FIVE YEAR REVIEW REPORT
FIRST FIVE YEAR REVIEW
FOR:
MUNITIONS RESPONSE ACTION AT
FORT MILES MILITARY RESERVATION
FORMERLY USED DEFENSE SITE
LEWES
SUSSEX COUNTY
DELAWARE

FUDS # C03DE006304
DELIVERY ORDER # 0001

Prepared by:

U.S. ARMY CORPS OF ENGINEERS
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BALTIMORE, MARYLAND 21201-1715

Approved by: _____ Date: _____

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
APP	Accident Prevention Plan
ATF	Bureau of Alcohol, Tobacco, and Firearms
bgs	below ground surface
CEHND	Corps of Engineers, Huntsville Division
CENAB	U.S. Army Corps of Engineers, Baltimore District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CQCSM	Contractor Quality Control System Manager
DDESB	U.S. Department of Defense Explosives Safety Board
DERP	Defense Environmental Response Program
DFW	Definable Feature of Work
DGM	Digital Geophysical Mapping
DID	Data Item Description
DOD	U.S. Department of Defense
DQCR	Daily Quality Control Report
DQO	Data Quality Objective
EPP	Environmental Protection Plan
ER	Engineer Regulation
FUDS	Formerly Used Defense Sites
GIP	Geophysical Investigation Plan
GIS	Geographic Information System
GPO	Geophysical Prove-Out
GPS	Global Positioning System
H&S	Health and Safety
HE	high explosive
HFD	hazardous fragment distance
HTW	hazardous or toxic waste
Hz	hertz
ID	identification
IDW	Investigative-Derived Waste
ITRC	Interstate Technology Regulatory Council
m	meter
MD	munitions debris
MEC	munitions and explosives of concern
MFD	maximum fragment distance
MGFD	munitions with the greatest fragmentation distance
mm	millimeter
MMCX	Military Munitions Center of Expertise
mph	miles per hour
MPPEH	Material Potentially Presenting an Explosive Hazard
MRA	Munitions Response Action
MRS	Munitions Response Sites
MS	Microsoft®
MSD	minimum separation distance
mV	milliVolts
NAAQS	National Ambient Air Quality Standards
NAD	North American Data
NMEA	National Marine Electronics Association

NONEL	non-electrical
OE SS	Ordnance and Explosives Safety Specialist
PDA	personal data assistant
PDOP	position dilution of precision
PM	Project Manager
POC	point of contact
PPE	personal protective equipment
PWS	Performance Work Statement
QA	quality assurance
QC	quality control
Q-D	quantity-distance
RCWM	recovered chemical warfare materiel
RFD	Remote Firing Device
RI/FS	remedial investigation/feasibility study
RQ	reportable quantity
RTK	Real Time Kinematic
SM	Site Manager
SNR	signal-to-noise ratio
SOPs	standard operating procedures
PWS	Performance Work Statement
SSHP	Site Safety and Health Plan
SUXOS	Senior UXO Supervisor
TP	Technical Paper
U.S.	United States
USACE	Army Corps of Engineers
UTM	Universal Transverse Mercator
UXO	unexploded ordnance
UXOQCS	Quality Control Specialist
UXOSO	Safety Officer
VOC	Volatile Organic Compound
WP	Work Plan
WESTON®	Weston Solutions, Inc.
WWII	World War II

Executive Summary:

The USACE Baltimore district is performing the Five Year Review on the Fort Miles Military Reservation Formerly Used Defense Site (FMMR FUDS) FUDS# C03DE006304 in Lewes, DE this review is based on a Munitions Response Action (MRA), which was performed by Weston Solutions, Inc. (WESTON®) for the Baltimore District (CENAB) of the United States Army Corps of Engineers (USACE), under the authority of Contract Number W912DY-04-D-0029, Delivery Order No. 0001. This MRA was performed in accordance with the USACE Performance Work Statement (PWS) and follows the requirements of USACE Military Munitions Center of Expertise (MMCX).

Five-Year Review Summary Form:

Five Year Review Summary

SITE IDENTIFICATION		
Site Name: Fort Miles/Cape Henlopen State Park		
FUDS Number: C03DE006304		
City: Lewes	**County:** Sussex	**State:** DE

SITE STATUS	
Selected Response Action Description: Munitions Response Action(MRA)	
Response Action Status: Complete	
Initiation of On-site Field Work: 7-January-2008	
Completion of On-Site Field Work: 4-March-2008	
Does the site include multiple Sectors/Areas/ Munitions Response Sites? **_x_ YES ___ NO**	**Has the site been put into reuse?** Yes
If yes list the areas included in this Five-Year Review and specify the type:	
MRS 7 - Suspect 40mm Disposal Area MRS 8 - Posted Live Dud Area MRS 9 - Rocket Ranges at the FMMR FUDS	

REVIEW STATUS	
Lead Agency: US Army Corps of Engineers Baltimore District	
Author/District PM Name: George Follett	
Author/District PM Title: Project Manager	**Author Affiliation:**
Review Period:	
Review Number: First	
Dates of Site Visit: 23-27 January 2012, and 17-24 April 2012	
Triggering Date:	
Due Date:	

Summary

Issues:

None.

Recommendations and Follow-up Actions:

Recommendations: No Further actions required.

Protectiveness Statement(s):

The response action at Fort Miles Military Reservation (FMMR) Formerly Used Defense Sites FUDS# C03DE006304 in Sussex County, Lewes, Delaware, is determined as effective in minimizing explosives safety hazards and protective of human health, safety and the environment .

Due to Cape Henlopen State Park, and the Former Fort Miles being a limited use area, the access controls and signage that is in place is sufficient to limit the public from exposure to any hazard associated with MRS-7, 8 or 9.

Other Comments:

A magnetometer review was performed on 24 January, 2012 at MRS-7, 8 and 9 using a Schondstedt GA-52 magnetometer, covering approximately 10 percent of each area. In this magnetometer sweep no Munitions related items were found. A visual check was also done on all areas of concern and the surrounding areas with no munitions related materials being found.

1. Introduction:

The United States Army Corps of Engineers (USACE) conducted a Five-Year Review for the military munitions response action (MRA), conducted by Weston Solutions Inc. at Fort Miles Military Reservation (FMMR) Formerly Used Defense Sites FUDS# C03DE006304 in Sussex County, Lewes, Delaware.

Site Location:

a) FMMR FUDS consists of approximately 492 acres and is part of Cape Henlopen State Park in Lewes, Delaware, which is owned and operated by the State of Delaware Division of Parks and Recreation. FMMR FUDS is bounded by the Atlantic Ocean to the east, the Delaware Bay to the north, and the rest of Cape Henlopen State Park (pine forests and tidal marshes) to the south and west. The location of the FMMR FUDS is shown in Figure 1-1.
b) The following Munitions Response Sites (MRS) are the subject of this review; MRS 7 – Suspect 40-mm Disposal Area (Figure 1.2), MRS 8 – Posted Live Dud Area (Figure 1.3) and MRS 9 – Rocket Ranges at the FMMR FUDS (Figure 1.4). The locations of the areas included in this review are illustrated in Figures 1.2, 1.3 and 1.4.

Purpose:

The purpose of a Five-Year Review for a military munitions response action is to determine whether the response action at a site continues to minimize the explosives safety hazard and continues to be protective of human health, safety, and the environment. The methods, findings, and conclusions of the review are documented in this report. The USACE Baltimore District conducted the Five-Year Review.

The Five-Year Review was conducted from January 2012 to June 2012 and is the First Five-Year Review for this site. On-site fieldwork for the selected response action at this site began on 7 January 2008 and concluded on 4 March 2008.

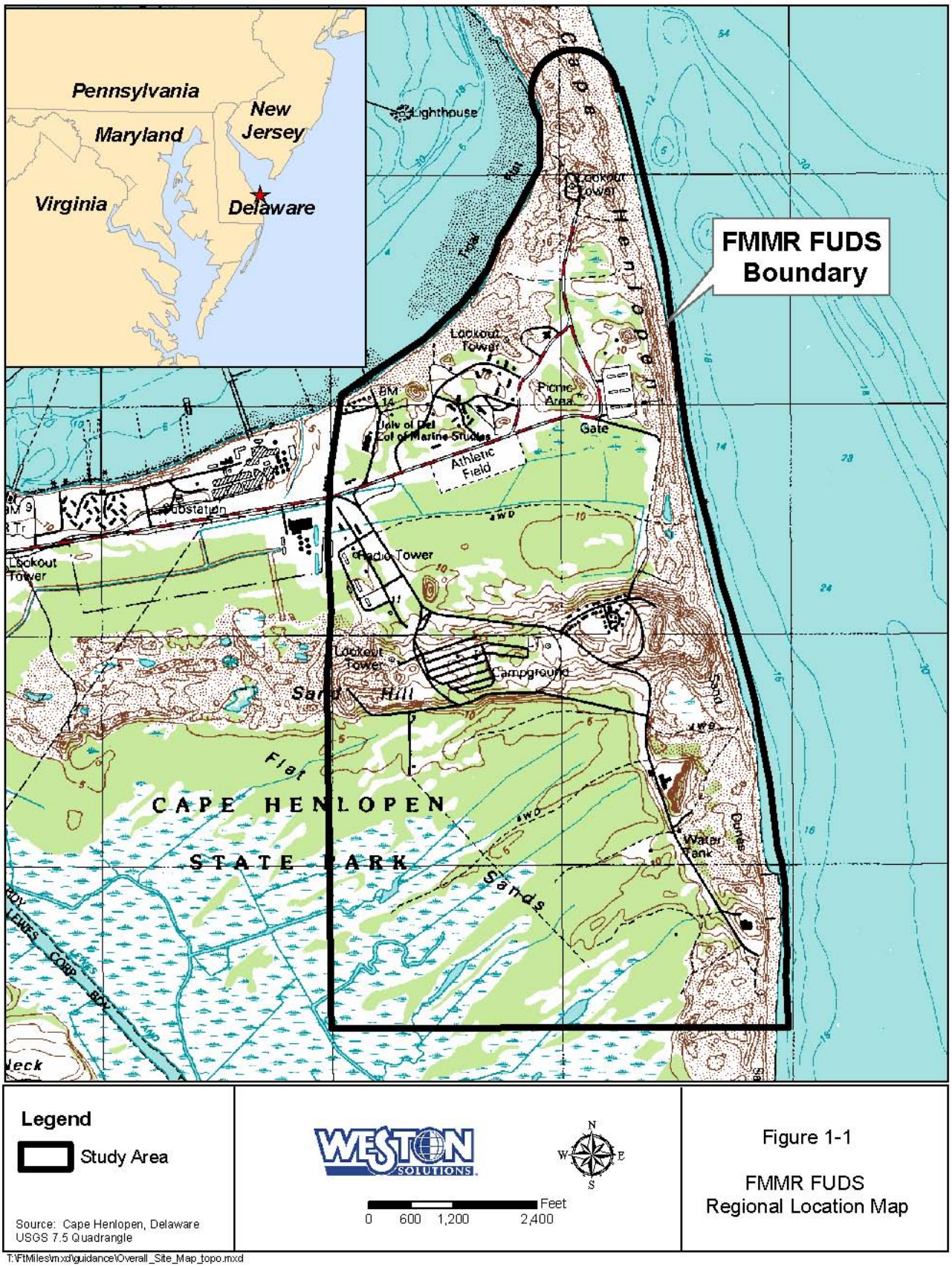
Pennsylvania
New Jersey
Maryland
Virginia
Delaware
FMMR FUDS Boundary
Lighthouse
Lookout Tower
Henlopen
Picnic Area
Gate
Athletic Field
Substation
Radio Tower
Campground
Sand Hill
Flat
CAPE HENLOPEN
STATE PARK
Sands
Dunes
Water Tank
Legend
Study Area
Source: Cape Henlopen, Delaware
USGS 7.5 Quadrangle
WESTON SOLUTIONS
N
W
E
S
Feet
0 600 1,200 2,400
Figure 1-1
FMMR FUDS
Regional Location Map
T:\FtMiles\mxd\guidance\Overall_Site_Map_topo.mxd

Figure 1.1


Suspected 40mm
Disposal Area
MRS 7
Legend
Munitions Response Sites
100 ft Survey Grid
WESTON SOLUTIONS
N
W
E
S
Feet
0
125
250
Figure 2-1
Grid Layout
MRS-7
Suspect 40mm Disposal Area

Figure 1.2


Posted Live Dud Area
MRS 8
Legend
Munitions Response Sites
100 ft Survey Grid
WESTON SOLUTIONS
N
W
E
S
Feet
0
250
500
Figure 2-2
Grid Layout
MRS-8
Posted Live Dud Area

Figure 1.3

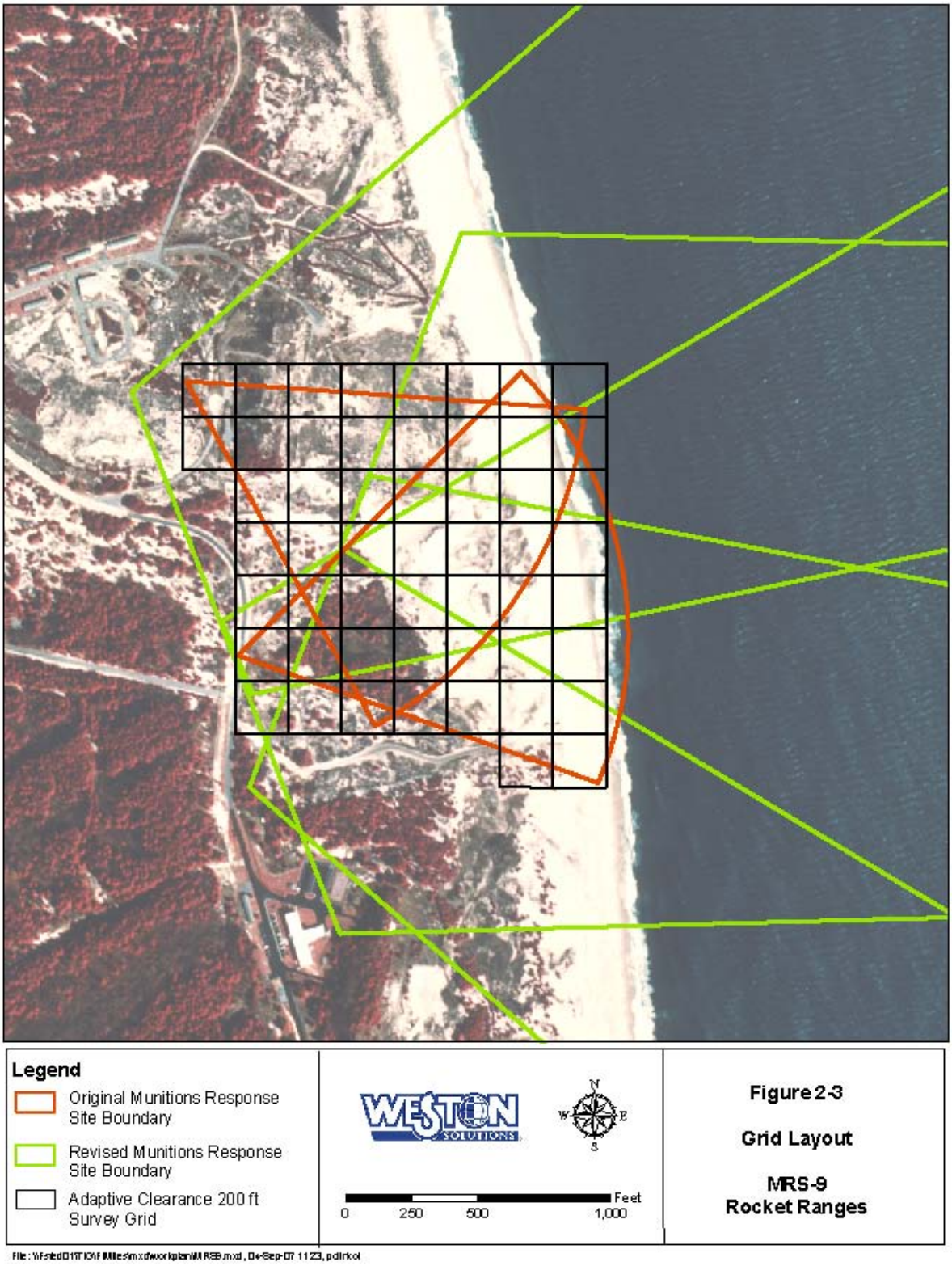

Figure 1.4

2.0 Site Chronology

The FMMR, originally known as Cape Henlopen Military Reservation, was part of the Harbor Defenses of the Delaware Bay during World War I and World War II (WWII). During both wars, the mission was to ensure freedom of movement of United States (U.S.) naval vessels in and out of the bay and to deny enemy access to the Delaware Bay and River. In addition to mining defenses, 90-millimeter (mm), 155-mm, 6-inch and 12-inch gun batteries existed on the shore of the FMMR. After WWII, the FMMR continued to serve as a military post on standby status.

During the Korean Conflict, the majority of units training at the FMMR were anti-aircraft (A-A) units, although actual A-A weapons training took place at Bethany Beach, Delaware, approximately 15 miles to the south. During the 1950s, several range facilities were used, including one 16-point small arms range, one 8-point pistol range, one skeet range, and two overlapping 3.5-inch inert rocket ranges (URS, 2006). After the Korean Conflict, a small cadre of 300 troops continued to operate at FMMR FUDS until its deactivation in 1958.

FMMR FUDS Remedial Investigation/Feasibility Study

The USACE conducted a remedial investigation (URS, 2006)/feasibility study (WESTON, 2007) (RI/FS) at the FMMR FUDS to address munitions and explosives of concern (MEC) potentially present at the site. Based on these investigations, nine MRSs were identified at the FMMR FUDS. Three of the MRSs are being covered in this review.

FMMR FUDS Munitions Response Action

The USACE conducted a Munitions Response Action in January 2008 using Weston Solutions Inc. as the primary contractor conducting the MRA. This response action covered MRSs 7, 8 and 9.

3.0 Background:

SITE SETTING

Current Topography and Soil Conditions

The majority of FMMR FUDS lies within a coastal beach and dune complex comprised of high sand dunes, beaches, and gently rolling pine forests. Two major dune systems exist within the park. The barrier dune is called the *Primary Dune* and runs north-south adjacent to the beach berm. The *Great Dune* is located in the northeastern portion of the site, runs east-west, and rises approximately 80 ft above sea level. A tidal marsh composed of saturated sands and clayey soil is located in the southwestern portion of the site. Ground frost line averages approximately 6 inches below ground surface (bgs).

Geology

The FMMR FUDS is located within the embayed section of the Coastal Plain physiographic province. The most outstanding characteristics of this section are related directly or indirectly to fairly recent submergence of the Atlantic Coastal Plain. The submergence was the combined result of the weighting down of northeastern North America under Pleistocene ice load and the postglacial rise of sea level attendant upon return of large volumes of water to the ocean. The outer lowland, located along the coastal margin and the Delaware Bay, is characterized by low relief and shallow streams in open valleys that flow to marsh-lined estuaries. The stratigraphic units of the site area consist of a surface layer that is composed of areas of tidal marsh surrounded by the Miocene age Choptank Formation. This formation is light olive-gray, fine to medium, fairly well-sorted, quartzose sand, with variable amounts of silty to clayey grain coatings. There are also areas of shelly units containing fragments of mollusks, barnacles, and rare vertebrate bones and teeth. These top two layers are approximately 50 to 100 ft thick. Underlying these two formations is the Oligocene age Calvert Formation. This formation consists predominantly of sandy silt that is bluish-gray to olive-gray. The Calvert Formation is 400 ft thick. Two more stratigraphic layers are the Tertiary Piney Point Formation and the Cretaceous Pamunkey Formation. The Piney Point Formation is greenish, fine to coarse, glauconitic, quartzose sand and sandy silt, and is 150 to 200 ft thick. The Pamunkey Formation is composed of greenish to dark gray, glauconitic silts and clays that may be calcareous in places. The Pamunkey is well over 500 ft thick. The basement rocks in the area dip to the southeast from 2,900 to 4,500 ft below sea level (URS, 2005).

Hydrology

The FMMR FUDS is underlain by the Northern Atlantic Coastal Plain aquifer system. The general direction of groundwater flow of the surficial aquifer system is toward the eastern coast. The vertical conductivity ranges from 7.0×10^{-6} to 3.0×10^{-2} ft/day. Transmissivity of the aquifer ranges from 25 to 15,000 ft^2/day. Recharge in the area averages 15.0 inches/year (URS, 2005).

Current Site Conditions/Use and Future Use

The property is currently used and maintained as Cape Henlopen State Park. The park has hiking and biking

trails, picnic and campground areas, and parking areas. There are no plans for future development of the property for use other than as a state park.

4.0 Remedial Actions:

FMMR FUDS Remedial Investigation for Military Munitions

USACE, Baltimore District was tasked to perform a Remedial Investigation (RI) of military munitions at the FMMR FUDS in Lewes, DE. This action comes under the authority of the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The purpose of the RI was to investigate for the presence or absence of munitions and explosives of concern (MEC)/munitions constituents (MC) contamination and, if present, to determine the initial nature and extent of contamination and evaluate possible MEC/MC risk reduction and removal action. Field activities occurred in fall of 2005. The RI focused on ten munitions response areas (MRAs) identified in the initial Conceptual Site Model (CSM). Four MRAs (the Rocket Ranges, the Training Area, the Suspect 40-mm Disposal Area, and the Posted Live Dud Area) were identified as primary source areas for potential surface and subsurface MEC and the corresponding potential leaching of MC.

Geophysical surveys were conducted at these four MRAs to determine the presence of anomalies using three types of surveys: transect surveys, complete grid surveys, and traditional "mag and flag" surveys. Only traditional "mag and flag" techniques were employed for the Beach Survey Area. No MEC was found in the Training Area (including the hiking trails, the primitive youth camp areas, and the proposed parking area) or in the Suspect 40-mm Disposal Area.

FMMR FUDS Munitions Response Action

The objective of the MRA was to perform the selected remedial alternatives for MRSs-7, -8, and -9 as documented by the FMMR FUDS Decision Document (DD). The DD selected the removal of material potentially presenting an explosive hazard (MPPEH) to detection depth as the remedy to reduce the risk to human health for each of the MRSs. This response action was performed under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, and is part of the overall remedial action process.

Selected Remedy for MRSs with Low or Moderate Risk, from Section 12.2 of the Final Decision Document, Dated December 2007

12.2.1 Summary of the Rationale for the Selected Remedy for MRSs with Low to Moderate Risk

Based on the requirements of CERCLA and the NCP, and on a detailed analysis of the response alternatives using the nine criteria (which includes public and state comments), USACE and DNREC have selected Alternative 5 (Removal of MEC to Detection Depth with Land Use Controls) as the remedy for FMMR FUDS MRSs with low to moderate risk (MRSs 7, 8, and 9). Alternative 5 includes detection, removal, and disposal of all detectable MEC, public education and notification, and MEC construction support in areas where clearance has not been conducted. Alternative 5 meets the remedial action objective of minimizing or eliminating the explosive safety risk to the public and site personnel.

The selected remedy is believed to provide the best balance of trade-offs among the alternatives with respect to the CERCLA/NCP criteria. USACE and DNREC believe that the selected remedy is most protective of human health in the long-term, can be easily implemented based on similar investigations conducted previously at FMMR FUDS, and is most cost effective relative to the other MEC removal alternatives (Alternatives 3 and 4). USACE will implement and perform Alternative 5 to comply with all ARARs and TBCs.

The selected remedy is endorsed by DNREC and the community.

12.2.2 Detailed Description of the Selected Remedy for MRSs with Low to Moderate Risk

The selected remedy for MRSs with low to moderate risk, Removal of MEC to Detection Depth with Land Use Controls, includes the following components:

Removal of MEC to Detection Depth

Removal of MEC to detection depth includes removal of all MEC detected. Depth of detection varies based on the depth of MEC at the site and the detection technology used. Removal of MEC includes the following tasks:

- Mobilization – Personnel and equipment will be mobilized to the site in preparation for the work.
- Survey/positioning – Positioning technologies include various methods and instruments that establish geo-referenced data for anomalies located using MEC detection technologies. Each method and/or instrument has its own inherent advantages and disadvantages based on its operating characteristics, making the selection of the type of positioning method paramount to the survey success. Positioning technologies are impacted on-site primarily by terrain, including canopy, the density of trees, and topography. A **geophysical prove-out** (GPO) would be conducted prior to the commencement of work to determine the most appropriate positioning technology for FMMR FUDS.
- MEC detection – There are two basic forms of MEC detection. The first, visual searching, has been successfully used on a number of sites where MEC is located on the ground surface. When performing a visual search of a site, the area to be searched is typically divided into 5-foot lanes that are systematically inspected for MEC. A metal detector is sometimes used to supplement the visual search in areas where ground vegetation may conceal surface MEC. Typically, any MEC found during these searches is flagged or marked on a grid sheet for immediate removal. The second form of MEC detection, geophysics, includes a family of detection instruments designed to locate subsurface MEC, and equipment and methods used for positioning. The family of instruments designed to locate subsurface MEC includes magnetic instruments, electromagnetic instruments, and ground penetrating radar. Each piece of equipment has its own inherent advantages and disadvantages based on its operating characteristics, making the selection of the type of geophysical instrument paramount to the survey success. A GPO would be conducted prior to the commencement of work to determine the most appropriate detection technology for FMMR FUDS.

MEC removal – During a surface clearance operation, exposed MEC or suspected MEC items are identified during the detection phase. The MEC items are then inspected, identified, collected (if possible), and transported to a designated area for cataloging and eventual disposal. If it is determined during the MEC inspection that the risk of moving an item is unacceptable, then it may be necessary to destroy the MEC item in place. Potential

MEC items identified during a subsurface clearance operation by the geophysical survey or other detection methods require excavation for removal or detonation. Excavation of the potential MEC item takes place with either hand tools or mechanical equipment, depending on the suspected depth of the object. Once the MEC item has been exposed, it is then inspected, identified, collected (if possible), and transported to a designated area for cataloging and disposal. If it is determined during the inspection that the item is MEC and the risk of moving the item is unacceptable, then it may be necessary to destroy the MEC item in place.

MEC disposal – Disposal of recovered MEC can take one of three different forms: off-site demolition and disposal; remote, on-site demolition and disposal; and in-place demolition and disposal. The decision regarding which of these techniques to use is based on the risk involved in employing the disposal option, as determined by the specific area's characteristics and the nature of the MEC items recovered. If an MEC item is recovered in close proximity to occupied buildings, it may not be possible to safely destroy the MEC item in place. In this instance, the MEC item can be moved to a remote part of the project site where demolition and disposal can safely take place. Situations where the MEC item cannot be moved due to fuzing or a deteriorated condition are addressed on a case-by-case basis. For moveable MEC items, a countercharge can be used to destroy the MEC item. Engineering controls, such as sandbag mounds and sandbag walls over and around the MEC item, are often used to minimize the blast effects when an MEC item is destroyed in this manner. Alternatively, a MEC item may be blown-in-place (BIP). This technique is typically employed when the risk of moving the MEC item to a remote location is unacceptable. When employing this technique, procedures similar to those described above are used that will detonate the MEC item. When this technique is employed, engineering controls are again often used to minimize the blast effects.

Scrap/waste disposal – All MEC disposal technologies generate a waste stream, which must be addressed when determining which technologies are most viable. The waste streams generated by MEC disposal technologies include munitions constituents and/or MD. If the waste generated includes munitions constituents, then the waste stream may need to undergo additional treatment prior to final disposal. If the waste generated includes only MD, then additional treatment may not be necessary.

Demobilization – Personnel and equipment will be demobilized from the site upon completion of the work.

Land Use Controls

Specific components of the LUCs selected for FMMR FUDS include the following:

MEC hazard/warning signs and/or information display boards at Park entrance points and high use areas.

MEC hazard notification as part of the permitting process for construction and excavation activities.

Community education and outreach activities including, but not limited to 1) distribution of informational brochures/fact sheets, 2) distribution of visual and audio educational and training media, 3) performance of classroom education and training, and 4) operation and maintenance of educational Internet website.

Requirement of MEC construction support in areas where clearance has not been conducted. Construction support will be provided by USACE to ensure the safety of workers and the public in the event that MEC items are discovered during any future construction activities at FMMR FUDS in areas that have not been cleared of MEC.

DNREC will be responsible for enforcing its existing codes and ordinances. USACE will coordinate with Sussex County concerning code and ordinance issues related to FMMR FUDS and will report on land use controls as specified in the remedial action work plan. USACE, with DNREC and EPA approval/concurrence, may arrange with other local interest groups or municipalities to maintain land use controls. USACE remains ultimately responsible for protecting human health and the environment through this remedy.

Recurring Reviews

CERCLA requires the review of remedial actions no less than every 5 years to assure that human health and the environment are being protected. Recurring reviews for MEC remedial actions determine if a remedial action continues to minimize explosives safety risks and continues to be protective of human health, safety, and the environment, and provide an opportunity to assess the applicability of new technology for addressing previous technical impracticability determinations. Recurring reviews will be completed by USACE and will include the following general steps: *FORT*

Prepare Recurring Review Plan.
Establish project delivery team and begin community involvement activities.
Review existing documentation.
Identify/review new information and current site conditions.
Prepare preliminary Site Analysis and Work Plan.

Conduct site visit.

Prepare Recurring Review Report.

5.0 Five-Year Review Process:

The five year review for the FMMR FUDS was initiated in January 2012. The site was visited twice by Ordnance and Explosive Safety Specialist (OESS) John Day during the review process. During these visits the OESS conducted a visual and magnetometer sweep of the areas of concern. The OESS also interviewed the Cape Henlopen State Park Manager Paul Faircloth to determine if during the time period beginning at the end of the response action until present there had been any reported incidents of MEC reported from the areas of concern.

It was noted that three items had been reported to the State park and disposed of by the Delaware State Police Bomb Squad and the Dover AFB Explosive Ordnance Disposal unit. USACE Project Manager George Follett informed the OESS that the items were located in an area that was used as a Geophysical Prove-Out (GPO) and were placed by the contractor, and not removed (as required) with the other inert targets when the GPO plot was abandoned. All other GPO targets had been removed previously.

Using common Quality Assurance practices the OESS covered approximately 10% of the areas of concern using a Schondstedt GA52 magnetometer during these sweep and in subsequent visits a visual inspection of all of the areas of concern was done. During both the magnetometer and the visual sweeps no MEC or MEC related objects were found.

It was also noted that each of the areas of concern is surrounded by signage limiting access to these areas and the park has brochures and signs posted outlining the history and hazards that may be encountered in the Fort Miles area. No new construction has taken place, but the State of Delaware, Cape Henlopen State Park, and Fort Miles Historical Association, understand that any new construction in the areas of concern will require MEC support and awareness training.

6.0 Technical Assessment:

The Technical Assessment for the FMMR FUDS is as follows:

- Is the remedy functioning as intended by the decision document? Yes
- Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid? Yes
- Has any other information come to light that could call into question the protectiveness of the remedy? Yes; in the five years since the removal action has been completed, three 3.5" rockets have been reported to the Cape Henlopen State Park Rangers. These items were then taken into custody and disposed of by either the Delaware State Police Bomb Squad or the Dover Air Force Base EOD unit. All three items were later determined to be inert.
- Based in the investigation evidence and the intended present and future use of the areas of concern, it has been determined that the remedy for the FMMR FUDS site has been effective in the intended outcome of the decision documents. The response program that the state park has in place to remove any items that may be found in the FMMR FUDS, coupled with the use of brochures, signage and constant monitoring of the controlled areas by the park rangers further reduces the possibility of exposure to any MEC to the public.

7.0 Issues:

Metal detecting is permitted within the park limits. It is recommended that metal detecting be limited to the beach areas only, metal detecting should not be permitted in the dunes or any where MEC recovery work has been done.

8.0 Recommendations and Follow up:

No follow up actions are recommended. The work done by the contractor under contract to the USACE Baltimore district was adequate to remove or mitigate the MEC hazard from the public and the environment.

9.0 Protectiveness Statements:

MRS 7 - Suspect 40-mm Disposal Area:

The response action at MRS 7 of the Fort Miles Military Reservation FUDS continues to minimize explosives safety risks and continues to be protective of human health, safety and the environment.

MRS 8 - Posted Live Dud Area:

The response action at MRS 8 of the Fort Miles Military Reservation FUDS continues to minimize explosives safety risks and continues to be protective of human health, safety and the environment.

MRS 9 - Rocket Ranges at the FMMR FUDS:

The response action at MRS 9 of the Fort Miles Military Reservation FUDS continues to minimize explosives safety risks and continues to be protective of human health, safety and the environment.

Appendix A: Photographs and news articles.

Signage surrounding each MRS

Looking across the Great Dune from east to west

Looking across the Great Dune from west to east.

Looking north along the eastern boundary

Delaware State Police report on an item found on July 5, 2010:

“State of Delaware Department of Safety and Homeland Security

Division of State Police

Superintendent Robert M. Coupe

DSP News Release:
Military ordnance located at Cape Henlopen State Park

Location:
Cape Henlopen State Park Lewes, Delaware

DATE and TIME:
Monday July 5, 2010, 10:27 a.m.

Resume:

Monday July 5, 2010 - Delaware State Police Explosive Ordnance Disposal Unit responded to Cape Henlopen State Park Lewes, Delaware to recover a military ordnance located on the beach within the park. The military ordnance was located near the Point Comfort Station.

Cape Henlopen State Park Rangers located the suspected piece of military ordnance on the beach above the high tide line. The item is approximately 18 inches in length and 6 inches in width with a projectile shape to it. The suspected military ordnance was heavily encrusted with barnacles preventing the disposal unit from obtaining exact measurements.

State Park Rangers cordoned off the area around the item until State Police Explosive Ordnance Disposal unit and Dover Air Force Base Explosive Ordnance Disposal unit could arrive. DAFB/EOD conducted an x-ray examination of the item but was unable to determine the specific type of ordnance. The DAFB/EOD took custody of the ordnance for further analysis and destruction.

The beach in the area of the device was closed for several hours while the incident was investigated. No injuries were reported.

Delaware State Police report on an item found on April 2, 2011:

DSP News Release:
Military Ordnance Located at Cape Henlopen State Park

Location:
Cape Henlopen State Park, Lewes, Delaware

Date of Occurrence:
Saturday, April 2, 2011 at 4:00 p.m.

Resume:

Lewes- On Saturday, April 2, 2011 at approximately 4:00 p.m. the Delaware State Police Explosive Ordnance Disposal Unit responded to Cape Henlopen State Park, Lewes, to recover World War II era military ordnance that was located by a subject utilizing a metal detector in area of the sand dunes. The subject notified Cape Henlopen State Park Rangers of the discovery.

Rangers located the ordnance and secured the area until Delaware State Police Explosive Ordnance Disposal Unit and Dover Air Force Base Explosives Ordnance Disposal Unit could arrive.

Upon arrival the ordnance was identified as a 3.5" self propelled practice rocket, dummy round with the rocket motor still attached that posed a potential hazard. At approximately 9:30 p.m. the DSP/EOD and DAFB/EOD took custody of the ordnance and transported to secure location between Georgetown and Millsboro for further analysis and then rendered safe by detonation."

Delaware State Police/Dover Air Force Base EOD Response 11 October 2012.

Location:
Cape Henlopen State Park, Lewes, Delaware

Date of Occurrence:
Thursday, October, 11 2012

Dover Air Force Explosive Ordnance Disposal personnel disposed of a 3.5 inch rocket warhead which was recovered in the vicinity or Battery 519 on Cape Henlopen State Park.