
BEST PRACTICES IN PHYSICAL EVIDENCE COLLECTION

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Sexual offence

Principles of crime investigation

- Everyone is a suspect until eliminated.
- always seek corroboration
- you always have one chance at a crime scene
- take nothing for granted

Crime Scene?

- Is a scene, either a person, place or an object capable of yielding **PHYSICAL EVIDENCE** which has the potential of assisting in apprehending or exonerating the suspect.
- Locards Exchange principle.

PHYSICAL EVIDENCE IN SEXUAL ASSAULT

- Seminal stains.
- Hairs(head, pubic, etc).
- Fibres.
- Epithelial cells from finger nail scrapping.
- Blood + stains, Buccal swab.
- Urine.
- Bite marks.

Collection and preservation of physical evidence

- **Vaginal swabs;**

refrigerate, air dry and pack in paper bags.

- **Blood (Liquid)**

Vacuutainers,+ preservative+ anticoagulant.

- **FTA paper.**

- **Cotton gauze.**

- **Bloodstains;** air dry, packed in paper bags

Chain of custody

- Victim/Suspect/Scene.
- Medical personnel.
- Investigating officer.
- Crime laboratory.
- Court

Physical evidence

- **Can prove a crime has been committed or establish key elements of a crime**
- **Can place the suspect in contact with the victim.**
- **Can exonerate the innocent .**
- **Can corroborate the victim's testimony**
- **May make suspects admit or even confess**
- **May be more reliable than eye witness**

DNA Analysis

- Locate DNA containing material.
- Extraction.
- Quantification.
- Amplification (P.C.R).
- Detection.

DNA Data Evaluation and Presentation

- Comparison.

- (a) crime scene material do not match reference material, Exclusion

- (b) crime scene material match reference material, inclusion.

- (i) crime scene material originated from suspect. or.

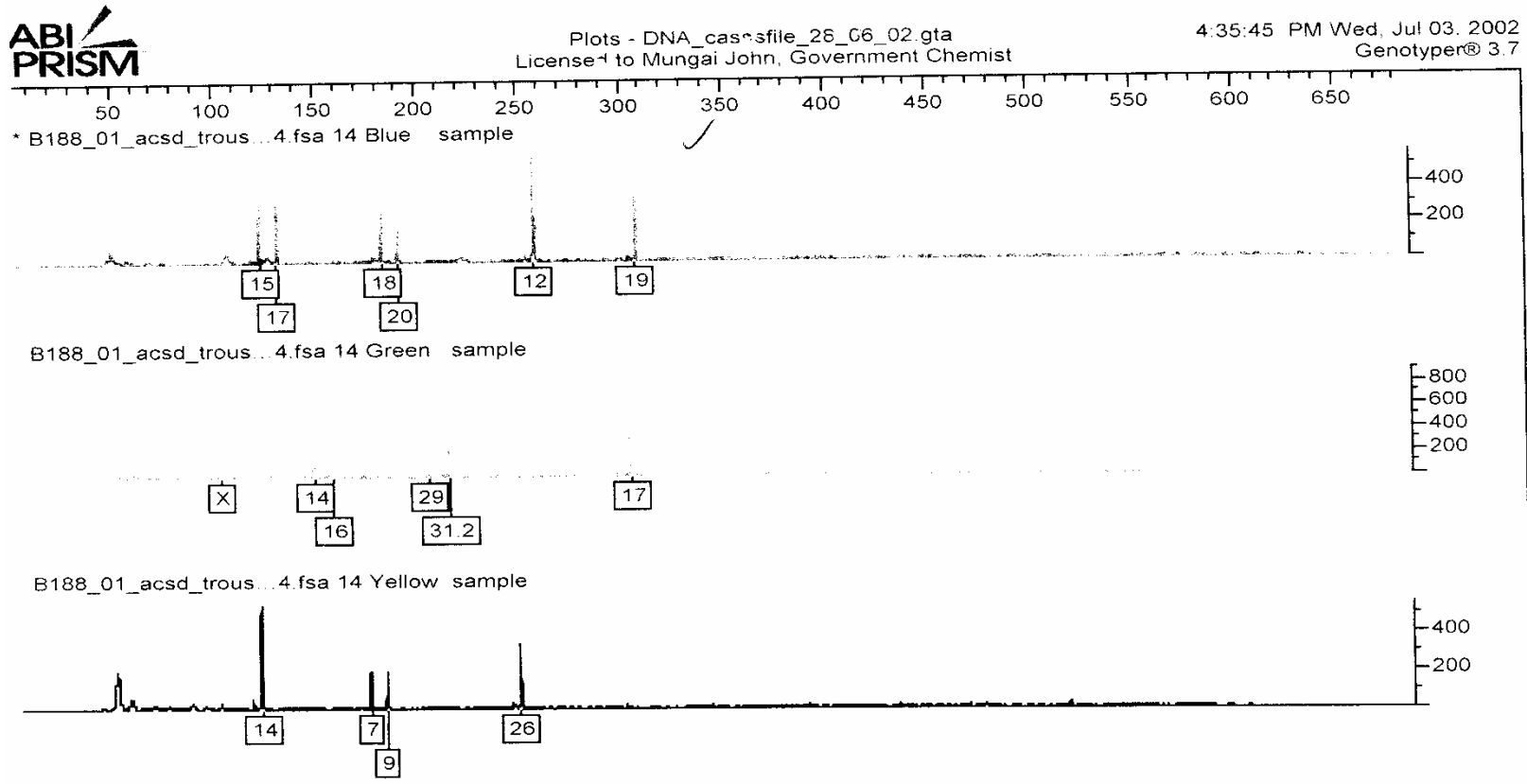
- (ii) Originated from someone else.

Frequency of occurrence

- Allele frequency.
- Profile frequency.

Case file

■ Accused trouser



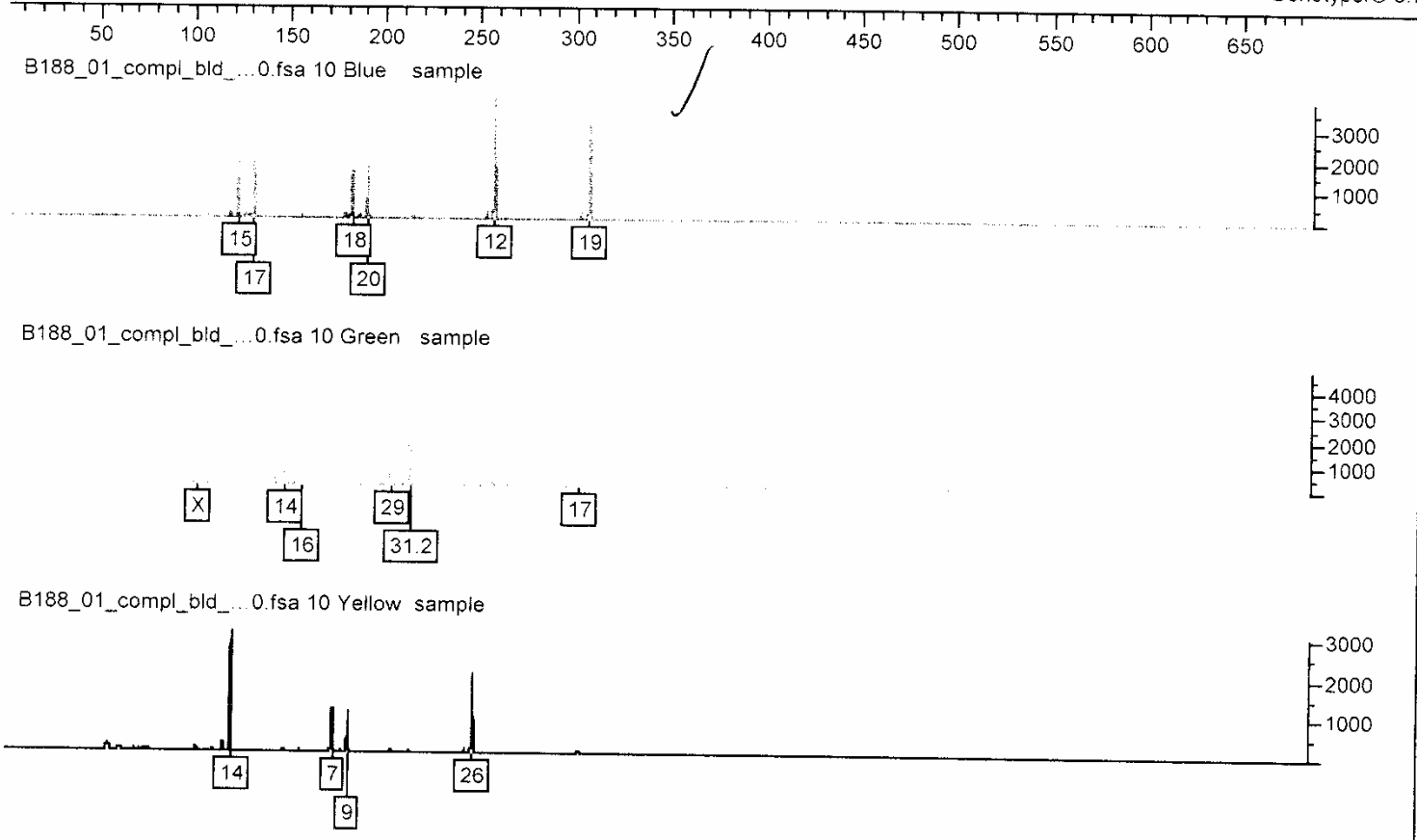
Case file contd

■ Complainants blood



Plots - DNA_casesfile_26_06_02.gta
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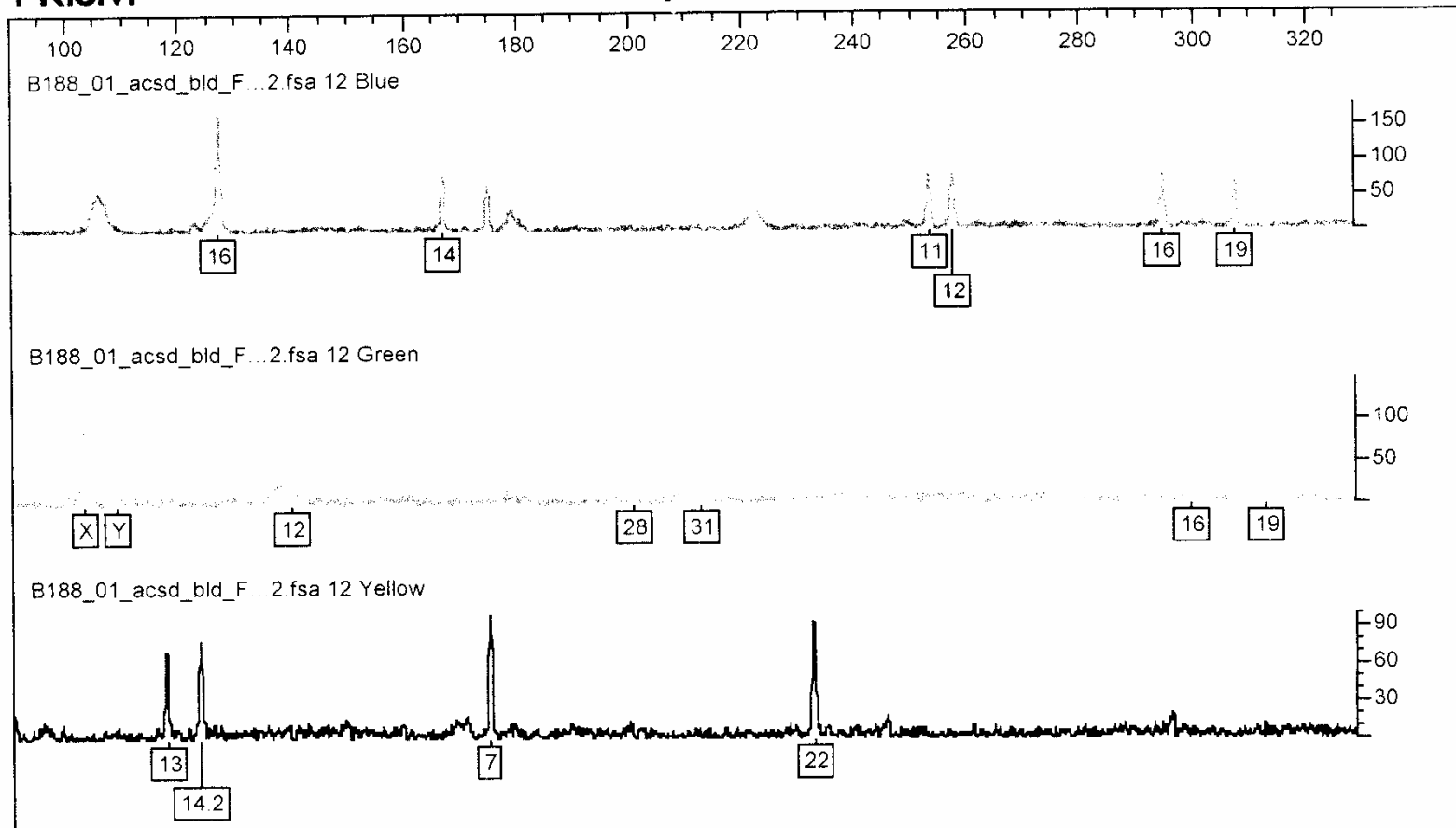
Case file contd

■ Accused blood

ABI
PRISM

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DNA Profiles summary

TABLE 1: DNA PROFILES

Sample	Sex	D3	VWA	D16	D2	D8	D21	D18	D19	TH01	FGA	Match	Probability of Match
Bloods stain on trouser	XX	15, 17	18, 20	12, 12	19, 19	14, 16	29, 31.2	17, 17	14, 14	7, 9	26, 26	Victims Blood	1.44×10^{-16}
Blood of Echumar Lokisau	XY	16, 16	14, 14	11, 12	16, 19	12, 12	28, 31	16, 19	13, 14.2	7, 7	22, 22	Suspects	3.56×10^{-16}
Blood of Agnes Awoi	XX	15, 17	18, 20	12, 12	19, 19	14, 16	29, 31.2	17, 17	14, 14	7, 9	26, 26	Victims	1.44×10^{-16}

DNA Detection



Lesson of history

- ‘We have learnt the lesson of history, ancient and modern, that a system of criminal law enforcement which comes to depend on the ‘confession’ will, in the long run, be less reliable and more subject to abuses than a system which depends on extrinsic evidence independently secured through skilful investigation.

Escobedo v Illinois, 378 U.S. 478, 488-489 (1964)

END AND THANK you

