

**issued by**

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



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**Issue No: 072   Issue date: 06 December 2024**

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## DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
BODY FLUIDS and TISSUES	<u>Forensic Analysis</u>	
Blood <ul style="list-style-type: none"> <li>- Whole</li> <li>- Stains</li> </ul> Semen <ul style="list-style-type: none"> <li>- Whole</li> <li>- Azoospermic</li> </ul> Saliva <ul style="list-style-type: none"> <li>- Whole</li> <li>- Stains</li> </ul> Hair Cellular Material	DNA Profiling: Short Tandem Repeat (STR) for forensic analysis of: <ul style="list-style-type: none"> <li>- Subject Samples (CJ and Volunteer) meeting the requirements of the Custodian for the Purpose of Supply to the National DNA Database</li> <li>- Crime Scene Samples meeting the requirements of the Custodian for the Purpose of Supply to the National DNA Database</li> </ul>	Documented in-house method (TP4102) using manual extraction <ul style="list-style-type: none"> <li>- QIAamp® DNA Investigator</li> </ul> Documented in-house method (TP4158) using Manual quantification <ul style="list-style-type: none"> <li>- Quantiplex Pro</li> </ul> Documented in-house method (TP4150) using Manual amplification (PCR) and the following chemistry: <ul style="list-style-type: none"> <li>- NGM SElect</li> <li>- ESI 17 Pro</li> <li>- Investigator® ESSplex SE QS Kit</li> <li>- PowerPlex® ESI 17 Fast</li> </ul> Documented in-house methods (TP4159) using Electrophoresis <ul style="list-style-type: none"> <li>- 3500xl Genetic Analyser©</li> </ul>
Saliva <ul style="list-style-type: none"> <li>- Swabs (buccal cells)</li> </ul>	DNA Profiling: Short Tandem Repeat (STR) for forensic analysis of: <ul style="list-style-type: none"> <li>- Subject Samples (CJ and Volunteer) meeting the requirements of the Custodian for the Purpose of Supply to the National DNA Database</li> </ul>	Documented in-house method (TP4156) using Direct amplification (PCR) and the following chemistry: <ul style="list-style-type: none"> <li>- NGM SElect Express</li> <li>- Qiagen Investigator STR GO! with Investigator® ESSplex SE QS Kit</li> <li>- Promega swabsolution- Direct Amp PowerPlex® ESI 17 Fast</li> </ul> Documented in-house methods (TP4159) using Electrophoresis <ul style="list-style-type: none"> <li>- 3500xl Genetic Analyser©</li> </ul>



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<p><b>BODY FLUIDS and TISSUES (cont'd)</b></p> <p>Blood</p> <ul style="list-style-type: none"> <li>- Whole</li> <li>- Stains</li> </ul> <p>Semen</p> <ul style="list-style-type: none"> <li>- Whole</li> <li>- Azoospermic</li> </ul> <p>Saliva</p> <ul style="list-style-type: none"> <li>- Whole</li> <li>- Stains</li> </ul> <p>Hair</p> <p>Cellular Material</p>	<p><u>Forensic Analysis (cont'd)</u></p> <p><u>Related Opinions and Interpretation</u> Interpretation of DNA profiles generated internally from crime stains (single source/major-minor/complex mixtures) and reference samples</p> <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>DNA profiling: Y Chromosome DNA profiling for forensic analysis of:</p> <ul style="list-style-type: none"> <li>- Crime Scene Samples</li> <li>- Subject Samples (PACE and Volunteer)</li> </ul>	<p>Documented in-house methods (TP4152 and TP4160)</p> <ul style="list-style-type: none"> <li>- Genetic Characterisation <ul style="list-style-type: none"> <li>- Genemapper IdX</li> <li>- Expert Systems <ul style="list-style-type: none"> <li>- STRMix (v2.7)</li> </ul> </li> </ul> </li> </ul> <p>Documented In-House Methods (TP4165) using Manual amplification (PCR) and the following chemistry:</p> <ul style="list-style-type: none"> <li>- Y23</li> </ul> <p>Documented In-House Methods (TP4166) using Electrophoresis</p> <ul style="list-style-type: none"> <li>- Applied Biosystems 3500 Genetic Analyser©</li> </ul>



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BODY FLUIDS and TISSUES (cont'd)	<u>Forensic Analysis (cont'd)</u>	
	<u>Related Opinions and Interpretation</u> Comparison, interpretation and statistical analysis of DNA profiles against compatible DNA Profile information from within submitted cases	Documented in-house methods (TP4167, TP4168 and TP4067). Genetic Characterisation using <ul style="list-style-type: none"><li>- GMIDX v1.5</li><li>- YHRD</li></ul>
Any Material	Searching for: <ul style="list-style-type: none"><li>- Blood</li><li>- Semen</li><li>- Saliva</li><li>- Hair</li></ul>	Documented in-house methods (TP4022, TP4023, TP4026, TP4030, TP4063, TP4065 and TP4064) using: <ul style="list-style-type: none"><li>- visual examination</li><li>- low power microscopy</li><li>- high power microscopy</li><li>- chemical testing (see below)</li></ul>
	Recovery and preparation, including for contingency purposes, for subsequent DNA analysis by an ISO/IEC 17025 accredited laboratory of the following from searched materials: <ul style="list-style-type: none"><li>- Blood</li><li>- Semen</li><li>- Saliva</li><li>- Cellular DNA</li><li>- Hair</li></ul>	Documented in-house methods (TP4022, TP4023, TP4026, TP4030, TP4063, TP4064, and TP4065) using: <ul style="list-style-type: none"><li>- cutting</li><li>- swabs and swabbing</li><li>- extraction of stained materials</li><li>- extraction of swabs</li><li>- taping</li><li>- mini-taping</li></ul>
Blood	Presumptive testing for Blood via detection of: <ul style="list-style-type: none"><li>- Peroxidase</li></ul>	Documented in-house method (TP4023) using: <ul style="list-style-type: none"><li>- visual Examination</li><li>- KM (Kastle Meyer)</li></ul>
	<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 method (TP-4062) using : <ul style="list-style-type: none"><li>- visual examination</li><li>- low power microscopy</li><li>- dimensional measurement</li></ul>



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BODY FLUIDS and TISSUES (cont'd)	<u>Forensic Analysis (cont'd)</u>	
Semen	Presumptive testing for seminal fluid, via detection of: <ul style="list-style-type: none"> <li>- Acid Phosphatase</li> <li>- Choline</li> </ul> Confirmatory testing for seminal fluid via identification of: Spermatozoa	Documented in-house methods (TP4026, and TP4044) using: <ul style="list-style-type: none"> <li>- visual Examination</li> <li>- acid phosphatase detection (colour reaction)</li> <li>- choline detection by Florence Iodine test</li> </ul> Documented in-house methods (TS4035, TP4041 and TP6500) using: <ul style="list-style-type: none"> <li>- high power microscopy</li> <li>- Haematoxylin and Eosin staining</li> <li>- Christmas tree Stains</li> </ul>
Saliva	Presumptive testing for saliva via detection of: <ul style="list-style-type: none"> <li>- Amylase</li> </ul>	Documented in-house method (TP4030) using: <ul style="list-style-type: none"> <li>- visual examination</li> <li>- Phadebas paper</li> <li>- Phadebas tube test</li> </ul>
BODY FLUIDS	<u>Forensic Analysis/Medical and Legal Analysis</u>	
Blood and Urine	Detection and quantification in relation to Article 13 the Northern Ireland Road Traffic Act 1995 Alcohol (10 - 700 mg%); 80mg/100ml	Documented in-house method (TP1013) using Headspace GC/FID analysis including the Clarus 500 system
Blood (Preserved, Unpreserved) Urine (Preserved, Unpreserved)	Presumptive screening for the presence of drugs (Cut-off Limit Blood/Urine)  Drug types/groups : <ul style="list-style-type: none"> <li>- Ephedrine /</li> <li>- Pseudoephedrine (10/10ng/ml)</li> </ul>	Documented in-house method (TP1240) using automated SPE: <ul style="list-style-type: none"> <li>- Extrahera extraction</li> <li>- UPLC-HRMS</li> <li>- Q-Exactive LC-HRMS</li> </ul>



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<p>BODY FLUIDS (cont'd)</p> <p>Blood (Preserved, Unpreserved) Urine (Preserved, Unpreserved (cont'd)</p>	<p><u>Forensic Analysis/Medical and Legal Analysis (cont'd)</u></p> <p>Presumptive screening for the presence of drugs (Cut-off Limit Blood/Urine) (cont'd):</p> <p><b>Opioids group :</b></p> <ul style="list-style-type: none"> <li>- Morphine (5/5ng/ml)</li> <li>- Dihydrocodeine (5/5ng/ml)</li> <li>- Codeine (5/5ng/ml)</li> <li>- Oxycodone(5/5ng/ml)</li> <li>- 6 – MAM (blood only) (1ng/ml)</li> <li>- Methadone (5/5ng/ml)</li> <li>- Tramadol (5/5ng/ml)</li> <li>- Buprenorphine (1/1ng/ml)</li> <li>- Fentanyl (1/1ng/ml)</li> </ul> <p><b>Antidepressant group:</b></p> <ul style="list-style-type: none"> <li>- Trazodone (5/5ng/ml)</li> <li>- Mirtazepine (5/5ng/ml)</li> <li>- Dothiepin (5/5ng/ml)</li> <li>- Imipramine (5/5ng/ml)</li> <li>- Amitriptyline (5/5ng/ml)</li> <li>- Nortriptyline (5/5ng/ml)</li> <li>- Citalopram (5/5ng/ml)</li> <li>- Venlafaxine (5/5ng/ml)</li> <li>- Paroxetine (5/5ng/ml)</li> <li>- Duloxetine (5/5ng/ml)</li> <li>- Fluoxetine (blood only) (5ng/ml)</li> <li>- Sertraline (blood only) (5ng/ml)</li> </ul>	<p>Documented in-house method (TP1240) using automated SPE:</p> <ul style="list-style-type: none"> <li>- Extrahera extraction</li> <li>- UPLC-HRMS</li> <li>- Q-Exactive LC-HRMS</li> </ul>



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<p>BODY FLUIDS (cont'd)</p> <p>Blood (Preserved, Unpreserved) Urine (Preserved, Unpreserved (cont'd)</p>	<p><u>Forensic Analysis/Medical and Legal Analysis (cont'd)</u></p> <p>Presumptive screening for the presence of drugs (Cut-off Limit Blood;Urine (cont'd):</p> <p><b>Benzodiazepines and “z” groups:</b></p> <ul style="list-style-type: none"> <li>- 7 –Aminoclonazepam (blood only) (5ng/ml)</li> <li>- 7 –Aminoflunitrazepam (5/5ng/ml)</li> <li>- 7 – Aminonitrazepam (5/5ng/ml)</li> <li>- Flurazepam (5/5ng/ml)</li> <li>- Midazolam (5/5ng/ml)</li> <li>- Clonazepam (5/5ng/ml)</li> <li>- Flunitrazepam (5/5ng/ml)</li> <li>- Alprazolam (5/5ng/ml)</li> <li>- Chlordiazepoxide (5/5ng/ml)</li> <li>- Bromazepam (5/5ng/ml)</li> <li>- Demoxepam (5/5ng/ml)</li> <li>- Nitrazepam (5/5ng/ml)</li> <li>- Oxazepam (5/5ng/ml)</li> <li>- Lorazepam (5/5ng/ml)</li> <li>- Nordiazepam (5/5ng/ml)</li> <li>- Temazepam (5/5ng/ml)</li> <li>- Diazepam (5/5ng/ml)</li> <li>- Phenazepam (5/5ng/ml)</li> <li>- Zopiclone(5/5ng/ml)</li> <li>- Zolpidem (5/5ng/ml)</li> <li>- Zaleplon (5/5ng/ml)</li> </ul> <p><b>Cocaine group:</b></p> <ul style="list-style-type: none"> <li>- Cocaine (5/5ng/ml)</li> <li>- Benzoyllecgonine (10/10ng/ml)</li> </ul>	<p>Documented in-house method (TP1240) using automated SPE extraction:</p> <ul style="list-style-type: none"> <li>- Extrahera extraction</li> <li>- UPLC-HRMS</li> <li>- Q-Exactive LC-HRMS</li> </ul>



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<p>BODY FLUIDS (cont'd)</p> <p>Blood (Preserved, Unpreserved) Urine (Preserved, Unpreserved (cont'd)</p>	<p><u>Forensic Analysis/Medical and Legal Analysis (cont'd)</u></p> <p>Presumptive screening for the presence of drugs (Cut-off Limit Blood/Urine) Contd:</p> <p><b>Amphetamine group:</b></p> <ul style="list-style-type: none"> <li>- Amphetamine (10/10ng/ml)</li> <li>- Methamphetamine (10/10ng/ml)</li> <li>- Chloroamphetamine (10/10ng/ml)</li> <li>- MDMA (10/10ng/ml)</li> <li>- MDA (10/10ng/ml)</li> <li>- MDEA (10/10ng/ml)</li> <li>- PMA (10/10ng/ml)</li> <li>- PMMA (10/10ng/ml)</li> <li>- Methylphenidate (10/10ng/ml)</li> <li>- Ethylphenidate (10/10ng/ml)</li> <li>- MBDB (10/10ng/ml)</li> <li>- 2C – B (10/10ng/ml)</li> <li>- 2C – I (10/10ng/ml)</li> <li>- DOB (2,5 - Dimethoxy-4-bromo-amphetamine) (10/10ng/ml)</li> <li>- DOM (10/10ng/ml)</li> </ul> <p><b>Novel Psychoactive Substances:</b></p> <ul style="list-style-type: none"> <li>- Cathinone (10/10ng/ml)</li> <li>- Ethylone (10/10ng/ml)</li> <li>- Methedrone (10/10ng/ml)</li> <li>- Methylone (10/10ng/ml)</li> <li>- Butylone (10/10ng/ml)</li> <li>- Pentylone (10/10ng/ml)</li> <li>- MDPBP (10/10ng/ml)</li> <li>- BMDP (10/10ng/ml)</li> <li>- Buphedrone (10/10ng/ml)</li> <li>- Mephedrone (4-MMC) (10/10ng/ml)</li> <li>- 4 - Methyl - paramethyl - Aminorex (10/10ng/ml)</li> <li>- BZP (Benzylpiperazine) (10/10ng/ml)</li> <li>- MDPV (Methylenedioxy - pyrovalerone) (10/10ng/ml)</li> <li>- TFMPP (Trifluoromethyl-phenylpiperazine) (10/10ng/ml)</li> <li>- 4 – MEC (10/10ng/ml)</li> <li>- 3 – FMC (urine only) (10ng/ml)</li> <li>- 4 – FMC (10/10ng/ml)</li> </ul>	<p>Documented in-house method (TP1240) using automated SPE:</p> <ul style="list-style-type: none"> <li>- Extrahera extraction</li> <li>- UPLC-HRMS</li> <li>- Q-Exactive LC-HRMS</li> </ul>



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BODY FLUIDS (cont'd)	<u>Forensic Analysis/Medical and Legal Analysis (cont'd)</u>	
Blood (Preserved, Unpreserved) Urine (Preserved, Unpreserved (cont'd)	Presumptive screening for the presence of drugs (Cut-off Limit Blood/Urine) Contd:  <b>Anti-epileptics Group:</b> - Pregabalin (100;1000/100;1000ng/ml) - Lamotrigine (10/10ng/ml) - Carbamazepine (10/10ng/ml) - Phenytoin (5/5ng/ml)  <b>Cannabis group:</b> - Delta-9-THC (blood Only) (5ng/ml) - 11-Hydroxy- delta-9-THC (blood only) (5ng/ml) - 11-Carboxy-delta- 9-THC (blood only) (5ng/ml)  <b>Miscellaneous:</b> - Risperidone (5/5ng/ml) - Chlorpheniramine (5/5ng/ml) - Propranolol (10/10ng/ml) - Diphenhydramine (5/5ng/ml) - Cyclizine (5/5ng/ml) - Promethazine (5/5ng/ml) - Amiodarone (Blood Only) (10ng/ml) - Paracetamol (100;1000/100;1000ng/ml) - Ketamine (5/5ng/ml)	Documented in-house method (TP1240) using automated SPE:  - Extrahera extraction - UPLC-HRMS - Q-Exactive LC-HRMS
Blood (Preserved, Unpreserved)	- 3 FMC /4- FMC(10/5/ng/ml) - Clomipramine (5/5ng/ml)	Q-Exactive LC-HRMS
Urine (Preserved, Unpreserved)	- 3 FMC /4- FMC(10/10/ng/ml) - Clomipramine (5/5ng/ml) - 6 – MAM (10/10ng/ml) - 7-Amino clonazepam (10/10ng/ml) - Fluoxetine (5/5ng/ml) - Sertraline (5/5ng/ml)	Q-Exactive LC-HRMS



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DOCUMENTS  Handwriting (Roman script)	<u>Forensic Analysis</u>  The examination of submitted items to compare handwriting from known and suspect sources.  <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.	Documented in-house Methods (TP5603, TP5610 and TS5612) using <ul style="list-style-type: none"><li>- Microscopy</li><li>- ESDA (TP5611)</li></ul>
Signatures	The examination of submitted items to compare signatures from known and suspect sources.  <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.	Documented in house methods (TP5604, TP5610, TS5612) using <ul style="list-style-type: none"><li>- visual examination</li><li>- low power microscopy</li><li>- photography</li></ul>



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DOCUMENTS (cont'd)	<u>Forensic Analysis</u> (cont'd)	
Paper and other material	Detection and enhancement of indented marks made by handwriting	Documented in-house methods (TP5612 and TS5612) using <ul style="list-style-type: none"> <li>- oblique lighting</li> <li>- low power microscopy</li> <li>- ESDA</li> </ul>
Printing Machines and their output including Impact and Non-Impact Printers and Photocopiers	Comparison of office printing equipment and outputs with suspect material	Documented in-house methods (TP5608 and TS5612) using <ul style="list-style-type: none"> <li>- visual examination,</li> <li>- microscopy,</li> <li>- physical fit</li> <li>- visual comparison</li> </ul>
Documents	Detection of alterations and decipherment of altered or obliterated entries <ul style="list-style-type: none"> <li>- Ink examination</li> <li>- Paper examinations</li> <li>- Photocopying</li> </ul>	Documented in-house methods (TP5609, TP5610 and TS5612) using <ul style="list-style-type: none"> <li>- lighting techniques,</li> <li>- visual examination</li> <li>- microscopy</li> <li>- VSC</li> </ul>
EXPLOSIVES	<u>Forensic Analysis</u>	
Trace Explosives	Recovery of explosives at trace level	Documented in-house methods (TP2003 and TP2005) using swabs
	Identification of explosives at trace level	Documented in-house methods using <ul style="list-style-type: none"> <li>- GC/TEA (TP2002, TP2005, TP 2006, TS2023, TS2024 and TS2025)</li> <li>- UPLC-HRMS (TP2029 and TP2031)</li> </ul>
Aqueous solutions extracted from Non-Trace Pyrotechnics and associated materials	Identification and confirmation of inorganic anions and cations and sugars found in explosives (cut off limit 2 mg.l <sup>-1</sup> )	Documented In-House Methods (TP2030) using Ion Chromatography



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EXPLOSIVES (cont'd)	<u>Forensic Analysis</u> (cont'd)	
Non-Trace Pyrotechnics and associated materials	Identification and confirmation of sugars found in explosives (cut off limit 2 mg.l <sup>-1</sup> )	Documented In-House Methods (TP2030) using <ul style="list-style-type: none"><li>- Electrochemical detection (Integriion system EXP090)</li></ul>
Non-Trace, Pyrotechnics and Associated Material	Identification of energetic materials	Documented in-house method (TP2035) using <ul style="list-style-type: none"><li>- FTIR Spectroscopy</li></ul>
Non-Trace, Pyrotechnics and Associated Material	Identification of the following bulk explosives	Documented in-house method (TP2023;2034;2017) using GC-FID
FIBRES	Search and recovery of fibres from clothing and objects for analysis	Documented in-house method (TP4058) using <ul style="list-style-type: none"><li>- visual examination,</li><li>- low power microscopy and screening,</li><li>- fibre recovery (taping) mounting</li></ul>
	Identification of fibre type	Documented in-house method (TP4060) using <ul style="list-style-type: none"><li>- FTIR</li></ul>
	Comparison of fibres	Documented in-house method (TP4009) using <ul style="list-style-type: none"><li>- stereo microscopy</li><li>- comparison microscopy (TP4010)</li></ul>
	Spectroscopic analysis of fibres in the visible range for the purpose of comparison of fibres	Documented in-house method (TP4015) using <ul style="list-style-type: none"><li>- MSP (visiblelight)</li></ul>
FIREARMS	<u>Forensic Analysis</u>	
Ammunition	Examination of discharged ammunition components to determine the number of guns used.	Documented in-house method (TP3016) using <ul style="list-style-type: none"><li>- comparison microscopy</li></ul>
	<u>Opinion and Interpretation</u> The evaluation of features between recovered fired ballistic components	Documented in house methods TP3016 using: <ul style="list-style-type: none"><li>- Personal experience</li><li>- Reference Collections</li></ul>



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FIREARMS (cont'd)	<u>Forensic Analysis (cont'd)</u>  Examination of cartridges to determine if ammunition has been loaded into a firearm  Comparison of spent ammunition to suspect guns  <u>Opinion and Interpretation</u> The evaluation of features on recovered fired ballistic components  Ammunition and component identification and legal classification	Documented in-house method (TP3016) using : <ul style="list-style-type: none"><li>- microscopy</li><li>- comparison microscopy</li></ul> Documented in-house method (TP3016) using <ul style="list-style-type: none"><li>- comparison microscopy</li></ul> Documented in house methods TP3016 using: <ul style="list-style-type: none"><li>- Personal experience</li><li>- Reference Collections</li></ul> Documented in-house method (TP3032) using : <ul style="list-style-type: none"><li>- weighing</li><li>- length measurement</li><li>- use of known samples or standard reference data.</li></ul>
Firearms	Firearm and firearm component part identification and legal classification (Firearms Act 1968 & Firearms Northern Ireland Order 2004)  Firearm identification from class marks present on ammunition components  <u>Opinion and Interpretation</u> The evaluation of features between recovered fired ballistic components  Determination of Kinetic Energy of projectiles  Test Firing to assess the functionality of weapons and/or ammunition.	Documented in-house method (TP3017 & TP3035) using comparison with known samples, reference standards and publications  Documented in-house method (TP3016) using comparison with known samples and use of reference databases.  Documented in house methods TP3016 using: <ul style="list-style-type: none"><li>- Personal experience</li><li>- Reference Collections</li></ul> Documented in-house method (TP3034) using chronograph and balance  Documented in-house method (TP3015) using suspect or reference guns and ammunition



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FIREARMS (cont'd)  Firearms (cont'd)	<u>Forensic Analysis</u> (cont'd)  Test Firing to generate test samples of ammunition for comparison to exhibits	Documented in-house method (TP3015) using suspect or reference guns and ammunition
FLAMMABLE LIQUIDS (FIRE ACCELERANTS)  Material Recovered from and associated with Fire Scenes  Common fire accelerant liquids	<u>Forensic Analysis</u>  Examination and analysis of the following flammable liquids: <ul style="list-style-type: none"><li>- petrol</li><li>- paraffin</li><li>- diesel</li><li>- white spirit</li></ul>	Documented in-house methods (TP2116 and TP2117) using: <ul style="list-style-type: none"><li>- GCMS</li><li>- ATD/GCMS</li></ul>
GUN SHOT RESIDUE (GSR / FDR / CDR)  Any Material Including type of matrix Bore Wipes	<u>Forensic Analysis</u>  Recovery of in-organic gunshot residues (primer)	Documented in-house methods (TP3003 and TP3004) using <ul style="list-style-type: none"><li>- swabbing</li><li>- vacuuming</li><li>- carbon coated aluminium stubs</li></ul>
	Recovery of organic gunshot residue (propellant)	Documented in-house methods (TP3003 and TP3004) using <ul style="list-style-type: none"><li>- swabbing</li><li>- vacuuming</li><li>- filtering</li></ul>
Recovered Material	Identification of in-organic gunshot residues (primer)	Documented in-house methods (TP3002 and TP3006) using <ul style="list-style-type: none"><li>- SEM/EDX</li></ul>
	Identification of organic gunshot residues (propellant)	Documented in-house methods (TP2002, TP2006, TP2029, TP2031, TS2023, TS2024 & TS2025) using <ul style="list-style-type: none"><li>- GC TEA</li><li>- UPLC-HRMS</li></ul>



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<b>MARKS AND IMPRESSIONS</b>  Fingermarks Any material which is capable of retaining friction ridge marks	<u>Forensic Analysis</u>  Enhancement of fingermarks	Documented in-house methods using chemical and physical enhancement techniques (method numbers provided in brackets) : <ul style="list-style-type: none"><li>- Acid Dye Treatments: Fuschin Acid - 2% sulphosalicylic acid (TS5526), Acid Black 1 - aqueous (TP5115)</li><li>- Cyanoacrylate (CNA) Fuming (TS5504 and TS5507)</li><li>- Basic Yellow 40 - methanol based (BY40) (TS5508)</li><li>- Rhodamine-6-G; methanol based and aqueous (TS5508)</li><li>- Gentian Violet ethanol based and aqueous (TS4062)</li><li>- Basic Red 14 - ethanol based (TS5508)</li><li>- Safranin O – methanol based (TS5508)</li><li>- Powdering Techniques (TS5528) Aluminium flake powder Black magnetic powder Black granular powder</li><li>- 1,8-Diazafluoren-9-one (DFO) (TP5111)</li><li>- Physical Developer (TP5119)</li><li>- Ninhydrin (TP5113 and TS5523)</li><li>- Sudan Black - ethanol based (TS5518)</li><li>- Stabilised Iodine - aqueous (TS5524)</li><li>- Leuococrystal Violet (TS5520)</li><li>- Selenious Acid etching (TS5521)</li><li>- ISO Mark Casting (TS5527)</li><li>- 1,2-Indandione (TP5511)</li><li>- Natural Yellow 3 (TP5512.)</li></ul>



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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</u> (cont'd)</p> <p>Enhancement of fingermarks (cont'd)</p>	<p>Documented in-house methods using visual and lighting enhancement techniques</p> <ul style="list-style-type: none"><li>- Visual examination</li><li>- White Light and filtered Sources</li><li>- High Intensity Light Sources (TP5501 and TS5502)</li></ul> <p>Crimelite</p> <p>Uv (<math>\lambda</math> =350-380nm)</p> <p>Violet (<math>\lambda</math> =395-425nm),</p> <p>Blue (<math>\lambda</math> =430-470nm),</p> <p>Blue/green (<math>\lambda</math> =460-510nm),</p> <p>Green (<math>\lambda</math> =500-550nm)</p> <p>Rofin Polilight</p> <p><math>\lambda</math> = 350nm</p> <p><math>\lambda</math> = 415nm</p> <p><math>\lambda</math> = 450nm</p> <p><math>\lambda</math> = 450-505nm</p> <p><math>\lambda</math> = 505nm</p> <p><math>\lambda</math> = 505-530nm</p> <p><math>\lambda</math> &gt; 530nm</p> <p>TracER laser</p> <p><math>\lambda</math> = 460nm</p> <p><math>\lambda</math> = 532nm</p> <p><math>\lambda</math> = 577nm</p> <p>Documented in-house method (TP5504) for imaging / digital capture:</p> <ul style="list-style-type: none"><li>- Digital SLR</li></ul>



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
MARKS AND IMPRESSIONS (cont'd)	<u>Forensic Analysis</u> (cont'd)	
Footwear marks (physically or image)	Enhancement of footwear marks recovered from scenes	Documented in-house methods using <ul style="list-style-type: none"> <li>- lighting techniques (TP5201, TS5533 and TS5537)</li> <li>- powders (TP5122)</li> <li>- ESLA (TP5120)</li> <li>- Gel Lifting (TP5121)</li> <li>- digital capture photography (TP5201 and TP5202)</li> </ul>
	Production of test marks from suspect footwear	Documented in-house methods (TP5108) using <ul style="list-style-type: none"> <li>- black powder, adhesive film plus clear acetate sheet- static and dynamic</li> <li>- vegetable oil and Magna black method-- static and dynamic</li> </ul>
Footwear mark (physically or image)	Assessment, Comparison and evaluation of footwear with scene marks	Documented in-house methods (TP5103, and TP5509) using visual examination, low power microscopy and dimensional measurements
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 (TP3101) using: <ul style="list-style-type: none"> <li>- visual examination,</li> <li>- optical microscopy,</li> <li>- length measurement,</li> <li>- pressure measurement.</li> </ul>
	Identification of damage and defects <ul style="list-style-type: none"> <li>- Measurement of tread depth</li> <li>- Measurement of valve back pressure</li> </ul>	
Light bulbs from motor vehicles and pedal bicycles	Examination and investigation of cause of failure or defect	Documented in-house method (TP3104) using <ul style="list-style-type: none"> <li>- visual examination,</li> <li>- optical microscopy,</li> <li>- electrical continuity illumination test.</li> </ul>



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DRUGS	<p><u>Forensic Analysis</u></p> <p>Legal classification of controlled drugs (Misuse of Drugs Act 1971)</p> <p>Presumptive testing for: Amphetamines Opiates MDMA</p> <p>Presumptive testing for: Cocaine</p> <p>Identification of Named controlled and non-controlled drugs:</p> <ul style="list-style-type: none"><li>○ Amphetamine</li><li>○ Heroin</li><li>○ Fentanyl</li><li>○ Paracetamol</li><li>○ Methamphetamine</li><li>○ Methyltestosterone</li><li>○ Morphine</li><li>○ Oxycodone</li><li>○ Zolpidem</li><li>○ MPA</li><li>○ Testosterone</li><li>○ MMB CHIMICA</li><li>○ Gabapentin</li><li>○ Flualprazolam</li><li>○ CBD</li><li>○ CBN</li><li>○ Ketamine</li><li>○ Cocaine</li><li>○ Etizolam</li><li>○ Tetramisole</li><li>○ Temazepam</li><li>○ Delta 9 THC</li><li>○ Pregabalin</li><li>○ Methoxetamine</li><li>○ Methadone</li><li>○ 25C-NBOMe</li><li>○ Acetyl fentanyl</li><li>○ 5F AKB48</li><li>○ Clonazepam</li><li>○ Diclazepam</li></ul>	<p>Documented in house method (method ref TP1118) using spot test</p> <ul style="list-style-type: none"><li>- Marquis reagent</li></ul> <p>Documented in house method (method ref TP1118) using spot test</p> <ul style="list-style-type: none"><li>- Acidified Cobalt Thiocyanate colour test</li></ul> <p>Documented in house method (method ref TP1119) using</p> <ul style="list-style-type: none"><li>- UPLC-HRMS</li></ul>



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DRUGS (cont'd)	<u>Forensic Analysis</u>  Identification of characteristically marked proprietary pharmaceuticals, illicit copies and other drugs products	Documented in house method (method ref TP1118) using <ul style="list-style-type: none"><li>- visual comparison of appearance, markings</li><li>- dimensions with reference materials, data collections and descriptions in authoritative texts</li></ul>
END		