

Appendix K.5

*After Action Report for the Surface UXO/OEW and
Ordinance Debris Removal at Woodbine, Georgia*

Apex Environmental, Inc. / EOD Technology, Inc

September 1996

7 Pages



~~Woodbine~~

Woodbine SWMU'S

September 18, 1996

Mr. Mark Corbin
Apex Environmental, Inc.
15850 Crabbs Branch Way, Suite 200
Rockville, MD 20855

Subject: Submission of After Action Report for UXO Support
Services, Woodbine, Georgia

Dear Mr. Corbin:

Enclosed please find the EOD Technology, Inc. After Action Report for the subject project. Should you have any questions or comments, please contact me at (423) 690-6061 at your earliest convenience.

I would like to express our thanks to the Apex Environmental Team for their professionalism and efficiency. They were a pleasure to work with, and we look forward to future opportunities to work together.

Sincerely,

EOD TECHNOLOGY, INC.

M. E. Short
Vice President

Enclosure as noted

AFTER ACTION REPORT

FOR THE

SURFACE UXO/OEW AND ORDNANCE DEBRIS REMOVAL

AT

WOODBINE, GEORGIA

Prepared For:

Apex Environmental, Inc.
Rockville, Maryland

Prepared By:

EOD Technology, Inc.
Knoxville, Tennessee

September 1996

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION	1
1.1 General Information	1
2.0 OPERATIONS	1
2.1 Mobilization	1
2.2 Key Personnel	2
2.3 Equipment	2
2.4 Work Schedule	2
2.5 Grubbing/Vegetation Removal	2
2.6 Geophysical Survey	2
2.7 Excavation	3
2.7.1 SWMU 7 Drums	3
2.8 UXO Recovered/Destroyed	3
3.0 TRAINING	3
3.1 Initial	3
3.2 Daily Tailgate Safety Briefings	4
3.3 Visitors Training	4
3.4 Special Training	4
4.0 QUALITY CONTROL AND ACCOUNTABILITY	4
4.1 Calibration	4
4.2 Maintenance	4
4.3 Accountability	4

1.0 INTRODUCTION

EOD Technology, Inc. (EODT) was contracted by Apex Environmental, Inc. (Apex) to provide Unexploded Ordnance/Ordnance Explosive Waste (UXO/OEW) Services and Surface/Subsurface Remediation of the Former Union Carbide Plant, Woodbine, Georgia, Solid Waste Management Units (SWMUs). These services included survey, grubbing and remediation activities in SWMUs #3 and #7, and ordnance debris monitoring during excavation of trenches in SWMU #7. In addition, EODT personnel were tasked to remove and dispose of surface/subsurface ordnance and debris in SWMUs #3 and #7. EODT supplied all labor, supplies, tools, and equipment required in the performance of described responsibilities.

1.1 General Information

The subject site is located in Camden County, Southeast Georgia. The property is located approximately 12 miles east of Woodbine, Georgia, and approximately 15 miles north of the Florida/Georgia state line. On November 27, 1995, EODT mobilized four (4) personnel in support of the required UXO/OEW Support Services. These four personnel supported the UXO/OEW portion of the project through April 16, 1996.

2.0 OPERATIONS

2.1 Mobilization

Four EODT personnel mobilized to the site on November 27, 1995, in support of UXO/OEW Services. The team consisted of an EODT Sr. UXO Site Supervisor, EODT Site Health and Safety Officer (SSHO)/Team Leader, and a cadre of one EOD Technician and one Equipment Operator. The following EODT personnel were assigned to the site with respect to the November 28, 1995, date listed:

Position	Name	Period Worked
Sr. UXO Site Supervisor	Ed Pinson	11/27/95 - 4/12/96
Health and Safety Officer/ Team Leader	Tom Hall	11/27/95 - 4/16/96
UXO Specialist	Norbert McNally	11/27/95 - 4/12/96
Equipment Operator	Sam McNally	11/27/95 - 4/16/96

2.2 Key Personnel

NAME	POSITION	COMPANY	TELEPHONE #
Ed Pinson	Sr. UXO Supervisor	EODT	423-690-6061
Kent Campbell	Program Manager	Apex	301-417-0200
Mark Corbin	Project Manager	Apex	301-417-0200
Mike Landsman	Site Supervisor	Apex	301-917-0200
Michael E. Short	Project Manager	EODT	423-690-6061

2.3 Equipment

DESCRIPTION	USE	QUANTITY
Magnetometer	Geophysical Survey	1 each
Site Vehicle (Van)	Personnel & Equipment	1 each
Back Hoe	Excavation	1 each
Pickup Truck	Transport Explosives	1 each
Chain Saws & Weeders	Grubbing	3 each

2.4 Work Schedule

The work week was broken down into four/10 hour days, with time off for weekends (Fri-Sun) and holidays. The site was shut down from December 22, 1995, to January 2, 1996, otherwise it was in full operation, except for an occasional day due to inclement weather.

2.5 Grubbing/Vegetation Removal

Trees and vegetation were removed from SWMUs 3 and 7 to enable EODT personnel to access the trenches in SWMU 7 and subsurface UXO in SWMU 3. This was accomplished with the backhoe, chain saws and weeders, removing only those items absolutely necessary for site activities.

2.6 Geophysical Survey

At SWMU 3, five-foot lanes were marked using a GA-72 C/V Heliflux magnetometer and the area was surveyed and subsurface magnetic anomalies were marked on the surface with pin flags. A similar procedure was used at SWMU 7 to assist in the characterization of the trenches and to determine the areas to be excavated.

2.7 Excavation

SWMU 7 was the primary area excavated and consisted of two sub-areas. The area located to the east side of the dirt road was approximately .52 acres and the area to the west of the dirt road was approximately .25 acres.

2.7.1 SWMU 7 Drums

This area contained 408-55 gallon drums containing M406-40mm Grenade Ball Assemblies; Flare/OEW Mixtures; Bio Waste; 81 mm Mortars; Riot Control Agents, such as CS and other assorted waste. The majority of the drums were only partially filled with the above with remainder of the drum being filled with cement. This created the necessity to develop a safe, yet rapid, method to open the drums, break-up and remove the cement all without the possible detonation of the contents. This was accomplished using the backhoe with a hammer attachment, which gave the EODT Team sufficient control of the penetration level and force and was safe enough to process approximately 10 drums/day. The majority of this work was accomplished in Level "C" PPE when appropriate. A number of drums contained 'syringes' and soiled bandages, possibly from a hospital. These were set aside and treated as a bio-hazard.

2.8 UXO Recovered/Destroyed

TYPE	QUANTITY
81 mm Mortar, Illuminated	38 each
Flare/OEW Mixture/Riot Control Agent	2,635 gallons
40 mm Ball Assemblies	3,001 each

The flare/UXO mixture was burned in the demo area we established on site, and the 40 mm's were detonated in an adjacent area at the site. The 81 mm mortars were detonated/burned by causing the round to function as designed. Two-55 gallon drums were set up open-end to open-end, the round was detonated and the illumination canisters were expelled into the second drum, where they burned out. The entire demolition operation was completed without incident. EODT averaged three burns/shots a week.

3.0 TRAINING

3.1 Initial

Initial site training was conducted by Apex and EODT on November 28, 1995, covering site specific hazards as addressed in the Work Plan & Safety Plan. Additionally, EODT personnel were instructed in the ordnance suspected/known to be on site.

3.2 Daily Tailgate Safety Briefings

Tailgate Safety Briefings were conducted daily, prior to commencement of work. Topics discussed were UXO safety, biological hazards, vehicle safety, emergency response procedures, and explosive safety. Also discussed were, transportation of explosive/UXO/OEW, demolition/burn operations, chemical hazards (CS), and physical hazards/associated with the work areas.

3.3 Visitors Training

All site visitors were trained on associated hazards and safety procedures prior to entering work areas, as well as being escorted by the EODT Site Supervisor or SSHO.

3.4 Special Training

The first day of each week, EODT conducted extended training on a selected topic relating to the site. Prior to demolition operations, the EODT team conducted refresher training to ensure all personnel knew their respective duties.

4.0 QUALITY CONTROL AND ACCOUNTABILITY

4.1 Calibration

The magnetometers were calibrated at the start of each day against a known source to ensure workability and operability. The batteries were changed each week and the magnetometer cleaned prior to being put away for the weekend.

4.2 Maintenance

All equipment, such as vehicles, backhoe, chain saws, etc., was inspected weekly and prior to each use to ensure proper serviceability and safety.

4.3 Accountability

All recovered UXO/OEW was logged into an ordnance accountability log upon recovery and the disposition entered ie: placed in storage awaiting disposal or disposal and date. In addition, a strict inventory of all demolition materials was maintained IAW 27 CFR Part 55.