

# Processing of Camp Sibert Recovered Munitions



Anniston Field Office

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Presented to:

CWD

Presented by:

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A PARTNERSHIP FOR SAFE  
CHEMICAL WEAPONS DESTRUCTION

[www.peoacwa.army.mil](http://www.peoacwa.army.mil)



Program Executive Office  
Assembled Chemical Weapons Alternatives

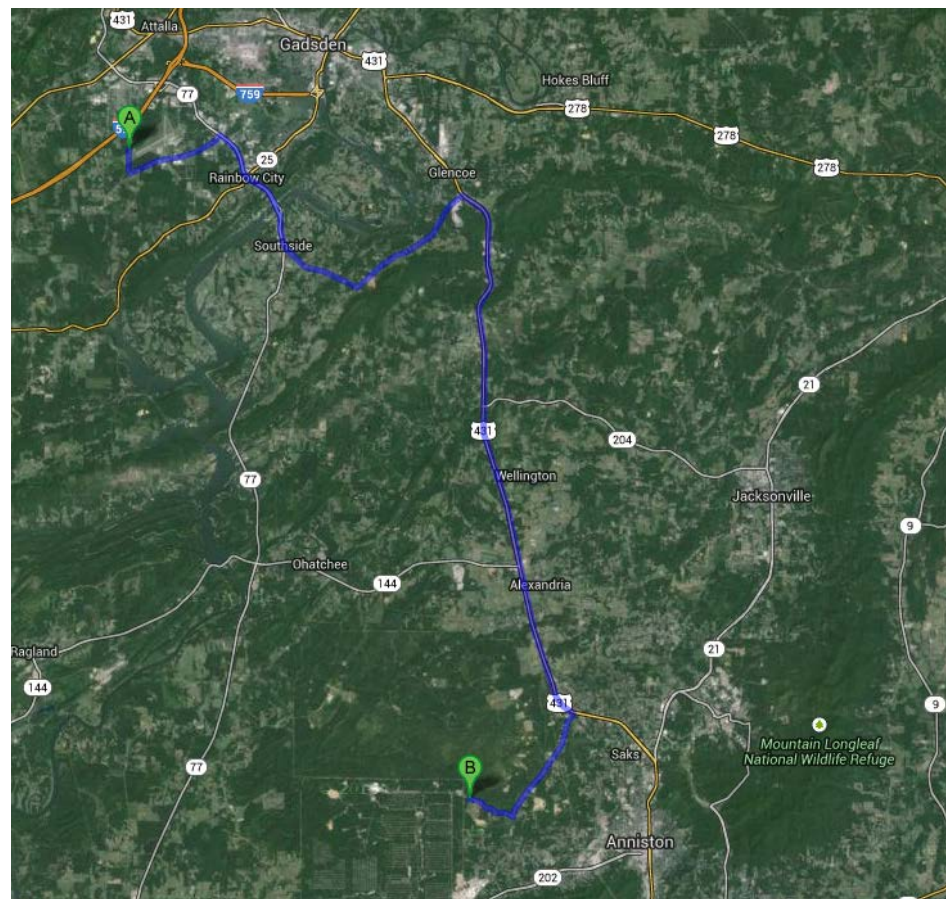


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# Background

## A Partnership for Safe Chemical Weapons Destruction

- The Static Detonation Chamber in Anniston, AL is conducted Test and Feasibility studies to support the recovered munitions program (non-stockpile)
- 18 recovered munitions were at Camp Sibert, AL approximately 40 miles north of Anniston





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# Background Cont.

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### At Camp Sibert:

- As each munition was discovered, it was thoroughly analyzed
  - Material Assessment Review Board (MARB) Data Sheets were created
  - Each MARB Data Sheet provided the expected characteristics of the munition
- Explosive Ordinance Disposal personnel handled any recovered munitions that required special treatment

### At Anniston:

- Munitions were received 20 and 21 May 2014 they were placed in storage igloos
- Manifests were signed and custody of the munitions were transferred to the Static Detonation Chamber project



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# Multiple Agency Collaboration

## A Partnership for Safe Chemical Weapons Destruction

- Munitions discovered at Camp Sibert received approval for delivery to the Anniston Static Detonation Chamber for processing. To accomplish acquiring this approval, conferences were held with the stakeholders regarding
  - Administrative controls
  - Approval from Alabama Department of Environmental Management
  - Approval from the Environmental Protection Agency
  - Shipping permits
  - Manifests



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# Multiple Agency Collaboration

## A Partnership for Safe Chemical Weapons Destruction

- The following agencies took part in this effort:
- Anniston Field Office For the Assembled Chemical Weapons Alternatives
  - Provided stakeholder integration
  - Worked with United States Army Technical Center for Explosive Safety (USATCES) to attain the Interim Hazardous Classification
- The Corps of Engineers
  - Provided the resources
  - Attained the Comprehensive Environmental Response, Compensation and Liability Act permit approval
  - Attained the Hazardous Waste Transport Permit
- CARA (CBRNE (Chemical, Biological, Radiological, Nuclear and high- yield Explosives) Analytical Remediation Activity)
  - Facilitated all of the packaging, marking and shipment
- USATCES
- Joint Munition Command
  - Developed the SPI (Special Packaging Instruction)



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# Type of Munitions

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Type	Description	#	Fill
C707	4.2" Mortar	3	Chloroacetophenone Carbon Tetrachloride Benzene Mixture
C707	4.2" Mortar	7	Sulfur Trioxide (FS) smoke
1340-ZD16	Livens Projectile	6	Probable Water or Bleach with Smoke residue
C708	4.2" Mortar	2	White Prosporous
Total Munitions		18	



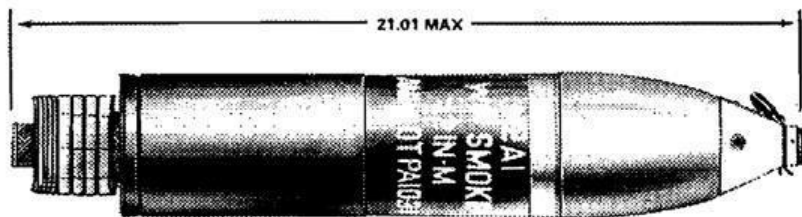
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# C707 and C708 (4.2" Mortars)

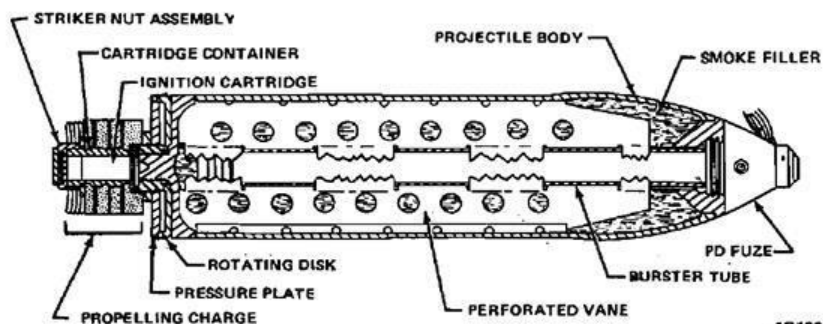
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CARTRIDGE, 4.2-INCH: SMOKE, PWP OR WP, M2A1 & M2



AR199466



AR199466

- Roughly 21 inches in length
- 4.2 inches in diameter
- Weigh approx. 28 pounds
- The C707 Munitions deemed explosively safe were triple-bagged and shipped in 7"x27" Multiple Round Containers (MRCs)
- Two of the C707 rounds and both of the C708 (WP) rounds were placed into Prop Charge Cans (PCCs) that were then overpacked into 12" x 56" MRCs
- They were removed from MRCs and processed inside their PCCs



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# C707 Rounds

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C707 Rounds Triple Bagged with Vermiculite

C707 Round in Prop Charge Cans (PCC) with Four B632 60 mm cartridges

60mm Cartridges added to assist in destruction of PCC and C707 Munition







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# Livens Projectiles

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- Roughly 22 inches in length
- 8 inches in diameter
- Weigh approx. 61 pounds
- Only one Livens Projectile contained explosives
- Remaining Five Livens Projectiles classified as Hazardous Waste
- All Six were individually double-bagged and placed in 12 x 56 Multiple Round Containers (MRCs)
- They were removed from MRCs prior to feed



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# C708 (4.2" Mortars) White Phosphorous Filled

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- Dimensionally similar to C707 Mortars
- The two C708 (WP) rounds were placed into Prop Charge Cans (PCCs) that were then overpacked into 12" x 56" Multiple Round Containers (MRCs)
- They were removed from MRCs and processed inside their PCCs
- Four B632 60mm cartridges added to assist in destruction



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# Deliberate Operations: Shipping

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- Upon discovery, each munition was double bagged
- Prior to shipment, Double bagged munitions were placed into a 3<sup>rd</sup> bag with vermiculite
- C707 Munitions Deemed Explosively safe were placed into 7x27 Multiple Round Containers (MRCs) and were removed for processing
- Two of the C707 munitions were placed into Prop Charge Cans, then placed into 12x56 for explosive handling safety. The two C708 WP munitions were also packaged this way
- All Livens projectiles were shipped (also triple bagged with vermiculite) in 12x56 MRCs





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# Deliberate Operations: Processing

## A Partnership for Safe Chemical Weapons Destruction

- Munitions were processed separately, one at a time.
- After studying the operational data from the first (3) C707 rounds, trays containing (8) B632 60mm cartridges were staged between trays containing the C707 rounds to ensure deformation of previously fed munition
- Processed munitions were left in the Detonation Chamber overnight and the following morning scrap emptying was performed
- Munitions in Prop Charge Cans (PCCs) were loaded with additional B632 60mm rounds to ensure munition inside PCC achieved proper deformation
- Permabed was removed prior to the processing of the White Phosphorous rounds (to remove possible occluded space)
- White Phosphorous rounds were processed one per day





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# Challenges

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- The first Livens round was not breached after processing. It had been anticipated that it would rupture due to a BLEVE (boiling liquid expanding vapor explosion)

- Subsequent trays containing B632 60mm rounds achieved the desired deformation





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# Challenges

## A Partnership for Safe Chemical Weapons Destruction

- Detonation Chamber Inspection after the first 3 Livens rounds revealed that one round had failed to be breached



- The presence of plastic seen on the intact round raised concerns that the vermiculite had insulated the munition
- Permabed was also very large, also possibly due to the vermiculite



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# Summary

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## SYSTEM INDICATIONS

- Temperatures and pressures well below level of concern
- No other process conditions raised any concerns
- Effort considered a success



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# Questions?

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