N00174.AR.000668
NSWC INDIAN HEAD
5090.3a

MINUTES FROM RESTORATION ADVISORY BOARD MEETING 21 FEBRUARY 2008 NSWC INDIAN HEAD MD
2/21/2008
NSWC INDIAN HEAD

INSTALLATION RESTORATION PROGRAM

NAVAL SUPPORT FACILITY,
INDIAN HEAD
101 STRAUSS AVENUE
INDIAN HEAD, MARYLAND
20640-5035

RESTORATION ADVISORY BOARD (RAB) MEETING

Date of Meeting: February 21, 2008, 5:00 pm

Restoration Advisory Board (RAB) Member Participants:

Mr. Elmer Biles (C)
Mr. Curtis DeTore (S)
Mr. Vincent Hungerford (C)*
Mr. Jeff Bossart (N)
Mr. Wayne McBain (C)
Mr. Dennis Orenshaw (F)
Mr. Joseph Rail (N)*
Mr. Nathan Delong (N)

RAB Members Not in Attendance:

Mr. Jerry Hamrick (L)
Ms. Karen Wiggen (L)

Additional Attendees:

Mr. Shawn Jorgensen (C/N)
Mr. Butch Dye (S)
Mr. Kim Turnbull (K)

* Co-Chair

C = Community
F = Federal Official
K = Contractor
L = Local Official
N = Navy Official
R = Newspaper Reporter
S = State Official

ENCLOSURE (1)

Major Issues Discussed/Accomplished:

1. Arrival/Welcome

Mr. Joseph Rail of the Naval Facilities Engineering Command, Washington (NAVFAC Washington) began the meeting by introducing himself and welcoming everyone to the Indian Head Senior Center. Mr. Rail then presented the meeting agenda, which is included in Attachment A.

2. Site 12 and 42 Long-Term Monitoring Update

Mr. Rail provided an update of the long-term monitoring being conducted at the Town Gut Landfill (Site 12) and the Olsen Road Landfill (Site 42). The sampling results showed no increasing or decreasing trends in the first four (4) sampling events. Risk Evaluation results showed that there are no unacceptable risks in surface water at either site, therefore, future sampling events will focus on groundwater only. Future groundwater sampling at Site 12 will focus on TCE, cis-1,2-DCE, Vinyl Chloride, Lead, Arsenic, Cobalt, Iron, and Manganese. Future groundwater sampling at Site 42 will focus on TCE, cis-1,2-DCE, Vinyl Chloride, Arsenic, Iron, and Manganese.

A copy of Mr. Rail's presentation is provided in Attachment B. Copies of the future sampling schedules are included within the presentation.

3. Site 28 Soil Removal Action Update

Mr. Rail briefly discussed the background history of Site 28, along with previous work completed and provided an update to the Soil Removal Action. Three (3) single-base propellant grains were discovered in November 2007, about a month after work began. The project was shut down in order to prepare an Explosive Safety Submission (ESS) and MOA between NAVFAC Washington, Indian Head NSWC, and NSF-South Potomac. Work is expected to resume in February 2008 pending ESS/MOA signature.

A copy of Mr. Rail's presentation (including pictures) is provided in Attachment C.

4. Sites 19, 27, and SWMU 14 Update

Mr. Rail provided updated results and information regarding additional sampling taken at Sites 19, 27, and Stump Neck SWMU 14. After briefly discussing the site description and history, previous investigation results, and additional sampling objectives for each site, Mr. Rail discussed the results of the most recent sampling events.

Based on the sampling results and the Human Health and Ecological Risk Screenings at Site 19, the contaminants of potential concern (COPC's) are nitroglycerin for surface soil (both Human Health and Ecological) and arsenic and lead for groundwater (Human Health only). A soil removal action (about 1 foot below ground surface) is recommended for nitroglycerin cleanup and monitoring wells may be needed to get a more accurate view of groundwater contamination.

Based on the surface soil sampling results and Human Health and Ecological Risk Screenings at Site 27, the COPC's are arsenic in (Human Health and Ecological), as well as chromium, lead, mercury, and zinc (Ecological only). The risk from lead, mercury, and zinc are likely overestimated (based on previous toxicity testing). However, Baseline Ecological Risk Assessment (BERA) work may be needed to further refine the risk estimate for arsenic and chromium.

Based on the surface soil sampling results and Human Health and Ecological Risk Screenings at Stump Neck SWMU 14, the COPC's for Human Health from all groundwater samples (monitoring well and grab samples) are aluminum, arsenic, chromium, cobalt, iron, lead, manganese, nickel, thallium, and vanadium. However, only cobalt was found to be a COPC in the monitoring well samples. Barium, cobalt, copper, and zinc were identified as COPC's for Ecological Risk, but cobalt is likely the only COPC after accounting for dilution upon discharge to the river. This risk assessment likely needs sediment/sediment pore water data at the point of discharge in order to be further refined.

A copy of Mr. Rail's presentation is included in Attachment D.

5. Stump Neck MRP Site Inspection Update

Mr. Rail discussed the Site Inspection (SI) performed at the Munitions Response Program (MRP) sites located on the Stump Neck Annex portion of NSF Indian Head. The MRP Site Inspection covered sixteen (16) sites located on the Stump Neck Annex. The sites were broken up into the following categories: Areas of Explosives Training/Testing/Demonstration (6 sites), Artillery Training and Testing Ranges and Range Impact Fan Areas (2 sites), Small Arms Training Range Areas (3 sites), Skeet Range and/or Trap Range Training Areas (2 sites), Munitions (Torpedo) Burial and/or Disposal Areas (2 sites), and Sites With No Known MEC Usage (1 site).

Mr. Rail talked about the results of the SI, going over what was found at each of the sites during the investigation. He also described any further investigation that would be needed at each site. Aerial photographs and site photographs were used to show the extent of the investigation at each site and current site

conditions. The only site that does not warrant any further investigation is Test Area 2.

A copy of Mr. Rail's presentation (including photographs) is provided in Attachment E.

6. Comments, Questions, and Answers

Numerous comments were made and questions asked during the meeting. These comments, questions, and answers are provided in Attachment F.

7. Conclusion of Formal Presentations

Mr. Rail presented the tentative agenda for the next RAB meeting, which is scheduled for June 19, 2008. A copy of the agenda is included in Attachment G.

Mr. Rail then concluded the formal portion of the meeting at 6:15 P.M., and thanked all in attendance.

NAVAL SUPPORT FACILITY, INDIAN HEAD
INSTALLATION RESTORATION (IR) PROGRAM
RESTORATION ADVISORY BOARD (RAB) MEETING AGENDA

February 21, 2008

5:00 - 5:05	**ARRIVAL/WELCOME** Mr. Joseph Rail Naval Facilities Engineering Command, Washington (NAVFACWASH) Remedial Project Manager
5:05 – 5:25	**SITE 12 & 42 LONG-TERM MONITORING UPDATE** Mr. Joseph Rail
5:25 – 5:45	**SITE 28 REMOVAL ACTION UPDATE** Mr. Joseph Rail
5:45 – 6:00	**SITES 19, 27, & SWMU 14 UPDATE** Mr. Joseph Rail
6:00 – 6:30	**STUMP NECK MRP SITE INSPECTION UPDATE** Mr. Joseph Rail
6:30	**ADJOURN**

Attachment A

NAVAL SUPPORT FACILITY, INDIAN HEAD

Site 12 & 42 LTM Update

Joseph Rail
NAVFAC Washington

February, 2008

Site 12-Town Gut Landfill

Site 12 & 42 LTM Update

Site 42-Olsen Road Landfill

Site 12 & 42 LTM Update

Site 12 Background

- 4.8 Acre site containing 3 areas of waste
- 3 waste areas are divided by 2 ponds and Atkins Road Extension
- Landfill composed of construction rubble and landscaping debris

Site 42 Background

- 2 acre site near Building 1866
- Landfill composed of solid wastes, demolition debris, wood, metal, and steel drums
- Remedial action included 1.43 acre engineered cap and extension of asphalt area

Site 12 & 42 LTM Update

Media to be monitored

- Groundwater
- Surface water

Analytes

- Trichloroethene (TCE)
- Cis-1,2-Dichloroethene (cis-1,2-DCE)
- Vinyl chloride
- Arsenic
- Iron
- Lead
- Manganese (Site 12 only)
- Chromium (Site 42 only)
- Vanadium (Site 42 only)

Site 12 & 42 LTM Update

Site 12 Sampling Locations

4 surface water samples- (SW 7, 8, 9, 10)
7 GW monitoring well locations - (MW 7, 8, 9, 10, 11, 12, 13)

Site 42 Sampling Locations

7 surface water samples- (SW 4, 5, 6, 7, 8, 9, 10)
6 GW monitoring well locations- (MW 8, 9, 10, 11, 12, 13)

Sampling Frequency- quarterly

Trend analysis to be completed after 4 quarters
If concentrations are rising, quarterly sampling continues
If falling or steady, sampling conducted at three 9-month intervals

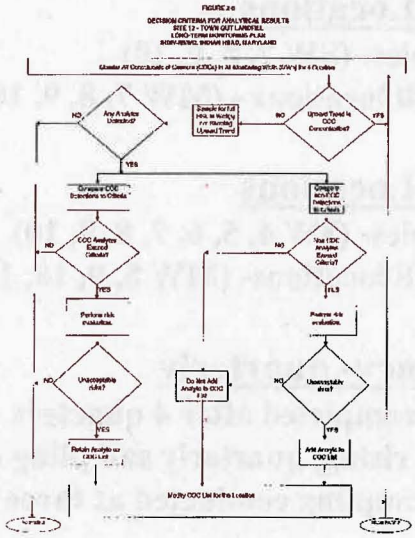
Site 12 & 42 LTM Update

Work completed to date (under small business contract):

July 2006- 1st sampling event
October 2006- 2nd sampling event, post-closure inspection
January 2007- 3rd sampling event
April 2007- 4th sampling event, inspection, trend analysis
July 2007- 5th sampling event, full HSL sampling, human & eco risk evaluations
October 2007- 6th sampling event, inspection
January 2008- 7th sampling event

Site 12 & 42 LTM Update

Decision Criteria Figure



Site 12 & 42 LTM Update

Site 12 & 42 Sampling Results:

- NO increasing or decreasing trends identified for first four events
- Full HSL sampling in July 2007
  TCL VOCs, TCL SVOCs, TCL Pesticides/PCBs, TAL Metals
- HSL results compared to background, EPA MCLs, and Maryland groundwater standards
- Human and eco risk evaluation completed for COCs that exceeded criteria

Site 12 & 42 LTM Update

Site 12 Risk Evaluation Results:

- ILCRs and HIs estimated for each COC

- For GW, 3 VOCs retained (TCE, 1,2-DCE, vinyl chloride) and 5 metals (lead, arsenic, cobalt, iron, manganese)

- For surface water, no unacceptable risks, no further sampling required

Site 12 & 42 LTM Update

SITE 12 GW SAMPLING SCHEDULE

COPCs	Jan-08	Apr-08	Jul-08	Oct-08	Jan-09	Apr-09	Jul-09	Oct-09
TCE	X			X			X	
1,2-DCE	X			X			X	
Vinyl Chloride	X			X			X	
Lead	X			X			X	
Arsenic	X	X	X	X	X	X	X	X
Cobalt	X	X	X	X	X	X	X	X
Iron	X	X	X	X	X	X	X	X
Manganese	X	X	X	X	X	X	X	X

Site 12 & 42 LTM Update

Site 42 Risk Evaluation Results:

- **ILCRs and HIs estimated for each COC**
- **For GW, 3 VOCs retained (TCE, 1,2-DCE, vinyl chloride) and 3 metals (arsenic, iron, manganese)**
- **For surface water, no unacceptable risks, no further sampling required**

Site 12 & 42 LTM Update

SITE 42 GW SAMPLING SCHEDULE

COPCs	Jan-08	Apr-08	Jul-08	Oct-08	Jan-09	Apr-09	Jul-09	Oct-09
TCE	X	X	X	X	X	X	X	X
1,2-DCE	X	X	X	X	X	X	X	X
Vinyl Chloride	X	X	X	X	X	X	X	X
Arsenic	X	X	X	X	X	X	X	X
Iron	X	X	X	X	X	X	X	X
Manganese	X	X	X	X	X	X	X	X

Site 12 & 42 LTM Update

Questions?

NAVAL SUPPORT FACILITY, INDIAN HEAD

Site 28 Soil Removal Action Update

Joseph Rail
NAVFAC Washington

February, 2008

Site 28- Original Burning Ground

- **Background**
  - *1.8 acre site in northeastern corner of NSF-IH property*
  - *bordered by Slavin's Dock and Mattawoman Creek*
  - *location of zinc recovery furnace and shoreline burning cage*
- **Completed Work**
  - *Final RI completed in April 2005*
  - *Final BERA and Final EE/CA completed in September 2006*
  - *Action memorandum to complete non-time critical removal action completed in June 2007*

Site 28- RA Update

Site 28- RA Update

Current Status

- *Work began in October 2007*
- *3 single-base propellant grains discovered in November 2007*
- *Project shut down for preparation of ESS & MOA between NAVFACWASH, NSF-South Potomac, and Indian Head NSWC*
- *ESS approval/MOA signature expected in February 2008 at which time project will resume*

Site 28 RA Update

5

Site 28 RA Update

6

Site 28 RA Update

Questions?

NAVAL SUPPORT FACILITY, INDIAN HEAD RESTORATION ADVISORY BOARD

Sites 19, 27 and Stump Neck SWMU 14 Updates

Joseph Rail
NAVFAC Washington

February, 2008

Sites 19, 27 & SWMU 14

Objective

- Present results of additional sampling at:
  - Site 19 – Catch Basins at Chip Collection Houses
  - Site 27 – Thermal Destructor 1
  - Stump Neck SWMU 14 – Photographic Lab Septic Tank System

Site 19

Site 19- Catch Basins at Chip Collection Houses

• Consists of drainage areas leading from two chip collection houses, Buildings 785 and 1051

• Releases from catch pad outfalls may have contaminated stream sediments

• Only Building 785 remains in operation

• Wastewater is now recycled rather than discharged to swales

• Contaminants of concern include inorganics and explosives

Site 19- Catch Basins at Chip Collection Houses

Site 19- SSP Investigation Results

- SSP investigation was performed in October 2005
- Surface soil samples (0 to 6 inches bgs) were collected around and downgradient of two chip collection basins, one associated with Building 785 and the other associated with Building 1051
- Samples were analyzed for TAL metals, explosives (including nitroglycerine and nitroguanidine), TOC, and pH
- No further investigation was recommended at Building 1051 because samples showed low or undetected concentrations of constituents
- Human health and ecological risks associated with nitroglycerin and lead downgradient of the Building 785 chip collection basin were identified
- In December 2006, IHIRT agreed that an additional investigation was warranted

Site 19 - Additional Investigation Objectives

- Characterize the nature and extent of metals and explosives (including nitroglycerin and nitroguanidine) in surface and subsurface soil downgradient from the Building 785 catch basin.
- Determine if metals and explosives (including nitroglycerin and nitroguanidine) are present in groundwater downgradient from the Building 785 catch basin.
- Perform human health and ecological risk screenings to assess whether detected constituents in site soil pose potential risks to human health and ecological receptors.

Site 19 – Sampling Approach

- DPT surface and subsurface soil samples were collected from 4 locations along the drainageway at distances of 25, 100, 200, and 300 feet from the former chip collection box.
- At each location, soil samples were collected from 0 to 0.5 feet bgs, 2 to 3 feet bgs, and 5 to 6 feet bgs.
- Soil samples from the uppermost two intervals were analyzed for TAL metals and explosives (including nitroglycerin and nitroguanidine).
- One grab groundwater sample was collected and analyzed for TAL metals (total and dissolved) and explosives (including nitroglycerin and nitroguanidine).

Site 19 – Results

Soil

- Nitroglycerin was detected in 2 samples at the 0- to 0.5-foot depth interval, but not in the corresponding subsurface soil samples.
- Several metals detected in the 0- to 0.5-foot and 2- to 3-foot depth intervals
- Based on the work plan, the 5- to 6-foot depth interval samples will be analyzed if the concentrations of the 2- to 3-foot depth interval samples are higher than EPA Region III Risk-based Concentrations (RBCs).
- The results of the 2- to 3-foot depth interval were compared to adjusted RBCs because that was what we used during previous SSP investigation work.
    - Arsenic exceeded the screening level in every sample collected from Site 19; however, it is not site-related as it was less than the 95% UTL NSF-IH background concentration of 14.9 mg/kg
    - Lead exceeded the action level of 400 mg/kg and the 95% UTL at location IS19DP04.
- Based on the Team's decision, the 5- to 6-foot depth interval sample from location IS19DP04 was analyzed only for lead. The concentration was 17.3 mg/kg.

Groundwater

- Several total and dissolved metals were detected in the DPT groundwater grab sample.

Site 19 – Human Health and Ecological Risk Screening Process

- Step 1 - The maximum concentration for each chemical was compared against the respective risk-based screening level to determine whether an unacceptable human health or ecological risk might exist.
- Step 2 - Chemical concentrations in soil and groundwater that exceeded risk-based screening levels were further evaluated by comparing the maximum detected concentrations to site background concentrations (95% UCL).
- Additional Considerations - COPCs identified in the Step 2 screening were assessed in a broader, semiquantitative manner to determine whether the site warrants further consideration of potential human health and/or ecological risk. Soil and groundwater were compared to the 95% UTLs. Surface and subsurface soil concentrations were compared against eastern U.S. soils values and Maryland soils values. Groundwater was compared against MCLs.
- Frequency of detection and frequency of exceedance of risk-based standards, as well as the likelihood of the COPCs actually stemming from a historic release from the site, will be considered in the development of a recommended site management decision.

Site 19 – Human Health Risk Screening

- ***Step 1 COPCs***
  - Surface soil: nitroglycerin, aluminum, arsenic, chromium, iron, lead, manganese, and vanadium.
  - Subsurface soil: aluminum, arsenic, chromium, iron, lead, and vanadium.
  - Groundwater: aluminum, arsenic, chromium, iron, lead, manganese, and vanadium.
- ***Step 2 COPCs***
  - Surface soil: nitroglycerin, aluminum, arsenic, chromium, iron, lead, manganese, and vanadium.
  - Subsurface soil: aluminum, arsenic, chromium, iron, lead, and vanadium.
  - Groundwater: aluminum, arsenic, lead, and vanadium.

Site 19 – Human Health Risk Screening (continued)

- *Additional Considerations*
  - Surface soil: nitroglycerin
  - Subsurface soil: none
  - Groundwater: arsenic and lead

Site 19 – Ecological Risk Screening

- Nitroglycerin - no screening value, but high concentrations might pose a risk; needs to be addressed for human health.
- Copper, lead, and zinc pose potential risk, but likely overestimated.

Site 19 – Summary and Recommendations

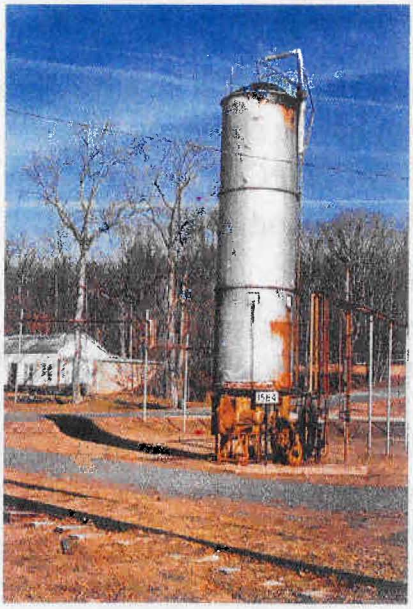
- ***Summary***
  - Surface soil – Both HH and eco identify nitroglycerin as a COPC because it does not have a screening value.
  - Subsurface soil – No COPCs
  - Groundwater – Arsenic and lead for HH.
- ***Recommendations***
  - High level of nitroglycerin is collocated with lead; remove surface soil with high concentrations. Lateral (around ISDP1904) and vertical (approx. 1 foot bgs) extents delineated.
  - Groundwater – High sample results may be due to high turbidity; but sample was collected from a DPT point. Monitoring wells may not have these problems.

Site 27

Site 27- Thermal Destructor 1

- Site is located north of Hershey Road and 400' from the Mattawoman Creek
- Former destructor was located on concrete pad (Building 1584)
- The incinerator operated from 1976-1979 and burned hydrazine-containing fuel and UDMH-contaminated wastewater
- Potential spills from operations may have contaminated soils surrounding concrete pad

Site 27- Thermal Destructor 1



Site 27 – SSP Investigation and Results

- SSP investigation was performed in October 2005 and June 2006.
- Soil samples collected in October 2005 were analyzed for UDMH, hydrazine, TAL metals, TCL SVOCs, TCL VOCs, explosives (including nitroglycerin and nitroguanidine), TOC, and pH.
- Based on results observed in October 2005, the IHIRT agreed that surface soil samples should be collected to delineate inorganics that were found at concentrations exceeding RBCs.
- Surface soil samples collected in June 2006 were analyzed for TAL metals.

Site 27 – Investigation Findings

- Neither UDMH nor hydrazine, the anticipated chemicals of potential concern, were detected in soil at Site 27.
- The SSP Investigation Report noted potential human health and ecological risks associated with inorganics in surface soil, specifically arsenic, cadmium, chromium, lead and zinc.
- In December 2006, the IHIRT agreed that additional characterization was warranted.

Site 27 - Additional Investigation Objectives

- Characterize the nature and extent of metals in surface soil around the concrete pad.
- Perform human health and ecological risk screenings to assess whether detected constituents in site soils pose potential risks to human health and ecological receptors.

Site 27 – Sampling Approach

- Surface soil (0 to 0.5 foot bgs) samples were collected from locations at distances of approximately 20 and 40 feet from the concrete pad.
- The results were compared to adjusted industrial and residential RBCs, and 95% UTL.

Site 27 – Results

- Arsenic exceeded all risk-based and screening criteria in all 20 foot distance samples and lead was exceeded in two samples.
- Based on the Team's decision, the 40 foot distance samples were analyzed only for arsenic.
- Arsenic concentrations in all 40 foot samples exceeded the adjusted industrial (0.19 mg/kg) and residential (0.043 mg/kg) RBCs.

Site 27 - Risk Screening, Summary, and Recommendations

Human Health

- Arsenic in surface soil may pose a concern to human health.
- EPC computation – Appears that a baseline HHRA might eliminate all COPCs but arsenic from concern.

Ecological

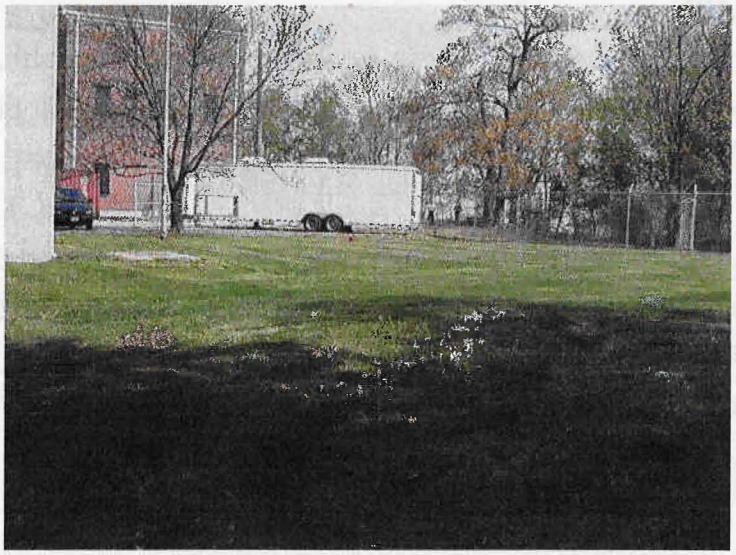
- Arsenic, chromium, lead, mercury, and zinc pose potential risk.
- Risk from lead, mercury, and zinc are likely overestimated (based on previous toxicity testing at IH)
- Risk from arsenic and chromium cannot be ruled out (likely need to conduct BERA work to refine risk estimate, unless baseline HHRA indicates action needed, then possibly skip BERA)

SWMU 14

SWMU 14- Photographic Lab Septic Tank System

- SWMU 14 is located on north side of Stump Neck Annex 300ft south of the Potomac River
- Site consists of a photo lab (Building 22SN), X-ray facility (Building 2009), septic tank, discharge lines, and drain fields
- Discharges from the septic systems may have contaminated soil and/or groundwater in the vicinity of drain fields

SWMU 14- Photographic Lab Septic Tank System



Stump Neck SWMU 14 – SSP Investigations and Results

- SSP investigation was performed in October/November 2005.
- Six soil borings were advanced (three in each leach field); one subsurface soil sample was collected immediately above the water table from each boring.
- Soil samples were analyzed for TCL VOCs, TCL SVOCs, TAL metals, TOC, and pH.
- Two monitoring wells were installed, one in each leach field.
- Groundwater sample was collected from IU14MW01, located in the older leach field. Sample was analyzed for TCL VOCs, TCL SVOCs, TAL metals (filtered and unfiltered), TOC, and pH.
- Groundwater samples could not be collected from IU14MW02, located in the newer leach field, due to insufficient well yield at the screened interval.

Stump Neck SWMU 14 – SSP Investigations and Results (continued)

- The SSP Investigation Report noted no human health or ecological risk concerns associated with subsurface soil.
- Cobalt was the only COPC identified in groundwater at Stump Neck SWMU 14. Cobalt may pose a risk to human health and ecological receptors.
  - The total and dissolved concentrations of cobalt (1,110 µg/L and 1,080 µg/L) in groundwater were higher than the 95 percent UTL background concentration (13 µg/L).
  - Applying a very conservative 10-to-1 dilution factor for groundwater discharge into a surface water body, the ecological screening value for cobalt is 230 µg/L.

Stump Neck SWMU 14 - Additional Investigation Objectives

- Determine if metals (total and dissolved) are present in well IU14MW01 (older drain field).
- Determine if VOCs, SVOCs, metals (total and dissolved) are present in well IU14MW02 (newer drain field).
- Determine if metals (total and dissolved) are present in groundwater beneath the former septic tank and in both drain fields.
- Perform human health and ecological risk screenings to assess whether detected constituents in groundwater pose potential risks to human health and ecological receptors.

Stump Neck SWMU 14 – Sampling Approach

- An attempt was made to collect groundwater from IU14MW02, however it was found to be dry. As a result the well was abandoned and IU14MW03 was installed nearby and sampled for TCL VOCs, TCL SVOCs, TAL metals (total and dissolved), TOC, and pH.
- A groundwater sample was collected from IU14MW01 and analyzed for TAL metals (total and dissolved).
- Seven 7 DPT borings were advanced: 1 near the former septic tanks and 3 associated with each leach field. The samples were analyzed for TAL metals (total and dissolved).
- Cobalt-60 was analyzed in samples from wells IU14MW01 and IU14MW03. Results were non detect.

Stump Neck SWMU 14 - Risk Screening Summary

Human Health

- The analytical results for groundwater data were separated into grab samples and monitoring well samples. Each was taken through the human health risk screening process separately.
- Aluminum, arsenic, chromium, cobalt, iron, lead, manganese, nickel, thallium, and vanadium were found to be COPCs in the grab samples.
- Only cobalt was found to be a COPC in the monitoring well samples.

Ecological

- Barium, cobalt, copper, and zinc exceed screening values and 95% UTLs
- Only cobalt likely poses potential risk after accounting for dilution upon discharge to river
- Need sediment/sediment pore water data at point of discharge to refine this risk estimate or more realistic dilution estimate (mixing zone type analysis)

Sites 19, 27 & SWMU 14

Questions?

Site Inspection MRP Sites – Stump Neck Annex

Naval Support Facility, Indian Head, Maryland

Introductory Presentation to the Indian Head Restoration Team, Wednesday, December 5, 2007

Digital Photograph Images from November 6-9, 2007 Site Visit

NAVFAC Naval Facilities Engineering Command

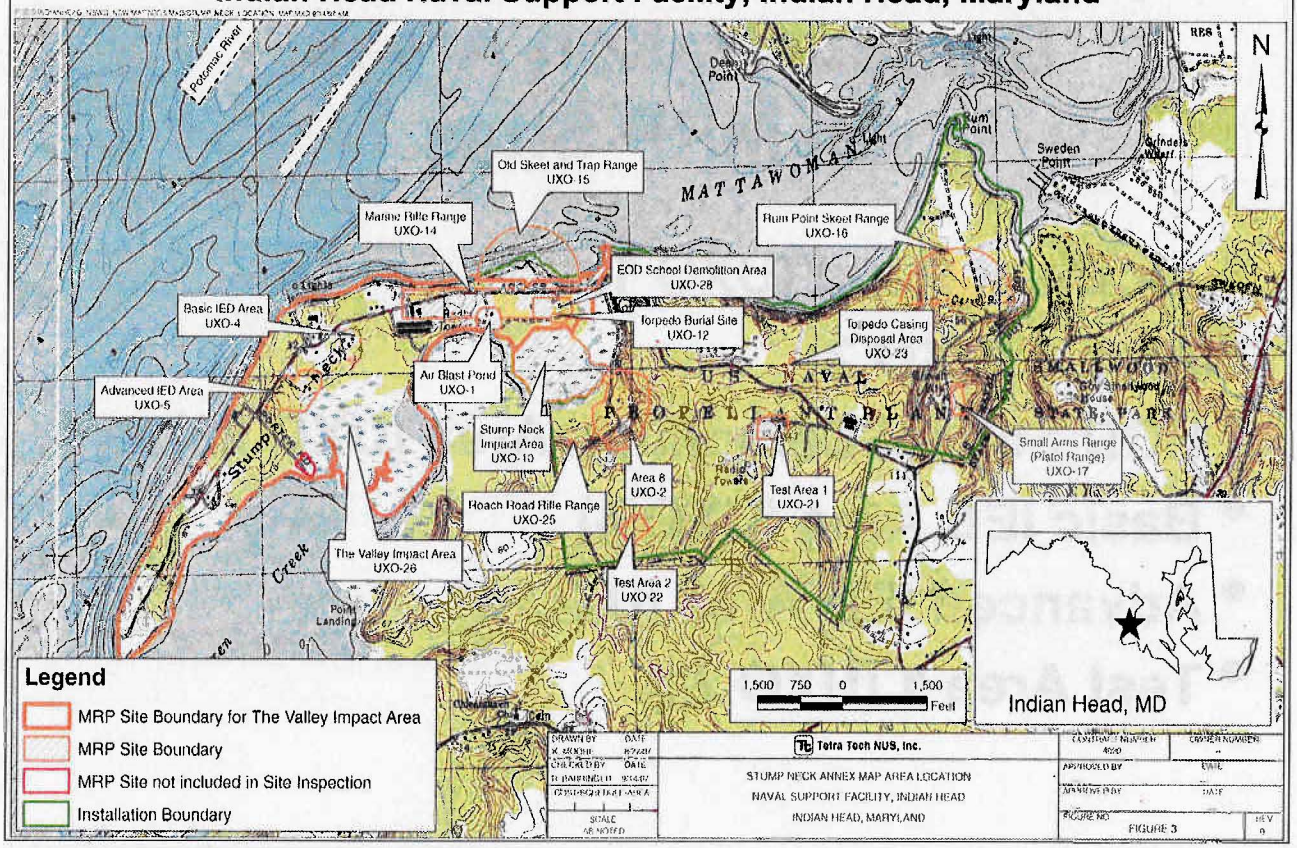
TETRA TECH
complex world | CLEAR SOLUTIONS

MRP Site Inspection Covers 16 Sites on the Stump Neck Annex Facility:

- Air Blast Pond (UXO 1)
- Area 8 (UXO 2)
- EOD School Demolition Area (UXO 28)
- Basic IED Area (UXO 4)
- Advanced IED Area (UXO 5)
- Marine Rifle Range (UXO 14)
- Old Skeet & Trap Range (UXO 15)
- Roach Road Rifle Range (UXO 25)
- Rum Point Skeet Range (UXO 16)
- Small Arms (Pistol) Range (UXO 17)
- Stump Neck Impact Area (UXO 10)
- Test Area 1 (UXO 21)
- Test Area 2 (UXO 22)
- The Valley Impact Area (UXO 26)
- Torpedo Burial Site (UXO 12)
- Torpedo Casing Disposal Area (UXO 23)

MRP Sites – Stump Neck Annex SI

Indian Head Naval Support Facility, Indian Head, Maryland



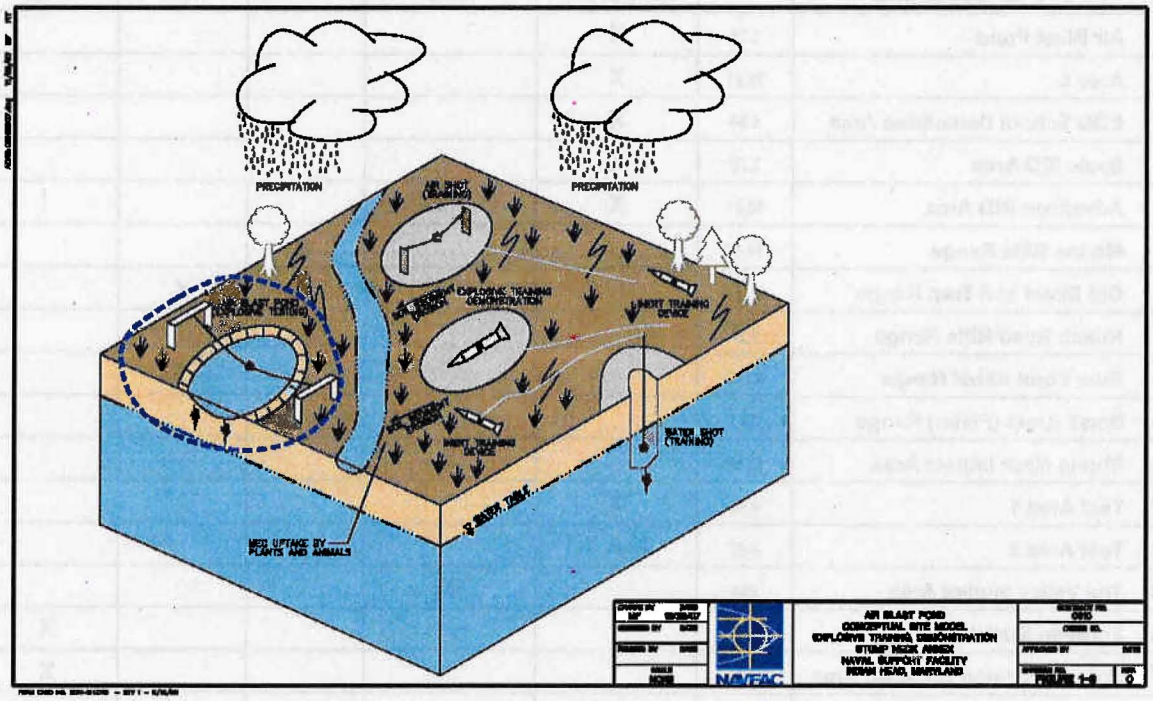
MRP SI –16 Sites on Stump Neck Annex

IH-Stump Neck Annex MRP Site Locations	MRP Site Size in Acres	Areas of Explosives Training / Testing / Demonstration	Artillery Training and Testing Ranges and Range Impact Fan Areas	Small Arms Training Range Areas	Skeet Range and/or Trap Range Training Areas	Munitions (Torpedo) Burial and/or Disposal Areas
1. Air Blast Pond	3.72	X				
2. Area 8	22.61	X				
3. EOD School Demolition Area	4.64	X				
4. Basic IED Area	3.79	X				
5. Advanced IRD Area	10.07	X				
6. Marine Rifle Range	30.44			X		
7. Old Skeet and Trap Range	29.33				X	
8. Roach Road Rifle Range	0.27			X		
9. Rum Point Skeet Range	33.45				X	
10. Small Arms (Pistol) Range	2.41			X		
11. Stump Neck Impact Area	32.88		X			
12. Test Area 1	4.52	X				
13. Test Area 2	3.66	N/A ?				
14. The Valley Impact Area	694		X			
15. Torpedo Burial Site	0.88					X
16. Torpedo Casing Disposal Area	0.74					X
Acreage Total	877.41					

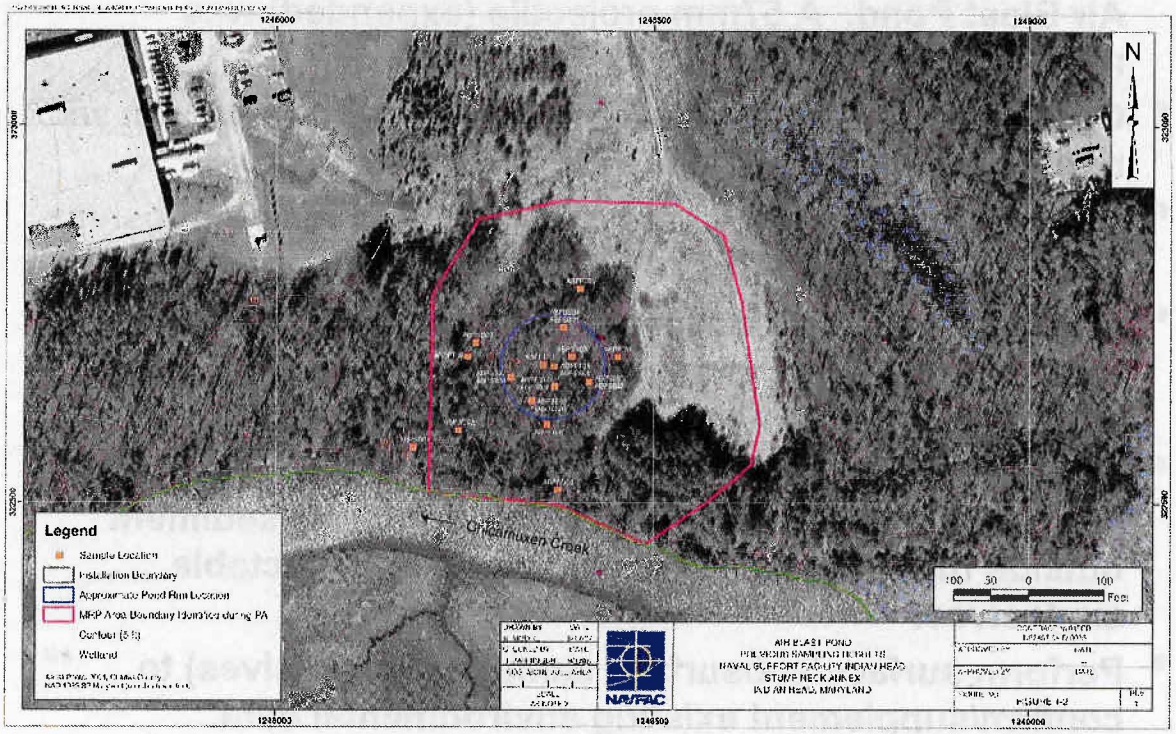
Explosives Training, Testing, and Demonstration Areas – SI MRP Sites

- Air Blast Pond (UXO 1)
- Area 8 (UXO 2)
- EOD School Demolition Area (UXO 28)
- Basic IED Area (UXO 4)
- Advanced IED Area (UXO 5)
- Test Area 1 (UXO 21)

Explosives Training, Testing, and Demo. Areas – Generic Conceptual Site Models



Air Blast Pond (UXO 1)

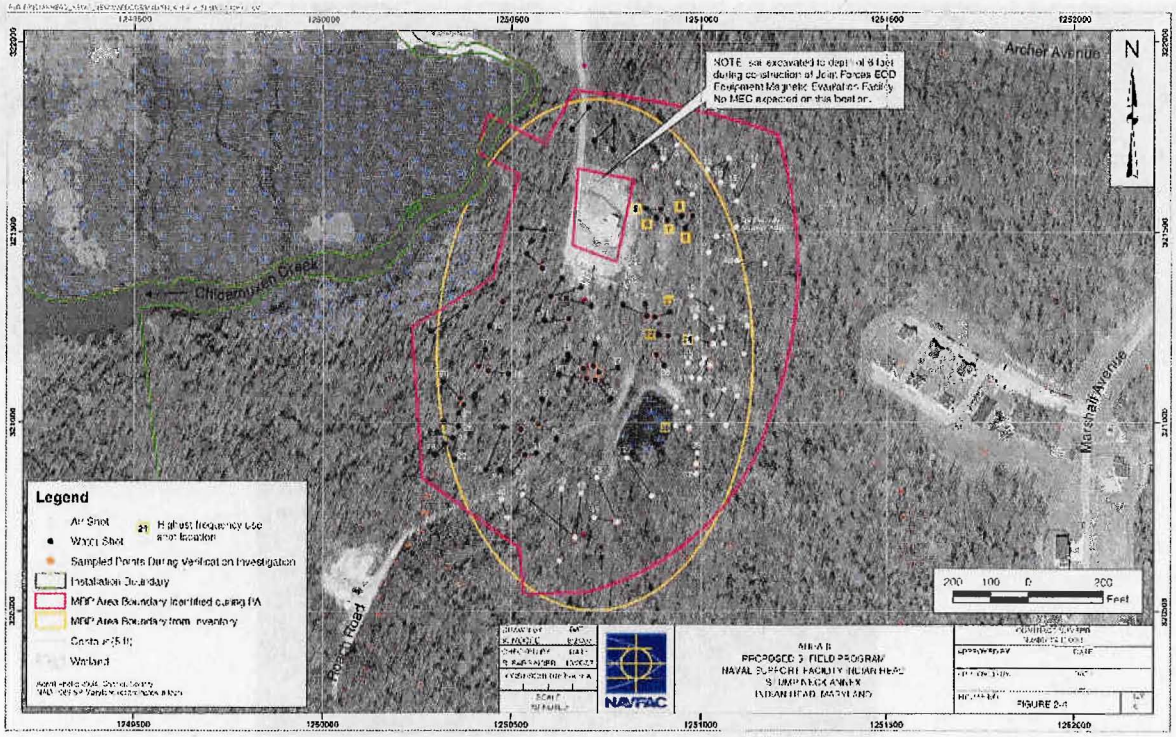


Air Blast Pond (UXO 1)

Air Blast Pond (UXO 1)

- Metallic debris is a problem both inside and outside the Air Blast Pond. A 57mm projectile (expended) was recovered at this site (on the berm).
- Geophysics survey to perform site footprint reduction will require extensive metallic interference removals
- Operations included testing/detonation of bulk explosives (TNT, PETN, HBX-1, HBX-2, H-6, C4, and Composition B).
- Based on materials observed outside/adjacent to Air Blast Pond (drums, pipe sections, solid metallic training items), other training may have been performed at site.
- Limited soil sampling during the VI for soil (surface and subsurface) inside and outside the pond and sediment outside the Air Blast Pond confirmed no detectable explosives.
- Perform surface/subsurface sampling (explosives) to confirm/supplement existing environmental data.

Area 8 (UXO 2)

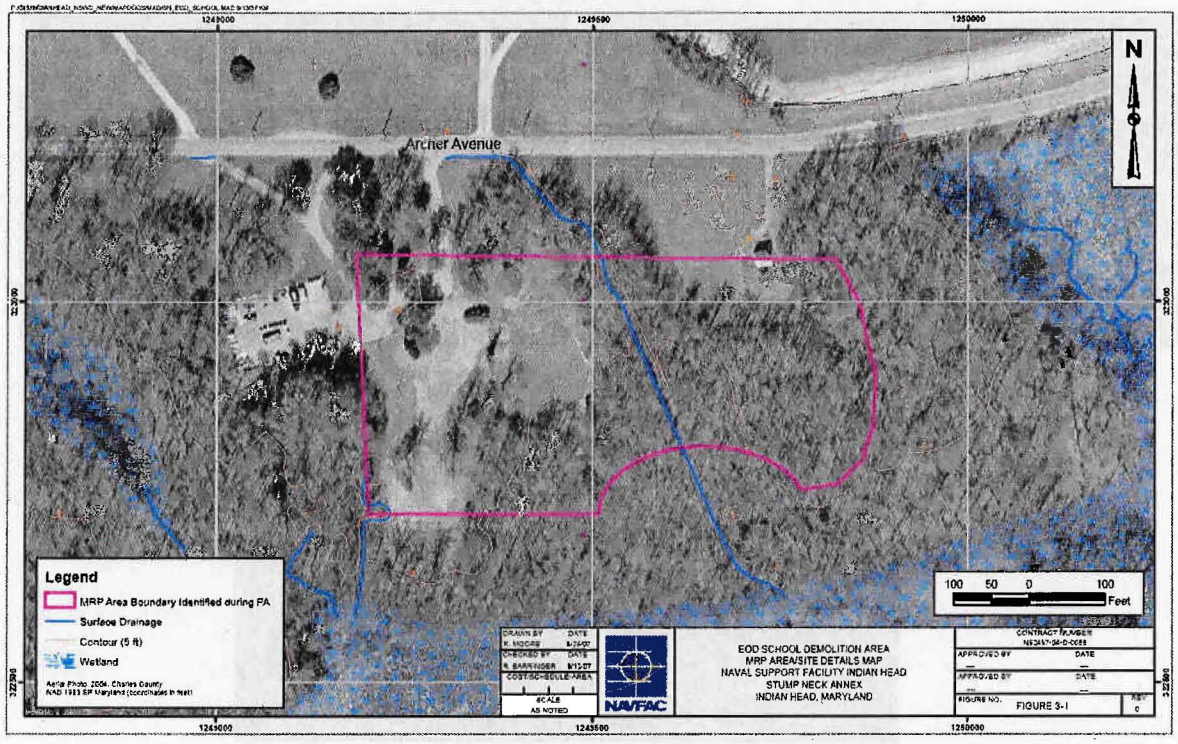


Area 8 (UXO 2)

Area 8 (UXO 2)

- Need to supplement Visual Inspection (VI) environmental data.
- Operations included TNT blocks, detonation cord, fuzes, etc. Inert training items may remain on the pond bottom.
- Perform detector-aided general surface sweep within 25 feet of inert training device locations (connected to shot points) to identify any remaining training materials at site.
- Selected subsurface sampling for explosives with anomaly avoidance. Regular maintenance for water shot-points may have included periodic re-excavation with materials from hole bottom moved and redeposited on the hole margins.
- Site has three groundwater wells. Need for additional groundwater sampling points or adequacy in using existing wells for explosives/perchlorate (confirmatory sampling)
- Selected soil sampling to supplement existing environmental data (confirmatory sampling).

EOD School Demolition Area (UXO 28)

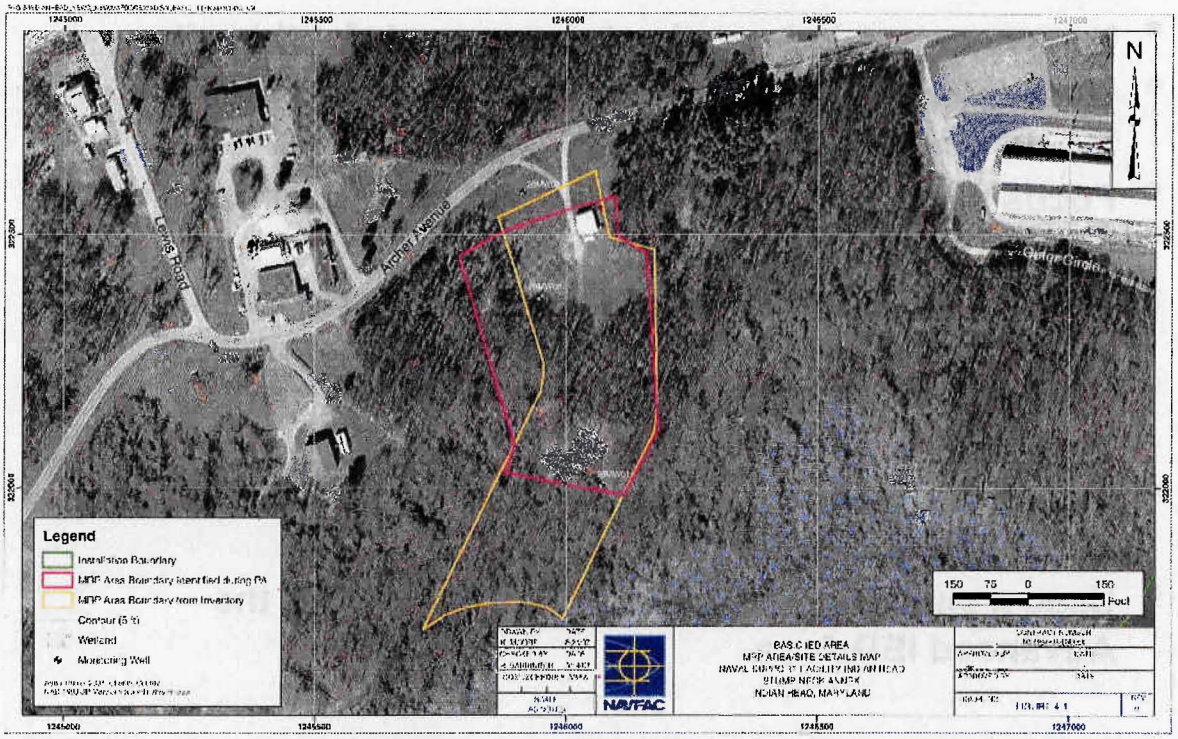


EOD School Demolition Area (UXO 28)

EOD School Demolition Area (UXO 28)

- No recommended geophysics approach for this site.
- Use UXO detector-aided survey to focus small transect spacing around concrete structure and a coarser transect spacing to reconnoiter the rest of the site (5 acres)
- Need for vegetation removal (grass mowing and limited underbrush removal-forest portions) to support surface sweep activities and soil-sampling performance.
- Perform selected subsurface sampling of munitions constituents (MCs) with anomaly avoidance to supplement existing environmental data.

Basic IED Area (UXO 4)

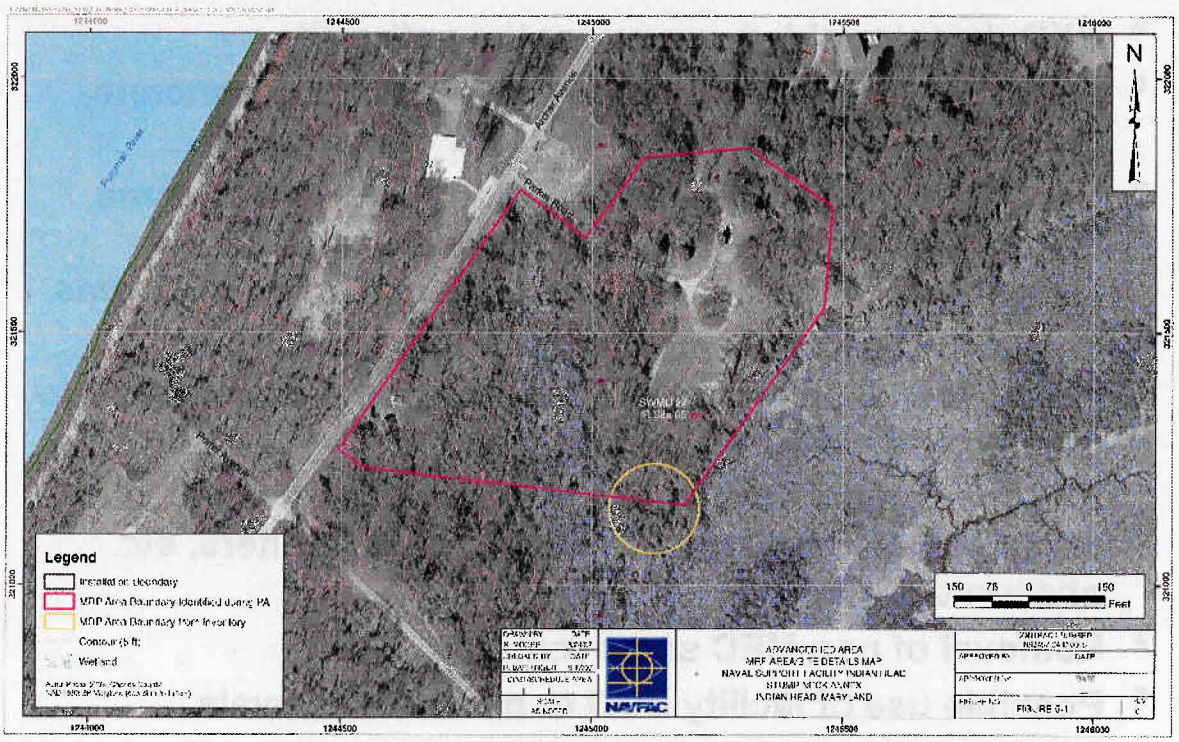


Basic IED Area (UXO 4)

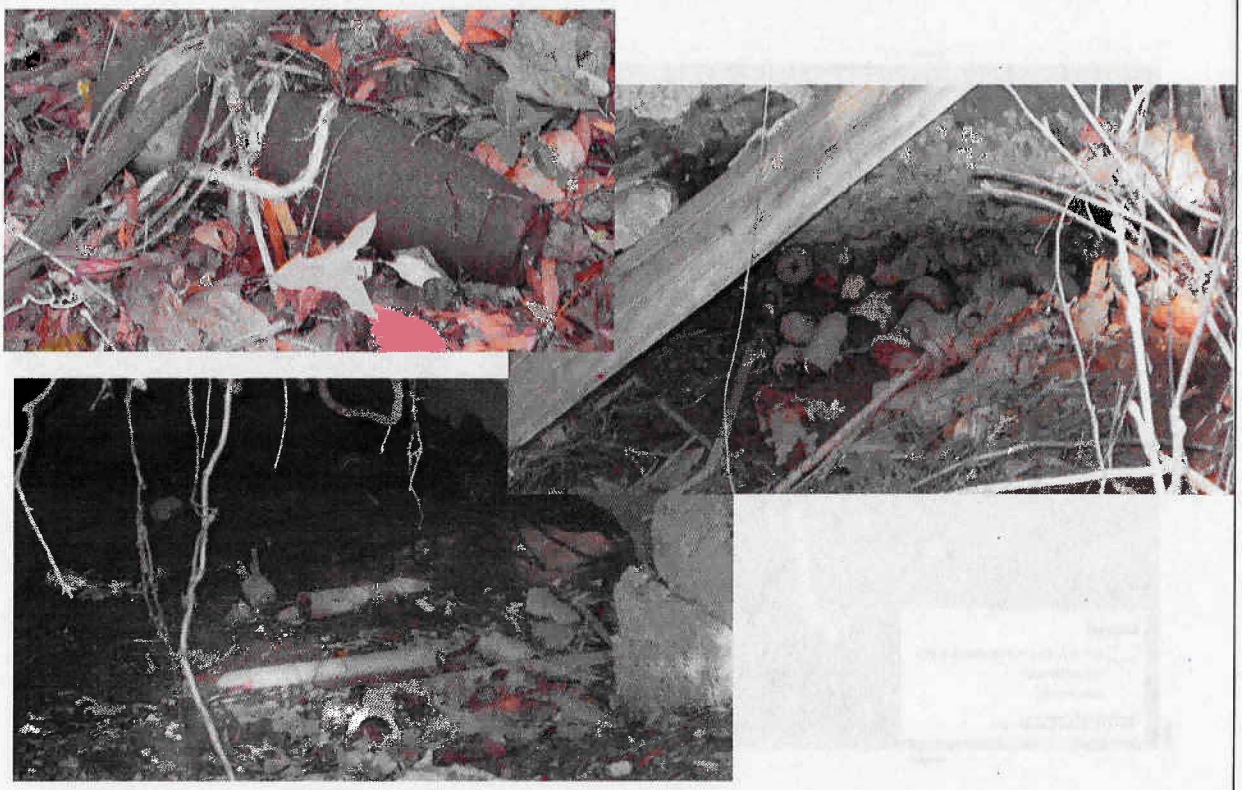
Basic IED Area (UXO 4)

- No recommended geophysics approach for this site.
- UXO detector-aided survey is recommended to reconnoiter the range.
- Focus survey with smaller transect spacing around the detonation area
- Need for vegetation removal (grass mowing and some limited underbrush removal in forested portions) to support detector-aided survey actions and sample collection.
- Selected subsurface sampling to supplement existing environmental data.
- Uses a similar approach to that proposed for the Advanced IED Area.

Advanced IED Area (UXO 5)



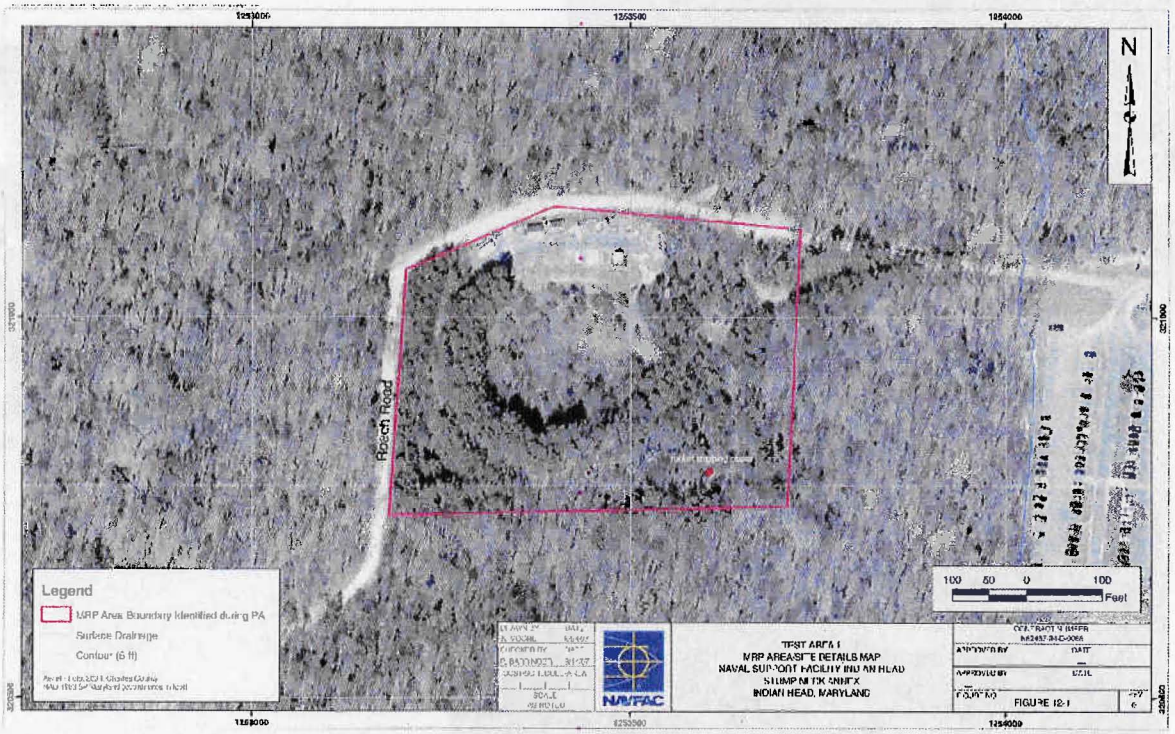
Advanced IED Area (UXO 5)



Advanced IED Area (UXO 5)

- UXO detector-aided survey for the entire site
- Focused UXO detector-aided survey near the concrete structure and site berms with 100% coverage
- Need for vegetation removal (grass mowing and some limited underbrush removal in forested portions) to support geophysical survey/sample collection programs
- Selected subsurface sampling for munitions and explosives of concern (MECs) with anomaly avoidance to supplement existing site data.
- ESS may be required due to potential munitions hazards, scrap munitions, detonation cord, fuzes, igniters, etc. observed at the site.
- Removal of non-MEC scrap materials
- Possible use of facility EOD to perform removals

Test Area 1 (UXO 21)



Test Area 1 (UXO 21)

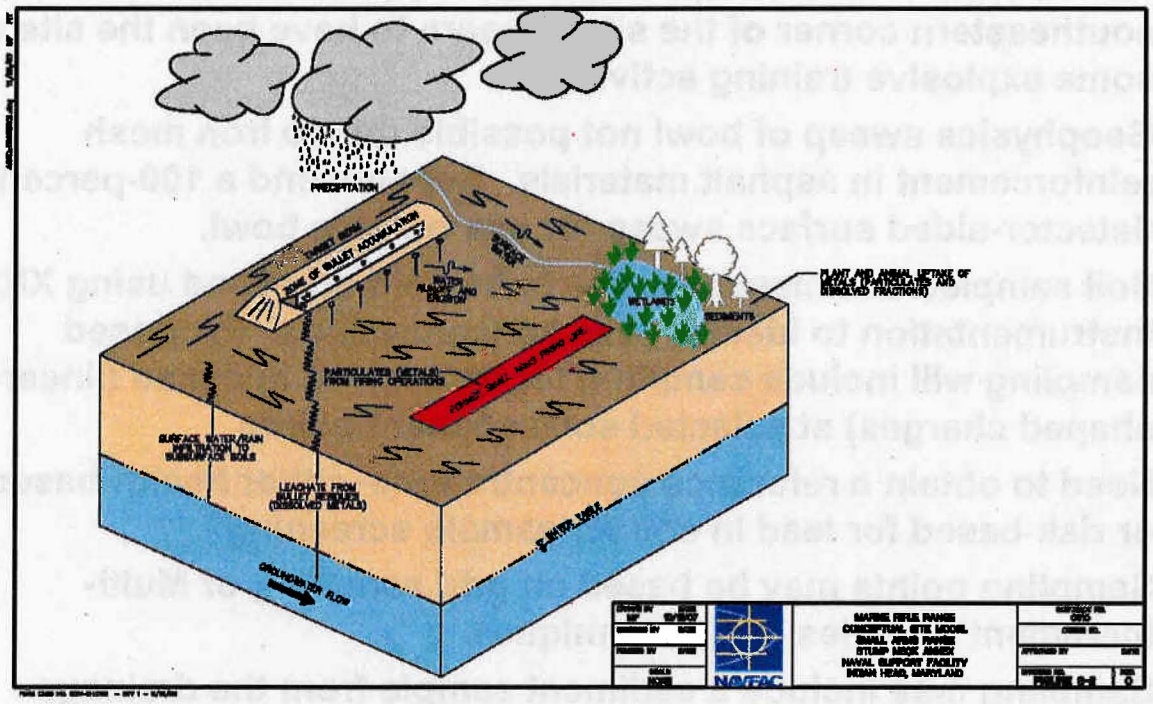
Test Area 1 (UXO 21)

- Selected subsurface sampling to supplement existing environmental data and perform site footprint reduction. The southeastern corner of the site appears to have been the site of some explosive training activities.
- Geophysics sweep of bowl not possible due to iron mesh reinforcement in asphalt materials. Recommend a 100-percent detector-aided surface sweep for site outside bowl.
- Soil samples/sediment samples to be field-screened using XRF instrumentation to identify lead concentrations. Proposed sampling will include sampling for explosives and lead (linear-shaped charges) at selected soil/sediment points
- Need to obtain a reference concentrations–either health-based or risk-based for lead in soil for sample screening
- Sampling points may be based on grid sampling or Multi-Increment Samples (MIS) techniques.
- Sampling may include a sediment sample from the drainage grate at the base of the bowl antenna.

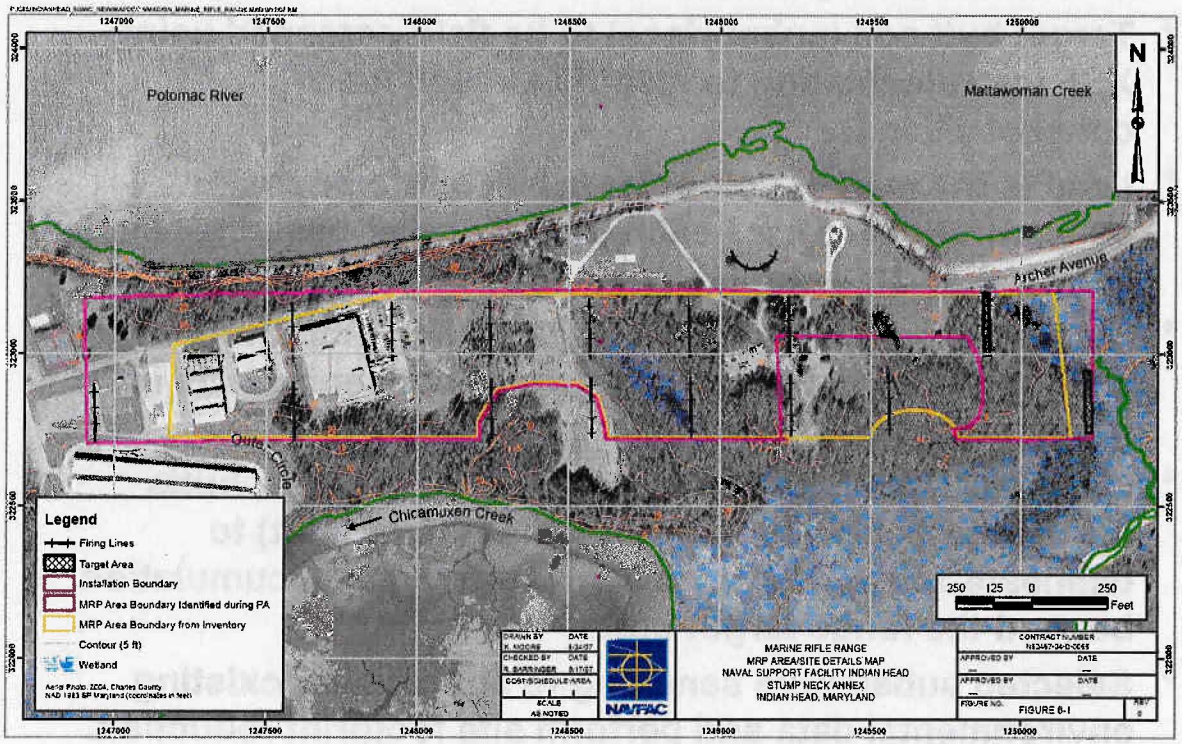
Small Arms Ranges – SI MRP Sites

- Marine Rifle Range (UXO 14)
- Old Skeet & Trap Range (UXO 15)
- Roach Road Rifle Range (UXO 25)
- Rum Point Skeet Range (UXO 16)
- Small Arms (Pistol) Range (UXO 17)

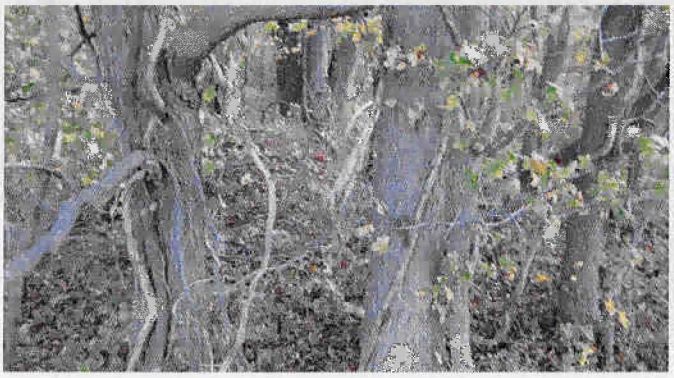
Small Arms (Pistol/Rifle) Ranges – Generic Conceptual Site Model

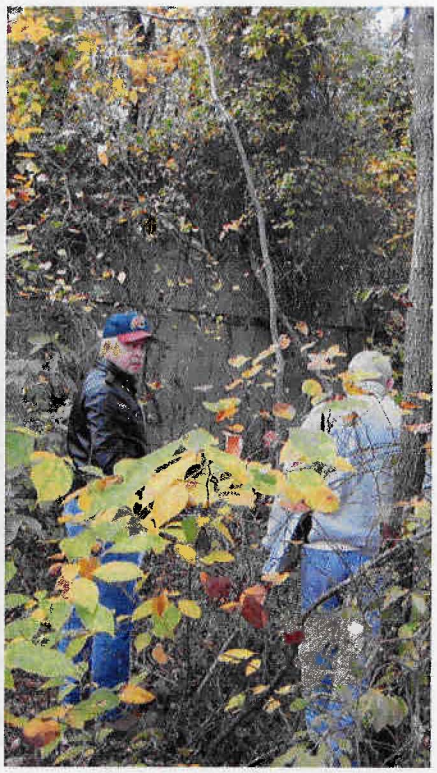


Marine Rifle Range (UXO 14)



Marine Rifle Range (UXO 14)

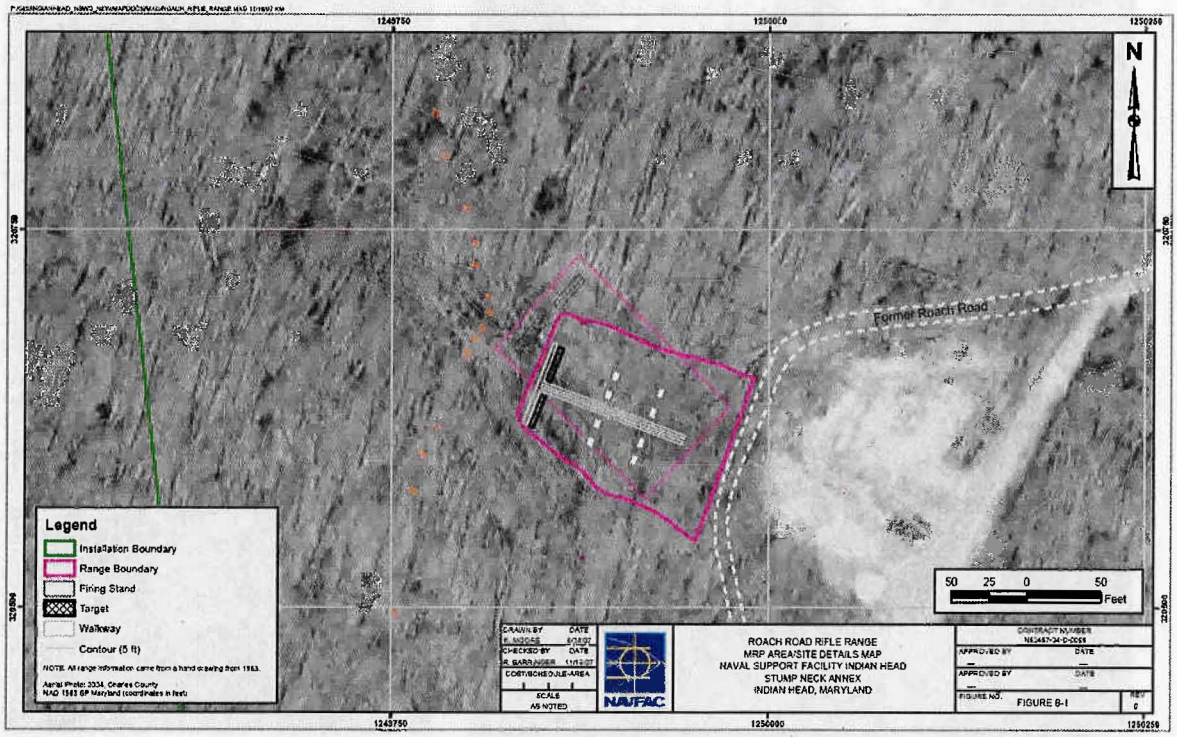




Marine Rifle Range (UXO 14)

- Two discrete target butts on east end of rifle range.
- Target butt soil (subsurface) to be field-screened using XRF instrumentation to identify subsoil lead concentrations.
- Lead is the marker compound. Need reference concentration–either health-based or risk-based for lead in soil to evaluate samples against.
- Emphasis on field analyses, with limited laboratory analysis to confirm lead/other metal concentrations in target butt subsurface soil.
- Consider limited soil sampling in front of target butts (undershot) and beyond target butts (overshot) to delineate zones of projectile and/or metals accumulation beyond the range target butts.
- Selected subsurface sampling to supplement existing environmental data and perform site footprint reduction.

Roach Road Rifle Range (UXO 25)

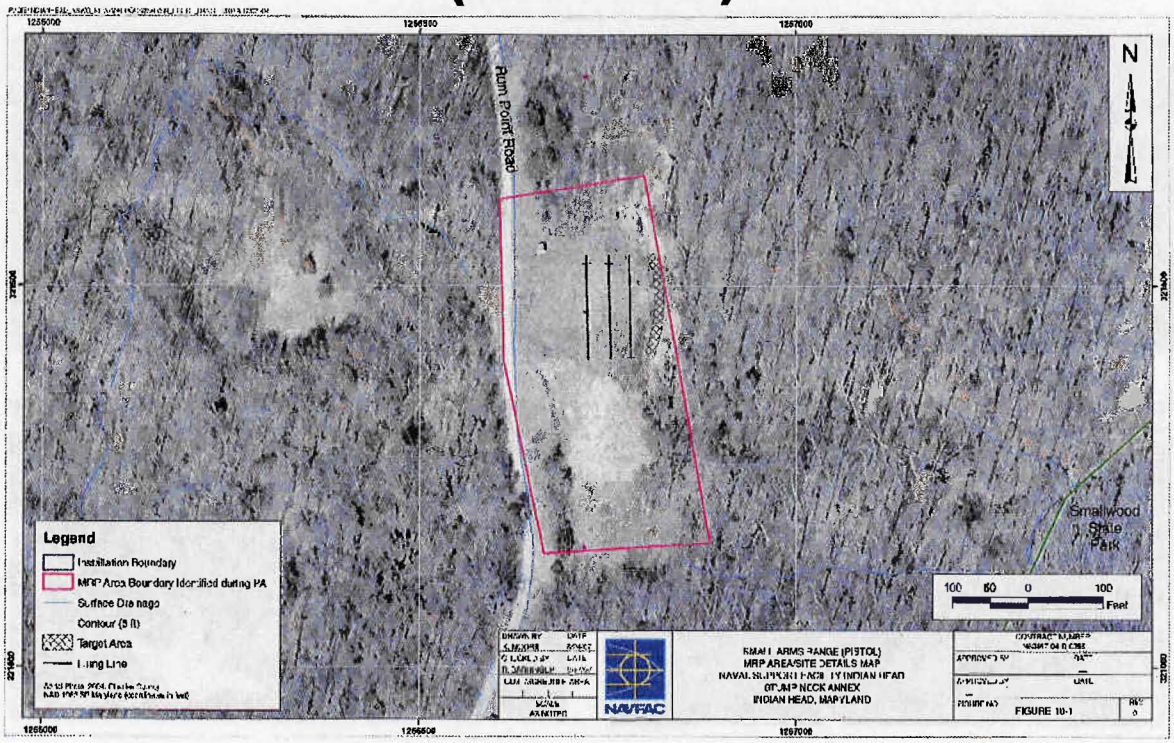


Roach Road Rifle Range (UXO 25)

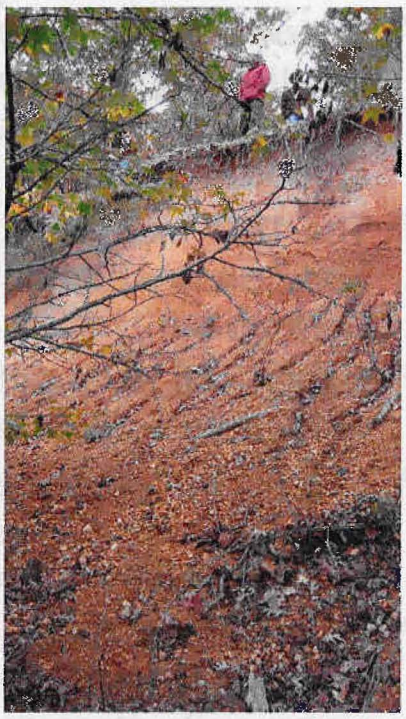
Roach Road Rifle Range (UXO 25)

- Historical aerial photographs will be used to verify the location of the rifle range. The PA verified that the location of Roach Road was modified in this area (road shifted in 1982).
- The 1963 memorandum indicates a barricade (target butt) was constructed behind the targets using earth and railroad timbers.
- Range soil to be field-screened using XRF instrumentation to identify subsoil lead concentrations.
- Lead is the marker compound. Need reference concentration–either health-based or risk-based for lead in soil to evaluate samples against.
- Emphasis on field analyses, with limited laboratory analysis to confirm lead/other metal concentrations in range soil. discrete target butts on east end of rifle range.

Small Arms (Pistol) Range (UXO 17)



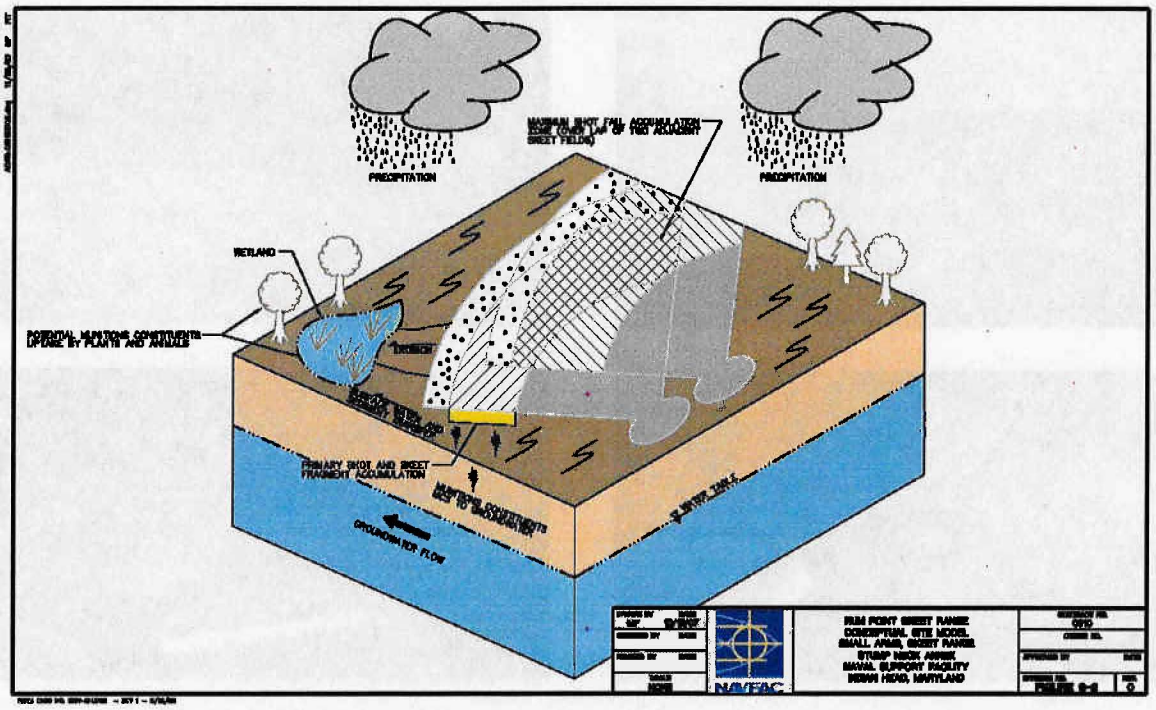
Small Arms (Pistol) Range (UXO 17)



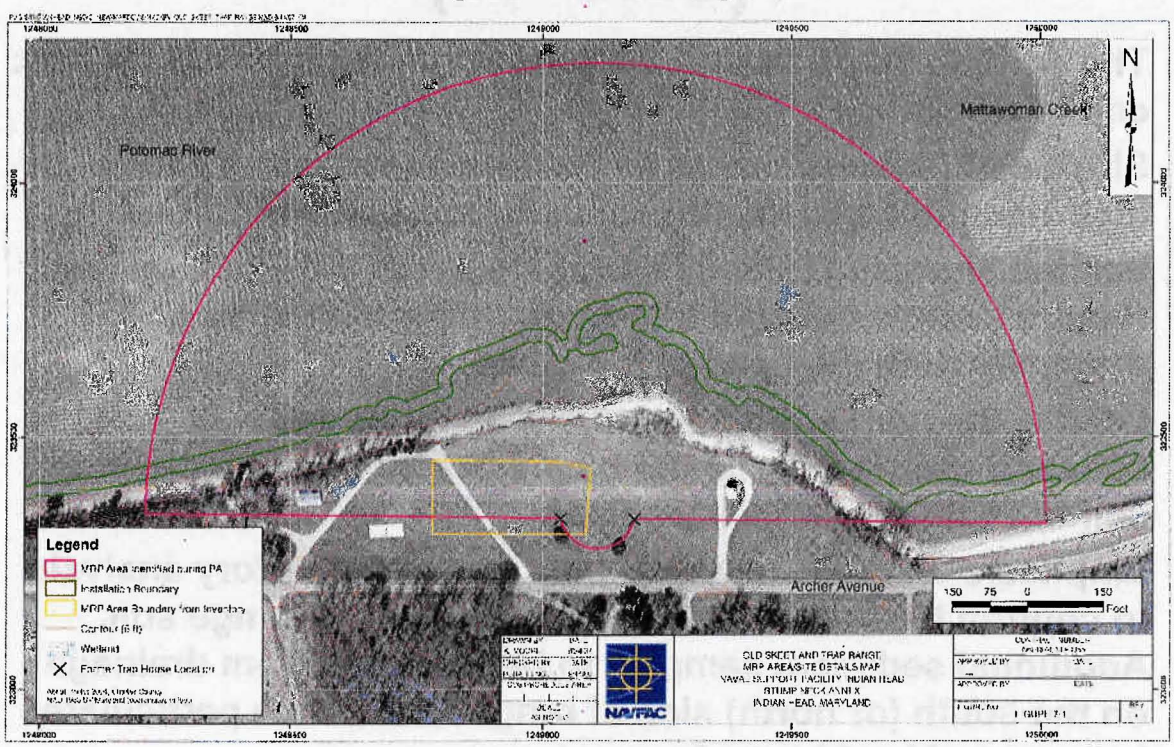
Small Arms (Pistol) Range (UXO 17)

- The earthen slope behind the former range targets is on east end of rifle range.
- Slope soil (subsurface) to be field-screened using XRF instrumentation to identify subsoil lead concentrations.
- Limited slumping (slope failure) along the hillside slope may require sample collection through uncontaminated soil originally from the head of the slope.
- Lead is the marker compound. Need reference concentration–either health-based or risk-based for lead in soil to evaluate samples against.
- Emphasis on field analyses, with limited laboratory analysis to confirm lead/other metal concentrations in range soil. Additional sediment samples to be collected from drainage on the south (or north) side of range to evaluate particulate transport of lead by surface water.

Small Arms (Skeet) Ranges – Generic Conceptual Site Model



Old Skeet & Trap Range (UXO 15)

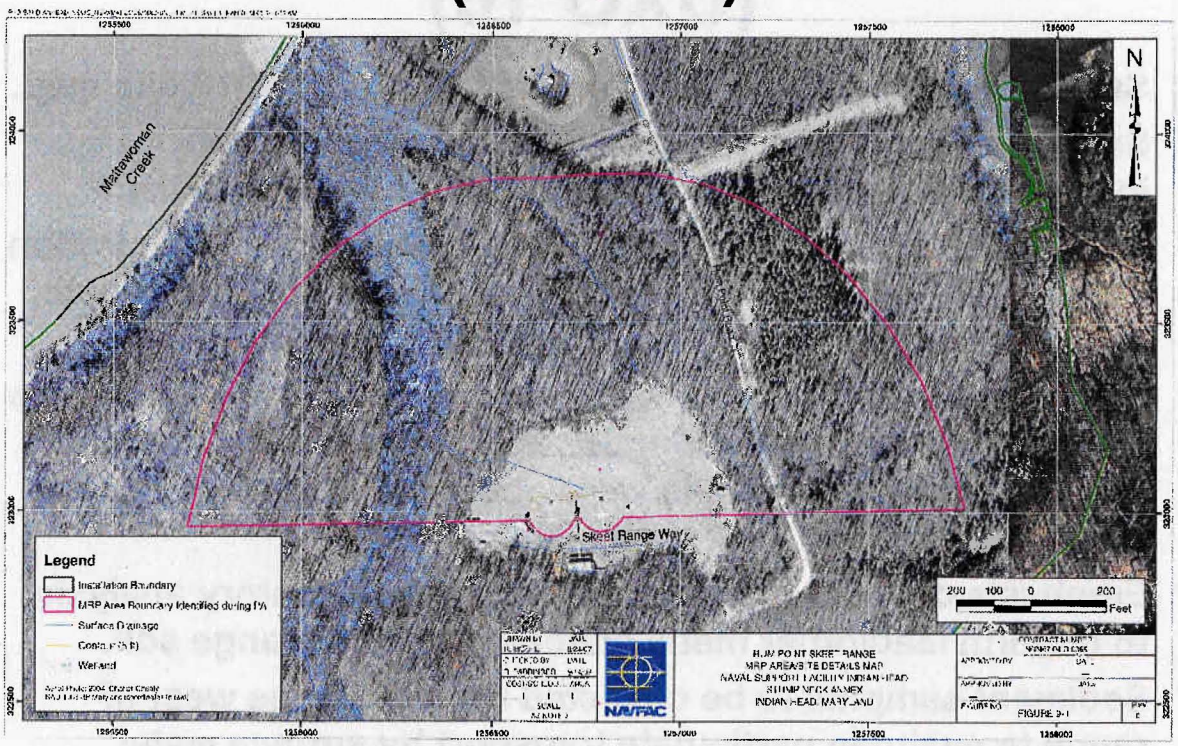


Old Skeet & Trap Range (UXO 15)

Old Skeet & Trap Range (UXO 15)

- Superimpose maximum fall zone for shot onto MRP site map. Much of the maximum fall zone may be in the Potomac River (underwater).
- Surface soil samples to be field-screened using XRF instrumentation to identify subsoil lead concentrations.
- Lead is the marker compound. Need reference concentration–either health-based or risk-based for lead in soil sample screening.
- Soil samples to be evaluated for PAHs (clay pigeons are a source for these compounds), and many fragments are present on this range.
- Emphasis on field analyses, with limited laboratory analysis to confirm lead/other metal concentrations (and PAHs) in surface soil.

Rum Point Skeet Range (UXO 16)



Rum Point Skeet Range (UXO 16)

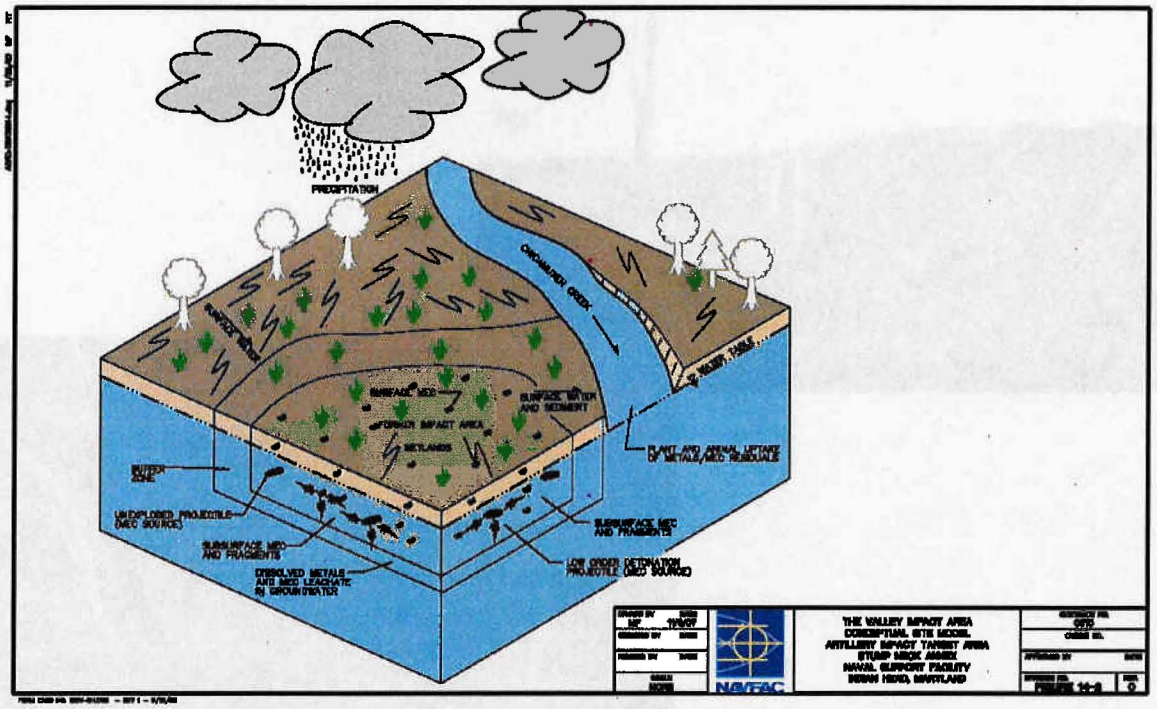
Rum Point Skeet Range (UXO 16)

- Superimpose maximum fall zone for shot onto MRP site map.
- Surface soil samples to be field-screened using XRF instrumentation to identify subsoil lead concentrations.
- Lead is the marker compound. Need reference concentration either health-based or risk-based for lead in soil to evaluate samples against.
- Soil samples to be evaluated for PAHs since clay pigeons are a source for these compounds. Many clay pigeon fragments and plastic shot gun wads were observed at surface and are present on this range.
- Emphasis on field analyses, with limited laboratory analysis to confirm lead/other metal concentrations in range soil.
- Sediment samples to be collected from drainage west of range to evaluate particulate transport by surface water

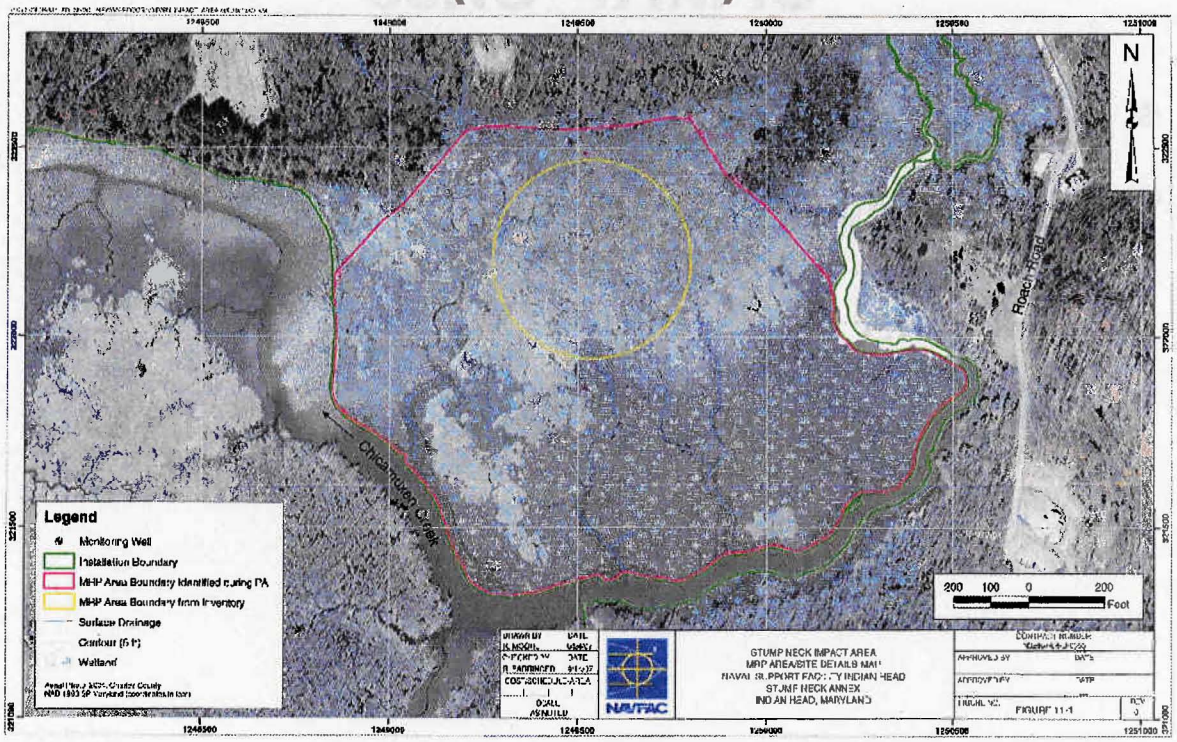
Artillery Impact Areas – SI MRP Sites

- Stump Neck Impact Area (UXO 10)
- The Valley Impact Area (UXO 26)

Artillery Impact Areas – Generic Conceptual Site Model



Stump Neck Impact Area (UXO 10)

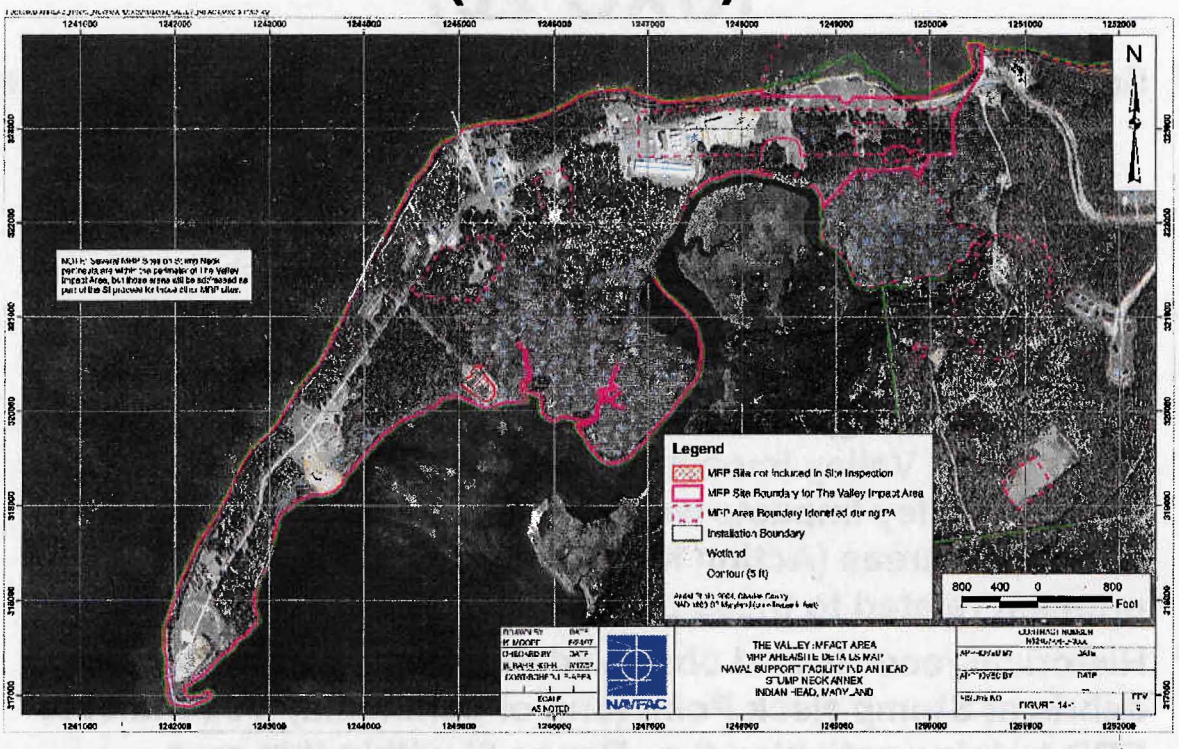


Stump Neck Impact Area (UXO 10)

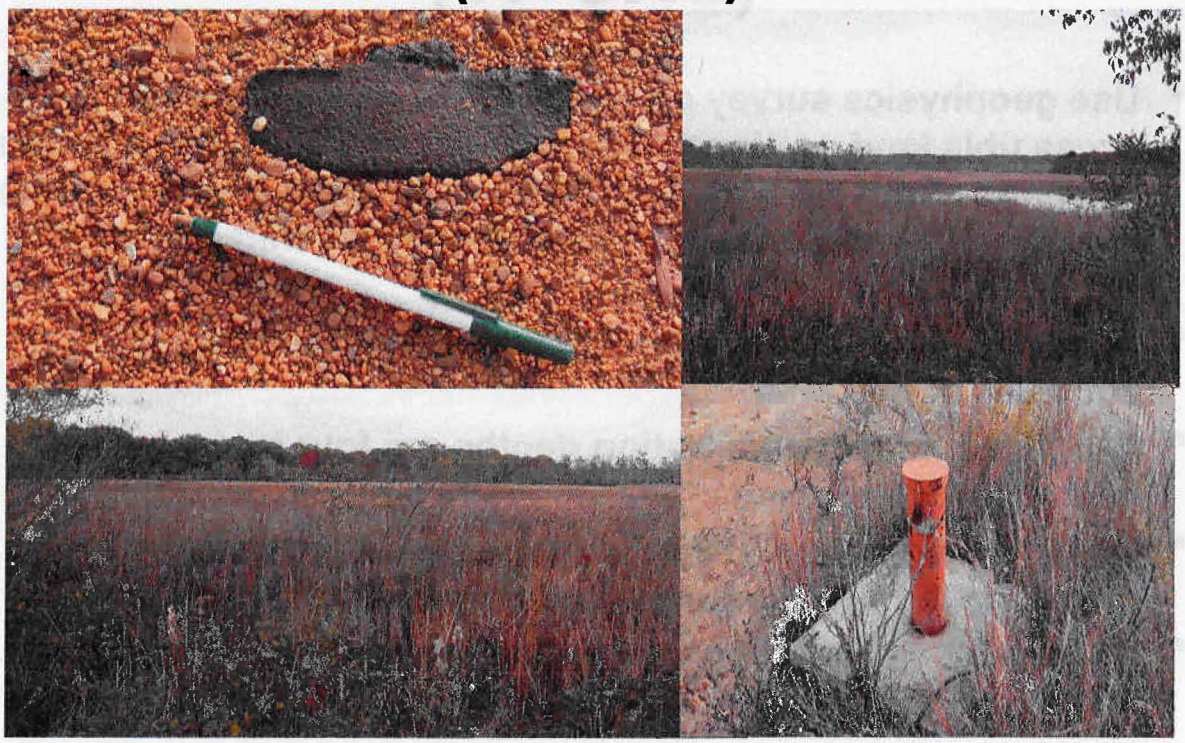
Stump Neck Impact Area (UXO 10)

- Use geophysics survey on transects to reconnoiter the accessible land portions of the site while the ground is frozen (perhaps about 6-8 acres of survey area might be accessible). Investigation depth for individual targets is limited to about top 4 feet.
- Historical records also indicate possible EOD training activities in this area.
- Munitions impact penetration depths are four to twelve feet below ground surface.
- Need for vegetation (underbrush) removal (or perhaps just stomping it down) to support geophysical grid performance.
- There may be limitations on wetlands vegetation clearance within this MRP site.

The Valley Impact Area (UXO 26)



The Valley Impact Area (UXO 26)



The Valley Impact Area (UXO 26)

- Subdivide The Valley Impact Fan Area into general categories
  - ✓ Developed Areas (to be excluded)
  - ✓ Undeveloped Areas
  - ✓ Open Accessible Areas
  - ✓ Inaccessible Areas (swamp/wetlands) also to be excluded
- Use geophysics surveys with variable transect spacings (small sites – small transect spacing, larger sites – larger transect spacing) to reconnoiter the accessible undeveloped areas of the Valley Impact Area. Question raised as to whether Valley Impacts were ever discovered within the developed areas (Action Item – determine if there is a problem related to these old impacts?)
- Historical records and observed munitions fragments and debris at Stump Neck Point (end of peninsula) also indicate EOD training activities (i.e., Range 6) within this area.

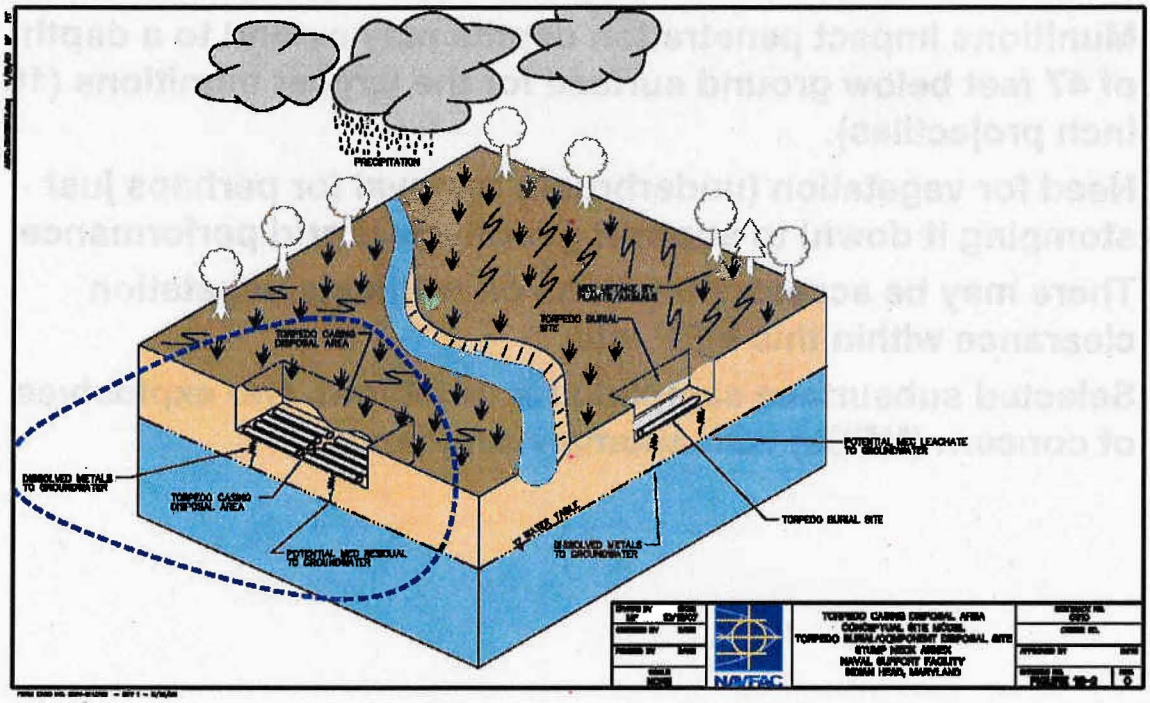
The Valley Impact Area (UXO 26) - Continued

- Munitions impact penetration depths may extend to a depth of 47 feet below ground surface for the largest munitions (16-inch projectiles).
- Need for vegetation (underbrush) removal (or perhaps just stomping it down) to support geophysical grid performance.
- There may be access limitations on wetlands vegetation clearance within this MRP site.
- Selected subsurface sampling for munitions and explosives of concern (MECs) with anomaly avoidance.

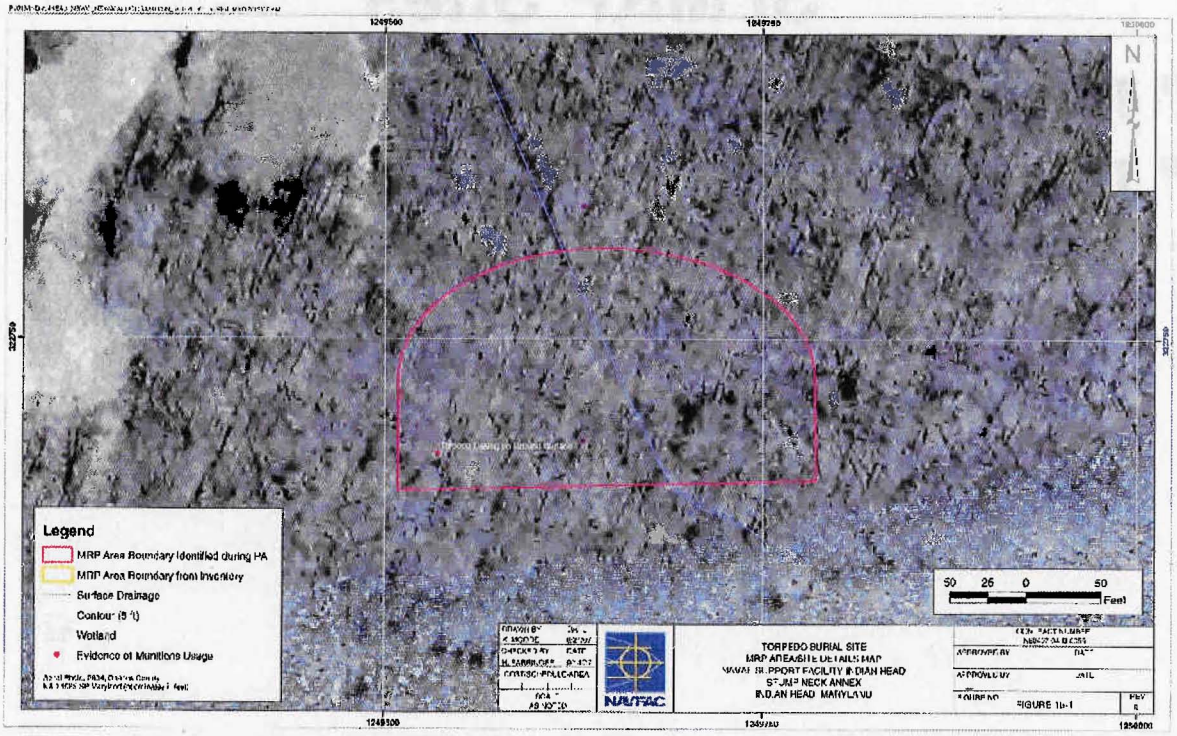
Burial/Disposal Areas – SI MRP Sites

- Torpedo Burial Site (UXO 12)
- Torpedo Casing Disposal Site (UXO 23)

Burial/Disposal Areas – Generic Conceptual Site Models



Torpedo Burial Site (UXO 12)

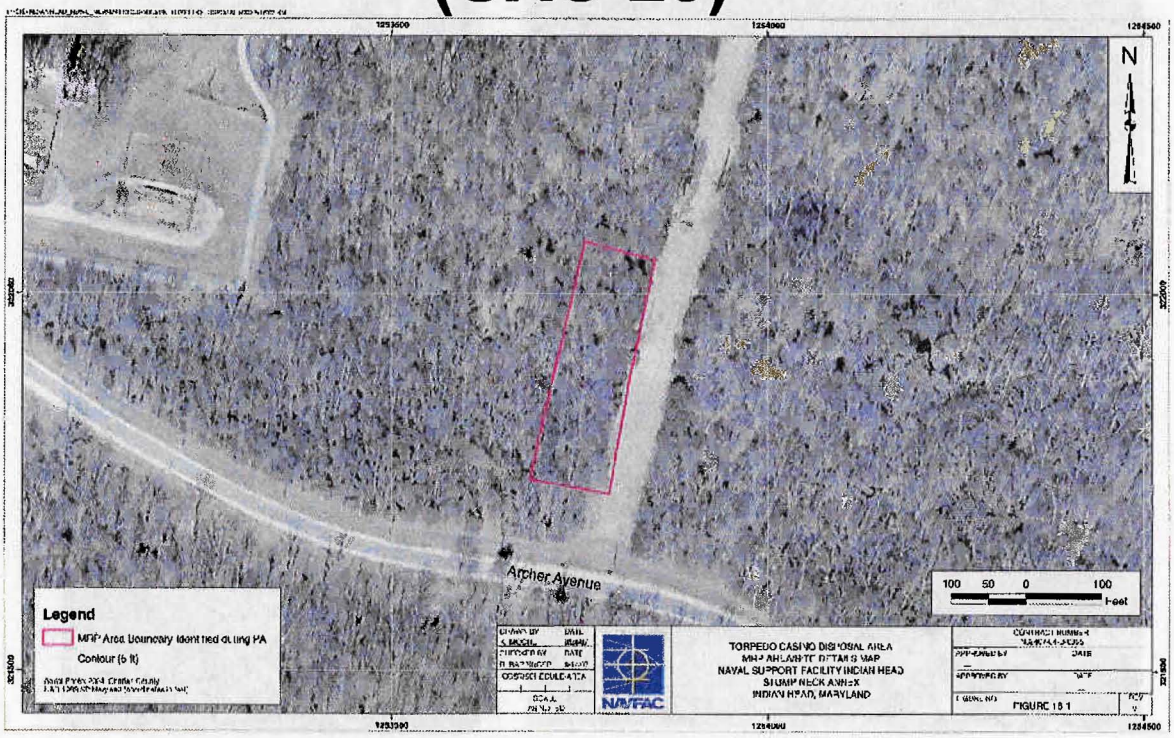


Torpedo Burial Site (UXO 12)

Torpedo Burial Site (UXO 12)

- Use geophysics survey with 5 ft line spacing to allow coverage for large targets across the site (site grew from inventory to now being about 1.75 acres in area).
- Need for vegetation (underbrush) removal to support geophysical grid performance.
- Looking for shallow burial pits with metallic torpedoes at this site, so the geophysical signal should be very evident.
- Selected subsurface sampling for munitions and explosives of concern (MECs) with anomaly avoidance.

Torpedo Casing Disposal Site (UXO 23)



Torpedo Casing Disposal Site (UXO 23)

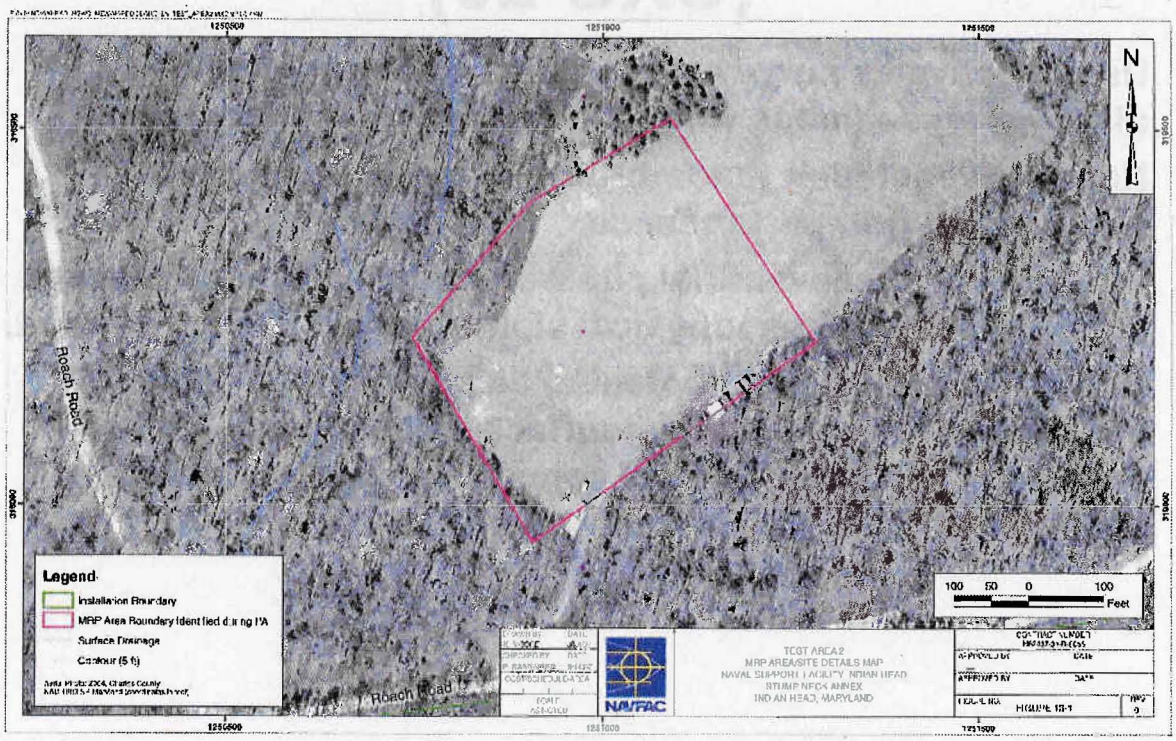
Torpedo Casing Disposal Site (UXO 23)

- Use geophysics survey (10-foot line spacing) to search for disposal areas (areas with high metal content [torpedoes]).
- Need for vegetation (underbrush) removal to support geophysical grid performance.
- Looking for shallow burial pits with metallic torpedo casings at this site, so the geophysical signal should be very evident.
- Subsurface anomalies (potential disposal pits) will be included in the selected subsurface soil sampling for munitions and explosives of concern (as residual MEC on casing materials) with anomaly avoidance.

Site with No Known MEC Usage – SI MRP Sites

- Test Area 2 (UXO 22)

Test Area 2 (UXO 22)

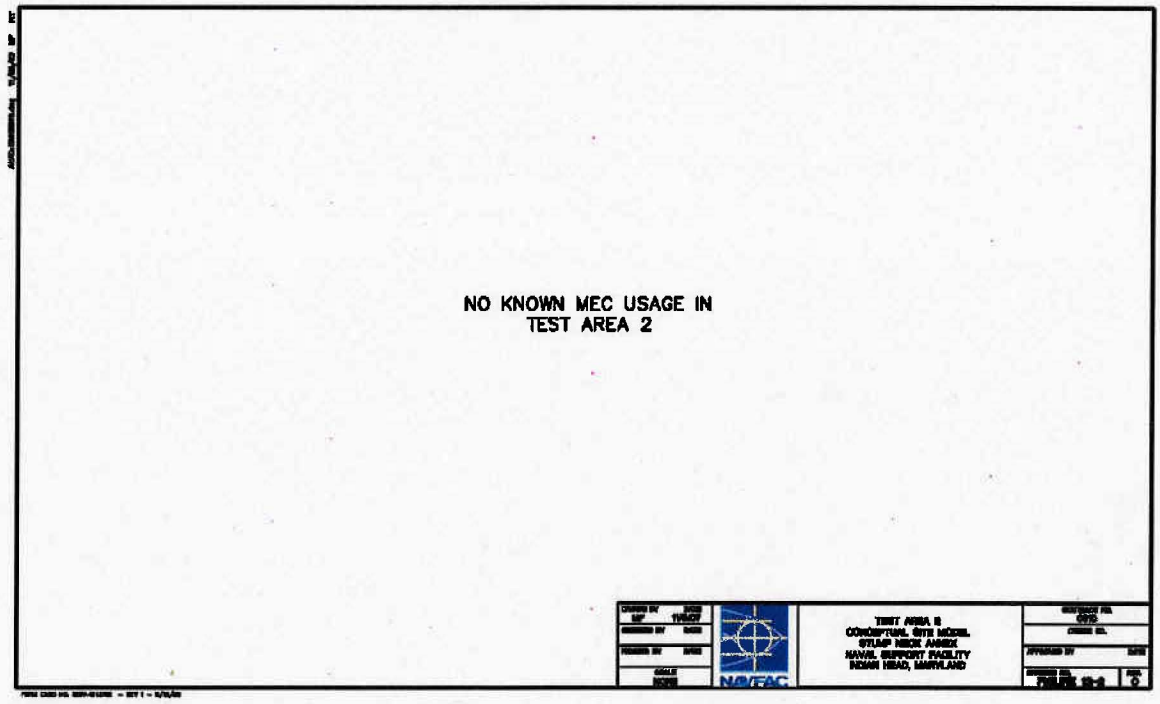


Test Area 2 (UXO 22)

Test Area 2 (UXO 22)

- Develop a Technical Memorandum for No Further Action (NFA) at this MRP Site.
- The current mission of Test Area 2 includes use of inert munitions items and no MEC/MC are expected at Test Area 2.
- Test Area 2 is outside the impact fan for The Valley Impact Area, and no munitions are expected at this location. The current testing operations at this MRP site would have identified any potential munitions items or MEC in the area.
- No samples are proposed for Test Area 2.

Site with No Known MEC Usage – SI MRP Sites



INSTALLATION RESTORATION PROGRAM

NAVAL SUPPORT FACILITY,
INDIAN HEAD
101 STRAUSS AVENUE
INDIAN HEAD, MARYLAND
20640-5035

RESTORATION ADVISORY BOARD (RAB) MEETING
COMMENTS, QUESTIONS AND ANSWERS

February 21, 2008

Arrival/Welcome

No questions were asked nor comments made during this topic.

Site 12 and 42 Long-Term Monitoring Update

Question: Who determines the long-term monitoring sampling frequency?

Answer: The sampling frequency is established by each site's Post-Closure Long-Term Monitoring Plan. Future sampling is determined by comparing past sampling results to a Decision Criteria figure in the Post-Closure Long-Term Monitoring Plan, which was agreed upon by the Indian Head Installation Restoration Team (IHIRT).

Question: Have you received any sampling increases?

Answer: We believe that this question was asking if there have been any increases in the MDE drinking water standards, which are used as cleanup goals while monitoring. To address this, the latest MDE standards are included in the quarterly monitoring reports and sampling results are compared to these values.

Question: Is the schedule listed for Site 42 for 2008 or 2009?

Answer: The sampling schedule for Site 42 includes both 2008 and 2009.

Question: What is HSL?

Answer: Hazard Substance List.

Attachment F

Site 28 Soil Removal Action Update

Question: How long will work affect the homeowner?

Answer: The home will have to be vacant for approximately three (3) hours while the soil removal along the fenceline bordering the homeowner's property is completed.

Question: Where is the Thermal Treatment Point?

Answer: The Thermal Treatment Point is located at the southernmost tip of the Indian Head peninsula.

Question: Has there been any effort to monitor whether the Mercury concentration is increasing since the Mattawoman Creek Study has been completed?

Answer: No, the Mattawoman Creek Study was completed as more of a background study and did not include recommendations for future long-term monitoring. However, additional sampling of sediment and ecological receptors is completed at various sites periodically during investigations to evaluate what potential effects those sites may have on the creek.

Sites 19, 27, and SWMU 14 Update

Question: Is the Thermal Destructor near the nitroguanidine plant?

Answer: The Thermal Destructor site is approximately 1500 feet east of the NG plant.

Question: Did you find any evidence of nitroguanidine at the Thermal Destructor?

Answer: No, no evidence of nitroguanidine was found based on soil sampling results from the Site Screening Process investigation in October 2005.

Question: Do we differentiate between industrial and residential contaminant lists?

Answer: Yes, there are different screening levels used in risk assessments. The appropriate list is used to screen contaminants (industrial, residential, etc.) depending on what the most likely future use of the land will be.

Stump Neck MRP Site Inspection Update

Question: Is the Marine Rifle Range (UXO 14) a Small Arms Range?

Answer: Yes.

Question: Is the Small Arms (Pistol) Range (UXO 17) still in use?

Answer: No, all ranges included in this investigation are closed.

Question: Since the Rum Point Skeet Range (UXO 16) was a major supply depot for the Union forces in the Civil War, is there any possibility that we may find Civil War artifacts?

Answer: Yes, the possibility of finding Civil War artifacts exists.

Question: Does the Navy participate in any Potomac River cleanup along the shoreline?

Answer: Yes. The Navy is currently performing work along the Indian Head shoreline at Site 11, 17, and 28. The Navy is also active in helping to clean up the Chesapeake Bay as well as complete shoreline restoration in a phased approach.

NAVAL SUPPORT FACILITY, INDIAN HEAD
INSTALLATION RESTORATION (IR) PROGRAM
RESTORATION ADVISORY BOARD (RAB) TENTATIVE MEETING AGENDA

June 19, 2008

5:00 - 5:05	**ARRIVAL/WELCOME** Mr. Joseph Rail Naval Facilities Engineering Command, Washington (NAVFACWASH) Remedial Project Manager
5:05 – 5:25	**SITE 6 REMOVAL ACTION UPDATE** Mr. Joseph Rail
5:25 – 5:45	**SITE 28 REMOVAL ACTION UPDATE** Mr. Joseph Rail
5:45 – 6:00	**SITE 11 REMEDIAL ACTION UPDATE** Mr. Joseph Rail
6:00 – 6:30	**SSP SITE UPDATES (Sites 1, 36, 38, 43)** Mr. Joseph Rail
6:30	**ADJOURN**

Attachment G