01524

Explosives Safety Submission

Ordnance and Explosives Removal

at the Open Detonation (OD) Grounds,

Seneca Army Depot Activity,

Romulus, New York

September, 2002

Prepared by

US ARMY CORPS OF ENGINEERS

CONTENTS

INTRODUCTION

This Explosive Safety Submission is for the removal of Ordnance and Explosives (OE) from the peripheral acreage ("kick out" zone) of the Open Detonation (OD) Grounds (SEAD-45), Seneca Army Depot Activity (SEDA), New York. It outlines the safety aspects of the plan for cleanup of Unexploded Ordnance (UXO) and OE on property that is owned by the Department Of Defense (DoD).

SEDA is a US Army facility located in Seneca County, New York. SEDA occupies approximately 10,600 acres (Appendix A). It is bounded on the west by State Route 96A and on the east by State Route 96. The cities of Geneva and Rochester are located to the northwest (14 and 50 miles, respectively); Syracuse is 53 miles to the northeast and Ithaca is 31 miles to the south. The surrounding area is generally used for farming.

SEDA was included on the Federal Facilities National Priorities List on 13 July 1989. Consequently, all work to be performed under this contract will be performed according to Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and the "Federal Facility Agreement under CERCLA Section 120 in the matter of Seneca Army Depot, Romulus, New York,".

SEDA was included on the 1995 Base Realignment and Closure List and has been closed. The Seneca County Industrial Development Agency (IDA) has prepared a reuse report entitled "Seneca Army Depot Reuse Plan and Implementation Strategy". The majority of the installation will be used for housing developments, industrial development, institutional and conservation/recreation uses upon transfer. The current OD Grounds site will fall within the area designated for "Conservation/Recreation". The intended uses, which fall within the definition of "Conservation/Recreation", are wildlife habitation, wildlife viewing, hiking/walking and picnicking. Although there is currently no plan for establishing camping facilities, the IDA does not wish to restrict such a possibility in the future. Therefore, this ESS is based upon the assumption that the clearance depth (4 ft).to be used will be based upon the Public Access scenario (e.g. surface recreation).

1.0 REASON FOR OE.

Open detonation/open burning operations have been conducted for more than 50 years in the munitions destruction area or Demolition Grounds (100 acres) in the northwest portion of the installation. The area was administratively subdivided into the Open Burning and Open Detonation Grounds in the 1970's for environmental permit applications.

The Open Detonation (OD) Area consists of approximately 65 acres of the northern portion of this site immediately adjacent to the Open Burning (OB) Grounds (35 acres). The OB Grounds OE removal was successfully completed in September 2002 under a separate ESS. This site was cleared to a depth of two feet after one foot of earth was removed and separately processed for OE.

An OE Engineering Evaluation/Cost Analysis (EE/CA) for the OD area was completed in 2002. This study confirmed the existence of surface OE in an area out to 1,800' radius from the OD "Hill" possibly due to "kick-outs" or the annual clearance of surface vegetation (fire breaks) conducted with earth moving equipment. The EE/CA recommended OE clearance out to a 2,500 foot radius from the "Hill".

The perimeter OD Grounds OE removal is the subject of this Explosives Safety Submission. This ESS covers the surface and subsurface OE removal for the 330 acres located between 1200ft and 2500 ft radius of the "Hill". The entire OD Grounds Project will be conducted in phases. A separate ESS will be submitted for the inner 1200 ft radius (approx. 65 acres).

2.0 MAPS.

Maps detailing the location and extent of the area of concern and presenting the relevant Public Withdrawal Distances, Q-D Distances, etc., are presented in Appendix A to this submission.

3.0 AMOUNT AND TYPE OF OE.

As part of an installation-wide OE Engineering Evaluation/Cost Analysis (EE/CA), OE presence and density at the OD Grounds site was characterized. Fifty-seven 100' by 100' grids were surveyed using a Magnetometer and EM-61. Additionally, six grids in heavily wooded areas were investigated by the "mag and flag" method using handheld instruments. A total of 24.2% of the OD area (65 acres proper) was characterized. A summation of the effort follows:

- In the majority of EM-61 grids, so much buried metal was present that data was difficult to interpret and individual anomalies were very difficult to discern. In these cases, the contouring range was increased and the 20 highest amplitude anomalies were picked for investigation.
- Of the 1,337 anomalies identified in the EM-61 surveyed grids, 86% was intrusively investigated. Eight were false positives since no discernable metal debris was located. OE was recovered from 1,075 of the anomalies investigated.
- OE recovery depths ranged from surface to a depth of four feet.

In addition to the 65-acre area (OD Grounds proper) investigation, meandering path data was collected in the peripheral acreage using an EM-61. Approximately 3.5 acres of data were taken. A summation of the effort follows:

- Of 970 anomalies selected from the data, roughly 698 (72%) were investigated. Of these 19 (2.7%) were false positives.
- OE-related items were recovered from 667 (95%) of the anomalies investigated. Twenty-one of these were UXO.
- OE recovery depths ranged from surface to a depth of 36 inches.

UXO and OE located at the site are listed in Appendix C, pages C-9 through C-23. In addition, the OE and UXO encountered during the OB Grounds OE Removal Project confirmed this expectation.

Based upon the results of the EE/CA characterization, two Most Probable Munitions (MPM) were chosen for this site. One was chosen for determination of the required Public Withdrawal Distance and barricade thickness. This is the M374, 81mm Mortar. The Net Explosive Weight (NEW) is 2.09 lbs. of Composition B. The Public Withdrawal Distance (PWD) for this MPM is 1233 feet, which was computed using HNC-ED-CS-S-98-1 (approved by DDESB on 6 April 1998) by Ms.Sherene Rizvi, USAESC, Huntsville, Engineering Division, Structures Branch, November 2001.

Miniature Open Front Barricade (MOFB) thickness is 1.43 inches of Aluminum. Sand bag enclosure for intentional detonations is 20 inches thick with 6 inch standoff between munition and sand bags. Sand Bag throw distance=125 ft. Minimum Separation Distances for both the MOFB and Sand Bag enclosure = 200 ft. A professional engineer design of an alternative plexi-glass barricade is included for approval, in Appendix B.

The choice of the 81mm Mortar was made despite the references (Appendix C) to larger and "live", "UXO" items. The Contractor referred to all items with HE filler as "UXO" and "live" regardless of whether the item was fuzed. Consequently, the largest, full-up and fuzed round found during the characterization was the 81mm Mortar. If however, a larger, live or suspected live OE item is encountered, its withdrawal distances will be determined in accordance with the procedures defined in 98-01 and adjustments will be made accordingly. Until the appropriate distances are determined by 98-01, the default distances in DoD 6055.9-STD (Chapter 5, Paragraph E.4.a) will be used.

The second MPM was chosen for the purpose of determining the effectiveness of geophysical investigation equipment with respect to the smallest, HE-filled, items found. This is the 20mm projectile. This class of projectile was the most frequent OE item found during the OB Grounds OE Removal Project.

4.0 START DATE.

Work will be phased depending on funding. It is anticipated that Phase I (Brush clearing and Geophysical mapping of the outer periphery 1,200' to 2,500' radius from the OD Hill) will begin in ***October 2002*** beginning with survey work and progressing to intrusive investigation work. Intrusive work should begin by ***November 2002.***

5.0 FROST LINE DEPTH.

The design frost depth for this site is 40 inches.

6.0 CLEARANCE TECHNIQUES.

This section presents information concerning the techniques to be used during the removal of OE at this site.

General Progression. OE remediation at the SEDA OD Grounds will take place in the following phases:

o **Phase I**. The OD grounds were operated under RCRA Interim Status until its closure. As such, the OD Grounds must be closed in a manner that meets RCRA closure requirements. The first step toward meeting RCRA requirements will be the brush removal and geophysical mapping of the area from 1,200' to 2,500' radius from the center of the OD Hill (approximately 330 acres). No ESS is required for this Phase.

The geophysical mapping Statement of Work (SOW) will be developed. This specification will include the requirements for a Test Plot sufficient to calibrate the instruments and validate the capability of detecting a 20 mm, 75mm, 90mm, 105mm, and 155mm projectile target to their maximum detection depth.

EM-61 and Magnetometers will be towed in multiple instrument arrays in the open and cleared areas and the survey teams will be provided with UXO avoidance support. The contractor will perform periodic QC during the mapping of all grids in accordance with Quality Control for OE Digital Geophysical Mapping, USAESC, Huntsville. QA sampling of the completed grids will be specified in the SOW and completed prior to USACE acceptance and the start of intrusive investigations.

Some areas will require manual surface and subsurface clearance. UXO personnel will locate and record the position of anomalies in the heavy brush/forest acreage using approved handheld detection equipment and Trimble GPS. The SUXOS or UXO QC Manager will perform QC on 10% of the areas mapped in this manner. The USACE OE Safety Specialist will perform QA on an additional and distinct 10 % of these areas, for a total of 20%.

Any OE found on the surface will be disposed of weekly unless it requires Blow in Place (BIP).

Phase II

Upon completion of the geophysical mapping and anomaly identification obtained in Phase I, the contractor will investigate all anomalies intrusively, and remove all surface and subsurface OE to a depth of four (4) feet. Any OE encountered below this depth shall also be removed. OE will be destroyed or certified as inert ORS on a weekly basis unless BIP is required.

Intrusive investigation of anomalies will utilize the MOFD engineering control in areas adjacent (within 200 feet) of private property boundaries. The Plexi-Glass Open Front Barricade will also be used, if approved. The contractor's SUXOS or UXO QC Manager will perform internal QC during all anomaly removal efforts.

Upon completion of the anomaly investigations, the contractor will perform QA on the entire geophysical mapping and OE removal effort. Ten percent (10%) of the area will be mapped again using the EM-

61/Magnetometer. Any anomalies detected will be intrusively investigated and removed. A grid will fail if one UXO/OE is found. Failure of a grid will require re-mapping and additional intrusive investigation.

All of the data gathered from the mapping and anomaly investigation will be compiled to draw conclusions on the existence or non-existence of OE contamination at depth. A conclusion will be drawn regarding the existence of OE-contamination remaining at this site. For instance, because all OE is removed to depth outside the inner 65 acres of the actual OD area, release of this portion of the site for restricted use will be sought. This request will be based upon the following:

(1) Outside the 65-acre site proper, mapping, anomaly investigation and removal to depth will have been done and OE will have been removed to depth.

(2) Inside the 65 acre OD area including the OD Hill, OE/UXO will remain until such time that the BRAC Office decides what remedial action will occur. Any chosen alternative (considered **Phase III)** will require an additional, separate ESS.

Discussion of Project-Specific Procedures.

All geophysical surveying and brush clearing activities will be conducted utilizing a UXO Tech II escort who will provide OE avoidance services so that grid stakes/flags/markers can be placed in the ground. Surveying activities will consist of the location of soil excavation points, site grids, control points and verification of payment quantities. For surface clearance, each grid will be walked and visually checked for the presence of ordnance. Instrument assistance may be used as required. For subsurface clearance performed using digital geophysics, each grid will be divided into 2, 2.5 or 3-foot lanes depending upon which spacing provides the best detection capability as demonstrated in the geophysical prove-out. For subsurface clearance performed using analog, handheld instruments, each grid will be divided into 5 foot transects or lanes. For both types of instruments, operators will walk each lane with the chosen geophysical instrument. The chosen instrument(s) will be capable of detecting the Most Probable Munitions to the proposed depths. A test grid will be established in a clean area, in terrain that closely approximates the characteristics of the project site, with inert items representing the likeness of the chosen MPM, at varying depths down to the clearance depth of 4' ft, for daily calibration of detection equipment to verify operability and detection.

All anomalies will be dug to depth to determine the identity thereof. Earth moving equipment will be utilized to excavate soils one foot on each side of the marker flag. UXO techs will remove the remaining soil using hand tools. The MOFB will be utilized whenever there is less than 1233 ft. distance to the Army property line or an inhabited building.

During all OE operations, Lexan or Plexiglass shields will protect earthmoving and clearing equipment operators. Shield thickness has been calculated to be a minimum of 2.77 inches of Plexiglas or 4.26 inches of Lexan (by Ms. Sherene Rizvi, Structures Branch, USAESC, Huntsville, using THOR equations for fragment penetration from TM 5-1300) using the 81mm M374 Mortar on 29 November 2002 and verified by Dr. Michelle Crull, USAEC, Huntsville, on 10 September 2002.

With respect to OE destruction, of specific concern are the location of explosives storage facilities and detonation operations with respect to facilities and people and any effects thereon. The contractor will provide explosives for destruction operations. It is anticipated that demolition materials and shaped charges, as appropriate, will be used. These are considered Class 1.1 and 1.4 explosives.

Explosives will be stored in the SEDA OB/OD area double igloo type, earthen-covered magazine. The existing magazine is constructed to DDESB and Army standards and is complete with the required lightning protection and current ground testing certification.. The contractor will store detonating cord, perforators and time fuse in one half of one of the magazines. In the other half of the first magazine, the contractor will store initiators. A sandbag wall (minimum two feet wide and at least as high as materials stacked on either side) will separate the two halves of this magazine. In the second of the magazines, UXO

(which was located and is awaiting the weekly demolition operation) will be stored. Each of the two magazines is designed for storage of a maximum NEW not to exceed 450 pounds. At no time will the contractor store more than 100 pounds NEW in either magazine. As for security, access into the SEDA ammunition area is itself, extremely restricted. The OD Grounds is remotely located within the ammunition area. Additionally, the contractor will establish and enforce strict area and site access at the OD site proper. Access into a work site exclusion zone will be limited to contractor personnel specifically authorized to work on site, Army Corps of Engineers safety personnel and the Corps of Engineers Contracting Officer and Contracting Officer's Representative. All other personnel will be restricted from entering the exclusion zone or be escorted by contractor or Corps personnel.

Disposal/Venting/Demilitarization operations will be carried out weekly. Items which can be moved will be consolidated in accordance with "Procedures for Demolition of Multiple Rounds (Consolidated Shots) on Ordnance and Explosives (OE) Sites", dated August 1998 and approved by DDESB on 27 October 1998. Disposal will be carried out at the "Hill" on the OD Ground. UXO will be stored in the second magazine while awaiting demo operations. Items that cannot be moved, will be blown-in-place daily, on an individual basis.

7.0 ALTERNATE TECHNIQUES.

An alternative barricade to the MOFD will be designed and submitted for approval. See Appendix B.

8.0 QUANTITY-DISTANCES.

The appropriate Quantity-Distances are shown on the SEDA Installation Explosives Q/D site map enclosed in Appendix A of this submission. For ease of review, the distances are repeated here.

The rationale for the MPM and citation for the calculation method are presented in Section 3.0 of this submission. In general, team separation distances will be determined by the greater of 200 feet or the K50 (0.9-psi overpressure) distance. The separation distance for all unrelated personnel for an accidental detonation from an OE area will be determined by the greatest of 200 feet, the K50 distance or the maximum fragment throw distance. The separation distance for all personnel (related and unrelated) for intentional detonations will be determined by the maximum of 200 feet, the K328 distance or the maximum fragment throw distance. Applying the above principles, the following distances apply:

OE Areas: Minimum of 1,233 feet (this is the maximum fragment range for the 81mm M374 Mortar).

OD Grounds Magazines: Minimum of 500 feet (Front) and 250 feet (Rear and Sides), IAW Table 9-1 of DoD 6055.9-STD. The back and sides of the existing magazines face the removal site. Therefore, 250 feet will govern for the vast majority of the proposed removal. Note that these distances are for 1.1 explosives; therefore, they exceed the distance requirements for the 1.4 demolition materials to be stored in one of the magazines. UXO (Class 1.1) will be stored in the second magazine. Other approved ammunition storage magazines are available on site if required.

Intentional Detonations: Minimum of 1,233 feet (via approved calculation).

During Phase I, appropriate protection will be used for site personnel and the public during situations where an intentional detonation is planned for ordnance found on the surface during Phase I operations. Most OE will be moved to the OD "Hill" for detonation or Thermal Treatment/Certification as ORS.

During Phase II operations, a Miniature Open Front Barricade (MOFB) or approved alternate, constructed in accordance with USAESC Huntsville Engineering Drawings, and approved by Dr. Michelle Crull, USAESC, is planned for use during intrusive activities for protection against unintentional detonations.

9.0 OFF-SITE DISPOSAL.

Not applicable.

10.0 TECHNICAL SUPPORT.

No Chemical Warfare Materials (CWM) are suspected at this site. The contractor will positively identify all OE uncovered before items are removed or destroyed. If a suspect CWM is encountered, the Site Safety Officer will stop all operations on site and notify the on site CENAB OE Safety Specialist. The CENAB OE Safety Specialist will notify the appropriate Explosive Ordnance Disposal (EOD) Detachment (725th Ordnance Company (EOD) Fort Drum) and/or Technical Escort Unit.

11.0 LAND USE RESTRICTIONS.

There will be reuse restrictions required following this action. The site will be transferred (sometime during the closure process) for use as discussed in the INTRODUCTION, above.

12.0 PUBLIC INVOLVEMENT.

This removal is being performed under the CERCLA umbrella since Seneca is a BRAC federal facility on the National Priorities List. Consequently, the required public involvement process is already in place (BCT, RAB, and general public involvement) with the SEDA BEC taking the lead.

13.0 AFTER ACTION REPORT.

Following the OE Removal Project at the Open Detonation Grounds, a copy of the Final Removal Report will be provided, to all whom reviewed this ESS, for information purposes.

13.0 AMENDMENTS AND CORRECTIONS.

An amendment or correction discussing any changes in the procedures to be used or the conditions encountered during this removal will be provided for review and approval as warranted.

14.0 REFERENCES.

General

a. AR 385-64, Ammunition and Explosives Safety Standards, dtd 22 May 1987

b. AR 385-64 (Draft), US Army Explosives Safety Program

c. Department of Defense Explosives Safety Board, Interim Guidance on Land Clearance Planning and Removal Depth for Ammunition and Explosives. 1993.

d. DDESB, Guidance for Clearance Plans, 27 January 1998.

e. Interim Final, "Guidance for Conducting Remedial Investigations/Feasibility Studies Under CERCLA", U.S. EPA, Office of Solid Waste and Emergency Response, October 1988.

f. "U.S. Corps of Engineers Safety and Health Requirements Manual," U.S. Army Engineering Manual No. EM-385-1-1, 3 September 1996.

g. "Safety Concepts and Basic Considerations for Unexploded Ordnance (UXO) Operations", U. S. Army Engineering and Support Center, Huntsville, Revised 16 February 1996.

h. "Interim Guidance Documents": http://www.hnd.usace.army.mil/oew/intguidocs.asp

i. "Regulations, Pamphlets, Manuals": http://www.hnd.usace.army.mil/oew/erepems.asp

Specific

a. "Federal Facility Agreement under CERCLA Section 120 in the matter of Seneca Army Depot, Romulus, New York," Docket No. II-CERCLA-FFA-00202, USEPA, U.S. Department of the Army, and the New York State Department of Environmental Conservation, November 1990.

b. "Work Plan Architectural-Engineering Services For Performing A Remedial Investigation/Feasibility Study (RI/FS) At The Open Burning (OB) Grounds, Seneca Army Depot, Romulus, New York," Chas. T. Main, Inc., 1991.

c. "Preliminary Site Characterization Report at the Open Burning (OB) Grounds," Chas. T. Main, Inc., 1992.

d. Final, "Remedial Investigation Report at the Open Burning (OB) Grounds", Parsons Engineering Science, Inc., September 1994.

e. Final, "Feasibility Study at the Open Burning (OB) Grounds", Parsons Engineering Science, Inc., June 1996.

f. Draft-Final, "Superfund Proposed Plan, the Open Burning (OB) Grounds at the Seneca Army Depot Activity (SEDA), Romulus, New York.", Parsons Engineering Science, Inc., January 1997.

g. Preliminary-Draft, "Record of Decision, Former Open Burning (OB) Grounds Site, Seneca Army Depot Activity, Romulus, New York.", Parsons Engineering Science, Inc., March 1997.

h. Draft Final Ordnance and Explosives Engineering Evaluation/Cost Analysis, Seneca Army Depot, September 2001. OD Grounds (SEAD 45)

APPENDIX A

MAPS

APPENDIX B

Alternate Plexi-Glass Open front Barricade

APPENDIX C

Anomaly Investigation Results: SEAD 45 Excerpts from EE/CA

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
44J7-67	753266.58	985495.25	3	40mm practice	OE
44L1-42	753436.06	984998.85	0	40mm practice	OE
44L1-47	753500.06	984993.68	6	40mm practice	OE
44L9-56	753450.1	985789.22	9	40mm practice	OE
45A11-10	737411.81	1013209.18	12	20mm frag	OE
45A11-11	737407.47	1013218.13	2	20mm	OE
45A11-13	737426.38	1013221.9	12	Butterfly bomb and fuze.	OE
45A11-16	737449.89	1013246.11	12	20mm	OE
45A11-18	737472.55	1013220.78	4	20mm and frag	OE
45A11-2	737490.67	1013195.06	8	Lg frag and 20mm (2)	OE
45A11-7	737408.31	1013181.35	2	20mm	OE
45A11-8	737407.89	1013193.66	6	M61 fuze	OE
45A1-25	737445.74	1012197.51	2	FUZE	OE
45A1-29	737468.17	1012209.15	2	20MM	OE
45A1-3	737423.88	1012177.65	1	20MM	OE
45A13-1	737434.86	1013375.55	2	Fuze	OE
45A13-11	737421.34	1013397.28	6	Frag and 20mm	OE
45A13-13	737420.62	1013414.4	6	Fuze and frag 2"-6"	OE
45A13-15	737502.78	1013413.25	6	Bomb fuzes (2)	OE
45A13-17	737434.19	1013427.47	1	Frag and 20mm	OE
45A13-19	737470.04	1013447.34	8	20mm and frag	OE
45A13-2	737442.63	1013366.63	6	Fuze parts and 20mm	OE
45A13-20	737475.08	1013446.05	6	20mm (2)	OE
45A13-5	737499.04	1013362.31	4	20mm	OE
45A1-46	737427.48	1012242.47	2	FUZE	OE
45A1-47	737437.99	1012223.31	2	FUZE	OE
45A1-48	737449.78	1012222.46	4	FUZE	OE
45A1-51	737449.78	1012232.96	3	FUZE	OE
45A1-59	737485.14	1012259.51	0	20MM (surf)	OE
45A1-6	737453.83	1012180.06	6	20MM & FRAG	OE
45A1-61	737477.9	1012249.57	1	FUZE	OE
45A1-64	737451.91	1012246.59	4	20MM	OE
45A1-68	737437.28	1012245.03	2	20MM	OE
45A1-69	737448.36	1012256.1	2	FUZE ADPT.	OE
45A1-70	737442.39	1012254.97	3	20MM	OE
45A4-1	737445.75	1012459.48	3	75mm	OE
45A4-14	737441.5	1012494.65	1	Fuze	OE
45A4-18	737450.39	1012488.41	3	PD fuze	OE
45A4-19	737460.47	1012489.87	6	PD fuze	OE
45A4-21	737460.07	1012503.27	4	20mm	OE
45A4-33	737470.02	1012501.68	3	20mm	OE
45A4-4	737429.96	1012474.48	3	20mm	OE
45A4-40	737433.88	1012544.66	3	20mm, 57mm	OE
45A4-42	737432.95	1012569.6	1	M66	OE
45A4-44	737454.57	1012572.12	5	M66	OE
45A4-58	737452.08	1012606.87	2	Frag. fuze	OE
45A4-6	737409.13	1012471.96	4	Fuze, 20mm	OE
45A4-64	737503.07	1012593.66	2	Fuze	OE
45A4-66	737454.99	1012632.83	2	Fuze	OE
45A4-67	737444.44	1012636.21	6	Fuze	OE
45A4-69	737450.39	1012647.85	2	Fuze	OE
45A4-70	737422.52	1012652.18	3	Landmine fuze	OE
45B15-10	737595.67	1013602.22	5	57MM	OE
45B15-15	737580.04	1013630.81	3	FUZE	OE
45B15-18	737557.92	1013648.13	4	FUZE	OE
45B15-19	737545.24	1013653.48	3	FUZE	OE
45B15-2	737523.21	1013564.67	5	FUZE	OE

SEAD 45 START

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45B15-4	737586.67	1013582.67	4	FUZE	OE
45B15-6	737532.78	1013588.02	5	FUZE	OE
45B15-7	737546.15	1013586.75	6	FUZE (2)	OE
45B15-9	737581.32	1013600.81	6	75MM PROJECTILE	OE
45B3-16	737568.98	1012382.87	3	Fuze	OE
45B3-17	737565.1	1012376.3	2	Fuze	OE
45B3-23	737527.59	1012394.92	2	M66	OE
45B3-3	737533.35	1012364.11	3	Fuze	OE
45B3-33	737575.68	1012413.14	3	20mm	OE
45B3-35	737569.92	1012411	3	20mm	OE
45B3-37	737558.67	1012405.78	6	Frag, 20mm	OE
45B3-39	737552.5	1012415.02	3	20mm	OE
45B3-4	737575.01	1012362.5	1	20mm	OE
45B3-44	737519.3	1012415.7	2	Fuze	OE
45B3-45	737510.05	1012422.4	2	Fuze	OE
45B3-46	737507.5	1012447.19	3	20mm	OE
45B3-47	737517.55	1012455.77	3	20mm	OE
45B3-49	737536.45	1012460.19	0	Frag, 20mm	OE
45B3-57	737580.53	1012439.42	2	Fuze	OE
45B3-66	737538.59	1012432.85	2	Fuze	OE
45B3-7	737591.35	1012374.56	3	20mm	OE
45B9-1	737584.92	1012970.35	4	75mm projectile	OE
45B9-11	737516.43	1013030.61	6	75mm (1/2), frag	OE
45B9-12	737535.07	1013044.26	12	75mm, 20mm	OE
45B9-17	737568.88	1013023.02	6	Fuze, frag	OE
45B9-18	737525.75	1013029.74	6	20mm (5), fuze	OE
45B9-19	737562.6	1012977.72	6	Fuze	OE
45B9-2	737605.08	1012987.26	4	20mm	OE
45B9-24	737510.02	1013071.42	0	Frag, 75mm, fuze	OE
45B9-28	737593.09	1013091.31	12	Fuzes (2), frag (5)	OE
45B9-32	737550.02	1013075.79	0	Fuzes and frag to 2'	OE
45B9-34	737535.16	1013076.01	0	Frag, 20mm	OE
45B9-35	737514.39	1013087.81	6	Fuzes, frag, armor plate	OE
45B9-36	737518.32	1013079.5	6	Havar venturi and lg frag	OE
45B9-39	737604.68	1013140.5	4	Frag, 20mm, 60mm motor	OE
45B9-4	737534.2	1012998.31	6	Fuze, frag, 20mm	OE
45B9-5	737543.74	1013007.85	11	20mm, fuze	OE
45B9-9	737578.2	1013032.56	12	Lg frag, fuze	OE
45C13-10	737695.59	1013391.98	12	75MM FUZE	OE
45C13-12	737664.66	1013387.1	4	FUZE	OE
45C13-13	737654.89	1013381.78	4	20 MM	OE
45C13-14	737649.86	1013387.1	3	FUZE	OE
45C13-17	737692.19	1013413.14	12	ROCKET VENTURI	OE
45C13-23	737670.08	1013462.45	4	FUZE	OE
45C13-31	737679.66	1013513.87	4	FUZE	OE
45C13-32	737695.06	1013518.66	9	FUZE	OE
45C13-38	737637.44	1013545.81	5	FUZE	OE
45C13-39	737614.79	1013548.83	3	ROCKET VENTURI	OE
45C13-4	737654.15	1013361.51	4	BASE FUZE	OE
45C13-5	737702.84	1013360.33	6	FUZE (2)	OE
45C2-1	737699.96	1012262.89	3	75mm	OE
45C2-14	737675.06	1012355.71	4	Fuze	OE
45C2-16	737701.19	1012343.22	6	Base fuze	OE
45C2-18	737676.15	1012276.87	6	Base fuze	OE
45C2-2	737689.79	1012262.19	4	75mm	OE
45C2-3	737686.44	1012270.69	8	Fuzes (2)	OE
45C2-4	737696.2	1012286.71	4	75mm - HE	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45C2-5	737699.12	1012311.36	12	Fuzes (3), 20mm	OE
45C2-6	737693.83	1012316.1	6	Base fuze (2)	OE
45C6-1	737621.9	1012660.89	2	Fuze, 20mm	OE
45C6-10	737705.03	1012661.8	3	20mm	OE
45C6-12	737692.24	1012683.08	2	20mm	OE
45C6-15	737675.8	1012690.91	2	Fuze	OE
45C6-16	737660.01	1012684.52	1	M66 fuze	OE
45C6-18	737624.77	1012689.74	2	20mm, fuze parts	OE
45C6-20	737629.08	1012702.4	3	M103 fuze	OE
45C6-22	737604.94	1012694.83	1	20mm	OE
45C6-23	737642.52	1012713.75	3	20mm	OE
45C6-24	737646.31	1012709.19	3	M66	OE
45C6-27	737662.49	1012702.01	2	20mm (2)	OE
45C6-29	737672.27	1012707.75	3	20mm, frag	OE
45C6-3	737628.69	1012666.9	2	20mm	OE
45C6-35	737684.96	1012725.7	2	Fuze	OE
45C6-38	737661.73	1012735.37	4	Fuze, frag (2)	OE
45C6-39	737662.51	1012743.33	4	Frag (3), 20mm (2)	OE
45C6-44	737628.58	1012753.51	0	Fuze	OE
45C6-53	737698.76	1012745.69	6	Fuzes (4), 20mm (2)	OE
45C6-54	737697.72	1012718.15	8	Fuze, frag	OE
45C6-58	737695.38	1012731.15	3	20mm	OE
45D11-10	737742.67	1013202.65	12	Nose fuze, 20mm	OE
45D11-12	737775.7	1013204.23	6	75mm HE	OE
45D11-14	737776.6	1013221.2	8	Fuze, fuze parts, 20mm (5)	OE
45D11-15	737743.57	1013245.18	6	Frag, bomb fuze parts, 20mm (5)	OE
45D11-16	737749.45	1013250.16	6	75mm, frag, 20mm (5)	OE
45D11-17	737763.48	1013258.53	6	20mm (2), fence post	OE
45D11-18	737768.23	1013231.61	10	75mm, M83	OE
45D11-19	737752.85	1013235.23	8	20mm, frag	OE
45D11-2	737740.4	1013172.78	6	Nose fuze, frag	OE
45D11-3	737712.35	1013183.87	2	75mm HE and fuze	OE
45D11-5	737744.02	1013183.87	6	Havar venturi	OE
45D4-12	737705.4	1012472.66	4	20mm (2)	OE
45D4-17	737740.15	1012485.76	2	20mm	OE
45D4-18	737745.09	1012483.88	0	20mm	OE
45D4-2	737730.66	1012460.23	6	20mm	OE
45D4-3	737732.66	1012472.52	3	M66 fuze	OE
45D4-5	737735.07	1012480.14	0	20mm and frag	OE
45D4-52	737705.2	1012494.97	4	20mm	OE
45D4-53	737704.93	1012501.36	3	20mm	OE
45D4-54	737709.87	1012506.57	6	Fuze	OE
45D4-57	737720.16	1012519.14	6	Fuze	OE
45D4-6	737722.11	1012467.98	4	20mm	OE
45D4-66	737737.27	1012534.11	4	20mm (2)	OE
45D4-67	737750.09	1012529.83	4	20mm	OE
45D4-69	737774.41	1012530.1	3	Bomb fuze	OE
45D4-70	737794.74	1012534.23	3	20mm frag	OE
45D4-71	737784.99	1012542.65	6	Heavy frag and 20mm	OE
45D4-72	737787.53	1012549.6	4	Fuze	OE
45D4-74	737780.45	1012559.09	6	Lg frag (2)	OE
45D4-75	737773.1	1012546.52	4	Fuze and frag	OE
45D4-77	737761.34	1012553.07	3	75mm HE	OE
45D4-78	737758.53	1012546.39	3	Frag and fuze	OE
45D4-79	737748.78	1012560.16	8	Fuze	OE
45D4-80	737739.96	1012550.4	8	20mm and fuzes (2)	OE
45D4-81	737734.88	1012558.69	5	20mm (2)	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45D4-82	737738.62	1012539.84	4	20mm and frag	OE
45D4-9	737720.1	1012477.34	3	20mm and frag	OE
45D9-11	737784.97	1013047.22	6	Fuze, 20mm	OE
45D9-12	737786.1	1013051.52	8	Fuze, 20mm	OE
45D9-14	737726.6	1013057.4	4	20mm frag	OE
45D9-18	737716.42	1012984.32	4	Frag, fuze	OE
45D9-19	737763.71	1012969.61	1	Base fuze	OE
45D9-3	737775.02	1012990.66	4	75mm, 20mm, fuze	OE
45D9-5	737801.26	1012992.69	3	75mm	OE
45D9-7	737782.03	1013015.54	16	20mm, lg frag	OE
45E1-12	737857.44	1012219.7	10	20mm, fuze	OE
45E1-17	737842.59	1012249.77	3	90mm	OE
45E1-18	737844.48	1012243.84	3	81mm mortar, fuze	OE
45E1-19	737851.1	1012232.37	8	75mm	OE
45E12-1	737887.23	1013260.79	10	Base plate, fuze	OE
45E12-10	737804.88	1013262.6	0	Frag, base plate, fuze	OE
45E12-12	737833.39	1013344.28	18	Frag, 20mm (5), bomb fuze - burial area	OE
45E12-13	737827.73	1013340.2	18	Base plate, 20mm (5), frag	OE
45E12-14	737805.11	1013329.12	4	Frag, 20mm	OE
45E12-16	737899.23	1013337.49	14	Frag (2), fuzes (2)	OE
45E12-18	737874.79	1013314.86	6	Fuzes (2), frag (2)	OE
45E12-19	737841.08	1013313.96	8	75mm	OE
45E12-2	737902.17	1013267.35	6	Fuze	OE
45E12-3	737894.93	1013270.29	6	Frag, 20mm	OE
45E12-4	737883.16	1013280.02	24	20mm, fuze, parts	OE
45E12-5	737852.85	1013273.69	12	Frag, 20mm (2), assoc. frag	OE
45E12-7	737890.63	1013333.64	8	Frag, fuze, base fuze	OE
45E12-8	737832.03	1013323.69	4	75mm projectile, frag	OE
45E12-9	737843.57	1013360.12	4	Wire, frag, 20mm	OE
45E1-3	737887.2	1012189.12	10	Venturi, 20mm	OE
45E13-1	737807.83	1013431.15	4	Metal scrap, fuze, plate	OE
45E13-11	737860.09	1013455.59	10	75mm	OE
45E13-14	737894.47	1013452.65	10	Frag, fuze, base plate	OE
45E13-16	737888.37	1013417.58	6	75mm	OE
45E13-17	737847.87	1013409.66	6	Base plate, 20mm, fuze	OE
45E13-18	737819.82	1013406.04	8	20mm, lg frag, 57mm	OE
45E13-20	737818.91	1013379.12	6	Trash, 20mm	OE
45E13-3	737806.92	1013418.71	6	Frag, 20mm(s)	OE
45E13-4	737809.86	1013443.6	6	Base fuze, 155mm	OE
45E13-5	737833.84	1013444.28	6	Havar venturi, fuzes (5), 20mm	OE
45E13-6	737843.57	1013433.42	8	Fuze, frag, base plate	OE
45E13-7	737842.44	1013422.78	12	Base plate, 20mm(s), fuzes	OE
45E13-8	737848.1	1013426.18	14	Fuzes, frag, 20mm(s)	OE
45E13-9	737848.55	1013418.03	12	Frag (6), fuzes, 20mm (s)	OE
45E1-4	737900.96	1012198.02	6	Rkt motor, 57mm, fuze	OE
45E1-8	737822.46	1012204.76	8	57mm, frag	OE
45E4-1	737848.82	1012460.22	6	20mm frag	OE
45E4-11	737880.94	1012602.23	2	75mm	OE
45E4-12	737808.58	1012591.46	8	20mm pit	OE
45E4-13	737818.51	1012600.72	8	20mm (6)	OE
45E4-14	737836.41	1012618.88	8	20mm and fuze pit	OE
45E4-16	737876.3	1012618.71	2	Lg frag and 37mm	OE
45E4-18	737903.56	1012611.81	10	75mm (3) HE	OE
45E4-2	737838.09	1012460.72	12	20mm pit - stopped dig due to water	OE
45E4-3	737853.94	1012472.11	3	20mm	OE
45E4-4	737899.51	1012460.05	14	75mm, butterfly frag (2)	OE
45E4-5	737889.61	1012500.85	6	75mm HE fuze	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45E4-7	737819.1	1012524.63	7	20mm pit	OE
45E4-9	737880.61	1012567.05	2	Lg frag and 75mm	OE
45F3-10	737982.07	1012393.72	12	20mm. nails. frag	OE
45F3-11	737965.03	1012379.9	8	Heavy wire. fuze	OE
45F3-12	737960	1012376.83	12	Base fuze	OE
45F3-14	737916.28	1012393.86	12	Frag. fuze	OE
45F3-17	737937.51	1012416.48	4	75mm	OE
45F3-18	737944.96	1012445.36	4	75mm	OE
45F3-19	737950.56	1012452.48	4	75mm	OE
45F3-2	737993.32	1012376.38	18	Burn hole - 4.2" base. 20mm. nails	OE
45F3-6	737926.82	1012430.4	6	75mm APHE. M-83 (1/2)	OE
45F3-7	737969.88	1012449.81	18	75mm APHE. fuze	OE
45F3-8	737957.79	1012458.91	0	8" NUC sim round	OE
45F3-9	737915.96	1012446.96	1	75mm	OE
45F9-1	737912.69	1012969.72	6	75mm and 1/2 57mm	OE
45F9-14	737985.13	1012988.1	0	115mm HEAT	OE
45F9-25	737975.72	1013254.85	1	75mm	OE
45F9-26	737921.4	1013011.39	6	75mm	OE
45F9-30	737995.66	1013083.38	6	Frag and fuze	OE
45F9-33	737995.13	1013106.07	6	Frag (3) and 20mm	OE
45F9-35	737972.92	1013123.52	6	75mm (1/2)	OE
45F9-7	737941.41	1012983.24	6	20mm. bomb frag. fuze	OE
45G14-1	738005.25	1013463.58	2	FUZE	OE
45G14-12	738027.36	1013515.92	4	FUZE	OE
45G14-14	738044.89	1013533.72	4	FUZE	OE
45G14-16	738055.33	1013544.85	5	FUZE	OE
45G14-17	738053.8	1013550.83	4	FUZE	OE
45G14-4	738058.23	1013478.2	8	20 MM	OE
45G14-8	738064.58	1013499.3	3	FRAG & 20 MM	OE
45G14-9	738074.1	1013504.13	6	BASE FUZE	OE
45G2-1	738033.19	1012267.56	4	Frag. fuze	OE
45G2-11	738027.02	1012309.59	4	57mm - HE. fuze w/ detonator	OE
45G2-12	738012.51	1012323.28	0	75mm	OE
45G2-13	738040.9	1012320.4	6	120mm HEAT (MT)	OE
45G2-17	738005.9	1012295.49	10	Frag. 20mm	OE
45G2-2	738090.3	1012269.34	6	Base plates (2). 20mm. frag	OE
45G2-20	738100.05	1012292.75	12	Fuzes. Base plate	OE
45G2-3	738095.92	1012273.45	6	Frag. base plate. 20mm	OE
45G2-9	738061.68	1012304.52	3	75mm - HE	OE
45G6-10	738043.52	1012801.83	4	37MM APHE	OE
45G6-11	738049.13	1012819.66	3	20 MM & FUZE	OE
45G6-12	738043.09	1012828.86	2	FUZE	OE
45G6-19	738082.9	1012710.51	2	FUZE & 20 MM	OE
45G6-21	738031.17	1012760.79	3	FUZE	OE
45G6-23	738093.65	1012731.06	8	20 MM BURIAL AREA	OE
45G6-29	738075.97	1012857.75	2	FUZE	OE
45G6-36	738019.11	1012799.67	2	25 MM	OE
45G6-8	738066.58	1012763.22	2	FUZE & FRAG	OE
45H12-1	738161.67	1013295.86	6	75mm projectile	OE
45H12-10	738150.13	1013352.65	2	20mm. metal and scrap	OE
45H12-11	738140.4	1013335.23	0	Fuze	OE
45H12-12	738141.53	1013330.02	6	Frag (3). fuze at 12"	OE
45H12-13	738130.9	1013318.71	6	120mm case. frag	OE
45H12-15	738105.34	1013340.2	6	Lg frag. 20mm	OE
45H12-17	738109.41	1013298.8	6	20mm. frag	OE
45H12-18	738143.12	1013265.09	6	75mm (1/2)	OE
45H12-19	738172.76	1013285.68	6	Frag. fuze	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45H12-20	738145.61	1013295.18	6	Lg frag, 20mm	OE
45H12-3	738174.79	1013305.59	10	20mm, frag	OE
45H12-7	738180.45	1013340.43	4	Metal pail, 20mm, scrap	OE
45H12-9	738196.51	1013352.65	4	Lg frag, 20mm	OE
45H3-1	738155.4	1012424.9	12	Hole full of 20mm	OE
45H3-10	738112.38	1012434.02	12	Frag, 20mm	OE
45H3-18	738190.19	1012402.79	10	Frag, 20mm	OE
45H3-19	738159.87	1012389.19	10	Frag, fuze, 20mm	OE
45H3-5	738184.16	1012430.47	18	75mm, 20mm	OE
45H3-9	738200.11	1012411.43	12	Frag, 20mm	OE
45I13-12	738285.95	1013366.01	3	VENTED FUZE	OE
45I13-14	738233.86	1013406.61	4	75MM PROJECTILE	OE
45I13-16	738207.95	1013409.27	5	75MM	OE
45I13-20	738287.41	1013433.07	4	75MM PROJO	OE
45I13-7	738250.24	1013367.97	5	20 MM	OE
45I13-8	738253 88	1013370 91	6	FRAG & 20 MM	OE
45I13-9	738236.38	1013368.11	6	20 MM	OE
45I2-10	738279.93	1012339.84	3	75mm - HE	OE
45I2-13	738249.99	1012350.95	5	Frag, 20mm	OE
45I2-16	738268.81	1012279.52	2	Metal fuze	OE
45I2-5	738287.43	1012310.92	6	75mm shell, VT fuze	OE
45I2-7	738215.36	1012328.16	4	Fuze	OE
45I2-9	738264.96	1012339.98	2	57mm	OE
45J11-1	738399	1013160 11	0	75mm	OE
45J11-10	738384.52	1013207 62	3	Fuze, 20mm	OE
45J11-11	738393.34	1013210 34	3	Frag, components, fuze	OE
45J11-12	738357 6	1013180 02	6	75mm, frag	OE
45J11-17	738305.56	1013248.58	5	20mm, tail fuze, lg frag	OE
45J11-18	738311 9	1013253 1	6	Frag, fuze, components	OE
45J11-20	738392 66	1013257 63	10	Frag, 20mm	OE
45J11-4	738309 41	1013188 85	6	75mm frag, 20mm	OE
45J11-5	738312.58	1013205.14	5	20mm (2)	OE
45J11-9	738366.65	1013208.3	5	Bomb fuze, frag	OE
45J2-11	738315.53	1012264 68	3	FUZE	OE
45J2-14	738336.76	1012287 52	3	40MM PRATICE & 20 MM	OE
45J2-16	738345.01	1012306 44	3	BOMB FUZE	OE
45J2-17	738322.97	1012316 84	6	FUZE ADPT	OE
45J2-3	738313.83	1012340.9	5	FUZE (2)	OE
45J2-8	738387.48	1012340 08	4	20 MM & FRAG	OE
45J8-1	738304 54	1012872.68	0	105MM (surf)	OE
45J8-10	738307.35	1012925.28	8	75MM BASE	OE
45J8-11	738364 86	1012957 27	4	105MM PROJO (MT)	OE
45J8-12	738397 56	1012957 54	3	FRAG & 20 MM	OE
45J8-14	738388 41	1012929 15	6	75MM & 20MM	OE
45J8-15	738390.31	1012863 73	12	FRAG & 20 MM	OE
45J8-3	738367 45	1012907 56	6	20 MM & FRAG	OE
45J8-5	738399 05	1012896 85	6	FRAG & 20 MM	OE
45J8-8	738403 31	1012863 62	2	20 MM	OE
45K10-11	738457 23	1013150 18	6	VT fuze	OE
45K10-15	738451 8	1013134 1	10	20mm (2), 90mm round	OE
45K10-19	738481 67	1013075 03	3	20mm, frag	OE
45K10-2	738484 62	1013127 54	2	57mm, frag	OE
45K10-3	738488 01	1013138 86	6	75mm, frag, 57mm	OE
45K10-5	738477 6	1013152.89	8	Fuze BP M61	OE
45K10-8	738461 75	1013137 73	6	Fuze parts, fuze, frag	OE
45K10-9	738410 83	1013145 65	7	Frag, 20mm, lg frag	OE
45K5-11	738484 9	1012587 4	8	Fuzes (2), 75mm frag, wire, and 20mm	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45K5-14	738482.86	1012657.66	4	75mm (1/2)	OE
45K5-17	738435.8	1012651.52	8	20mm (surf), frag, and thermal battery	OE
45K5-20	738487.4	1012571.48	6	Frag and 20mm	OE
45K5-4	738498.31	1012581.71	4	75mm WP	OE
45K7-12	738423.83	1012835.42	6	37mm, 20mm, frag	OE
45K7-14	738416.5	1012841.45	2	37mm base	OE
45K7-18	738514.15	1012838.56	3	40mm practice	OE
45K7-19	738501.85	1012846.42	2	Fuze and frag	OE
45K7-2	738434.04	1012785.66	16	20mm frag	OE
45K7-3	738465.45	1012767.86	4	75mm and frag	OE
45L11-1	738574.39	1013161.32	0	75mm (1/2) and fuze (VT)	OE
45L11-10	738595.76	1013193.82	4	Fuze (VT) and frag	OE
45L11-11	738511.42	1013216.49	48	250lb bomb body (3) - stopped digging at 4'	OE
45L11-14	738598.07	1013214.47	0	Frag, fuze, and 20mm	OE
45L11-15	738521.4	1013222.4	3	Frag and fuze	OE
45L11-16	738562.58	1013229.34	4	75mm projectile	OE
45L11-17	738584.84	1013229.49	6	Fuzes and frag	OE
45L11-19	738547.55	1013256.66	6	Frag and fuze	OE
45L11-2	738580.31	1013167.96	6	57mm w/ HE	OE
45L11-5	738535.25	1013200.46	5	Frag and fuze (VT)	OE
45L11-6	738567.74	1013184.72	6	Frag and 20mm	OE
45L11-7	738582.48	1013177.64	4	20mm and frag	OE
45L11-8	738590.85	1013204.22	6	Lg frag (2) and fuze (VT)	OE
45L11-9	738551.28	1013216.06	6	Frag and 20mm	OE
45L3-1	738513.82	1012378.23	2	Fuze, frag, 20mm	OE
45L3-11	738564.19	1012424.66	2	Fuzes (3)	OE
45L3-12	738595	1012433.69	6	Base plate, 20mm, frag	OE
45L3-15	738524.07	1012445.87	12	40mm parts w/ HE, 90mm	OE
45L3-16	738518.6	1012452.99	3	90mm (2)	OE
45L3-18	738528.73	1012452.99	6	Fuzes (3), 20mm	OE
45L3-19	738535.16	1012457.37	7	Grenade parts - HE	OE
45L3-2	738545.59	1012410.53	2	Frag, fuze	OE
45L3-3	738514.77	1012392.2	6	Frag, 20mm	OE
45L3-4	738517.35	1012384.88	6	Frag (2), fuze, 20mm	OE
45L3-6	738547.22	1012403.06	5	Nose fuze, 20mm	OE
45L3-7	738563.52	1012413.65	4	75mm APHE	OE
45L3-9	738506.35	1012411.88	4	20mm (3), base plate	OE
45L9-10	738696.82	1013004.62	0	20mm (2), frag, 60 seriel fuze	OE
45L9-12	738694.84	1013048.2	2	75mm	OE
45L9-14	738665.14	1012992.87	7	75mm	OE
45L9-17	738687.49	1013016.2	2	20mm and frag	OE
45L9-18	738699.72	1013012.94	8	3.5" rocket	OE
45L9-2	738509.4	1012972.25	24	20mm pit - hole still hot below 2'	OE
45L9-23	738653.23	1013034.15	0	M61 fuze	OE
45L9-26	738618.54	1013036.92	3	Frag and 20mm	OE
45L9-29	738518.22	1012991.75	0	20mm (6)	OE
45L9-3	738609.85	1013026.58	8	Lg plate, fuzes, frag	OE
45L9-30	738521.44	1012997.73	14	20mm (30) and frag	OE
45L9-31	738516.3	1013002.51	0	20mm (5)	OE
45L9-32	738511.52	1013005.38	8	20mm and frag	OE
45L9-33	738537.5	1012960.93	8	Frag and M66 fuze	OE
45L9-8	738675.74	1012994.81	6	20mm frag (2)	OE
45M6-1	738691.04	1012666.71	3	75mm and frag	OE
45M6-13	738664.9	1012734.24	3	20mm and frag	OE
45M6-15	738686.27	1012705.59	2	Nose fuze	OE
45M6-17	738653.3	1012686.94	0	Fuzes (2)	OE
45M6-20	738651.71	1012666.48	4	Frag and 20mm	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45M6-6	738632.39	1012722.64	6	20mm and frag	OE
45M6-9	738662.4	1012663.07	4	Fuze and frag	OE
45MP-10	736973 81	1012163.41	4	Fuze	OE
45MP-102	737335.81	1012252.66	4	Fuze	OE
45MP-103	737343.06	1012244.87	4	M-60 base fuze	OE
45MP-105	736874.3	1012366.48	3	57mm	OE
45MP-106	736883.02	1012349.04	12	Fuze	OE
45MP-110	736920.18	1012367.57	5	Fuze	OE
45MP-115	736952.07	1012351.87	2	Fuze	OE
45MP-116	736961.28	1012355.36	2	Fuze, 20mm	OE
45MP-117	736976.73	1012371.3	12	Fuze	OE
45MP-12	737044 3	1012153.57	6	VT fuze	OE
45MP-122	737004.38	1012372.8	3	Fuze	OE
45MP-124	737029 54	1012352.12	6	Fuze	OE
45MP-13	737063 95	1012141.79	4	Fuze	OE
45MP-15	737055 37	1012164.59	4	20mm	OE
45MP-17	737071.89	1012165.01	4	Fuze	OE
45MP-170	736792.02	1012474 22	6	Fuze	OE
45MP-172	736800.93	1012456.53	5	Fuze	OE
45MP-173	736824.59	1012455	6	Fuze	OE
45MP-179	736949.62	1012446.01	2	Fuze	OE
45MP-18	737093.65	1012148.48	6	57mm	OE
45MP-180	736959.63	1012466.04	8	Fuze	OE
45MP-181	736957 41	1012443.78	2	Fuze	OE
45MP-184	737052.76	1012451.77	3	Fuze	OE
45MP-185	737058 88	1012442.03	3	Fuze	OE
45MP-186	737069 45	1012446.76	4	57mm - WP	OE
45MP-189	737059 16	1012471.25	8	Fuze, frag	OE
45MP-190	737067.23	1012471.53	4	20mm	OE
45MP-194	737096 99	1012445 93	4	Fuze	OE
45MP-21	737102.85	1012170.66	8	57mm - HE	OE
45MP-250	737270 85	1012553.17	4	57mm - HE	OE
45MP-254	736875 25	1012557 53	5	Fuze	OE
45MP-255	737014 96	1012551.6	6	Nose fuze	OE
45MP-256	737111 6	1012548.38	3	Fuze	OE
45MP-262	736787 95	1012566 24	2	Fuze	OE
45MP-263	736865 35	1012564.67	4	75mm APHE	OE
45MP-264	736874.99	1012558.94	5	Fuze	OE
45MP-267	736898.19	1012562.59	6	Fuze	OE
45MP-269	736991.43	1012561 18	3	20mm	OE
45MP-270	737001.34	1012553.35	3	Fuze	OE
45MP-272	737014 12	1012553.88	6	Nose fuze	OE
45MP-274	737030 03	1012560.14	4	Fuze	OE
45MP-275	737055.85	1012557 27	3	Fuze	OE
45MP-276	737082.95	1012560 53	2	20mm	OE
45MP-278	737105 12	1012552.7	3	Fuze	OE
45MP-280	737114 51	1012557 92	4	Fuze	OE
45MP-288	737201 87	1012558 7	5	20mm	OE
45MP-289	737210 21	1012567 83	6	Fuze	OE
45MP-292	737222 99	1012563 13	3	Fuze	OE
45MP-294	737234 21	1012561 05	12	Fuze	OE
45MP-296	737251 11	1012560 67	3	Fuze	OE
45MP-297	737263 1	1012560 41	2	20mm	OE
45MP-298	737270 67	1012570 06	6	Fuze	OE
45MP-299	737275 62	1012562 5	4	57mm - HE	OE
45MP-3	736819 07	1012138 62	3	Nose fuze	OE
45MP-305	736777 99	1012652 47	6	Fuze	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45MP-306	736827.54	1012661.31	3	Fuze	OE
45MP-307	736866.65	1012654.61	6	Fuze	OE
45MP-308	736940.31	1012661.84	4	Fuze	OE
45MP-311	736995.01	1012665.63	5	Havar venturi	OE
45MP-312	737013.22	1012664.55	3	75mm - HE	OE
45MP-314	737037.59	1012665.63	4	Fuze	OE
45MP-315	737081.25	1012658.39	4	20mm	OE
45MP-317	737101.61	1012667.5	4	RKT venturi	OE
45MP-318	737107.5	1012658.12	6	VT fuze	OE
45MP-321	737157.84	1012664.11	6	Frag. fuze	OE
45MP-323	737176.32	1012665.72	5	RKT venturi	OE
45MP-324	737189.71	1012664.11	3	57mm	OE
45MP-325	737204.98	1012656.07	4	37mm	OE
45MP-326	737213.82	1012655	8	Nose fuze	OE
45MP-328	737220.25	1012664.91	4	20mm	OE
45MP-330	737239.8	1012655	8	20mm	OE
45MP-331	737251.79	1012657.49	6	M-66 fuze	OE
45MP-332	737259.02	1012662.32	6	Fuze	OE
45MP-333	737265.99	1012655.62	2	20mm, frag	OE
45MP-335	737293.58	1012663.66	3	20mm (2)	OE
45MP-339	736752.68	1012771.45	3	20mm	OE
45MP-341	736827.05	1012773.8	4	20mm	OE
45MP-342	736870.8	1012752.59	2	20mm	OE
45MP-343	736887.96	1012761.68	6	Fuze	OE
45MP-344	736917.58	1012749.9	4	57mm - HE	OE
45MP-345	736924.31	1012761.01	3	Fuze	OE
45MP-348	736989.24	1012787.38	8	20mm	OE
45MP-350	736969.04	1012760.78	6	Fuze	OE
45MP-352	737007.08	1012752.36	2	Fuze	OE
45MP-353	737015.49	1012761.79	4	Fuze	OE
45MP-355	737035.02	1012752.36	5	75mm	OE
45MP-357	737034.01	1012761.45	6	Havar venturi	OE
45MP-358	737062.28	1012753.03	2	20mm	OE
45MP-359	737073.39	1012763.47	4	Fuze	OE
45MP-360	737011.12	1012787.04	6	37mm APHE	OE
45MP-361	737086.52	1012783	6	M-48 fuze	OE
45MP-364	737106.38	1012752.69	4	Fuze	OE
45MP-365	737129.95	1012754.71	2	Fuze	OE
45MP-366	737126.24	1012783.34	6	Fuze	OE
45MP-367	737152.84	1012794.45	4	Fuze	OE
45MP-368	737148.46	1012763.47	3	Fuze	OE
45MP-369	737148.8	1012754.71	6	Fuze, 20mm	OE
45MP-370	737161.59	1012763.81	4	Fuze	OE
45MP-371	737171.39	1012794.55	8	Fuze	OE
45MP-372	737180.48	1012794.88	2	Fuze	OE
45MP-374	737184.86	1012784.78	2	Fuze	OE
45MP-376	737206.07	1012785.46	2	Fuze	OE
45MP-378	737186.88	1012754.48	4	Fuze, frag	OE
45MP-379	737211.79	1012755.15	2	Fuze	OE
45MP-380	737212.13	1012762.9	6	Fuze	OE
45MP-382	737230.3	1012762.56	2	Fuze	OE
45MP-384	737254.88	1012763.57	4	Fuze	OE
45MP-385	737248.82	1012754.14	2	Fuze	OE
45MP-387	737248.48	1012786.8	8	20mm (2), fuze	OE
45MP-388	737259.93	1012795.89	8	Fuze	OE
45MP-389	737261.95	1012787.81	1	20mm, frag	OE
45MP-390	737272.38	1012789.5	8	Fuze	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45MP-396	737281.47	1012754.14	4	RKT venturi	OE
45MP-4	736803.8	1012162.26	3	57mm - HE	OE
45MP-420	737065.19	1012852.6	4	Fuze	OE
45MP-423	737025.8	1012862.7	2	Fuze	OE
45MP-424	736965.88	1012858.33	1	Fuze	OE
45MP-425	736927.17	1012853.95	6	Frag. fuze	OE
45MP-427	736816.74	1012966.5	10	Havar venturi	OE
45MP-429	736936.07	1012957.66	8	Fuze	OE
45MP-430	736952.05	1012956.64	10	Fuze	OE
45MP-432	737003.67	1012964.19	4	M-66 fuze	OE
45MP-433	737008.77	1012957.39	3	20mm	OE
45MP-435	737030.87	1012957.05	4	Fuze	OE
45MP-436	737050.93	1012962.83	6	Fuze	OE
45MP-437	737057.72	1012956.03	7	Fuze. 20mm	OE
45MP-438	737076.76	1012963.17	6	Base fuze	OE
45MP-443	737152.58	1012963.51	4	20mm	OE
45MP-447	737195.41	1012964.53	6	Nose fuze	OE
45MP-448	737212.18	1012965.16	4	Frag. 20mm	OE
45MP-449	737220.34	1012957	4	20mm (2). frag	OE
45MP-450	737230.2	1012965.16	3	20mm	OE
45MP-451	737240.06	1012957	12	20mm. frag	OE
45MP-452	737249.58	1012956.66	4	Fuze	OE
45MP-453	737249.92	1012965.16	3	Fuze	OE
45MP-455	737297.85	1012938.98	4	20mm	OE
45MP-458	737282.93	1012983.9	6	Fuze	OE
45MP-459	737279.87	1013001.92	6	20mm. fuze	OE
45MP-461	737251.66	1013033.55	3	VT fuze	OE
45MP-463	737219.7	1013057.35	3	57mm - HE	OE
45MP-466	737171.89	1013060.23	3	20mm	OE
45MP-467	737158.97	1013069.75	3	Frag. 20mm	OE
45MP-468	737132.11	1013061.25	6	Fuze	OE
45MP-471	737110.36	1013068.39	4	Fuze	OE
45MP-475	737065.34	1013057.54	6	Frag. 20mm	OE
45MP-476	737048.34	1013067.41	4	Fuze	OE
45MP-477	737037.8	1013067.07	10	Fuze	OE
45MP-479	736982.38	1013066.39	6	40mm - HE	OE
45MP-480	736952.81	1013065.71	6	Fuze	OE
45MP-481	736924.93	1013055.5	6	Fuze	OE
45MP-482	736915.75	1013055.5	6	Fuze	OE
45MP-485	736760.03	1013141.19	6	37mm	OE
45MP-486	736769.5	1013162.84	7	Fuze	OE
45MP-487	736817.76	1013163.74	6	Fuze	OE
45MP-490	736896.08	1013145.82	6	Fuze	OE
45MP-493	736924.61	1013146.6	3	Fuze	OE
45MP-494	736943.77	1013168.5	2	57mm	OE
45MP-496	736999.28	1013170.45	4	Fuze	OE
45MP-498	737033	1013164.09	8	Fuze	OE
45MP-499	737042.38	1013153.92	4	57mm	OE
45MP-5	736843.76	1012143.22	6	Nose fuze	OE
45MP-501	737047.46	1013170.34	5	Fuze	OE
45MP-502	737063.1	1013171.91	8	Fuze	OE
45MP-503	737075.61	1013148.45	2	20mm	OE
45MP-506	737103.76	1013162.52	6	37mm	OE
45MP-507	737110.4	1013153.14	5	Fuze	OE
45MP-510	737134.64	1013155.48	6	Fuze	OE
45MP-511	737149.5	1013146.1	10	Frag. fuze	OE
45MP-512	737156.14	1013149.62	4	Fuze	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45MP-514	737181.55	1013155.88	3	Havar venturi	OE
45MP-516	737189.37	1013165.65	3	Fuze	OE
45MP-517	737205.01	1013148.05	6	Fuze	OE
45MP-518	737208.13	1013169.95	4	Fuze	OE
45MP-520	737233.54	1013171.52	8	Fuze	OE
45MP-521	737241.36	1013161.74	7	Base fuze	OE
45MP-522	737238.63	1013153.92	3	20mm	OE
45MP-523	737226.12	1013147.66	4	Fuze	OE
45MP-525	737249.57	1013159	1	20mm	OE
45MP-526	737257.78	1013169.56	3	Fuze	OE
45MP-527	737253.48	1013147.66	7	Fuze	OE
45MP-531	737272.24	1013169.17	8	Fuze	OE
45MP-548	737257.89	1013259.68	3	Fuze	OE
45MP-549	737256.71	1013246.78	4	Fuze	OE
45MP-551	737246.94	1013239.74	3	Fuze	OE
45MP-554	737201.87	1013244.41	4	Fuze	OE
45MP-555	737209.3	1013259.27	3	37mm	OE
45MP-557	737235.88	1013274.52	6	Fuze	OE
45MP-558	737283.18	1013275.69	2	20mm (2)	OE
45MP-563	737122.51	1013278.43	6	Fuze	OE
45MP-565	737076.38	1013280.78	4	Fuze	OE
45MP-566	737060.35	1013262.4	3	20mm	OE
45MP-567	737050.58	1013238.55	0	20mm	OE
45MP-568	737038.85	1013239.72	4	Fuze	OE
45MP-569	736991.53	1013239.94	3	25mm	OE
45MP-570	736972.37	1013238.76	5	Fuze	OE
45MP-571	736926.63	1013281.78	6	Fuze	OE
45MP-572	736919.6	1013228.21	3	Fuze	OE
45MP-573	736910.21	1013239.16	12	Frag. fuze	OE
45MP-574	736877.77	1013279.43	4	Fuze	OE
45MP-575	736891.45	1013227.82	10	Fuze	OE
45MP-576	736876.99	1013227.42	4	Fuze	OE
45MP-577	736837.11	1013250.89	3	Fuze	OE
45MP-578	736806.62	1013226.64	7	Fuze	OE
45MP-579	736760.73	1013236.08	6	Fuze	OE
45MP-580	736619.22	1013224.74	6	Fuze	OE
45MP-581	736512.44	1013219.65	6	20mm. fuze	OE
45MP-583	736269.87	1013218.6	6	Fuze	OE
45MP-584	736847.87	1013372.08	6	Fuze	OE
45MP-585	736876.02	1013348.23	3	Fuze	OE
45MP-586	736906.12	1013346.28	6	Fuze	OE
45MP-587	736944.82	1013375.6	3	20mm (2)	OE
45MP-588	736957.72	1013374.04	3	Fuze	OE
45MP-590	737013.45	1013368.36	4	57mm - HE	OE
45MP-6	736857.98	1012164.77	6	Nose fuze	OE
45MP-616	737110.98	1013444.81	10	Base fuze	OE
45MP-617	737037.1	1013448.33	3	Fuze	OE
45MP-620	736863.68	1013473.02	6	Fuze	OE
45MP-622	736813.02	1013466.53	4	Fuze	OE
45MP-623	736918.77	1013466.87	10	37mm	OE
45MP-624	736966.38	1013465.17	4	Fuze	OE
45MP-625	737100.31	1013449.38	5	Fuze	OE
45MP-626	737098.61	1013458.22	8	Fuze	OE
45MP-627	737121.75	1013454.82	3	Fuze	OE
45MP-644	736883.65	1013542.82	18	Fuze	OE
45MP-646	736924.26	1013537.02	6	Fuze	OE
45MP-648	737041.34	1013541.24	5	20mm	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45MP-649	737053.99	1013542.29	6	Fuze	OE
45MP-650	737063.48	1013545.98	6	20mm	OE
45MP-654	737086.55	1013557.71	6	Fuze	OE
45MP-655	737099.21	1013559.87	1	20mm	OE
45MP-656	737115.89	1013560.8	2	20mm	OE
45MP-660	737200.82	1013563.27	6	Fuze	OE
45MP-661	737212.25	1013556.48	7	Fuze, frag	OE
45MP-665	737206.03	1013636.74	4	Fuze	OE
45MP-666	737193.98	1013636.43	6	Fuze, frag	OE
45MP-668	737127.52	1013636.12	6	57mm - HE	OE
45MP-670	737200.78	1013659.62	2	20mm	OE
45MP-674	737130.61	1013666.42	3	Fuze	OE
45MP-675	737111.22	1013659.56	5	Fuze	OE
45MP-676	737092.06	1013645.34	6	Fuze	OE
45MP-677	737037.97	1013668.53	3	Fuze	OE
45MP-678	737020.35	1013631.12	5	Fuze	OE
45MP-679	737001.19	1013638.54	6	Fuze	OE
45MP-680	736970.28	1013634.83	4	Fuze	OE
45MP-682	736973.99	1013667.6	4	Fuze	OE
45MP-683	736944.32	1013668.22	2	Fuze, frag	OE
45MP-685	736847.64	1013668.5	2	VT fuze	OE
45MP-686	736799.73	1013668.5	3	PD Fuze	OE
45MP-687	736786.13	1013609.76	3	20mm	OE
45MP-689	736774.92	1013751.63	5	Fuze	OE
45MP-69	736865.54	1012244.01	12	Nose fuze	OE
45MP-690	736875.07	1013752.56	3	Fuze	OE
45MP-692	736922.7	1013763.01	4	Fuze	OE
45MP-693	736948.04	1013752.81	3	Fuze	OE
45MP-694	737068.76	1013757.42	3	20mm	OE
45MP-697	737117.59	1013746.91	3	57mm - HE	OE
45MP-698	737133.35	1013763.6	1	20mm	OE
45MP-7	736938.66	1012168.85	6	Nose fuze	OE
45MP-700	737175.08	1013757.42	3	Fuze	OE
45MP-701	737210.94	1013732.07	5	Fuze	OE
45MP-702	737219.59	1013696.82	4	20mm	OE
45MP-707	737292.84	1013775.63	3	Fuze	OE
45MP-709	737361.33	1013952.28	4	57mm	OE
45MP-71	736936.41	1012285.63	5	Nose fuze	OE
45MP-710	737378.64	1013977.32	4	Fuze	OE
45MP-73	736955.2	1012265.76	6	Fuze	OE
45MP-740	737504.15	1014069.53	3	Fuze	OE
45MP-742	737499.07	1014371.64	6	Fuze	OE
45MP-746	737596.83	1014189.9	3	Fuze	OE
45MP-748	737603.89	1014047.03	4	20mm	OE
45MP-749	737605.12	1014010.85	3	20mm	OE
45MP-751	737606.67	1013949.02	4	Fuze	OE
45MP-756	737606.39	1013889.78	4	20mm	OE
45MP-757	737597.73	1013875.25	3	Fuze	OE
45MP-759	737554.77	1013918.53	8	Fuze	OE
45MP-761	737562.8	1013870.61	4	Fuze	OE
45MP-762	737573	1013861.34	4	Fuze	OE
45MP-763	737596.5	1013845.88	2	Fuze	OE
45MP-765	737567.05	1013829.84	6	20mm, fuze	OE
45MP-766	737574.47	1013816.24	6	Fuze	OE
45MP-769	737556.54	1013765.54	4	VT fuze	OE
45MP-770	737545.1	1013725.96	6	Base plate, 20mm	OE
45MP-774	737534.37	1013682.35	8	Fuze	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45MP-775	737540.24	1013664.42	6	Fuze	OE
45MP-776	737554.15	1013662.87	2	20mm	OE
45MP-777	737567.44	1013665.04	6	Fuze (2)	OE
45MP-778	737577.95	1013665.66	5	20mm	OE
45MP-779	737587.84	1013664.42	3	20mm	OE
45MP-780	737596.8	1013665.97	4	Fuze	OE
45MP-784	737601.58	1013815.19	3	Fuze	OE
45MP-786	737599.11	1013785.52	6	20mm	OE
45MP-789	737601.43	1013721.61	4	Fuze	OE
45MP-792	737648.41	1013712.03	4	20mm, fuze	OE
45MP-794	737704.97	1013726.87	4	Fuze	OE
45MP-796	737703.73	1013758.09	2	20mm, frag	OE
45MP-797	737704.66	1013770.77	4	Fuze	OE
45MP-803	737695.04	1013876.74	4	20mm	OE
45MP-804	737695.66	1013894.51	6	Fuze	OE
45MP-805	737703.56	1013913.39	3	Fuze	OE
45MP-812	737702.15	1014155.89	6	Fuze	OE
45MP-815	737190.46	1013965.1	3	Fuze	OE
45MP-816	737195.88	1013991.12	5	40mm practice	OE
45MP-818	737171.67	1014047.51	4	Fuze	OE
45MP-819	737169.55	1014138.53	4	20mm	OE
45MP-82	737077.51	1012262.15	6	Fuze	OE
45MP-820	737149.55	1014292.57	36	90mm - APHE	OE
45MP-823	737804.16	1013968.4	2	Fuze	OE
45MP-824	737803.75	1013981.26	3	Fuze, bolt	OE
45MP-827	737804.99	1014014.45	4	Fuzes (2)	OE
45MP-83	737101.41	1012272.63	8	Fuze	OE
45MP-830	737803.75	1014029.79	3	Base fuze	OE
45MP-831	737804.99	1014043.48	5	Fuze	OE
45MP-832	737824.9	1014055.1	2	Fuze	OE
45MP-833	737806.65	1014089.94	6	Fuze	OE
45MP-834	737823.24	1014100.31	12	Fuze	OE
45MP-835	737806.65	1014115.25	4	20mm	OE
45MP-837	737806.01	1014156.17	4	Fuze	OE
45MP-838	737819.29	1014175.26	2	Fuze	OE
45MP-839	737809.33	1014192.27	4	M-48 fuze	OE
45MP-840	737806.84	1014241.25	2	Fuze	OE
45MP-841	737817.63	1014266.56	8	Fuze	OE
45MP-842	737816.93	1014359.12	6	Fuze	OE
45MP-843	737815.27	1014384.85	6	Fuze	OE
45MP-848	737909.08	1014201.24	5	Fuze	OE
45MP-849	737900.53	1014130.37	5	105mm III - candle	OE
45MP-850	737902.61	1014100.49	3	Fuze	OE
45MP-854	737899.29	1014022.05	3	Fuze	OE
45MP-858	737896.44	1013945.38	4	Fuze	OE
45MP-859	737898.93	1013931.69	4	Fuze	OE
45MP-86	737105.97	1012250.33	4	Fuze	OE
45MP-862	738008.13	1013967.67	6	Fuze	OE
45MP-866	738008.13	1014045.69	12	Fuze	OE
45MP-867	738011.45	1014066.03	4	Fuze	OE
45MP-868	738013.11	1014088.03	4	Fuze	OE
45MP-87	737134.97	1012253.02	3	Fuze	OE
45MP-870	738006.21	1014154.4	3	Fuze	OE
45MP-874	738014.97	1014295.76	5	Fuze	OE
45MP-875	738003.35	1014312.77	2	20mm	OE
45MP-881	738100.95	1014472.2	4	Fuze	OE
45MP-882	738102.61	1014441.08	10	Fuze	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45MP-883	738108	1014415.76	4	Fuze	OE
45MP-89	737184.78	1012276.45	6	20mm	OE
45MP-890	738110.72	1014138.94	4	57mm - HE	OE
45MP-892	738109.48	1014077.52	6	Fuze	OE
45MP-893	738103.25	1014062.99	4	Fuze	OE
45MP-895	738106.57	1014015.68	3	Fuze	OE
45MP-896	738110.52	1013990.23	6	20mm	OE
45MP-897	738102.22	1013965.74	10	20mm	OE
45MP-9	736935.94	1012137.46	3	Fuze	OE
45MP-901	737785.58	1013745.07	2	37mm	OE
45MP-902	737791.39	1013769.97	2	Fuze	OE
45MP-906	737803.37	1013910.49	3	20mm	OE
45MP-907	737831.17	1013922.53	4	57mm	OE
45MP-908	737832.83	1013883.93	2	Fuze	OE
45MP-909	737834.08	1013850.73	2	57mm	OE
45MP-910	737836.57	1013832.05	2	Fuze	OE
45MP-911	737837.81	1013806.32	2	Fuze	OE
45MP-914	737875.51	1013745.88	2	20mm	OE
45MP-915	737888.37	1013747.54	4	Fuze	OE
45MP-917	737900.4	1013779.5	4	Fuze	OE
45MP-919	737904.3	1013838.65	5	Fuze	OE
45MP-920	737897.67	1013859.81	2	Fuze	OE
45MP-922	737895.18	1013904.22	4	Fuze	OE
45MP-924	737892.1	1013740.14	4	40mm practice	OE
45MP-926	737919.49	1013747.2	2	Fuze, 20mm	OE
45MP-93	737261.31	1012265.17	3	Fuze	OE
45MP-933	738005.44	1013865.89	2	Fuze	OE
45MP-934	738014.99	1013856.34	3	Fuze	OE
45MP-936	738015.4	1013819.82	4	Fuze	OE
45MP-937	738011.67	1013796.16	3	57mm	OE
45MP-938	738008.76	1013779.98	4	Fuze	OE
45MP-94	737275.27	1012262.48	3	Fuze	OE
45MP-945	738104.9	1013896.65	8	57mm - HE	OE
45MP-946	738099.09	1013879.22	6	Fuze	OE
45MP-947	738099.92	1013932.75	5	Fuze	OE
45MP-959	738065.93	1013744.24	4	Fuze	OE
45MP-966	737982.95	1013745.48	4	Fuze	OE
45MP-968	737924.88	1013720.25	6	Fuze	OE
45MP-97	737314.33	1012273.34	6	Fuze	OE
45MP-970	737801.27	1013865.14	4	M-66 fuze	OE
45N11-10	738718.32	1013233.84	8	20mm and lg frag	OE
45N11-11	738725.02	1013249.91	6	75mm and 20mm	OE
45N11-12	738740.11	1013256.9	4	75mm	OE
45N11-14	738779.23	1013253.96	18	75mm	OE
45N11-19	738737.85	1013222.6	8	20mm AP	OE
45N11-2	738729.92	1013170.04	6	105mm	OE
45N11-20	738744.67	1013228.05	18	75mm - hole still hot	OE
45N11-3	738738.57	1013169.9	1	75mm	OE
45N11-4	738732.57	1013175.9	0	T-bar fuze (M48-M51) and frag	OE
45N11-7	738793.16	1013213.87	3	Venturi base and 20mm	OE
45N11-8	738745.69	1013201.03	12	M66 fuzes (4)	OE
45N14-29			2	37mm APHE	OE
45N14-39			8	37mm APHE	OE
45N4-11	738754.45	1012619.42	4	Frag, fuze	OE
45N4-13	738747.65	1012612	4	Fuze, 20mm	OE
45N4-14	738743.17	1012608.3	6	Fuze, frag	OE
45N4-18	738710.41	1012606.75	6	Tail fuze, 20mm	OE

APPENDIX C
UXO AND OE RECOVERED
SENECA ARMY DEPOT ACTIVITY OE EE/CA

Anomaly ID	Easting (State Plane - ft)	Northing (State Plane - ft)	Approx Depth (inches)	COMMENT	CATEGORY
45N4-2	738750.59	1012645.98	4	Havar venturi	OE
45N4-20	738709.95	1012596.25	4	Frag, 20mm	OE
45N4-24	738712.63	1012464.71	4	Fuzes (2), frag	OE
45N4-26	738706.58	1012493.54	4	Frag, 20mm	OE
45N4-31	738762.1	1012510.12	4	Base fuze	OE
45N4-38	738717.03	1012547.79	3	VT fuze, frag	OE
45N4-8	738794.78	1012624.36	4	75mm	OE
45N4-9	738778.87	1012613.86	4	75mm	OE
45N8-10	738757.74	1012911.77	6	105mm and frag	OE
45N8-12	738710.82	1012934.51	6	75mm and frag	OE
45N8-18	738732.63	1012936.53	8	75mm and frag	OE
45N8-4	738772.27	1012867.33	6	Frag and 20mm	OE
45N8-7	738790.13	1012861.1	4	Metal sign, fuze, and adapter	OE
45N8-9	738778.22	1012903.46	0	M66 and frag (2)	OE
45P8-14	738965.66	1012944 13	6	75mm	OE
45P8-3	738920.09	1012879.24	2	20mm	OE
45P8-6	738983.46	1012862.89	0	Fuze and warhead w/ HE, 20mm, and 36" leaking pipe	OE
45P8-7	738975.29	1012879 93	12	75mm and frag	OE
46B9-7	749220.58	1006578.59	6	Tail fuze	OE
46C13-2	749300 16	1006943.39	0	60mm mortar body	OE
46C7-1	749360.1	1006349.61	0	Rifle grenade part w/ HE	OE
46D3-10	749473.89	1005970.86	1	40mm practice	OE
46D3-17	749438.69	1006005.15	12	40mm practice	OE
46D3-3	749444 14	1005942.62	2	Slap flare	OE
46D3-9	749479 7	1005959.1	6	40mm practice	OE
46E13-29	749507 63	1007075.85	0	M904 bomb fuze	OE
46E7-1	749577.39	1006332.79	0	40mm practice	OE
46E7-13	749521.57	1006376.77	0	40mm practice, scrap	OE
46E7-15	749484 86	1006371.89	12	40mm practice	OE
46E7-16	749487 23	1006377 07	3	40mm practice	OE
46E7-17	749498 92	1006379 73	10	40mm practice	OE
46E7-2	749584 94	1006343.16	4	Bomb fuze	OE
46E7-20	749486 04	1006392.9	12	Bomb fuze	OE
46E7-24	749564 36	1006395 12	4	40mm practice	OE
46E7-30	749484 56	1006422.07	8	40mm practice	OE
46E7-31	749523.65	1006429 18	3	M123 Fuze	OE
46E7-5	749540.67	1006337 24	5	40mm practice (2)	OE
46E7-6	749487.52	1006339.9	6	40mm practice	OE
46E7-7	749526 02	1006358 26	4	40mm practice	OE
46E7-9	749505.88	1006364 04	6	40mm practice	OE
46F13-10	749678.4	1007055.54	0	40mm practice	OE
46F13-7	749657 39	1006985.73	0	40mm practice	OE
46F15-22	749659 89	1007310 15	2	40mm practice	OE
46F15-23	749672.34	1007316.38	2	40mm practice	OE
46G13-17	749724 58	1007013 76	4	40mm practice	OE
46G13-20	749722.05	1007038 19	2	40mm practice	OE
46G13-24	749725 06	1007052.84	3	40mm practice	OE
46G13-27	749723 42	1007067 75	2	40mm practice	OE
46G13-28	749755 98	1007074 46	0	40mm practice	OE
46G13-29	749783 75	1007076 79	2	40mm practice	OE
46G13-30	749780 6	1007096 4	2	40mm practice	OE
46G13-35	749697 29	1007108 99	1	40mm practice	OE
46G5-1	749690 18	1006125 97	12	40mm practice	OE
46G5-12	749745 8	1006164 58	8	40mm practice	OE
46G5-13	749735 09	1006172 21	1	40mm practice	OE
46G5-17	749722 96	1006201 81	6	40mm practice	OE
46G5-18	749734 85	1006190 06	6	40mm practice	OE

END SEAD 45

DEPARTMENT OF THE ARMY
SENECA ARMY DEPOT ACTIVITY
5786 STATE RTE 96, P.O. BOX 9
ROMULUS, NEW YORK 14541-0009

REPLY TO
ATTENTION OF

DAIM-BO-N-SE

17 January 2003

MEMORANDUM FOR Director, Defense Ammunition Center, ATTN: SIOAC-ESL (Ms. Jean Gallagher), Building 35, 1C Tree Road, McAlester, OK 74501-9053

SUBJECT: Explosive Safety Submission for Ordnance and Explosives Removal at the Open Detonation Grounds SEAD-45/115, Seneca Army Depot Activity, Romulus, NY

1. The enclosed safety submission was prepared for Seneca Army Depot Activity and outlines the safety criteria for the protection of site personnel and the public during the explosives operations scheduled at the subject Demolition Grounds.

2. The explosives safety submission is being forwarded for your review. Members of the USACE OE-CX are concurrently reviewing the document for information and comment.

2. Should you have any questions, you may contact me at 607/ 869-1309.

Encl (3 copies)

STEPHEN M. ABSOLOM
Commander's Representative

CF:
Bob Nore, Hunstville Center, COE
Tim Matthews (w/o encl)
Chris Boes, AEC

DEPARTMENT OF THE ARMY
HUNTSVILLE CENTER, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

REPLY TO ATTENTION OF

CEHNC-OE-CX (200-1c)

15 MAY [illegible]

MEMORANDUM FOR

Commander, Headquarters, U.S. Army Operations Support Command, 1 Rock Island Arsenal, ATTN: AMSOS-SF, Bldg 350 4SE, Rock Island, IL 61299-6000

Director, Defense Ammunition Center, ATTN: SIOAC-ESL (Mr. Cliff Doyle), Building 35, 1C Tree Road, McAlester, OK 74501-9053

JEAN GALLASTER

SUBJECT: Explosive Safety Submission for Ordnance and Explosives Removal at the Former Quality Assurance Test Range (SEAD-44A) Seneca Army Depot Activity, Romulus, NY

open Detonation Range SEAD 45/115 Grounds

1. The enclosed safety submission was prepared by our organization for the installation and outlines the safety criteria for the protection of site personnel and the public during the explosives operations scheduled at the subject range.

was prepared for Seneca Army Depot and

Demolition Grounds

2. The explosives safety submission is being forwarded for your concurrent review. Members of the USACE OE-CX have reviewed the document and concur with safety criteria presented. The installation point of contact has been furnished an electronic copy of the document and should forward the installation's endorsement shortly.

has concurrently reviewed for comments, information and comment

3. Should you have any questions, you may contact me at 256-895-1300 or Mr. Kevin Healy at 256-895-1627.

607-869-1309

Encl (3 copies)

HARRY L. SPEAR
COL, EN
Commanding

SWF

CF: (wo/encl)
Commander, Seneca Army Depot Activity, ATTN; SIOSE-BEC (Mr. Absolom) 5786 State Route 96, Romulus, NY 14541-5001

CF: Bob Nore Huntsville
- Tim Mathews w/ encl