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PRESENTATION ON

DOCUMENTATION OF BOMB SCENE AND COLLECTION OF POST BLAST RESIDUE

CUFS 2416 EXPLOSIVE AND POST BLAST INVESTIGATION

B.SC. FORENSIC SCIENCE (SEM 6)
SCHOOL OF FORENSIC SCIENCES
BHUBANESHWAR CAMPUS

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INTRODUCTION

- The examination led at the location of a blast or besieging assumes a crucial part in revealing reality with regards to the occurrence. The proof recuperated can be basic in recognizing, charging, and eventually indicting thought lawbreakers. Hence, it is significant that the proof be gathered in an expert way that will yield fruitful lab examinations.
- The initial step to be followed by the First arriving officer or the Forensic officer is to check for the people who are injured and require immediate medical assistance and sending them to hospital followed by



STEPS FOR DOCUMENTATION

- Barricading, Isolation and preservation of the site followed by marking the area as focal point of explosion, internal area and external area.
- Prevent any external disturbance to the crime scene that may hamper or mislead the investigation.
- Rough Sketches are to be drawn by an expert/investigating officer on the bomb site which should include the following: 1. The entire area where explosion has taken place. 2. Place, date and time when the sketch was made. 3. Name of persons assisting in taking measurements. 4. Directions (east, west, north and south). 5. Sketch of nearby/surrounding areas. 6. Inter-distances between relevant objects and evidences

PHOTOGRAPHY AND VIDEOGRAPHY OF BOMB SCENE

- Photographs of following should be taken:
 1. The entire explosion scene from different angles.
 2. All relevant objects at the scene of crime viz. vehicle, transistors, pressure cooker, toys, suitcase, etc.
 3. The crater formed, if explosion took place on ground.
 4. Places where the maximum damage has taken place.
 5. IEDs/unexploded material/explosive.
 5. Evidence left by criminal at the scene (cigarette butts, fingerprints, foot/footwear marks, etc.).
 6. If possible, videography at crime scene should be done.
 7. Presence of any foreign matter (bottle, match stick, cigarette, burnt rope, etc.).
 8. Before defusing any live bomb, take photograph from safe distance using tele-lens, binocular to identify the label.



LOCATE AND INTERVIEW VICTIMS AND WITNESSES

- The investigator must attempt to determine the locations of all victims and witnesses. Victim and witness statements and information about their injuries may be essential to establishing the nature of the device and the circumstances of the incident:
A. Identify and locate witnesses (e.g., victims who may have been transported, employees, first responders, delivery/service personnel, neighbors, passers-by) and prioritize interviews.
B. Attempt to obtain all available identifying data regarding victims/ witnesses (e.g., full name, address, date of birth, work and home telephone numbers) prior to their departure from the scene.

SEARCHING THE CRIME SCENE

- Investigating officer should make a note of the following upon reaching the explosion site and after evacuation of the injured to the hospital:
 1. Crater formed at the site/point of explosion.
 2. Damages caused.
 3. Whether the explosion caused fire or not.

The crime scene should be searched thoroughly and carefully keeping the following points in mind: (i) Establish the perimeters of the scene and its documentation (ii) Ascertain legal basis for the search prior to any seizure of evidence. (iii) Establish method of search based on investigative theory, size of area to be searched, and other factors. In case of use of high explosives, physical evidences get scattered to a great distance, so areas surrounding the explosion scene should also be searched thoroughly. (iv) Start search from the seat of explosion (crater).

IDENTIFICATION OF EVIDENCES

- I. Outer casing (a) Cotton thread (b) Cloth (c) Paper (d) Jute string (e) Adhesive tape (f) Pieces of plastic/metallic container
- II. Explosive residues (a) Blackening smoke deposits (b) Yellow/orange deposits (c) Small particles of partially burnt chemicals on the surrounding objects at the seat of explosion and other adjoining areas
- III. Projectiles (a) Broken glass pieces (b) Iron nails/pieces (c) Stone pieces (d) Metallic bolts and balls (e) Lead pieces of irregular shape and different sizes (f) Fragmented container, pieces of the IED
- Body parts of victim(s) that may contain explosive residues and can be used for identification or detection of explosives.

EVIDENCE COLLECTION KITS AND PROCESS OF COLLECTION

- Explosives Detection Kit (EDK)
- Fingerprint kit and Footprint kit
- Evidence collection kit
- Explosives detector
- Biological evidence collection kit
- Hand held metal detector

Search the site of explosion thoroughly and look for any unexploded material left, if found, it must first be rendered safe. (a) Look for fingerprints on the unexploded material. (b) Locate the seat of explosion or crater and collect all the relevant materials like soil and other debris present in the interior of the crater. (c) Look for evidences like metal pieces, detonators, switches, timer devices. (d) Use wire-mesh/sieves for collecting relevant evidences from the debris. (e) Collect swabs/explosive residue samples from near the seat of explosion. (f) Use vapour detector, metal detector, canines and kit for spot test for collection of explosive samples



Crater formed at the site of explosion

PACKING OF EVIDENCE

- Depending upon its type, the evidence should be packed in a suitable container the specification is as follows:-

<i>Types of Evidence</i>	<i>Types of Containers</i>
Components not requiring residue testing	Polyethylene zip-top bag
Materials requiring residue testing (swabs, etc.)	Nylon zip-top or heat sealed bag, non-corrosive plastic or glass container
Liquid samples	Glass container or non-corrosive plastic container
Soil, loose materials	Interlocking-type polythene bag or plastic container
Unconsumed explosives (low and high)	Interlocking-type antistatic polyethylene bag
Dried clothing or cloth containing dried blood stains	Paper bag, polythene bag
Gas samples	Airtight glass bottles/containers

PACKAGING: All the fragments/parts of bomb/IEDs should be packed separately in tight cotton from all sides in a plastic container with a transparent lid or alternatively in a wooden box lined with cotton and layered with tissue paper for cushioning effect. In case of IR mediated bombs faraday cage is used for its transportation to prevent its activation.

INVENTORY: The inventory consists of all the evidences that has been collected and in what quantity and quality along with all their chemical and physical properties.

FILING AND LABELLING: after collection and packing of evidence all the respective details of that evidence viz. name of investigator, date, time, location and mode of collection, signature of IO, signature of supervising officer and case number are mentioned before sending them to the FSL for further analysis.



EVIDENCE RECOVERY LOG

LOCATION _____ DATE _____ CASE IDENTIFIER _____ PREPARER/ASSISTANTS _____	PERSONNEL _____ _____ _____
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ITEM #	DESCRIPTION	WHERE FOUND	RECOVERED BY	PHOTO	MARKING Devic—D Index—1	PACKAGING METHOD	MISCELLANEOUS COMMENTS

EVIDENCE CONTROL/CHAIN OF CUSTODY

Please Furnish Complete Information

Agency submitting evidence _____ Date _____
 Laboratory # _____

Delivered by _____ Accepted by _____

Suspect(s) _____ Victim(s) _____

Offense _____ Place and date of offense _____

Agency case # _____

Date of hearing, grand jury, trial, or reason why expeditious handling is necessary _____

Prev. exams this case Yes No Evid. located Room # _____ Report to be directed to _____

Copies to _____ Evidence to be returned to Mailed Back Picked Up by Contributor

Brief Facts covering case _____

Description of evidence _____ Exams requested _____

(This space for blocking)

CHAIN OF CUSTODY (Continued)

Item	Received by	Date	Time	Received by	Date	Time
	Signature _____ Reason _____			Signature _____ Reason _____		
	Signature _____ Reason _____			Signature _____ Reason _____		
	Signature _____ Reason _____			Signature _____ Reason _____		
	Signature _____ Reason _____			Signature _____ Reason _____		
	Signature _____ Reason _____			Signature _____ Reason _____		
	Signature _____ Reason _____			Signature _____ Reason _____		
	Signature _____ Reason _____			Signature _____ Reason _____		

REMARKS _____

REFERENCE

- https://jhpolicen.gov.in/sites/default/files/documents-reports/jhpolicen_ebook_a_forensic_guide_for_crime_investigators.pdf
- <https://www.newcastle.k12.ok.us/Downloads/crime-scene-sketch-2017.pdf>
- <https://www.ojp.gov/pdffiles1/nij/181869.pdf>
- <https://www.routledge.com/Practical-Bomb-Scene-Investigation/Thurman/p/book/9780367778088>

THANK YOU.

