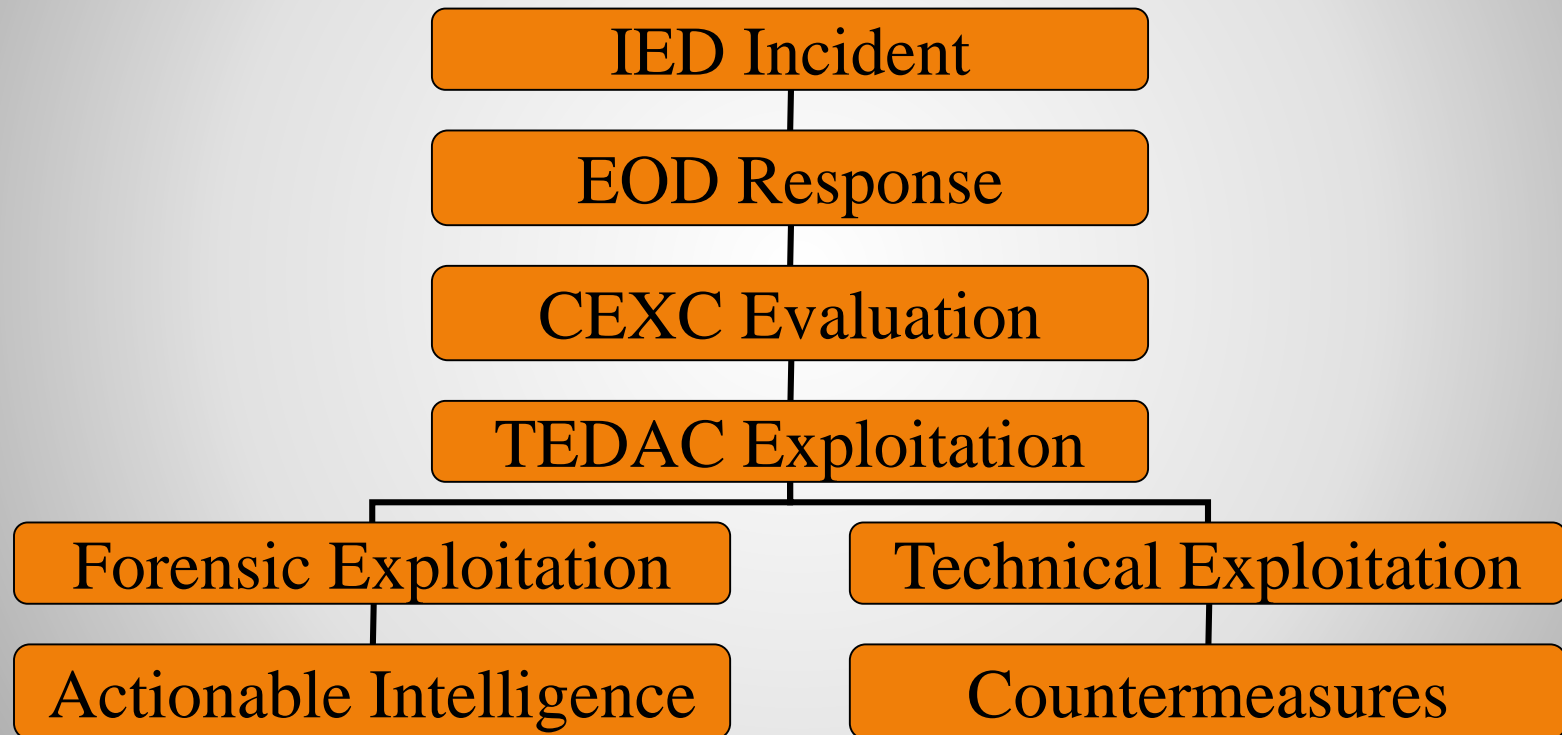


**Interdisciplinary –  
Post Blast Investigation  
I-PBI-1 & I-PBI-2**

# Device Flow



# Schedule

Day 1: Range day.

Day 2: Morning classes on:

- 3D Laser Scanning
- Digital forensics
- Forensic Pathology
- Tool marks examination
- Rules of evidence

Days 3 & 4: Laboratory processing with hands-on classes:

- DNA: Sampling, testing, and Rapid-DNA
- Chemistry: Sampling, testing, and portable -v- bench-top equipment

Day 5: Case presentation to intelligence panel.

- Panel members: Federal prosecutor, TEDAC intelligence section chief, Army EOD O-6 former TF Paladin CO, Air Force EOD O-6 PE engineer, and forensics PhD

# Classroom





# Training Areas

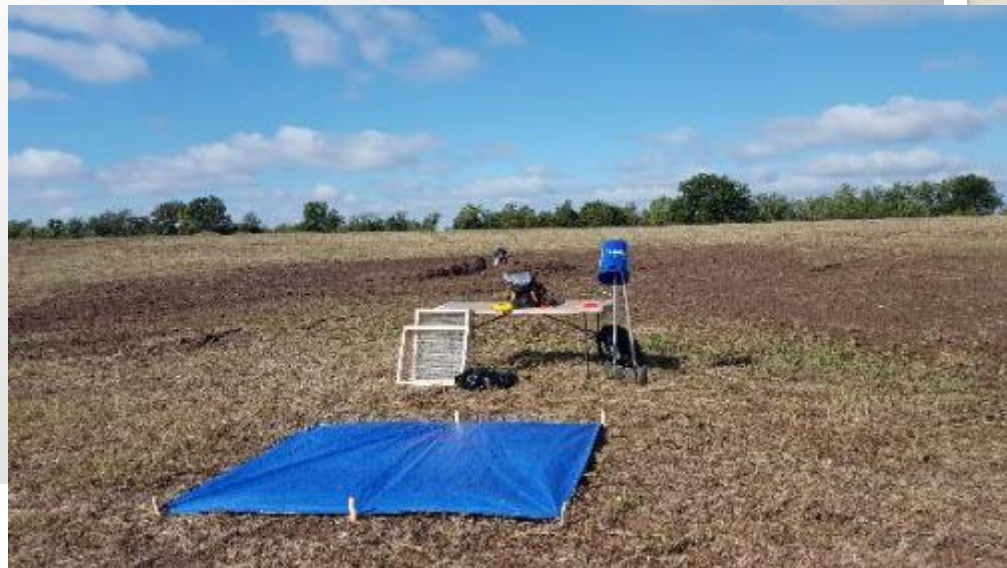
- Range
- Biometrics Lab (former Fire House)
- Chemistry Lab (general)
- Explosives Characterization Lab
- DNA Lab
- Classroom





# Support

- Leica 3D Laser Scanner
- Team Bags:
  - Tarps, tables, sifters, hand-tools, metal detectors, camera, scales, gloves, shovels, etc.
- X-ray
- 908 Device
- Other general support equipment



# Team 2



# Team 2, Device and Scenario

## Device:

- PVC pipe 2" x 16", 1/4 lb pentolite and ~1 lb ANFO
- 8 D-cell batteries in series (AF/IQ style)
- Pressure release switch with rock to hold
- 3/4" nuts, 4 rows wide, 14" long
- Cell phone on facetime

## Configuration:

- On the ground, being assembled via guidance on facetime when it functioned





## Team 2

DNA Swabs from wire twists  
on battery pack



Fingerprint from duct tape,  
between layers on battery  
pack



## Team 2

Fingerprint from tape

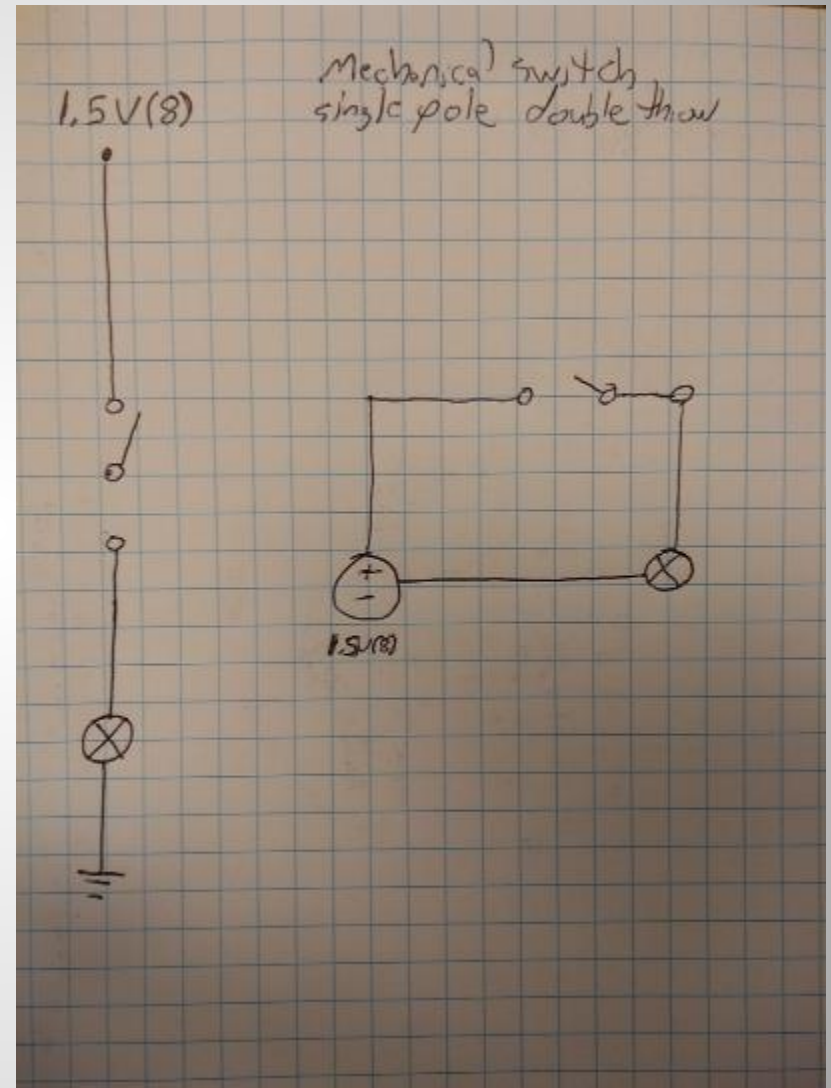


Note found at scene

“Joe I missed you here is your bag. Thanks”



- Power source: 8 D-cell batteries wired in series
- Micro switch
- White PVC pipe
- Hex nuts for fragmentation

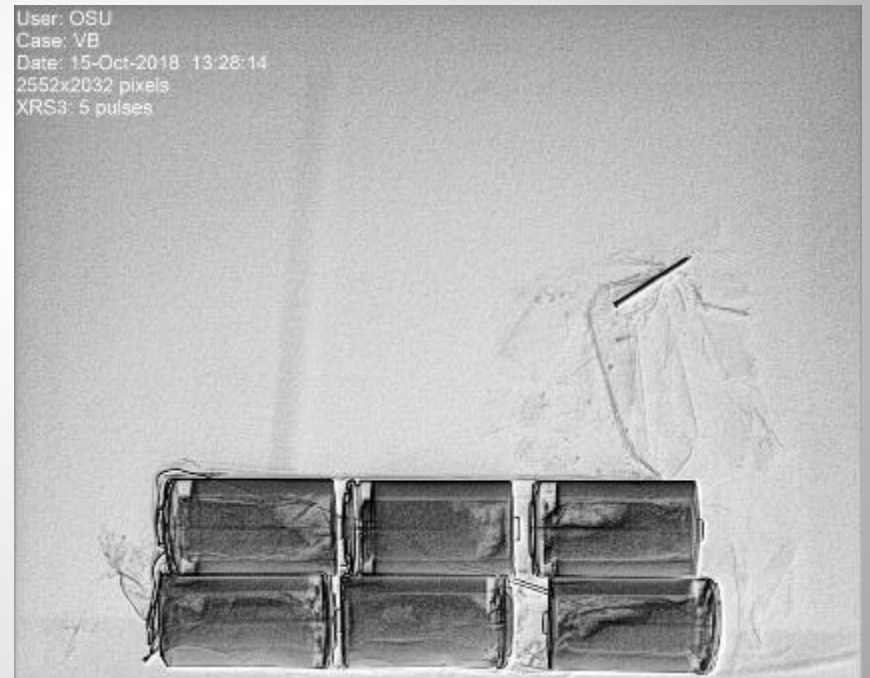
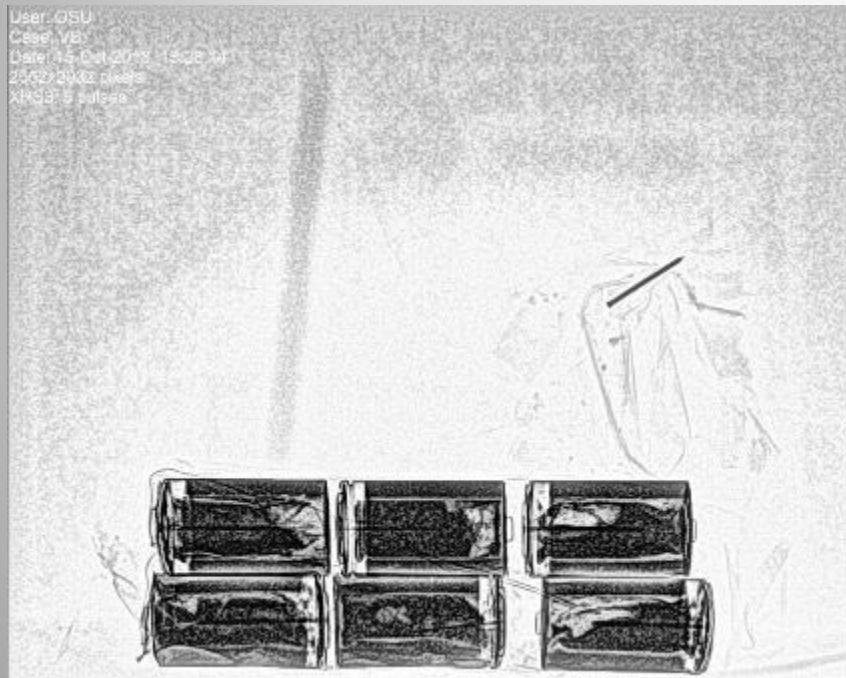


# Team 2





# Team 2



# Team 3





# Team 3



## Crater Measurements

### Input

Step 1: Define original ground around crater

Define

Step 2: Define center & direction of cross section

Define

### View Options

Cross Section

Top Down

☒ Show Point Cloud

☐ Cross Section Grid

☒ Show Cross Section Lines

☐ Top Down Grid

☒ Show Original Ground Surface

Cyan

☐ Transparency

☒ Show Crater Ground Surface

Green

☐ Transparency

### Results

Apparent Crater Diameter 7.83

Apparent Crater Depth 1.95

Lip to Lip Diameter 8.86

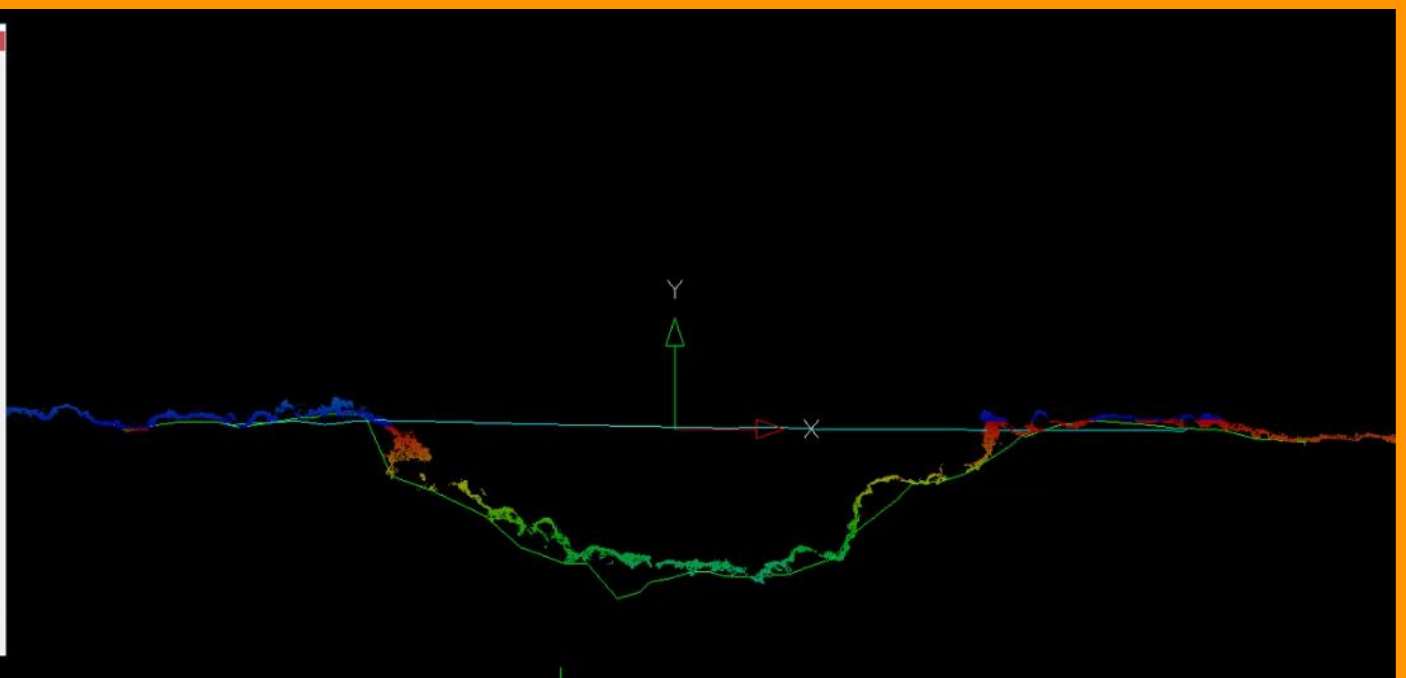
Lip to Bottom Depth 2.06

Crater Area 105.44

Crater Volume 34.88

Export Report

Reset Markers

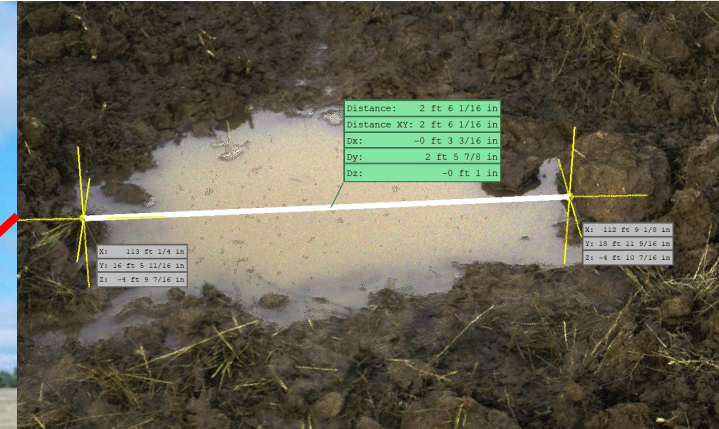


# Team 4



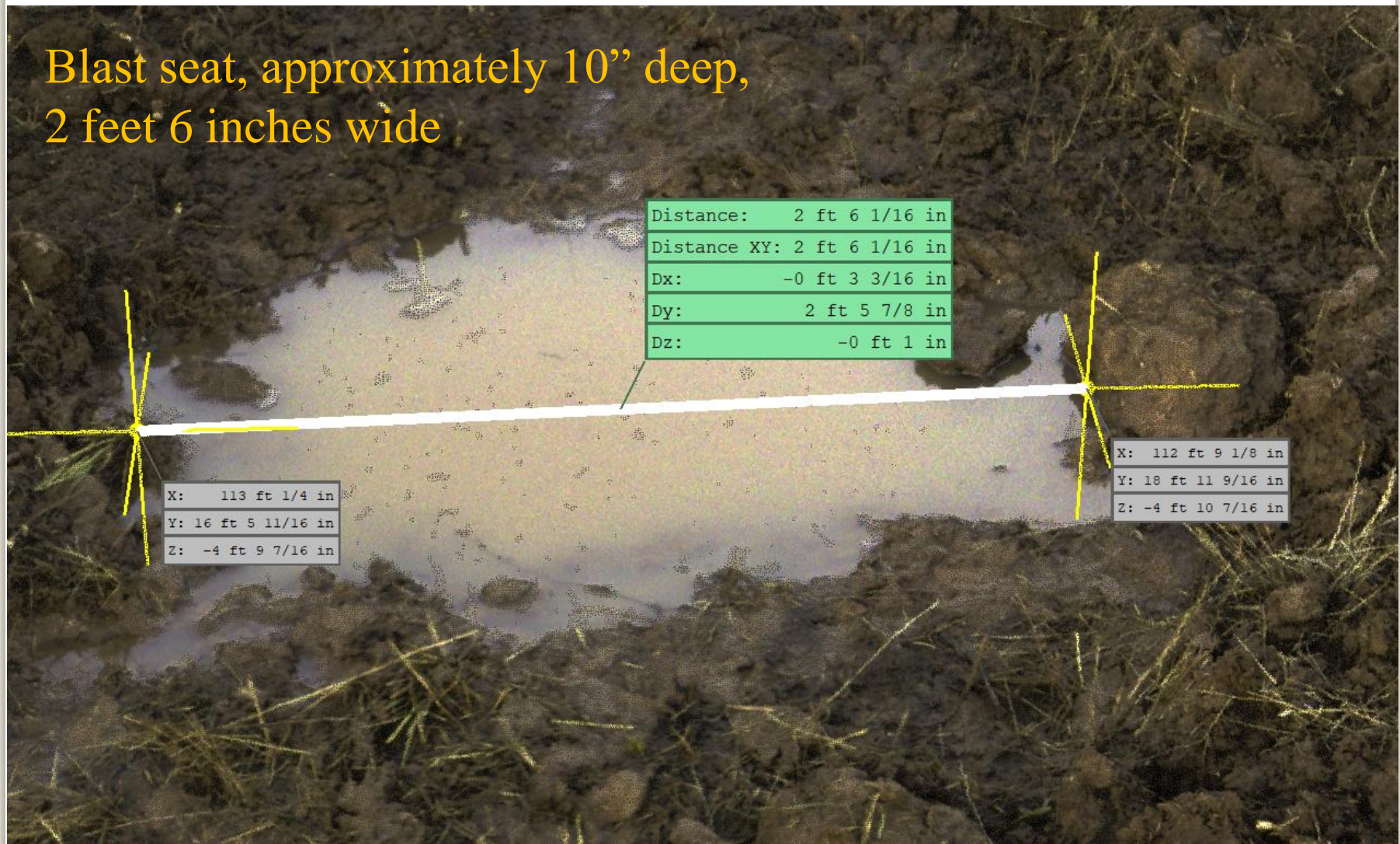


# Scene Overview





Blast seat, approximately 10" deep,  
2 feet 6 inches wide



Distance:	2 ft 6 1/16 in
Distance XY:	2 ft 6 1/16 in
Dx:	-0 ft 3 3/16 in
Dy:	2 ft 5 7/8 in
Dz:	-0 ft 1 in

X:	113 ft 1/4 in
Y:	16 ft 5 11/16 in
Z:	-4 ft 9 7/16 in

X:	112 ft 9 1/8 in
Y:	18 ft 11 9/16 in
Z:	-4 ft 10 7/16 in



**Furthest piece of  
evidence recovered  
200 feet from blast  
seat**

**Major Debris Field**



# Electronic Components



## Metal Fragmentation



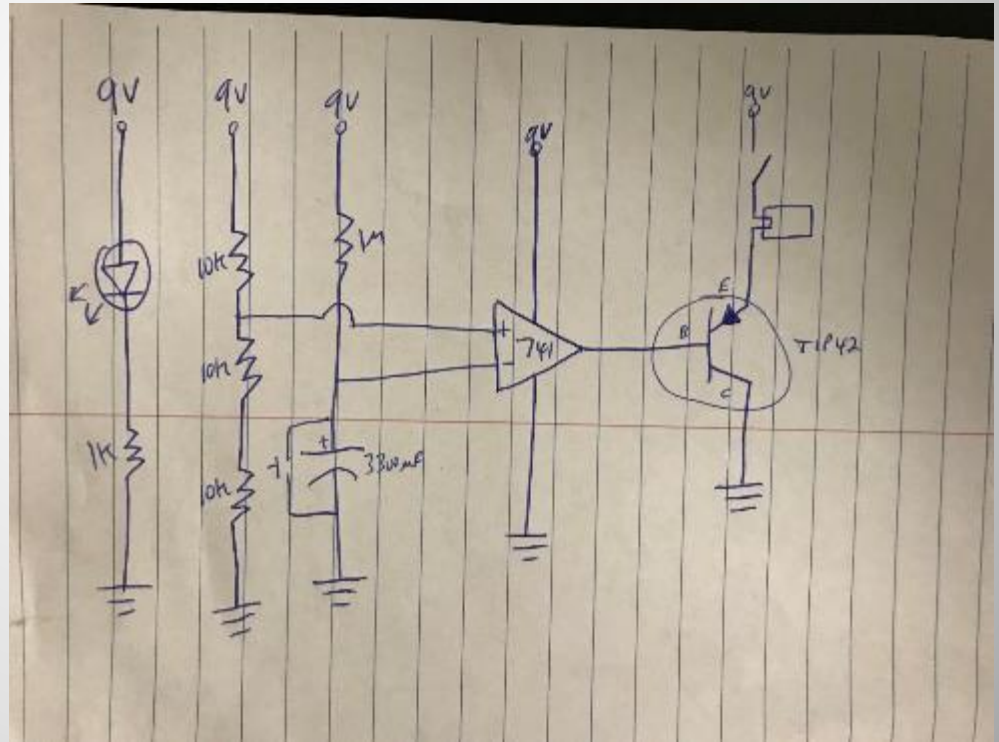


# Team 4



# Team 4

Diagram of electrical circuit recovered from vehicle after anonymous tip



# Team 4, DNA Recovered



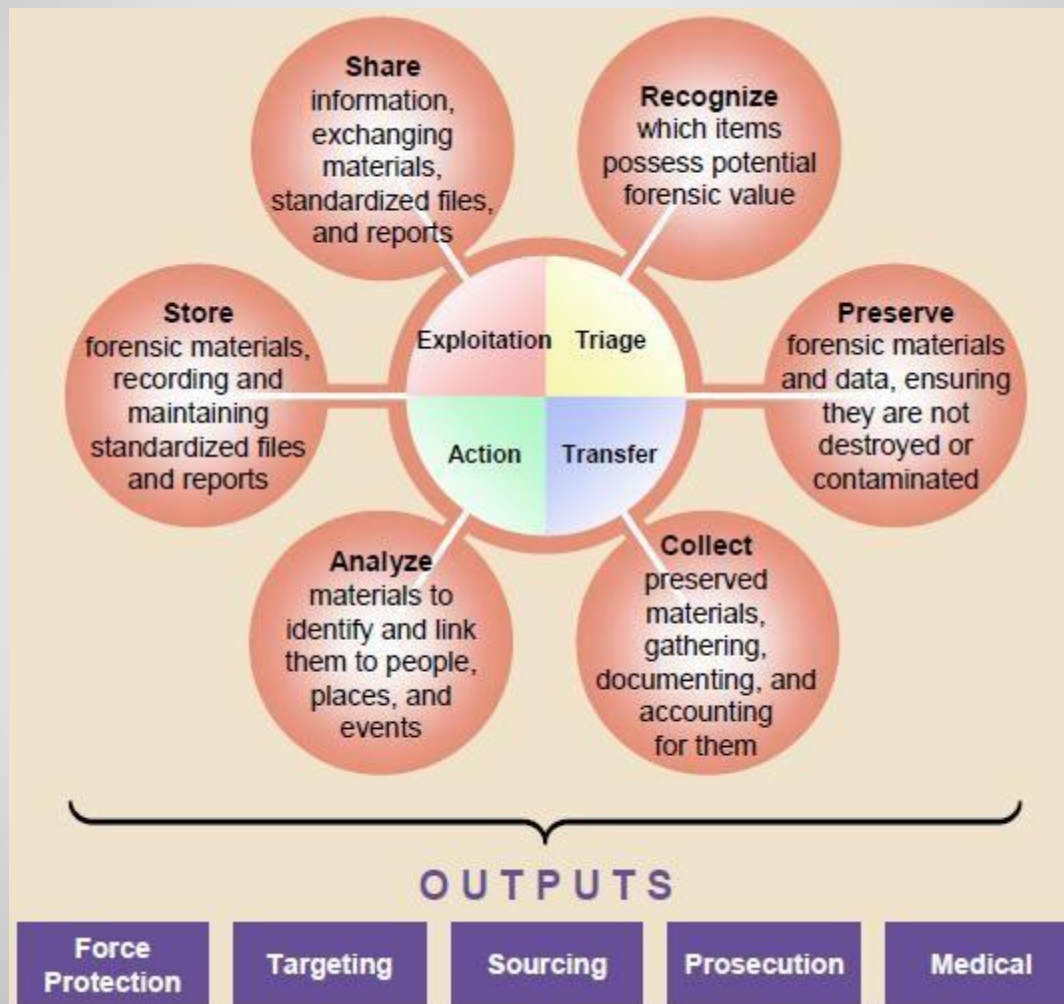


# Team 4, DNA Recovered

Team four swabbed the project box for DNA sampling and recovered two positive matches linking Tom Smith and Matthew Jones to the item.







# The Future

Level 1: Increase forensic training to operational personnel

Level 2: Continue to develop and implement scientific techniques applicable to processing post blast debris

Level 3: Continue to develop and implement effective means of conducting forensic exploitation, identify bomb-maker signatures and sources of supply for all theaters, and disseminating time-sensitive information to those in harms way

# Questions?

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