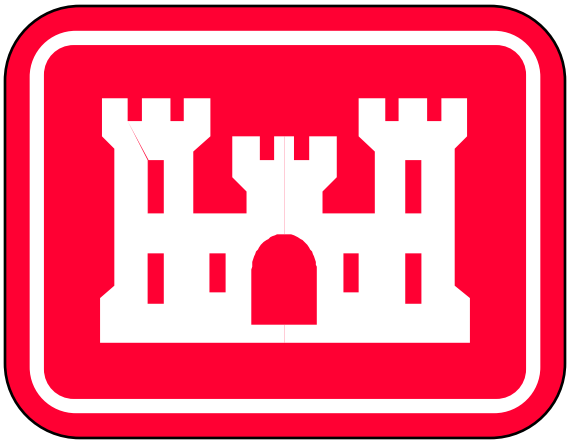

Final
MEC Verification Study After Action Report for the RVAAP-03 Open Demolition Area #1

Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Prepared by

Environmental and Munitions Design Center
Baltimore District
U.S. Army Corps of Engineers

June 24, 2020

REPORT DOCUMENTATION PAGE

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for the RVAAP-03 Open Demolition Area #1

Former Ravenna Army Ammunition Plant
Portage and Trumbull Counties, Ohio

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McCoun, Travis R.

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Baltimore, MD 21201

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USACE

11. SPONSOR/MONITOR'S REPORT NUMBER(S)
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12. DISTRIBUTION/AVAILABILITY STATEMENT

Reference distribution page

13. SUPPLEMENTARY NOTES

None

14. ABSTRACT

This After Action Report (AAR) was prepared by the U.S. Army Corps of Engineers (USACE), Baltimore District, and describes the work completed for the Munitions and Explosives of Concern (MEC) Verification Study at the Open Demolition Area #1 (ODA1) (RVAAP-003) site, located at the Former Ravenna Army Ammunition Plant (RVAAP), now known as the Camp James A. Garfield (CJAG), in Ravenna, Ohio. The purpose of this AAR is to summarize the results of the MEC Verification Study conducted by USACE at the ODA1 Site. This MEC Verification Study was conducted to collect information necessary to determine if an explosive hazard exists at ODA1. The study investigated subsurface ferrous and nonferrous features, including single-point and multi-point anomalies to determine if MEC is present at the site. In addition, the study evaluated whether a Kickout Area was present at the site as a result of previous demolition activities. The goal of the study was to determine if an explosive safety hazard existed at ODA1 due to the presence of MEC. Information collected during this study was used to prepare a Probability Assessment for MEC. This document provides the results of the verification study and provide s a completed Probability Assessment for MEC at the ODA1 site.

15. SUBJECT TERMS

MEC Verification Study, Open Demolition Area #1, ODA1, RVAAP-003, After Action Report

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Travis R. McCoun
U	U	U	UU	152	19b. TELEPHONE NUMBER *(Include area code)* 410.962.6728

Reset

Standard Form 298 (Rev. 8/98)
Prescribed by ANSI Std. Z39.18

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

July 1, 2020

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859187

Mr. Kevin M. Sedlak
Army National Guard
Installations & Environment – Cleanup Branch
IPA Designation
1438 State Route 534
Newton Falls, OH 44444

TRANSMITTED ELECTRONICALLY

Subject: Approval of Final Munition and Explosives of Concern (MEC) Verification Study, Open Demolition Area #1 RVAAP-03, After Action Report

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the June 24, 2020 "Final MEC Verification Study, Open Demolition Area #1 RVAAP-03, After Action Report." The document was prepared by the U.S. Army Corps of Engineers.

Ohio EPA approves the document.

If you have any questions concerning this letter, please contact Edward D'Amato at (330) 963-1170, or via email at ed.damato@epa.ohio.gov.

Sincerely,

Megan Oravec

Edward D'Amato
Site Coordinator
Division of Environmental Response and Revitalization

ED/sc

RECEIVED
JUL 02 2020

ec: Katie Tait, OHARNG RTLS
Nat Peters, USACE
Craig Coombs, USACE
Rebecca Shreffler, Chenega
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Megan Oravec, Ohio EPA, NEDO, DERR
Bob Princic, Ohio EPA, NEDO, DERR
Tom Schneider, Ohio EPA, SWDO, DERR

DISCLAIMER STATEMENT

STATEMENT OF TECHNICAL REVIEW

PN: 453698

NAME OF PROJECT: MEC Verification Study, Open Demolition Area #1 (ODA1) (RVAAP-003)

LOCATION: Former Ravenna Army Ammunition Plant, OH

PROJECT MANAGER: Travis McCoun

DOCUMENT/DELIVERABLE: MEC Verification Study After Action Report, ODA1, Draft

An independent technical review (ITR) that is appropriate to the level of risk and complexity inherent in the project has been conducted as defined in the Project Management Plan. During the ITR, compliance with established policy, principles, and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions; methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used and level obtained; and reasonableness of the result, including whether the product meets the stakeholders' needs consistent with law and existing USACE policy. The signatures of each of the disciplines below affirm that the ITR was accomplished and all comments resulting from ITR have been resolved.

TECHNICAL DISCIPLINE	REVIEWER	SIGNATURE
Explosive Safety	Marty Holmes	HOLMES.MARTY.ALAN.1017090972 Digitally signed by HOLMES.MARTY.ALAN.1017090972 Date: 2020.04.27 11:58:51 -04'00'
Munitions Response	Wayne Davis	DAVIS.WAYNE.F.1289107378 Digitally signed by DAVIS.WAYNE.F.1289107378 Date: 2020.04.27 11:46:32 -04'00'

CERTIFICATION OF INDEPENDENT TECHNICAL REVIEW

As noted above, all concerns resulting from independent technical review of the project have been fully resolved.

TECHNICAL TEAM LEAD
Travis R. McCoun, P.G.
Program Manager, NAB MMDC

MCCOUN.TRAVIS.REID.1252769753 Digitally signed by MCCOUN.TRAVIS.REID.1252769753 Date: 2020.04.27 12:05:13 -04'00'

DATE 27 APR 2020

CHIEF, EMDC
Michael J. Rogers, P.E., PMP
Chief, Environmental & Munitions
Design Center USACE Baltimore District

Digitally signed by ROGERS.MICHAEL.J.1229256420 Date: 2020.04.27 12:44:05 -04'00'

DATE 27 APR 2020

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Final MEC Verification Study After Action Report at RVAAP-03 Open Demolition Area #1

Name/Organization	Number of Printed Copies	Number of CDs
Kevin Sedlak, ARNG – Camp James A. Garfield	*Electronic submission*	
Katie Tait, OHARNG – Camp James A. Garfield	*Email transmittal letter only*	
Ed D'Amato, Ohio EPA-NEDO	*Electronic submission*	
Bob Princic, Ohio EPA-NEDO	*Email transmittal letter only*	
Natalie Oryshkewych, Ohio EPA-NEDO	*Email transmittal letter only*	
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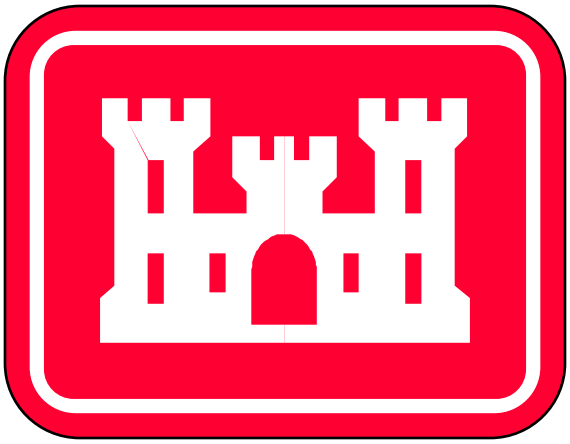
Craig Coombs, USACE – Louisville District	*Email transmittal letter only*	
Travis McCoun, USACE – Baltimore District	*Email transmittal letter only*	
Administrative Records Manager – Camp James A. Garfield	2	2

ARNG = Army National Guard.
I&E = Installations and Environment.
NEDO = Northeast District Office.
OHARNG = Ohio Army National Guard.
Ohio EPA = Ohio Environmental Protection Agency.
SWDO = Southwest District Office.
USACE = U.S. Army Corps of Engineers.



Final
MEC Verification Study After Action Report for the RVAAP-03 Open Demolition Area #1

Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Prepared by

Environmental and Munitions Design Center
Baltimore District
U.S. Army Corps of Engineers

June 24, 2020

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ACRONYMS AND ABBREVIATIONS

AAR	After Action Report
AOC	Area of Concern
BEM	Buried Explosion Module
CJAG	Camp James A. Garfield
ft	Foot
IRA	Interim Removal Action
IRP	Installation Restoration Program
lb	Pound
MDAS	Material Documented as Safe
MEC	Munitions and Explosives of Concern
MPPEH	Material Presenting a Potential Explosive Hazard
OB/OD	Open Burial/Ordnance Disposal
ODA1	Open Demolition Area #1
OESS	Ordnance and Explosive Safety Specialist
RVAAP	Ravenna Army Ammunition Plant
USACE	U.S. Army Corps of Engineers

1.0 PURPOSE

The purpose of this After Action Report (AAR) is to summarize the results of the Munitions and Explosives of Concern (MEC) Verification Study conducted by the U.S. Army Corps of Engineers (USACE) at the Open Demolition Area #1 (ODA1) (RVAAP-03) site at the Former Ravenna Army Ammunition Plant (RVAAP). The Former RVAAP is currently known as Camp James A. Garfield (CJAG) and is located in Portage and Trumbull counties, Ohio.

This MEC Verification Study was conducted to collect information necessary to determine if an explosive hazard exists at ODA1. The study investigated subsurface ferrous and nonferrous features, including single-point and multi-point anomalies to determine if MEC is present at the site. In addition, the study evaluated whether a Kickout Area was present at the site as a result of previous demolition activities.

The goal of the study was to determine if an explosive safety hazard existed at ODA1 due to the presence of MEC. Information collected during this study will be used to support a Probability Assessment for MEC.

2.0 SCOPE

ODA1 was used to thermally treat munitions by open burn / open detonation (OB/OD). A remedial action was previously conducted to remediate surface and subsurface soil at the site. Munitions debris is known to be present in the subsurface. The purpose of this investigation was to determine if an explosive safety hazard exists at the site due to the presence of MEC.

The area evaluated in the study is 8.16 acres (red boundary illustrated on **Figure 1**). The primary Area of Concern (AOC) is approximately 6 acres, located in the southern portion of the investigation area (southern portion of site illustrated with red boundary on **Figure 1**). The AOC is an approximately 1.5-acre circular grass-covered area surrounded by a 1-foot (ft) berm. This area is contained within the yellow boundary illustrated on **Figure 1**. OB/OD activities were historically conducted within the AOC. The scope of this investigation included all areas illustrated in **Figure 1**. It should be noted that not all step-out grids in the grid network were intrusively investigated based on the results observed in the AOC.

The scope of the MEC Verification Study included the following tasks:

- Mark boundaries and remove vegetation.
- Install a 100 × 100 ft grid network in the OB/OD Area and Kickout Area.
- Conduct single-point anomaly excavations in OB/OD Area and Kickout Area. Investigate low anomaly density areas to determine the presence or absence of MEC.

- Evaluate large anomalous features to identify highly disturbed areas (moderate anomaly density) and disposal pits.
- Conduct intrusive investigations in highly disturbed areas (moderate anomaly density). Investigate moderate anomaly density areas to determine the presence or absence of MEC.
- Conduct test-pit investigations in disposal pits. Investigate high anomaly density areas to determine the presence or absence of MEC.
- Dispose of all MEC and Material Presenting a Potential Explosive Hazard (MPPEH) deemed acceptable to move to the Buried Explosion Module (BEM).
- Dispose by the blow-in-place method any MEC deemed unacceptable to move.
- Dispose of all solid waste recovered from excavations.
- Prepare an AAR.

3.0 WORK PERFORMED

This section summarizes tasks completed as part of the MEC Verification Study at ODA1. All work was conducted between 6 January 2020 and 29 February 2020. Weekly reports were completed to document field activities and are included in **Appendix A**. All excavations and anomaly recoveries were recorded on field data forms (grid sheets) and are included in **Appendix B**. All MPPEH was inspected, photographed, certified, and recycled as Material Documented as Safe (MDAS) (**Appendix B** and **Appendix C**).

3.1 Boundary Marking and Grid Survey

Ordnance and Explosive Safety Specialist (OESS) personnel installed a 100 x 100 ft grid system at ODA1 to encompass the OB/OD, Kickout, and surrounding areas, as illustrated in **Figure 1**. OESS personnel established boundary control points and marked grid corners using the coordinates included in **Appendix D**. Grid stakes were then installed using anomaly avoidance procedures.

3.2 Surface Clearance

OESS personnel conducted a magnetometer-assisted surface sweep of the work area by using a handheld analog instrument (magnetometer and all metals). The purpose of the surface sweep was to remove potential explosive hazards to prepare the site for future clearing and grubbing activities. No MEC or munitions debris was recovered during the surface clearance.

A complete surface clearance was not completed in grid H-3 due to saturation of the soil and presence of standing water.

3.3 Brush Clearing

OESS personnel conducted brush clearing activities in the work area by using a skid-steer-mounted brush cutter and hand tools. Vegetation removal was limited to removal of tall grass and brush. Numerous tree branches and other vegetative debris were cut into manageable sections and removed from the study area. All vegetative matter was staged outside the work area and left in place to decompose.

3.4 Instrument-Assisted Survey

OESS personnel conducted a ferrous and nonferrous instrument-assisted survey of the OB/OD Area and Kickout Area. OESS personnel used magnetometers and an all-metals detector to identify anomalies and to evaluate anomaly density. Anomalies were marked and then excavated using hand tools and a mini-excavator to (1) verify anomaly density and (2) determine if MEC is present at the site.

3.5 Investigation of Anomalies

Only single-point anomalies were encountered during the investigation at ODA1. Anomaly density was observed to be similar and consistent across the entire study area. A defined Kickout Area was not observed to be present at the site. Excavated soils showed evidence of previous disturbance. Munitions debris is present at the site and was recovered from numerous excavations. MEC was not encountered at the site. The following summarizes work completed for each survey conducted at ODA1.

Ferrous Instrument-Assisted Survey of the OB/OD Area – OESS personnel conducted a ferrous instrument-assisted survey in the OB/OD Area of ODA1 using a Schonstedt GA-52cX. Only single-point anomalies were encountered during the investigation. OESS personnel intrusively investigated all single-point anomalies. Hand tools and a mini-excavator assisted in the excavations to depth of detection. All anomalies were detected within the top 18 inches of soil. Only munitions debris and cultural debris were recovered from the OB/OD Area. MEC was not encountered during this survey.

Ferrous and Nonferrous Instrument-Assisted Survey of the Kickout Area – Only single-point anomalies were encountered during the investigation. OESS personnel intrusively investigated all single-point anomalies with hand tools and a mini-excavator to depth-of-detection. All anomalies were detected within the top 18 inches of soil. Only munitions debris and cultural debris were recovered from the Kickout Area. A defined Kickout Area was not observed to be present at the site. MEC was not encountered during this survey.

Survey of Highly Disturbed Areas – Only single-point anomalies were encountered during the investigation. Consequently, no highly disturbed (moderate or high anomaly densities) were observed at the site.

Survey of Disposal Pits – Only single-point anomalies were encountered during the investigation. Consequently, no disposal pits were observed at the site. OESS personnel excavated two exploratory trenches to investigate an area that formerly contained two large geophysical features. These features were removed as part of the previous soil removal action. One trench was excavated in a north–south orientation along the E7 and E8 grid line, the second in an east–west orientation along the G3 and H3 grid line (**Figure 2**). Each trench was approximately 20 ft long and 2 ft in depth. No anomalies or disposal pits were observed in the trenches, confirming that the previous removal action completely removed the geophysical features previously observed at the site.

4.0 FINDINGS

OESS personnel intrusively investigated all subsurface anomalies at the ODA1 site. Only single-point anomalies were encountered during the investigation. No large anomalous features or disposal pits were encountered. Exploratory trenches confirmed that no large geophysical features remained at the site. A defined Kickout Area was not observed to be present at the site.

A total of 36 grids were intrusively investigated. Grid Sheets are included in **Appendix B**. Munitions debris was recovered in all but five grids: E8, F6, G4, G7, and H3 (**Figure 2**). Intrusive activities in grid H3 were not comprehensive due to the presence of saturated soil and standing water. Recovered munitions debris included miscellaneous fuze components, fragments, and expended grenade fuzes. Photographs of recovered munitions debris are included in **Appendix B**. MEC was not encountered at ODA1 during this verification survey.

A total of 204 pounds (lb) of munitions debris and 216 lb of cultural debris was recovered from ODA1. All MPPEH was inspected, certified as MDAS, and recycled. All scrap metal was recycled at a local recycling facility. A total of 420 lb of scrap metal was recycled, including all munitions debris, cultural debris, and shipping containers. Form DD 1348-1A for MDAS is included in **Appendix C**.

5.0 DISCUSSION AND PROBABILITY ASSESSMENT

An Interim Removal Action (IRA) was conducted as part of the Installation Restoration Program (IRP) in 2000–2001 at ODA1. The IRA was conducted to address munitions constituents in soil. As part of that action, most of the area was excavated and sifted to remove material potentially presenting an explosive hazard. A total of 81,801 lb of munitions debris was recovered, inspected, and certified as MDAS. One MEC item was recovered: an unfuzed, unfired 75 mm Shrapnel with an intact pusher plate (potentially containing a black powder charge that propels the lead balls). No other MEC items were recovered from ODA1.

The U.S. Army Corps of Engineers Baltimore District Ordnance and Explosive Safety Section conducted this MEC Verification Study at ODA1 between 6 January 2020 and

29 February 2020. The field team swept the entire 8.16 acre area and excavated several exploratory trenches having dimensions 20 ft long by 2 ft deep. Only minor munitions debris was recovered during the study. No MEC or evidence of MEC was recovered or observed.

Field observations made by OESS personnel during the MEC Verification Study confirm that significant soil disturbance occurred at the site. Only minor evidence of military munitions was observed, and no MEC was recovered. These results confirm that the IRA previously conducted at ODA1 significantly reduced the explosive safety hazard by removing munitions debris and military munitions from the site.

In considering the types of activities that have occurred at this site, the extensive soil disturbance activities, and only one verified report of MEC being encountered during the IRA, it is the recommended that the ODA1 site be categorized as “Low Probability” for encountering MEC in accordance with DESR 6055.09 Edition 1. It is also recommended that on-call construction support be available during earth-disturbance activities. The three “R’s” (Recognize, Retreat, Report) should be followed at all times.

6.0 SUMMARY AND RECOMMENDATION

USACE personnel intrusively investigated all subsurface anomalies as part of the MEC Verification Study at ODA1. A total of 204 lb of munitions debris was recovered from 31 of 36 grids investigated. No MEC was observed or recovered during the investigation. In addition, OESS personnel conducted exploratory trenches and verified that no large geophysical features remained at the site. A defined Kickout Area was not observed to be present at the site.

Based on this information, a “Low Probability” assessment for encountering MEC is recommended for ODA1. A Probability Assessment for MEC at ODA1 is included in **Appendix E**.

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FIGURES

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Figure 1 – Open Demolition Area #1, MEC Verification Study Grid and Previous Removal Action Results, Former Ravenna Army Ammunition Plant, Ravenna, Ohio

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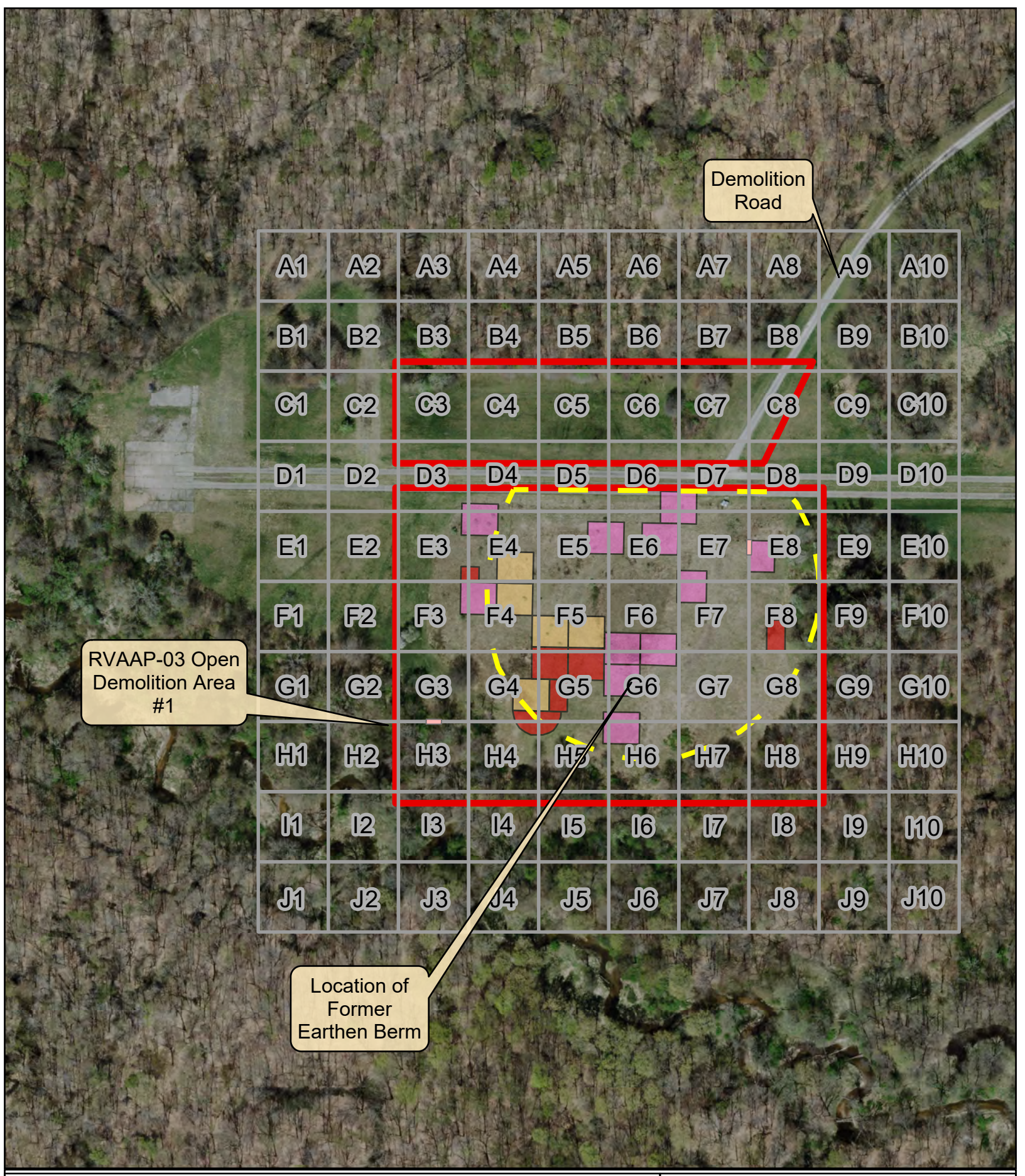

Legend

- ODA1 AOC Boundary
- Open Demolition Area #1 Investigation Area (8.16 Acres)
- Previous Removal Explosives and Metals
- Previous Removal MEC/MD
- Previous Removal Metals
- Site Grid

0 75 150 300 Feet

N

US Army Corps of Engineers
Baltimore District

Figure 1 - Open Demolition Area #1, MEC Verification Study Grid and Previous Removal Action Results, Former Ravenna Army Ammunition Plant, Ravenna, Ohio

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Figure 2 – Open Demolition Area #1, MEC Verification Study Results, Former Ravenna Army Ammunition Plant, Ravenna, Ohio

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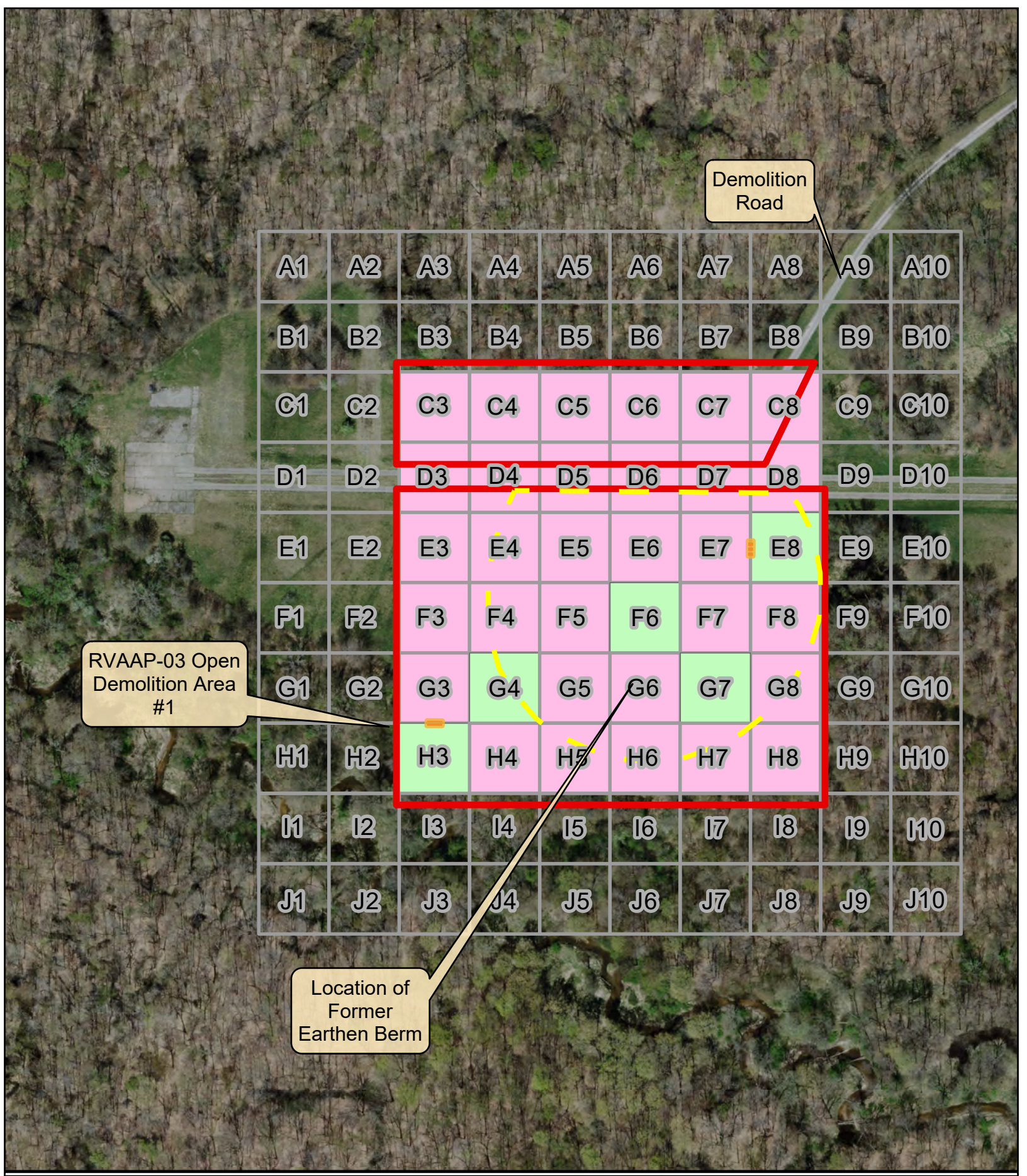

Legend

- ODA1 AOC Boundary
- Open Demolition Area #1 Investigation Area (8.16 Acres)
- Trenches
- Grid
- No Munitions Debris Recovered
- Munitions Debris Recovered

0 75 150 300 Feet

N

US Army Corps of Engineers
Baltimore District

Figure 2 - Open Demolition Area #1, MEC Verification Study Results,
Former Ravenna Army Ammunition Plant,
Ravenna, Ohio

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APPENDICES

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Appendix A – Weekly Reports

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Weekly Site Report

RVAAP-003 Open Demolition Area #1
Camp James A. Garfield Joint Military Training Center
Ravenna, Ohio

Document #	Project Number:	DATE:
USACE CJAG– 1	PN453698	**6-10 January 2020**

Team Personnel:

Site Supervisor: John Day
QC/Safety: Dan Dorrell
Team Members: Ricky Whitten, Clint Verelle and Shawn Meek

Goals:

- Site mobilization, work plan/safety plan review, site set up, equipment rental, set up instrument verification strip (IVS), surface sweep to identify any obstacles to brush clearing, begin brush clearing, and establish site boundaries.

Tasks completed:

- Site mobilization and set up.
- Work plan/safety plan sent to all personnel, and reviewed by all.
- Generator and mower deck were brought to the site from Baltimore by Clint Verelle.
- Skid Steer and Excavator rented and dropped off by Sunbelt Rentals.
- IVS set up and verified with all of the magnetometers that will be used.
- Unloaded Generator and mower deck from trailer, set up generator, and connected power to site office.
- Completed surface sweep.
- Hooked mower to skid steer, and began brush cutting.

Comments: Monday Jan 6, had kick off meeting with Katie Tate and Kevin Sedlak of Camp James A. Garfield. Discussed schedule, assistance received from the base, and the work plan.

BEM: Inspection complete.

Other work performed:

Comments:

PREPARED BY:	**SIGNATURE:**
John L. Day	

Site set up.

Receiving excavator and skid steer from Sunbelt Rentals.

Hooking up the mower deck.

Hooking up the mower deck.

Weekly Site Report

RVAAP-003 Open Demolition Area #1
Camp James A. Garfield Joint Military Training Center
Ravenna, Ohio

Document #	Project Number:	DATE:
USACE CJAG– 2	PN453698	**13-17 January 2020**

Team Personnel:

Site Supervisor: John Day
QC/Safety: Dan Dorrell
Team Members: Ricky Whitten, and Shawn Meek

Goals:

- Receive GPS, set up stake coordinates in GPS, continue brush cutting, determine how much silt fence will be needed and where it will be placed, and begin grid stakeout.

Tasks completed:

- Received GPS from Keystone Precision Instruments.
- Began brush cutting.
- Began grid stakeout.
- Ordered supplies to include 1500 feet of silt fence

Comments: Staking out the grids started slowly due to a broken antenna cable on the GPS causing the system to not perform accurately. Keystone Precision was contacted and a replacement cable was sent.

BEM: Inspection complete.

Other work performed: None

PREPARED BY:	**SIGNATURE:**
John L. Day	

Brush cutting.

GPS familiarization, and begin grid stake out.

CAMP RAVENNA JOINT MILITARY TRAINING CENTER

Date: 17 Jan 2020			
Inspected by: John Day			
Weather Conditions: Seasonal, temp: 0-50			
Time: 1200			
	Satisfactory	Unsatisfactory	Comment #
A. Vehicular Access			
1. Entrance road from Newton Falls Rod. To Demolition Site.	**x**		
2. Access road to Bldg 1501	**x**		
3. Access road to Bldg 1502	**x**		
B. Entrance Gate			
1.Entrance gate chain functional and structurally sound	**x**		
2. Warning signs and flags	**x**		
3. Key lock in place	**x**		
C. Explosive Magazine (adjacent to 1501)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Condition of warning signs	**x**		
4. Evidence of tampering	**x**		
5. Evidence of damage	**x**		
6. Evidence of loose trash/debris	**x**		
D. Building 1501 (Exterior) (if active)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Condition of warning signs	**x**		
4. Evidence of tampering	**x**		
5. Evidence of damage	**x**		
6. Evidence of loose trash/debris	**x**		
7. Condition of soil cover	**x**		
E. Building 1501 (Interior) (if active)			
1. General concrete integrity	**x**		
2. Floor integrity	**x**		
3. Ceiling integrity	**x**		
4. Evidence of loose trash/debris	**x**		
5. spill control equipment	**x**		
F. Building 1502 (Exterior) (if active)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Condition of warning signs	**x**		
4. Evidence of tampering	**x**		
5. Evidence of damage	**x**		
6. Evidence of loose trash/debris	**x**		
7. Condition of soil cover	**x**		

	Satisfactory	Unsatisfactory	Comment

G. Building 1502 (Interior) (if active)			
1. General concrete integrity	**x**		
2. Floor integrity	**x**		
3. Ceiling integrity	**x**		
4. Evidence of loose trash/debris	**x**		
5. spill control equipment	**x**		
H. On-site Storage Trailers			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Evidence of tampering	**x**		
4. Structural integrity	**x**		
5. Trailer level & wheels chocked	**x**		
6. Appropriate placarding	**x**		
I. Fire extinguishers			
1. Condition	**x**		
J. Demolition Site (weekly)			
1. Housekeeping of general area	**x**		
2. Condition of drainage / run-off	**x**		
3. Condition of lower siltation fencing	**x**		
4. Condition of adjacent stream	**x**		
5. Evidence of erosion	**x**		
6. Cover intact	**x**		
K. Site Operation Equipment			
1. Condition of backhoe	**x**		
2. Condition of Skid Steer	**x**		
3. Condition of material transport vehicle	**x**		
O. Repairs / Remedial Actions (R/RA):			

Weekly Site Report

RVAAP-003 Open Demolition Area #1
Camp James A. Garfield Joint Military Training Center
Ravenna, Ohio

Document #	Project Number:	DATE:
USACE CJAG– 3	PN453698	**21-24 January 2020**

Team Personnel:

Site Supervisor: John Day
QC/Safety: Dan Dorrell
Team Members: Ricky Whitten, Matthew Rushwald, James Ennis, and Shawn Meek

Goals:

- Continue brush cutting, Continue grid stakeout, Begin grid sweeps, and begin placing silt fence.

Tasks completed:

- Completed Brush cutting.
- Completed grid stake out.
- Began silt fence.
- Briefed two new team members on site layout, work plan, safety plan, and emergency procedures.
- Returned GPS to Keystone Precision.
- Grid sweeps began in Grid C-3

Comments: Matt Rushwald, and James Ennis mobilized to the site on Tuesday, and began work on Wednesday.

BEM: Inspection complete.

Other work performed: None

PREPARED BY:	SIGNATURE:
John L. Day	

Making sure the spot for the stake is clear of any hazard.

Placing the stake.

Stake placement with a Trimble Geo7x.

Beginning the trench for silt fence.

Sweeping lanes with a magnetometer.

CAMP RAVENNA JOINT MILITARY TRAINING CENTER

Date: 24 Jan 2020	
Inspected by: John Day	
Weather Conditions: Seasonal, temp: 0-50	
Time: 1200	

	Satisfactory	Unsatisfactory	Comment #
A. Vehicular Access			
1. Entrance road from Newton Falls Rod. To Demolition Site.	**x**		
2. Access road to Bldg 1501	**x**		
3. Access road to Bldg 1502	**x**		
B. Entrance Gate			
1.Entrance gate chain functional and structurally sound	**x**		
2. Warning signs and flags	**x**		
3. Key lock in place	**x**		
C. Explosive Magazine (adjacent to 1501)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Condition of warning signs	**x**		
4. Evidence of tampering	**x**		
5. Evidence of damage	**x**		
6. Evidence of loose trash/debris	**x**		
D. Building 1501 (Exterior) (if active)	**N/A**		
1. Security of doors			
2. Security of locks			
3. Condition of warning signs			
4. Evidence of tampering			
5. Evidence of damage			
6. Evidence of loose trash/debris			
7. Condition of soil cover			
E. Building 1501 (Interior) (if active)	**N/A**		
1. General concrete integrity			
2. Floor integrity			
3. Ceiling integrity			
4. Evidence of loose trash/debris			
5. spill control equipment			
F. Building 1502 (Exterior) (if active)	**N/A**		
1. Security of doors			
2. Security of locks			
3. Condition of warning signs			
4. Evidence of tampering			
5. Evidence of damage			
6. Evidence of loose trash/debris			
7. Condition of soil cover			

	Satisfactory	Unsatisfactory	Comment

G. Building 1502 (Interior) (if active)	**N/A**		
1. General concrete integrity			
2. Floor integrity			
3. Ceiling integrity			
4. Evidence of loose trash/debris			
5. spill control equipment			
H. On-site Storage Trailers (ODA 1)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Evidence of tampering	**x**		
4. Structural integrity	**x**		
5. Trailer level & wheels chocked	**x**		
6. Appropriate placarding	**x**		
I. Fire extinguishers			
1. Condition	**x**		
J. Demolition Site (weekly)			
1. Housekeeping of general area	**x**		
2. Condition of drainage / run-off	**x**		
3. Condition of lower siltation fencing	**x**		
4. Condition of adjacent stream	**x**		
5. Evidence of erosion	**x**		
6. Cover intact	**x**		
K. Site Operation Equipment			
1. Condition of backhoe	**x**		
2. Condition of Skid Steer	**x**		
3. Condition of material transport vehicle	**x**		
O. Repairs / Remedial Actions (R/RA):			

Weekly Site Report

RVAAP-003 Open Demolition Area #1
Camp James A. Garfield Joint Military Training Center
Ravenna, Ohio

Document #	Project Number:	DATE:
USACE CJAG– 4	PN453698	**27-31 January 2020**

Team Personnel:

Site Supervisor: John Day
QC/Safety: Dan Dorrell
Team Members: Ricky Whitten, Matthew Rushwald, James Ennis, Richard Shellenbarger, and Shawn Meek

Goals:

- Continue grid sweeps, and complete placing silt fence.

Tasks completed:

- Completed silt fence.
- Grids C-3, C-4, C-5, C-6, C-7, C-8, D-3, D-4, D-5, D-6, D-7, and D-8 Completed
- No MEC was recovered in the completed grids.
- 50 pounds of MD (Munitions Debris), and 28 pounds of CD (Cultural Debris) was recovered from completed grids.

Comments: Richard Shellenbarger mobilized to the site on Monday, and began work on Tuesday.

BEM: Inspection complete.

Upcoming events: 5 Feb 2020-USACE project manager will be on site for a site visit with CJAG environmental, and US Army NGB personnel.

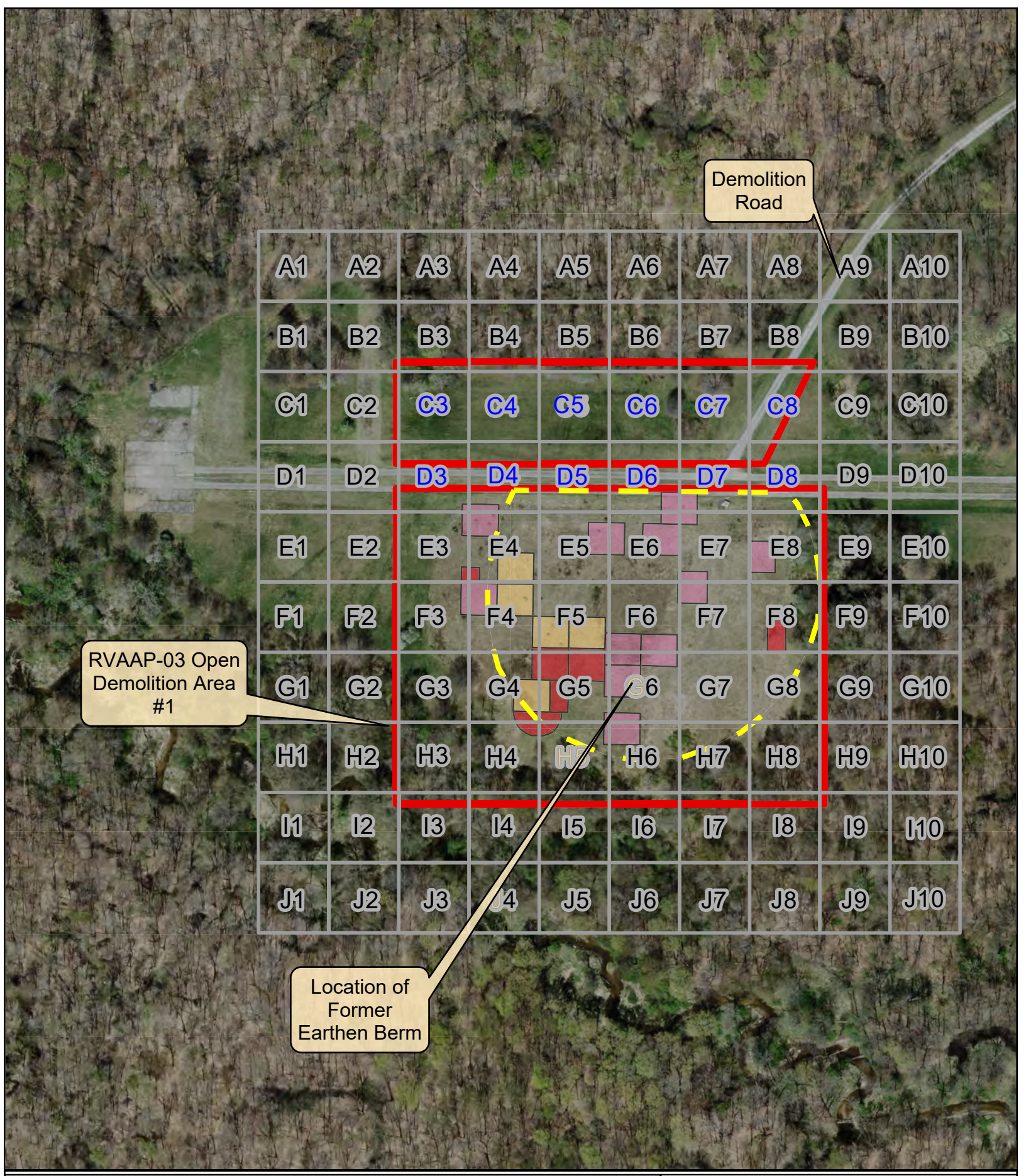
PREPARED BY:	SIGNATURE:
John L. Day	

Installing silt fence

Conducting grid sweeps using a Whites all metals detector and a Schonstedt GA 52 Magnetometer.

Investigating an anomaly.

Investigating an anomaly.



Legend

- ODA1 AOC Boundary
- Open Demolition Area #1 Investigation Area (8.16 Acres)
- Explosives and Metals
- MEC/MD
- Metals
- Site Grid

Complete grids High lighted in blue

0 75 150 300 Feet

A-25

N

US Army Corps of Engineers
Baltimore District

Figure 5 - Open Demolition Area #1, MEC Verification Study Grid and Previous Removal Action Results, Former Ravenna Army Ammunition Plant, Ravenna, Ohio

CAMP RAVENNA JOINT MILITARY TRAINING CENTER

Date: 31 Jan 2020	
Inspected by: John Day	
Weather Conditions: Seasonal, temp: 0-50	
Time: 1200	

	Satisfactory	Unsatisfactory	Comment #
A. Vehicular Access			
1. Entrance road from Newton Falls Rod. To Demolition Site.	**x**		
2. Access road to Bldg 1501	**x**		
3. Access road to Bldg 1502	**x**		
B. Entrance Gate			
1.Entrance gate chain functional and structurally sound	**x**		
2. Warning signs and flags	**x**		
3. Key lock in place	**x**		
C. Explosive Magazine (adjacent to 1501)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Condition of warning signs	**x**		
4. Evidence of tampering	**x**		
5. Evidence of damage	**x**		
6. Evidence of loose trash/debris	**x**		
D. Building 1501 (Exterior) (if active)	**N/A**		
1. Security of doors			
2. Security of locks			
3. Condition of warning signs			
4. Evidence of tampering			
5. Evidence of damage			
6. Evidence of loose trash/debris			
7. Condition of soil cover			
E. Building 1501 (Interior) (if active)	**N/A**		
1. General concrete integrity			
2. Floor integrity			
3. Ceiling integrity			
4. Evidence of loose trash/debris			
5. spill control equipment			
F. Building 1502 (Exterior) (if active)	**N/A**		
1. Security of doors			
2. Security of locks			
3. Condition of warning signs			
4. Evidence of tampering			
5. Evidence of damage			
6. Evidence of loose trash/debris			
7. Condition of soil cover			

	Satisfactory	Unsatisfactory	Comment

G. Building 1502 (Interior) (if active)	**N/A**		
1. General concrete integrity			
2. Floor integrity			
3. Ceiling integrity			
4. Evidence of loose trash/debris			
5. spill control equipment			
H. On-site Storage Trailers (ODA 1)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Evidence of tampering	**x**		
4. Structural integrity	**x**		
5. Trailer level & wheels chocked	**x**		
6. Appropriate placarding	**x**		
I. Fire extinguishers			
1. Condition	**x**		
J. Demolition Site (weekly)			
1. Housekeeping of general area	**x**		
2. Condition of drainage / run-off	**x**		
3. Condition of lower siltation fencing	**x**		
4. Condition of adjacent stream	**x**		
5. Evidence of erosion	**x**		
6. Cover intact	**x**		
K. Site Operation Equipment			
1. Condition of backhoe	**x**		
2. Condition of Skid Steer	**x**		
3. Condition of material transport vehicle	**x**		
O. Repairs / Remedial Actions (R/RA):			

Weekly Site Report

RVAAP-003 Open Demolition Area #1
Camp James A. Garfield Joint Military Training Center
Ravenna, Ohio

Document #	Project Number:	DATE:
USACE CJAG– 5	PN453698	**3-7 February 2020**

Team Personnel:

Site Supervisor: John Day
QC/Safety: Dan Dorrell
Team Members: Ricky Whitten, Matthew Rushwald, James Ennis, Richard Shellenbarger, and Shawn Meek

Goals:

- Continue grid sweeps.

Tasks completed:

- Grids E-3, E-4, E-5, E-6, E-7, E-8, F-3, F-4, F-5, F-6, F-7, and F-8 Completed
- No MEC was recovered in the completed grids.
- 55 pounds of MD (Munitions Debris), and 18 pounds of CD (Cultural Debris) was recovered from completed grids.

Comments: 5 Feb 2020-Travis McCoun USACE, Kevin Sedlak CJAG, Sue Oliver Management Solutions, Dave Connolly NGB, and Nat Peters USACE, Visited the site. They were given a quick overview of the work that is being done, safety, and a site tour.

BEM: Inspection complete.

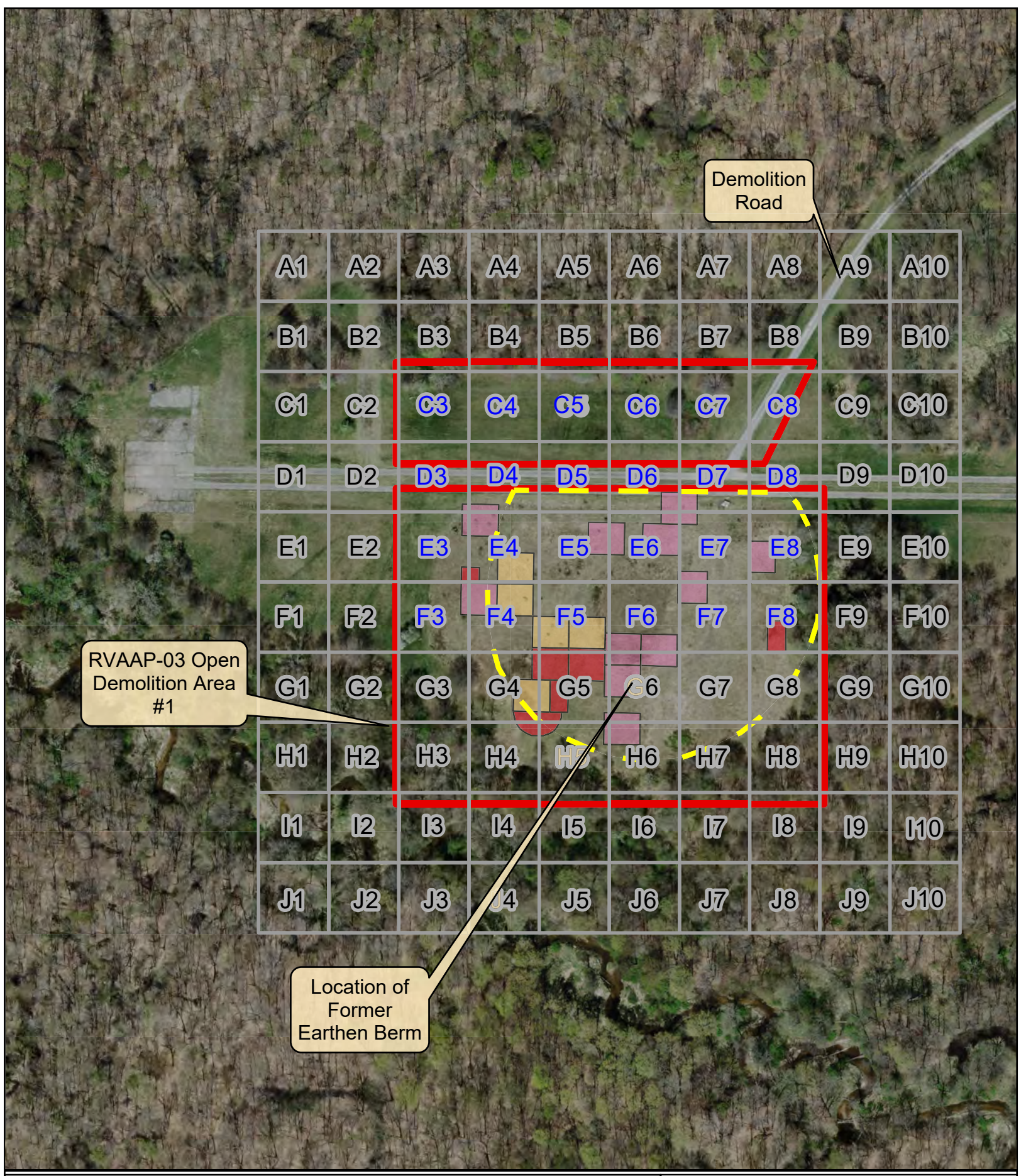
Upcoming events: None

PREPARED BY:	SIGNATURE:
John L. Day	

Using the excavator to investigate larger anomalies.

Moving the sweep lanes to the next grid to be swept.

Sweeping the lanes with GA52 Magnetometers.



Legend

- ODA1 AOC Boundary
- Open Demolition Area #1 Investigation Area (8.16 Acres)
- Explosives and Metals
- MEC/MD
- Metals
- Site Grid

Complete grids Highlighted in blue

0 75 150 300 Feet

A-31

N

US Army Corps of Engineers
Baltimore District

Figure 5 - Open Demolition Area #1, MEC Verification Study Grid and Previous Removal Action Results, Former Ravenna Army Ammunition Plant, Ravenna, Ohio

CAMP RAVENNA JOINT MILITARY TRAINING CENTER

Date: 7 February 2020			
Inspected by: John Day			
Weather Conditions: Seasonal, temp: 0-50			
Time: 1200			
	Satisfactory	Unsatisfactory	Comment #
A. Vehicular Access			
1. Entrance road from Newton Falls Rod. To Demolition Site.	**x**		
2. Access road to Bldg 1501	**x**		
3. Access road to Bldg 1502	**x**		
B. Entrance Gate			
1.Entrance gate chain functional and structurally sound	**x**		
2. Warning signs and flags	**x**		
3. Key lock in place	**x**		
C. Explosive Magazine (adjacent to 1501)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Condition of warning signs	**x**		
4. Evidence of tampering	**x**		
5. Evidence of damage	**x**		
6. Evidence of loose trash/debris	**x**		
D. Building 1501 (Exterior) (if active)	**N/A**		
1. Security of doors			
2. Security of locks			
3. Condition of warning signs			
4. Evidence of tampering			
5. Evidence of damage			
6. Evidence of loose trash/debris			
7. Condition of soil cover			
E. Building 1501 (Interior) (if active)	**N/A**		
1. General concrete integrity			
2. Floor integrity			
3. Ceiling integrity			
4. Evidence of loose trash/debris			
5. spill control equipment			
F. Building 1502 (Exterior) (if active)	**N/A**		
1. Security of doors			
2. Security of locks			
3. Condition of warning signs			
4. Evidence of tampering			
5. Evidence of damage			
6. Evidence of loose trash/debris			
7. Condition of soil cover			

	Satisfactory	Unsatisfactory	Comment

G. Building 1502 (Interior) (if active)	**N/A**		
1. General concrete integrity			
2. Floor integrity			
3. Ceiling integrity			
4. Evidence of loose trash/debris			
5. spill control equipment			
H. On-site Storage Trailers (ODA 1)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Evidence of tampering	**x**		
4. Structural integrity	**x**		
5. Trailer level & wheels chocked	**x**		
6. Appropriate placarding	**x**		
I. Fire extinguishers			
1. Condition	**x**		
J. Demolition Site (weekly)			
1. Housekeeping of general area	**x**		
2. Condition of drainage / run-off	**x**		
3. Condition of lower siltation fencing	**x**		
4. Condition of adjacent stream	**x**		
5. Evidence of erosion	**x**		
6. Cover intact	**x**		
K. Site Operation Equipment			
1. Condition of backhoe	**x**		
2. Condition of Skid Steer	**x**		
3. Condition of material transport vehicle	**x**		
O. Repairs / Remedial Actions (R/RA):			

Weekly Site Report

RVAAP-003 Open Demolition Area #1
Camp James A. Garfield Joint Military Training Center
Ravenna, Ohio

Document #	Project Number:	DATE:
USACE CJAG– 6	PN453698	**10-14 February 2020**

Team Personnel:

Site Supervisor: John Day
QC/Safety: Matthew Rushwald
Team Members: Ricky Whitten, James Ennis, and Shawn Meek

Goals:

- Continue grid sweeps.

Tasks completed:

- Grids G-3, G-4, G-5, G-6, G-7, G-8, H-3, and H-4 Completed.
- No MEC was recovered in the completed grids.
- 60 pounds of MD (Munitions Debris), and 19 pounds of CD (Cultural Debris) was recovered from completed grids.

Comments: Dan Dorrell and Richard Shellenbarger returned to Baltimore for training. Ricky Whitten, and James Ennis demobilized from the site on Friday 14 February.

BEM: Inspection complete.

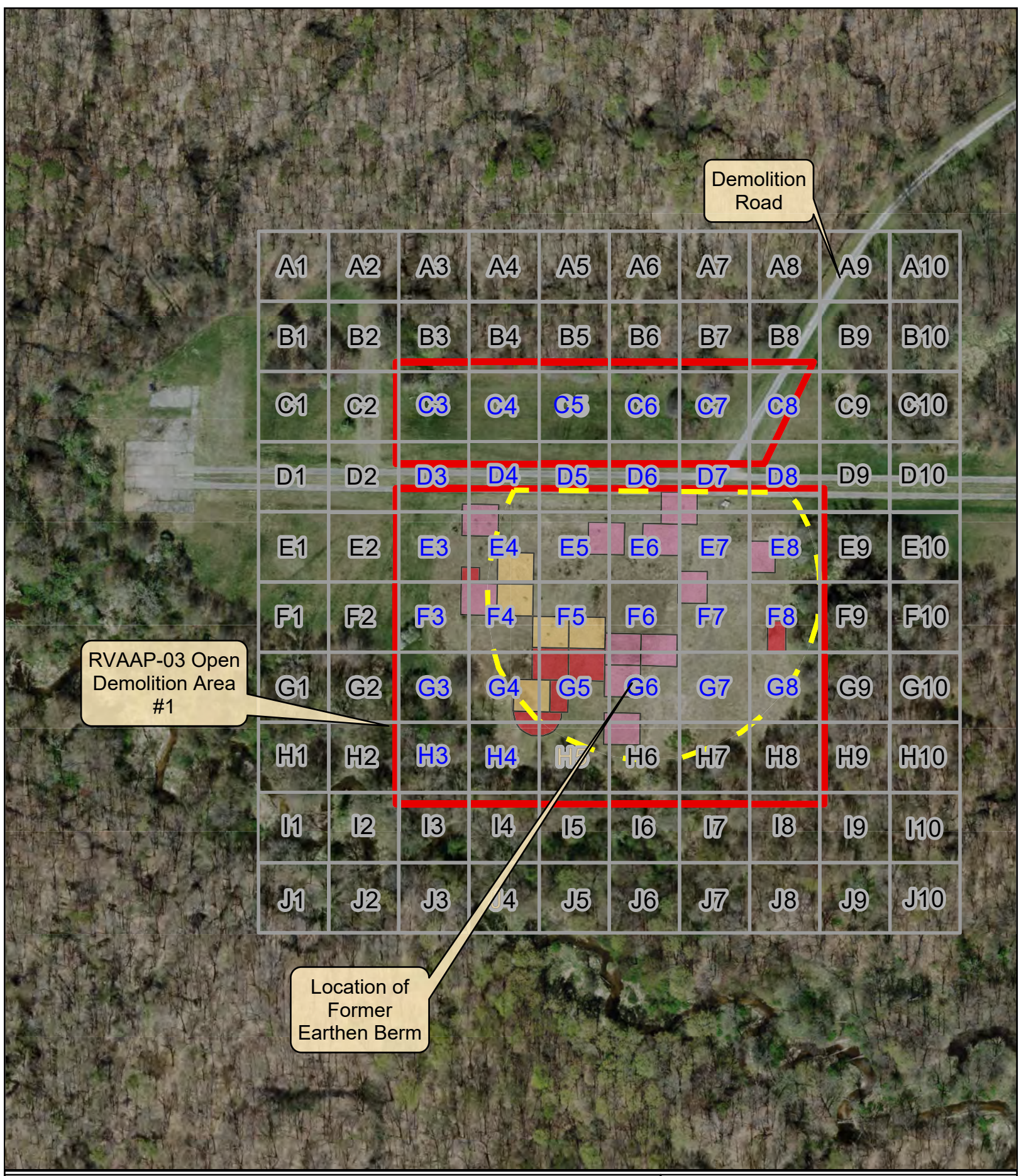
Upcoming events: Skid steer will be taken off rent next week, Grid sweeps will be completed, and site demobilization will begin.

PREPARED BY:	SIGNATURE:
John L. Day	

Investigating a larger anomaly.

Sweeping lanes.

Sweeping lanes.



Legend

- ODA1 AOC Boundary
- Open Demolition Area #1 Investigation Area (8.16 Acres)
- Explosives and Metals
- MEC/MD
- Metals
- Site Grid

Complete grids Highlighted in blue

0 75 150 300 Feet

A-37

N

US Army Corps of Engineers
Baltimore District

Figure 5 - Open Demolition Area #1, MEC Verification Study Grid and Previous Removal Action Results, Former Ravenna Army Ammunition Plant, Ravenna, Ohio

CAMP RAVENNA JOINT MILITARY TRAINING CENTER

Date: 14 February 2020	
Inspected by: John Day	
Weather Conditions: Seasonal, temp: 0-50	
Time: 1200	

	Satisfactory	Unsatisfactory	Comment #
A. Vehicular Access			
1. Entrance road from Newton Falls Rod. To Demolition Site.	**x**		
2. Access road to Bldg 1501	**x**		
3. Access road to Bldg 1502	**x**		
B. Entrance Gate			
1.Entrance gate chain functional and structurally sound	**x**		
2. Warning signs and flags	**x**		
3. Key lock in place	**x**		
C. Explosive Magazine (adjacent to 1501)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Condition of warning signs	**x**		
4. Evidence of tampering	**x**		
5. Evidence of damage	**x**		
6. Evidence of loose trash/debris	**x**		
D. Building 1501 (Exterior) (if active)	**N/A**		
1. Security of doors			
2. Security of locks			
3. Condition of warning signs			
4. Evidence of tampering			
5. Evidence of damage			
6. Evidence of loose trash/debris			
7. Condition of soil cover			
E. Building 1501 (Interior) (if active)	**N/A**		
1. General concrete integrity			
2. Floor integrity			
3. Ceiling integrity			
4. Evidence of loose trash/debris			
5. spill control equipment			
F. Building 1502 (Exterior) (if active)	**N/A**		
1. Security of doors			
2. Security of locks			
3. Condition of warning signs			
4. Evidence of tampering			
5. Evidence of damage			
6. Evidence of loose trash/debris			
7. Condition of soil cover			

	Satisfactory	Unsatisfactory	Comment

G. Building 1502 (Interior) (if active)	**N/A**		
1. General concrete integrity			
2. Floor integrity			
3. Ceiling integrity			
4. Evidence of loose trash/debris			
5. spill control equipment			
H. On-site Storage Trailers (ODA 1)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Evidence of tampering	**x**		
4. Structural integrity	**x**		
5. Trailer level & wheels chocked	**x**		
6. Appropriate placarding	**x**		
I. Fire extinguishers			
1. Condition	**x**		
J. Demolition Site (weekly)			
1. Housekeeping of general area	**x**		
2. Condition of drainage / run-off	**x**		
3. Condition of lower siltation fencing	**x**		
4. Condition of adjacent stream	**x**		
5. Evidence of erosion	**x**		
6. Cover intact	**x**		
K. Site Operation Equipment			
1. Condition of backhoe	**x**		
2. Condition of Skid Steer	**x**		
3. Condition of material transport vehicle	**x**		
O. Repairs / Remedial Actions (R/RA):			

Weekly Site Report

RVAAP-003 Open Demolition Area #1
Camp James A. Garfield Joint Military Training Center
Ravenna, Ohio

Document #	Project Number:	DATE:
USACE CJAG– 7	PN453698	**17-21 February 2020**

Team Personnel:

Site Supervisor: John Day
QC/Safety: Dan Dorrell
Team Members: Matt Rushwald, and Shawn Meek

Goals:

- Complete grid sweeps.

Tasks completed:

- Grids H-5, H-6, H-7, and H-8 Completed.
- No MEC was recovered in the completed grids.
- 100 pounds of MD (Munitions Debris), and 13 pounds of CD (Cultural Debris) was recovered from completed grids.
- 2 exploratory trenches were dug to verify that large geophysical anomalies were removed by previous actions done on the site. One trench was dug in a north-south orientation along the E-7, and E-8 grid line. This trench was approximately 20 feet long to a depth of 2 feet, after the dig it was checked with a magnetometer and found to be free of anomalies. The second trench was dug in an east-west orientation along the G-3, and H-3 grid line. This trench was approximately 20 feet long to a depth of 2 feet, after the dig it was checked with a magnetometer and found to be free of anomalies.
- Silt fence removed, and site demobilization has begun.

Comments: All grid work was completed this week.

BEM: Inspection complete.

Upcoming events: Skid steer, and Excavator will be taken off rent next week, all remaining rented site equipment will be demobilized.

PREPARED BY:	SIGNATURE:
John L. Day	

Digging the first exploratory trench.

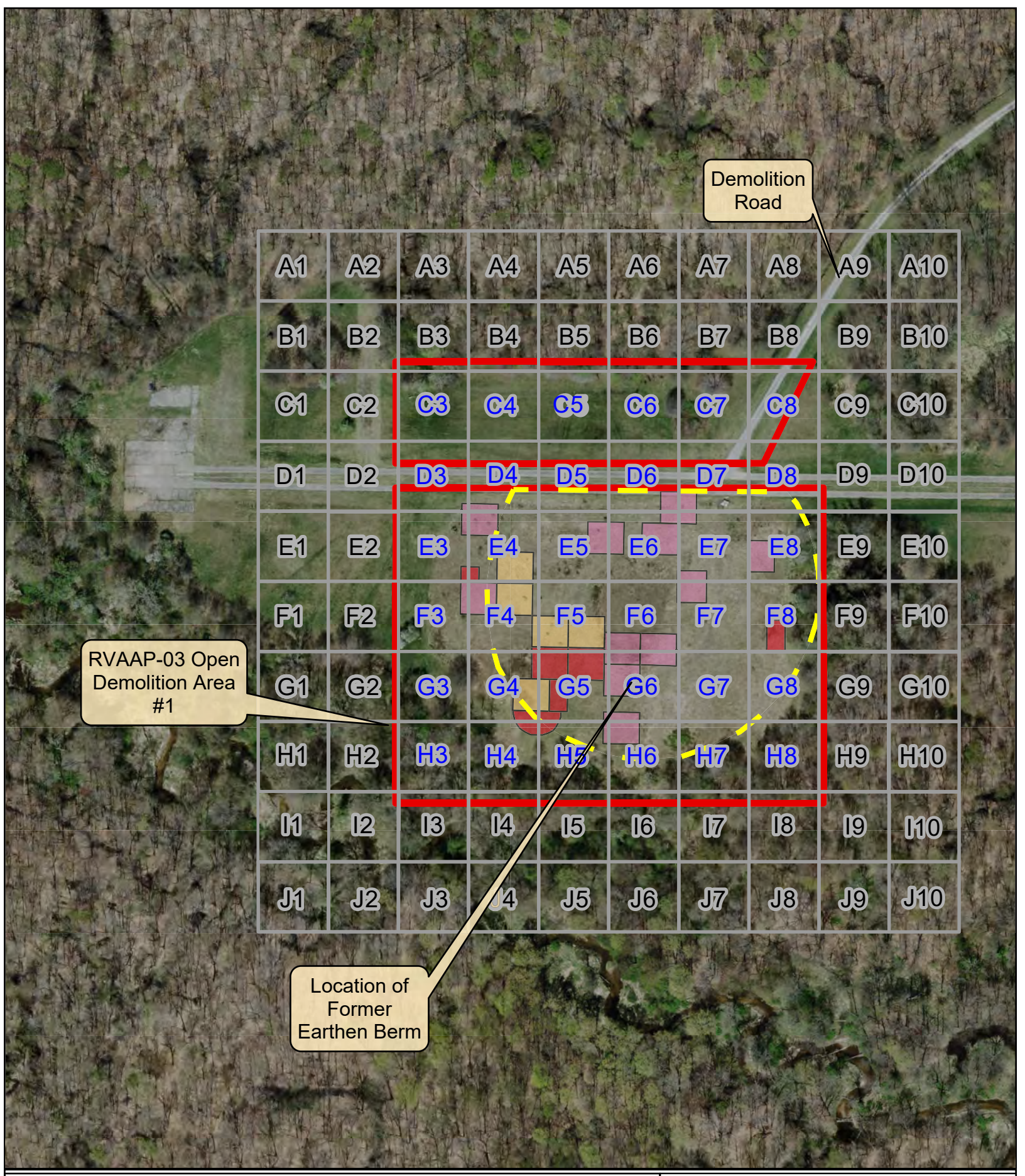
Checking the first trench for anomalies.

Trench two.

Checking trench two for anomalies.

Picking up the silt fence.

Sending equipment back to Baltimore.



Legend

- ODA1 AOC Boundary
- Open Demolition Area #1 Investigation Area (8.16 Acres)
- Explosives and Metals
- MEC/MD
- Metals
- Site Grid

Complete grids Highlighted in blue

0 75 150 300 Feet

A-46

N

US Army Corps of Engineers
Baltimore District

Figure 5 - Open Demolition Area #1, MEC Verification Study Grid and Previous Removal Action Results, Former Ravenna Army Ammunition Plant, Ravenna, Ohio

CAMP RAVENNA JOINT MILITARY TRAINING CENTER

Date: 21 February 2020	
Inspected by: John Day	
Weather Conditions: Seasonal, temp: 0-50	
Time: 1200	

	Satisfactory	Unsatisfactory	Comment #
A. Vehicular Access			
1. Entrance road from Newton Falls Rod. To Demolition Site.	**x**		
2. Access road to Bldg 1501	**x**		
3. Access road to Bldg 1502	**x**		
B. Entrance Gate			
1.Entrance gate chain functional and structurally sound	**x**		
2. Warning signs and flags	**x**		
3. Key lock in place	**x**		
C. Explosive Magazine (adjacent to 1501)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Condition of warning signs	**x**		
4. Evidence of tampering	**x**		
5. Evidence of damage	**x**		
6. Evidence of loose trash/debris	**x**		
D. Building 1501 (Exterior) (if active)	**N/A**		
1. Security of doors			
2. Security of locks			
3. Condition of warning signs			
4. Evidence of tampering			
5. Evidence of damage			
6. Evidence of loose trash/debris			
7. Condition of soil cover			
E. Building 1501 (Interior) (if active)	**N/A**		
1. General concrete integrity			
2. Floor integrity			
3. Ceiling integrity			
4. Evidence of loose trash/debris			
5. spill control equipment			
F. Building 1502 (Exterior) (if active)	**N/A**		
1. Security of doors			
2. Security of locks			
3. Condition of warning signs			
4. Evidence of tampering			
5. Evidence of damage			
6. Evidence of loose trash/debris			
7. Condition of soil cover			

	Satisfactory	Unsatisfactory	Comment

G. Building 1502 (Interior) (if active)	**N/A**		
1. General concrete integrity			
2. Floor integrity			
3. Ceiling integrity			
4. Evidence of loose trash/debris			
5. spill control equipment			
H. On-site Storage Trailers (ODA 1)			
1. Security of doors	**x**		
2. Security of locks	**x**		
3. Evidence of tampering	**x**		
4. Structural integrity	**x**		
5. Trailer level & wheels chocked	**x**		
6. Appropriate placarding	**x**		
I. Fire extinguishers			
1. Condition	**x**		
J. Demolition Site (weekly)			
1. Housekeeping of general area	**x**		
2. Condition of drainage / run-off	**x**		
3. Condition of lower siltation fencing	**x**		
4. Condition of adjacent stream	**x**		
5. Evidence of erosion	**x**		
6. Cover intact	**x**		
K. Site Operation Equipment			
1. Condition of backhoe	**x**		
2. Condition of Skid Steer	**x**		
3. Condition of material transport vehicle	**x**		
O. Repairs / Remedial Actions (R/RA):			

Weekly Site Report

RVAAP-003 Open Demolition Area #1
Camp James A. Garfield Joint Military Training Center
Ravenna, Ohio

Document #	Project Number:	DATE:
USACE CJAG– 8	PN453698	**24-28 February 2020**

Team Personnel:

Site Supervisor: Matthew Rushwald
QC/Safety: Dan Dorrell
Team Members:

Goals:

- Cleaning, and preparing the site for demonization.

Tasks completed:

- All stakes in the open field where removed. All plastic ribbon was removed from the stakes.
- All heavy equipment was cleaned and returned.
- The work trailer was cleaned and ready for removal.
- The Fuel tank was returned.
- Enclosed equipment trailer was packed and picked up. To be returned to Baltimore.

Upcoming events: Work trailer demobilization. Site cleanup will continue.

PREPARED BY:	SIGNATURE:
Matthew Rushwald	

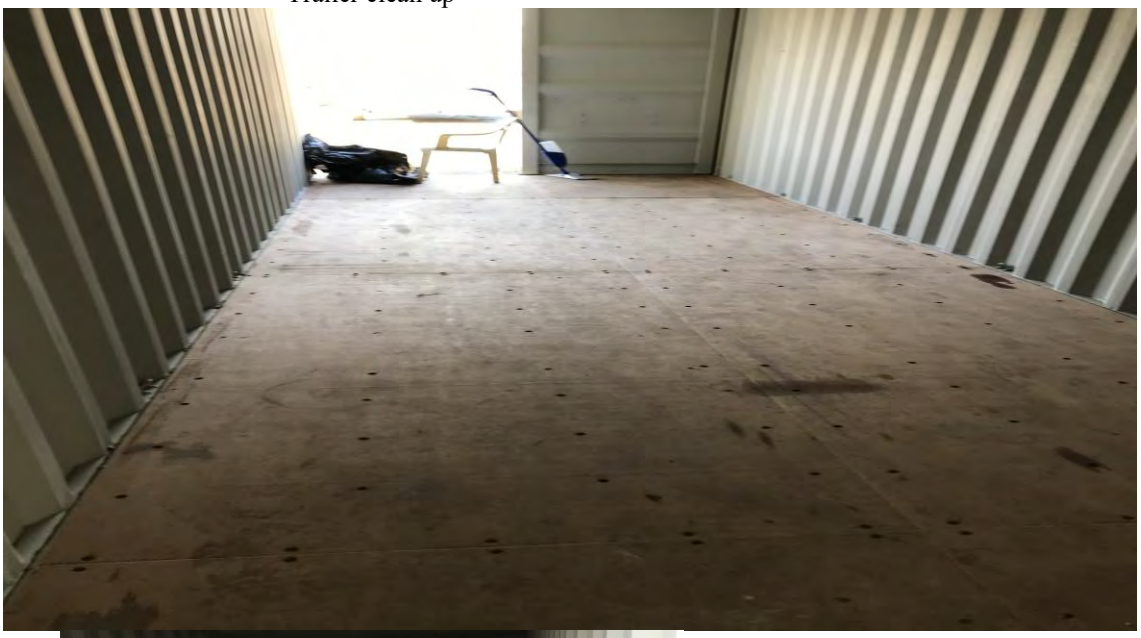
The field after stake
removal.

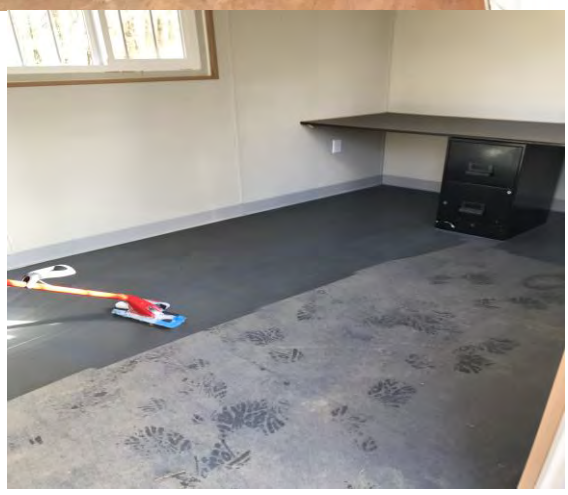
Fuel tank removal

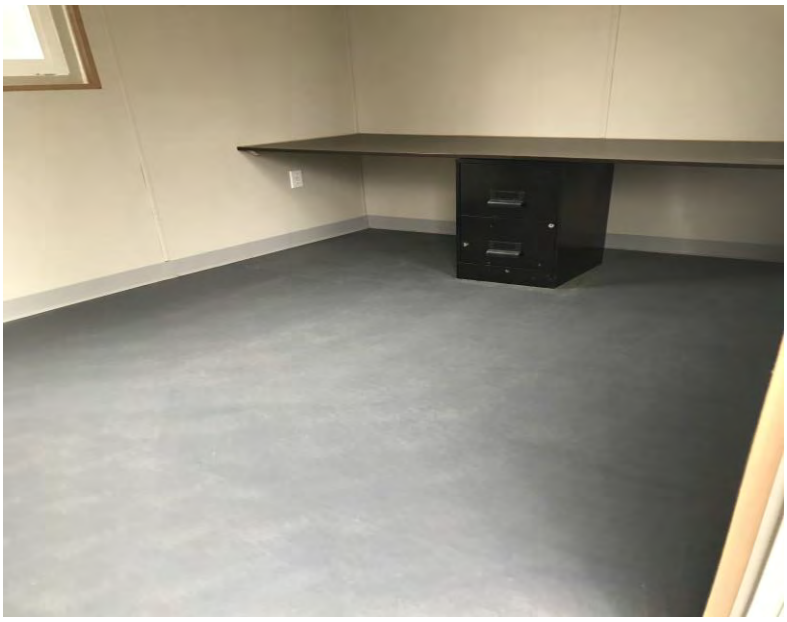
Trailer Pick up

IVS removal

Trailer clean up







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Appendix B – Grid Coordinates

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ODA1 MEC Verification Study
Grid Coordinates

Grid Number	Easting (UTM_X)	Northing (UTM_Y)
A1	489101.5991	4557999.471
A2	489132.0792	4557999.471
A3	489162.5592	4557999.471
A4	489193.0393	4557999.471
A5	489223.5193	4557999.471
A6	489253.9994	4557999.471
B1	489101.5991	4557968.991
B2	489132.0792	4557968.991
B3	489162.5592	4557968.991
B4	489193.0393	4557968.991
B5	489223.5193	4557968.991
B6	489253.9994	4557968.991
C1	489101.5991	4557938.511
C2	489132.0792	4557938.511
C3	489162.5592	4557938.511
C4	489193.0393	4557938.511
C5	489223.5193	4557938.511
C6	489253.9994	4557938.511
C8	489314.9213	4557938.511
D1	489101.5991	4557908.031
D2	489132.0792	4557908.031
D3	489162.5592	4557908.031
D4	489193.0393	4557908.031
D5	489223.5193	4557908.031
D6	489253.9994	4557908.031
D8	489314.9213	4557908.031
E1	489101.5991	4557877.551
E2	489132.0792	4557877.551
E3	489162.5592	4557877.551
E4	489193.0393	4557877.551
E5	489223.5193	4557877.551
E6	489253.9994	4557877.551
E8	489314.9213	4557877.551
F1	489101.5991	4557847.071
F2	489132.0792	4557847.071
F3	489162.5592	4557847.071
F4	489193.0393	4557847.071
F5	489223.5193	4557847.071
F6	489253.9994	4557847.071
F8	489314.9213	4557847.071
G1	489101.5991	4557816.59
G2	489132.0792	4557816.59
G3	489162.5592	4557816.59
G4	489193.0393	4557816.59
G5	489223.5193	4557816.59
G6	489253.9994	4557816.59
G8	489314.9213	4557816.591
C7	489284.4799	4557938.511
D7	489284.4799	4557908.031
E7	489284.4799	4557877.551

F7	489284.4799	4557847.071
G7	489284.4799	4557816.591
A8	489314.9213	4557999.47
B8	489314.9213	4557968.99
A7	489284.4799	4557999.47
B7	489284.4799	4557968.99
H1	489101.5935	4557786.1
H2	489132.0736	4557786.1
H3	489162.5536	4557786.1
H4	489193.0337	4557786.1
H5	489223.5137	4557786.1
H6	489253.9938	4557786.1
H8	489314.9157	4557786.1
H7	489284.4743	4557786.1
I1	489101.5934	4557755.62
I2	489132.0735	4557755.62
I3	489162.5535	4557755.62
I4	489193.0336	4557755.62
I5	489223.5136	4557755.62
I6	489253.9937	4557755.62
I8	489314.9156	4557755.62
I7	489284.4742	4557755.62
J1	489101.5878	4557725.129
J2	489132.0679	4557725.129
J3	489162.5479	4557725.129
J4	489193.028	4557725.129
J5	489223.508	4557725.129
J6	489253.9881	4557725.129
J8	489314.91	4557725.129
J7	489284.4686	4557725.129
C10	489375.8426	4557938.511
D10	489375.8426	4557908.031
E10	489375.8426	4557877.551
F10	489375.8426	4557847.071
G10	489375.8426	4557816.591
C9	489345.4012	4557938.511
D9	489345.4012	4557908.031
E9	489345.4012	4557877.551
F9	489345.4012	4557847.071
G9	489345.4012	4557816.591
A10	489375.8426	4557999.47
B10	489375.8426	4557968.99
A9	489345.4012	4557999.47
B9	489345.4012	4557968.99
H10	489375.837	4557786.1
H9	489345.3956	4557786.1
I10	489375.8369	4557755.62
I9	489345.3955	4557755.62
J10	489375.8313	4557725.129
J9	489345.3899	4557725.129

e System: UTM Zone 17 North

Appendix C – Grid Sheets and Photos

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USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

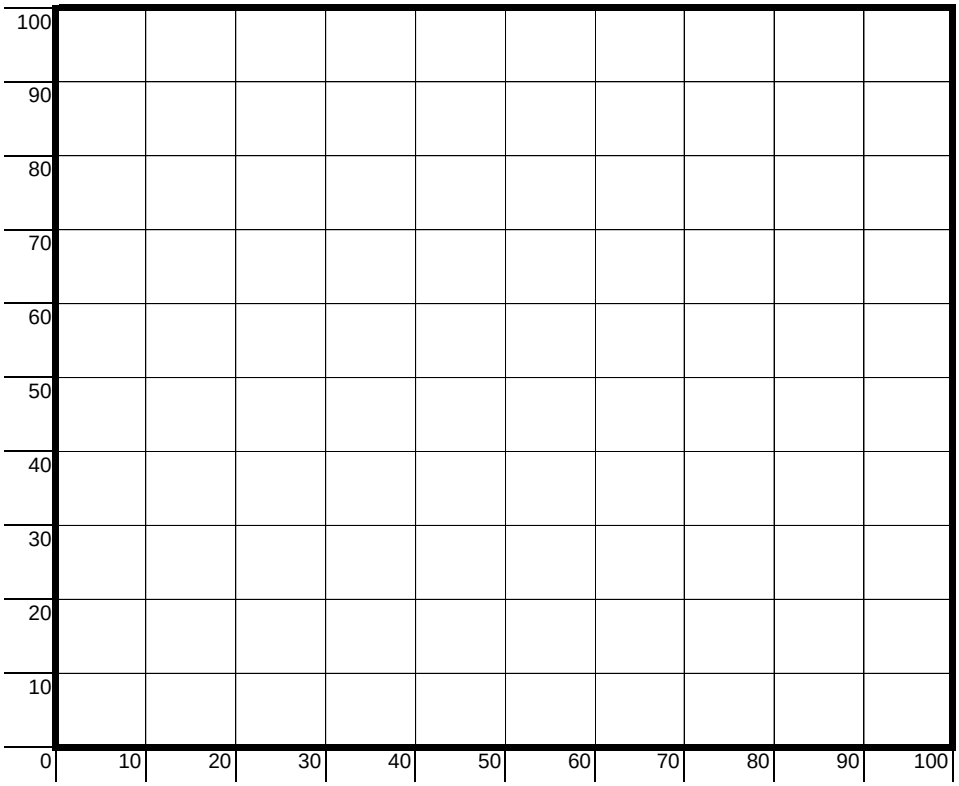
C-3

Northing(y): 4557938

Easting(x): 489162

Grid Sheet

Date: 27 Jan 2020



Comments:

Munitions Debris(pounds): 2

Non Munitions Debris(pounds): 1

11 anomalies were investigated, of those anomalies 7 were found with the GA 52 Magnetometer, and 4 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

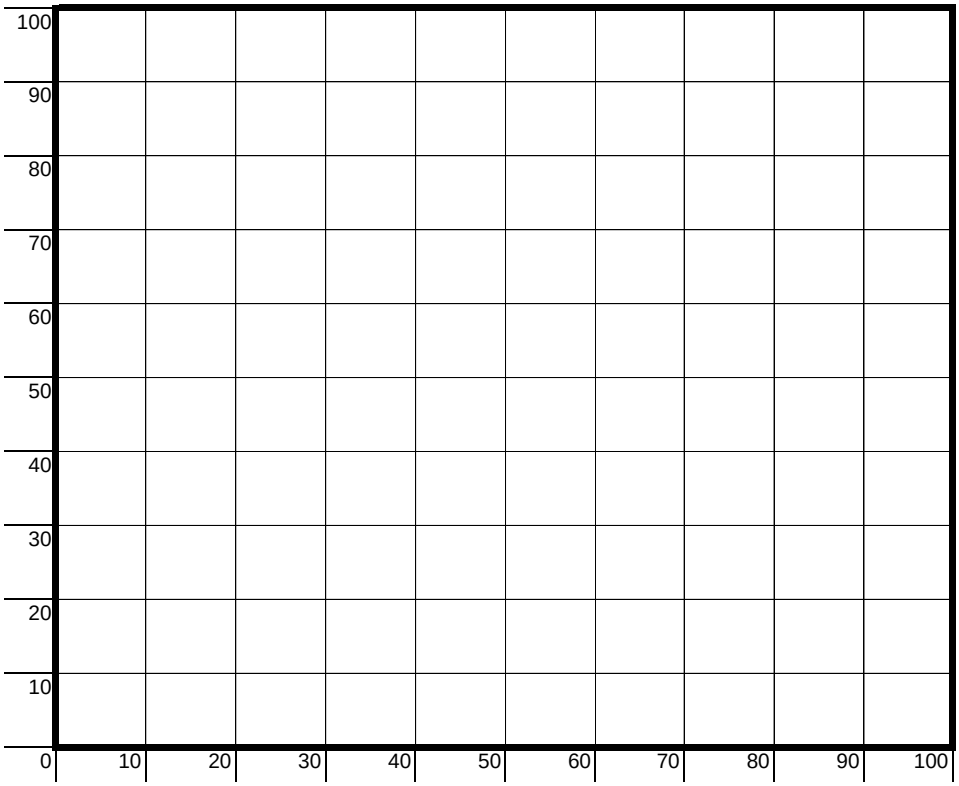
C-4

Northing(y): 4557938

Easting(x): 489193

Grid Sheet

Date: 27 Jan 2020



Comments:

Munitions Debris(pounds): 15

Non Munitions Debris(pounds): 1

Grid was swept with two types of metal detectors, first a ferrous magnetometer (Schonstedt GA 52) and then with an all metals detector

(White Spectrum VX3).

MEC items recovered - 0

Anomalies investigated - 21

Anomalies investigated with Magnetometer - 15

Anomalies investigated with all metals detector - 6

Comments: The munitions debris recovered from this grid were mainly fuze components such as empty booster cups and expended

grenade fuzes. Some frag from projectiles were recovered (see photos below). Non-ordnance related debris was scrap metal

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

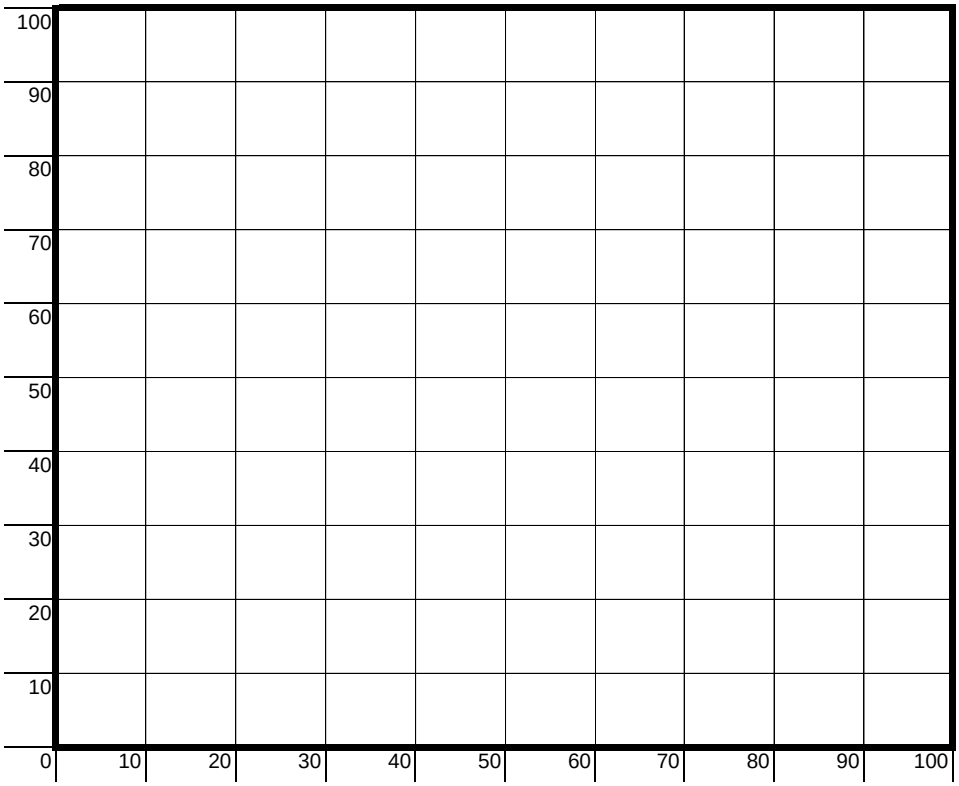
C-5

Northing(y): 4557938

Easting(x): 489223

Grid Sheet

Date: 28 Jan 2020



Comments:

Munitions Debris(pounds): 8

Non Munitions Debris(pounds): 2

8 anomalies were investigated, of those anomalies 7 were found with the GA 52 Magnetometer, and 1 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

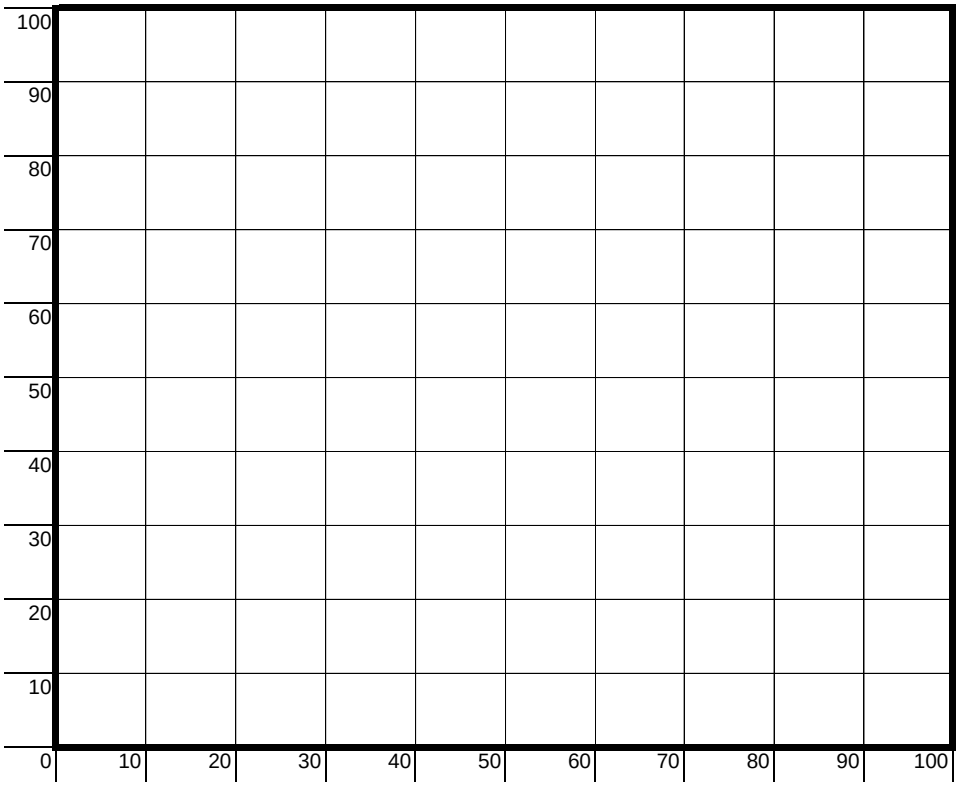
C-6

Northing(y): 4557938

Easting(x): 489253

Grid Sheet

Date: 28 Jan 2020



Comments:

Munitions Debris(pounds): 2

Non Munitions Debris(pounds): 3

20 anomalies were investigated, of those anomalies 11 were found with the GA 52 Magnetometer, and 9 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

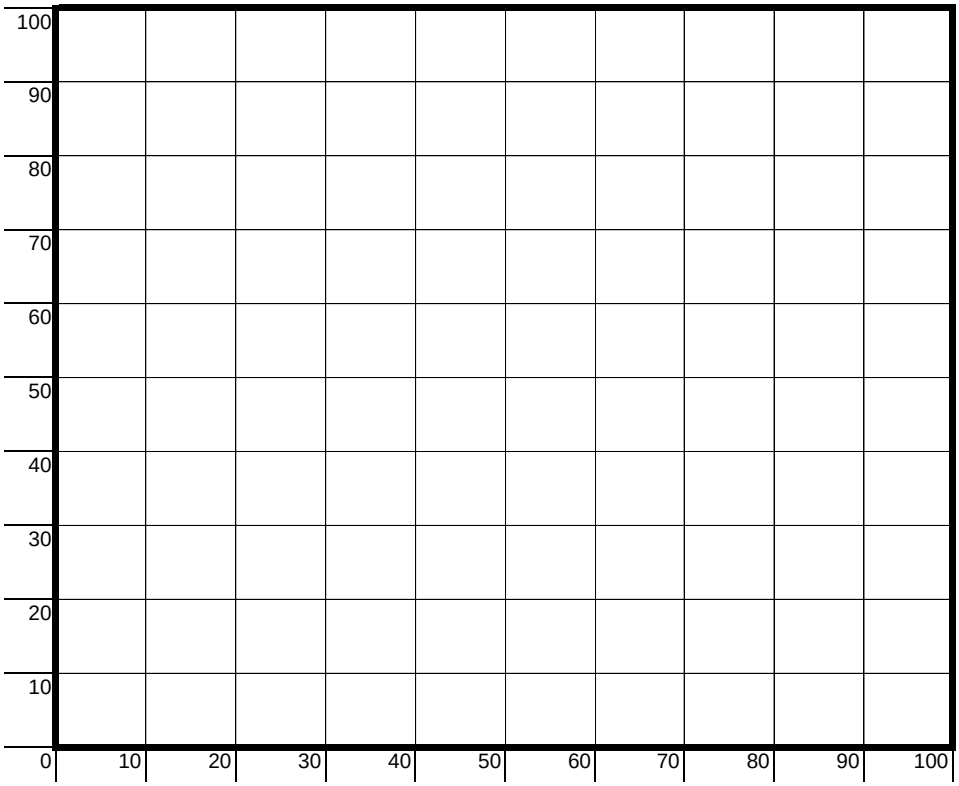
C-7

Northing(y): 4557938

Easting(x): 489284

Grid Sheet

Date: 28 Jan 2020



Comments:

Munitions Debris(pounds): 3

Non Munitions Debris(pounds): 2

39 anomalies were investigated, of those anomalies 7 were found with the GA 52 Magnetometer, and 32 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

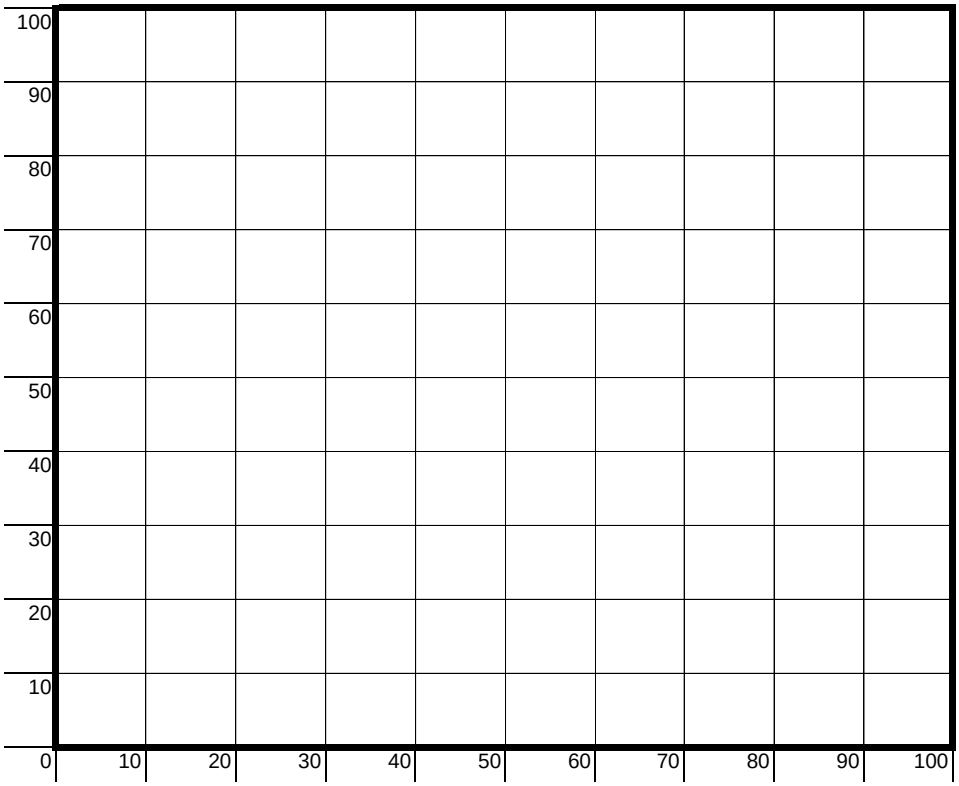
C-8

Northing(y): 4557938

Easting(x): 489314

Grid Sheet

Date: 29 Jan 2020



Comments:

Munitions Debris(pounds): 11

Non Munitions Debris(pounds): 2

30 anomalies were investigated, of those anomalies 18 were found with the GA 52 Magnetometer, and 12 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

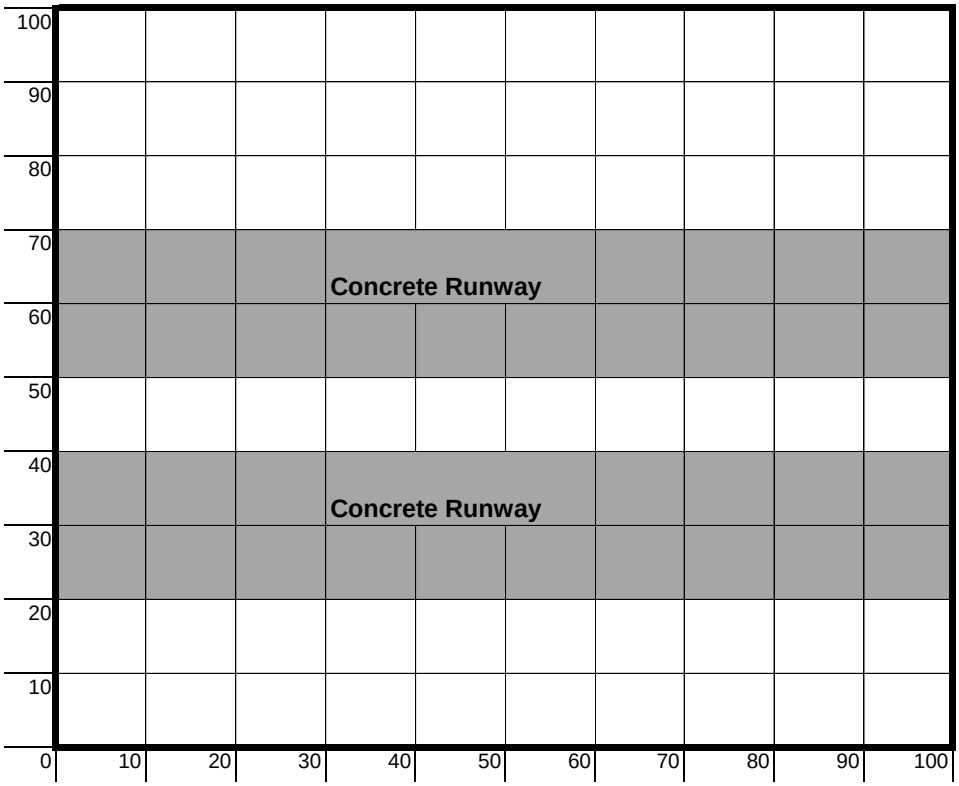
D-3

Northing(y): 4557908

Easting(x): 489162

Grid Sheet

Date: 31 Jan 2020



Comments:

Munitions Debris(pounds): 1

Non Munitions Debris(pounds): 4

5 anomalies were investigated, of those anomalies 3 were found with the GA 52 Magnetometer, and 2 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

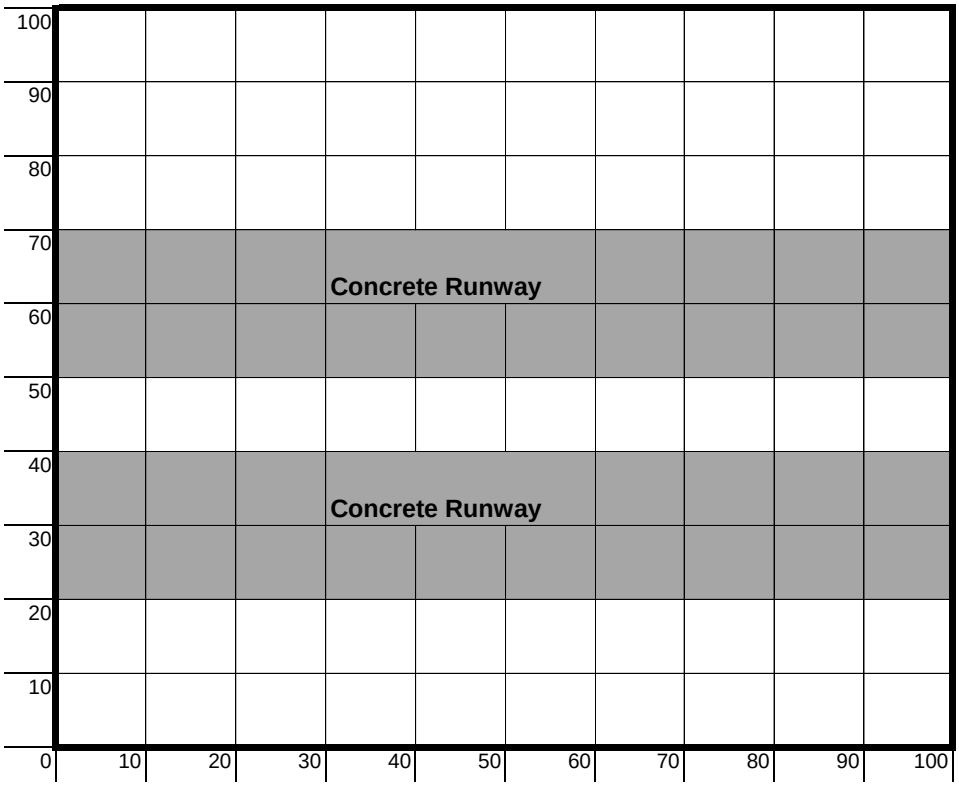
D-4

Northing(y): 4557908

Easting(x): 489193

Grid Sheet

Date: 31 Jan 2020



Comments:

Munitions Debris(pounds): 1

Non Munitions Debris(pounds): 4

12 anomalies were investigated, of those anomalies 5 were found with the GA 52 Magnetometer, and 7 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

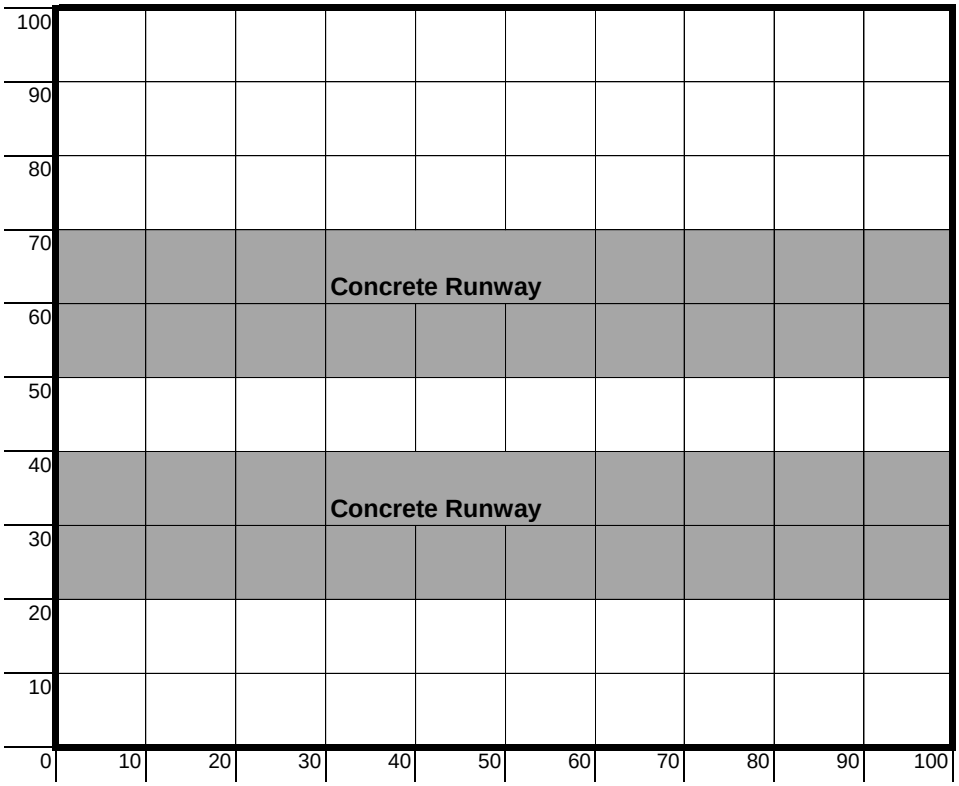
D-5

Northing(y): 4557908

Easting(x): 489223

Grid Sheet

Date: 30 Jan 2020



Comments:

Munitions Debris(pounds): 1

Non Munitions Debris(pounds): 4

6 anomalies were investigated, of those anomalies 2 were found with the GA 52 Magnetometer, and 4 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of frag, and cultural debris consisted of misc scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

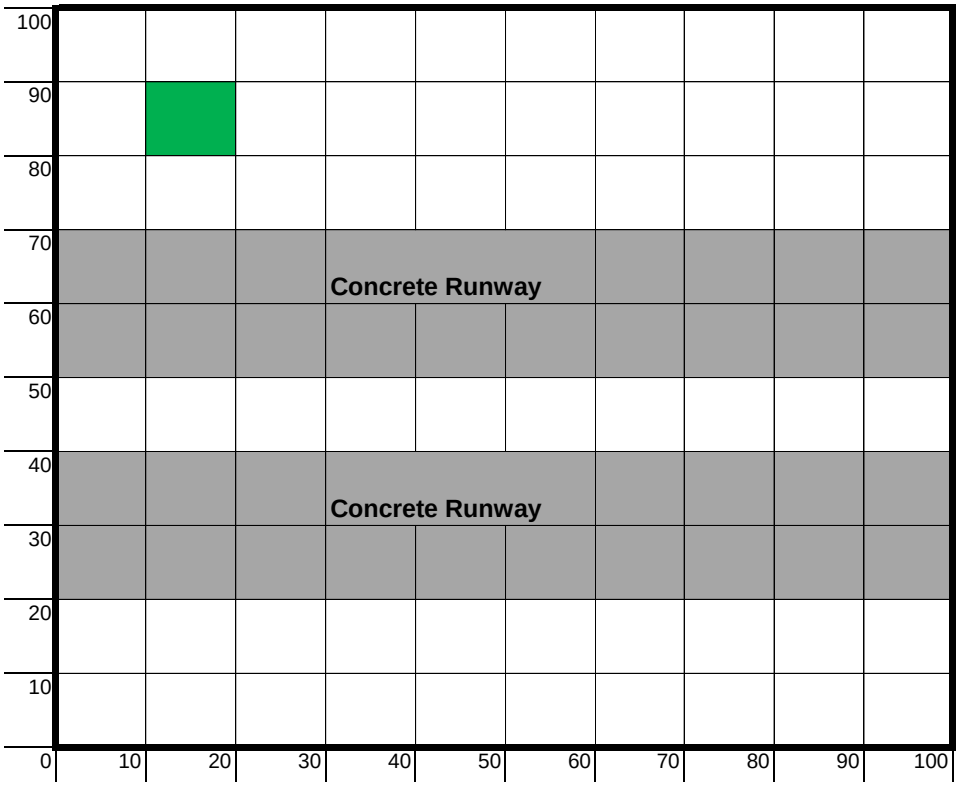
D-6

Northing(y): 4557908

Easting(x): 489253

Grid Sheet

Date: 30 Jan 2020



Comments:

Munitions Debris(pounds): 3

Non Munitions Debris(pounds): 5

13 anomalies were investigated, of those anomalies 7 were found with the GA 52 Magnetometer, and 6 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc. scrap metal.

The green square depicts an area which required further investigation due to a higher concentration of anomalies, no MEC or MD was found in this area, and it was determined to not be a pit.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

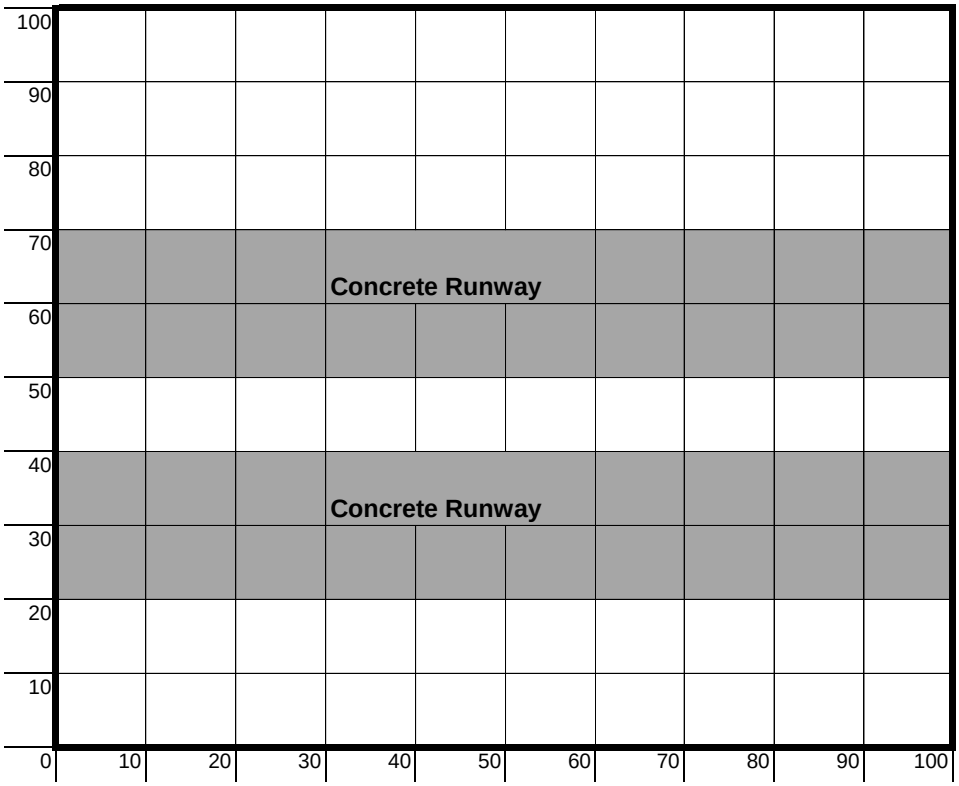
D-7

Northing(y): 4557908

Easting(x): 489284

Grid Sheet

Date: 29 Jan 2020



Comments:

Munitions Debris(pounds): 1

Non Munitions Debris(pounds): 1

7 anomalies were investigated, of those anomalies 4 were found with the GA 52 Magnetometer, and 3 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

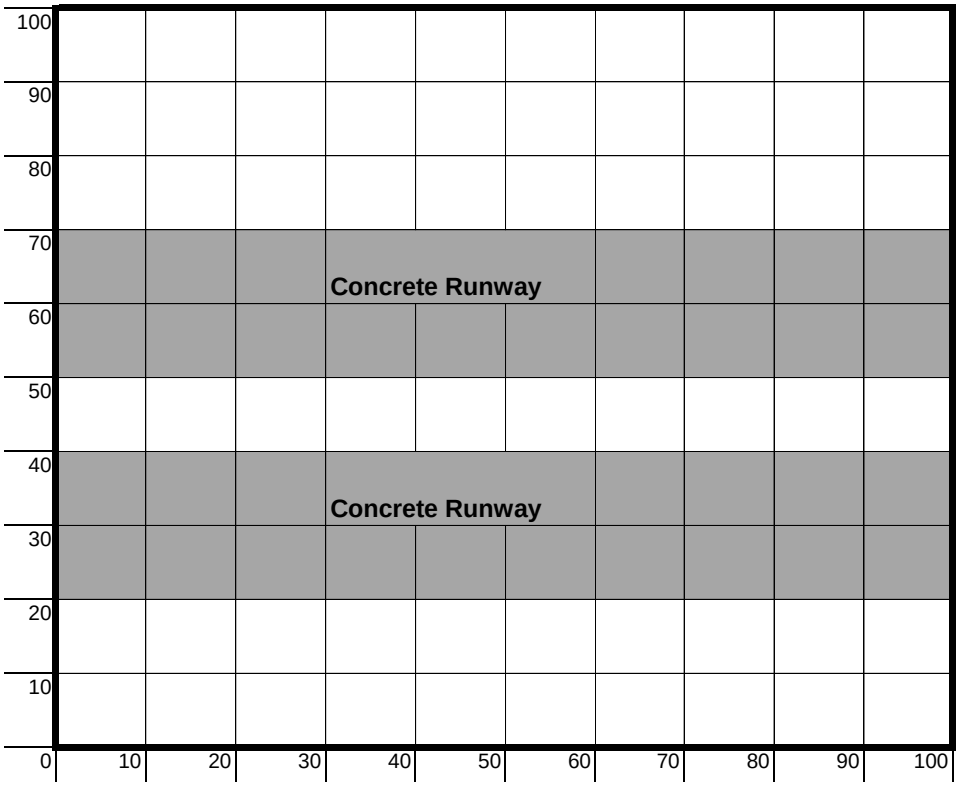
D-8

Northing(y): 4557908

Easting(x): 489314

Grid Sheet

Date: 29 Jan 2020



Comments:

Munitions Debris(pounds): 1

Non Munitions Debris(pounds): 1

5 anomalies were investigated, of those anomalies 1 was found with the GA 52 Magnetometer, and 4 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

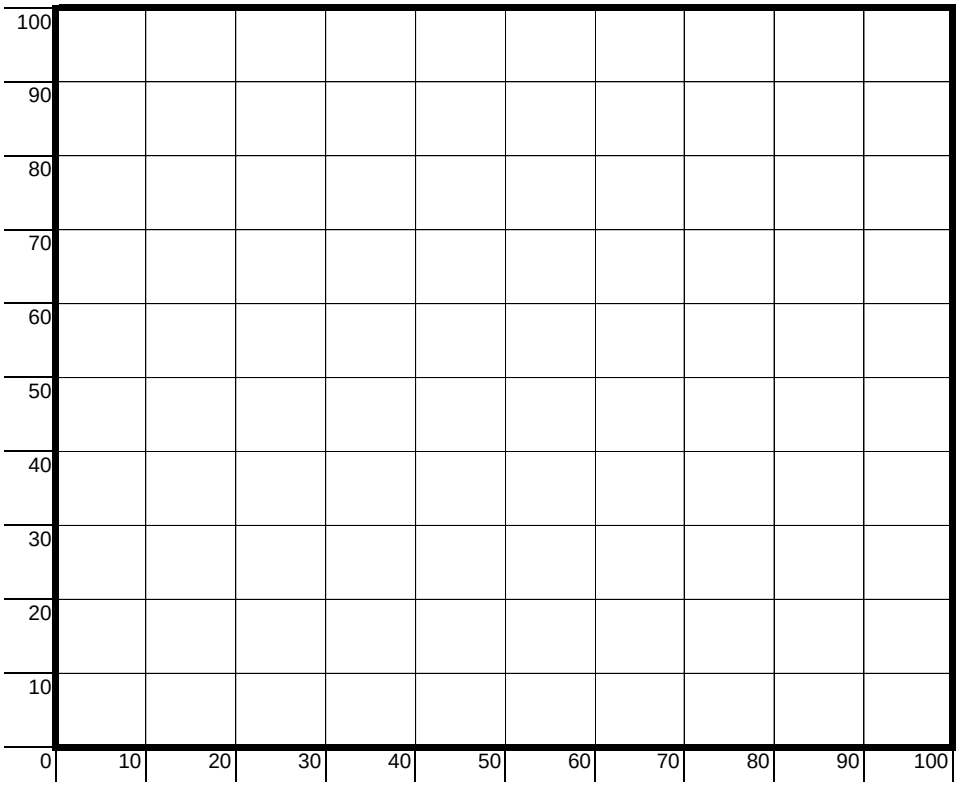
E-3

Northing(y): 4557877

Easting(x): 489162

Grid Sheet

Date: 3 Feb 2020



Comments:

Munitions Debris(pounds): 2

Non Munitions Debris(pounds): 1

6 anomalies were investigated, of those anomalies 4 were found with the GA 52 Magnetometer, and 2 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

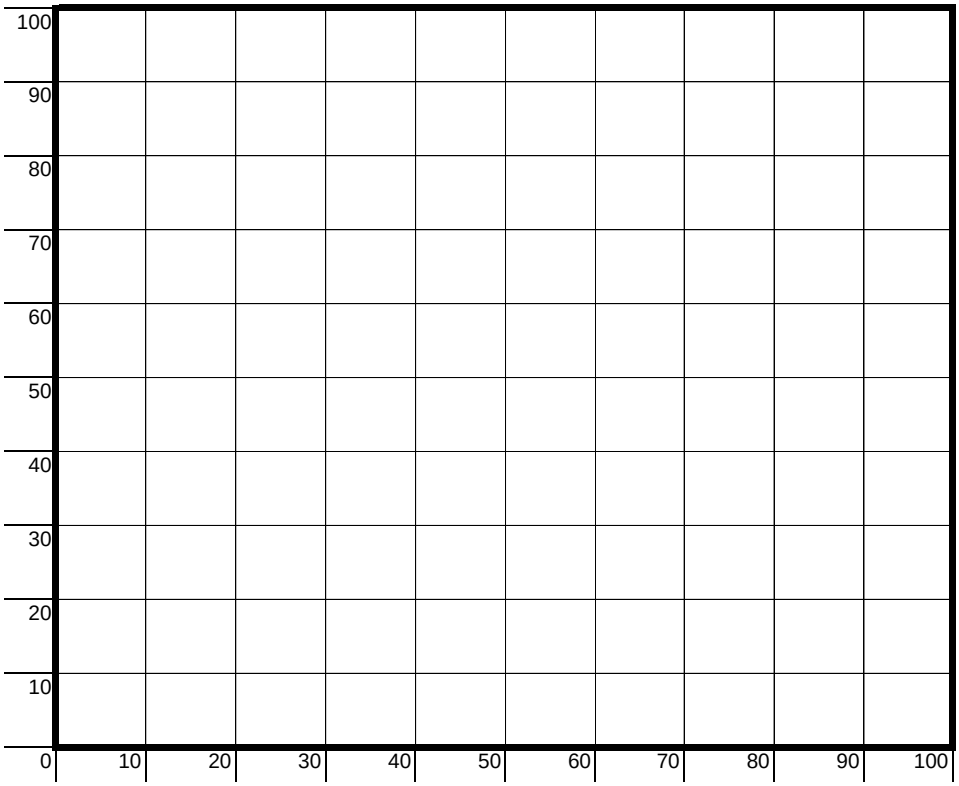
E-4

Northing(y): 4557877

Easting(x): 489193

Grid Sheet

Date: 3 Feb 2020



Comments:

Munitions Debris(pounds): 1

Non Munitions Debris(pounds): 4

27 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer.

No mec was indentified in the grid, munitions debris recovered consisted of misc. frag, and cultural debris consisted of misc. scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

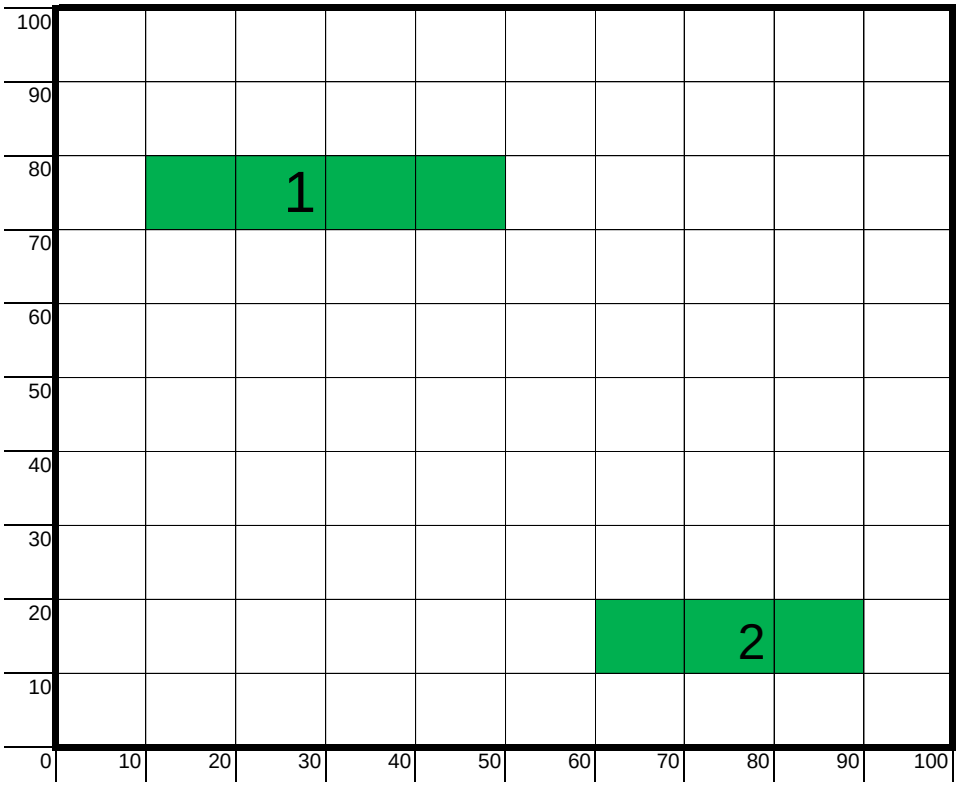
E-5

Northing(y): 4557877

Easting(x): 489223

Grid Sheet

Date: 3 Feb 2020



Comments:

Munitions Debris(pounds): 2

Non Munitions Debris(pounds): 1

35 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer.

No mec was indentified in the grid, munitions debris recovered consisted of misc. frag, and cultural debris consisted of misc. scrap metal.

Green area 1 consisted of a layer of dark soil which had multiple small metalc hits. This area was approximately 1ft deep and was determined not to be a burial pit.

Green area 2 consisted of a large anomaly (pipe), which was left in place.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

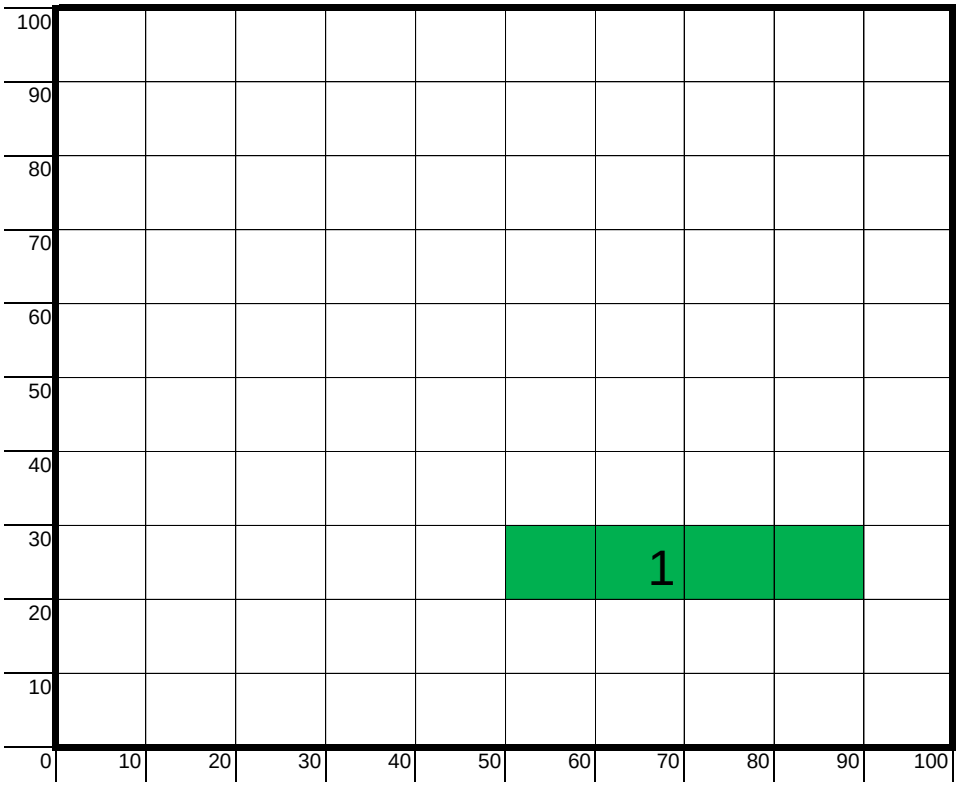
E-6

Northing(y): 4557877

Easting(x): 489253

Grid Sheet

Date: 4 Feb 2020



Comments:

Munitions Debris(pounds): 4

Non Munitions Debris(pounds): 3

42 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer.

No mec was indentified in the grid, munitions debris recovered consisted of misc. frag, and cultural debris consisted of misc. scrap metal.

Green area 1 is a large anomaly, which was investigated and determined to be fence posts, and left in place.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

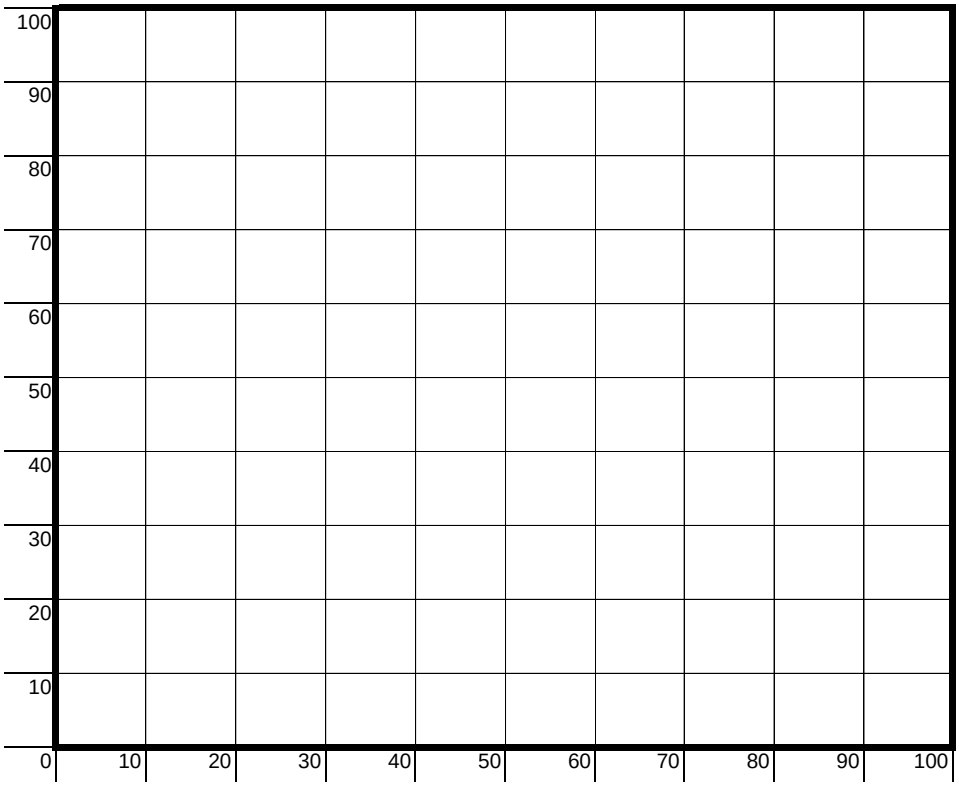
E-7

Northing(y): 4557877

Easting(x): 489284

Grid Sheet

Date: 4 Feb 2020



Comments:

Munitions Debris(pounds): 13

Non Munitions Debris(pounds): 2

18 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer.

No mec was indentified in the grid, munitions debris recovered consisted of misc. frag, and cultural debris consisted of misc. scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

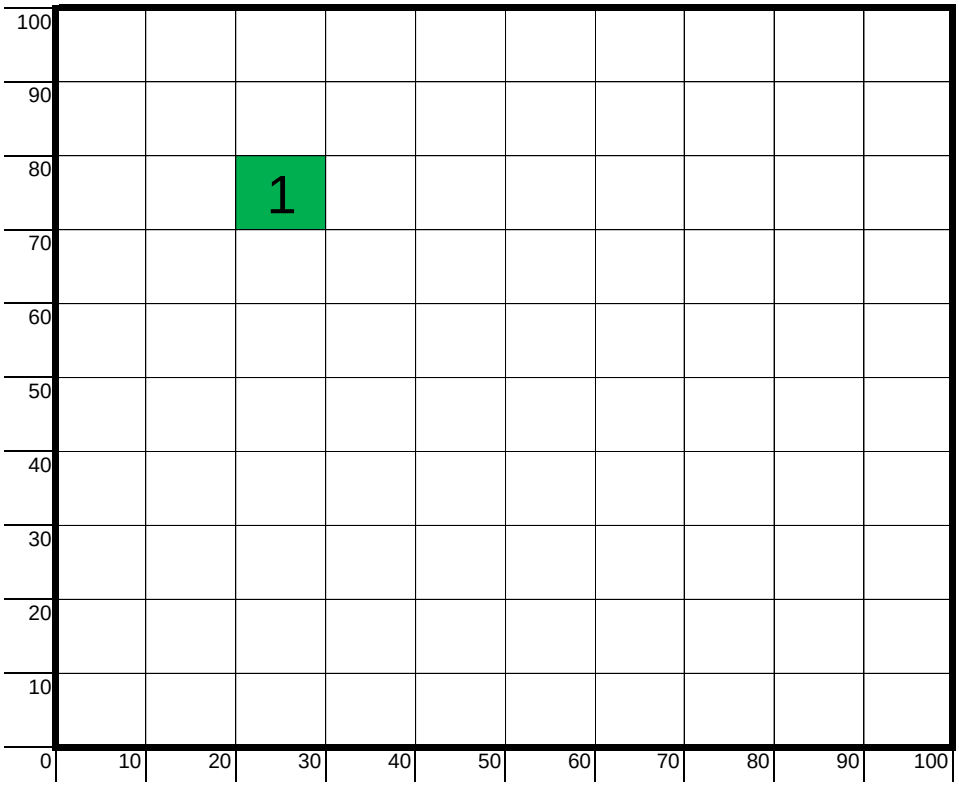
E-8

Northing(y): 4557877

Easting(x): 489314

Grid Sheet

Date: 4 Feb 2020



Comments:

Munitions Debris(pounds): 0

Non Munitions Debris(pounds): 0

6 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer.

No MEC, or munitions debris was indentified in the grid, cultural debris consisted of cut off fence posts which were left in place.

Green area 1 is a large anomaly, which was investigated and determined to be fence posts, and left in place.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

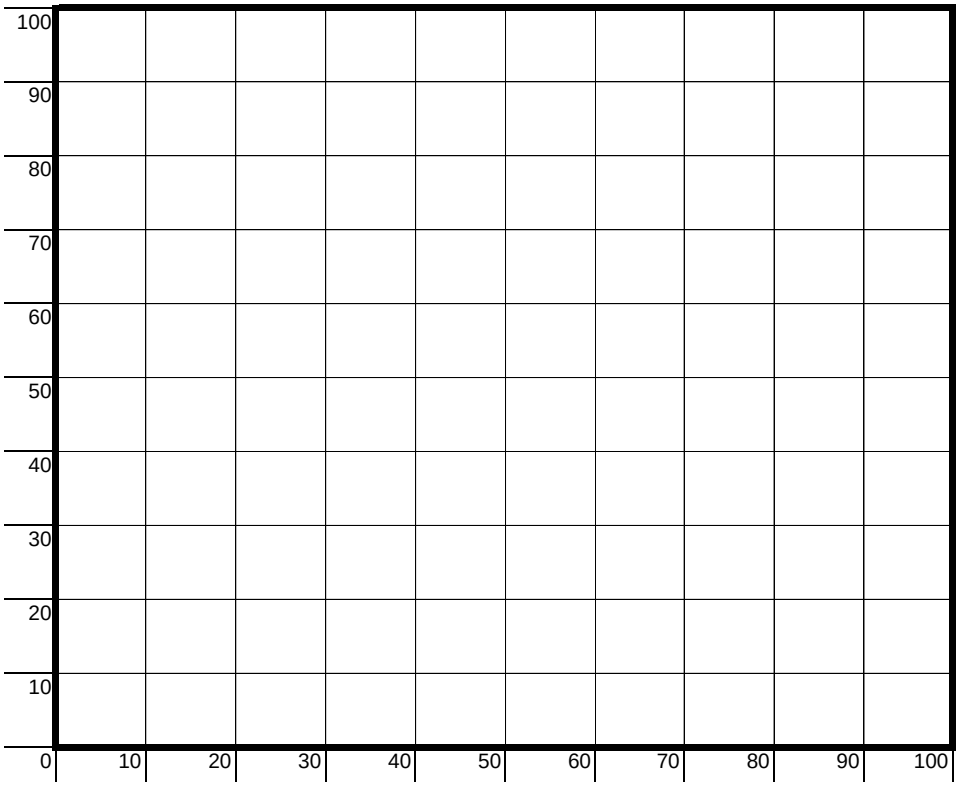
F-3

Northing(y): 4557847

Easting(x): 489162

Grid Sheet

Date: 5 Feb 2020



Comments:

Munitions Debris(pounds): 16

Non Munitions Debris(pounds): 2

23 anomalies were investigated, of those anomalies 15 were found with the GA 52 Magnetometer, and 8 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

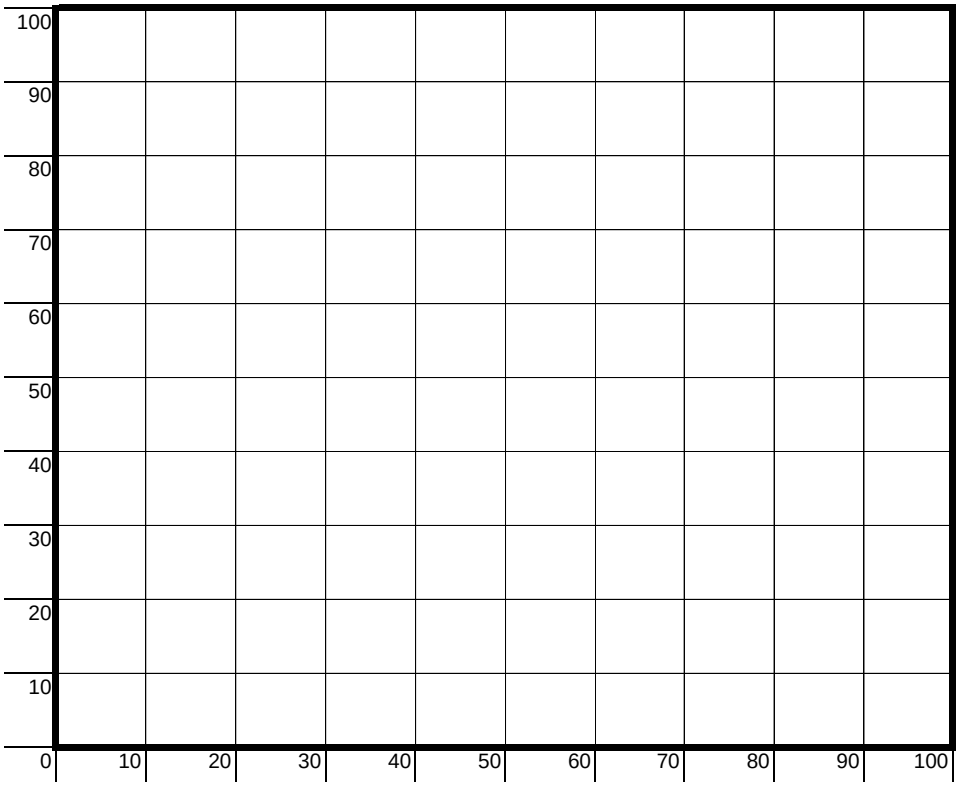
F-4

Northing(y): 4557847

Easting(x): 489193

Grid Sheet

Date: 5 Feb 2020



Comments:

Munitions Debris(pounds): 6

Non Munitions Debris(pounds): 1

33 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer.

No MEC, was indentified in the grid, munitions debris consisted of small frag and fuze parts, cultural debris consisted of scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

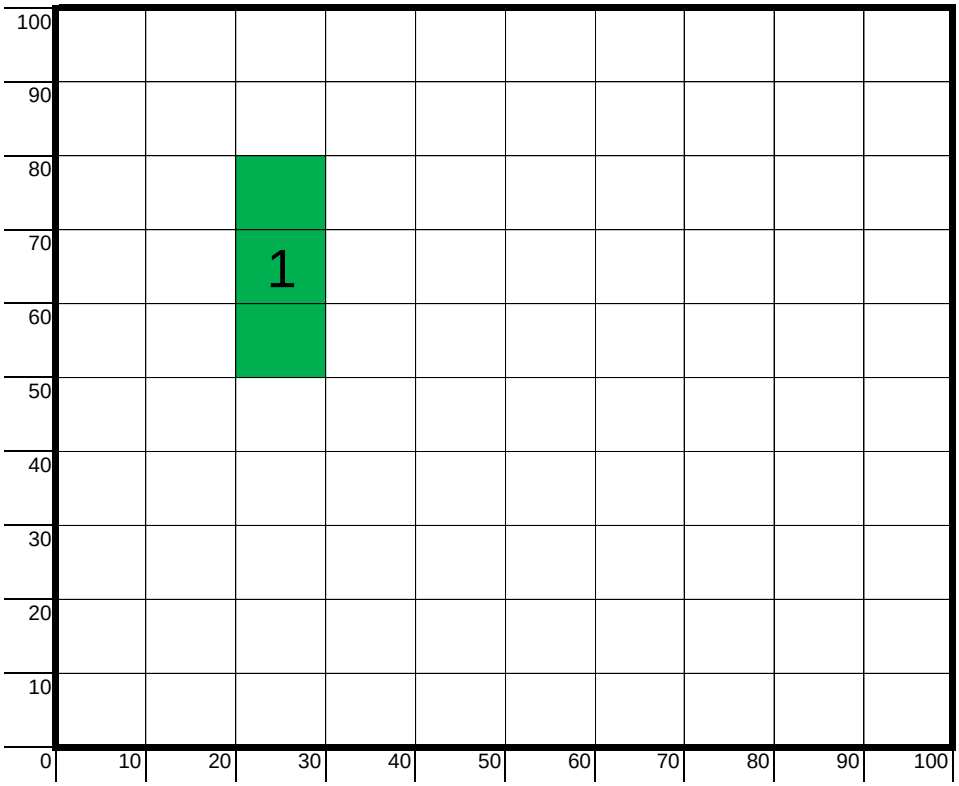
F-5

Northing(y): 4557847

Easting(x): 489223

Grid Sheet

Date: 6 Feb 2020



Comments:

Munitions Debris(pounds): 4

Non Munitions Debris(pounds): 1

19 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc. scrap metal.

Green area 1 is a large anomaly, which was investigated, determined to be gravel fill and a small amount of misc fuze parts, and left in place. This area was determined to not be a burial pit.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

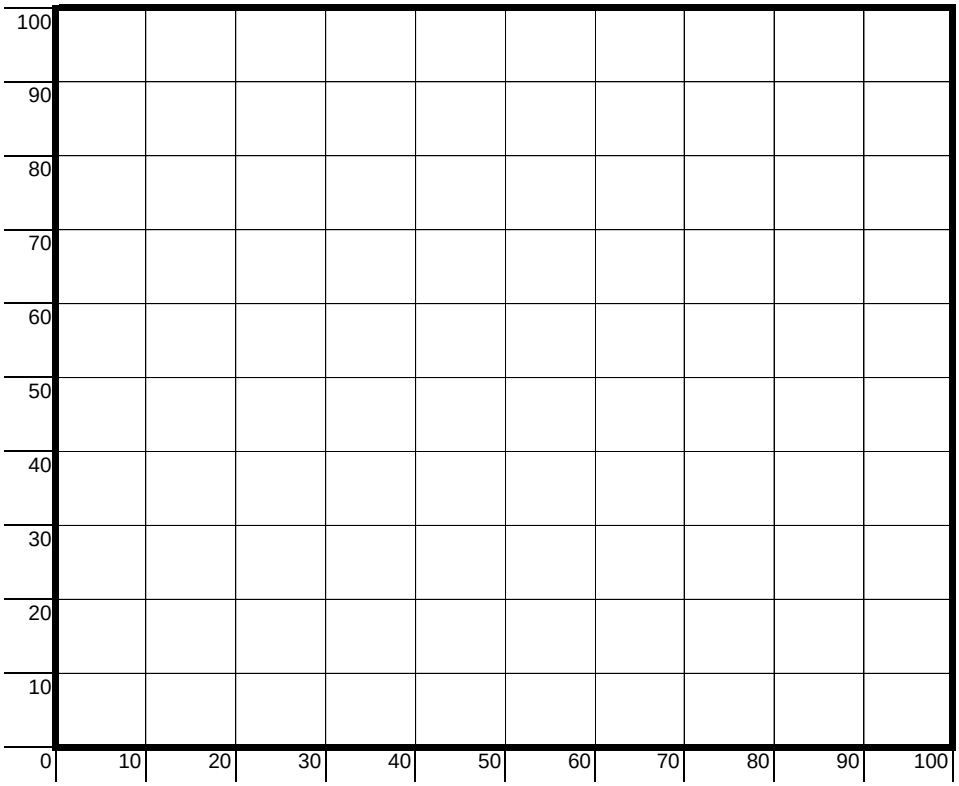
F-6

Northing(y): 4557847

Easting(x): 489253

Grid Sheet

Date: 6 Feb 2020



Comments:

Munitions Debris(pounds): 0

Non Munitions Debris(pounds): 0

6 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer.

No mec was indentified in the grid, munitions debris recovered consisted of misc. frag, and cultural debris consisted of misc. scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

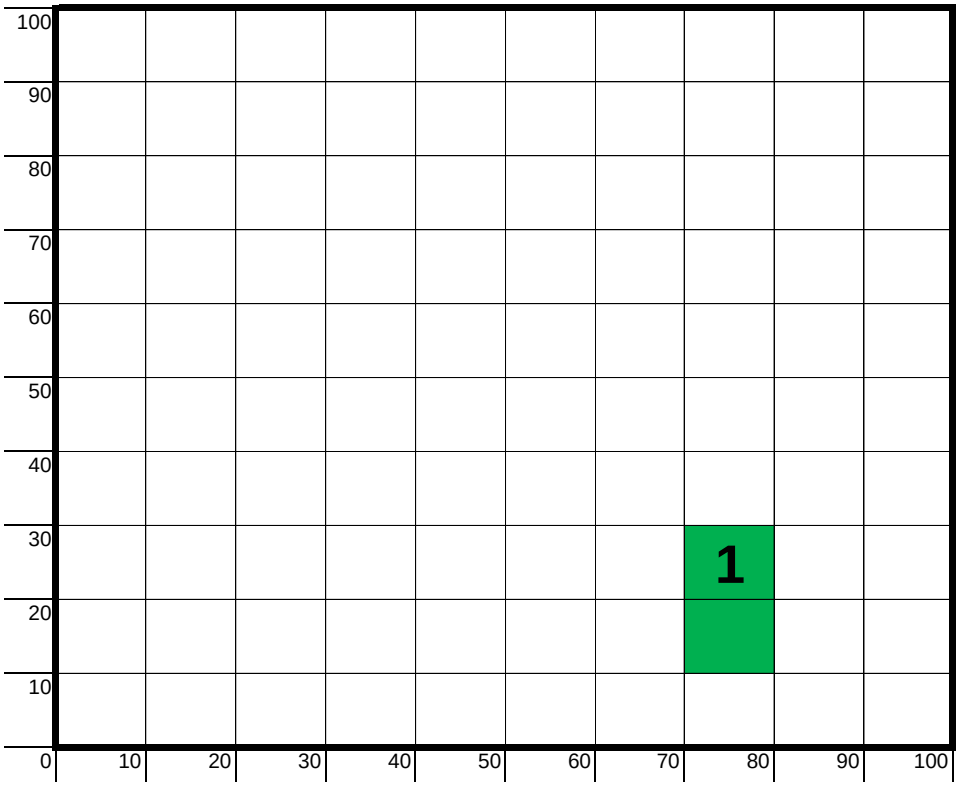
F-7

Northing(y): 4557847

Easting(x): 489284

Grid Sheet

Date: 7 Feb 2020



Comments:

Munitions Debris(pounds): 4

Non Munitions Debris(pounds): 2

22 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer.

No mec was indentified in the grid, munitions debris recovered consisted of misc. frag, and cultural debris consisted of misc. scrap metal.

Green area 1 was a large anomaly that was investigated and determined to be metal scrap, this area did not show signs of being a burial pit.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

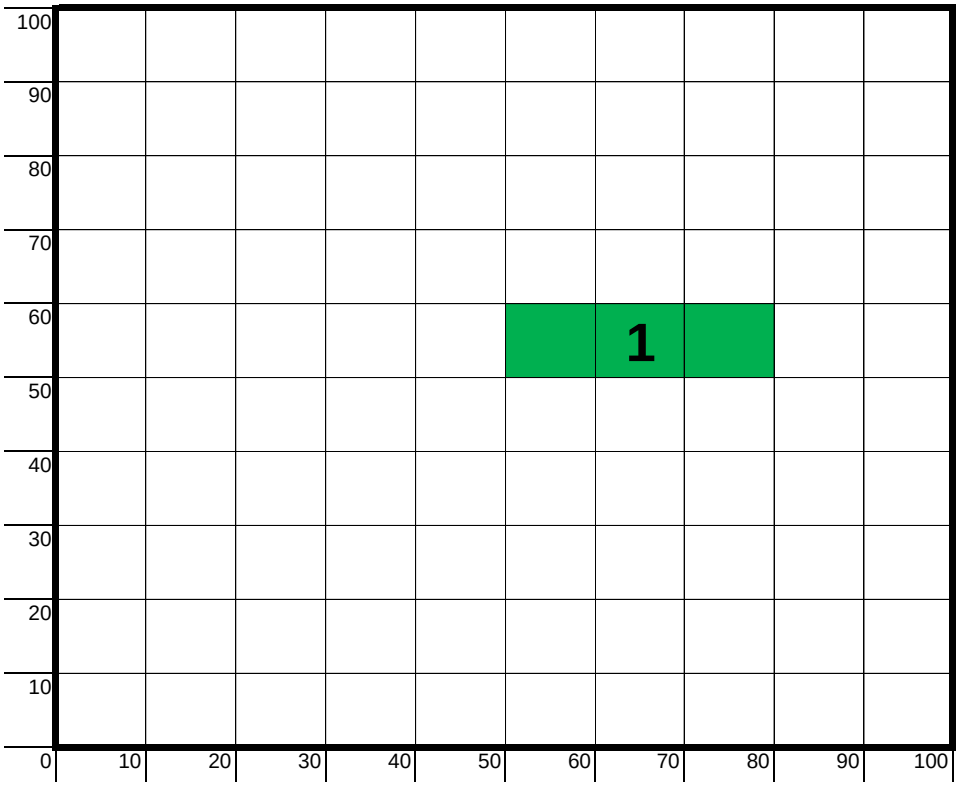
F-8

Northing(y): 4557847

Easting(x): 489314

Grid Sheet

Date: 7 Feb 2020



Comments:

Munitions Debris(pounds): 3

Non Munitions Debris(pounds): 1

19 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer.

No mec was indentified in the grid, munitions debris recovered consisted of misc. frag, and cultural debris consisted of misc. scrap metal.

Green area 1 was a large anomaly that was investigated and determined to be fence posts, this area did not show signs of being a burial pit.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

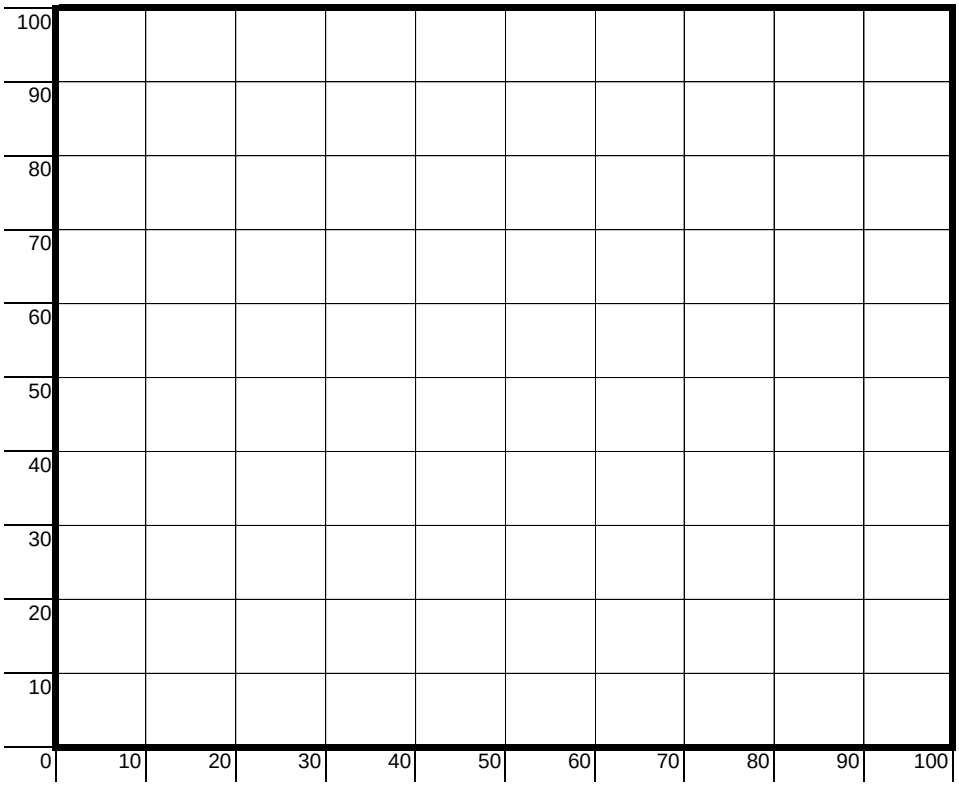
G-3

Northing(y): 4557816

Easting(x): 489162

Grid Sheet

Date: 13 Feb 2020



Comments:

Munitions Debris(pounds): 9

Non Munitions Debris(pounds): 1

22 anomalies were investigated, of those anomalies 16 were found with the GA 52 Magnetometer, and 6 with the Whites all metal detector.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal. All anomalies were discovered at depths ranging from 0-18 inches.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

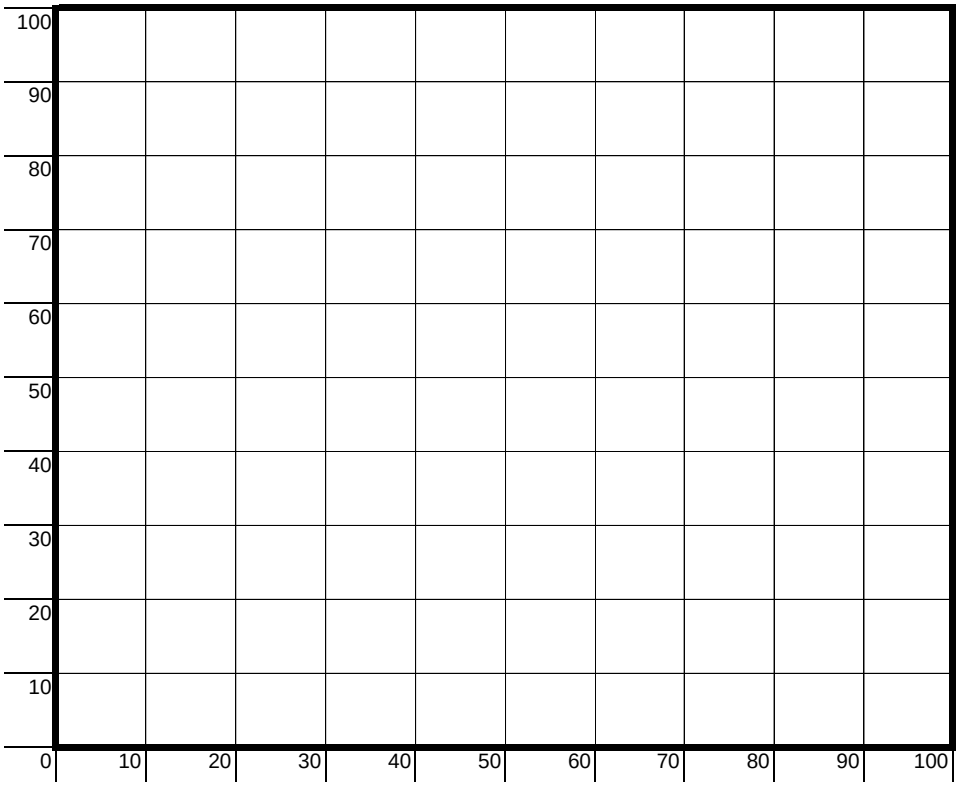
G-4

Northing(y): 4557816

Easting(x): 489193

Grid Sheet

Date: 13 Feb 2020



Comments:

Munitions Debris(pounds): 0

Non Munitions Debris(pounds): 0

12 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer. All anomalies were discovered at 0-18 inches depth.

No mec was identified in the grid, and no munitions debris, or cultural debris was recovered from the grid..

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

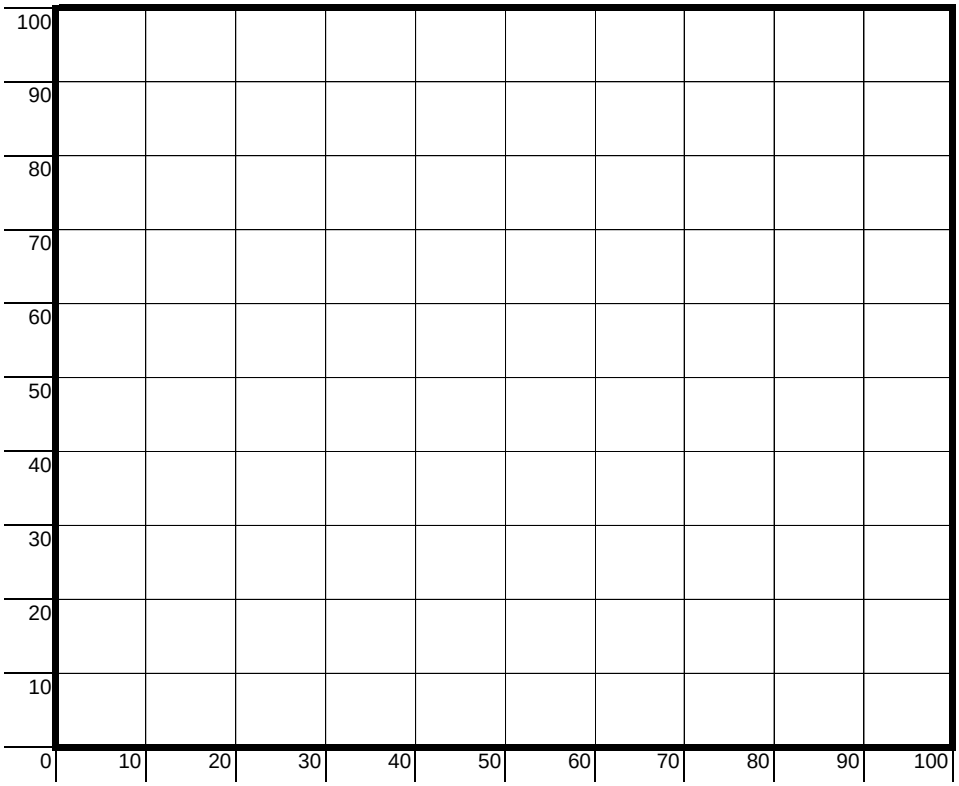
G-5

Northing(y): 4557816

Easting(x): 489223

Grid Sheet

Date: 12 Feb 2020



Comments:

Munitions Debris(pounds): 1

Non Munitions Debris(pounds): 0

19 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer. All anomalies were discovered at 0-18 inches depth.

No mec was indentified in the grid, munitions debris recovered consisted of frag.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

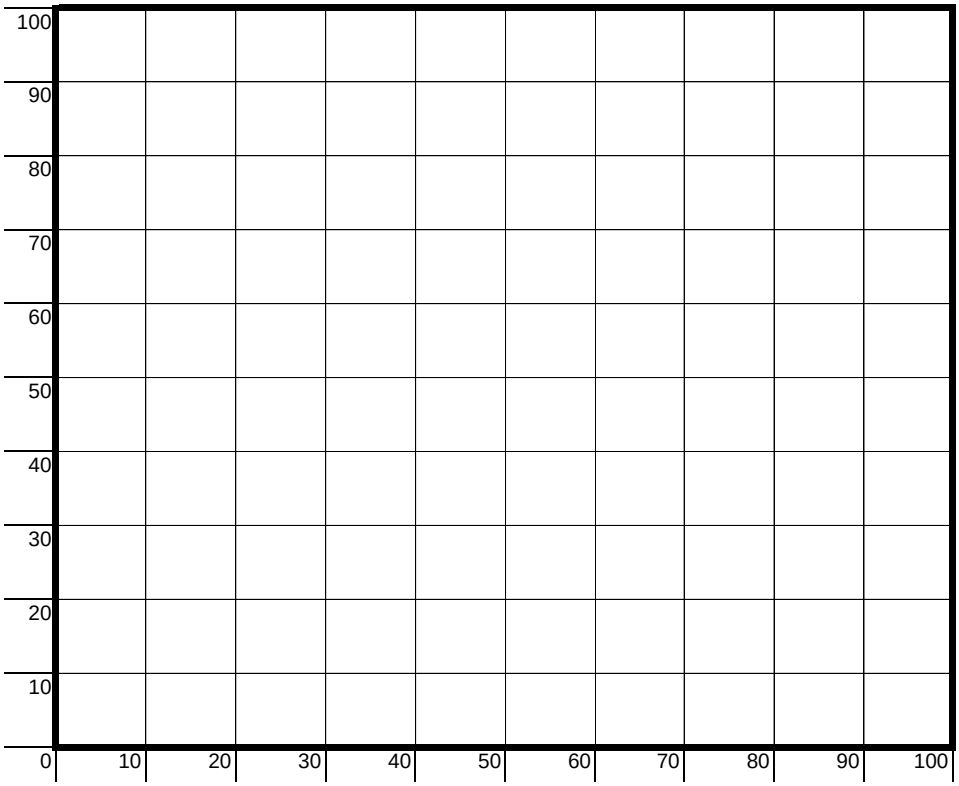
G-6

Northing(y): 4557816

Easting(x): 489253

Grid Sheet

Date: 11 Feb 2020



Comments:

Munitions Debris(pounds): 1

Non Munitions Debris(pounds): 0

22 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer. All anomalies were discovered at 0-18 inches depth.

No mec was indentified in the grid, munitions debris recovered consisted of frag.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

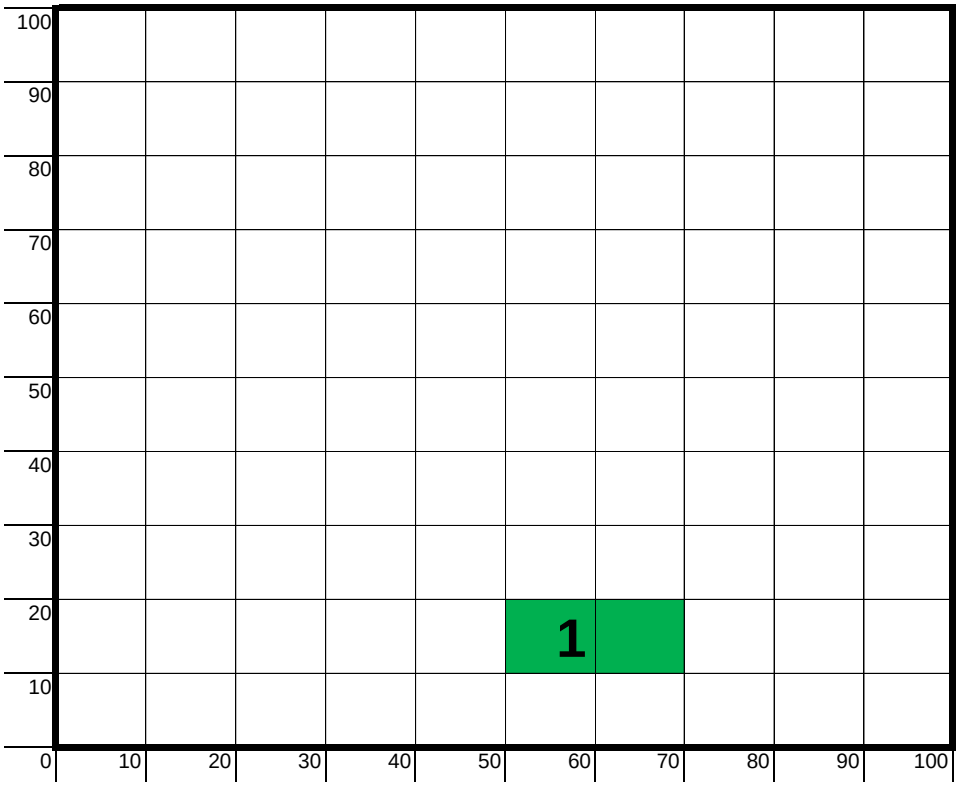
G-7

Northing(y): 4557816

Easting(x): 489284

Grid Sheet

Date: 10 Feb 2020



Comments:

Munitions Debris(pounds): 0

Non Munitions Debris(pounds): 0

15 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer. All anomalies were discovered at 0-18 inches depth.

No mec was indentified in the grid, and no munitions debris, or cultural debris was recovered.

Green area 1 was a larger anomaly that was found to be a fence post, this anomaly did not show any signs of being a burial pit.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

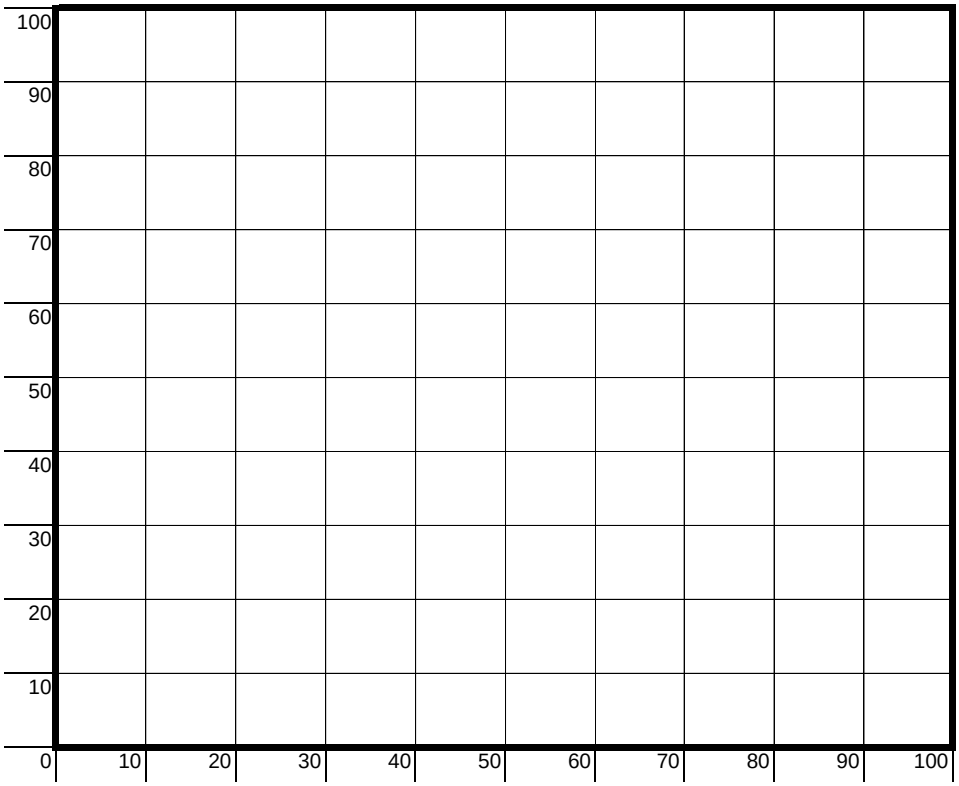
G-8

Northing(y): 4557816

Easting(x): 4892314

Grid Sheet

Date: 10 Feb 2020



Comments:

Munitions Debris(pounds): 2

Non Munitions Debris(pounds): 1

16 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer. All anomalies were discovered at 0-18 inches depth.

No mec was indentified in the grid, munitions debris recovered consisted of misc. frag, and cultural debris consisted of misc. scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

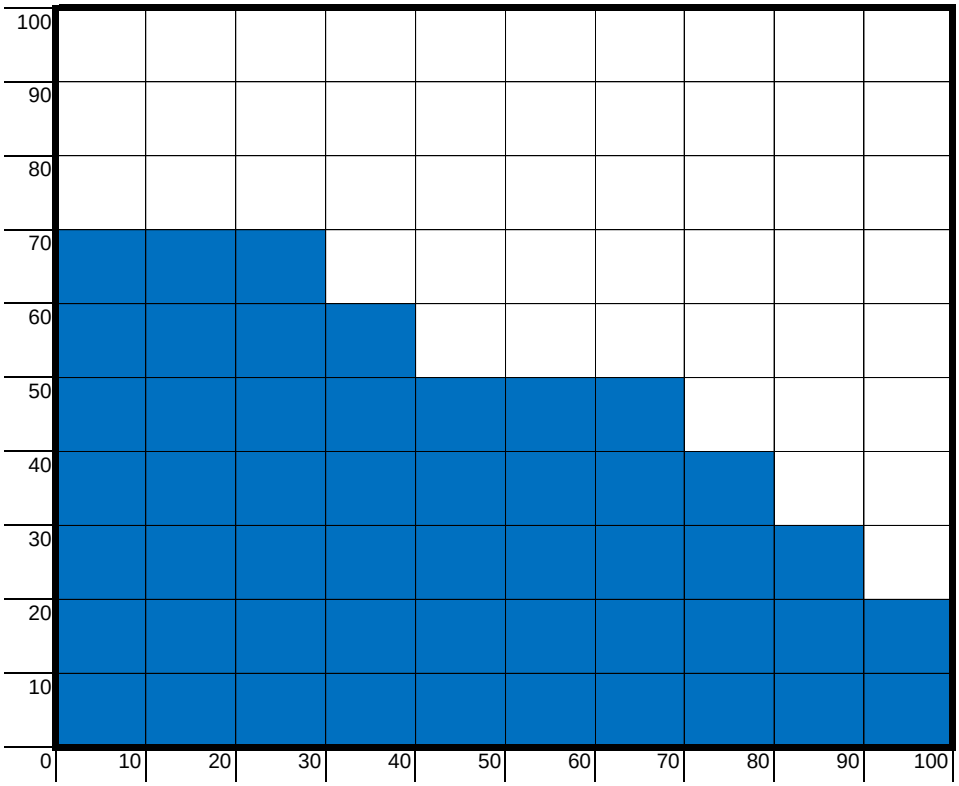
H-3

Northing(y): 4557786

Easting(x): 489162

Grid Sheet

Date: 14 Feb 2020



Comments:

Munitions Debris(pounds): 0

Non Munitions Debris(pounds): 0

13 anomalies were investigated, of those anomalies 10 were found with the GA 52 Magnetometer, and 3 with the Whites all metal detector.

No mec was indentified in the grid, no munitions debris, or cultural debris was recovered from the grid

The area marked in blue depicts the area of the grid that is wet land, this area was swept where possible. Areas not passable or full of water were not swept.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

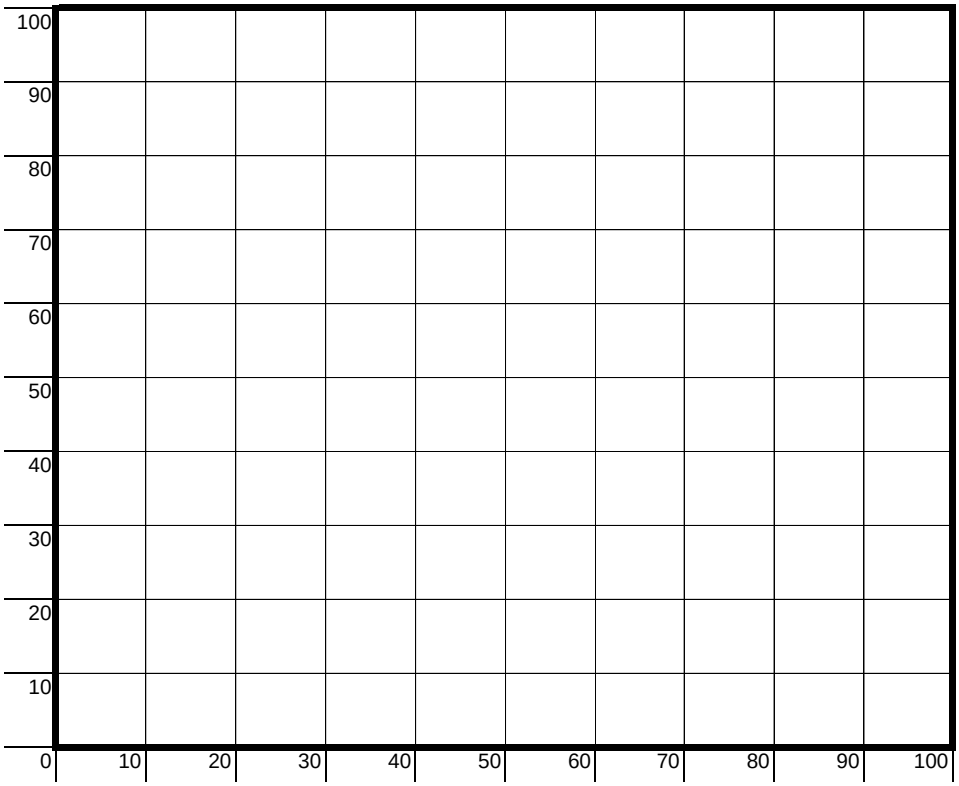
H-4

Northing(y): 4557786

Easting(x): 489193

Grid Sheet

Date: 14 Feb 2020



Comments:

Munitions Debris(pounds): 5

Non Munitions Debris(pounds): 1

22 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer. All anomalies were discovered at 0-18 inches depth.

No mec was indentified in the grid, munitions debris recovered consisted of frag, and cultural debris consisted of a survey nail.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

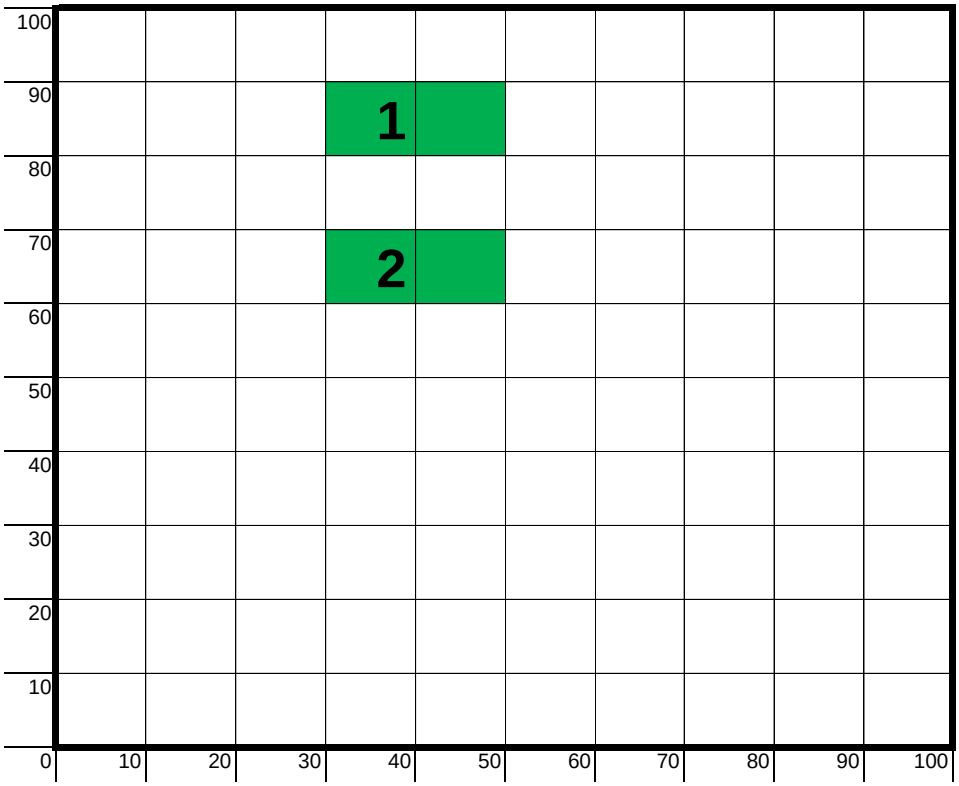
H-5

Northing(y): 4557786

Easting(x): 489223

Grid Sheet

Date: 18 Feb 2020



Comments:

Munitions Debris(pounds): 75

Non Munitions Debris(pounds): 6

35 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer. All anomalies were discovered at 0-18 inches depth.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc. scrap metal.

Green area 1 and 2 were larger anomalies which were determined to be small pockets of Munitions Debris. These areas were excavated and determined to not be burial pits.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

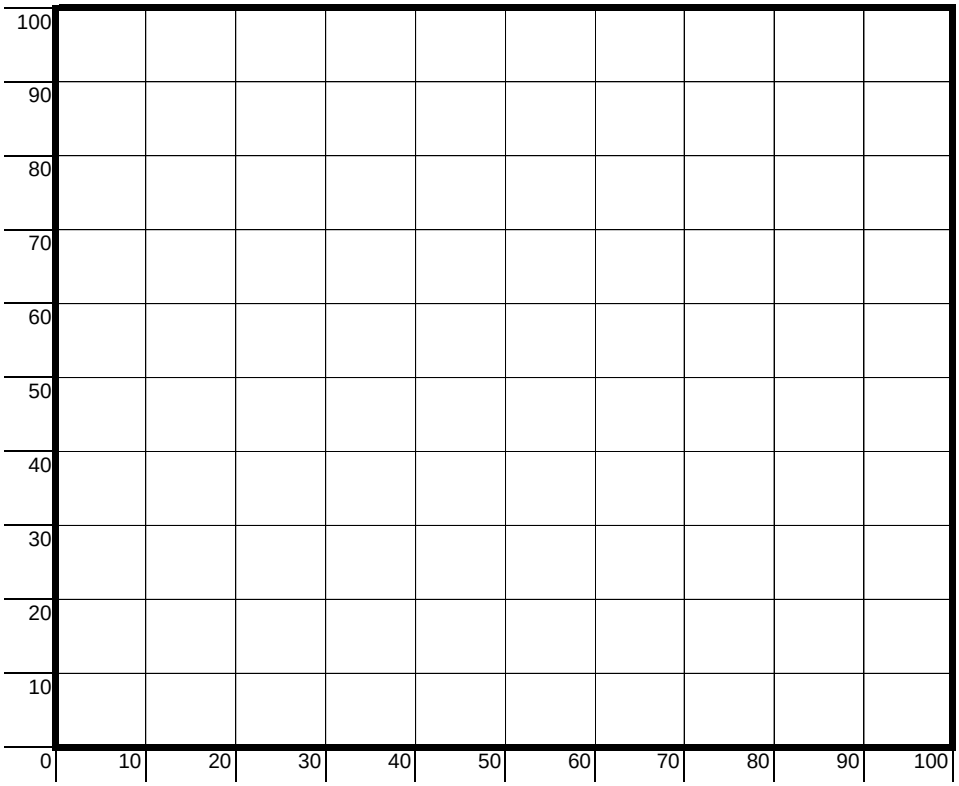
H-6

Northing(y): 4557786

Easting(x): 489253

Grid Sheet

Date: 18 Feb 2020



Comments:

Munitions Debris(pounds): 5

Non Munitions Debris(pounds): 5

18 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer. All anomalies were discovered at 0-18 inches depth.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

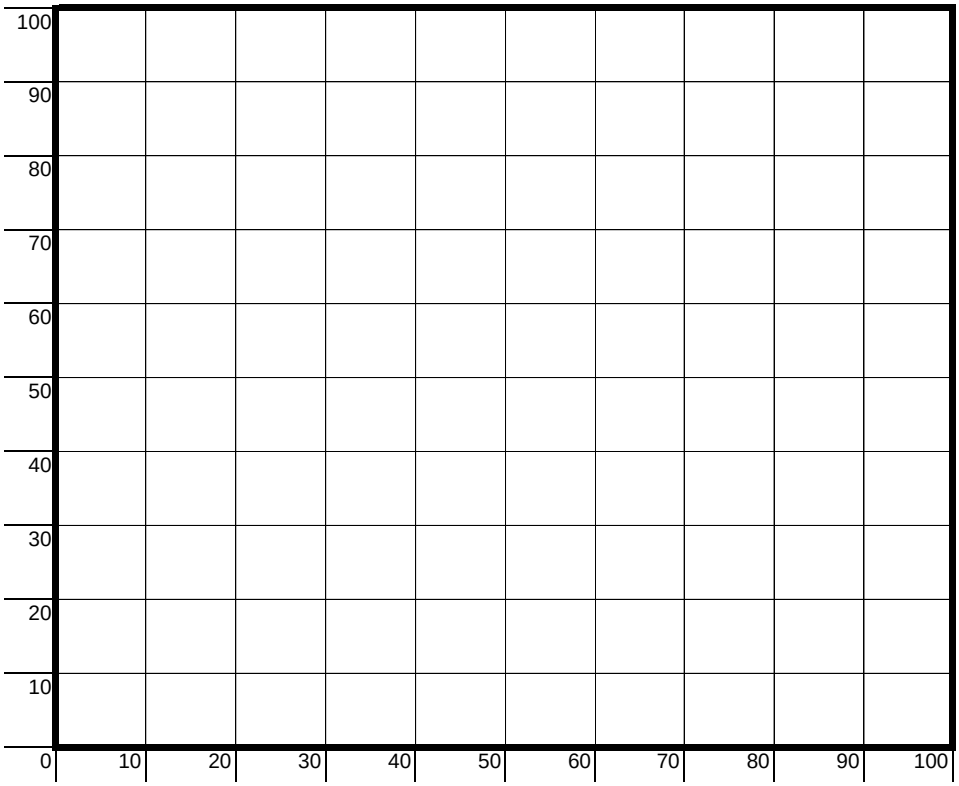
H-7

Northing(y): 4557786

Easting(x): 489284

Grid Sheet

Date: 19 Feb 2020



Comments:

Munitions Debris(pounds): 5

Non Munitions Debris(pounds): 0

12 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer. All anomalies were discovered at 0-18 inches depth.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

USACE Grid Sheet

RVAAP-004-R-01 Open Demolition Area #1

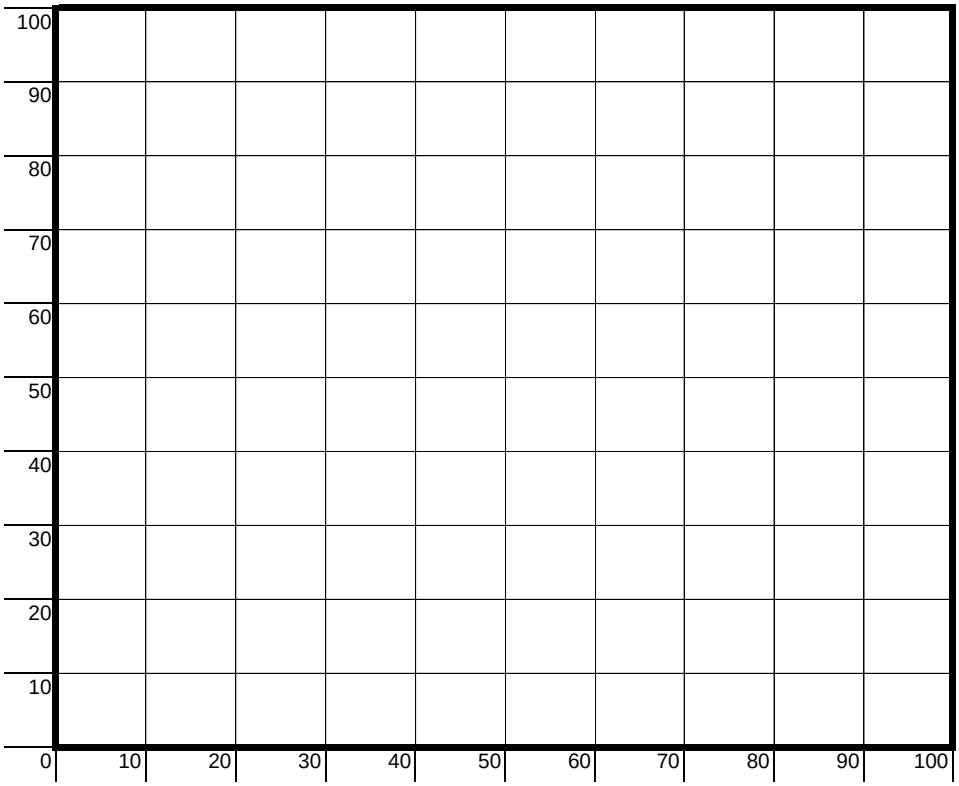
H-8

Northing(y): 4557786

Easting(x): 489314

Grid Sheet

Date: 19 Feb 2020



Comments:

Munitions Debris(pounds): 10

Non Munitions Debris(pounds): 1

9 anomalies were investigated, all anomalies were found with the GA 52 Magnetometer. All anomalies were discovered at 0-18 inches depth.

No mec was indentified in the grid, munitions debris recovered consisted of misc. fuze parts, and frag, and cultural debris consisted of misc.

scrap metal.

MDAS Recovery from grid C3

MDAS Recovery from grid C4

MDAS Recovery from grid C5

MDAS Recovery from grid C6

MDAS Recovery from grid C7

MDAS Recovery from grid C8

MDAS Recovery from grid D3

MDAS Recovery from grid D4

MDAS Recovery from grid D5

MDAS Recovery from grid D6

MDAS Recovery from grid D7

MDAS Recovery from grid D8

MDAS Recovery from grid E3

MDAS Recovery from grid E4

MDAS Recovery from grid E5

MDAS Recovery from grid E6

MDAS Recovery from grid E7

MDAS Recovery from grid E8

MDAS Recovery from grid F3

MDAS Recovery from grid F4

MDAS Recovery from grid F5

MDAS Recovery from grid F6

MDAS Recovery from grid F7

MDAS Recovery from grid F8

MDAS Recovery from grid G3

MDAS Recovery from grid G4

MDAS Recovery from grid G5

MDAS Recovery from grid G6

MDAS Recovery from grid G7

MDAS Recovery from grid G8

MDAS Recovery from grid H3

MDAS Recovery from grid H4

MDAS Recovery from grid H5

MDAS Recovery from grid H6

MDAS Recovery from grid H7

MDAS Recovery from grid H8

Appendix D – DD 1348-1A for MDAS

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DOC IDENT	RI FROM	M & S	U/I	QUANTITY	SER	SUPPLEMENTARY ADDRESS	SIG	FUND	DISTRIBUTION	PROJECT	PRI	RDD EEA QLTDE	ADV
0004													

UNIT PRICE	DOLLARS CTS	1. TOTAL PRICE
DOLLARS CTS		$0.00

2. SHIP FROM: Camp James A Garfield JMT, Ravenna, OH

SHIP TO: Metallico, Youngstown, OH

4. MARK FOR:

5. DOCDATE	6. NMFC	7. FRT RATE	8. TYPE CARGO	9. PS

10. QTY. REC'D	11. UP	12. UNIT WEIGHT	13. UNIT CUBE	14. UFC	15. SL
NA					

16. FREIGHT CLASSIFICATION NOMENCLATURE

24. DOCUMENT NUMBER

This document certifies that the following item/s are inert and is certified as "Materials Documented as Safe" (MDAS)

25. NSN & ADD 1ea. 55 Gallon Drum
Material Inspected contains
* Munitions Debris (MD)
* Non Munitions Cultural Debris (CD)

17. ITEM NOMENCLATURE: **MDAS**

18. TYCONT	19. NO CONT	20. TOTAL WEIGHT	21. TOTAL CUBE

22. RECEIVED BY

23. DATE RECEIVED: **2/19/2020**

26

1 This certifies that the item(S) listed have been 100% inspected and 100% re-inspected by qualified individuals and are certified as. Materials Documented as safe (MDAS) per DoDI 4140.62 guidance.

2 Each piece of MDAS has been inspected by (2) separate Senior qualified UXO Tech's (Unexploded Ordnance Technicians).

27. ADDITIONAL DATA

Signature: John Day — NAME — Title: Ordnance and Explosive Safety Specialist (410) 962.6741 Date: 2/19/2020

Signature: Matthew Rushwald — NAME — Title: Ordnance and Explosive Safety Specialist (410) 962.6741 Date: 2/19/2020

Metalico Youngstown, Inc.
100 Division Street Ext.
Youngstown, OH 44510

RETAIL5
CAMP RAVENNA

Rcv: 1642139
Date: 02/19/20
Time: 14:59
Ctl: 1642139
Ref:

OH

Commodity	Description			
Gross	Tare	Net	Price/UM	Amount
FE800	SHEET IRON			
8100	7680	420	0.00 / GT	0.00
Totals		420		0.00

I certify that I have the right to sell the merchandise listed above, that it is free of hazardous material, all refrigerants as defined in section 608 of the Clean Air Act and 40 CFR 82 are removed, and all grades, weights, and prices are acceptable.

Signature: _____

ID:

CSH BS

Carrier:
Veh:

Appendix E – Weekly Reports

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CENAB-HM-EI 15 Apr 2020

MEMORANDUM FOR RECORD

SUBJECT: Probability Assessment for the ODA1 site on Camp James A. Garfield

1. REFERENCES:

    a. Defense Explosives Safety Regulation (DESR) 6055.09 Edition 1, Jan 2019
    b. ODA1 MEC Verification Study After Action Report (AAR), Apr 2020
    c. Phase II Remedial Investigation Study (RVAAP -03 ODA1), Jan 2016
    d. OE/UXO Removal & Interim Removal Action Report, Mar 2004
    e. Phase I Remedial Investigation Report, Dec 2001

2. PURPOSE: The purpose of this Memorandum for Record (MFR) is to provide the Camp James A. Garfield (CJAG) Command Staff with sufficient information and rationale necessary to establish the Open Detonation Area 1 (ODA1) site as a "low probability" category for encountering Munitions and Explosives of Concern (MEC) consistent with the guidance established in DESR 6055.09 Edition 1, Jan 2019 (Reference A).

3. BACKGROUND:

    a. The ODA1 site was used from 1941-1949 for the destruction of military munitions and components by open burn and open detonation. In the late 40's and early 50's the site was used as an aircraft storage area.

    b. An interim removal action (IRA) was conducted under the Installation Restoration Program (IRP) between 2000 - 2001. The IRA recovered 81,800 lbs of munitions material documented as safe (MDAS). One MEC item was recovered and demilitarized (un-fuzed/un-fired 75mm Shrapnel).

    c. At the request of the CJAG Staff, USACE Baltimore District Ordnance and Explosive Safety Office conducted an assessment as part of a MEC verification study. This assessment consisted of a review of available historical information and a field investigation by qualified Ordnance and Explosive Safety Specialists (OESS). The OESS staff performed an analog sweep of the ODA1 site covering 8.16 acres.

4. DISCUSSION:

    a. An IRA was conducted as part of the IRP in 2000-2001 at ODA1. The IRA was conducted to address munitions constituents in soil. As part of that action, most of the area was excavated and sifted to remove material potentially presenting an explosive hazard. A total of 81,801 lbs of munitions debris was recovered, inspected, and certified as MDAS. One MEC item was recovered: an un-fuzed,

un-fired 75mm Shrapnel with an intact pusher plate (potentially containing a black powder charge that propels the lead balls). No other MEC items were recovered from ODA1.

b. The U.S. Army Corps of Engineers Baltimore District Ordnance and Explosive Safety Section conducted a MEC Verification Study at ODA1 between 6 January 2020 and 29 February 2020. The field team swept the entire 8.16 acre area, and excavated several exploratory trenches having dimensions twenty feet long by two feet deep. Only minor munitions debris was recovered during the study. No MEC or evidence of MEC were recovered or observed.

c. Field observations made by OESS personnel during the MEC Verification Study confirm that significant soil disturbance occurred at the site. Only minor evidence of military munitions was observed, and no MEC were recovered. These results confirm that the IRA previously conducted at ODA1 significantly reduced the explosive safety hazard by removing munitions debris and military munitions from the site.

5. RECOMMENDATION:

In considering the types of activities which have occurred at this site, the extensive soil disturbance activities, and only one verified report of MEC being encountered during the IRA, it is the recommendation of this office that the ODA1 site be categorized as "low probability" for encountering MEC in accordance with DESR 6055.09 Edition 1. It is also recommended that on-call construction support be available during earth disturbance activities.

Low Probability: EOD personnel or UXO-qualified personnel must be contacted to ensure their availability, advised about the project, and placed "on call" to assist if suspected MEC items are encountered during construction.

6. RE-ASSESSMENT:

In the event that MEC is identified and/or recovered during soil disturbance activities at ODA1, the site should be re-assessed in accordance with the provisions outlined in Reference A to determine if a "moderated to high probability" category is warranted for this site.

7. Point of Contact for this MFR is Marty Holmes, Chief, Ordnance & Explosive Safety. Baltimore District USACE. marty.a.holmes@usace.army.mil or 410-962-2258

Marty Holmes
USACE Baltimore District
Chief, Ordnance & Explosive Safety