifiler <p>Documented in house Methods using manual amplification and the following chemistry:</p> <ul style="list-style-type: none"> - Globalfiler - Applied Biosystems 3500xL Genetic Analyser© <p>Documented in house Methods using</p> <ul style="list-style-type: none"> - GMIDX v1.6 	<p>D</p> <p>D</p>



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<p>BODY FLUIDS and TISSUES (cont'd)</p> <p>Blood - Stains</p> <p>Semen - Whole - Azoospermic</p> <p>Saliva - Whole - Stains - Swabs (buccal cells)</p> <p>Hair</p> <p>Cellular Material</p> <p>Touch DNA</p> <p>Body Tissue - Muscle</p>	<p><u>Forensic Analysis</u></p> <p>DNA Profiling: Y - Short Tandem Repeat (Y-STR) DNA profiling for forensic analysis of:</p> <p>- Crime Scene Samples - Subject Samples (Reference and Volunteer) - Elimination Database samples (VED/SED)</p> <p><u>Related Opinions and Interpretation</u> Interpretation of DNA profiles generated internally from crime stains (single source/major/minor mixtures/complex mixtures) and reference samples. Statistical analysis and comparison of DNA profiles generated from crime stains with compatible reference DNA profiles (internally generated (SPA FS) or from other accredited laboratories)</p>	<p>Documented in house methods using manual PCR & amplification using the following chemistry:</p> <p>- Powerplex Y23</p> <p>Documented in house Methods using Electrophoresis Applied Biosystems 3500xL Genetic Analyser©</p> <p>Documented in house Methods Using</p> <p>- GMIDX v1.6 - YHRD</p>	<p>G</p> <p>A, D, E & G</p>



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BODY FLUIDS and TISSUES (cont'd)	<u>Forensic Analysis</u> (cont'd)		
Any material	Searching for: - Blood - Semen - Saliva - Hairs	Documented in house Methods using - visual examination - Low power microscopy - High power microscopy - Chemical testing (see below)	G, D, A, E
Any Material	Recovery and preparation, including for contingency purposes, for subsequent DNA analysis by an ISO/IEC 17025 accredited laboratory of the following from searched materials and swabs - Blood - Semen - Saliva - Hairs - Cellular Material	Documented in house Methods using - cutting - swabs and swabbing - extraction of stained materials - extraction of swabs - taping - mini-taping - Proteinase K	G, D, A, E
Blood	Presumptive testing for Blood via detection of - Peroxidase	Documented in house Methods using: - visual examination - KM (Kastle Meyer)	G, D, A, E
	<u>Related Opinions and Interpretations</u> Identification, interpretation and recording of blood patterns (BPA) on clothing and other items examined at the laboratory	Documented in house Methods using: - visual examination - Low power microscopy	G, D, A, E
Semen	Presumptive testing for seminal fluid via detection of: - Acid Phosphatase	Documented in house Methods using: - visual examination - Acid Phosphatase detection (colour reaction)	G, D, A, E



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BODY FLUIDS and TISSUES (cont'd)	<u>Forensic Analysis</u> (cont'd)		
Semen	Confirmatory testing for seminal fluid via identification of Spermatozoa	Documented in house methods using <ul style="list-style-type: none"> - High power microscopy - Haematoxylin and Eosin staining (H&E) 	G, D, A, E
Saliva	Presumptive testing for saliva via detection of: <ul style="list-style-type: none"> - Amylase 	Documented in house method using <ul style="list-style-type: none"> - visual examination - Phadebas tube test - Phadebas paper test 	G, D, A, E
BODY FLUIDS and TISSUES - TOXICOLOGY Blood (Preserved, Unpreserved)	<u>Forensic Analysis</u> Detection and quantitation of drugs in relation to s5A of the Road Traffic Act 1988 and Scottish Statutory Instrument no 83 (Cut-Off): Amphetamine (250 µg/L) Benzoyllecgonine(50 µg/L) Clonazepam (50 µg/L) Cocaine (10 µg/L) Diazepam (550 µg/L) Flunitrazepam (300 µg/L) Ketamine (20 µg/L) Lorazepam (100µg/L) Lysergic Acid Diethylamide – LSD (1µg/L) Methadone (500 µg/L) Methylamphetamine (10 µg/L) Methylenedioxymethamphetamine – MDMA (10 µg/L) 6-Monoacetylmorphine (5µg/L) Morphine (80 µg/L) Oxazepam (300 µg/L) Temazepam (1000 µg/L)	Documented in house methods FS-PHY-0735 using <ul style="list-style-type: none"> - supported liquid extraction - LC-MS/MS 	E



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<p>BODY FLUIDS and TISSUES – TOXICOLOGY (cont'd)</p> <p>Blood (Preserved, Unpreserved)</p>	<p><u>Forensic Analysis</u> (cont'd)</p> <p>Detection and quantitation of drugs in relation to s5A of the Road Traffic Act 1988 and Scottish Statutory Instrument no 83 (as amended) (Cut-off):</p> <p>Cannabis Group : Delta-9-Tetrahydrocannabinol - THC (1µg/L)</p>	<p>Documented in house (FS-PHY-0732) using:</p> <ul style="list-style-type: none"> - Solid phase extraction - LCMSMS 	E
<p>DAMAGE</p> <p>Damage (Clothing and Fabric material)</p>	<p><u>Forensic Analysis</u></p> <p><u>Related Opinions and Interpretations</u> Examination, assessment and evaluation of a damage item, comparison of damage with suspected instrument (excluding firearms) to determine the likelihood the suspected instrument caused the damage</p>	<p>Documented in house Methods using:</p> <ul style="list-style-type: none"> - visual examination - Microscopy 	G, D, A, E
<p>DOCUMENTS</p> <p>Handwriting (Roman Script)</p>	<p><u>Forensic Analysis</u></p> <p>The examination of submitted items to compare handwriting from known and suspect sources to establish links and/or authorship</p> <p><u>Opinions and Interpretation</u> The evaluation of the significance of any similarities and differences between the handwriting on submitted items and/or suspect/reference sources to determine the likelihood of them being written by the same/different individuals.</p>	<p>Documented in house method using</p> <ul style="list-style-type: none"> - visual examination - low power microscopy 	G



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DOCUMENTS (cont'd)	<u>Forensic Analysis</u> (cont'd)		
Signatures	The examination of submitted items to compare signatures from known and suspect sources to establish links and/or authorship	Documented in house method using <ul style="list-style-type: none"> - visual examination - low power microscopy 	G
	<u>Opinions and Interpretation</u> The evaluation of the significance of any similarities and differences between signatures on submitted items and/or suspect/reference sources to determine the likelihood of them being written by the same/different individuals.		
Paper and other material	Detection and enhancement of indented marks made by handwriting	Documented in house method using <ul style="list-style-type: none"> - oblique lighting - low power microscopy - ESDA 	G
Documents	Detection of alterations and decipherment of altered or obliterated entries <ul style="list-style-type: none"> - Paper examinations - Photocopying 	Documented in house method using <ul style="list-style-type: none"> - visual examination - lighting techniques - microscopy - VSC6000 	G
DRUGS (and materials suspected of containing drugs)	<u>Forensic Analysis</u> Legal classification of controlled drugs (Misuse of Drugs Act 1971)		G
	Identification of Cannabis and cannabis resin	Documented in house method FS-PHY-0007 and FS-PHY 0037 using <ul style="list-style-type: none"> - microscopy - thin-layer chromatography (TLC) - gas chromatography mass spectrometry GC-MS 	G, D



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<p>DRUGS (cont'd) (and materials suspected of containing drugs)</p>	<p><u>Forensic Analysis</u> (cont'd)</p> <p>Identification of</p> <ul style="list-style-type: none"> - Amphetamine - Cocaine - Diamorphine - MDMA <p>Quantification of</p> <ul style="list-style-type: none"> - Amphetamine (Glasgow only) - Diamorphine - Cocaine(Glasgow only) <p>Identification of characteristically marked proprietary pharmaceuticals, illicit copies and other drugs products</p>	<p>Documented in house method FS-PHY-0007 and FS-PHY 0037 using</p> <ul style="list-style-type: none"> - spot tests (Marquis reagent/Modified Scott reagent) (D only) - GC-MS <p>Documented in house method using</p> <ul style="list-style-type: none"> - HPLC <p>Documented in house method using</p> <ul style="list-style-type: none"> - visual comparison of appearance, markings - dimensions with reference materials, data collections and descriptions in authoritative texts - TICTAC - GCMS 	<p>G, D</p> <p>G, D</p> <p>G, D</p>
<p>FIREARMS Ammunition</p>	<p><u>Forensic Analysis</u></p> <p>Examination of discharged ammunition components to determine the number of guns used</p> <p>Examination of cartridges to determine if ammunition has been loaded into a firearm</p> <p>Comparison of spent ammunition to suspect guns</p>	<p>Documented in house method using</p> <ul style="list-style-type: none"> - comparison microscopy <p>Documented in house method using</p> <ul style="list-style-type: none"> - comparison microscopy <p>Documented in house method using</p> <ul style="list-style-type: none"> - comparison microscopy 	<p>G</p> <p>G</p> <p>G</p>



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FIREARMS (cont'd) Ammunition	<u>Forensic Analysis</u> (cont'd) Ammunition and component identification and legal classification	Documented in house method using - weighing - microscopy - length measurement - use of known samples or standard reference data	G
FIREARMS	Firearm and firearm component part identification and legal classification (Firearms Act 1968)	Documented in house method using comparison with known samples, reference standards and publications	G
	Trigger pull measurement	Documented in house method using - dead weights	G
	Trigger travel determination	Documented in house method using - length measurement	G
	Determination of Kinetic Energy of projectiles	Documented in house method using - balance and chronograph	G
	Accidental discharge	Documented in house method using - impact and drop tests	G
	Range of fire determination	Documented in house method using test firing with appropriate weapon/ammunition combination and target material to assess range of fire. Comparison of test patterns to exhibits/productions	G
	Test firing to assess the functionality of weapons and/or ammunition	Documented in house method using suspect or reference guns and ammunition	G
	Test firing to generate test samples of ammunition for comparison to exhibits/productions	Documented in house method using suspect or reference guns and ammunition	G



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FIREARMS (cont'd)	<u>Forensic Analysis</u> (cont'd)		
Electric Shock Devices	Identification, classification and function test	Documented in house method using visual examination, function testing and measurement of spark gap	G
Ammunition	Comparison of spent ammunition to suspect guns	Supplier to NABIS using documented in house methods using <ul style="list-style-type: none"> - IBIS bullet Trax HD3D - IBIS Brass TRax - IBIS Matchpoint Plus 	G
GUN SHOT RESIDUE (GSR/FDR)	<u>Forensic Analysis</u>		
Clothing/items from both subjects and loci, FDR Recovery Kits, cartridge cases and bullets	Recovery of in-organic gun shot residues (primer)	Documented in house method using <ul style="list-style-type: none"> - carbon coated aluminium stubs - taping - swabbing 	G
Recovered material	Identification of in-organic gun shot residues (primer)	Documented in house method using <ul style="list-style-type: none"> - SEM/EDX 	G
FLAMMABLE LIQUIDS (FIRE ACCELERANTS)	<u>Forensic Analysis</u>		
Material recovered from and associated with Fire Scenes	Examination and analysis of the following flammable liquids <ul style="list-style-type: none"> - Petrol - Paraffin - Turpentine substitute - White spirit - Diesel - Alcohols (ethanol) 	Documented in house methods using <ul style="list-style-type: none"> - ATD-GCMS 	G
GLASS	<u>Forensic Analysis</u>		
	Search and Recovery of glass fragments from clothing and objects	Documented in house methods using <ul style="list-style-type: none"> - visual examination - recovery using brushing and packaging blanks 	G



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GLASS (cont'd)	<u>Forensic Analysis</u> (cont'd)		
	Characterisation of glass fragments	Documented in house method using <ul style="list-style-type: none"> - Refractive index determination by oil immersion (GRIM) - Low power microscopy - Reannealing by tube furnace 	G
	Comparison of recovered glass fragments to control samples recovered from crime scenes	Documented in house method	G
MARKS AND IMPRESSIONS	<u>Forensic Analysis</u>		
Footwear mark	Assessment, Comparison and evaluation of footwear with scene marks	Documented in house methods using visual comparison	G
Fingermarks Any material which is capable of retaining friction ridge marks	Enhancement of fingermarks and palm marks	Documented In-House Methods using chemical enhancement and lighting techniques: <ul style="list-style-type: none"> - Acid Dye Treatments (Methanol based): Acid Black 1, Acid Violet 17, Acid Yellow 7 - Cyanoacrylate (CNA) Fuming (including PolyCyano UV) - Basic Yellow 40 (BY40 - ethanol based) - Ninhydrin - Powdering Techniques: Black magnetic powder White magnetic powder - Powder suspension: Iron oxide based - black Titanium dioxide based - white 	G, D



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<p>MARKS AND IMPRESSIONS (cont'd)</p> <p>Fingermarks Any material which is capable of retaining friction ridge marks (cont'd)</p>	<p><u>Forensic Analysis (cont'd)</u></p> <p>Enhancement of fingermarks and palm marks (cont'd)</p>	<p>Documented In-House Methods using visual and lighting enhancement techniques:</p> <ul style="list-style-type: none"> - Visual examination - White and filtered sources - High intensity light sources: <p style="padding-left: 20px;">Crimelite 82s Uv ($\lambda=350-380\text{nm}$) Blue ($\lambda=420-470\text{nm}$)</p> <p>Laser Innovations Revelation Laser ($\lambda=532\text{nm}$) Copper Tree SGL-7 Laser ($\lambda=532\text{nm}$)</p>	<p>G, D</p>
<p>Developed fingerprint marks</p>	<p>Determination of the presence of friction ridge characteristics for the purpose of subsequent comparison</p>	<p>Documented In-House Methods for imaging / digital capture</p> <ul style="list-style-type: none"> - DCS5 	<p>G, D</p>
<p>Images of fingermark and palm mark friction ridge detail</p>	<p>Visual analysis, comparison and evaluation of recovered friction marks with finger, thumb and palm from known marks</p>	<p>Documented In-House methods using visual examination, low power magnification and automated fingerprint recognition system IDENT1.</p>	<p>G, D, A, E</p>
<p>Images of fingermark and palm mark friction ridge detail</p>	<p>Manual analysis, comparison and evaluation of recovered friction marks with finger, thumb and palm from known marks</p>	<p>Documented In-House methods using visual examination, low power magnification, comparators dimensional measurements and reference databases.</p>	<p>G, D, A, E</p>



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MARKS AND IMPRESSIONS (cont'd)	<u>Opinion and Interpretation</u> The evaluation of the significance of any matching features between the suspect mark and a known mark to determine the likelihood of the suspect mark being made by an individual marks being made by the same unidentified person	Documented In-House methods using: - Personal experience - Databases	G, D, A, E
PAINTS	<u>Forensic Analysis</u> Search and Recovery of paint and paint fragments from clothing and objects for analysis	Documented in house Methods using - visual examination - Low power microscopy - Brushing - Scalpel recovery of paint deposits	G
	Comparison of control and recovered samples	Documented in house methods using - high power comparison microscopy - FTIR - SEM	G
VEHICLE COMPONENTS	<u>Forensic Analysis</u>		
Wheel assemblies removed from vehicles (Tyres)	Examination of wheel assemblies and constituent parts of wheel assemblies (rims, tyres, inner tubes)	Documented in house method using - visual examination - length measurement - pressure measurement	G
	Identification of damage and defects - Measurement of tread depth - Measurement of valve back pressure	Documented in house method using - visual examination - length measurement - pressure measurement	G



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

Scottish Police Authority
Forensic Services

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Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FIBRES (cont'd)	<u>Forensic Analysis</u> (cont'd)		
	Search and recovery of fibres from clothing and objects for analysis (including tapings)	Documented in house Methods using: - visual examination - low power microscopy and screening - fibre recovery (taping)	A, D, G & E
	Identification of fibre type	Documented in house Methods using: - Polarised light microscopy - FTIR	A
	Comparison of fibre	Documented in house Methods using: - Stereo microscopy - Polarised light microscopy - Comparison microscopy	A
	Spectroscopic analysis of fibres in the visible range for the purpose of comparison of fibres	Documented in house Methods using: - UV and visible microspectrophotometry	A
	<u>Opinion and Interpretation</u> The evaluation of the significance of any matching features between the suspect and reference/control fibre to determine the likelihood of the suspect fibre coming from a specific source	Documented in house Methods	A
HAIRS	Differentiation of Human and Animal hairs	Documented in house Methods using: - Visual examination - Low power microscopy - High power microscopy	A

END