

Ravenna Army Ammunition Plant Restoration Program

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

Proposed Plan for Wet Sediment and Surface Water at RVAAP-12 Load Line 12
(final version dated November 9, 2017)

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-29 Upper and Lower Cobbs Ponds
(final version dated January 12, 2018)

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-40 Load Line 7
(revised final version dated March 16, 2018)

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-42 Load Line 9
(final version dated March 31, 2017)

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-45 Wet Storage Area
(final version dated February 21, 2018)

Public Comment Period: June 6, 2018 to July 6, 2018

Public Meeting: June 21, 2018

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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Public Notice

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 Thursday, June 21, 2018 for Army National Guard Release of Proposed Plans for Load Line 7, Load Line 9, Load Line 12, Wet Storage Area and Upper and Lower Cobbs Ponds

Ravenna – The Army National Guard, in consultation with the Ohio Environmental Protection Agency, submits for public review and comments five (5) Proposed Plans associated with former ammunition plant activities at the former Ravenna Army Ammunition Plant (RVAAP) in Portage and Trumbull counties, Ohio.

Load Lines 7, 9, 12, Wet Storage Area, and Upper and Lower Cobbs Ponds 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 Load Line 7, Load Line 12, and Upper and Lower Cobbs Ponds. The Proposed Plans for Load Line 9 and Wet Storage Area present the preferred alternative, Ex-situ Thermal Treatment, to address contaminated soil.

On Thursday, June 21, 2018, 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. 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 and Ex-situ Thermal Treatment recommendations, 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 6, 2018 to July 6, 2018. 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 and Ex-situ Thermal Treatment recommendations presented in the Proposed Plans are also presented in earlier remedial investigation (RI) and Feasibility Study (FS) 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.

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 6, 2018 to July 6, 2018. The Army National Guard encourages the public to review and comment on the recommendations presented in these documents.

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

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Affidavits

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Affidavit of Publication, Tribune Chronicle, June 6, 2018

NOTICE OF DOCUMENT AVAILABILITY
Proposed Plans for Load Line 7, Load Line 9, Load Line 12, Wet Storage Area and Upper and Lower Cobbs Ponds at the Former Ravenna Army Ammunition Plant (RVAAP)

The Proposed Plans for Load Line 7, Load Line 12, and Upper and Lower Cobbs Ponds each present a recommendation of No Further Action and provide the rationale for this recommendation. The Proposed Plans for Load Line 9 and Wet Storage Area present the preferred alternative, Ex-situ Thermal Treatment. These Proposed Plans are now available for public review for 30 days from June 6, 2018 to July 6, 2018.

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 informational open house and a public meeting to explain the recommendations in the Proposed Plans. 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 6, 2018 to July 6, 2018.

The public meeting is scheduled for:
 at: Shearer Community Center
 (Paris Township Hall)
 9355 Newton Falls Road
 Ravenna, OH 44266

Thursday, June 21, 2018
 6:00 pm Open House
 6:30 pm Public Meeting

For more information or if you need special accommodations to attend, please contact Katie Tail at 614-336-6136.
 #157-1T-June 6, 2018 #3674

PROOF OF PUBLICATION

STATE OF OHIO
TRUMBULL COUNTY SS PAMELA EAZOR

BEING DULY SWORN, UPON OATH STATES THAT SHE IS AN AUTHORIZED REPRESENTATIVE OF THE TRIBUNE CHRONICLE, (A DIVISION OF EASTERN OHIO NEWSPAPERS INC) A DAILY NEWSPAPER PRINTED IN THE CITY OF WARREN, COUNTY OF TRUMBULL, STATE OF OHIO AND OF GENERAL CIRCULATION IN THE CITY OF WARREN, TRUMBULL COUNTY, OHIO AND IS INDEPENDENT IN POLITICS.

THAT THE ATTACHED ADVERTISEMENT WAS PUBLISHED IN THE TRIBUNE CHRONICLE EVERY WEDNESDAY FOR (1) ONE CONSECUTIVE WEEKS AND THAT THE FIRST INSERTION WAS ON WEDNESDAY THE 6th DAY OF JUNE 2018

Pamela Eazor

SWORN TO BEFORE ME AND SUBSCRIBED IN MY PRESENCE ON THIS WED DAY OF JUNE 2018
Constance A. Pacek
NOTARY PUBLIC



CONSTANCE A. PACEK
Notary Public, State of Ohio
My Commission Expires
March 7, 2021

ADVERTISING COST \$ 283.32

Affidavit of Publication, Record Courier, June 6, 2018

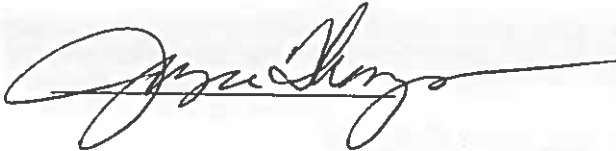
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Proof of Publication

Record Publishing Company
1050 W. Main Street,
Kent, OH 44240
Phone (330) 541-9400
Fax (330) 673-6363

I, Thomas being first duly sworn depose and say that I am Advertising Clerk of
Record Publishing Company

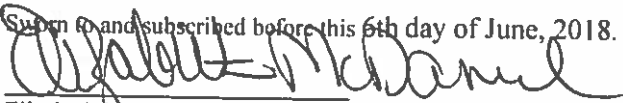
30 Record-Courier a newspaper printed and published in the city of Kent, and of General circulation in the County of Portage, State of Ohio, and personal knowledge of the facts herein stated and that the notice hereto annexed was Published in said newspapers for 1 insertions on the same day of the week from and after the 6th day of June, 2018 and that the fees charged are legal.



Name of Account: Leidos
Ad Number: 12454540
No. of Lines: 28

Day(s) Published: 06/06.
Printers Fee: \$115.20

Subscribed and subscribed before this 6th day of June, 2018.



Elizabeth McDaniel
Notary Public
Commission Expires June 19, 2021

Notice of Document Availability



Proposed Plans for Load Line 7, Load Line 9, Load Line 12, Wet Storage Area and Upper and Lower Cobbs Ponds at the Former Ravenna Army Ammunition Plant (RVAAP)

The Proposed Plans for Load Line 7, Load Line 12, and Upper and Lower Cobbs Ponds each present a recommendation of No Further Action and provide the rationale for this recommendation. The Proposed Plans for Load Line 9 and Wet Storage Area present the preferred alternative, Ex-situ Thermal Treatment. These Proposed Plans are now available for public review for 30 days from June 6, 2018 to July 6, 2018.

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.

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The public meeting is scheduled for:

Thursday June 21, 2018
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.**

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PUBLIC MEETING

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Sign-in Sheet

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SIGN-IN SHEET

US Army Corps
of Engineers
Louisville District

Camp Ravenna Public Meeting – Proposed Plans for Load Line 7, Load Line 9, Load Line 12, Wet Storage Area, and Upper and Lower Cobbs Ponds at the Former Ravenna Army Ammunition Plant (RVAAP)

| PLEASE PRINT | | | |
|---|------------------------|---------------------|-----------------|
| LOCATION: Shearer Community Center; Ravenna, OH | | DATE: June 21, 2018 | TIME: 6:30 p.m. |
| Name | Address/City/State/Zip | Phone | Email |
| Amanda Sprinzi | | | |
| MARK Johnson | | | |
| JICK DEPPISCH | | | |
| Megan Oravel | | | |
| ^{Charlestown TWP Trustee} Bruce Lange | | | |
| Sarah Lock | | | |
| Sue Netzypork | | | |
| Kevin Seidok | | | |
| Bob Beards | | | |



SIGN-IN SHEET

US Army Corps
of Engineers
Louisville District

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|---|------------------------|---------------------|-----------------|
| LOCATION: Shearer Community Center; Ravenna, OH | | DATE: June 21, 2018 | TIME: 6:30 p.m. |
| Name | Address/City/State/Zip | Phone | Email |
| George Tom Phillips | | | |
| Nathaniel Peters | | | |
| Jerril L. What | | | |
| Barbara Till | | | |
| HEATHER ADAMS | | | |
| Eli Rogatz | | | |
| Nick Rogge | | | |
| Katie Tait | | | |
| Brian Miller | | | |



SIGN-IN SHEET

US Army Corps
of Engineers
Louisville District

Camp Ravenna Public Meeting – Proposed Plans for Load Line 7, Load Line 9, Load Line 12, Wet Storage Area, and Upper and Lower Cobbs Ponds at the Former Ravenna Army Ammunition Plant (RVAAP)

| PLEASE PRINT | | | |
|---|------------------------|---------------------|-----------------|
| LOCATION: Shearer Community Center; Ravenna, OH | | DATE: June 21, 2018 | TIME: 6:30 p.m. |
| Name | Address/City/State/Zip | Phone | Email |
| Sharon Roberts | [REDACTED] | [REDACTED] | [REDACTED] |
| Vasu Peterson | | | |
| Charlotte McCurdy | | | |
| Steve Babbe | | | |
| Jul Thomas | | | |
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Presentation

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Proposed Plans for Multiple Areas of Concern

Former Ravenna Army Ammunition Plant
Ravenna, Ohio

Presented by:
Jed Thomas, P.E. - Leidos
June 21, 2018



Areas of Concern

- Four Areas of Concern addressing soil, sediment, and surface water:
 - Load Line 7
 - Upper and Lower Cobbs Ponds
 - Wet Storage Area
 - Load Line 9
- One Area of Concern addressing wet sediment and surface water:
 - Load Line 12

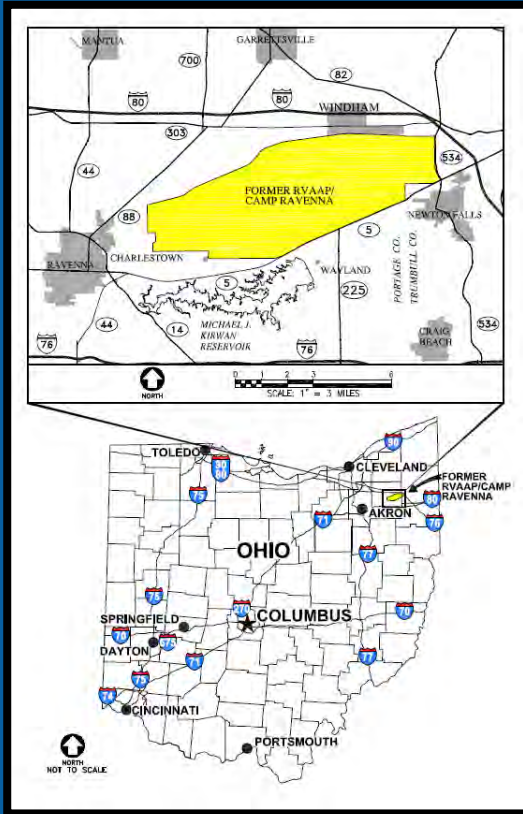
[Note: Groundwater at these sites are being evaluated and addressed under the Facility-wide Groundwater Monitoring Program (FWGWMP)]

Presentation Agenda

- Site Features
- Historical Operations
- Remedial Investigations
- Remedial Investigation Conclusions
- Feasibility Study and Preferred Remedial Alternative (if applicable)
- Public Participation
- Questions

- For each site, we will discuss the investigations performed and summarize the following evaluations provided in the Remedial Investigation Report:
 - **Human health risk assessment (HHRA)** - performed to determine if chemicals in soil, sediment, or surface water pose unacceptable risk to a Resident Receptor of future site worker (e.g., National Guard Trainee).
 - **Ecological risk assessment (ERA)** - performed to evaluate 1) if there are important or significant ecological resources at a site (e.g., wetlands, protected species) and 2) if chemical contamination requires an action to protect those resources.
 - **Fate and transport assessment** - performed to determine if chemicals at the site may adversely impact groundwater.
- These assessments determine if a site can be used for Unrestricted (Residential) Land use.
- If a site cannot currently be used for Unrestricted Use, the Army developed Remedial Alternatives to address any chemical concentration in soil, sediment, or surface water that poses unacceptable risk to human health or the environment or may negatively impact groundwater.

Areas of Concern Location



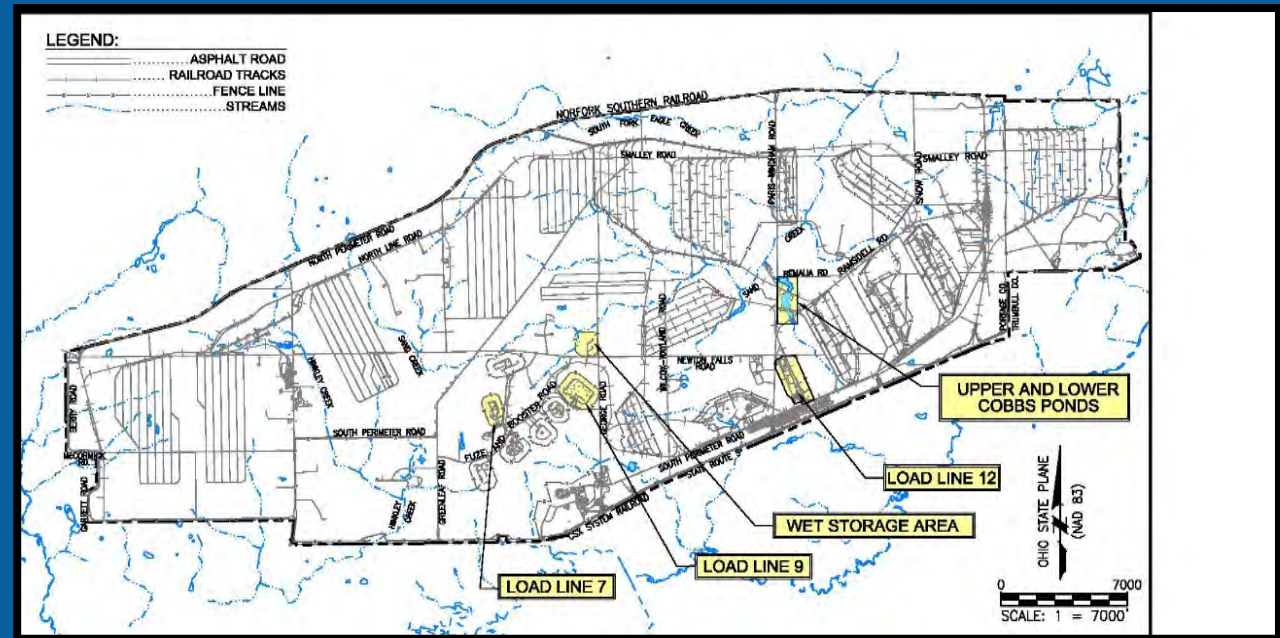
Load Line 7 is RVAAP-40

Load Line 9 is RVAAP-42

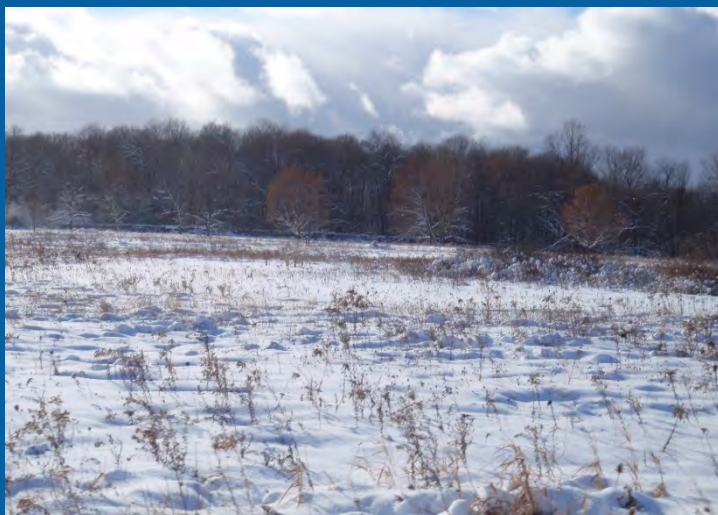
Load Line 12 is RVAAP-12

Wet Storage Area is RVAAP-45

Upper and Lower Cobbs Ponds is RVAAP-29



Load Line 7 Site Features



- Approximately 37 acres.
- No structures remain at the site.
- Three access roads and a perimeter fence currently exist.
- Habitat is mostly field, shrubland, and forest.
- No wetlands or perennial surface water bodies exist within the AOC boundary.
- Surface water occurs intermittently as storm water runoff in ditches.

Load Line 7

Historical Operations



- 1941–1945, Load Line 7 operated at full capacity to produce booster charges for artillery projectiles.
- 1969-1970, Load Line 7 was modified to produce M-406 High Explosive and M-407A1 practice 40mm projectiles.
- Load Line 7 historical buildings included:
 - 18 production buildings
 - 2 heater houses
 - 2 change houses
 - 4 inert material storage buildings
 - 1 solvent storage building
 - 1 time clock building
 - 1 service building
- 1970, Load Line 7 was deactivated permanently and production equipment was removed.
- Load Line 7 was not used for any process other than booster and explosive production.
- As of 2007, all buildings, foundations, and slabs have been removed.



Load Line 7

Previous Investigations



- 1978 Installation Assessment
- 1989 RCRA Facility Assessment
- 1996 Preliminary Assessment
- 1998 Relative Risk Site Evaluation
- Remedial Investigations:
 - 2004 Characterization of 14 AOCs
 - Assessed surface soil in and around areas of historical operations.
 - 2007 Investigation of Under Slab Surface Soils
 - Assessed surface soil in building footprints after building and foundation removal.
 - 2010 PBA08 Remedial Investigation
 - Collected surface soil samples where “data gaps” existed and fully characterized subsurface soil to complete Remedial Investigation.



Load Line 7

Remedial Investigations



- Remedial Investigation Summary
 - Multiple evaluations and investigations were performed to assess surface soil and subsurface soil at Load Line 7. (Sediment and surface water are not permanent media at the site). The total number of samples collected include:
 - 144 surface soil samples
 - 21 subsurface soil samples
 - The following chemical groups were looked for during the investigations:
 - Metals, explosives, propellants, SVOCs, VOCs, PCBs, nitrates, herbicides, and pesticides.

Load Line 7

Remedial Investigation Conclusions



- Nature and extent of contamination is defined. No further sampling is required to characterize soil, sediment, or surface water at Load Line 7.
- No further action is required to protect ecological resources.
 - No risk was identified for important or significant ecological places or resources.
- No further action is required to protect groundwater.
 - Groundwater will continue to be evaluated under the Facility-wide Groundwater Monitoring Program.

Remedial Investigation Conclusions (continued)

- No further action is required to protect human health.
 - The Load Line 7 RI/FS Report, dated July 2016, identified four PAHs [benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene] as surface soil COCs to be carried forward for potential remediation at sample locations LL7ss-097M and LL7ss-098M.
 - In June 2017, the USEPA updated the cancer slope factors for carcinogenic PAHs using more recent toxicity studies. These updated factors resulted in higher regional screening levels (RSLs) for previously identified COCs.
 - Using these updated RSLs, the Army has concluded that there are no COCs from previous Army activities requiring remediation under CERCLA to be protective of the Resident Receptor.
 - This Significant Change is documented and explained in the Load Line 7 Proposed Plan, dated March 2018.

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 7.

Load Line 12

Site Features



- Approximately 76 acres.
- No structures remain at the site.
- Asphalt and gravel access roads, railroad beds, and a perimeter fence currently exist.
- Pertaining to surface water, there is a settling pond, main drainage channel, and approximately 12.5 acres of wetlands.
- Surface water occurs intermittently in ditches and perennially in the Former Settling Pond and constructed Active Area Channel.

Load Line 12

Historical Operations



- 1941–1943, Load Line 12 operated at full capacity as an ammonium nitrate production facility for melt pour operations at other lines.
- 1946-1950, Load Line 12 was leased to Silas Mason Company to produce 518,246 tons of fertilizer-grade ammonium nitrate.
- 1965–1967, Hercules Alcor, Inc. leased Building FF-19 to produce aluminum chloride.
- 1969–1971, Load Line 12 was activated in support of the Vietnam War. Load Line 12 produced 80,000,000 M54 primers during this time.
- 1981, the Load Line 12 Pink Water Treatment Plant was built immediately east of Building 904 to treat the demilitarization effluent prior to discharge.
- From 1949–1993, munitions were periodically demilitarized at Load Line 12.
- No historical information exists to indicate Load Line 12 was used for any other processes.

Load Line 12

Historical Operations (continued)



- Load Line 12 historical buildings included:

- 9 production buildings
- 1 time clock building
- 1 change house
- 3 office buildings
- 1 gate house
- 1 inert storage building
- 7 support equipment buildings



- There are no above grade structures remaining at Load Line 12.
- As of 2000, buildings at Load Line 12 were decontaminated, demolished, and removed.

Load Line 12

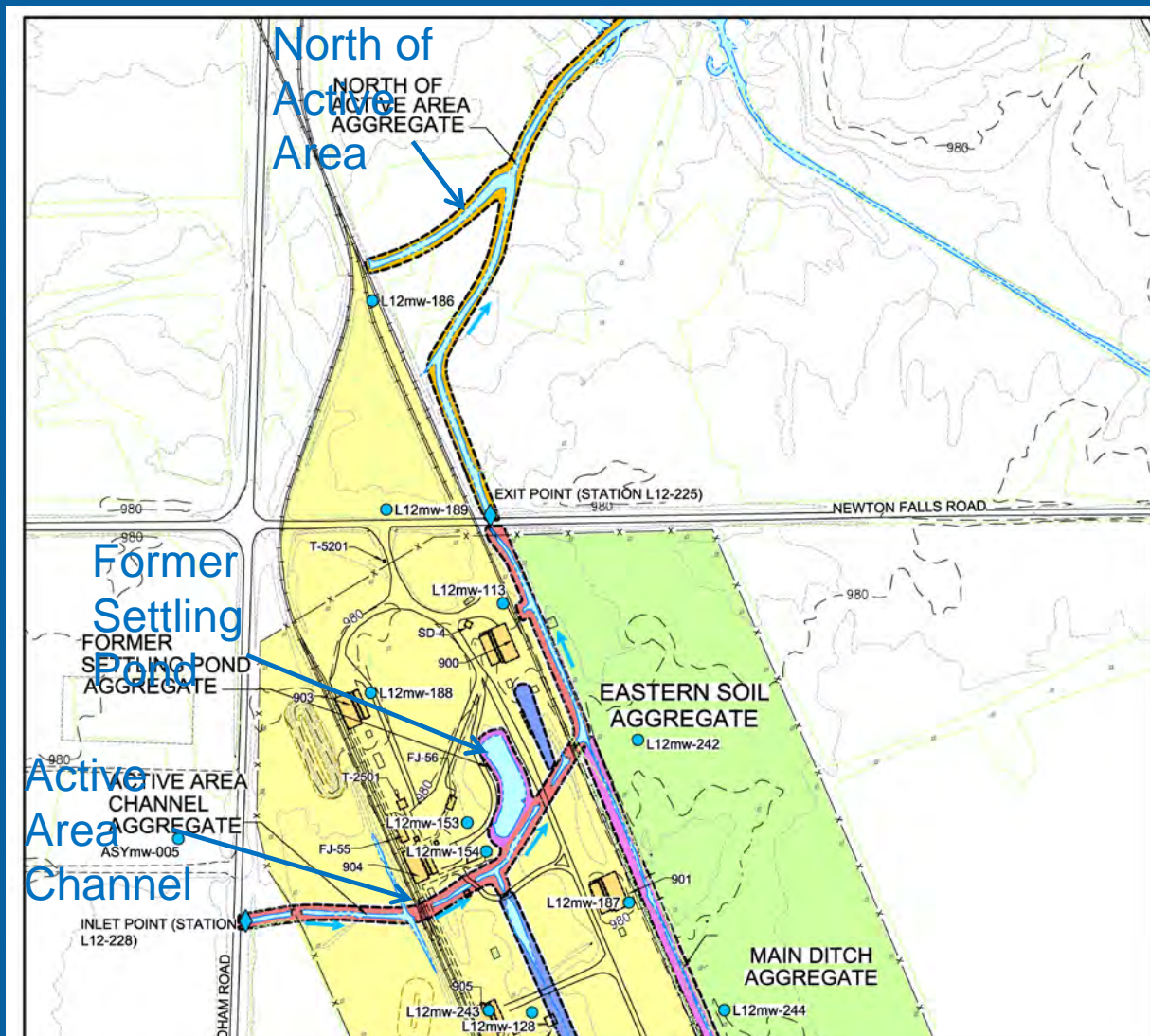
Media of Concern

- The media of concern for this Load Line 12 Proposed Plan is wet sediment and surface water, mostly in the northern portion of Load Line 12. Wet sediment and surface water areas include the following:
 - Former Settling Pond
 - Active Area Channel
 - North of Active Area
- Soil and dry sediment are being addressed separately.
 - Previous remedial actions at Load Line 12 include the removal of 1,181 tons of arsenic-contaminated dry sediment within the Main Ditch in 2010.



Load Line 12

Media of Concern (continued)



Load Line 12

Previous Investigations



- 1978 Installation Assessment
- 1989 RCRA Facility Assessment
- 1996 Preliminary Assessment
- 1996 Relative Risk Site Evaluation
- Remedial Investigations (specific to wet sediment and surface water):



➤ 1996 Phase I Remedial Investigation

- Collected surface soil and sediment samples within the AOC.

➤ 2000 Phase II Remedial Investigation

- Collected additional surface soil and sediment samples, and collected subsurface soil, surface water, groundwater, and sewer samples

➤ 2010/2011 PBA08 Remedial Investigation

- Collected additional sediment and surface water samples to assess current conditions of main ponds and ditches at the site to complete the Remedial Investigation.

Load Line 12

Remedial Investigations



- Remedial Investigation Summary
 - Multiple evaluations and investigations were performed to assess wet sediment and surface water at Load Line 12. The total number of samples collected include:
 - 36 sediment samples
 - 25 surface water samples
 - The following chemical groups were looked for during the investigations:
 - Metals, explosives, propellants, SVOCs, VOCs, PCBs, cyanide, nitrate, and pesticides.

Load Line 12

Remedial Investigations Conclusions

- Nature and extent of contamination is defined. No further sampling is required to characterize wet sediment and surface water at Load Line 12.
- No further action is required to protect human health.
 - The HHRA did not identify wet sediment or surface water 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 sediment is required to protect groundwater.
 - The fate and transport assessment determined chemicals in sediment 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 wet sediment and surface water at Load Line 12.

Upper and Lower Cobbs Ponds

Site Features



- Approximately 39 acres.
- Receives surface water from channels coming from Load Line 3 and Load Line 12.
- Two large ponds (Upper Cobbs Pond and Lower Cobbs Pond).
- Pond Banks, approximately 18 acres in size.
- 9 acres of wetlands, including the upstream Backwater Area.
- Flow control structures and a spillway that ultimately directs surface water to Sand Creek.
- Former Railroad beds going through the site.

Upper and Lower Cobbs Ponds Site Features

Surface Water
Ultimately Flowing to
Sand Creek

Upper Cobbs Pond
Approx size=9.4 acres
Max depth ~ 8 ft deep

Lower Cobbs Pond
Approx size=6.4 acres
Max depth ~ 7 ft deep

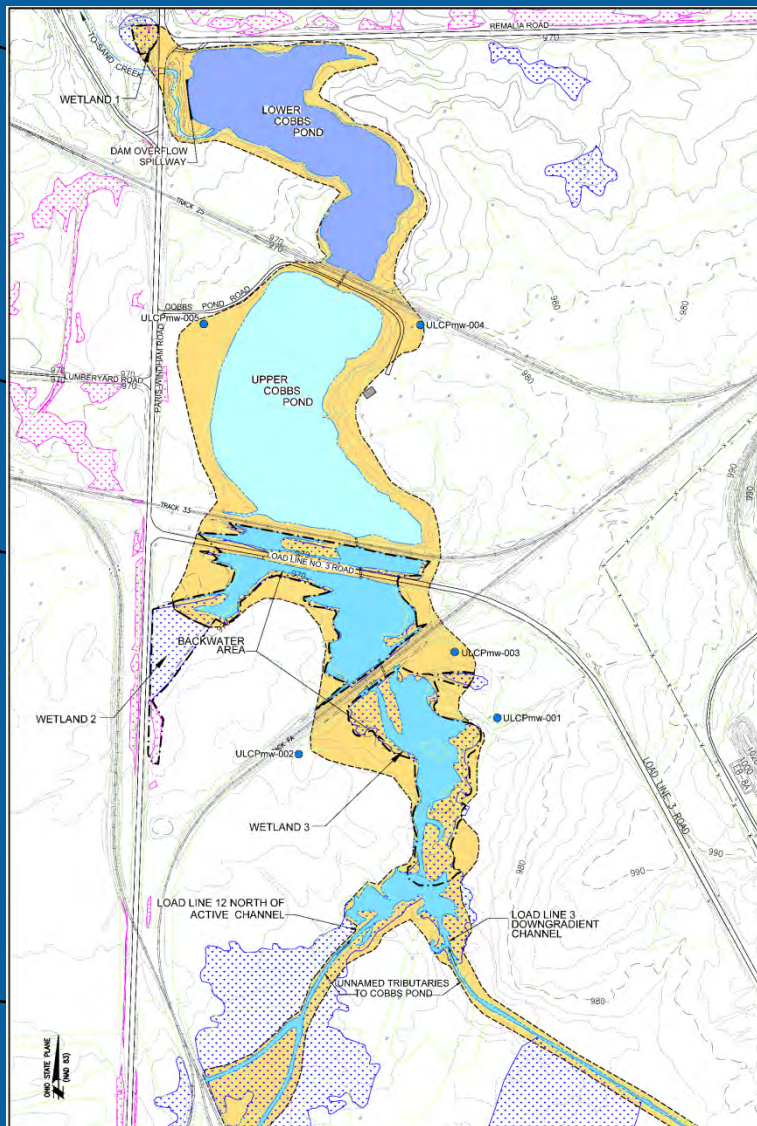
Backwater Area

Pavilion and
picnic/recreational
area

North of Active Area
Channel (from Load
Line 12)

Load Line 3 Channel

= general water
flow direction



Upper and Lower Cobbs Ponds

Sources of Potential Contamination



- No primary sources of contamination are present within the AOC.
- Potential site contamination received from washout and runoff from Load Lines 3 and 12, transported via upstream channels.
- On November 15, 1966, a fish kill occurred at Lower Cobbs Pond as a result of improper handling of aluminum chloride during manufacturing operations.
 - The pond that received the contaminated waste from drainage ditches was settled, drained, and the contaminants were removed to Ramsdell Quarry.
- There are no expected future impacts from Load Line 3 and Load Line 12.
 - Both sites have had remedial actions to address contamination and have ongoing assessments being performed.
 - In June 2010, 1,181 tons of contaminated dry sediment were removed from the Main Ditch within Load Line 12.
 - In the summer of 2007, 893 tons of hazardous (PCB-contaminated) soil and 2,538 tons of non hazardous soil were removed from Load Line 3.

Upper and Lower Cobbs Ponds

Previous Investigations



- 1978 Installation Assessment
- 1982 Soil and Sediment Analysis
- 1996 Preliminary Assessment
- 1996/1998 Relative Risk Site Evaluations
- 2003 Facility-wide Biological Water Quality Study

Remedial Investigations:

➤ 1996 Phase I Remedial Investigation

- Collected sediment samples from the ponds and drainage ditches.

➤ 2001 Phase II Remedial Investigation

- Collected additional sediment samples, surface water samples, and soil samples from the Pond Banks.

➤ 2010 PBA08 Remedial Investigation

- Collected additional sediment and surface water samples and fully characterized surface and subsurface soil in the Pond Banks to complete Remedial Investigation.

Upper and Lower Cobbs Ponds Remedial Investigations



- Remedial Investigation Summary
 - Multiple evaluations and investigations were performed to assess soil, sediment, and surface water at Upper and Lower Cobbs Ponds. The total number of samples collected include:
 - 26 surface soil samples
 - 8 subsurface soil samples
 - 55 sediment samples
 - 20 surface water samples
 - The following chemical groups were looked for during the investigations:
 - Metals, explosives, propellants, SVOCs, VOCs, PCBs, cyanide, nitrate, sulfate, sulfide, and pesticides.

Upper and Lower Cobbs Ponds Remedial Investigations Conclusions



- Nature and extent of contamination is defined. No further sampling is required to characterize soil, sediment, or surface water at Upper and Lower Cobbs Ponds.
- No further action is required to protect human health.
 - The HHRA did not identify 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 or sediment is required to protect groundwater.
 - The fate and transport assessment determined chemicals in soil and sediment 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 Upper and Lower Cobbs Ponds.

Load Line 9

Site Features



- Approximately 69 acres.
- No structures remain at the site.
- Gravel access road and perimeter fence currently exist.
- Habitat is mostly field, shrubland, and forest.



- No perennial surface water features or wetlands exist in the AOC boundary.
- Surface water occurs intermittently as storm water runoff in ditches.

Load Line 9

Historical Operations



- 1941–1945, Load Line 9 operated at full capacity to produce fuze component parts for artillery projectiles.
- Approximately 19,257,297 miscellaneous fuzes were produced while Load Line 9 was in operation.
- Load Line 9 historical buildings included:
 - 33 production buildings
 - 1 solvent storage building
 - 2 change houses
 - 1 inert storage building
 - 11 heater houses
 - 8 support equipment buildings
- Load Line 9 was deactivated at the end of World War II, and the process equipment was removed. Load Line 9 has not been used since 1945.
- As of 2003, all 54 process and support buildings were demolished.

Load Line 9

Previous Investigations



- 1978 Installation Assessment
- 1989 RCRA Facility Assessment
- 1996 Preliminary Assessment
- 1998 Relative Risk Site Evaluation
- Remedial Investigations:



➤ 2003 Phase I Remedial Investigation

- Determined that there was no detectable safety concern from potential lead azide contamination.
- Collected surface soil, subsurface soil, surface water, and sediment samples. Collected samples from sumps and beneath existing floor slabs.

➤ 2010 PBA08 Remedial Investigation

- Collected additional surface soil, subsurface soil, and sediment/surface water samples from drainage ditches to complete the Remedial Investigation.

Load Line 9

Remedial Investigations



• Remedial Investigation Summary

- Multiple evaluations and investigations were performed to assess soil, sediment, and surface water at Load Line 9. The total number of samples collected include:
 - 94 surface soil samples
 - 65 subsurface soil samples
 - 21 sediment samples
 - 10 surface water samples

- The following chemical groups were looked for during the investigations:
 - Metals, explosives, propellants, SVOCs, VOCs, PCBs, cyanide, and pesticides.

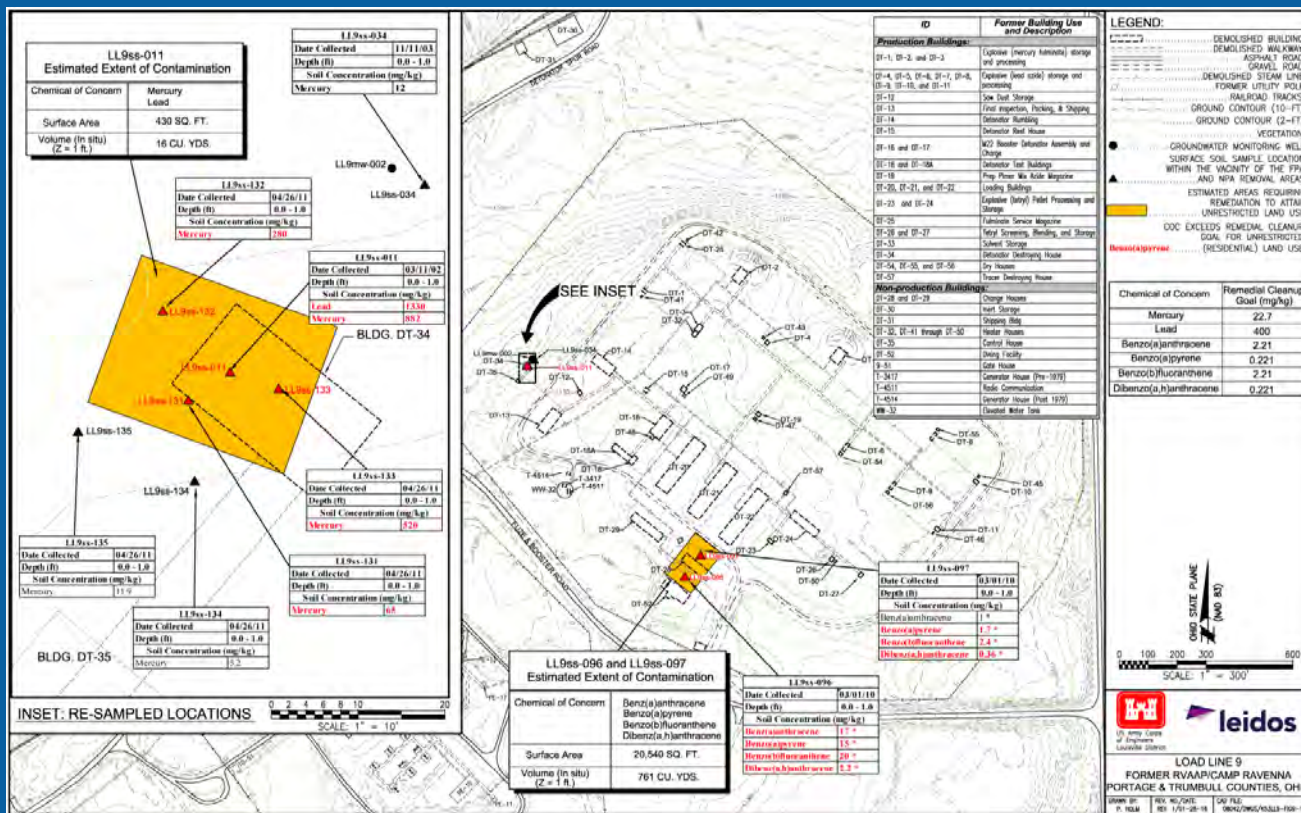
Load Line 9

Remedial Investigations Conclusions

- Nature and extent of contamination is defined. No further sampling is required to characterize soil, sediment, or surface water at Load Line 9.
- 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 or sediment is required to protect groundwater.
 - The fate and transport assessment determined chemicals in soil and sediment are not impacting groundwater.
 - Groundwater will continue to be evaluated under the Facility-wide Groundwater Monitoring Program.
- The HHRA identified the following locations and chemicals as requiring remediation:
 - Sample location LL9ss-011 for lead and mercury in surface soil (0-1 ft bgs).
 - Sample locations LL9ss-096 and LL9ss-097 for 4 PAHs: benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene in surface soil (0-1 ft bgs).

The Army, in coordination with Ohio EPA, is recommending remediation of contamination at sample locations LL9ss-011 for lead and mercury and LL9ss-096/097 for benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene.

Load Line 9 Contamination Extent



- Two specific areas require remediation:
 - LL9ss-096 and LL9ss-097 - benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene contamination, estimated volume of 761 cubic yards (in situ)
 - LL9-011 - lead and mercury contamination, estimated volume of 16 cubic yards (in situ)

Load Line 9 Feasibility Study



Remedial Action Objective - Prevent Resident Receptor exposure to surface soil (0-1 ft bgs) with 1) concentrations above lead and mercury CUGs at sample location LL9ss-011 and 2) concentrations above benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene CUGs at sample locations LL9ss-096 and LL9ss-097.

- The following remedial alternatives were developed for consideration:
 - Alternative 1: No Action (required by CERCLA)
 - Alternative 2: Excavation and Off-site Disposal
 - Additional sampling.
 - Removal of contaminated soil and disposal at licensed facility.
 - Site restoration (backfilling, grading, and seeding).
 - Alternative 3: Excavation and Off-site Disposal at LL9ss-011 and Ex-situ Thermal Treatment at LL9ss-096/097
 - Additional sampling.
 - Removal of lead/mercury-contaminated soil at LL9ss-011 and disposal at licensed facility.
 - Thermal treatment of PAH-contaminated soil at LL9ss-096/097.
 - Site restoration (backfilling, grading, and seeding).

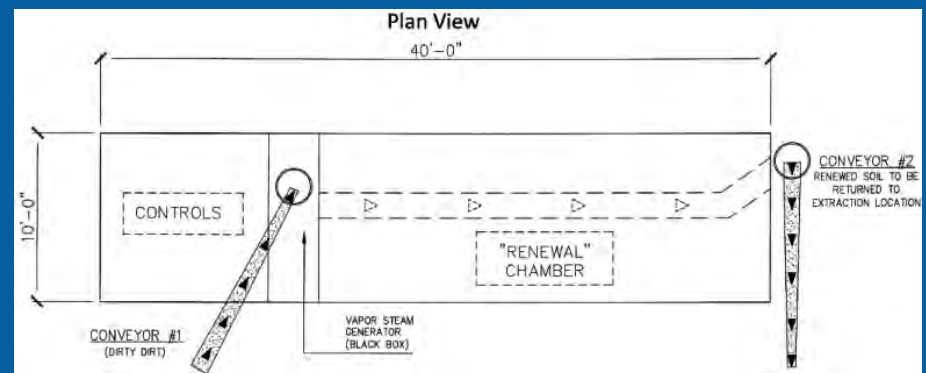
Load Line 9

Example of Thermal Treatment System



- Soil loaded into treatment system.
- Contaminated soil exposed to high temperatures in “Renewal Chamber”
- Soil contaminants (SVOCs) are desorbed to form vapors.
- Vapors are then passed through filters for capture and/or treatment.

- Treated soil is stockpiled for confirmation testing.
- If soil is confirmed to be below the Cleanup Goal, soil is placed back in the excavation.



Load Line 9

Feasibility Study – Alternative Evaluation

These three alternatives were compared against one another using the criteria below.

➤ Threshold Criteria

- Protectiveness of Human Health and the Environment (Alternative 1: No Action will not protect human health and is eliminated from consideration.)
- Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) – Assesses if the alternative comply with federal or local laws and standards.

➤ Balancing Criteria

- Long-term effectiveness – evaluates magnitude of remaining risk/contamination.
- Reduction of toxicity, mobility, or volume through treatment.
- Short-term effectiveness – evaluates protection of workers and the community during implementation of the remedial alternative.
- Implementability – evaluates availability and reliability of the alternative's technology.
- Estimated Cost.

Load Line 9

Preferred Alternative



Alternative 3: Excavation and Off-site Disposal at LL9ss-011 and Ex-situ Thermal Treatment at LL9ss-096/097

- Implementation of this alternative will result in Unrestricted (Residential) Land Use of Load Line 9.
- Implementation will comply with ARARs (federal and local laws/standards)
- Effective in the long-term, as all contamination is removed or permanently treated at the site. No land use controls will be required after implementation.
- Measures will take place to ensure the workers and community are not impacted during implementation.
- Treatment technology will reduce the PAH-contamination in soil.
- Technology (thermal treatment and excavation with off-site disposal) has been used at Camp Ravenna in the past.
- Estimated Cost for Alternative 3 (\$296,732) is less than estimated cost to implement Alternative 2 (\$410,360).

Wet Storage Area

Site Features



- Approximately 36 acres.
- Most of the buildings were demolished and removed in 2003 and 2004.
- Two storage igloos (WS-3 and WS-3A), access roads that enter the AOC from the south, and a perimeter fence remain.
- The habitat is mostly shrubland and forest.
- A wetland delineation conducted in 2006 identified 26 wetlands of varying sizes and quality.
- Perennial surface water within the unnamed tributary on the west side of the AOC, which flows from south to north and enters into Sand Creek.

Wet Storage Area

Historical Operations

- 1941–1945, Wet Storage Area was used to store highly explosive, shock-sensitive primary explosives, including lead azide, mercury fulminate, tetryl, and potentially nitroguanidine.
- During storage activities, explosive material was containerized and covered with water within drums that were stored separately in six storage igloos at the AOC.
- Wet Storage Area historical buildings included:
 - 2 lead azide storage igloos
 - 2 mercury fulminate storage igloos
 - 2 tetryl storage igloos
 - 1 generator house
- As of 2004, four storage igloos (WS-1, WS-1A, WS-2, and WS-2A) (including slabs and foundations) were removed
- Remnant infrastructure within the eastern part of Wet Storage Area consists of igloos WS-3 and WS-3A.

Wet Storage Area

Previous Investigations

- 1978 Installation Assessment
- 1998 Relative Risk Site Evaluation
- Remedial Investigations:
 - 2004 Characterization of 14 AOCs
 - Collected surface soil samples in and around areas of historical operations.
 - 2010 PBA08 Remedial Investigation
 - Collected additional surface soil, subsurface soil, sediment, and surface water samples to complete Remedial Investigation.



Wet Storage Area Remedial Investigations



- Remedial Investigation Summary
 - Multiple evaluations and investigations were performed to assess soil, sediment, and surface water Wet Storage Area. The total number of samples collected include:
 - 53 surface soil samples
 - 22 subsurface soil samples
 - 8 sediment samples
 - 9 surface water samples
 - The following chemical groups were looked for during the investigations:
 - Metals, explosives, propellants, SVOCs, VOCs, PCBs, and pesticides.

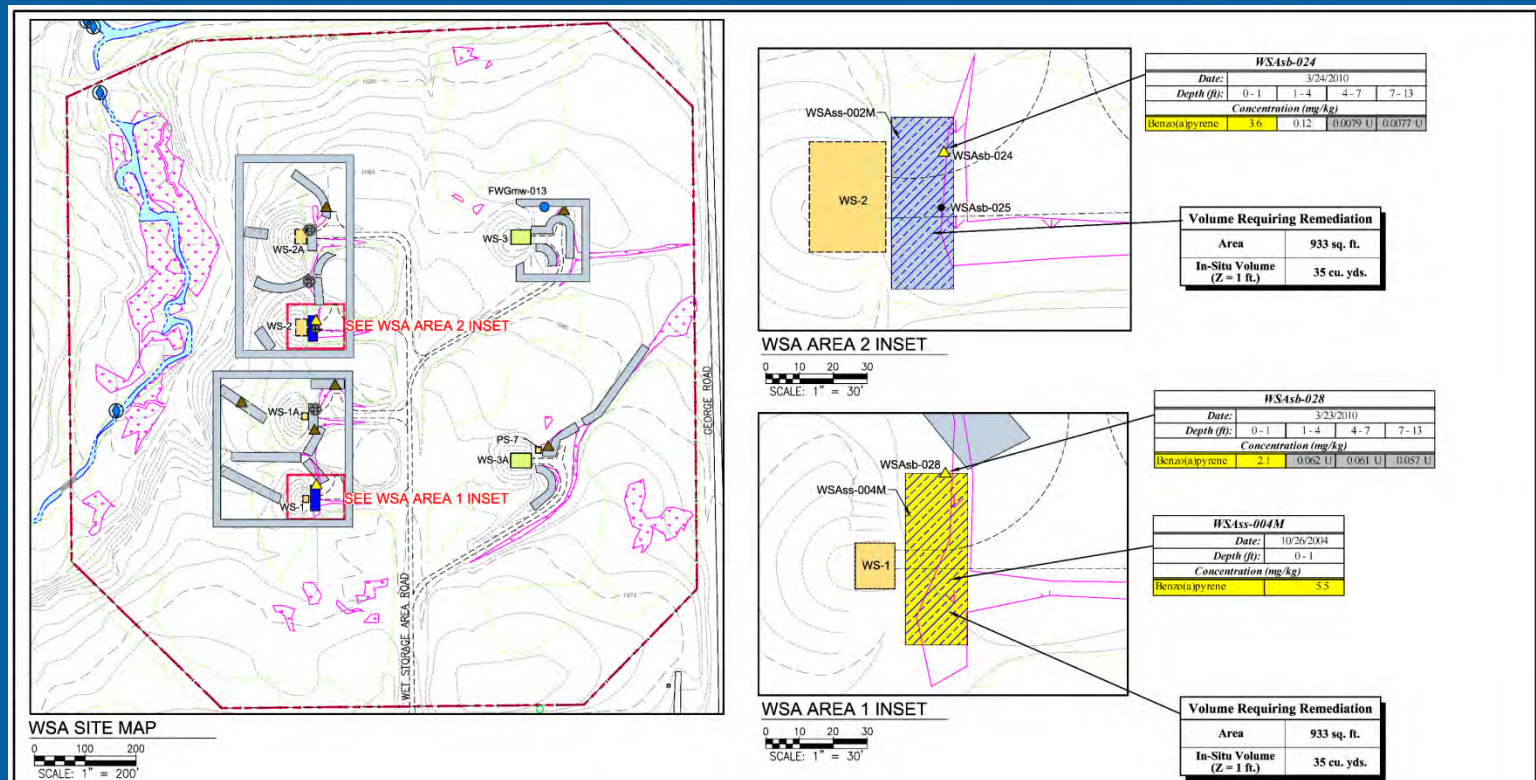
Wet Storage Area

Remedial Investigations Conclusions

- Nature and extent of contamination is defined. No further sampling is required to characterize soil, sediment, or surface water at Wet Storage Area.
- 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 or sediment is required to protect groundwater.
 - The fate and transport assessment determined chemicals in soil and sediment are not impacting groundwater.
 - Groundwater will continue to be evaluated under the Facility-wide Groundwater Monitoring Program.
- The HHRA identified three sample locations requiring remediation:
 - WSAss-004M, WSAsb-028, and WSAsb-024 had elevated benzo(a)pyrene concentrations in surface soil (0-1 ft bgs).

The Army, in coordination with Ohio EPA, is recommending remediation of benzo(a)pyrene contamination in surface soil (0-1 ft bgs) at sample locations WSAss-004M, WSAsb-028, and WSAsb-024.

Wet Storage Area Contamination Extent



- Two specific areas require remediation
 - WSA Area 1 contains locations WSA-004M and WSAsb-028.
 - WSA Area 2 contains location WSA-024.
- Total estimated contaminated volume is 70 cubic yards (in situ).

Wet Storage Area Feasibility Study



Remedial Action Objective - Prevent Resident Receptor exposure to surface soil (0–1 ft bgs) with a benzo(a)pyrene concentration above the remedial CUG of 1.1 mg/kg at sample locations WSAss-004M, WSAsb-028, and WSAsb-024.

- The following remedial alternatives were developed for consideration:
 - Alternative 1: No Action (required by CERCLA)
 - Alternative 2: Excavation and Off-site Disposal
 - Additional sampling.
 - Excavation of contaminated soil and disposal at licensed facility.
 - Site restoration (backfill and seeding).
 - Alternative 3: Ex-situ Thermal Treatment
 - Additional sampling.
 - Thermal treatment of contaminated soil.
 - Site restoration (backfill and seeding).

Alternative 3: Ex-situ Thermal Treatment

- Implementation of this alternative will result in Unrestricted (Residential) Land Use of Wet Storage Area.
- Implementation will comply with ARARs (federal and local laws/standards)
- Effective in the long-term, as contamination is removed or permanently treated at the site. No land use controls will be required after implementation.
- Measures will take place to ensure the workers and community are not impacted during implementation.
- Treatment technology will reduce the PAH-contamination in soil.
- Thermal treatment of soil has been used at Camp Ravenna in the past.
- Estimated Cost for Alternative 3 (\$134,587) is slightly more than the cost to implement Alternative 2 (\$116,346)

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).
- Public comment period is June 6, 2018 until July 6, 2018.

Public Participation

Your Comments and Inputs are Appreciated!



- Provide written or verbal comments at this public meeting.
- Submit written comments by July 6, 2018 to the following addresses:

Camp Ravenna Joint Military Training Center
Environmental Office
Attn: Kathryn Tait
1438 State Route 534 SW
Newton Falls, Ohio 44444

E-mail address: kathryn.s.tait.nfg@mail.mil

Questions?

Court Reporter Transcript

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CAMP RAVENNA PUBLIC MEETING

PROPOSED PLANS

FOR LOAD LINE 7, LOAD LINE 9, LOAD
LINE 12, WET STORAGE AREA, AND UPPER AND
LOWER COBBS PONDS AT THE
FORMER RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO

Presented by:

Jed Thomas, P.E. - Leidos

PUBLIC MEETING

Thursday

June 21, 2018

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 Email: jed.h.thomas@leidos.com

17

18 **ALSO PRESENT :**

19 Vicki Deppisch, Ohio EPA

20 Mark Johnson, Ohio EPA

21 Megan Oravec, Ohio EPA

22 Vasu Peterson, Leidos

23 Eli Rogatz, Leidos

24 Sharon Robers, Leidos

25 Nicholas Roope, Ohio EPA

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Kevin Sedlak, ARNG
Amanda M. Sprinzl, Leidos

- - -

1 **MS. TITTLE:** Good evening.
2 And welcome to this public meeting. My name is
3 Barbara Tittle. I am a private citizen from
4 Kent, Ohio. I am here tonight to serve as the
5 meeting facilitator.

6 This public meeting serves as one of several
7 opportunities for public comment on the Army's
8 proposed plans. I am responsible to make sure
9 that everyone who wishes to comment about the
10 proposed plans has an opportunity to do so.

11 Before we get started, however, please take
12 a moment to silence all electronic devices.
13 Thank you.

14 There are three emergency exits present in
15 the front, right there (indicating), the side and
16 the back of the auditorium. So please reference
17 the exit signs in case of an emergency.

18 The ladies' restroom is out in front, where
19 you first came in, and the men's restroom and
20 handicap accessible restrooms are in the hallway
21 between the two tables.

22 Please help yourselves to the refreshments
23 available.

24 So this public meeting will present the
25 Army's proposed plans for five areas of concern

1 within the Former Ravenna Army Ammunition Plant.
2 These five areas of concern are Load Line 7, Load
3 Line 9, Load Line 12, the Wet Storage Area and
4 the Upper and Lower Cobbs Ponds.

5 Comments received from the public on
6 these proposed plans will be considered when
7 determining the final remedy that will be
8 documented in site specific Records of Decision.
9 The Records of Decision will include a
10 representative -- a responsiveness summary
11 addressing public comments.

12 Tonight we have Kevin Sedlak from the
13 Army -- representing the Army, and Mark Johnson
14 representing the Ohio EPA. The Ohio EPA would
15 like to make an opening remark.

16 **MR. JOHNSON:** The Ohio EPA
17 concurs with the proposed plans that are
18 presented this evening.

19 **MS. TITTLE:** Thank you.

20 **MR. JOHNSON:** Thank you.

21 **MS. TITTLE:** Thanks, Mark.

22 We also have a court reporter present to
23 record tonight's meeting and document it.

24 Our presenter tonight is Jed Thomas. He is
25 a professional engineer from Leidos, which is a

1 contractor for the Army. Jed will present
2 information regarding the five areas of concern
3 and the Army's proposed plans for these five
4 sites.

5 Following the presentation, we will open
6 the floor for your questions and comments.

7 Jed?

8 **MR. THOMAS:** Thank you,
9 Barbara.

10 My name is Jed Thomas. I am a professional
11 engineer with Leidos. And I am here today to
12 discuss with you the Army's proposed plans for
13 multiple areas of concern within the Former
14 Ravenna Army Ammunition Plant.

15 To supplement this evening's presentation --
16 it looks like most of you have -- we have a
17 packet put together that contains the slide
18 presentation that you will see -- I am sorry.
19 The packets are located over to the side there.
20 (Indicating.)

21 It will contain the slide presentation that
22 we are going to go through. Behind the slide
23 presentation, there is a list of acronyms and
24 abbreviations that I may use throughout the
25 presentation. And then there is also a packet of

1 figures for each site and site specific features
2 to assist or help out when we do get to a figure
3 up on the board that you may or may not be able
4 to see.

5 So we are here today to talk about five
6 areas of concern. We will be discussing soil,
7 sediment and surface water at four of the areas
8 of concern: Load Line 7, Upper and Lower Cobbs
9 Ponds, Load Line 9 and Wet Storage Area.

10 We will be discussing wet sediment and
11 surface water at one area of concern, Load Line
12 12. Groundwater is not addressed in these
13 proposed plans. Rather, the groundwater is being
14 evaluated under the Facility-Wide Groundwater
15 Monitoring Program.

16 For this evening's presentation, we will be
17 discussing on a site-by-site basis the site
18 features, the historical operations, the remedial
19 investigations and the remedial investigation
20 conclusions.

21 For sites that we have identified
22 contamination requiring remediation, we will also
23 be discussing the remedial alternatives developed
24 in a Feasibility Study, and present the Army's
25 preferred remedial alternative.

1 After this presentation, as Barb mentioned,
2 we will open the floor up for any questions that
3 you have. I am sorry. I left out. Obviously,
4 this public participation -- we will be
5 discussing the public participation associated
6 with the final steps for the areas of concern.

7 So for each site, we will discuss the
8 investigations performed and summarize the
9 following evaluations provided in the Remedial
10 Investigation Report.

11 The Human Health Risk Assessment was
12 performed to determine if chemicals in soil,
13 sediment or surface water pose unacceptable risk
14 to a Resident Receptor, or a future site worker,
15 such as a National Guard Trainee.

16 An Ecological Risk Assessment was performed
17 to decide if there were any important or
18 significant ecological resources at a site, such
19 as wetlands or protected species. And if there
20 is any chemical contamination that requires an
21 action to protect those resources.

22 There was also a Fate and Transport
23 Assessment conducted to determine if chemicals at
24 the site may adversely impact groundwater in the
25 future.

1 These assessments determine if the site can
2 be used for Unrestricted Residential Land Use.
3 And if the site cannot currently be used for
4 Unrestricted Use, the Army developed Remedial
5 Alternatives to address contaminations in soil,
6 sediment or surface water that poses unacceptable
7 risk to human health or the environment, or if
8 there was any potential for negative impact to
9 the groundwater.

10 On this slide, you see the location of the
11 Former Ravenna Army Ammunition Plant, or Camp
12 Ravenna, within the State of Ohio. So here -- it
13 is in the northeast portion of Ohio. And then
14 this graphic, we can see the locations of the
15 areas of concern that we are talking about.

16 So today we are going to be talking about
17 Load Line 7 and Load Line 9, which are located on
18 Fuze and Booster Hill. And then we will be
19 talking about Wet Storage Area, which is near the
20 geographic center of Camp Ravenna. And Load Line
21 12, which is in the southeastern portion of Camp
22 Ravenna. And then also Upper and Lower Cobbs
23 Ponds, which is north of Load Line 12.

24 We are going to start tonight's presentation
25 discussing Load Line 7. Load Line 7 is

1 approximately 37 acres in size and contains no
2 existing structures. There are three access
3 roads within Load Line 7 and a perimeter fence
4 that surrounds the area of concern.

5 The habitat of Load Line 7 is mostly field,
6 shrubland and forest. Load Line 7 does not have
7 perennial surface water bodies, and no wetlands
8 have been identified at the site. Surface water
9 is only present at the site during rain events.
10 So, consequently, surface water and sediment are
11 not considered a media of concern at Load Line 7.

12 Regarding the historical operations of Load
13 Line 7: From 1941 to 1945, Load Line 7 operated
14 at full capacity to produce booster charges for
15 artillery projectiles during World War II.

16 From 1968 to 1970, Load Line 7 produced high
17 explosives and practice 40mm projectiles. And in
18 1970, Load Line 7 was deactivated permanently and
19 production equipment was removed.

20 During operations, Load Line 7 consisted of
21 18 production buildings and 11 support
22 buildings. As of 2007, all buildings,
23 foundations and slabs have been removed from the
24 site.

25 Load Line 7 was included in four Facility-

1 Wide Assessments. These assessments include a
2 1978 Installation Assessment that reviewed
3 historical information and environmental data to
4 assess the potential contamination within the
5 facility.

6 There was also a 1989 RCRA Facility
7 Assessment that was performed to visually inspect
8 known areas of concern and also identify any new
9 potential areas of concern.

10 Also the 1996 Preliminary Assessment
11 researched the facility's history, the process
12 operations and historical data to further
13 identify any additional areas of concern.

14 And then Load Line 7 was included in the
15 1998 Relative Risk Site Evaluation that scored
16 and helped prioritize areas of concern.

17 Three investigations were conducted at Load
18 Line 7 to collect samples and find the nature and
19 extent of contamination. These investigations
20 included the 2004 Characterization of 14 AOCs
21 that assessed surface soil in and around
22 historical operations.

23 In 2007, Investigation of Under Slab Surface
24 Soils assessed the soil in building footprints
25 after the buildings and foundations were

1 removed.

2 And then in 2010, the PBA08 Remedial
3 Investigation identified and filled data gaps,
4 including collecting additional surface and
5 subsurface soil to ensure that adequate -- that
6 an adequate sample set was complete -- was
7 collected to complete the Remedial Investigation.

8 The multiple evaluations and investigations
9 at Load Line 7 included the collection of 144
10 surface soil samples and 21 subsurface soil
11 samples to characterize the site.

12 As indicated previously, sediment and
13 surface water are not permanent media and are not
14 considered media of concern at Load Line 7.

15 Chemicals assessed at Load Line 7 include
16 metals, explosives, propellants, SVOCs, VOCs,
17 PCBs, nitrates, herbicides and pesticides.

18 Using the information and data collected at
19 Load Line 7, the Remedial Investigation Report
20 concluded that the nature and extent of
21 contamination is adequately defined. No further
22 sampling is required at Load Line 7.

23 The Remedial Investigation Report concluded
24 that no action is required to protect -- to
25 protect any important or significant ecological

1 resources.

2 The Remedial Investigation Report also
3 concluded that no further action is necessary to
4 protect groundwater. As indicated previously,
5 groundwater at the site will continue to be
6 evaluated as part of the Facility-Wide
7 Monitoring -- Facility-Wide Groundwater
8 Monitoring Program.

9 Regarding the Human Health Risk
10 Assessment, the Army's 2016 Remedial
11 Investigation Report originally identified
12 four PAHs: benz(a)anthracene, benzo(a)pyrene,
13 benzo(b)fluoranthene and dibenz(a,h)anthracene as
14 surface soil COCs requiring remediation at two
15 small sample locations, 97 and 98. These two
16 sample areas have a total size of about a tenth
17 of an acre.

18 However, since the submittal of that 2016
19 report, the USEPA has used more updated toxicity
20 studies to reassess and modify screening level
21 concentrations of these four chemicals.

22 The Army reassessed the concentration levels
23 at these two locations, comparing against the
24 USEPA's new screening levels, and the Army has
25 now concluded that no further action is required

1 to be protective of human health at Load Line 7.

2 The change from the conclusions from this
3 2016 Remedial Investigation Report is considered
4 a significant change by CERCLA. The significant
5 change is documented and explained in the
6 proposed plan that is offered for review.

7 So, in conclusion, the Army, in coordination
8 with Ohio EPA, is recommending no further action
9 to attain Unrestricted Residential Land Use with
10 respect to soil, sediment and surface water at
11 Load Line 7.

12 The next set I am going to be discussing is
13 Load Line 12. Load Line 12 is approximately 76
14 acres in size and contains no existing
15 structures.

16 There are asphalt and gravel roads within
17 Load Line 12, an old railroad bed and a perimeter
18 fence that surrounds the area of concern.

19 Pertaining to the surface water, there is a
20 settling pond, a main drainage channel and
21 approximately 12.5 acres of wetlands.

22 Surface water occurs intermittently in
23 ditches, but perennially within the Former
24 Settling Pond and Active Area Channel, that I
25 will show you here shortly.

1 Regarding the historical operations of Load
2 Line 12: From 1941 to 1943, Load Line 12
3 operated at full capacity as an ammonium nitrate
4 production facility.

5 From 1946 to 1950, Load Line 12 was leased
6 to the Silas Mason Company to produce 518,000
7 tons of fertilizer-grade ammonium nitrate.

8 From 1965 to 1967, Hercules Alcor leased
9 Building FF-19 within Load Line 12 to produce
10 aluminum chloride.

11 And from 1969 to 1971, Load Line 12 was
12 activated in support of the Vietnam War and
13 produced 80 million primers.

14 In 1981, Load Line 12 Pink Water Treatment
15 Plant was built to treat the demilitarization
16 effluent.

17 No historical information exists -- or no
18 historical information exists to indicate that
19 Load Line 12 was used for any other processes.

20 Load Line 12 consists of 9 production
21 buildings and 14 support buildings. As of 2000,
22 all buildings have been removed from the site.
23 Currently there are no above grade structures at
24 Load Line 12.

25 The media of concern for this Load Line 12

1 Proposed Plan is wet sediment and surface water,
2 which are both present in the northern portion of
3 this site.

4 The areas within Load Line 12 that this
5 includes are the Former Settling Pond, Active
6 Area Channel and the North of Active Area. Soil
7 and dry sediment are being evaluated separately.

8 Load Line 12 has had remedial actions in the
9 past for soil and dry sediment. For example,
10 in 2010, over 1,100 tons of contaminated --
11 arsenic-contaminated dry sediment was removed
12 from the Main Ditch, which is immediately
13 upstream of the North of Active Area Channel.

14 So this figure shows the northern half of
15 Load Line 12, which contains the wet sediment and
16 surface water areas discussed in the Proposed
17 Plan.

18 Basically, the -- this is the Active Area
19 Channel. Water within the Active Area Channel
20 travels west to east, to where it will eventually
21 travel to the North -- North of Active Area
22 Channel.

23 One of the features we look at is -- in
24 the wet sediment and surface water media is the
25 Former Settling Pond. This Former Settling Pond

1 is approximately 50 feet by 200 feet and is
2 approximately 9 feet deep.

3 The Former Settling Pond surface water
4 discharges into the Active Area through an
5 overflow pipe. And like I said, once the water
6 travels through the Active Area Channel, it
7 travels to this -- what we call the North of
8 Active Area.

9 This North of Active Area is included in our
10 evaluation. Although it is beyond the Load Line
11 12 fence line, we did include it to make sure
12 that we would catch any potential contamination
13 that may have been caused by activities at Load
14 Line 12.

15 And once the surface water gets to the North
16 of Active Area Channel, it travels north and
17 heads towards Upper and Lower Cobbs Ponds,
18 which I will be talking about later in the
19 presentation.

20 So Load Line 12 is included in the Facility-
21 Wide Assessments, including the 1978 Installation
22 Assessment, the 1989 RCRA Facility Assessment,
23 the 1996 Preliminary Assessment and the 1996
24 Relative Risk Site Evaluation.

25 Three investigations were conducted at Load

1 Line 12 that collected samples to define the
2 nature and extent of wet sediment and surface
3 water at Load Line 12.

4 These investigations included the 1996 Phase
5 I Remedial Investigation that collected soil and
6 sediment samples; the 2000 Phase II Remedial
7 Investigation that collected additional surface
8 soil, some subsurface soil and sediment, surface
9 water samples, as well as groundwater and sewer
10 samples.

11 And then in 2010/2011, the PBA08 Remedial
12 Investigation collected additional sediment and
13 surface water samples to assess current
14 conditions of the main ponds and ditches.

15 The multiple evaluations and investigations
16 performed at Load Line 12 to assess wet sediment
17 and surface water included 36 sediment samples
18 and 25 surface water samples.

19 The chemicals assessed at Load Line 12
20 included metals, explosives, propellants, SVOCs,
21 VOCs, PCBs, cyanide, nitrate and pesticides.

22 Using the information obtained during the
23 Remedial Investigations, the nature and extent of
24 contamination is defined. And no further
25 sampling is required to characterize wet sediment

1 and surface water at Load Line 12.

2 The Remedial Investigation Report concluded
3 that no further action is required to protect
4 human health. No further action is required to
5 protect ecological resources. And chemicals are
6 not anticipated to impact groundwater.

7 So, in conclusion, the Army, in coordination
8 with the Ohio EPA, is recommending no further
9 action to attain Unrestricted Residential Land
10 Use for wet sediment and surface water at Load
11 Line 12.

12 The next set I am going to discuss is Upper
13 and Lower Cobbs Ponds. Upper and Lower Cobbs
14 Ponds is approximately 39 acres in size. Upper
15 and Lower Cobbs Ponds receives surface water from
16 channels originating from Load Line 3 and Load
17 Line 12, from the south, as I previously
18 mentioned. And I will show you a graphic here in
19 a second.

20 The AOC consists of two large ponds, the
21 Pond Banks, nine acres of wetlands and a spillway
22 that ultimately directs surface water to Sand
23 Creek. There are also three former railroad beds
24 that go through the site.

25 So this is a graphic of Upper and Lower

1 Cobbs Ponds. As shown here, the surface water
2 originates from -- the entire AOC from this Load
3 Line 3. Load Line 3 is here. (Indicating.)
4 There is a channel from Load Line 3 heading into
5 what we call the Backwater Area. And this is
6 that North of Active Area Channel from Load Line
7 12. Load Line 12 would be down here.
8 (Indicating.) Again, directing surface water
9 into this Backwater Area that we investigated.

10 Once the water travels through the Backwater
11 Area, it goes into this 9.4 acre Upper Cobbs
12 Pond, and then to this 6.4 acre Lower Cobbs Pond,
13 ultimately going through a spillway to the far
14 north, that will direct the surface water to Sand
15 Creek.

16 Some other noteworthy features of the site
17 is outside of the area of concern, but to the
18 east of Upper and Lower Cobbs Ponds, there is a
19 pavilion and picnic/recreational area. And then
20 the areas highlighted in orange are what we
21 targeted to investigate the Pond Banks and
22 potential impacts that the surface water may have
23 had to those Pond Banks.

24 There are no sources of contamination in
25 Upper and Lower Cobbs Ponds. Rather, the site

1 received runoff and washout during historical
2 operations from Load Line 3 and Load Line 12.

3 On November 15, 1966, there was a fish kill
4 that occurred at Lower Cobbs Pond as a result of
5 improper handling of aluminum chloride during
6 manufacturing processes.

7 The documentation is limited, but in
8 response to the fish kill, the pond was settled,
9 drained and the contaminants were removed and
10 placed in Ramsdell Quarry within the facility.

11 There are no expected future impacts from
12 Load Line 3 or Load Line 12, as both sites have
13 remedial actions -- have had remedial actions
14 to address contamination and have ongoing
15 assessments being performed.

16 As indicated previously, over 1,100 tons of
17 contaminated sediment were removed from the Load
18 Line 12 Main Ditch, in 2010.

19 Also, during the summer of 2007, over 3,000
20 tons of contaminated soil was removed from Load
21 Line 3.

22 Upper and Lower Cobbs Ponds was included in
23 multiple Facility-Wide Assessments, including
24 the 1978 Installation Assessment, the 1996
25 Preliminary Assessment, the 1996/1998 Relative

1 Risk Site Evaluations.

2 Upper and Lower Cobbs Ponds was also a part
3 of a 1982 Soil and Sediment Analysis that
4 evaluated facility ponds and streams for
5 explosives. And Upper and Lower Cobbs Ponds was
6 included in the 2003 Facility-Wide Biological
7 Water Quality Study, which not only concluded
8 that Camp Ravenna surface water quality was
9 generally good to excellent, and the samples
10 generally reflected non-contaminated conditions.

11 Three investigations were conducted at the
12 site to collect samples to define the nature and
13 extent of contamination. These investigations
14 included the 1996 Phase I Remedial Investigation
15 that collected sediment samples from the ponds
16 and drainage channels; the 2001 Phase II Remedial
17 Investigation that collected additional sediment
18 samples, surface water samples and soil samples
19 from the Pond -- and soil samples from the Pond
20 Banks; and the 2010 PBA08 Remedial Investigation
21 that collected additional sediment and surface
22 water samples and fully characterized surface and
23 subsurface soil within the Pond Banks.

24 So the multiple evaluations and
25 investigations included the collection of 26

1 surface water -- or 26 surface soil samples, 8
2 subsurface soil samples, 55 sediment samples and
3 20 surface water samples.

4 Chemicals assessed at the site include
5 metals, explosives, propellants, SVOCs, VOCs,
6 PCBs, cyanide, nitrate, sulfate, sulfide and
7 pesticides.

8 Using the information obtained during the
9 Remedial Investigation, the nature and extent of
10 contamination is defined in Upper and Lower Cobbs
11 Ponds. And no further sampling is required to
12 characterize the soil, sediment or surface water
13 at the site.

14 No further action is required to protect
15 human health. And no further action is required
16 to protect ecological resources. In addition,
17 there is no further action for soil or sediment
18 to be protective of groundwater.

19 So, in conclusion, the Army, in coordination
20 with Ohio EPA, is recommending no further action
21 to attain Unrestricted Residential Land Use for
22 soil, sediment and surface water at the Upper and
23 Lower Cobbs Ponds area of concern.

24 The next set I am going to talk about is
25 Load Line 9. Load Line 9 is approximately 69

1 acres in size and contains no existing
2 structures.

3 There are gravel access roads and a
4 perimeter fence that surrounds this area of
5 concern. The habitat at Load Line 9 is mostly
6 field, shrubland and forest. There are no
7 perennial surface water bodies and no wetlands
8 have been identified at the site.

9 Surface water is present at the site -- oh,
10 surface water that is present at the site only
11 occurs during rain events.

12 From 1941 to 1945, Load Line 9 operated at
13 full capacity to produce fuze components for
14 artillery projectiles in support of World War II.
15 It is estimated that over 19 million fuzes were
16 produced within that time frame.

17 Load Line 9 consisted of 33 production
18 buildings and 23 support buildings. And Load
19 Line 9 was deactivated after World War II. The
20 process equipment was removed and the site has
21 not been used since. As of 2003, all process and
22 support buildings have been demolished.

23 Load Line 9, which included -- was included
24 in these four Facility-Wide Assessments discussed
25 previously. These four here. (Indicating.) And

1 there were two investigations conducted at Load
2 Line 9 to collect samples and find the nature and
3 extent of contamination at this site.

4 These investigations included the 2003 Phase
5 I Remedial Investigation that collected surface
6 soil, subsurface soil, surface water and sediment
7 samples, as well as samples from sumps and
8 samples beneath floor slabs.

9 This investigation also included a
10 determination -- or assessment and determination
11 that there was no safety concern associated with
12 lead azide at the site.

13 The 2010 PBA08 Remedial Investigation
14 collected additional surface soil, subsurface
15 soil and sediment/surface water samples to
16 complete the Remedial Investigation.

17 The multiple evaluations and investigations
18 at Load Line 9 included the collection of 94
19 surface soil samples, 65 subsurface soil samples,
20 21 sediment samples and 10 surface water
21 samples.

22 Chemicals assessed at Load Line 9 included
23 metals, explosives, propellants, SVOCs, VOCs,
24 PCBs, cyanide and pesticides.

25 Using the information obtained during the

1 Remedial Investigations, the nature and extent of
2 contamination at Load Line 9 is defined. And no
3 further sampling is required.

4 No further action is required to protect
5 ecological resources. And chemicals in soil
6 and sediment are not anticipated to impact
7 groundwater.

8 However, the Human Health Risk Assessment
9 did identify two areas requiring remediation:
10 Surface soil at Sample Location 11 had elevated
11 concentrations of lead and mercury. And surface
12 soil at Sample Locations 96 and 97 had elevated
13 concentrations of four PAHs: benz(a)anthracene,
14 benzo(a)pyrene, benzo(b)fluoranthene and
15 dibenz(a,h)anthracene.

16 Therefore, the Army, in coordination with
17 the Ohio EPA, is recommending remediation of
18 contamination at Sample Locations 11 for mercury
19 and lead, and 96 and 97 for the four PAHs that I
20 had mentioned previously.

21 So this slide shows the two areas requiring
22 remediation at Load Line 9. To the south, this
23 is the location of both Samples 96 and 97 that
24 had exceedances of those four PAHs. They are
25 basically adjacent to one another.

1 There is an estimated contaminated volume
2 of 761 cubic yards of surface soil that is
3 anticipated -- or, I am sorry. Estimated volume
4 of 761 cubic yards of soil that is anticipated to
5 be contaminated.

6 And then to the east is Location 11. This
7 location, as I mentioned previously, had lead and
8 mercury contamination. There was one sample that
9 drove that identification of contamination. And
10 in 2011, additional samples were collected to
11 help further refine the extent of contamination.
12 And currently it is estimated that approximately
13 16 cubic yards of contaminated surface soil is
14 present at that location.

15 And so just to be clear, this is the
16 location of the contaminated area. (Indicating.)
17 This is a blow-up, or an inset, of that
18 location. So, relatively speaking, it is
19 significantly smaller than 96 and 97, but there
20 is a larger blow-up of that area and the samples
21 collected to date.

22 So given that unacceptable risk to human
23 health that was identified, the Army developed
24 Remedial Alternatives in a Feasibility Study to
25 address this contamination.

1 These Remedial Alternatives were developed
2 with remedial action objective of preventing
3 resident receptor exposure to surface soil with
4 concentrations above lead and mercury Cleanup
5 Goals at Sample Location 11, and concentrations
6 above PAH Cleanup Goals at Sample Locations 96
7 and 97.

8 The Army developed the following three
9 alternatives to consider: Alternative 1 is a no
10 action alternative. This alternative assesses
11 what would happen if the Army did nothing about
12 the contamination in place. It is primarily used
13 for comparison purposes against other remedial
14 alternatives. And rarely is the no action
15 alternative selected if unacceptable risk or
16 contam -- if unacceptable risk and contamination
17 is present at the site.

18 Alternative 2 involves excavation of all
19 contaminated soil and disposal at an off-site
20 licensed disposal facility. This alternative
21 would include additional sampling to further
22 refine the extent of contamination. And it would
23 include the use of heavy equipment to excavate
24 the contaminated soil and loading into haul
25 trucks for ultimate disposal at an off-site

1 facility.

2 After the contamination is completely
3 removed, those areas will be backfilled, graded
4 and re-seeded for restoration purposes.

5 Alternative 3 involves excavating the lead
6 and mercury contaminated soil for off-site
7 disposal, in addition to thermally treating the
8 PAH-contaminated soil.

9 So as with Alternative 2, this alternative
10 would include additional sampling to further
11 refine the extent of the contamination.

12 Alternative 3 would also excavate the
13 contaminated soil -- the lead and mercury-
14 contaminated soil at Location 11, for off-site
15 disposal. And Alternative 3 would use --
16 includes the use of a thermal treatment system to
17 address PAH-contamination at Locations 96 and 97,
18 to treat the contaminated soil.

19 After the soil contamination is either
20 removed or treated, the site will be backfilled
21 and graded and seeded.

22 So with respect to Alternative 3, this is
23 an example of a thermal treatment system.
24 Let's see. In the system -- in the system,
25 contaminated soil would be loaded onto a conveyor

1 belt. The conveyor belt would place the
2 contaminated soil within -- in an enclosed
3 chamber. Within this enclosed chamber, the
4 contaminated soil would be exposed to high
5 temperatures. These high temperatures will
6 ultimately desorb the volatile contaminants, such
7 as the PAH contaminants that we are talking
8 about, and form a vapor.

9 This contaminated vapor is then passed
10 through a filter system that will capture and/or
11 treat the contaminated vapors. As the -- when
12 the soil -- now that the contaminant has been
13 removed from the soil, the soil will exit the
14 treatment system and be stockpiled.

15 Once the soil is stockpiled, it will be
16 re-sampled. And if it is confirmed to be clean,
17 it can be put back into the excavation, back --
18 or the excavation area. Or if it fails, it can
19 be replaced back into the treatment system.

20 The three Remedial Alternatives were
21 assessed against seven criteria to help the Army
22 select a preferred alternative. The selected
23 alternative must be protective of human health
24 and the environment, and must be compliant with
25 all Federal and local laws -- all Federal and

1 local laws and standards.

2 Given that the no action alternative means
3 that contamination or unacceptable risks will
4 remain in place, this alternative is
5 automatically excluded for consideration.

6 The remaining alternatives are assessed
7 using five balancing criteria. Basically these
8 criteria ask the questions: Will the alternative
9 be protective in the long-term? Does the
10 alternative reduce toxicity, mobility or volume
11 through treatment? Are workers and community
12 protected from exposure or risks during
13 implementation of that alternative? How
14 available and reliable is the technology's -- is
15 the alternative's technology? And what is the
16 estimated cost?

17 The Army's preferred alternative for Load
18 Line 9 is Alternative 3: Excavation and Off-site
19 Disposal of the lead and mercury-contaminated
20 soil, Location 11, and Ex-situ Thermal Treatment
21 of the PAH-contaminated soil, Locations 96 and
22 97.

23 Implementation of this alternative will
24 result in Unrestricted Land Use -- Unrestricted
25 Residential Land Use at Load Line 9.

1 Implementation of this alternative will
2 comply with all Federal and local laws and
3 standards.

4 The implementation will be effective in the
5 long-term, and the Army will not need land use
6 controls at the site after implementation.

7 The treatment technology of the PAH-
8 contaminated soil will reduce and -- or remove
9 the PAH-contamination from Sample Locations 96
10 and 97.

11 Measures will be taken to ensure that
12 remedial workers and the community are not
13 impacted during implementation.

14 This technology is accessible. Both the
15 excavation and thermal treatment is accessible
16 and has been used successfully at Camp Ravenna in
17 the past.

18 And the estimated cost for Alternative 3 is
19 \$296,000, which is less than the estimated cost
20 to implement Alternative 2.

21 The final set I am going to present is Wet
22 Storage Area. The Wet Storage Area is
23 approximately 36 acres in size. And most of the
24 buildings have been demolished and were removed
25 in 2003 and 2004.

1 Two igloos -- two storage igloos currently
2 exist at the site, along with access road -- and
3 there are access roads that enter from the south,
4 and the perimeter fence around the Wet Storage
5 Area still exists.

6 The habitat at Wet Storage Area is mostly
7 shrubland and forest, in addition to 26 wetlands
8 of varying sizes and quality. The Wet Storage
9 Area does have perennial surface water, as there
10 is a tributary that flows through the west side
11 of Wet Storage Area that ultimately discharges
12 into Sand Creek.

13 From 1941 to 1945, Wet Storage Area was used
14 to store highly explosive, shock-sensitive
15 primary explosives. The explosive material was
16 containerized and covered with soil in drums that
17 were stored in six storage igloos.

18 As indicated previously, four of these six
19 igloos have been removed. And two of the igloos
20 on the eastern portion of the site remain.

21 Wet Storage Area was included in the 1978
22 Installation Assessment and the 1998 Relative
23 Risk Site Evaluation.

24 Two investigations were conducted at Wet
25 Storage Area to collect samples to define the

1 nature and extent of the contamination.

2 These investigations were the 2004
3 Characterization of 14 AOCs that collected
4 surface soil in and around areas of historical
5 operations.

6 And the 2010 PBA08 Remedial Investigation
7 that collected surface soil, subsurface soil,
8 sediment and surface water to complete their
9 Remedial Investigation.

10 The multiple evaluations and investigations
11 of the Wet Storage Area include the collection of
12 53 surface soil and 22 subsurface soil samples,
13 in addition to 8 sediment and 9 surface water
14 samples.

15 Chemicals assessed at Wet Storage Area
16 include metals, explosives, propellants, SVOCs,
17 VOCs, PCBs and pesticides.

18 Using the information obtained during the
19 Remedial Investigation, the nature and extent of
20 contamination at Wet Storage Area is defined.
21 And no further sampling is required.

22 No further action is required to protect
23 ecological resources. And chemicals in soil
24 and sediment are not anticipated to impact
25 groundwater.

1 Similar to Load Line 9, the Human Health
2 Risk Assessment did identify locations requiring
3 remediation. These locations -- surface soil
4 Sample Locations 4, 28 and 24 had elevated
5 concentrations of benzo(a)pyrene requiring
6 remediation.

7 Therefore, the Army, in coordination with
8 the Ohio EPA, is recommending remediation of
9 benzo(a)pyrene contamination in surface soil at
10 Sample Locations 4, 28 and 24.

11 So this slide shows the three Sample
12 Locations requiring remediation of Wet Storage
13 Area. Essentially, this boils down to two
14 specific areas. So this we identified as WSA
15 Area 1, this contaminated area in yellow -- or
16 orange. And this contains Sample Locations 004
17 and 028. And it is just outside the location of
18 the former igloo WS-1.

19 What we have identified as WSA Area 2
20 contains Sample Location 024. And it is just
21 outside the location of former igloo WS-2.

22 In total, the estimated quantity of
23 contaminated surface soil is approximately 70
24 cubic yards.

25 Given that unacceptable risk for human

1 health was identified, the Army developed
2 Remedial Alternatives in a Feasibility Study to
3 address this contamination.

4 These Remedial Alternatives were developed
5 with a remedial action objective of preventing
6 resident receptor exposure to surface soil with a
7 benzo(a)pyrene concentration above 1.1 milligrams
8 per kilogram at Sample Locations 4, 28 and 24.

9 The Army identified -- the Army developed
10 three alternatives for consideration.
11 Alternative 1, a no action alternative.
12 Alternative 2, which is similar to Load Line 9,
13 is the excavation of contaminated soil and
14 disposing it at a licensed off-site disposal
15 facility. And then Alternative 3 involves
16 thermally treating the PAH-contaminated soil in a
17 similar unit that I showed earlier.

18 So for Wet Storage Area, the Army's
19 preferred alternative is Alternative 3: Ex-situ
20 Thermal Treatment. Implementation of this
21 alternative will result in Unrestricted
22 Residential Land Use of Wet Storage Area. No
23 residual risk will remain at the site after
24 implementation.

25 The alternative will comply with all

1 Federal and local laws and regulations. And
2 implementation of this alternative is effective
3 in the long-term, and there will be no land use
4 controls required after implementation.

5 The treatment technology will reduce or
6 remove contamination from the soil. Measures
7 will be implemented to ensure that workers
8 and the community are not impacted during
9 implementation.

10 The technology is accessible and has been
11 successful at Camp Ravenna in the past. The
12 estimated cost for Alternative 3 is \$134,000.
13 This is slightly higher than the cost to
14 implement Alternative 2.

15 However, the Army is recommending
16 Alternative 3, since this does implement a
17 treatment alternative that will result in the
18 treated soil being able to be reused at the
19 site. Thank you.

20 **MS. TITTLE:** Thank you, Jed.

21 Since public participation is an important
22 component of remedy selection, the U.S. Army is
23 soliciting input from the community as part of
24 its public participation responsibilities under
25 Section 117(a) of the 1980 CERCLA.

1 The public comment period is between June
2 6th of 2018 and July 6th of 2018.

3 You can provide written or verbal comments
4 at this public meeting. And submit written
5 comments by July 6th to the address listed in
6 your handout and on the cards available at the
7 front table. And the contact is Kathryn Tait
8 with the Army.

9 So if anyone has any questions, please stand
10 up and state your name and what community you are
11 from, and we will go from there.

12 So does anyone have any questions?

13 **MS. MCCURDY:** Okay. My name is
14 Charlotte McCurdy. I live in Paris Township.

15 **THE REPORTER:** I am sorry. I
16 can't hear you.

17 **MS. MCCURDY:** I will talk loud.
18 How is that?

19 **MS. TITTLE:** Well, people
20 always say -- go ahead.

21 **MS. MCCURDY:** I just -- I wonder
22 what impacts or what will occur when you excavate
23 the contaminated soils airborne. Is there any
24 testing that is done to determine if anything is
25 going in our --

1 **MS. TITTLE:** And would you
2 please state your name and your community?

3 **MS. MCCURDY:** Charlotte McCurdy,
4 Paris Township.

5 **MS. TITTLE:** Thank you.

6 **MR. THOMAS:** So I want to make
7 sure I understand the question correctly.

8 Are you saying, when the excavation takes
9 place, dust concerns?

10 **MS. MCCURDY:** Correct.

11 **MR. THOMAS:** Okay. So,
12 generally, there is -- for both implementation
13 purposes and for exposure for human health risk,
14 there is oftentimes -- or usually there is human
15 health -- there is a health and safety person --
16 there are health and safety personnel on site
17 available, to basically be on site to make sure
18 that there isn't too much dusting.

19 There are wetting procedures that can be
20 implemented to make sure that once the excavation
21 takes place, it can be placed into either a
22 Thermal Treatment System or into a truck to
23 make sure that any dusting or -- yeah, any
24 dusting, I will say, is mitigated during
25 implementation.

1 **MS. MCCURDY:** Do they have
2 devices to test --

3 **MR. THOMAS:** There can be,
4 yeah.

5 **MS. MCCURDY:** Can be? There
6 can be?

7 **MR. THOMAS:** Yes. That is
8 something that is usually addressed in the
9 remedial design.

10 Sometimes it depends on what the
11 contaminants are, if it is required. But a lot
12 of times, you know, the first step is to look at
13 it visually. If it is -- if visually there
14 appears to be some dusting that takes place,
15 then there can be equipment brought on site.

16 **MS. TITTLE:** Any other
17 questions?

18 Well, if there are no other questions,
19 certainly you can take a card and write any
20 comments, if something comes up later.

21 Anything else, Jed?

22 **MR. THOMAS:** No.

23 **MS. TITTLE:** Okay. That is
24 it. Thank you all very much for coming this
25 evening.

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(Thereupon, the public meeting
was concluded at 7:20 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 26th day of June, 2018.

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

My commission expires April 8, 2023.

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Photographs

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WRITTEN PUBLIC COMMENTS

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Proposed Plans for Load Line 7, Load Line 9, Load Line 12, Wet Storage Area, and Upper and Lower Cobbs Ponds at the Former Ravenna Army Ammunition Plant (RVAAP)

Please offer your comments, ask any questions, or request more information here. You may take this postcard with you to mail from home, or you may fill it in now and leave it here for later pickup.

Thank you for participating in this outreach. Ravenna Army Ammunition Plant values your input.

What Happens to Sand CREEK
after the exit from the Arsenal
area in to Durdan
Thank you for your efforts!

Name: Brian Miller

Phone Number: [REDACTED]

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