

**Ravenna Army Ammunition Plant Restoration Program**

**Public Notification and Public Meeting Summary Packet  
for:**

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-39 Load Line 5  
(final version dated December 6, 2016)

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-33 Load Line 6  
(revised final version dated April 12, 2017)

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-41 Load Line 8  
(final version dated March 17, 2017)

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-44 Load Line 11  
(final version dated March 17, 2017)

**Public Comment Period:** June 12, 2017 to July 12, 2017

**Public Meeting:** June 27, 2017

**Contract No. W912QR-15-C-0046**

**Prepared for:**



**US Army Corps  
of Engineers®**

**U.S. Army Corps of Engineers  
Louisville District**

**Prepared by:**



**Leidos  
8866 Commons Boulevard, Suite 201  
Twinsburg, Ohio 44087**

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**PUBLIC NOTIFICATION**

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## **Public Notice**

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# News Release

For Immediate Release  
Contact: Camp Ravenna  
Environmental Office

**Camp Ravenna Joint Military Training Center**  
Camp Ravenna Environmental Office — 1438 State Route 534 SW — Newton Falls, OH 44444  
614-336-6136.

## **Public meeting to be held Tuesday June 27, 2017 for Army National Guard Release of Proposed Plans for Soil, Sediment, and Surface Water at Load Line 5, Load Line 6, Load Line 8, and Load Line 11**

**Ravenna** – The Army National Guard, in consultation with the Ohio Environmental Protection Agency, submits for public review and comments four (4) Proposed Plans for soil, sediment, and surface water associated with former national defense program activities at the former Ravenna Army Ammunition Plant (RVAAP) in Portage and Trumbull counties, Ohio.

Load Lines 5, 6, 8, and 11 are areas of concern (AOCs) within the former RVAAP in Ravenna, Ohio. These AOCs are being addressed under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The Proposed Plans present the current status and information regarding the AOCs. The Proposed Plans detail the recommendation for No Further Action at each AOC and provide the rationale for these recommendations.

On Tuesday June 27, 2017, a public meeting will be held at the Shearer Community Center (Paris Township Hall) at 9355 Newton Falls Road, Ravenna, Ohio 44266 beginning at 6:00 p.m., with an informal open house when technical staff will be available to answer questions. At 6:30 p.m., the Army National Guard will briefly describe the assessment of the AOCs, present the No Further Action recommendation, and then request verbal comments from the public. Written comments regarding this recommendation may be submitted to the Army National Guard during the 30-day comment period from June 12, 2017 to July 12, 2017. All written comments should be addressed to Camp Ravenna Environmental Office; 1438 State Route 534 SW, Newton Falls, OH 44444.

In accordance with CERCLA, the No Further Action recommendation presented in the Proposed Plans is also presented in earlier remedial investigation (RI) reports. All reports are now available for public review at the RVAAP Information Repository at the Reed Memorial Library (167 East Main Street, Ravenna) and the Newton Falls Public Library (204 South Canal Street, Newton Falls). The reports are also available online at [www.rvaap.org](http://www.rvaap.org).

The final remedy for each AOC will be selected based, in part, on public comments. In coordination with Ohio Environmental Protection Agency, the Army National Guard will select a final remedy after reviewing and considering all public comments submitted during the 30-day public comment period from June 12, 2017 to July 12, 2017. The Army National Guard encourages the public to review and comment on the recommendation presented in this document.

For more information or to participate in the review, please visit the RVAAP website ([www.rvaap.org](http://www.rvaap.org)) or call Katie Tait at 614-336-6136.

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## **Affidavits**

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**Notice of Document Availability**  
Proposed Plans for Load Line 5, Load Line 6, Load Line 8, and Load Line 11 at the Former Ravenna Army Ammunition Plant (RVAAP)  
The Proposed Plans for Load Line 5, Load Line 6, Load Line 8, and Load Line 11 each present a recommendation of No Further Action and provide the rationale for this recommendation. These Proposed Plans are now available for public review for 30 days from June 12, 2017 to July 12, 2017.  
The Proposed Plans are available at:  
Newton Falls Public Library  
204 South Canal Street  
Newton Falls, Ohio 44444  
Reed Memorial Library  
167 East Main Street  
Ravenna, Ohio 44266  
The Proposed Plans are also available at: www.rvaap.org  
Please join us for an OPEN HOUSE and PUBLIC MEETING.  
The Army will host an information open house and a public meeting to explain the Proposed Plans and the No Further Action recommendation. Oral and written comments will be accepted at the meeting. Written comments may be mailed to the Camp Ravenna Environmental Office; 1438 State Route 534 SW, Newton Falls, OH 44444. Comments will be accepted during the public comment period from June 12, 2017 to July 12, 2017.  
The public meeting is scheduled for:  
Tuesday June 27, 2017  
6:00 pm Open House  
6:30 pm Public Meeting  
At:  
Shearer Community Center (Paris Township Hall)  
9355 Newton Falls Road,  
Ravenna, OH 44266  
For more information or if you need special

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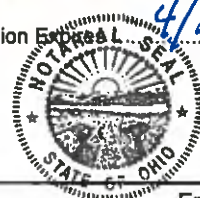
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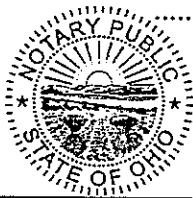
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## Notice of Document Availability



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Newton Falls Public Library                      Reed Memorial Library  
204 South Canal Street                      187 East Main Street  
Newton Falls, Ohio 44444                      Ravenna, Ohio 44266

The Proposed Plans are also available at: [www.rvaap.org](http://www.rvaap.org)

#### Please join us for an OPEN HOUSE and PUBLIC MEETING.

The Army will host an information open house and a public meeting to explain the Proposed Plans and the No Further Action recommendation. Oral and written comments will be accepted at the meeting. Written comments may be mailed to the Camp Ravenna Environmental Office, 1438 State Route 534 SW, Newton Falls, OH 44444. Comments will be accepted during the public comment period from June 12, 2017 to July 12, 2017.

The public meeting is scheduled for:                      at:  
**Tuesday June 27, 2017**                      **Shearer Community Center (Paris Township Hall)**  
6:00 pm Open House                      9355 Newton Falls Road  
6:30 pm Public Meeting                      Ravenna, OH 44266

**For more information or if you need special accommodations to attend, please contact Katie Tait at 614-336-6136.**

31193993

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# Notice of Document Availability



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Tuesday June 27, 2017  
6:00 pm Open House  
6:30 pm Public Meeting

at:

Shearer Community Center (Paris Township Hall)  
9355 Newton Falls Road.  
Ravenna, OH 44266

**For more information or if you need special accommodations to attend, please contact Katie Tait at 614-336-6136.**

NOTICE OF DOCUMENT AVAILABILITY

Proposed Plans for Load Line 5, Load Line 6, Load Line 8, and Load Line 11 at the Former Ravenna Army Ammunition Plant (RVAAP)

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The Proposed Plans are also available at [www.rvaap.org](http://www.rvaap.org)

Please join us for an OPEN HOUSE and PUBLIC MEETING.

The Army will host an information open house and a public meeting to explain the Proposed Plans and the No. Further Action recommendation. Oral and written comments will be accepted at the meeting. Written comments may be mailed to the Camp Ravenna Environmental Office, 1438 State Route 534 SW, Newton Falls, OH 44444. Comments will be accepted during the public comment period from June 12, 2017 to July 12, 2017.

The public meeting is scheduled for:

Tuesday, June 27, 2017 8:00 pm Open House 8:30 pm Public Meeting	at: Shearer Community Center (Paris Township Hall) 9355 Newton Falls Road Ravenna, OH 44286
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For more information or if you need special accommodations to attend, please contact Katie Tait at 614-336-6136.  
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# **PUBLIC MEETING**

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## **Sign-in Sheet**

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US Army Corps  
of Engineers  
Louisville District

# SIGN-IN SHEET

Camp Ravenna Public Meeting – Proposed Plans for Load Line 5, Load Line 6, Load Line 8, and Load Line 11 at the Former Ravenna Army Ammunition Plant (RVAAP)

**PLEASE PRINT**

LOCATION: Shearer Community Center; Ravenna, OH

DATE: June 27, 2017

TIME: 6:30 p.m.

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Barb Tuttle			
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Sharon Roberts			
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Tom Banks			
Eli Rogoff			
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CAMP RAVENNA PUBLIC MEETING SIGN-IN SHEET

**Proposed Plans for Load Line 5, Load Line 6, Load Line 8, and Load Line 11 at the Former Ravenna Army Ammunition Plant (RVAAP)**

**PLEASE PRINT**

**LOCATION:** Shearer Community Center; Ravenna, OH

**DATE:** June 27, 2017

**TIME:** 6:30 p.m.

Name	Address/City/State/Zip	Phone	Email
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Bob Princić			
Kathryn Tait			

# **Presentation**

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# Proposed Plans for Soil, Sediment, and Surface Water at

## Load Lines 5, 6, 8, and 11

### Former Ravenna Army Ammunition Plant Ravenna, Ohio

*Presented by:*  
**Heather Adams, P.G. - Leidos**

*June 27, 2017*

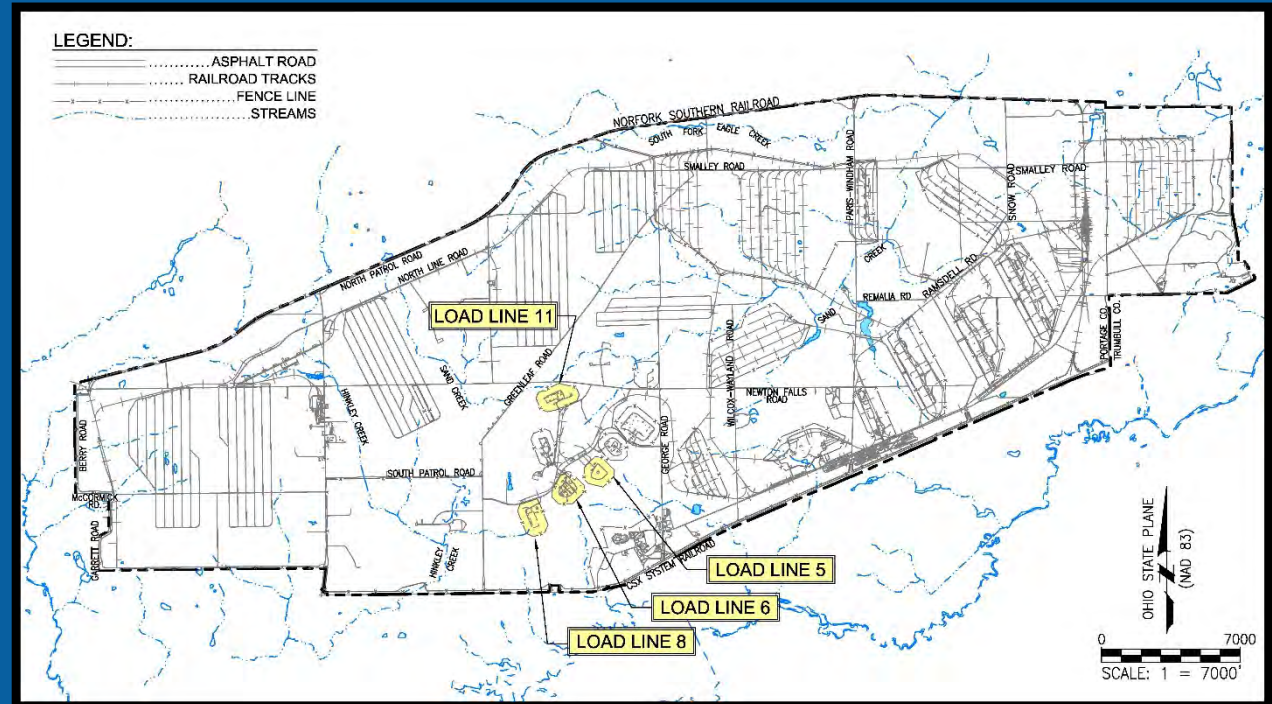
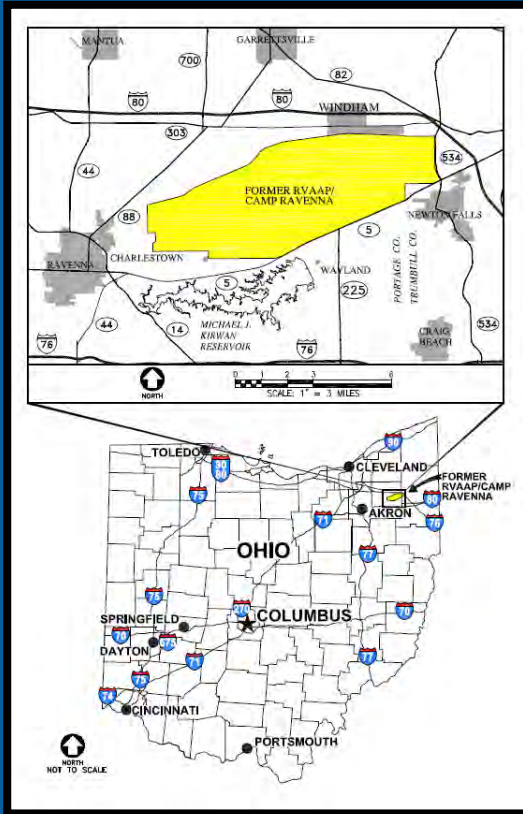


## Presentation Agenda

- Four Areas of Concern –
  - Load Line 5
  - Load Line 6
  - Load Line 8
  - Load Line 11
- Site Features
- Historical Operations
- Remedial Investigations
- Remedial Investigation Conclusions
- Public Participation
- Questions

# Areas of Concern Location

**Load Line 5 AOC is RVAAP-39**  
**Load Line 6 AOC is RVAAP-33**  
**Load Line 8 AOC is RVAAP-41**  
**Load Line 11 AOC is RVAAP-44**



# Load Line 5 Site Features



- Approximately 39 acres
- All buildings, including slabs and foundations, were removed in 2006 and 2007
- Access road and perimeter fence currently exist
- Overgrown with trees and shrubs
- Surface water occurs intermittently as storm water runoff in ditches and three wetlands

# Load Line 5

## Historical Operations



- 1941–1945, Load Line 5 operated at full capacity as a finished product assembly line to produce fuzes for artillery projectiles.
- All primary explosive products were delivered to Load Line 5 as sealed, finished sub-assemblies (e.g., detonators from Load Line 9).
- Load Line 5 historical buildings included:
  - 13 production buildings
  - 1 heater house
  - 2 change houses
  - 1 paint storage building
  - 1 time clock building
  - 1 service building
- 1945 - Load Line 5 was deactivated permanently and production equipment was removed.
- Load Line 5 was not used for any process other than finished product assembly.
- As of 2007, all buildings, foundations, and slabs have been removed.

# Load Line 5

## Previous Investigations

- Installation Assessment (USATHAMA 1978)
- RCRA Facility Assessment (Jacobs 1989)
- Preliminary Assessment (USACE 1996)
- Relative Risk Site Evaluation (USACHPPM 1998)
  
- Remedial Investigations:
  - 2004 Characterization of 14 AOCs (MKM 2007)
  - 2007 Investigation of Under Slab Surface Soils (USACE 2009)
  - 2010 PBA08 RI (USACE 2016)



# Load Line 5

## Remedial Investigations



### • 2004 Characterization of 14 Areas of Concern

- Collected multi-increment (MI) surface soil (0-1 ft bgs) samples,
  - 17 samples from around former buildings
  - 12 samples from ditches
- Collected 4 discrete samples for VOC analysis,
- Collected 7 surface soil quality assurance/quality control (QA/QC) samples,
- Collected 3 geotechnical samples during monitoring well installation,
- Excavated 3 test trenches until bedrock or saturated soil was encountered (9-12 ft bgs), and
- Conducted initial human health and ecological risk screening.

### Conclusions:

- Recommended full risk assessments be performed to assist in overall management decision for Load Line 5.

# Load Line 5

## Remedial Investigations (continued)



### • 2007 Investigation of Under Slab Surface Soil

- Investigation completed after the buildings and structures were demolished and removed to identify remaining potential contaminants.
- Collected 15 ISM surface soil samples (plus 4 QA/QC samples) from the footprints of 13 former production buildings.

#### Conclusions:

- No VOCs, explosives, PCBs, herbicides, or pesticides were detected in surface soil beneath the slabs.
- Chemicals of Potential Concern (COPCs) identified at Load Line 5:
  - Benz(a)anthracene at Building 1F-12.
  - Chromium was detected at Building 1F-10.



# Load Line 5

## Remedial Investigations (continued)

### • 2010 PBA08 Remedial Investigation

- Collected additional samples to supplement findings of previous investigations.
  - **Source Area Sampling-**
    - Collected 7 ISM samples in the former production area (FPA)
    - Collected 8 ISM samples in the non-production area (NPA)
  - **Large ISM Sampling-** Collected 12 large grid ISM samples to complete characterization of the AOC.
  - **Subsurface Sampling-** Collected samples from 7 soil borings installed in ISM areas with historical screening criteria exceedances.
  - **Surface Water and Sediment Sampling-** Collected 3 surface water and 4 sediment samples to characterize wetlands and potential surface water pathways.

# Load Line 5

## Remedial Investigations (continued)



### • Remedial Investigation Summary

- Multiple evaluations and investigations were performed to assess Load Line 5. The total number of samples collected include:
  - 94 surface soil samples,
  - 15 subsurface soil samples,
  - 4 sediment samples,
  - 3 surface water samples,
  - 77 groundwater samples, and
  - Other: 8 water samples and 3 sediment samples from former sumps.
- The following chemical groups were looked for during the investigations:
  - Metals, explosives, propellants, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and pesticides.

# Load Line 5

## Remedial Investigations Conclusions



- Nature and extent of contamination is defined. No further sampling is required to characterize Load Line 5.
- No further action is required to protect human health.
  - The HHRA did not identify chemicals of concern (COCs) from previous Army activities requiring remediation under CERCLA to be protective of the Resident Receptor.
- No further action is required to protect ecological resources.
  - No risk was identified for important or significant ecological places or resources.
- No further action for soil is required to protect groundwater.
  - The fate and transport assessment determined chemicals in soil are not impacting groundwater.
  - Groundwater will continue to be evaluated under the Facility-wide Groundwater Monitoring Program.

**The Army, in coordination with Ohio EPA, is recommending no further action to attain Unrestricted (Residential) Land Use for soil, sediment, and surface water at Load Line 5.**

# Load Line 6

## Site Features



- Approximately 43 acres
- 23 production buildings were thermally decontaminated and demolished in 2002.
- 4 remaining production buildings were demolished between 2005 and 2007.
- All footers and floor slabs were removed to a minimum of 4 ft bgs.
- Access road and perimeter fence currently exist.
- Overgrown with grass, trees, and shrubs.
- Surface water occurs intermittently in ditches and permanently in the Former Test Pond that is approximately 35 ft in diameter and 14 ft deep.

# Load Line 6

## Historical Operations



- 1941–1945, Load Line 6 operated at full capacity as a finished product assembly line to produce fuzes for artillery projectiles.
- In total, Load Line 5 and Load Line 6 produced approximately 19 million fuzes.
- Load Line 6 historical buildings included:
  - 19 production buildings
  - 1 heater house
  - 3 change houses
  - 1 gate house
  - 1 inert storage building
  - 1 shipping building
  - 1 fire station
- Load Line 6 was deactivated at the end of World War II, and the process equipment was removed.

# Load Line 6

## Historical Operations (continued)



- 1950–1970 Load Line 6 was used for classified development of missiles and shaped charges for armor penetration.
  - There is little available information regarding the testing activities. Reportedly, the tests were contained, which limited the release of chemicals to the environment.
  - Two buildings at the southern portion of the site were used as testing chambers for missiles.
  - The Former Test Pond was used for underwater testing of shaped charges.
- 1981–1989, Physics International operated a pink water evaporation unit that was closed under the Resource Conservation and Recovery Act (RCRA) regulations in 1989.
- Load Line 6 has not been used since 1989.
- As of 2007, all buildings, foundations, and slabs have been removed.

# Load Line 6

## Previous Investigations



- Installation Assessment (USATHAMA 1978)
- RCRA Facility Assessment (Jacobs 1989)
- Preliminary Assessment (USACE 1996)
- Relative Risk Site Evaluation (USACHPPM 1996)
- Remedial Investigations:
  - 2002-2003 Phase I Remedial Investigation (MKM 2007)
  - 2010 PBA08 Phase II RI (USACE 2016)
- Military Munitions Response Program RI at Firestone Test Facility MRS (CB&I 2014)



# Load Line 6

## Remedial Investigations



- 2002-2003 Phase I Remedial Investigation
  - Collected 49 surface soil samples and 53 subsurface soil samples,
  - Excavated 5 test trenches until bedrock or saturated soil was encountered (14-15.5 ft bgs),
  - Installed, developed, and sampled 7 monitoring wells,
  - Conducted permeability testing (slug tests),
  - Collected sanitary sewer water samples,
  - Collected samples adjacent to sanitary sewers,
  - Collected geotechnical samples during monitoring well installation, and
  - Surveyed monitoring well locations.

### Conclusions:

- Extent of contamination was not fully determined.
- Recommended full risk assessments be performed to assist in overall management decision for Load Line 6.



### • 2010 PBA08 Phase II Remedial Investigation

- Collected additional samples to supplement findings of previous investigation.
  - **Source Area Sampling-** Collected 10 surface soil samples to further characterize surface soil.
  - **Subsurface Sampling-** Collected discrete samples from 5 soil borings to further characterize the subsurface soil.
  - **Surface Water and Sediment Sampling-**
    - Collected 4 surface water and sediment samples at exit points and the Fuze and Booster Hill area to characterize current conditions and assess potential exit pathways.
    - Collected 2 surface water and sediment samples from the Former Test Pond.

# Load Line 6

## Remedial Investigations (continued)

- Phase II Remedial Investigation Summary
  - Multiple evaluations and investigations were performed to assess Load Line 6. The total number of samples collected include:
    - 80 surface soil samples,
    - 66 subsurface soil samples,
    - 12 sediment samples,
    - 16 surface water samples, and
    - 114 groundwater samples.
  - The following chemical groups were looked for during the investigations:
    - Metals, explosives, propellants, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and pesticides.

# Load Line 6

## Remedial Investigations Conclusions

- Nature and extent of contamination is defined. No further sampling is required to characterize Load Line 6.
- No further action is required to protect human health.
  - The HHRA did not identify chemicals of concern (COCs) from previous Army activities requiring remediation under CERCLA to be protective of the Resident Receptor.
- No further action is required to protect ecological resources.
  - No risk was identified for important or significant ecological places or resources.
- No further action for soil is required to protect groundwater.
  - The fate and transport assessment determined chemicals in soil are not impacting groundwater.
  - Groundwater will continue to be evaluated under the Facility-wide Groundwater Monitoring Program.

**The Army, in coordination with Ohio EPA, is recommending no further action to attain Unrestricted (Residential) Land Use for soil, sediment, and surface water at Load Line 6.**

# Load Line 8 Site Features



- Approximately 44 acres
- Buildings, slabs, foundations, and wood frame walkways were demolished and removed in 2006.
- Access road and perimeter fence currently exist
- Overgrown with grass, trees, and shrubs
- Surface water occurs intermittently as storm water runoff in ditches and five wetlands

# Load Line 8

## Historical Operations



- 1941–1945, Load Line 8 operated at full capacity as a finished product assembly line to produce booster charges for artillery projectiles.
- Approximately 44 million boosters were produced while Load Line 8 was in operation.
- Load Line 8 historical buildings included:
  - 12 production buildings
  - 2 heater house
  - 3 change houses
  - 1 time clock building
  - 1 inert storage building
  - 1 shipping building
- Load Line 8 was deactivated at the end of World War II, and the process equipment was removed.
- 1969–1971, Load Line 8 was reactivated for melt-pour operations and assembly and has not been used for any other operations since 1971.
- As of 2006, all buildings, foundations, and slabs have been removed.

# Load Line 8

## Previous Investigations



- Installation Assessment (USATHAMA 1978)
- Preliminary Assessment Screening of Boundary Load Line Areas (USAEHA 1994)
- Relative Risk Site Evaluation (USACHPPM 1996)
- Remedial Investigations:
  - 2004 Characterization of 14 AOCs (MKM 2007)
  - 2007 Investigation of the Under Slab Surface Soil (USACE 2009)
  - 2010 PBA08 RI (USACE 2016)



# Load Line 8

## Remedial Investigations



### • 2004 Characterization of 14 AOCs

- Collected 16 multi-increment (MI) surface soil (0–1 ft bgs) around former buildings and 2 samples from dry drainage ditches,
- Collected 6 MI sediment (0-0.5 ft bgs) samples from wet ditches,
- Collected 6 surface water samples from wet ditches,
- Collected 4 surface soil quality assurance/quality control (QA/QC) samples,
- Collected 3 geotechnical samples during monitoring well installation, and
- Excavated 6 test trenches until bedrock or saturated soil was encountered (10.2-12.5 ft bgs).

### Conclusions:

- Extent of contamination was not fully determined.
- Recommended full risk assessments be performed to assist in overall management decision for Load Line 8.

# Load Line 8

## Remedial Investigations (continued)

### • 2007 Investigation of Under Slab Surface Soil

- Investigation completed after the buildings and structures were demolished and removed to identify remaining potential contaminants.
- Collected 13 ISM surface soil samples (plus 4 QA/QC samples) from the footprints of the 12 former production buildings.

### Conclusions:

- No VOCs, explosives, PCBs, herbicides, or pesticides were detected in surface soil beneath the slabs.
- Chemicals of Potential Concern (COPCs) identified at Load Line 8:
  - Two SVOCs, benz(a)anthracene and benzo(b)fluoranthene at Building 2B-21.
  - PCB-1254 at Building 2B-4,
  - Nickel at Building 2B-5, and
  - Chromium at Building 2B-12.





- 2010 PBA08 Remedial Investigation

- Collected additional samples to supplement findings of previous investigations.

- **Source Area Sampling-**

- Collected 3 ISM samples around former ISM sample areas that exceeded screening criteria to further define the lateral extent of contamination.
- Collected 6 ISM samples in the FPA
- Collected 9 ISM samples in the NPA

- **Large ISM Sampling-** Collected 13 large grid ISM samples to complete characterization of the AOC.
- **Subsurface Sampling-** Collected soil samples from 8 soil borings to further characterize the vertical extent of potential contamination.
- **Surface Water and Sediment Sampling-** Collected 3 co-located surface water and sediment samples to assess potential exit pathways from Load Line 8.

# Load Line 8

## Remedial Investigations (continued)



### • Remedial Investigation Summary

- Multiple evaluations and investigations were performed to assess Load Line 8. The total number of samples collected include:
  - 80 surface soil samples,
  - 20 subsurface soil samples,
  - 12 sediment samples,
  - 12 surface water samples,
  - 63 groundwater samples, and
  - Other: 12 water samples and 9 sediment samples from former sumps.
  
- The following chemical groups were looked for during the investigations:
  - Metals, explosives, propellants, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and pesticides.

# Load Line 8

## Remedial Investigations Conclusions



- Nature and extent of contamination is defined. No further sampling is required to characterize Load Line 8.
- No further action is required to protect human health.
  - The HHRA did not identify chemicals of concern (COCs) from previous Army activities requiring remediation under CERCLA to be protective of the Resident Receptor.
- No further action is required to protect ecological resources.
  - No risk was identified for important or significant ecological places or resources.
- No further action for soil is required to protect groundwater.
  - The fate and transport assessment determined chemicals in soil are not impacting groundwater.
  - Groundwater will continue to be evaluated under the Facility-wide Groundwater Monitoring Program.

**The Army, in coordination with Ohio EPA, is recommending no further action to attain Unrestricted (Residential) Land Use for soil, sediment, and surface water at Load Line 8.**

# Load Line 11

## Site Features



- Approximately 48 acres
- Building slabs, foundations, footers, basements, and wood frame walkways were demolished and removed in 2001 and 2004–2005.
- Access road and perimeter fence currently exist
- Overgrown with grass, trees, and shrubs. Some forest exists on the western, northern, and eastern boundaries.
- Surface water occurs intermittently as storm water runoff in ditches and in two wetlands

# Load Line 11

## Historical Operations



- 1941–1945, Load Line 11 operated at full capacity to produce artillery primers.
- Approximately 50 million primers were produced while Load Line 11 was in operation.
- Load Line 11 historical buildings included:
  - 14 production buildings
  - 1 dining hall
  - 2 change houses
  - 1 time clock building
  - 1 inert storage building
  - 1 shipping building
- 1951–1957, Load Line 11 was reactivated to produce primers.
- 1969–1971, Load Line 11 was reactivated to produce fuzes.
- 1971, Load Line 11 was deactivated, all process equipment was removed, and it was not used for any other processes after 1971.
- As of 2005, all buildings, foundations, and slabs have been removed.

# Load Line 11

## Previous Investigations



- Installation Assessment (USATHAMA 1978)
- RCRA Facility Assessment (Jacobs 1989)
- Preliminary Assessment (USACE 1996)
- Relative Risk Site Evaluation (USACHPPM 1996)
- Remedial Investigation and Removal Action:
  - 2001 Interim Removal Action (MKM 2004)
  - 2000-2001 Phase I RI (MKM 2005)
  - 2010 PBA08 Phase II RI (USACE 2016)



# Load Line 11

## Interim Removal Action



### • 2001 Interim Removal Action

#### ➤ Hot Spot Removal

- 130 cubic yards (CY) of petroleum-contaminated soil from a 30 ft x 30 ft x 8 ft hot spot was excavated and disposed off-site.
- Post excavation samples confirmed the removal of contamination.
- Excavation was backfilled with clean fill.

#### ➤ 6 Ditch Excavations

- 230 CY of sediment from 6 ditches contaminated with metals, VOCs, SVOCs, pesticides, and/or PCBs was excavated and disposed off-site.
- Post excavation samples confirmed the removal of contamination.

#### ➤ 5 Sump Removals

- Removed 5 sedimentation sumps and remaining attached lines were plugged and grouted in place.
- Collection of 15,000 gal of water.
- Post excavation samples confirmed removal of contamination.

# Load Line 11

## Interim Removal Action



### Hot Spot Removal

130 cubic yards (CY) from a 30 ft x 30 ft x 8 ft petroleum-contaminated hot spot was excavated and disposed off-site.

### Sump removal

Removal of 5 sedimentation sumps.





# Load Line 11

## Remedial Investigations



- 2000-2001 Phase I Remedial Investigation and IRA Confirmation Sampling (MKM 2005)
  - Collected surface and subsurface soil, and sediment and surface water, samples,
  - Installed, developed, and sampled 10 monitoring wells,
  - Conducted in-situ permeability testing (slug tests),
  - Collected sanitary sewer water samples,
  - Collected samples adjacent to sumps and sanitary sewers, and
  - Collected geotechnical samples during monitoring well installation.

### Conclusions:

- Potential risk existed and should be further evaluated.

# Load Line 11

## Remedial Investigations (continued)



### • 2010 PBA08 Phase II Remedial Investigation

- Collected additional samples to supplement findings of previous investigations.
  - **Source Area Sampling-** Collected 9 discrete samples from ditches downgradient of former operational areas and former buildings to further characterize the surface soil.
  - **Subsurface Sampling-** Collected samples from 10 soil borings to further characterize the subsurface soil.
  - **Surface Water and Sediment Sampling-** Collected 3 co-located surface water and sediment samples and 1 sediment sample from ditches and shallow conveyances within and exiting the AOC.

# Load Line 11

## Remedial Investigations (continued)

- Phase II Remedial Investigation Summary
  - Multiple evaluations and investigations were performed to assess Load Line 11. The total number of samples collected include:
    - 102 surface soil samples,
    - 145 subsurface soil samples,
    - 15 sediment samples,
    - 9 surface water samples,
    - 172 groundwater samples, and
    - Other: 27 water samples and 8 sediment samples from former sumps.
  - The following chemical groups were looked for during the investigations:
    - Metals, explosives, propellants, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and pesticides.

# Load Line 11

## Remedial Investigations Conclusions

- Nature and extent of contamination is defined.
  - 360 yards of contaminated media and 5 sumps were removed. No further sampling is required after collection of confirmation and remedial investigating samples.
- No further action is required to protect human health.
  - The HHRA did not identify chemicals of concern (COCs) from previous Army activities requiring remediation under CERCLA to be protective of the Resident Receptor.
- No further action is required to protect ecological resources.
  - No risk was identified for important or significant ecological places or resources.
- No further action for soil is required to protect groundwater.
  - The fate and transport assessment determined chemicals in soil are not impacting groundwater.
  - Groundwater will continue to be evaluated under the Facility-wide Groundwater Monitoring Program.

**The Army, in coordination with Ohio EPA, is recommending no further action to attain Unrestricted (Residential) Land Use for soil, sediment, and surface water at Load Line 11.**

# *Public Participation*

## *Your Comments and Inputs are Appreciated!*



- Public participation is an important component of remedy selection.
- The U.S. Army is soliciting input from the community as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).
- Written comments will be accepted until July 12, 2017.

# Questions?

# **Court Reporter Transcript**

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PROPOSED PLANS  
FOR SOIL, SEDIMENT AND SURFACE WATER  
AT LOAD LINES 5, 6, 8 and 11  
  
FORMER RAVENNA ARMY AMMUNITION PLANT  
RAVENNA, OHIO

Presented by:  
Heather Adams, P.G. - Leidos

PUBLIC MEETING  
Tuesday  
June 27, 2017

Paris Township Hall  
9355 Newton Falls Road  
Ravenna, Ohio 44266

- - -

1     **APPEARANCES :**

2

3             Barbara Tittle, Facilitator

4

5             Heather Adams, P.G.

6             Leidos

7             8866 Commons Boulevard

8             Twinsburg, Ohio 44087

9

10            Jed Thomas, PE, PMP

11            Environmental Engineer

12            Leidos

13            8866 Commons Boulevard

14            Twinsburg, Ohio 44087

15            330/405-5802

16            E-mail: jed.h.thomas@leidos.com

17

18     **ALSO PRESENT :**

19            Rod Beals, Ohio EPA

20            Kevin Sedlak, USACE

21            Eli Rogatz, Leidos

22            Sharon Robers, Leidos

23            Amanda M. Sprinzl, Leidos

24                            - - -

25

1                   **MS. TITTLE:**                   Welcome, everyone.  
2     We are certainly glad to have you here for this  
3     public meeting tonight. My name is Barbara  
4     Tittle. I am a private resident from Clev --  
5     from Kent, Ohio. I'm glad I remembered where I  
6     live.

7             I am here tonight to serve as the  
8     facilitator for this meeting. This public  
9     meeting serves as one of several opportunities  
10    for public comment on the Army's proposed plans.  
11    I am responsible to ensure that everyone who  
12    wishes to comment about the proposed plans has an  
13    opportunity to do so.

14            Before we get started, please turn off or  
15    silence all electronic devices. There are three  
16    emergency exits: In the front, back and side of  
17    this auditorium. Please reference the exit signs  
18    in case of an emergency.

19            The ladies' restroom is present in the main  
20    hallway where you entered, and the men's rest-  
21    room and handicap accessible restrooms are  
22    present in the small hallway across from the  
23    vending machine.

24            Please help yourself to the cookies, coffee,  
25    water and refreshments.

1           This public meeting will present the Army's  
2 proposed plans for soil, sediment and surface  
3 water at four areas of concern within the former  
4 Ravenna Army Ammunition Plant. These four areas  
5 of concern are Load Line 5, Load Line 6, Load  
6 Line 8 and Load Line 11.

7           Comments received from the public on  
8 these proposed plans will be considered when  
9 determining a final remedy, which will be  
10 documented in site specific Records of Decision.  
11 The Records of Decision will include a  
12 Responsiveness Summary addressing public  
13 comments.

14           Tonight we have Kevin Sedlak representing  
15 the Army, and Rod Beals representing Ohio EPA.  
16 The Ohio EPA would like to make an opening  
17 remark.

18                           **MR. BEALS:**                   Good evening. Rod  
19 Beals. I am with the Ohio EPA. Our agency  
20 provides regulatory oversight for the  
21 environmental cleanups that are being done at the  
22 Ravenna Arsenal.

23           We have reviewed the four proposed plans, in  
24 addition to work plans and investigations that  
25 have led to their development, and we agree with

1 the proposed remedies, that no further action is  
2 needed for the sites.

3 **MS. TITTLE:** Thank you, Rod.  
4 In addition, we have a court reporter here to  
5 document tonight's meeting.

6 Our presenter tonight is Heather Adams.  
7 Heather is a professional geologist from Leidos,  
8 which is a contractor for the Army. Heather will  
9 present information regarding the four areas of  
10 concern and the Army's proposed plans for these  
11 four sites.

12 Following the presentation, we will open the  
13 floor for your questions and comments. Heather?

14 **MS. ADAMS:** Thank you, Barb.

15 Welcome, everyone. As Barb mentioned, we  
16 will be presenting four areas of concern this  
17 evening for the former Army Ammunition Plant.  
18 Those are Load Lines 5, 6, 8 and 11. I will  
19 start off by discussing each of these AOC's  
20 individually. I will present their site  
21 features, their historical operations, the  
22 remedial investigations that have been completed  
23 at each of the sites and the conclusions of those  
24 remedial investigations. And then once I have  
25 gone through all four of the sites, we will

1 discuss the public participation and open up the  
2 forum for any questions.

3 For anyone who is not aware, the former Army  
4 Ammunition Plant is located right here -- just  
5 down the road here in northeastern Ohio. This  
6 map shows the four AOC's that we will be  
7 discussing this evening. They are located in an  
8 area of the facility known as Fuze and Booster  
9 Hill, which is located in the southern-central  
10 portion of the facility.

11 The first AOC that I would like to discuss  
12 is Load Line 5. It is approximately 39 acres in  
13 size. All buildings, including slabs and  
14 foundations, were removed in 2006 and 2007. If  
15 you look at this poster here -- and just to give  
16 everyone a little extra information -- if you do  
17 have a hard time seeing this poster, these maps  
18 are also included in the proposed plans that are  
19 on the table, but I will walk you through the  
20 posters nonetheless.

21 The perimeter fence, which is marked with  
22 the red line, still exists at the AOC. And we  
23 also have an access road which encircles the  
24 interior of the AOC. This particular AOC is  
25 overgrown with trees and shrubs, as you can see

1 in the bottom photograph. And surface water  
2 occurs intermittently as storm water runoff in  
3 ditches and the three wetlands that are included  
4 on the map.

5 Between 1941 and 1945, Load Line 5 operated  
6 at full capacity as a finished product assembly  
7 line to produce fuzes for artillery projectiles.  
8 All primary explosive products were delivered to  
9 Load Line 5 as sealed, finished sub-assemblies.

10 To support these operations, several  
11 buildings existed at Load Line 5 that are listed  
12 here: 13 production buildings, 1 heater house, 2  
13 change houses, a paint storage building, a time  
14 clock building and 1 service building.

15 In 1945, Load Line 5 was deactivated  
16 permanently and the production equipment was  
17 removed. Load Line 5 was not used for any other  
18 process other than the finished product  
19 assembly. As of 2007, all buildings, foundations  
20 and slabs have been removed.

21 There have been quite a few investigations  
22 at Load Line 5 that are listed here. The first  
23 four: The initial, on the Installation  
24 Assessment, the RCRA Facility Assessment,  
25 Preliminary Assessment and Relative Risk Site

1 Evaluation were sort of the first investigations  
2 that gave us some of our background information  
3 about Load Line 5 and some of the initial  
4 characterization information.

5 The Remedial Investigation is comprised of  
6 three individual investigations. The first was  
7 the 2004 Characterization of AOCs -- 14 AOCs, the  
8 2007 Investigation of Under Slab Surface Soils  
9 and the 2010 PBA08 RI.

10 I will discuss each of these individually.  
11 During the 2004 Characterization of 14 AOCs, they  
12 collected multi-incremental surface soil samples  
13 at 17 locations around former buildings, and 12  
14 from ditches within the AOC.

15 They also collected 4 discrete samples for  
16 volatile organic compound analysis. They  
17 collected 7 surface soil quality assurance and  
18 quality control samples, 3 geotechnical samples  
19 during monitoring well installation. They also  
20 excavated 3 test trenches until bedrock or  
21 saturated soils were encountered, which was  
22 typically 9 to 12 feet below ground surface.  
23 They also conducted an initial human health and  
24 ecological risk screening.

25 The conclusions of this investigation



1 recommended a full risk assessment be performed  
2 to assist in the overall management decision for  
3 Load Line 5.

4 The next investigation was the 2007 Under  
5 Slab Surface Soil Investigation, which was  
6 completed after the buildings and structures were  
7 demolished and removed to identify any remaining  
8 potential contaminants. They collected 15 ISM  
9 surface soil samples, plus 4 QA/QC samples from  
10 the footprints of the 13 former production  
11 buildings.

12 The conclusion of this investigation is as  
13 follows: No VOCs, explosives, PCBs, herbicides  
14 or pesticides were detected in any of the surface  
15 soil beneath the slabs. Two chemicals of  
16 potential concern were identified for Load Line  
17 5. They were benz(a)anthracene at Buildings --  
18 at Building F -- I am sorry -- 1F-12, just down  
19 here. (Indicating) And chromium at F -- 1F-10,  
20 which is located directly next to it.

21 The final investigation for Load Line 5 was  
22 the 2010 PBA08 RI. We collected additional  
23 samples to supplement the findings of the  
24 previous investigations.

25 In this investigation, we collected 4

1 different types of sampling. The first, we  
2 collected 7 ISM samples in the area known as the  
3 former production area. This area is identified  
4 within the perimeter road and near the former  
5 production buildings. Then we collected 8 ISM  
6 samples in the non-production area, which is all  
7 of the space out in here, outside of the  
8 production area. (Indicating.) Within this  
9 area, there was no known production that  
10 occurred.

11 Then, to further characterize the AOC, we  
12 collected 12 large grid ISM samples. Those grids  
13 encompass this entire fence area, so that every  
14 piece of soil within the fence line was  
15 characterized. We also characterized the  
16 subsurface soil by collecting 7 additional soil  
17 borings installed in ISM areas that had  
18 historical screening criteria exceedances from  
19 the previous investigations.

20 We collected 3 surface water and 4 sediment  
21 samples to characterize the wetlands and  
22 potential surface water pathways.

23 Multiple evaluations and investigations were  
24 performed to assess Load Line 5. The total  
25 number of samples included in the Remedial

1 Investigation were 94 surface soil samples, 15  
2 subsurface soil samples, 4 sediment, 3 surface  
3 water, 77 groundwater samples and an additional 8  
4 samples -- 8 water samples and 3 sediment samples  
5 from the former sumps were collected.

6 The following chemical groups were looked  
7 for during the investigations: Metals,  
8 explosives, propellants, semi-volatile organic  
9 compounds, volatile organic compounds,  
10 polychlorinated biphenyls and pesticides.

11 The conclusions of the Load Line 5 Remedial  
12 Investigation are as follows: Nature and extent  
13 of contamination is defined, and no further  
14 sampling is required to characterize Load Line  
15 5. No further action is required to protect  
16 human health.

17 The Human Health Risk Assessment did not  
18 identify chemicals of concern from previous Army  
19 activities requiring remediation under CERCLA to  
20 be protective of the Resident Receptor.

21 No further action is required to protect  
22 ecological resources. The ecological -- the  
23 Ecological Risk Assessment determined that no  
24 risk was identified for important or significant  
25 ecological places or resources.

1           Finally, no further action for soil is  
2 required to protect groundwater. The Fate  
3 and Transport Assessment determined chemicals  
4 in soil are not impacting groundwater.  
5 Additionally, groundwater will continue to be  
6 evaluated under the Facility-wide Groundwater  
7 Monitoring Program.

8           Therefore, the Army, in coordination with  
9 the Ohio EPA, is recommending no further action  
10 to attain Unrestricted Residential Land Use for  
11 soil, sediment and surface water at Load Line 5.

12           The next area of concern that I would like  
13 to discuss is Load Line 6. You can see it here  
14 in this poster. (Indicating.) It is  
15 approximately 43 acres. 23 production buildings  
16 were thermally decontaminated and demolished in  
17 2002. The remaining 4 production buildings were  
18 demolished between 2005 and 2007.

19           All footers and floor slabs were removed to  
20 a minimum of 4 feet below ground surface.  
21 Similar to Load Line 5, the access road here, and  
22 the perimeter fence are still intact at Load  
23 Line 6. This AOC is also overgrown with grass,  
24 trees and shrubs. Surface water occurs  
25 intermittently in ditches and permanently in the

1 Former Test Pond that is approximately 35 feet in  
2 diameter and 14 feet deep.

3 Sorry. I can't see that far away. There it  
4 is. (Indicating.) So the Test pond that I was  
5 discussing is right there.

6 Between 1941 and 1945, Load Line 6 operated  
7 at full capacity as a finished product assembly  
8 line to produce fuzes for artillery projectiles.

9 In total, Load Line 5 and Load Line 6  
10 produced approximately 19 million fuzes. To  
11 support this operation, the following buildings  
12 were present at Load Line 6: 19 production  
13 buildings, 1 heater house, 3 change houses, 1  
14 gate house, 1 inert storage building, 1 shipping  
15 building and a fire station.

16 Load Line 6 was deactivated at the end of  
17 World War II, and the process equipment was  
18 removed.

19 Then between 1950 and 1970, Load Line 6 was  
20 used for classified development of missiles and  
21 shaped charges for armor penetration. There is  
22 little -- there is little available information  
23 regarding these testing activities. Reportedly,  
24 the tests were contained, which limited the  
25 release of chemicals to the environment.

1           Two buildings at the southern portion of the  
2 site were used as testing chambers for missiles,  
3 which are located just north of the pond. The  
4 Former Test Pond was used for underwater testing  
5 of shaped charges. The little pond right there.  
6 (Indicating.)

7           Then between 1981 and 1989, Physics  
8 International operated a pink water evaporation  
9 unit that was closed under the Resource  
10 Conservation and Recovery Act, also known as  
11 RCRA, in 1989.

12           Load Line 6 has not been used since 1989.  
13 And as of 2007, all buildings, foundations and  
14 slabs have been removed.

15           Similarly, there has been multiple  
16 investigations at this load line. The  
17 Installation Assessment, the RCRA Facility  
18 Assessment, the Preliminary Assessment and the  
19 Relative Risk Site Evaluation.

20           Two investigations support the Remedial  
21 Investigation. Between 2002 and 2003, there was  
22 a Phase I Remedial Investigation. Then in 2010,  
23 the PBA08 Phase II RI was completed.

24           After that, the Military Munitions Response  
25 Program also completed an RI at the Firestone

1 Test Facility MRS. The Firestone Test Facility  
2 MRS is marked by the brown hashing. And that  
3 includes the missile chamber buildings and the  
4 pond.

5 The Phase I RI collected 49 surface soil  
6 samples and 53 subsurface soil samples. They  
7 excavated 5 test trenches until bedrock or  
8 saturated soil was encountered, which was  
9 typically 14 to 15.5 feet below ground surface.

10 They installed, developed and sampled 7  
11 monitoring wells. They conducted permeability  
12 testing, collected sanitary sewer water samples,  
13 and collected samples adjacent to the sanitary  
14 sewers. Geotechnical samples were collected  
15 during the monitoring well installation. And the  
16 survey of the monitoring well locations was  
17 reported.

18 The conclusions of the Phase I RI are that  
19 the extent of contamination was not fully  
20 determined. And they recommended full risk  
21 assessment be performed to assist in the overall  
22 management decision for Load Line 6.

23 Then in 2010, the PBA08 Phase II RI was  
24 completed. We collected additional samples to  
25 supplement the findings of the previous

1 investigations. This included the collection of  
2 10 surface soil samples to further characterize  
3 surface soil, 5 borings to further characterize  
4 subsurface soil. We collected 4 surface water  
5 and sediment samples at exit points of the AOC  
6 and the Fuze and Booster Hill area to  
7 characterize the current conditions and assess  
8 any potential exit pathways. We also collected 2  
9 surface water and sediment samples from the  
10 Former Test Pond.

11 Multiple evaluations and investigations were  
12 performed to assess Load Line 6. The total  
13 number of samples collected and included in the  
14 Phase II RI are as follows: 80 surface soil  
15 samples, 66 subsurface soil samples, 12 sediment  
16 samples, 16 surface water and 114 groundwater  
17 samples.

18 During these investigations the following  
19 chemical groups were looked for: Metals,  
20 explosives, propellants, semi-volatile organic  
21 compounds, volatile organic compounds,  
22 polychlorinated biphenyls and pesticides.

23 The Remedial Investigation conclusions for  
24 Load Line 6 are the following: Nature and extent  
25 of contamination is defined. No further sampling



1 is required to characterize Load Line 6. No  
2 further action is required to protect human  
3 health.

4 The Human Health Risk Assessment did not  
5 identify chemicals of concern from previous Army  
6 activities requiring remediation under CERCLA to  
7 be protective of the Resident Receptor.

8 No further action is required to protect  
9 ecological resources. The Ecological Risk  
10 Assessment determined that no risk was identified  
11 for important or significant ecological places or  
12 resources.

13 Finally, no further action for soil is  
14 required to protect groundwater. The Fate and  
15 Transport Assessment determined that chemicals in  
16 the soil are not impacting groundwater.

17 Additionally, groundwater will continue to  
18 be evaluated under the Facility-wide Groundwater  
19 Monitoring Program.

20 Therefore, the Army, in coordination with  
21 the Ohio EPA, is recommending no further action  
22 to attain Unrestricted Residential Land Use for  
23 soil, sediment and surface water at Load Line 6.

24 Okay. The next AOC that I will discuss is  
25 Load Line 8. It is approximately 44 acres. The

1 buildings, slabs, foundations and wood frame  
2 walkways were demolished and removed in 2006.  
3 The access road and the perimeter fence still  
4 exist. This is the access road, and the  
5 perimeter fence is in red. (Indicating.)

6 Similar to the other two, this AOC is  
7 overgrown with grass, trees and shrubs. And  
8 surface water occurs intermittently as storm  
9 water runoff in ditches and at the 5 wetlands  
10 throughout the AOC.

11 Between 1941 and 1945, Load Line 8 operated  
12 at full capacity as a finished product assembly  
13 line to produce booster charges for artillery  
14 projectiles. Approximately 44 million boosters  
15 were produced while Load Line 8 was in operation.

16 To support these operations, the following  
17 buildings were located at Load Line 8: 12  
18 production buildings, 2 heater houses, 3 change  
19 houses, 1 time clock building, 1 inert storage  
20 area building and a shipping building.

21 Load Line 8 was deactivated at the end of  
22 World War II, and the process equipment was  
23 removed. Then during 1969 and through 1971, Load  
24 Line 8 was reactivated for melt-pour operations  
25 and assembly, and has not been used for any other

1 operations since 1971. As of 2006, all  
2 buildings, foundations and slabs have been  
3 removed.

4 Similar to the previous load lines, the  
5 Installation Assessment, the Preliminary  
6 Assessment Screening of Boundary Load Line Areas  
7 and the Relative Risk Site Evaluation are some of  
8 the historical investigations that have occurred,  
9 that help provide the background information and  
10 some initial characterization of Load Line 8.

11 The Remedial Investigation for Load Line 8  
12 is comprised of three different investigations:  
13 The 2004 Characterization of 14 AOCs, the 2007  
14 Investigation of the Under Slab Surface Soils and  
15 the 2010 PBA08 RI.

16 The Characterization of 14 AOCs collected 16  
17 multi-incremental surface soil samples around  
18 former buildings and 2 samples from dry drainage  
19 ditches. They collected 6 MI sediment samples  
20 from wet ditches and 6 surface water samples.  
21 Four surface soil QA/QC samples and 3  
22 geotechnical samples were collected during  
23 monitoring well installation. They excavated 6  
24 test trenches until bedrock or saturated soils  
25 were encountered, which were around 10 feet to

1 12.5 feet below ground surface at this AOC.

2 The conclusion of this investigation was  
3 that the extent of contamination was not fully  
4 determined. They recommended a full risk  
5 assessment be performed to assist in the overall  
6 management decision for Load Line 8.

7 Then in 2007, the Investigation of Under  
8 Slab Surface Soil was completed after the  
9 buildings and structures were demolished and  
10 removed to identify any remaining potential  
11 contaminants.

12 They collected 13 ISM surface  
13 soil samples, plus 4 QA/QC samples, from the  
14 footprints of the 12 former production  
15 buildings.

16 The conclusions of this investigation were  
17 that no VOCs, explosives, PCBs, herbicides or  
18 pesticides were detected in surface soil beneath  
19 the slabs.

20 However, they did find chemicals of  
21 potential concern: 2 SVOCs, benz(a)anthracene  
22 and benzo(b)fluoranthene at Building 2B-21, which  
23 is this guy up here in the north. (Indicating.)  
24 PCB-1254 was found at Building 2B-4, which is the  
25 long building right here. (Indicating.) Nickel

1 at 2B-5, which is this tiny one up here.  
2 (Indicating.) It is really hard to see. And  
3 then chromium at Building 2B-12, which is down  
4 here. (Indicating.)

5 Then in 2010, the PBA08 RI Investigation was  
6 completed and collected additional samples to  
7 supplement the findings of the previous two  
8 investigations. We collected 3 ISM samples  
9 around former ISM sample areas that exceeded the  
10 screening criteria to further define the lateral  
11 extent of contamination. We collected 6 ISM  
12 samples in the former production area, which is  
13 the central portion of the AOC where most of the  
14 production buildings are located, and 9 ISM  
15 samples in the non-production area, which borders  
16 the former production area.

17 We also collected 13 large grid ISM samples  
18 to complete the characterization of the AOC.  
19 Again, these grid samples were within the entire  
20 body of the fence line. We also collected 8 soil  
21 borings to further characterize the vertical  
22 extent of potential contamination from the  
23 surface soil. We collected 3 co-located surface  
24 water and sediment samples to assess potential  
25 exit pathways from Load Line 8. Those are mostly

1 located in this area, where the surface water  
2 drains the AOC in this direction. (Indicating.)

3 Multiple evaluations and investigations were  
4 performed to assess Load Line 8. The total  
5 number of samples collected, that were included  
6 in the Remedial Investigation, were 80 surface  
7 soil samples, 20 subsurface soil samples, 12  
8 sediment and surface water samples, 63  
9 groundwater samples, and then we also collected  
10 12 water samples and 9 sediment samples from  
11 former sumps.

12 The following chemical groups were looked  
13 for during these investigations: Metals,  
14 explosives, propellants, semi-volatile organic  
15 compounds, volatile organic compounds,  
16 polychlorinated biphenyls and pesticides.

17 The Remedial Investigation conclusions for  
18 Load Line 8 are as follows: Nature and extent of  
19 contamination is defined and no further sampling  
20 is required to characterize Load Line 8. No  
21 further action is required to protect human  
22 health.

23 The HHRA did not identify chemicals of  
24 concern from previous Army activities requiring  
25 remediation under CERCLA to be protective of the

1 Resident Receptor.

2 No further action is required to protect  
3 ecological resources. The Ecological Risk  
4 Assessment determined that no risk was identified  
5 for important or significant ecological places or  
6 resources.

7 Finally, no further action for soil is  
8 required to protect groundwater. The Fate and  
9 Transport Assessment determined chemicals in soil  
10 are not impacting groundwater. Groundwater will  
11 continue to be evaluated under the Facility-wide  
12 Groundwater Monitoring Program.

13 The Army, in coordination with Ohio EPA, is  
14 recommending no further action to attain  
15 Unrestricted Residential Land Use for soil,  
16 sediment and surface water at Load Line 8.

17 The last of the four AOCs that I will  
18 present is Load Line 11. It is approximately 48  
19 acres in size. Building slabs, foundations,  
20 footers, basements and wood frame walkways were  
21 demolished and removed in 2001 and again between  
22 2004 and 2005.

23 Similar to the other three, the access road  
24 is still in existence, and the fence line, which  
25 is the road line, is still in existence. This

1 AOC is overgrown with grass and trees and  
2 shrubs. There is dense forest that exists in the  
3 western, northern and eastern boundaries of the  
4 AOC. Surface water occurs intermittently as  
5 storm water runoff in ditches and in the two  
6 wetlands located at the AOC.

7           Between 1941 and 1945, Load Line 11 operated  
8 at full capacity to produce artillery primers.  
9 Approximately 50 million primers were produced  
10 while Load Line 11 was in operation.

11           To support this operation, Load Line 11 had  
12 the following buildings: 14 production  
13 buildings, 1 dining hall, 2 change houses, 1 time  
14 clock building, an inert storage building and 1  
15 shipping building.

16           Between 1951 and 1957, Load Line 11 was  
17 reactivated to produce primers. And then again  
18 in 1969 through 1971, it was reactivated to  
19 produce fuzes. In 1971, Load Line 11 was  
20 deactivated. All process equipment was removed  
21 and it was not used for any other process after  
22 1971. As of 2005, all buildings, foundations and  
23 slabs have been removed.

24           The investigations that have been completed  
25 at Load Line 11 are the Installation Assessment,



1 the RCRA Facility Assessment, the Preliminary  
2 Assessment and the Relative Risk Site  
3 Evaluation.

4 Load Line 11 is a little bit unique compared  
5 to the previous three areas of concern. This AOC  
6 had a Remedial Removal Action that was completed  
7 during the Phase I RI. The Interim Removal  
8 Action occurred in 2001, and the Phase I RI was  
9 completed between 2000 and 2001. Then, finally,  
10 in 2010, the PBA08 Phase II RI was completed.

11 So the Interim Removal Action was completed  
12 concurrent with the Phase I RI. So as they were  
13 completing the Phase I RI, they identified  
14 contamination that needed to be addressed through  
15 an Interim Removal Action.

16 Three types of removal action occurred: A  
17 Hot Spot Removal, excavation at six ditches and  
18 the removal of five sumps.

19 I will summarize each of those  
20 removal actions now: 130 cubic yards of  
21 petroleum-contaminated soil from a 30 foot by 30  
22 foot, 8 foot deep hot spot was excavated and  
23 disposed off-site. Post excavation samples  
24 confirmed the removal of the contamination. The  
25 excavation was then backfilled with clean fill.

1           Then 230 cubic yards of sediment from six  
2 ditches contaminated with metals, volatile  
3 organic compounds, semi-volatile organic  
4 compounds, pesticides and/or polychlorinated  
5 biphenyls were excavated and disposed off-site.  
6 Post excavation samples confirmed the removal of  
7 the contamination at the six ditches.

8           Next they removed 5 sedimentation sumps and  
9 any remaining attached lines were plugged and  
10 grouted in place. During the removal of the  
11 sumps, 15,000 gallons of water was collected.  
12 Post excavation samples were also collected to  
13 confirm the removal of contamination at the five  
14 sump locations.

15           Here are some photographs of the Interim  
16 Removal Action that was completed at Load Line  
17 11. The top left is the Hot Spot Removal, which  
18 removed the 130 cubic yards of petroleum-  
19 contaminated soil. And the bottom photograph is  
20 one of the sumps that was one of the five sumps  
21 that was removed.

22           So as I mentioned, the Interim Removal  
23 Action was completed concurrent with the Phase I  
24 RI between 2000 and 2001. That investigation  
25 collected surface and subsurface soil, sediment

1 and surface water samples.

2 They installed, developed and sampled 10  
3 monitoring wells. They conducted in-situ  
4 permeability testing. They collected sanitary  
5 sewer water samples, samples adjacent to the  
6 sumps and sanitary sewers. And they also  
7 collected geotechnical samples during the  
8 monitoring well installation. The conclusion of  
9 the Phase I RI was that potential risk existed  
10 and should be further evaluated.

11 And then in 2010, we completed the PBA08  
12 Phase II Remedial Investigation. This included  
13 the collection of additional samples to  
14 supplement the findings of the previous  
15 investigations and removal action and  
16 confirmation samples.

17 The Phase II RI included the collection of 9  
18 discrete samples from ditches downgradient of  
19 former operational areas and former buildings to  
20 further characterize the surface soil. We  
21 collected 10 soil borings to further characterize  
22 the subsurface soil. We collected 3 co-located  
23 surface water and sediment samples and 1 sediment  
24 sample from ditches and shallow conveyances  
25 within and exiting the AOC.

1           Again, multiple evaluations and  
2    investigations were performed to assess Load Line  
3    11. The total number of samples collected and  
4    included in the Phase II RI are as follows: 102  
5    surface soil samples, 145 subsurface soil  
6    samples, 15 sediment and 9 surface water samples,  
7    172 groundwater samples and 27 water samples and  
8    8 sediment samples from the former sumps.

9           The following chemical groups were looked  
10   for during these investigations: Metals,  
11   explosives, propellants, semi-volatile organic  
12   compounds, volatile organic compounds,  
13   polychlorinated biphenyls and pesticides.

14          The conclusions of the Load Line 11 RI are  
15   as follows: Nature and extent of contamination  
16   is defined. 360 yards of contaminated media and  
17   5 sumps were removed. No further sampling is  
18   required after collection of the confirmation  
19   samples and the remedial investigation samples.

20          No further action is required to protect  
21   human health. The Human Health Risk Assessment  
22   did not identify chemicals of concern from  
23   previous Army activities requiring remediation  
24   under CERCLA to be protective of the Resident  
25   Receptor.

1           No further action is required to protect  
2 ecological resources. The Ecological Risk  
3 Assessment determined no risk was identified for  
4 important or significant ecological places or  
5 resources.

6           The Fate and Transport Assessment determined  
7 chemicals in soil are not impacting groundwater.  
8 And groundwater will continue to be evaluated  
9 under the Facility-wide Groundwater Monitoring  
10 Program.

11           Therefore, the Army, in coordination with  
12 the Ohio EPA, is recommending no further action  
13 to attain Unrestricted Residential Land Use for  
14 soil, sediment and surface water at Load Line  
15 11.

16           That concludes the presentation for the four  
17 areas of concern.

18           Now we would like to discuss the public  
19 participation, which is a very important  
20 component of the remedy selection.

21           The U.S. Army is soliciting input from the  
22 community as part of its public participation  
23 responsibilities under Section 117(a) of the  
24 Comprehensive Environmental Response,  
25 Compensation and Liability Act of 1980, known as

1 CERCLA.

2 Written comments will be accepted until  
3 July 12, 2017. And we also have written comment  
4 cards on the back table that you can write your  
5 comments and put them in the box.

6 We will open the forum for questions.

7 **MS. TITTLE:** Thank you,  
8 Heather, for your excellent presentation.

9 After that excellently detailed  
10 presentation, if you have any questions at all,  
11 now is the time to ask. And if you do want to  
12 ask a question, just come to the microphone,  
13 state your name and where you live, and we will  
14 see if we can find an answer for you.

15 **MR. TADSEN:** It is a dirty job,  
16 but someone has to do it.

17 **MS. TITTLE:** Absolutely.

18 **MR. TADSEN:** You can direct  
19 this to whoever is appropriate.

20 **MS. TITTLE:** If you would, for  
21 the record, please state your name and where you  
22 live. Thank you, sir.

23 **MR. TADSEN:** Okay. My name is  
24 Tom Tadsen from Franklin Township.

25 This same verbiage is carried throughout

1 these different investigations -- different site  
2 investigations. And it says "No VOCs,  
3 explosives, PCBs," yada yada, "were detected in  
4 subsurface soil beneath the slabs."

5 Does that mean there was zero detection of  
6 all of those, or is there a possibility that it  
7 was below reportable levels or acceptable  
8 detection levels?

9 **MS. ADAMS:** If it were -- if  
10 it was not detected, then it would have been  
11 below both the reporting limits for the  
12 instrument -- the machine that was running the  
13 test.

14 The other chemicals that were identified as  
15 COPCs, or chemicals of potential concern, were  
16 detected, but were below a screening criteria  
17 that we are concerned with.

18 **MR. TADSEN:** Okay. A couple of  
19 different load lines in here have chromium  
20 detected.

21 **MS. ADAMS:** Uh-hum.

22 **MR. TADSEN:** Was there a  
23 commonality in function among the various  
24 buildings in these different load lines that had  
25 chromium in there, and was it hexavalent

1 chromium?

2                   **MS. ADAMS:**                   I may defer part  
3 of this to our Human Health Risk Assessor, who  
4 did the screening for the chromium, but I believe  
5 we did the total chromium concentration.

6                   **MS. ROBERS:**                   We did both. All  
7 of the samples that were analyzed for metals were  
8 analyzed for total chromium. And then we  
9 analyzed a subset for both total and hex chrome  
10 to determine whether or not there was hex chrome  
11 at the site.

12                   And I believe that all of these sites, the  
13 conclusion was that there was not -- that the  
14 total chrome was not really there as hex chrome.  
15 So it was evaluated as the less toxic type. But  
16 we did speciate a few samples to find out if hex  
17 chrome was there.

18                   **MR. TADSEN:**                   Okay. The only  
19 other thing, and I will put this in as a formal  
20 recommendation, too. I suggest that, in future  
21 presentations, when you are doing multiple  
22 locations, that you include a full sheet  
23 drawing -- a plan form drawing of the individual  
24 sites, because it is a lot easier to try to  
25 figure out exactly what you are talking about



1 when you are laser pointing at them, if we have  
2 got that reference out here.

3 **MS. ADAMS:** Include it in the  
4 slide packet, you mean?

5 **MR. TADSEN:** Yes.

6 **MS. ADAMS:** Okay.

7 **MR. TADSEN:** Thank you very  
8 much.

9 **MS. ADAMS:** If you do want to  
10 reference anything, they are -- the figures are  
11 in the back of the proposed plans, if there is  
12 something you do want to look at. But that is a  
13 helpful suggestion. Thank you.

14 **MR. TADSEN:** Okay. Thank you  
15 very much.

16 **MS. ADAMS:** Thank you.

17 **MS. TITTLE:** Does anyone else  
18 have any other questions?

19 **MR. TADSEN:** Tom Tadsen,  
20 Franklin Township, again.

21 What are the interim land use controls that  
22 are used in these sites?

23 **MS. ADAMS:** For the four that  
24 we presented?

25 **MR. TADSEN:** Right. Yes.

1                   **MS. ADAMS:**                   They have  
2 achieved -- achieved the Unrestricted Residential  
3 Land Use.

4                   **MR. TADSEN:**                   So there are no  
5 land use controls required?

6                   **MS. ADAMS:**                   Correct.

7                   **MR. TADSEN:**                   What about the  
8 monitoring wells? They will be there for a --

9                   **MS. ADAMS:**                   They will be  
10 further assessed under the Facility-wide  
11 Groundwater Monitoring Program. And the  
12 conclusions of that investigation are included  
13 in a different form, or will be in the future.

14                   **MR. TADSEN:**                   Do you mind if I  
15 address that same question to Rod?

16                   **MS. ADAMS:**                   Sure.

17                   **MR. TADSEN:**                   Are those land use  
18 controls considering the possibility of tampering  
19 with, or vandalism on the monitoring wells,  
20 protected under the existing interim land use  
21 controls, in your opinion?

22                   **MR. BEALS:**                   As was stated,  
23 there are no land use controls since it is  
24 unrestricted land use. The groundwater  
25 investigation will continue. And I assume some

1 day the majority of the wells will probably be  
2 removed, unless there is a monitoring purpose.

3 I am sure there will be measures to protect  
4 remaining wells so that they are not vandalized  
5 or tampered with through their lifetime.

6 **MR. TADSEN:** Okay.

7 **MR. BEALS:** Thank you.

8 **MR. TADSEN:** Thanks.

9 **MS. TITTLE:** Well, before you  
10 sit down, are there any other questions?

11 **MR. TADSEN:** I am done now.

12 **MS. TITTLE:** For now? That is  
13 a lot. Certainly questions are welcome. But if  
14 we have no other questions, we can adjourn the  
15 meeting.

16 Thank you all so much for coming this  
17 evening. Help yourselves to the cookies and  
18 coffee.

19 (Thereupon, the public meeting  
20 was concluded at 7:11 p.m.)

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C E R T I F I C A T E

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STATE OF OHIO, )  
 ) SS:  
SUMMIT COUNTY, )

I, Jerri Lynn Wheat, a Stenographic Reporter and Notary Public within and for the State of Ohio, duly commissioned and qualified, do hereby certify that these proceedings were taken by me and reduced to Stenotypy, afterwards prepared and produced by means of Computer-Aided Transcription and that the foregoing is a true and correct transcription of the proceedings so taken as aforesaid.

I do further certify that these proceedings were taken at the time and place in the foregoing caption specified, and were completed without adjournment.

I do further certify that I am not a relative, employee of or attorney for any party or counsel, or otherwise financially interested in this action.

I do further certify that I am not, nor is the court reporting firm with which I am affiliated, under a contract as defined in Civil Rule 28(D).

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Akron, Ohio on this 6th day of July, 2017.

\_\_\_\_\_  
Jerri Lynn Wheat, Stenographic Reporter and Notary Public in and for the State of Ohio.

My commission expires April 9, 2018.

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## **Photographs**

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## **WRITTEN PUBLIC COMMENTS**

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No written comments were received during the public notification period.

Oral comments were provided during the public meeting.  
The comments and the Army's responses are provided in the public meeting transcript and the site-specific Records of Decision.

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