

Ravenna Army Ammunition Plant Restoration Program

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

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19 Landfill North of Winklepeck
Burning Grounds (final version dated April 4, 2019)

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-38 NACA Test Area
(final version dated March 22, 2019)

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-46 Buildings F-15 and F-16
(final version dated April 1, 2019)

Public Comment Period: July 29, 2019 to August 27, 2019
Public Meeting: August 15, 2019

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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(final version dated April 1, 2019)**

PUBLIC NOTIFICATION

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Public Notice

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Public Notice

For Immediate Release
Camp James A. Garfield
Environmental Office

Camp James A. Garfield Joint Military Training Center

Camp James A. Garfield Environmental Office — 1438 State Route 534 SW — Newton Falls, OH 44444
614-336-6136

Public meeting to be held Thursday, August 15, 2019 for Army National Guard Release of the Proposed Plans for National Advisory Committee for Aeronautics (NACA) Test Area, Landfill North of Winklepeck Burning Grounds (LNWBG), and Buildings F-15 and F-16

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

National Advisory Committee for Aeronautics (NACA) Test Area, Landfill North of Winklepeck Burning Grounds (LNWBG), and Buildings F-15 and F-16 are areas of concern (AOCs) within the former RVAAP in Portage and Trumbull Counties, 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 Plan for NACA Test Area presents the preferred alternative, Ex-situ Thermal Treatment to address contaminated soil. The Proposed Plans for LNWBG and Buildings F-15 and F-16 present a recommendation of No Further Action.

On Thursday, August 15, 2019, 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 Ex-situ Thermal Treatment and No Further Action recommendations, and then request verbal or written comments from the public. Written comments regarding these recommendations may also be submitted to the Army National Guard during the 30-day comment period from July 29, 2019 to August 27, 2019. All written comments should be addressed to Camp James A. Garfield Environmental Office; 1438 State Route 534 SW, Newton Falls, OH 44444 and must be postmarked no later than August 27, 2019.

In accordance with CERCLA, the Ex-situ Thermal Treatment and No Further Action 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 the RVAAP Restoration Program public website, 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 July 29, 2019 to August 27, 2019. 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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STATE OF OHIO
TRUMBULL COUNTY

SS: CONNIE PACEK

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NOTICE OF DOCUMENT AVAILABILITY
Proposed Plans for National Advisory Committee for Aeronautics (NACA) Test Area, Landfill North of Windepeck Burning Grounds (LNWBG), and Buildings F-15 and F-18 at the Former Ravens Army Ammunition Plant (RVAAP)

The Proposed Plan for NACA Test Area presents a recommendation of Ex-situ Thermal Treatment of Contaminated Soil. The Proposed Plans for LNWBG and Buildings F-15 and F-18 present a recommendation of No Further Action. Each Proposed Plan provides the rationale for these recommendations. The Proposed Plans are available for public review from July 29, 2019 to August 27, 2019.

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 National Guard 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 also be mailed to the Camp James A. Garfield Environmental Office: 1438 State Route 534 SW, Newton Falls, OH 44444. Comments will be accepted during the public comment period from July 29, 2019 to August 27, 2019.

The public meeting is scheduled for:
 Thursday August 15, 2019
 8:00 pm Open House
 8:30 pm Public Meeting

at:
 Shearer Community Center
 (Paris Township Hall)
 9365 Newton Falls Road
 Ravenna, OH 44266

For more information or if you need special accommodations to attend, please contact Kattie Tait at 614-336-6136.
 #214-1T-August 2, 2019 #4203

THAT THE ATTACHED ADVERTISEMENT WAS PUBLISHED IN THE TRIBUNE CHRONICLE EVERY: Friday FOR One CONSECUTIVE WEEKS AND THAT THE FIRST INSERTION WAS ON Friday THE 2nd DAY OF August 2019

CONNIE PACEK
SWORN TO BEFORE ME AND SUBSCRIBED IN MY PRESENCE ON THIS

TH DAY OF August 2019
Lawrence J. Kovach
NOTARY PUBLIC

SEAL

LAWRENCE J. KOVACH, Notary Public
STATE OF OHIO
MY COMMISSION EXPIRES SEPTMBER 23, 2022

ADVERTISING COST \$ 301.59

31193993

Proof of Publication

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

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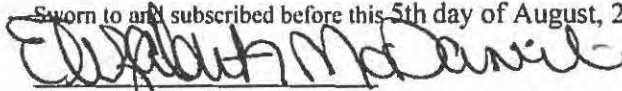
30 Record-Courier a newspaper printed and published in the city of Kent, and of General circulation in the County of Portage, State of Ohio, and personal knowledge of the facts herein stated and that the notice hereto annexed was Published in said newspapers for 1 insertions on the same day of the week from and after the 5th day of August, 2019 and that the fees charged are legal.



Name of Account: Leidos
Ad Number: 12580840
No. of Lines: 28

Day(s) Published: 08/05.
Printers Fee: \$115.20

Sworn to and subscribed before this 5th day of August, 2019.



Elizabeth McDaniel
Notary Public
Commission Expires June 19, 2021

Notice of Document Availability



Proposed Plans for National Advisory Committee for Aeronautics (NACA) Test Area, Landfill North of Winklepeck Burning Grounds (LNWBG), and Buildings F-15 and F-16 at the Former Ravenna Army Ammunition Plant (RVAAP)

The Proposed Plan for NACA Test Area presents a recommendation of Ex-situ Thermal Treatment of Contaminated Soil. The Proposed Plans for LNWBG and Buildings F-15 and F-16 present a recommendation of No Further Action. Each Proposed Plan provides the rationale for these recommendations. The Proposed Plans are available for public review from July 29, 2019 to August 27, 2019.

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For more information or if you need special accommodations to attend,
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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 James A. Garfield Public Meeting – Proposed Plan for National Advisory
Committee for Aeronautics Test Area, Landfill North of Winklepeck Burning Grounds,
and Buildings F-15 and F-16 at the Former Ravenna Army Ammunition Plant

PLEASE PRINT			
LOCATION: Shearer Community Center; Ravenna, OH		DATE: August 15, 2019	TIME: 6:30 p.m.
Name	Address/City/State/Zip	Phone	Email
CRAIG COOMBS			
HEATHER ADAMS			
RYAN LAURICH			
Barb TITHE			
Kevin FOLZAL			
Karen Radomski			
Bob Prineo			
Edward D'Amato			
Mike + Anita Stone			



US Army Corps
of Engineers
Louisville District

SIGN-IN SHEET

**Camp James A. Garfield Public Meeting – Proposed Plan for National Advisory
Committee for Aeronautics Test Area, Landfill North of Winklepeck Burning Grounds,
and Buildings F-15 and F-16 at the Former Ravenna Army Ammunition Plant**

PLEASE PRINT			
LOCATION: Shearer Community Center; Ravenna, OH		DATE: August 15, 2019	TIME: 6:30 p.m.
Name	Address/City/State/Zip	Phone	Email
LENA DUNCAN	[REDACTED]	[REDACTED]	[REDACTED]

Presentation

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Proposed Plans for:

Buildings F-15 and F-16 Landfill North of Winklepeck Burning Grounds NACA Test Area

Former Ravenna Army Ammunition Plant
Ravenna, Ohio

Presented by:
Jed Thomas, P.E. - Leidos

August 15, 2019

Welcome!



Areas of Concern

- Three Areas of Concern addressing soil, sediment, and surface water:
 - Buildings F-15 and F-16
 - Landfill North of Winklepeck Burning Grounds (WBG)
 - NACA Test Area

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

Presentation Agenda

- Description of CERCLA
- Site evaluation
- Site features
- Historical operations
- Remedial investigations and conclusions
- Feasibility study and preferred remedial alternative (if applicable)
- Public participation
- Questions

What is CERCLA?



- The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) was passed in December 1980 in response to the discovery of a large number of abandoned, leaking hazardous waste sites that posed a serious threat to both human health and the environment.
- CERCLA was designed to impose clean up and reporting requirements on the private sector, as well as federal facilities, by:
 - Identifying those sites where releases of hazardous substances had occurred or might occur, and pose a serious threat to human health and the environment;
 - Taking appropriate action to remedy those releases; and
 - Seeking those parties responsible for the environmental hazards to pay for the clean up activities.
- This phase of the CERCLA process is to seek input from the public on the Preferred Alternative.

- 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.
 - **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 - The Army can use the site with no restrictions.
 - Commercial (Industrial) Land Use – The Army can use the site, but restrictions will be placed on the site.

Landfill North of Winklepeck Burning Grounds (WBG) is RVAAP-19

NACA Test Area is RVAAP-38

Buildings F-15 and F-16 is RVAAP-46

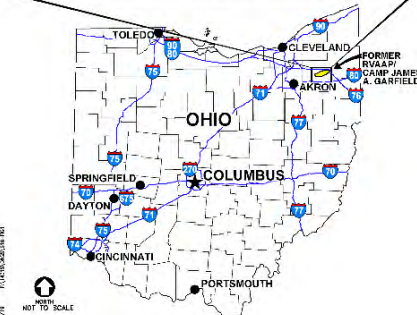
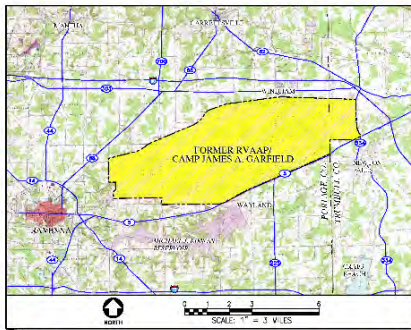
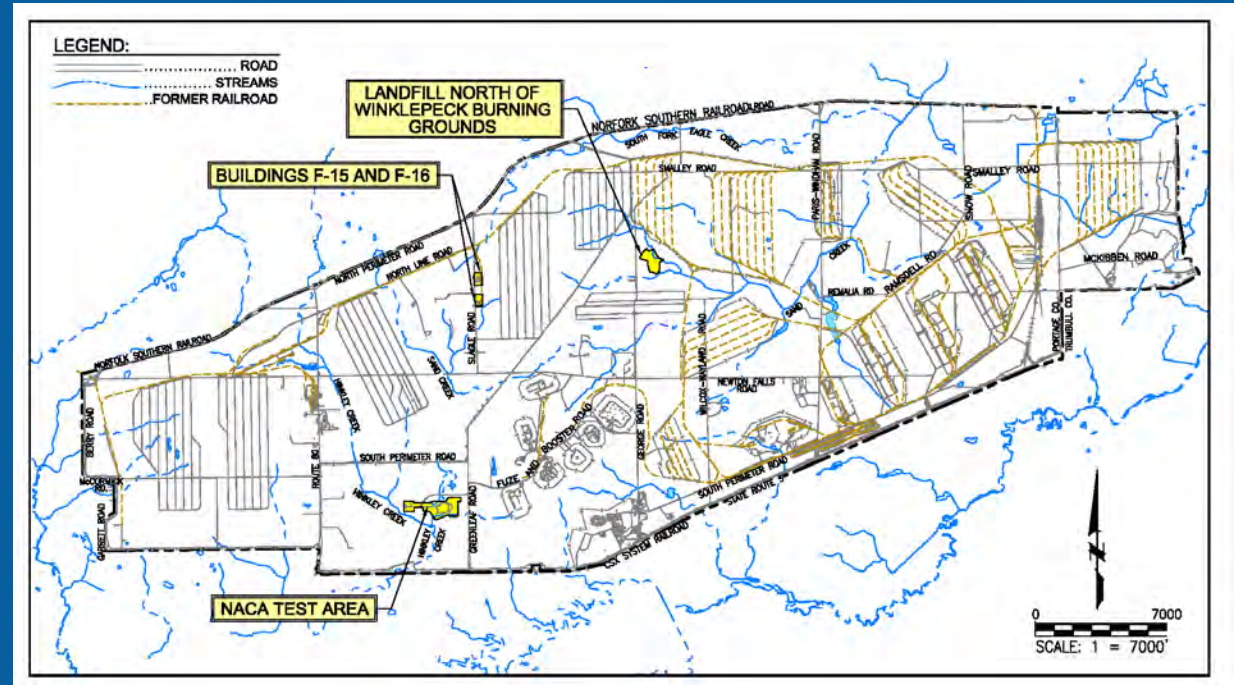


Figure 1. General Location and Orientation of Camp James A. Garfield



Refer to Handout, Figure 1

Buildings F-15 and F-16

Site Features



- Approximately 13 acres.
- All buildings and structures have been demolished, except a former coal-powered boiler house.
- Habitat is mostly field, shrubland, and forest.
- A small portion of a wetland is within the site.
- Surface water occurs intermittently as storm water runoff in ditches.

Buildings F-15 and F-16

Historical Operations and Building Demolition

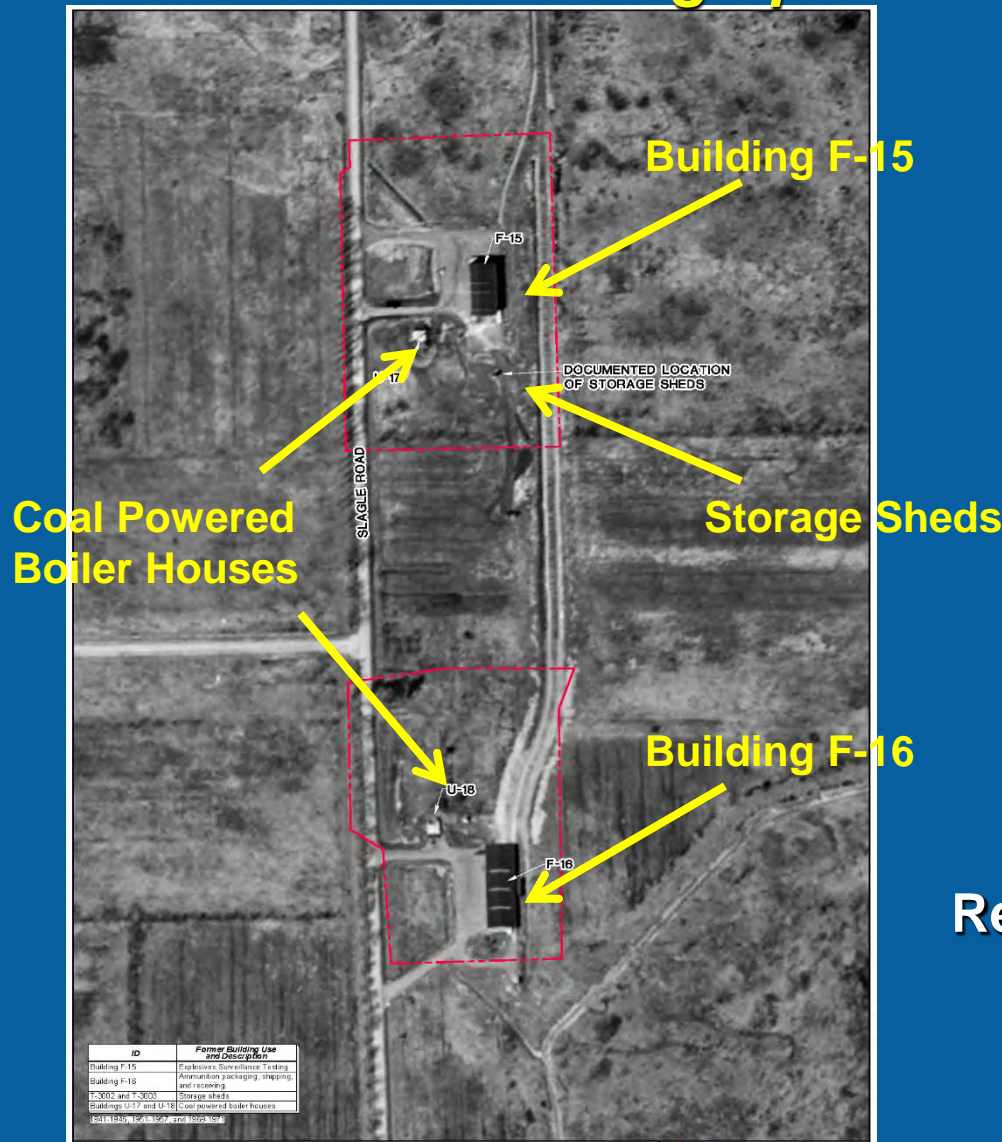


- 1941–1974: The site was used for surveillance testing on explosives and propellants and testing disassembly processes. Quantities of material tested and exact dates of testing are unknown.
- No indication the site was used for other purposes.
- As of 2005, all buildings were demolished except one former coal-powered boiler house.
- In 2009, floor slabs and foundations associated with Buildings F-15 and F-16 were removed and disposed of.

Buildings F-15 and F-16

1952 Aerial Photograph

- Buildings F-15 and F-16 approximately 1,000 ft. apart.
- All buildings have been removed except northern Coal Powered Boiler House (U-17).



ID	Former Building Use and Description
Building F-15	Clubhouse (Overalluse Training)
Building F-16	Armaments (weapons, shipping, and receiving)
F-1002 and F-1003	Storage sheds
Buildings U-17 and U-18	Coal powered boiler houses
B-111 B-112, B-113, B-114, and B-115	Coal

Refer to Handout,
Figure 2

Buildings F-15 and F-16

Previous Investigations



- 1978 Installation Assessment
- 1998 Relative Risk Site Evaluation
- Remedial Investigations:
 - 2004 Characterization of 14 AOCs
 - Assessed surface soil in and around areas of historical operations.
 - Collected sediment and surface water samples from drainage ditches.
 - 2009 Investigation of Under Slab Surface Soils
 - Collected samples from the footprints of Buildings F-15 and F-16.
 - 2009 Surface Soil Sampling
 - Collected surface soil samples around the building footprint to assess if potential contamination has spread.
 - 2010 PBA08 Remedial Investigation
 - Collected surface soil samples where “data gaps” existed and fully characterized subsurface soil to complete Remedial Investigation.

Buildings F-15 and F-16

Remedial Investigations



- Remedial Investigation Summary
 - Multiple evaluations and investigations were performed to assess surface soil, subsurface soil, sediment, and surface water at Buildings F-15 and F-16.
 - The total number of samples collected include:
 - 95 surface soil samples
 - 13 subsurface soil samples
 - 3 sediment samples
 - 3 surface water samples
 - The following chemical groups were looked for during the investigations:
 - Metals, explosives, propellants, SVOCs, VOCs, PCBs, nitrates, herbicides, and pesticides.

Refer to Handout, Figure 3 for the sample locations at Buildings F-15 and F-16



Buildings F-15 and F-16

Remedial Investigation Conclusions



- Nature and extent of contamination is defined. No further sampling is required to characterize soil, sediment, or surface water at Buildings F-15 and F-16.
- 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 for Unrestricted Land Use.
- 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.

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 Buildings F-15 and F-16.

Landfill North of WBG

Site Features and Historical Operations



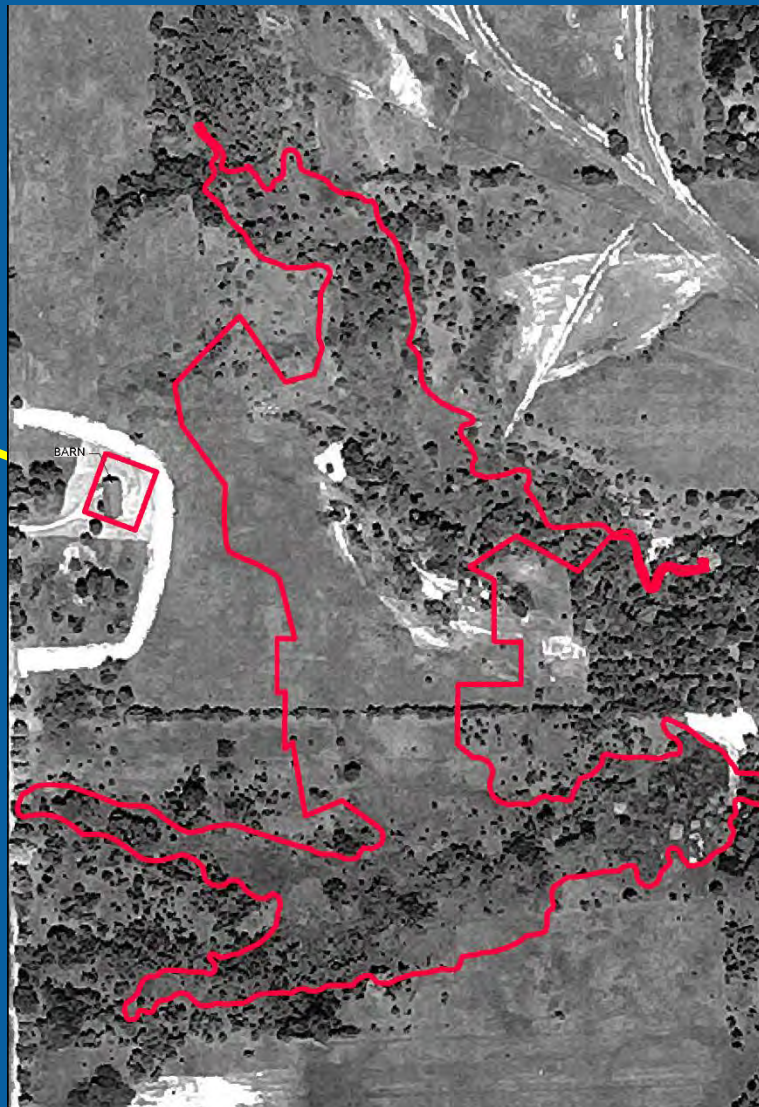
- Located north of the Winklepeck Burning Ground area of concern.
 - 28 acres were included in the investigation, and the area of concern was refined to 3.4 acres (referred to as “Area A” in the RI Report).
 - There are two tributaries east and south of the site.
 - Debris was identified on the ground surface.
-
- 1969-1978: An area within Landfill North of WBG was used for burning operations.
 - Investigations and research showed that no landfilling activities took place at the site. Rather, the site was used to burn debris which was covered by soil.

Landfill North of WBG

1966 Aerial Photograph (before site operations)



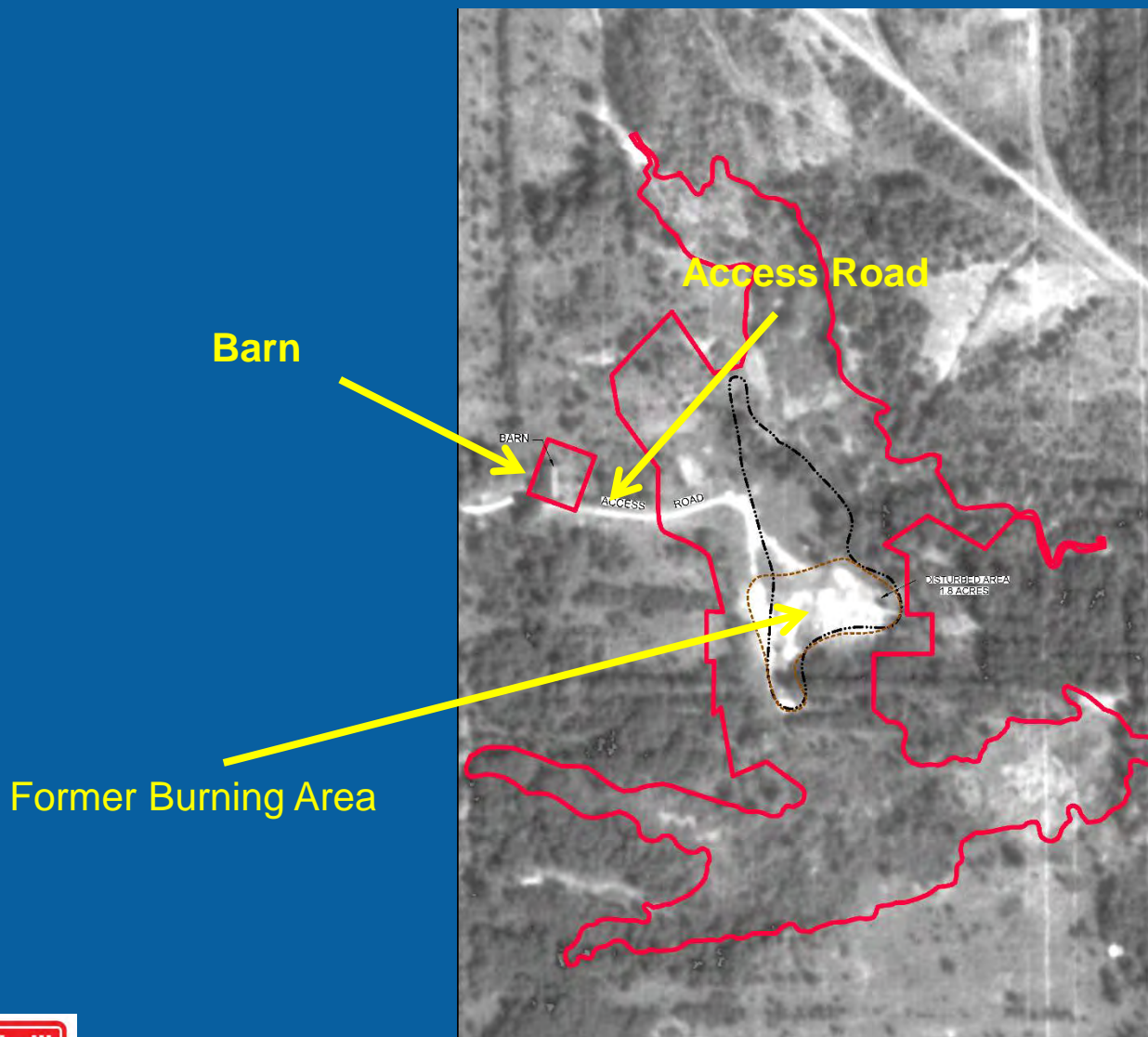
Barn



Refer to Handout,
Figure 4

Landfill North of WBG

1979 Aerial Photograph (after site operations)



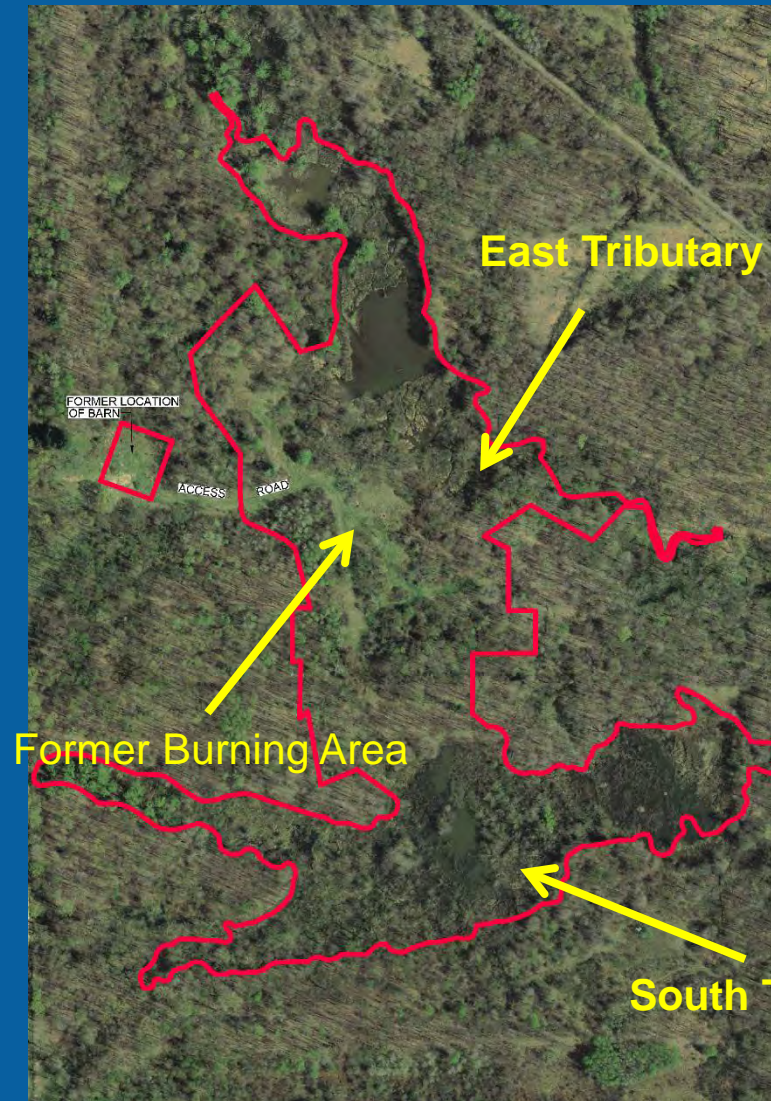
Refer to Handout,
Figure 5

Landfill North of WBG

Current Aerial Photograph



- Site is heavily vegetated.
- Topography is flat in former burning area.
- Mature trees surrounding old Burning Area.



Refer to Handout,
Figure 6

Landfill North of WBG

Previous Investigations



- 1978 Installation Assessment
- 1989 RCRA Assessment
- 1996 Preliminary Assessment

Remedial Investigations:

➤ 1996 Phase I Remedial Investigation

- Subsurface investigation
 - Geophysical investigation performed to identify buried anomalies.
 - Using result from geophysical survey, test trenches and soil borings were installed.
- Findings
 - The geophysical survey identified 12–14 anomalies located in four general areas that indicated the presence of buried metallic debris and waste.
 - When the test trenches encountered refuse or debris, it was within the upper 1 ft. of the ground surface.

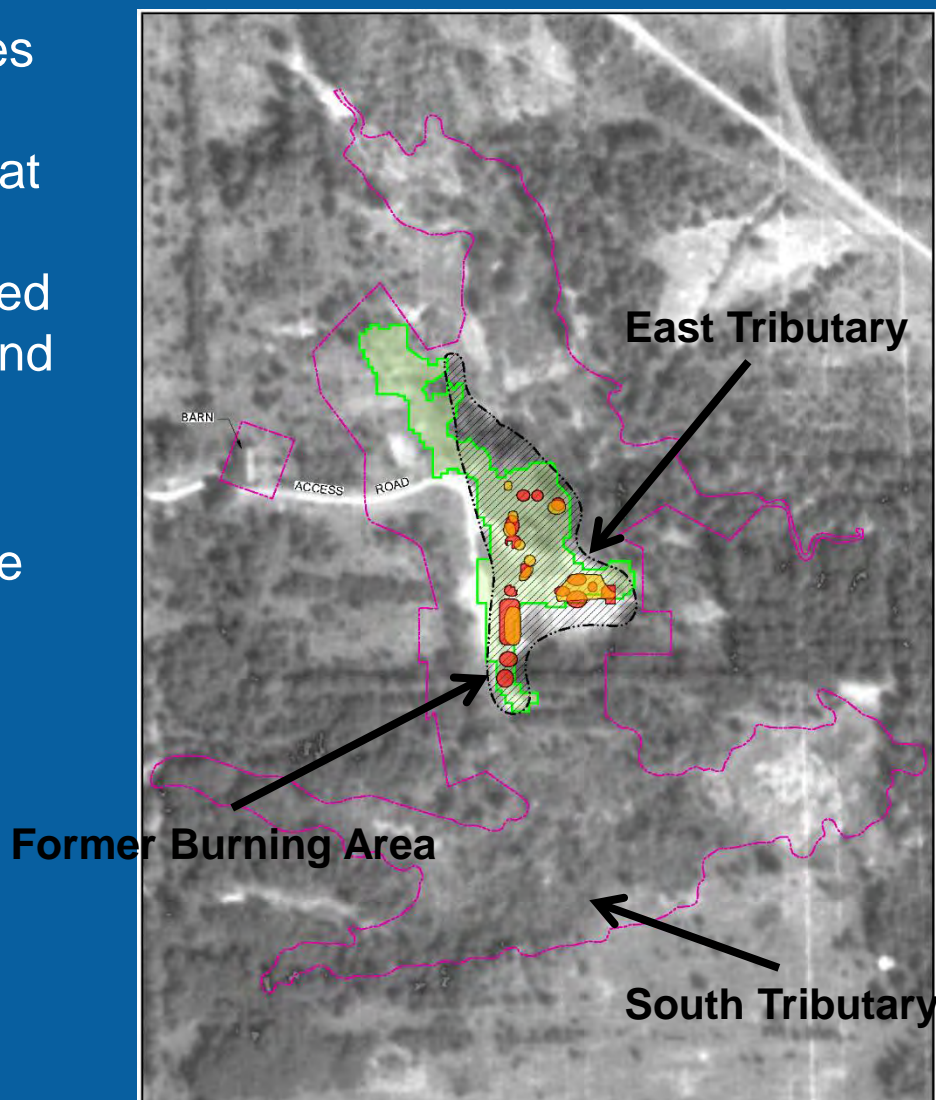
Landfill North of WBG

Phase I Remedial Investigation Results



- 12–14 anomalies located in four general areas that indicated the presence of buried metallic debris and waste.

- Debris within the upper 1 ft. of the ground surface.



Refer to Handout,
Figure 7

Landfill North of WBG

Previous Investigations (continued)



Follow-on Remedial Investigations:

➤ Characterization of 14 AOCs

- Collected surface soils encompassing the site.
- Installed 17 soil borings to further assess:
 - If debris is present,
 - Assess the soil for potential contamination.
- Collected sediment and surface water samples.

➤ 2010 PBA08 Remedial Investigation

- Collected additional surface soil, subsurface soil, sediment, and surface water samples to fully characterized the site and complete Remedial Investigation.

Landfill North of WBG

Remedial Investigations



- Remedial Investigation Summary
 - In total, approximately 28 acres were included in the Remedial Investigations.
 - The total number of samples collected include:
 - 39 surface soil samples
 - 25 subsurface soil samples
 - 18 sediment samples
 - 11 surface water samples
 - The following chemical groups were looked for during the investigations:
 - Metals, explosives, propellants, SVOCs, VOCs, PCBs, cyanide, nitrate, and pesticides.

Refer to Handout, Figure 8 for the sample locations at Landfill North of WBG



Landfill North of WBG

Remedial Investigations Conclusions



- The Remedial Investigations included a thorough review of the site. This included:
 - Records review,
 - Aerial photography assessment, and
 - Surface and subsurface investigations.
- The LNWBG RI Report concluded that the site was not used for landfilling activities; rather, the site was used predominantly for burning of debris.
- It was concluded that approximately 3.4 acres of the 28 acres investigated were used as part of the historical operations.
- Chemical data collected from the investigations was used to perform risk assessments of the site. Risk assessments were performed:
 - On the entire 28 acres investigated, and
 - The specific 3.4 acres that were used in historical operations.

Landfill North of WBG

Remedial Investigations Conclusions (cont.)



- Nature and extent of contamination is defined. No further sampling is required to characterize soil, sediment, or surface water.
- 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 for Unrestricted Land Use.
- 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.
 - 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 Landfill North of Winklepeck Burning Grounds.

NACA Test Area

Site Features



- NACA Test Area is approximately 47 acres.
- No fences exist at the AOC; however, Seibert stakes are currently used to demarcate Open Demolition Area #1 to the south.
- The site is forested around the perimeter. The interior of the site is relatively open and occasionally mowed.
- Hinkley Creek is south, and a tributary to Hinkley Creek runs through the center of the site.

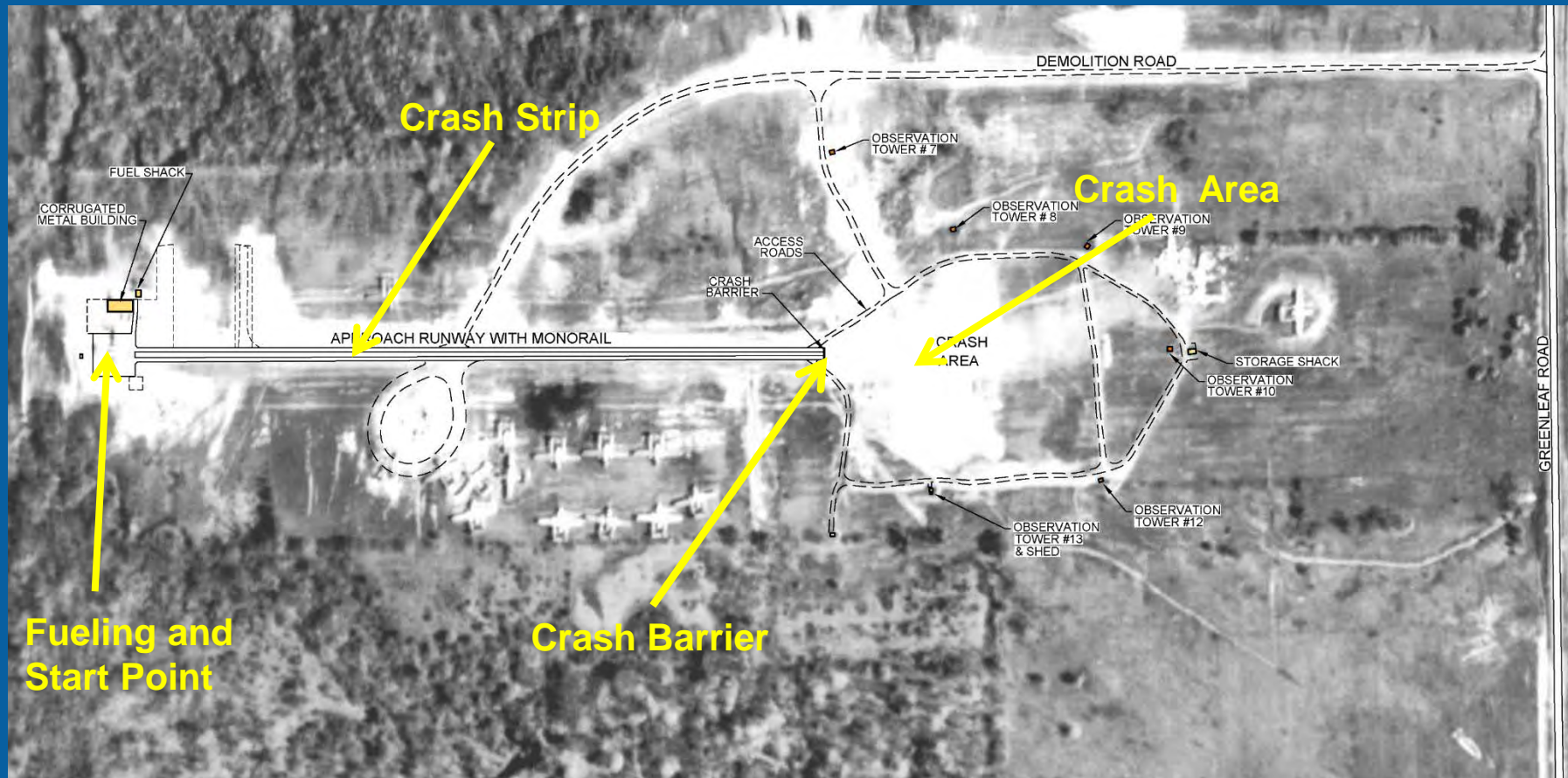
NACA Test Area

Historical Operations



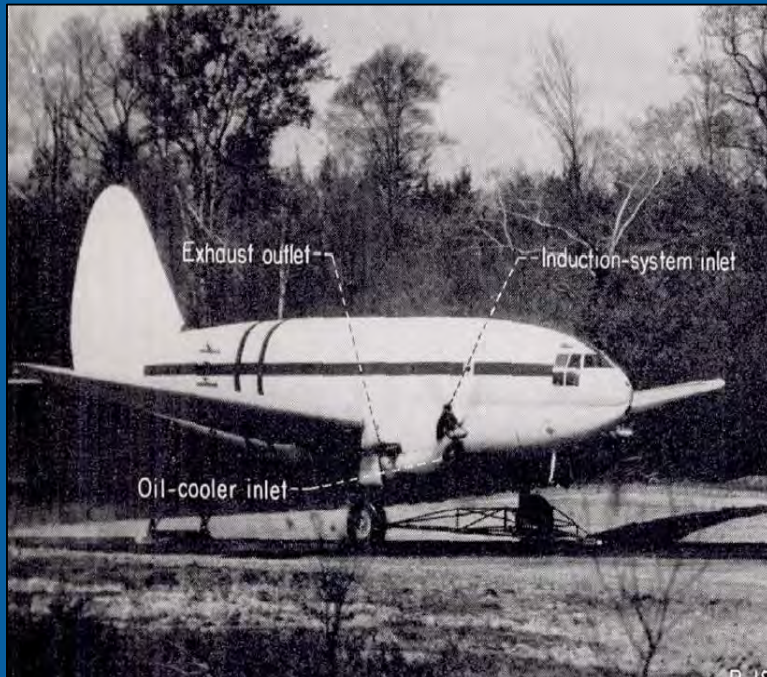
- 1947-1953 – The National Advisory Committee for Aeronautics (NACA) used the site to simulate a take-off accident in which an airplane fails to become airborne and strikes an embankment, which results in rupturing of the fuel tanks.
 - Crash tests were performed on 17 excess military airplanes.
 - Airplanes were fueled at the western portion of the site and then propelled under their own power down a 1,700 ft. approach runway (or crash strip).
 - Airplanes were crashed into a crash barrier at speeds from 80–105 miles per hour.
 - By design, leading edges of the wings were cut by inclined poles fitted with steel pins to slice open the wing fuel tanks on both sides of the airplane.
 - High-speed films were made to study fuel spillage, generation of ignition sources, flame front progression, and toxic gas generation, among other parameters.
 - After testing, airplanes were stripped of instrumentation and salvageable parts.

NACA Test Area Historical Operations



- The crash barrier, utilities, and buildings (i.e., observation towers, fuel shack, storage sheds) have been removed.
- Remaining features: concrete pad, crash strip, small man-made reservoir, an out-of-service production water well, and unpaved access roads. (Refer to Handout, Figure 9)

NACA Test Area Historical Operations



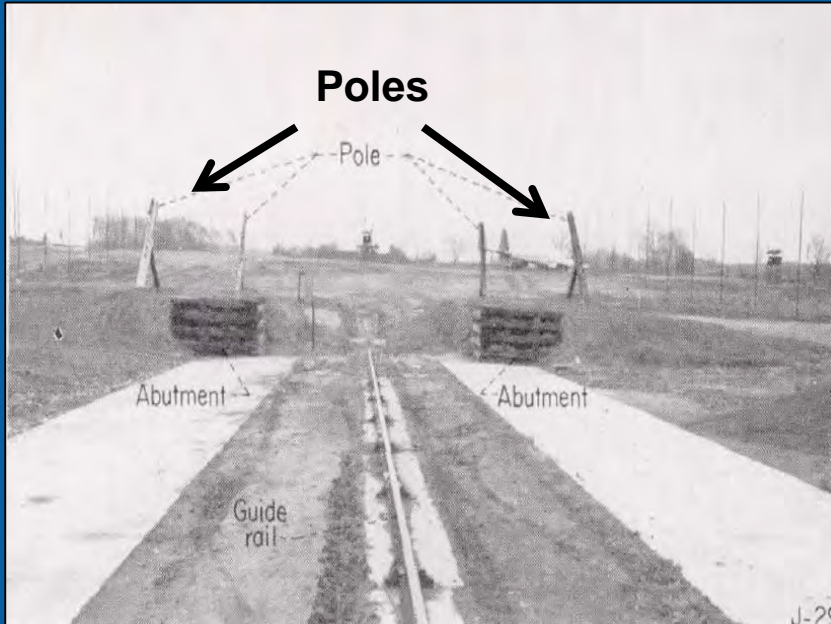
Curtis C-46



Fairchild C-82

- Airplanes used for testing

NACA Test Area Historical Operations



- Constructed Crash Barrier at East End of Crash Strip

- One Second After Initial Impact with Crash Barrier

NACA Test Area

Previous Investigations



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



➤ 1999 Phase I Remedial Investigation

- Collected surface soil, subsurface soil, and sediment/surface water samples.
- Assessed if releases of contamination occurred.
- Performed initial risk screening to assess if further investigation was necessary.

➤ 2010 PBA08 Remedial Investigation

- Collected additional surface soil, subsurface soil, and sediment/surface water samples.

Refer to Handout, Figure 10 for Phase I and PBA08 Sample Locations

NACA Test Area

Previous Investigations (continued)



➤ 2017 Supplemental Investigation

- Performed a geophysical investigation and installed soil borings in the area that planes were disassembled after testing.
- Sampled soil beneath the crash strip concrete surface.
- Sampled groundwater from the out-of-service production well.
- Sampled sediment from the small, man-made reservoir.
- Collected additional soil samples from areas that had high concentrations of PAHs.



NACA Test Area Remedial Investigations



• Remedial Investigation Summary

- Multiple evaluations and investigations were performed to assess soil, sediment, and surface water at NACA Test Area. The total number of samples collected include:
 - 161 surface soil samples
 - 77 subsurface soil samples
 - 19 sediment samples
 - 9 surface water samples
- The following chemical groups were looked for during the investigations:
 - Metals, explosives, propellants, SVOCs, VOCs, PCBs, cyanide, and pesticides.

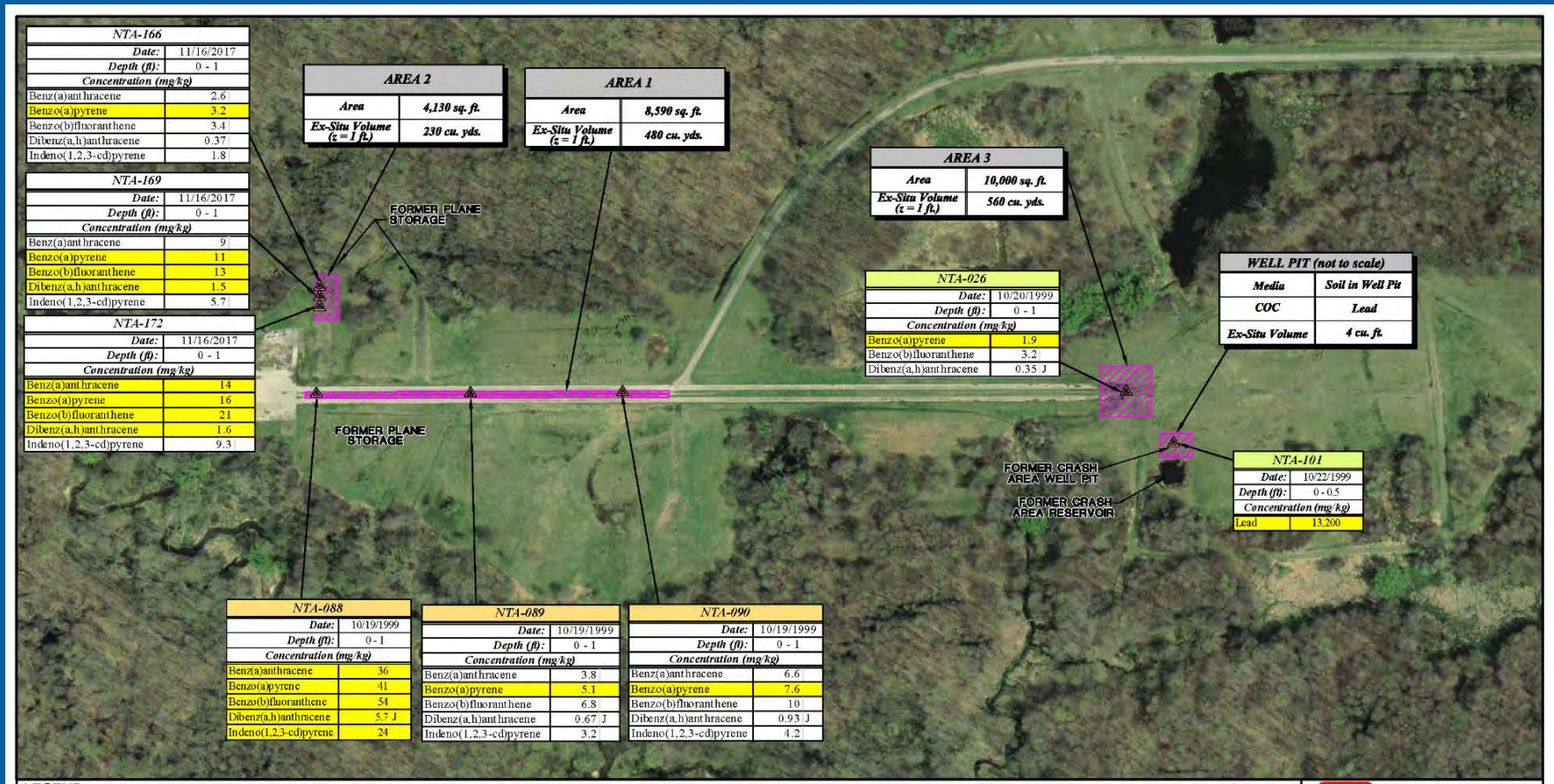
NACA Test Area

Remedial Investigations Conclusions



- Nature and extent of contamination is defined. No further sampling is required to characterize soil, sediment, or surface water at NACA Test Area
- The ecological risk assessment concluded that no further action is required to protect ecological resources.
- No further action for soil or sediment is required to protect 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:
 - Well Pit for the out-of-service production well – soil contaminated with lead.
 - Area 1 (crash strip, runway), Area 2 (staging, refueling area), and Area 3 (crash area) – soil contaminated with PAHs.

NACA Test Area Contamination Extent



- Area 1 – soil between crash strip pavement
- Area 2 – soil near former staging and fueling area
- Area 3 – crash area

Refer to Handout,
Figure 11

NACA Test Area Contamination Extent



- Approximately 4 ft. x 4 ft. X 4 ft. production concrete well pit
- Thin layer of soil surrounding production well has high concentrations of lead requiring removal.
- Groundwater in production well was sampled and did not have any concentrations of lead.

NACA Test Area

Remedial Action Objective



Prevent:

- (1) Exposure to lead in soil above the CUG at the Well Pit, and**
- (2) Exposure to surface soil (0–1 ft. bgs) with PAH concentrations above CUGs at Areas 1, 2, and 3.**

NACA Test Area Feasibility Study



The following remedial alternatives were developed for consideration:

- Alternative 1: No Action (required by CERCLA)
- Alternative 2: Excavation and Off-site Disposal of Soil at Areas 1, 2, and 3 and Well Pit Removal
 - Additional sampling to refine extent of contamination.
 - Removal of contaminated soil in the Well Pit.
 - Abandonment of production well.
 - Removal of contaminated soil from Areas 1, 2, and 3 and disposal of the soil at an off-site, licensed facility.
 - Site restoration (backfilling, grading, and seeding).
- Alternative 3: Ex-Situ Thermal Treatment of Soil at Areas 1, 2, and 3 and Well Pit Removal
 - Additional sampling to refine extent of contamination.
 - Removal of contaminated soil in the Well Pit.
 - Abandonment of production well.
 - Thermal treatment of soil from Areas 1, 2, and 3.
 - Site restoration (backfilling, grading, and seeding).

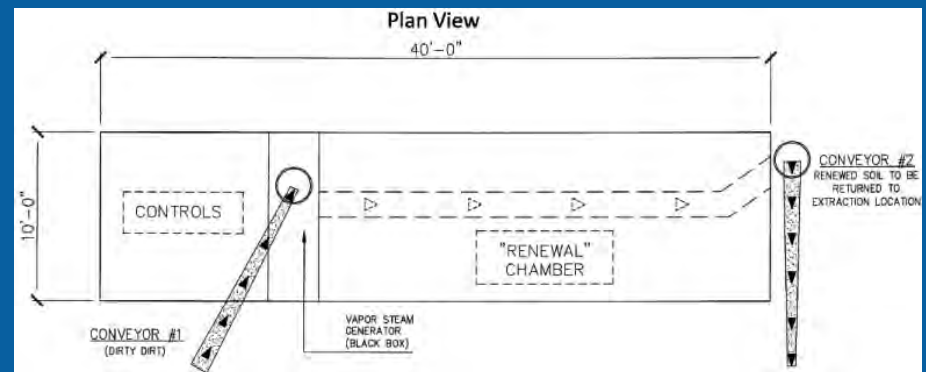
NACA Test Area

Example of Thermal Treatment System



- Soil loaded into treatment system.
- Contaminated soil exposed to high temperatures in “Renewal Chamber”
- Soil contaminants (e.g., PAHs) 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.



NACA Test Area

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.

NACA Test Area Preferred Alternative



Alternative 3: Ex-Situ Thermal Treatment of Soil at Areas 1, 2, and 3 and Well Pit Removal

- Implementation of this alternative will result in Unrestricted (Residential) Land Use of NACA Test Area.
- 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 site 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 the facility in the past.
- Estimated Cost for Alternative 3 (\$293,769) is less than estimated cost to implement Alternative 2 (\$408,592).
- In the event that a thermal treatment system is not available for use, Excavation and Off-site Disposal of Soil is readily available and considered for implementation by the Army National Guard.

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 July 29, 2019 until August 27, 2019.

Public Participation

Your Comments and Inputs are Appreciated!



- Provide written or verbal comments at this public meeting.
- Submit written comments by August 27, 2019 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?

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Court Reporter Transcript

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LEIDOS
ARMY CORPS OF ENGINEERS
CONTRACT NO. W912QR-15-C-0046
PUBLIC MEETING

Held at the Shearer Community Center, 9355
Newton Falls Road, Ravenna, Ohio, on Thursday,
the 15th day of August, 2019, beginning at 6:30
p.m.

- - -

1 **MS. TITTLE:** Welcome to
2 tonight's public meeting. My name is Barbara
3 Tittle. I'm a private citizen from Kent, Ohio.
4 I'm here to serve as the meeting facilitator
5 tonight. This public meeting serves as one of
6 several opportunities for public comment on the
7 Army's proposed plan.

8 I'm responsible to ensure that
9 everyone who wishes to comment about the
10 proposed plan has an opportunity to do so.
11 Before we get started, however, let's start with
12 the basics. Take a moment to silence all
13 electronic devices may you have.

14 There are three emergency exists
15 present in front, back and side of the
16 auditorium. Please reference the exit signs in
17 case of an emergency. The ladies' restroom is
18 in the main hallway, where you entered. And the
19 men's restroom and handicap accessible restrooms
20 are present in the small hallway. Please help
21 yourself to the refreshments available.

22 The public meeting will present the
23 Army's proposed plan for three areas of concern
24 within the former Ravenna Army Arsenal
25 Ammunition Plant. These three areas of concern

1 are Buildings F-15 and F-16, the landfill north
2 of Winklepeck Burning Grounds and the NACA Test
3 Area.

4 Comments received from the public on
5 the proposed plan will be considered in
6 determining the final remedy, which will be
7 documented in the record of decision. The
8 record of decision will include a responsiveness
9 summary addressing public comments. Tonight, we
10 have Kevin Sedlak representing the Army and Bob
11 Princic from Ohio EPA. And the Ohio EPA would
12 like to make an opening remark.

13 **MR. PRINCIC:** Good evening,
14 everybody. I would like to say that Ohio EPA
15 concurs that the remedies that have been
16 selected for all three of the AOCs that we are
17 going to be discussing tonight.

18 **MS. TITTLE:** Thank you, Bob. In
19 addition, we have a Court Reporter here tonight
20 to document tonight's meeting. Our presenter
21 tonight is Jed Thomas, a Professional Engineer
22 from Leidos, which is a contractor for the Army.

23 Jed will present information
24 regarding the three areas of concern and the
25 Army's proposed plan for each of the three

1 areas. Following the presentation, we'll open
2 up for questions from the audience. Jed.

3 **MR. THOMAS:** G all right thank
4 you Barb and good evening everyone. My name is
5 Jed Thomas as a Professional Engineer from
6 Leidos. Before we get started, we do have some
7 handouts to supplement tonight's presentation
8 that include a copy of the slide presentation.

9 There is also a paper that will
10 define any acronyms as well as a packet of site
11 maps and figures for your reference. If you
12 don't have them now, they're located at the back
13 table.

14 I'm here today to discuss the Army's
15 proposed plan for three areas of concern;
16 Buildings F-15 and F-16, Winklepeck Burning
17 Ground and NACA Test Area. I will be discussing
18 soil sediment and surface water media at these
19 three areas of concern.

20 Groundwater is not addressed in these
21 proposed plans, rather the groundwater is being
22 evaluated under the facility-wide groundwater
23 monitoring program. At the start of the
24 presentation, I will give you a brief
25 description of CERCLA, which authorizes the

1 cleanup and sets the framework for assessing and
2 cleaning out the sites.

3 Then on a site by site basis, I'll be
4 providing the site features, historical
5 operations, remedial investigations and
6 conclusions. And if necessary, feasibility
7 study and preferred remedial alternatives and
8 we'll also discuss the public participation and
9 take any questions you may have.

10 These sites are being evaluated and
11 cleaned up if necessary under CERCLA. CERCLA is
12 the Comprehensive Environmental Response
13 Compensation Liability Act that was passed in
14 December 1980. CERCLA was passed in response to
15 discovery of a large number of abandoned,
16 leaking hazardous waste sites that posed a
17 serious threat to both human health and the
18 environment.

19 CERCLA was designed to impose cleanup
20 and reporting requirements on the private
21 sector, as well as federal facilities by:
22 Identifying those sites where releases of
23 hazardous substances had occurred or might occur
24 and pose a serious threat to human health or the
25 environment.

1 Taking appropriate action to remedy
2 those releases and seeking those parties that
3 are responsible for the environmental hazards to
4 pay for the cleanup activities. The overall
5 CERCLA process is depicted graphically on the
6 poster in the back of the room. It is important
7 to note that in this phase of the CERCLA
8 process, we are seeking input from the public on
9 the Army's preferred alternatives.

10 So for each site I will discuss
11 investigations performed and summarize the human
12 health risk assessment, ecological risk
13 assessment, fate and transport assessment. The
14 human health risk assessment determines if
15 chemicals in soil, sediment or surface water
16 pose unacceptable risk to future uses of the
17 site.

18 The ecological risk assessment
19 determines if there are important or significant
20 ecological resources at the site such as
21 wetlands or protected species. And if chemical
22 contamination exists, it may pose a threat to
23 those resources.

24 And then the fate transport
25 assessment evaluates if chemicals in soil or

1 sediments may negatively impact groundwater.
2 These assessments determine if a site requires
3 remediation and if the place can be use for
4 unrestricted use, which allows the Army to use
5 the site with no restrictions. Or it can be
6 used for commercial/industrial use, which is
7 terminology specified that the Army can still
8 use the site, but the site will have
9 restrictions on it.

10 So in this slide, you will see the
11 location of the former Ravenna Army Ammunitions
12 Plant, or currently known as Camp James A.
13 Garfield. And then in the graphic at the bottom
14 right, you will see the locations of the three
15 areas of concern within the facility.

16 Here, on Figure 1 of your handouts,
17 but here you see in the middle the facility of
18 the Landfill North of Winklepeck Burning
19 Grounds. Then to the left of that, we have
20 Buildings F-15 and F-16. And in the southwest
21 portion of the facility is the NACA Test Area.

22 So the first thing I'm going to
23 discuss is the Buildings F-15 and F-16 area of
24 concern. This area of concern is approximately
25 13 acres in size. All buildings and structures

1 have been demolished, with the exception of a
2 former coal-powered boiler house.

3 And existing at that side of the site
4 is mostly fields, shrubland and forest
5 surrounding that area, with a small portion
6 setback in a wetland. Surface water is not a
7 current feature of the site, rather this is a
8 product of storm water and runoff in the
9 ditches.

10 From 1941 of 1974 the site was used
11 for surveillance testing on explosives and
12 propellants and testing of disassembly
13 processes. The quantities of material tested
14 and the exact dates of the testing are unknown.
15 There is no indication of historical records
16 that the site was used for any other purpose.

17 And as of 2005, all buildings have
18 been demolished with the exception of one former
19 coal-powered boiler house. In 2009, the floor
20 slabs and the foundations of the main buildings,
21 Building F-15 and Building F-16, have been
22 removed and disposed of.

23 This slide shows an aerial photograph
24 of the site from 1952; this is also figure 2 of
25 your handouts. Here you can see to the north is

1 Building F-15, and then approximately 1,000 feet
2 to south is Building F-16. And then here, you
3 can see where there were some storage sheds used
4 during the site activities. And there were two
5 coal-powered boiler houses, one next to each
6 building, F-15 and F-16.

7 And as I mentioned previously, the
8 buildings have all been removed, with the
9 exception of the coal-powered boiler house next
10 to Building F-15. Buildings F-15 and F-16 area
11 of concern were included in two facility-wide
12 assessments.

13 These assessments included the 1978
14 installation assessment that reviewed historical
15 information and environmental data to assess the
16 potential contamination at the facility. And a
17 1998 relative risk site evaluation that scored
18 and helped prioritize areas of concern
19 throughout the facility.

20 Four investigations were conducted to
21 collect samples and find the nature and extent
22 of contamination at the site. These
23 investigations included the 2004
24 characterization of 14 AOCs and that assessed
25 surface soil in and around areas of historical

1 operations and collected sediment surface water
2 samples from drainage ditches.

3 There is also the 2009 investigation
4 of under-slab surface soils that collected
5 samples from the footprints of the Buildings
6 F-15 and F-16. And there was the 2009 surface
7 soil sampling that collected samples around the
8 building footprints to assess if there was
9 contamination, if it had spread.

10 And then there was a 2009 PBA08 RI
11 that identified and filled any potential data
12 gaps, including additional surface soil and
13 subsurface soil sampling. Which was performed
14 to ensure that an adequate data set was
15 collected to perform the remedial investigation.

16 Multiple evaluations and
17 investigations at the Buildings F-15 and F-16
18 area of concern included the collection of
19 surface soil samples. Thirteen subsurface soil
20 samples, three sediment samples and three
21 surface water samples to characterize the site.

22 Chemicals assessed include metals,
23 propellants, explosives, SVOCs, PCBs, nitrates,
24 herbicides and pesticides. And Figure 3 of your
25 handout shows the location of all the samples

1 collected at the site.

2 Using the information and data
3 collected for the Buildings F-15 and F-16 area
4 of concern the remedial investigation concluded
5 that the nature and extent of contamination was
6 adequately defined and no further samples are
7 required to characterize the soil, sediment or
8 the surface water at the site.

9 The human health risk assessment that
10 was performed did not identify chemicals of
11 concern requiring remediation from previous Army
12 activities under CERCLA to be protective for
13 unrestricted land use.

14 The ecological risk assessment
15 concluded that no further action is required to
16 protect any identified, important or significant
17 ecological resources. And the report concluded
18 that no further action is necessary to protect
19 ground water.

20 So in conclusion, the Army, in
21 coordination with the Ohio EPA is recommending
22 no further action to attain unrestricted
23 residential land use for soil, sediment and
24 surface water at the Buildings F-15 and F-16
25 area of concern.

1 The next slide I'm going to discuss
2 is Landfill North of Winklepeck Burning Grounds.
3 Landfill North of Winklepeck Burning Grounds, as
4 I showed you before, is located in the central
5 portion of the facility, just north of the
6 Winklepeck Burning Ground area of concern --
7 yeah, in the center of the facility.

8 Due to the uncertainty of the use and
9 the extent of the use, 28 acres in and around
10 the site were included in the remedial
11 investigation performance. As I'll discuss
12 later, the area of concern was ultimately
13 refined to 3.4 acres. This area has two
14 tributaries adjacent to it, one to the east and
15 one to the north and debris has been identified
16 on the ground surface.

17 Regarding historical operations of
18 the site, from 1969 to 1978 it is documented
19 that an area within the Landfill North of
20 Winklepeck Burning Grounds was used for burning
21 operations. Contrary to the name of the site,
22 investigation and research have shown that no
23 landfilling activities took place. Rather the
24 site was used to burn debris, which was then
25 covered by soil buildup.

1 This slide shows an aerial photograph
2 of the site prior to historical operations that
3 started in 1969. This is also Figure 4 of your
4 handout. Basically in 1966, this site was an
5 open field with some trees to the north and east
6 as well to the south. And here you can see an
7 old barn that was present in 1966.

8 As mentioned previously, 28 acres
9 were included in the evaluation of the site, so
10 just for a point of reference, this red line
11 shows those 28 acres that were evaluated. This
12 slide presents an aerial photograph from 1979,
13 this is after the site operations. This is also
14 Figure 5 of your handouts.

15 So in this photograph, you can see
16 where the site activities were conducted, so
17 here in the middle you can see there's a
18 disturbed area where the burning activities took
19 place. And this photograph also shows the
20 existence of an access road leading to this
21 focused area where that was disturbed from the
22 burning activities.

23 And in this slide you can see a
24 current aerial photograph. This is Figure 6 of
25 your handouts. This site is heavily vegetated;

1 there is very mature trees around the site. And
2 then here is the former burning area that I
3 pointed out earlier. The burning area itself is
4 relatively flat and does not suggest that any
5 landfilling activities took place.

6 So the Landfill North Winklepeck was
7 included in the 1978 installation assessment,
8 the 1989 RCRA facility assessment, and the 1996
9 preliminary assessment. There were also three
10 specific remedial investigations that were
11 conducted at Landfill North Winklepeck, the
12 first on being 1996 Phase 1 remedial
13 investigation.

14 The Phase 1 remedial investigation
15 included a geophysical investigation to
16 determine or look for any potential buried
17 metallic anomalies at the site. This
18 investigation identified 12 to 14 anomalies
19 within the site in four general areas. I'll
20 show you that in a second.

21 And then using the results from the
22 geophysical investigation, test trenches were
23 excavated and soil borings were installed to
24 assess how deep the anomalies were and to help
25 further characterize the site. When those test

1 trenches and soil borings were put it, it was
2 identified that the anomalies identified in the
3 geophysical survey, were within the first foot
4 of the ground surface.

5 So this slide shows the results of
6 the geophysical investigation and it is also
7 Figure 7 of your handouts. So the identified
8 anomalies are seen in orange and red here; and
9 as you can see, the identified anomalies were
10 minimal and mainly within the former burning
11 area here.

12 Following the 1996 Phase 1 remedial
13 investigation, additional remedial
14 investigations were performed. These included
15 characterization of 14 areas of concern that
16 collected surface soil samples encompassing the
17 site. There were 17 soil borings installed to
18 further assess the subsurface debris and collect
19 chemical data to characterize the site.

20 In addition there were sediment and
21 surface water samples collected as part of the
22 investigation. And then in 2010 a PBA08
23 remedial investigation was conducted to collect
24 additional surface soil samples, subsurface soil
25 samples, sediment samples and surface water

1 samples to fully characterize the site and
2 complete the remedial investigation.

3 So in total, 28 acres were included
4 in the remedial investigation. There were 39
5 surface soil samples, 25 subsurface soil
6 samples, 18 sediment samples and 11 surface
7 water samples collected.

8 And the chemicals assessed as part of
9 the investigations included metals, explosives,
10 propellants, SVOCs, VOCs, PCBs, cyanide, nitrate
11 and pesticides. Figure 8 of your handout shows
12 the entirety of all the samples collected at
13 Landfill North Winklepeck.

14 So the remedial investigations
15 included a thorough review of the site. This
16 included a records review, any available aerial
17 photography and surface and subsurface
18 investigation. The RI report concluded that the
19 site was not used for landfilling activities,
20 rather it was used predominately for burning of
21 debris.

22 It was concluded that approximately
23 3.4 acres of the site was used, as opposed to 28
24 acres that were investigated. And chemical data
25 was used -- that was collected as part of the

1 evidence were used not only to perform risk
2 assessment on the 3.4 acres that we're focused
3 in on, but also an assessment of the chemical
4 data collected for the entire 28 acres of the
5 site.

6 So using this information that they
7 collected, the report concluded that the nature
8 and extent of contamination has been defined.
9 No further samples are required to characterize
10 soil, sediment, or surface water at the site.
11 The human health risk assessment did not
12 identify chemicals of concern from prior
13 remediation.

14 The ecological risk assessment
15 concluded that no further action was required to
16 protect ecological -- important or significant
17 ecological resources. And the report concluded
18 that no further action was necessary for soil
19 and sediment to be protected from ground water.

20 Therefore, the Army, in coordination
21 with Ohio EPA, is recommending that no further
22 action to attain unrestricted residential land
23 use for soil, sediment and surface water at
24 Landfill North of Winklepeck Burning Grounds.

25 So the last item that I'm going to

1 present is NACA Test Area. NACA Test Area is
2 approximately 47 acres in size. There are no
3 fences around this site, however, there are
4 stakes that demarcate Open Demolition Area 1,
5 which is located immediately to south of NACA
6 Test Area.

7 The site is forested around the
8 perimeter and the interior is relatively open.
9 Hinkley Creek is to the south of NACA Test Area
10 and there is a tributary that runs through the
11 middle of NACA Test Area that runs directly to
12 Hinkley Creek.

13 From 1947 to 1953 the National
14 Advisory Committee for Aeronautics used the site
15 to simulate a take-off accident in which an
16 airplane fails to become airborne and strikes an
17 embankment, which results in rupturing of the
18 fuel tanks. There were crash tests performed on
19 17 excess military airplanes and all of the
20 scrap from the activity was used using the
21 figure on the next slide.

22 So this figure represents an aerial
23 photograph taken during the site operations,
24 which is also Figure 9 in your handout. So
25 basically the airplanes were fueled at the

1 western portion of the site and propelled under
2 their own power down a 1,700-foot runway or
3 crash strip, which is located here.

4 At the end of the crash stipulate
5 there is a cash barrier. The airplanes were
6 crashed into a crash barrier at speeds from
7 about 80 to 105 miles per hour. And by design,
8 when they hit the crash area, the leading edges
9 of the wings were cut by inclined poles to slice
10 open the wing fuel tanks on both sides of the
11 airplane.

12 So this is where the crash barrier
13 was located, and then here is where the
14 airplanes were propelled to after going through
15 the crash barrier. High-speed films were made
16 to study the fuel spillage, generation of
17 ignition sources, flame front progression and
18 toxic gas generation, among many other
19 parameters.

20 Then after testing, airplanes were
21 stripped of instrumentation and salvageable
22 parts at the eastern portion of the site. Other
23 noteworthy items is that there are observation
24 towers located around -- there were observation
25 towers located around the site to record the

1 testing. And here, south of the crash area,
2 there was a small man-made reservoir as well as
3 a production well.

4 Then here at the bottom of the slide,
5 basically the other remaining structures at this
6 site include the concrete pad, crash strip, the
7 small man-made reservoir and an out-of-service
8 production water well and unpaved access road.
9 All the other structures that were used during
10 these testing operations have been removed.

11 So this slide, you can see two
12 airplanes that were staged at the site prior to
13 testing at NACA Test Area. Then here, on this
14 slide, the top picture to the left is a picture
15 of the crash barrier. So you can see here, this
16 is the crash barrier looking from and down the
17 crash strip. You can see where the poles are
18 mounted, so that it rips off the fuel tanks off
19 the wings.

20 And then here, to the right is a
21 picture of one of the planes after going through
22 the crash barrier -- I'm sorry, one second after
23 going through the crash barrier; and this is
24 within the crash area.

25 So NACA was included in three

1 facility-wide assessments. The 1978
2 installation assessment, the 1996 preliminary
3 assessment and the 1998 relative risk site
4 evaluation. Three investigations were conducted
5 to collect samples and define the nature and
6 extent of contamination of the site.

7 These investigations included the
8 1991 Phase 1 remedial investigation that
9 collected, surface soil, subsurface soil,
10 sediment and surface water samples. They
11 assessed it for releases of contamination had
12 occurred. And the Phase 1 RI performed initial
13 risk screening to assess if further
14 investigation was warranted.

15 Then 2010 there was a PBA08 remedial
16 investigation that collected additional surface
17 soil, subsurface soil, sediment and surface
18 water samples. And Figure 10 of your handout
19 shows all the sample locations that were
20 included in the Phase 1 and PVA08 remedial
21 investigations.

22 And then in 2017 there was a
23 supplemental investigation at this former NACA,
24 this included a geophysical investigation and
25 installed soil borings in the area that the

1 planes were disassembled after testing, so that
2 area to the east.

3 There were also samples collected of
4 the soil beneath the concrete surface of the
5 crash strip to determine if there was any
6 contamination beneath the concrete surface. A
7 groundwater sample was collected from the
8 out-of-service production well and sediment
9 samples were collected from the small man-made
10 reservoir. And there were additional soil
11 samples collected from an area that was
12 previously identified to have high
13 concentrations of PAHs.

14 So as I mentioned, there were
15 multiple investigations at NACA conducted that
16 included the collection of 161 surface soil
17 samples, 77 subsurface soil samples, 19 sediment
18 samples and 9 surface water samples. The
19 chemical that we looked at include metal,
20 explosives, propellants, SVOCs, VOCs, PCBs,
21 cyanide and pesticides.

22 Using the information collected
23 during the remedial investigations of the nature
24 and extent of contamination at NACA Test Area is
25 defined and no further sampling is required. No

1 further action is required to protect any
2 ecological resources. And chemicals in sediment
3 and soil are not anticipated to contaminate
4 groundwater.

5 However, the human health risk
6 assessment did identify multiple areas that
7 require remediation. This included soil within
8 the out-of-service production well pit that had
9 high concentrations of lead. And three areas,
10 Areas 1, Area 2 and Area 3, that had soil
11 contaminated with PAHs.

12 So this figure shows where the
13 contamination site was identified and where
14 there are plans to do remediation. So area 1
15 here, this is the soil between the two concrete
16 pads that represented the crash strip. There is
17 about an estimated 480 cubic yards of soil that
18 require remediation there.

19 Area 2, the northwest site, was used
20 previously for staging and fueling of planes.
21 And we are estimating that 230 cubic yards of
22 soil requires remediation in this area. And
23 then Area 3, this is in the crash area, so
24 immediately after the crash barrier. This has
25 an estimated 560 cubic yards of soil requiring

1 remediation.

2 And then here I will show you a
3 picture in a second of where the well pit is
4 located that contains the lead contaminated
5 soil. So this is just a close-up of the well
6 pit. The well pit, you can see here, is the
7 stick-up of the production well and you can see
8 that there is a thin layer of soil at the bottom
9 of this pit.

10 It's four wide by four long by four
11 deep and there is soil underneath it. When that
12 soil was sampled, we determined that it had a
13 high concentration of lead that requires
14 remediation.

15 As I mentioned previously,
16 groundwater at the production well was sampled
17 and there was no concentration of lead in the
18 groundwater. So the presence of the
19 contaminated soil next to the stick-up did not
20 result in any contamination to the groundwater.

21 So given that there is unacceptable
22 risk to human health at the site, the Army has
23 developed these alternatives to address the
24 contamination. The remedial alternatives were
25 developed through remedial action objectives

1 preventing exposure to lead in the soil above
2 cleanup goals in the well pit, as well as
3 exposure to soil with PHs above cleanup goals in
4 areas 1,2 and 3.

5 The Army developed three remedial
6 alternatives for consideration. The first
7 remedial alternative is the no action
8 alternative, this is required by CERCLA. The
9 basis of the no action alternative assesses what
10 would happen if the Army did nothing and left
11 the contamination in place. It is primarily
12 used for comparison purposes against other
13 remedial alternatives and rarely is a no action
14 alternative ever selected if unacceptable risk
15 is determined at a site.

16 Alternative two involves excavating
17 all contaminated soil and disposing of it in a
18 licensed and offsite disposal facility. This
19 alternative includes additional sampling to
20 further refine the extent of contamination; the
21 removal of the lead within that well pit; the
22 abandonment of the existing out-of-service
23 production well.

24 And then using heavy equipment to
25 excavate contaminated soil from Areas 1,2 and 3

1 and hauling the contaminated soil to a licensed
2 offsite disposal facility. And then after the
3 contamination is completely removed, backfill
4 will be brought into the site and the site would
5 be graded, seeded and restored.

6 Then alternative three, as well. So
7 Alternative three includes the ex situ thermal
8 treatment of soil from Areas 1, 2 and 3, and
9 then the well pit removal. So alternative two,
10 this alternative included additional sampling to
11 further refine the extent of contamination, as
12 well as the removal of the contaminated soil
13 within the well pit and the abandonment of the
14 existing production well.

15 The difference is that this
16 alternative will use thermal treatment to
17 address the PH contaminated soil within Areas 1,
18 2 and 3. After the soil in Areas 1, 2 and 3 are
19 treated and confirmed to be below cleanup goals,
20 then that soil can be placed back into the area
21 as backfill and the area would be graded, seeded
22 and restored.

23 So here is an example of a thermal
24 treatment system. So in this system you would
25 have contaminated soil being loaded onto a

1 conveyor, and then it places the soil into an
2 enclosed chamber. Within this chamber, the
3 contaminated soil is exposed to high
4 temperatures, which will desorb the volatile
5 contaminants such as PAH contaminants that we
6 see at the site and it forms a vapor.

7 The vapor is then passed through a
8 filter system, which will capture and/or treat
9 any contaminated vapors. And then the residual
10 soil would be removed from the system, sampled
11 and evaluated to see if it is below the site
12 cleanup goals. If soil is below site cleanup
13 goals, it will be placed back in the excavation.
14 If it is not, it would be probably be run back
15 through the thermal system treatment until it
16 is.

17 So the three remedial alternatives
18 were assess against seven different criteria to
19 help the Army select the preferred alternative.
20 The selected alternative, we want to be
21 protective of human health and the environment
22 and must be compliant with federal and local
23 laws and standards.

24 And then there are five balancing
25 criteria that are evaluated. And basically we

1 use balancing criteria to ask these questions:
2 Will the alternative be protective in the
3 long-term? Does the alternative review
4 toxicity, mobility or volume through treatment?
5 Are workers in the community protected from
6 exposure to risk during the implementation of
7 the remedy? How available and reliable is the
8 alternative's technology? And what is the
9 estimated cost?

10 So the Army's preferred for NACA Test
11 Area is alternative three: Ex situ thermal
12 treatment of soil at Areas 1, 2 and 3 and well
13 pit removal. The implementation of this
14 alternative will result in unrestricted
15 residential use of the site and no residual
16 acceptable risk will remain after
17 implementation.

18 This alternative will comply with all
19 federal and local laws and standards. The
20 implementation of this alternative is effective
21 in the long-term and it will not need land use
22 controls at the site after implementation.

23 Treatment technology will be used to
24 reduce remove the PAH contamination of the soil
25 in Areas 1, 2 and 3. And measures will take

1 place to ensure that workers in the community
2 are protected during the implementation of this
3 remedial alternative. This technology is
4 successful and has been successfully used in
5 this facility in the past. And the estimated
6 cost for alternative three is approximately
7 \$294,000 compared to alternative two estimated
8 cost of \$409,000.

9 In the event that the thermal
10 treatment system is not available for use,
11 excavation and offsite disposal of soil is
12 readily available and considered for
13 implementation by the Army National Guard.

14 So just to kind of bring this full
15 circle, public participation is an important
16 component of the remedy selection here and the
17 Army is requesting input as part of its
18 responsibility under Section 117 of CERCLA. The
19 public comment period is July 29, 2019 until
20 August 27, 2019. Thank you.

21 **MS. TITTLE:** Thank you, Jed, for
22 that comprehensive presentation. If after
23 tonight you think of some question or comment
24 that you would like to ask, you can provide
25 written or verbal comments tonight, or later on,

1 you can submit written comments by August 27th.
2 The address is right up here: Kathryn Tait at
3 1438 State Route 534 SW, Newton Falls.

4 So after that comprehensive
5 presentation, I can't think of, personally,
6 anything I would want to know about the clean up
7 of the site. However, you may very well have
8 some questions. And if you do, all you need to
9 do is stand up, tell us who you, where you are
10 from and ask your question and we will try to
11 find an answer for it.

12 But if he has covered it all and you
13 don't have any questions tonight, you can
14 certainly contact Ms. Tait, send her an e-mail,
15 send her a letter. Just don't send any white
16 powder. Okay, well, thank you very much for
17 coming tonight.

18 (Thereupon, the proceedings were
19 concluded at 7:06 o'clock p.m.)

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C E R T I F I C A T E

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

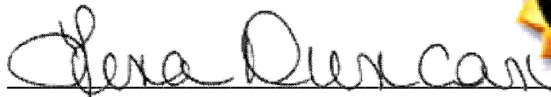
I, Lena M. Duncan, a Stenographic Reporter and Notary Public within and for the State of Ohio, duly commissioned and qualified, do hereby certify that these proceedings were taken by me and reduced to Stenotypy, afterwards prepared and produced by means of Computer-Aided Transcription and that the foregoing 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.

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 30th day of August, 2019.



Lena M. Duncan, Stenographic Reporter and Notary Public in and for the State of Ohio.

My commission expires February 19, 2020.

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A				
abandoned 5:15	3:9	7:11	2:7,23 3:25 4:14 6:9 28:10	backfill 26:3,21
abandonment 25:22 26:13	adequate 10:14	and/or 27:8	Arsenal 2:24	balancing 27:24 28:1
acceptable 28:16	adequately 11:6	anomalies 14:17,18,24 15:2 15:8,9	assess 9:15 10:8 14:24 15:18 21:13 27:18	Barb 4:4
access 13:20 20:8	adjacent 12:14	answer 30:11	assessed 9:24 10:22 16:8 21:11	Barbara 2:2
accessible 2:19	Advisory 18:14	anticipated 23:3	assesses 25:9	barn 13:7
accident 18:15	aerial 8:23 13:1,12,24 16:16 18:22	AOCs 3:16 9:24	assessing 5:1	barrier 19:5,6,12,15 20:15,16,22,23 23:24
acres 7:25 12:9,13 13:8,11 16:3 16:23,24 17:2 17:4 18:2	Aeronautics 18:14	appropriate 6:1	assessment 6:12,13,13,14,18 6:25 9:14 11:9 11:14 14:7,8,9 17:2,3,11,14 21:2,3 23:6	basically 13:4 18:25 20:5 27:25
acronyms 4:10	affiliated 31:14	approximately 7:24 9:1 16:22 18:2 29:6	assessments 7:2 9:12,13 21:1	basics 2:12
Act 5:13	affixed 31:16	area 3:3 4:17 7:21,23 7:24 8:5 9:10 10:18 11:3,25 12:6,12,13,19 13:18,21 14:2 14:3 15:11 18:1,1,4,6,9,11 19:8 20:1,13 20:24 21:25 22:2,11,24 23:10,10,14,19 23:22,23,23 26:20,21 28:11	at7:06 30:19	basis 5:3 25:9
action 6:1 11:15,18,22 17:15,18,22 23:1 24:25 25:7,9,13 31:13	airborne 18:16		attain 11:22 17:22	beginning 1:13
activities 6:4 9:4 11:12 12:23 13:16,18 13:22 14:5 16:19	airplane 18:16 19:11		attorney 31:12	beneath 22:4,6
activity 18:20	airplanes 18:19,25 19:5,14 19:20 20:12		audience 4:2	Bob 3:10,18
addition 3:19 15:20	Akron 31:16		auditorium 2:16	boiler 8:2,19 9:5,9
additional 10:12 15:13,24 21:16 22:10 25:19 26:10	allows 7:4		areas 2:23,25 3:24 4:1 4:15,19 7:15 9:18,25 14:19 15:15 23:6,9 23:10 25:4,25 26:8,17,18 28:12,25	borings 14:23 15:1,17 21:25
address 24:23 26:17 30:2	alternative 25:7,8,9,14,16 25:19 26:6,7,9 26:10,16 27:19 27:20 28:2,3 28:11,14,18,20 29:3,6,7		August 1:13 29:20 30:1 31:16	bottom 7:13 20:4 24:8
addressed 4:20	alternative's 28:8		authorizes 4:25	brief 4:24
addressing	alternatives 5:7 6:9 24:23,24 25:6,13 27:17	Army 1:4 2:24 3:10,22 7:4,7,11 11:11 11:20 17:20 24:22 25:5,10 27:19 29:13,17	available 2:21 16:16 28:7 29:10,12	bring 29:14
	Ammunition 2:25	Army's	B	brought 26:4
	Ammunitions		back 2:15 4:12 6:6 26:20 27:13,14	building 8:21,21 9:1,2,6 9:10 10:8
				buildings 3:1 4:16 7:20,23 7:25 8:17,20

9:8,10 10:5,17 11:3,24 buildup 12:25 buried 14:16 burn 12:24 burning 3:2 4:16 7:18 12:2,3,6,20,20 13:18,22 14:2 14:3 15:10 16:20 17:24	10:21 11:7 14:25 15:19 16:1 17:9 chemical 6:21 15:19 16:24 17:3 22:19 chemicals 6:15,25 10:22 11:10 16:8 17:12 23:2 circle 29:15 citizen 2:3 Civil 31:14 clean 30:6 cleaned 5:11 cleaning 5:2 cleanup 5:1,19 6:4 25:2 25:3 26:19 27:12,12 close-up 24:5 coal-powered 8:2,19 9:5,9 collect 9:21 15:18,23 21:5 collected 10:1,4,7,15 11:1 11:3 15:16,21 16:7,12,25 17:4,7 21:9,16 22:3,7,9,11,22 collection 10:18 22:16 coming 30:17 comment 2:6,9 29:19,23 comments	3:4,9 29:25 30:1 commercial/in... 7:6 commission 31:24 commissioned 31:6 Committee 18:14 community 1:11 28:5 29:1 compared 29:7 comparison 25:12 Compensation 5:13 complete 16:2 completely 26:3 compliant 27:22 comply 28:18 component 29:16 comprehensive 5:12 29:22 30:4 Computer-Aid... 31:8 concentration 24:13,17 concentrations 22:13 23:9 concern 2:23,25 3:24 4:15,19 7:15 7:24,24 9:11 9:18 10:18 11:4,11,25 12:6,12 15:15 17:12 concluded 11:4,15,17 16:18 16:22 17:7,15	17:17 30:19 conclusion 11:20 conclusions 5:6 concrete 20:6 22:4,6 23:15 concurr 3:15 conducted 9:20 13:16 14:11 15:23 21:4 22:15 confirmed 26:19 consideration 25:6 considered 3:5 29:12 contact 30:14 contains 24:4 contaminate 23:3 contaminated 23:11 24:4,19 25:17,25 26:1 26:12,17,25 27:3,9 contaminates 27:5,5 contamination 6:22 9:16,22 10:9 11:5 17:8 21:6,11 22:6 22:24 23:13 24:20,24 25:11 25:20 26:3,11 28:24 contract 1:5 31:14 contractor 3:22 Contrary	12:21 controls 28:22 conveyor 27:1 coordination 11:21 17:20 copy 4:8 CORPS 1:4 correct 31:9 cost 28:9 29:6,8 counsel 31:12 COUNTY 31:3 court 3:19 31:14 covered 12:25 30:12 crash 18:18 19:3,4,6,8 19:12,15 20:1 20:6,15,16,17 20:22,23,24 22:5 23:16,23 23:24 crashed 19:6 Creek 18:9,12 criteria 27:18,25 28:1 cubic 23:17,21,25 current 8:7 13:24 currently 7:12 cut 19:9 cyanide 16:10 22:21
C				
C 31:1,1 Camp 7:12 caption 31:11 capture 27:8 case 2:17 cash 19:5 center 1:11 12:7 central 12:4 CERCLA 4:25 5:11,11,14 5:19 6:5,7 11:12 25:8 29:18 certainly 30:14 certify 31:7,10,11,13 chamber 27:2,2 characterization 9:24 15:15 characterize				

D	3:6 developed 24:23,25 25:5 devices 2:13 difference 26:15 different 27:18 directly 18:11 disassembled 22:1 disassembly 8:12 discovery 5:15 discuss 4:14 5:8 6:10 7:23 12:1,11 discussing 3:17 4:17 disposal 25:18 26:2 29:11 disposed 8:22 disposing 25:17 disturbed 13:18,21 ditches 8:9 10:2 document 3:20 documented 3:7 12:18 drainage 10:2 Due 12:8 duly 31:6 Duncan 31:5,22	E	31:1,1 e-mail 30:14 earlier 14:3 east 12:14 13:5 22:2 eastern 19:22 ecological 6:12,18,20 11:14 11:17 17:14,16 17:17 23:2 edges 19:8 effective 28:20 electronic 2:13 embankment 18:17 emergency 2:14,17 employee 31:12 enclosed 27:2 encompassing 15:16 Engineer 3:21 4:5 ENGINEERS 1:4 ensure 2:8 10:14 29:1 entered 2:18 entire 17:4 entirety 16:12 environment 5:18,25 27:21 environmental 5:12 6:3 9:15	EPA	3:11,11,14 11:21 17:21 equipment 25:24 estimated 23:17,25 28:9 29:5,7 estimating 23:21 evaluated 4:22 5:10 13:11 27:11,25 evaluates 6:25 evaluation 9:17 13:9 21:4 evaluations 10:16 evening 3:13 4:4 event 29:9 everybody 3:14 evidence 17:1 ex 26:7 28:11 exact 8:14 example 26:23 excavate 25:25 excavated 14:23 excavating 25:16 excavation 27:13 29:11 exception 8:1,18 9:9 excess 18:19 existence	13:20 existing 8:3 25:22 26:14 exists 2:14 6:22 exit 2:16 expires 31:24 explosives 8:11 10:23 16:9 22:20 exposed 27:3 exposure 25:1,3 28:6 extent 9:21 11:5 12:9 17:8 21:6 22:24 25:20 26:11	F	F 31:1 F-15 3:1 4:16 7:20,23 8:21 9:1,6,10 9:10 10:6,17 11:3,24 F-16 3:1 4:16 7:20,23 8:21 9:2,6,10 10:6,17 11:3 11:24 facilitator 2:4 facilities 5:21 facility 7:15,17,21 9:16 9:19 12:5,7 14:8 25:18 26:2 29:5 facility-wide 4:22 9:11 21:1
----------	---	----------	--	------------	--	--	----------	--

fails 18:16	first 7:22 14:12 15:3 25:6	23:20	26:5,21	13:25
Falls 1:12 30:3	five 27:24	full 29:14	graphic 7:13	heavy 25:24
fate 6:13,24	flame 19:17	fully 16:1	graphically 6:5	Held 1:11
feasibility 5:6	flat 14:4	further 11:6,15,18,22 14:25 15:18 17:9,15,18,21 21:13 22:25 23:1 25:20 26:11 31:10,11 31:13	ground 4:17 11:19 12:6 12:16 15:4 17:19	help 2:20 14:24 27:19
feature 8:7	floor 8:19	future 6:16	Grounds 3:2 7:19 12:2,3 12:20 17:24	helped 9:18
features 5:4	focused 13:21 17:2	<hr/>	groundwater 4:20,21,22 7:1 22:7 23:4 24:16,18,20	herbicides 10:24
February 31:24	Following 4:1 15:12	G	Guard 29:13	hereunto 31:15
federal 5:21 27:22 28:19	foot 15:3	G	<hr/>	high 22:12 23:9 24:13 27:3
feet 9:1	footprints 10:5,8	gaps 10:12	H	High-speed 19:15
fences 18:3	foregoing 31:8,11	Garfield 7:13	hallway 2:18,20	Hinkley 18:9,12
field 13:5	forest 8:4	gas 19:18	hand 31:16	historical 5:4 8:15 9:14,25 12:17 13:2
fields 8:4	forested 18:7	general 14:19	handicap 2:19	hit 19:8
figure 7:16 8:24 10:24 13:3,14,24 15:7 16:11 18:21,22,24 21:18 23:12	former 2:24 7:11 8:2,18 14:2 15:10 21:23	generation 19:16,18	handout 10:25 13:4 16:11 18:24 21:18	hour 19:7
figures 4:11	forms 27:6	geophysical 14:15,22 15:3,6 21:24	handouts 4:7 7:16 8:25 13:14,25 15:7	house 8:2,19 9:9
filled 10:11	foundations 8:20	give 4:24	happen 25:10	houses 9:5
films 19:15	four 9:20 14:19 24:10 24:10,10	given 24:21	hauling 26:1	human 5:17,24 6:11,14 11:9 17:11 23:5 24:22 27:21
filter 27:8	framework 5:1	goals 25:2,3 26:19 27:12,13	hazardous 5:16,23	<hr/>
final 3:6	front 2:15 19:17	going 3:17 7:22 12:1 17:25 19:14 20:21,23	hazards 6:3	I
financially 31:12	fuel 18:18 19:10,16 20:18	good 3:13 4:4	health 5:17,24 6:12,14 11:9 17:11 23:5 24:22 27:21	identified 10:11 11:16 12:15 14:18 15:2,2,7,9 22:12 23:13
find 9:21 30:11	fueled 18:25	graded	heavily	identify 11:10 17:12 23:6
firm 31:14	fueling			Identifying

5:22	instrumentation	30:6	26:25	mentioned
ignition	19:21	known	local	9:7 13:8 22:14
19:17	interested	7:12	27:22 28:19	24:15
immediately	31:12	<hr/>	located	metal
18:5 23:24	interior	L	4:12 12:4 18:5	22:19
impact	18:8	<hr/>	19:3,13,24,25	metallic
7:1	investigated	ladies'	24:4	14:17
implementation	16:24	2:17	location	metals
28:6,13,17,20,22	investigation	land	7:11 10:25	10:22 16:9
29:2,13	10:3,15 11:4	11:13,23 17:22	locations	middle
important	12:11,22 14:13	28:21	7:14 21:19	7:17 13:17 18:11
6:6,19 11:16	14:14,15,18,22	landfill	long	miles
17:16 29:15	15:6,13,22,23	3:1 7:18 12:2,3	24:10	19:7
impose	16:2,4,18 21:8	12:19 14:6,11	long-term	military
5:19	21:14,16,23,24	16:13 17:24	28:3,21	18:19
inclined	investigations	landfilling	look	minimal
19:9	5:5 6:11 9:20,23	12:23 14:5 16:19	14:16	15:10
include	10:17 14:10	large	looked	mobility
3:8 4:8 10:22	15:14 16:9,14	5:15	22:19	28:4
20:6 22:19	21:4,7,21	laws	looking	moment
included	22:15,23	27:23 28:19	20:16	2:12
9:11,13,23 10:18	involves	layer	<hr/>	monitoring
12:10 13:9	25:16	24:8	M	4:23
14:7,15 15:14	item	lead	M	mounted
16:3,9,15,16	17:25	23:9 24:4,13,17	31:5,22	20:18
20:25 21:7,20	items	25:1,21	main	multiple
21:24 22:16	19:23	leading	2:18 8:20	10:16 22:15 23:6
23:7 26:10	<hr/>	13:20 19:8	man-made	<hr/>
includes	J	leaking	20:2,7 22:9	N
25:19 26:7	James	5:16	maps	NACA
including	7:12	left	4:11	3:2 4:17 7:21
10:12	Jed	7:19 20:14 25:10	material	18:1,1,5,9,11
indication	3:21,23 4:2,5	Leidos	8:13	20:13,25 21:23
8:15	29:21	1:3 3:22 4:6	mature	22:15,24 28:10
information	July	Lena	14:1	name
3:23 9:15 11:2	29:19	31:5,22	means	2:2 4:4 12:21
17:6 22:22	<hr/>	let's	31:8	National
initial	K	2:11	measures	18:13 29:13
21:12	Kathryn	letter	28:25	nature
input	30:2	30:15	media	9:21 11:5 17:7
6:8 29:17	Kent	Liability	4:18	21:5 22:23
installation	2:3	5:13	meeting	necessary
9:14 14:7 21:2	Kevin	licensed	1:6 2:2,4,5,22	5:6,11 11:18
installed	3:10	25:18 26:1	3:20	17:18
14:23 15:17	kind	line	men's	need
21:25	29:14	13:10	2:19	28:21 30:8
	know	loaded		

negatively 7:1	old 13:7	5:8 29:15	25:3	19:2
Newton 1:12 30:3	open 4:1 13:5 18:4,8 19:10	parties 6:2	picture 20:14,14,21 24:3	predominately 16:20
nitrate 16:10	opening 3:12	parts 19:22	pit 23:8 24:3,6,6,9 25:2,21 26:9 26:13 28:13	preferred 5:7 6:9 27:19 28:10
nitrates 10:23	operations 5:5 10:1 12:17 12:21 13:2,13 18:23 20:10	party 31:12	place 7:3 12:23 13:19 14:5 25:11 29:1 31:10	preliminary 14:9 21:2
north 3:1 7:18 8:25 12:2,3,5,15,19 13:5 14:6,11 16:13 17:24	opportunities 2:6	passed 5:13,14 27:7	placed 26:20 27:13	prepared 31:7
northwest 23:19	opportunity 2:10	pay 6:4	places 27:1	presence 24:18
Notary 31:6,22	opposed 16:23	PBA08 10:10 15:22 21:15	plan 2:7,10,23 3:5,25 4:15	present 2:15,20,22 3:23 13:7 18:1
note 6:7	orange 15:8	PCBs 10:23 16:10 22:20	planes 20:21 22:1 23:20	presentation 4:1,7,8,24 29:22 30:5
noteworthy 19:23	out-of-service 20:7 22:8 23:8 25:22	perform 10:15 17:1	plans 4:21 23:14	presenter 3:20
number 5:15	overall 6:4	performance 12:11	Plant 2:25 7:12	presents 13:12
O		performed 6:11 10:13 11:10 15:14 18:18 21:12	Please 2:16,20	preventing 25:1
o'clock 30:19	P	perimeter 18:8	point 13:10	previous 11:11
objectives 24:25	p.m 1:14 30:19	period 29:19	pointed 14:3	previously 9:7 13:8 22:12 23:20 24:15
observation 19:23,24	packet 4:10	personally 30:5	poles 19:9 20:17	primarily 25:11
occur 5:23	pad 20:6	pesticides 10:24 16:11 22:21	portion 7:21 8:5 12:5 19:1,22	Princic 3:11,13
occurred 5:23 21:12	pads 23:16	PH 26:17	pose 5:24 6:16,22	prior 13:2 17:12 20:12
office 31:16	PAH 27:5 28:24	phase 6:7 14:12,14 15:12 21:8,12 21:20	posed 5:16	prioritize 9:18
offsite 25:18 26:2 29:11	PAHs 22:13 23:11	photograph 8:23 13:1,12,15 13:19,24 18:23	poster 6:6	private 2:3 5:20
Ohio 1:12 2:3 3:11,11 3:14 11:21 17:21 31:2,6 31:16,23	paper 4:9	photography 16:17	potential 9:16 10:11 14:16	probably 27:14
Okay 30:16	parameters 19:19	PHs	powder 30:16	proceedings 30:18 31:7,9,10
	part 15:21 16:8,25 29:17		power	process 6:5,8
	participation			processes

8:13	PVA08	regarding	Reporter	restrictions
produced	21:20	3:24 12:17	3:19 31:5,22	7:5,9
31:8		relative	reporting	restroom
product	Q	9:17 21:3 31:12	5:20 31:14	2:17,19
8:8	qualified	relatively	represented	restrooms
production	31:6	14:4 18:8	23:16	2:19
20:3,8 22:8 23:8	quantities	releases	representing	result
24:7,16 25:23	8:13	5:22 6:2 21:11	3:10	24:20 28:14
26:14	question	reliable	represents	results
Professional	29:23 30:10	28:7	18:22	14:21 15:5 18:17
3:21 4:5	questions	remain	requesting	review
program	4:2 5:9 28:1	28:16	29:17	16:15,16 28:3
4:23	30:8,13	remaining	require	reviewed
progression	R	20:5	23:7,18	9:14
19:17	R	remark	required	RI
propellants	31:1	3:12	11:7,15 17:9,15	10:10 16:18
8:12 10:23 16:10	rarely	remedial	22:25 23:1	21:12
22:20	25:13	5:5,7 10:15 11:4	25:8	right
propelled	Ravenna	12:10 14:10,12	requirements	4:3 7:14 20:20
19:1,14	1:12 2:24 7:11	14:14 15:12,13	5:20	30:2
proposed	RCRA	15:23 16:2,4	requires	rips
2:7,10,23 3:5,25	14:8	16:14 21:8,15	7:2 23:22 24:13	20:18
4:15,21	readily	21:20 22:23	requiring	risk
protect	29:12	24:24,25 25:5	11:11 23:25	6:12,12,14,16,18
11:16,18 17:16	received	25:7,13 27:17	research	9:17 11:9,14
23:1	3:4	29:3	12:22	17:1,11,14
protected	recommending	remediation	reservoir	21:3,13 23:5
6:21 17:19 28:5	11:21 17:21	7:3 11:11 17:13	20:2,7 22:10	24:22 25:14
29:2	record	23:7,14,18,22	residential	28:6,16
protective	3:7,8 19:25	24:1,14	11:23 17:22	road
11:12 27:21 28:2	records	remedies	28:15	1:12 13:20 20:8
provide	8:15 16:16	3:15	residual	room
29:24	red	remedy	27:9 28:15	6:6
providing	13:10 15:8	3:6 6:1 28:7	resources	Route
5:4	reduce	29:16	6:20,23 11:17	30:3
public	28:24	removal	17:17 23:2	Rule
1:6 2:2,5,6,22	reduced	25:21 26:9,12	response	31:15
3:4,9 5:8 6:8	31:7	28:13	5:12,14	run
29:15,19 31:6	reference	remove	responsibility	27:14
31:22	2:16 4:11 13:10	28:24	29:18	runoff
purpose	refine	removed	responsible	8:8
8:16	25:20 26:11	8:22 9:8 20:10	2:8 6:3	runs
purposes	refined	26:3 27:10	responsiveness	18:10,11
25:12	12:13	report	3:8	runway
put	refreshments	11:17 16:18 17:7	restored	19:2
15:1	2:21	17:17	26:5,22	rupturing

18:17	3:10	8:23 10:25 13:1	8:20	14:10
S	see	13:11,19 15:5	slice	specified
salvageable	7:10,14,17 8:25	16:11 21:19	19:9	7:7 31:11
19:21	9:3 13:6,15,17	23:12	slide	speeds
sample	13:23 15:9	shrubland	4:8 7:10 8:23	19:6
21:19 22:7	20:11,15,17	8:4	12:1 13:1,12	spillage
sampled	24:6,7 27:6,11	side	13:23 15:5	19:16
24:12,16 27:10	seeded	2:15 8:3	18:21 20:4,11	spread
samples	26:5,21	sides	20:14	10:9
9:21 10:2,5,7,19	seeking	19:10	small	SS
10:20,20,21,25	6:2,8	significant	2:20 8:5 20:2,7	31:3
11:6 15:16,21	seen	6:19 11:16 17:16	22:9	staged
15:24,25,25	15:8	signs	soil	20:12
16:1,5,6,6,7,12	select	2:16	4:18 6:15,25	staging
17:9 21:5,10	27:19	silence	9:25 10:7,12	23:20
21:18 22:3,9	selected	2:12	10:13,19,19	stakes
22:11,17,17,18	3:16 25:14 27:20	simulate	11:7,23 12:25	18:4
22:18	selection	18:15	14:23 15:1,16	stand
sampling	29:16	site	15:17,24,24	30:9
10:7,13 22:25	send	4:10 5:3,3,4	16:5,5 17:10	standards
25:19 26:10	30:14,15,15	6:10,17,20 7:2	17:18,23 21:9	27:23 28:19
scored	serious	7:5,8,8 8:3,7	21:9,17,17,25	start
9:17	5:17,24	8:10,16,24 9:4	22:4,10,16,17	2:11 4:23
scrap	serve	9:17,22 10:21	23:3,7,10,15	started
18:20	2:4	11:1,8 12:10	23:17,22,25	2:11 4:6 13:3
screening	serves	12:18,21,24	24:5,8,11,12	State
21:13	2:5	13:2,4,9,13,16	24:19 25:1,3	30:3 31:2,6,23
seal	set	13:25 14:1,17	25:17,25 26:1	Stenographic
31:16	10:14 31:15	14:19,25 15:17	26:8,12,17,18	31:5,22
second	setback	15:19 16:1,15	26:20,25 27:1	Stenotypy
14:20 20:22 24:3	8:6	16:19,23 17:5	27:3,10,12	31:7
Section	sets	17:10 18:3,7	28:12,24 29:11	stick-up
29:18	5:1	18:14,23 19:1	soils	24:7,19
sector	seven	19:22,25 20:6	10:4	stipulate
5:21	27:18	20:12 21:3,6	sorry	19:4
sediment	Shearer	23:13,19 24:22	20:22	storage
4:18 6:15 10:1	1:11	25:15 26:4,4	sources	9:3
10:20 11:7,23	sheds	27:6,11,12	19:17	storm
15:20,25 16:6	9:3	28:15,22 30:7	south	8:8
17:10,19,23	show	sites	9:2 13:6 18:5,9	strikes
21:10,17 22:8	14:20 24:2	5:2,10,16,22	20:1	18:16
22:17 23:2	showed	situ	southwest	strip
sediments	12:4	26:7 28:11	7:20	19:3 20:6,17
7:1	shown	size	species	22:5 23:16
Sedlak	12:22	7:25 18:2	6:21	stripped
	shows	slabs	specific	19:21

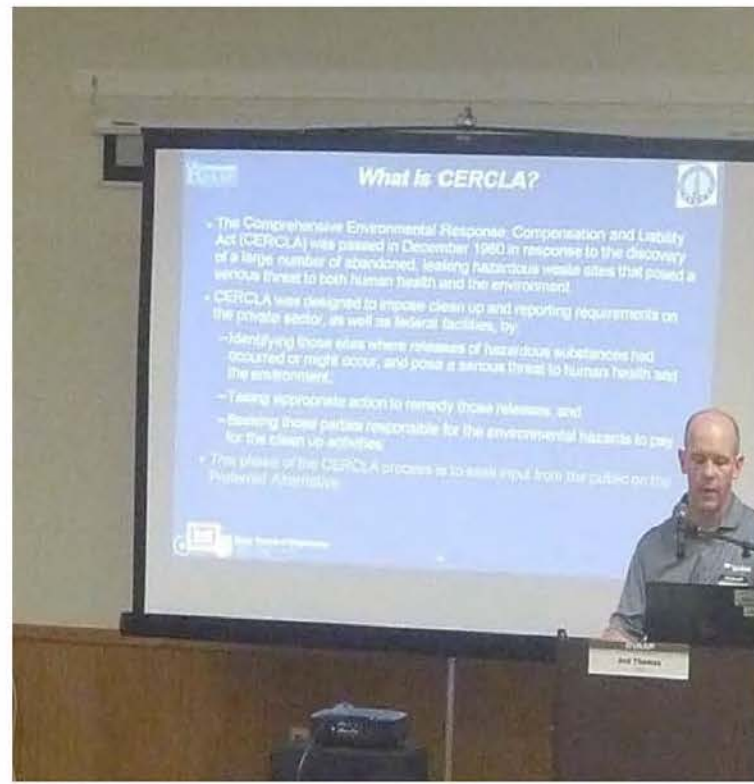
structures 7:25 20:5,9	22:20	3:18 4:3 29:20	towers 19:24,25	24:11
study 5:7 19:16	SW 30:3	29:21 30:16	toxic 19:18	unknown 8:14
submit 30:1	system 26:24,24 27:8,10 27:15 29:10	thermal 26:7,16,23 27:15 28:11 29:9	toxicity 28:4	unpaved 20:8
substances 5:23	<hr/> T <hr/>	thin 24:8	transcription 31:8,9	unrestricted 7:4 11:13,22 17:22 28:14
subsurface 10:13,19 15:18 15:24 16:5,17 21:9,17 22:17	T 31:1,1	thing 7:22	transport 6:13,24	use 7:3,4,4,6,8 11:13 11:23 12:8,9 17:23 26:16 28:1,15,21 29:10
successful 29:4	table 4:13	think 29:23 30:5	treat 27:8	uses 6:16
successfully 29:4	Tait 30:2,14	Thirteen 10:19	treated 26:19	<hr/> V <hr/>
suggest 14:4	take 2:12 5:9 28:25	Thomas 3:21 4:3,5	treatment 26:8,16,24 27:15 28:4,12,23 29:10	vapor 27:6,7
summarize 6:11	take-off 18:15	thorough 16:15	trees 13:5 14:1	vapors 27:9
summary 3:9	taken 18:23 31:7,9,10	threat 5:17,24 6:22	trenches 14:22 15:1	vegetated 13:25
SUMMIT 31:3	tanks 18:18 19:10 20:18	three 2:14,23,25 3:16 3:24,25 4:15 4:19 7:14 10:20,20 14:9 20:25 21:4 23:9 25:5 26:6 26:7 27:17 28:11 29:6	tributaries 12:14	verbal 29:25
supplement 4:7	technology 28:8,23 29:3	Thursday 1:12	tributary 18:10	VOCs 16:10 22:20
supplemental 21:23	tell 30:9	time 31:10	true 31:8	volatile 27:4
surface 4:18 6:15 8:6 9:25 10:1,4,6 10:12,19,21 11:8,24 12:16 15:4,16,21,24 15:25 16:5,6 16:17 17:10,23 21:9,10,16,17 22:4,6,16,18	temperatures 27:4	title 2:1,3 3:18 29:21	try 30:10	volume 28:4
surrounding 8:5	terminology 7:7	today 4:14	two 9:4,11 12:13 20:11 23:15 25:16 26:9 29:7	<hr/> W <hr/>
surveillance 8:11	test 3:2 4:17 7:21 14:22,25 18:1 18:1,6,9,11 20:13 22:24 28:10	tonight 2:5 3:9,17,19,21 29:23,25 30:13 30:17	ultimately 12:12	W912QR-15-... 1:5
survey 15:3	testing 8:11,12,14 19:20 20:1,10,13 22:1	tonight's 2:2 3:20 4:7	unacceptable 6:16 24:21 25:14	want 27:20 30:6
SVOCs 10:23 16:10	tests 18:18	top 20:14	uncertainty 12:8	warranted 21:14
	thank	total 16:3	under-slab 10:4	waste 5:16
			underneath	water 4:18 6:15 8:6,8 10:1,21 11:8 11:19,24 15:21 15:25 16:7

17:10,19,23 20:8 21:10,18 22:18				
we'll				
4:1 5:8				
we're	1			
17:2	7:16 14:12,14	1947	31:16	534
Welcome	15:12 18:4	18:13	2020	30:3
2:1	21:8,12,20	1952	31:24	560
western	23:10,14 26:8	8:24	230	23:25
19:1	26:17,18 28:12	1953	23:21	
wetland	28:25	18:13	25	6
8:6	1,000	1966	16:5	6
wetlands	9:1	13:4,7	27	13:24
6:21	1,2	1969	29:20	6:30
WHEREOF	25:4,25	12:18 13:3	27th	1:13
31:15	1,700-foot	1974	30:1	
white	19:2	8:10	28	7
30:15	10	1978	12:9 13:8,11	15:7
wide	21:18	9:13 12:18 14:7	16:3,23 17:4	77
24:10	105	21:1	28(D)	22:17
wing	19:7	1979	31:15	
19:10	11	13:12	29	8
wings	16:6	1980	29:19	8
19:9 20:19	117	5:14	294,000	16:11
Winklepeck	29:18	1989	29:7	80
3:2 4:16 7:18	12	14:8		19:7
12:2,3,6,20	14:18	1991	3	
14:6,11 16:13	13	21:8	10:24 23:10,23	9
17:24	7:25	1996	25:4,25 26:8	18:24 22:18
wishes	14	14:8,12 15:12	26:18,18 28:12	9355
2:9	9:24 14:18 15:15	21:2	28:25	1:11
WITNESS	1438	9:17 21:3	3.4	
31:15	30:3		12:13 16:23 17:2	
workers	15th	2	30th	
28:5 29:1	1:13	8:24 23:10,19	31:16	
written	161	26:8,18,18	39	
29:25 30:1	22:16	28:12,25	16:4	
	17	2004		
X	15:17 18:19	9:23	4	
	18	2005	13:3	
Y	16:6	8:17	409,000	
yards	19	2009	29:8	
23:17,21,25	22:17 31:24	8:19 10:3,6,10	47	
yeah	1941	2010	18:2	
12:7	8:10	15:22 21:15	480	
		2017	23:17	
		21:22		
		2019	5	
		1:13 29:19,20	5	
			13:14	

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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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