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MINUTES FROM RESTORATION ADVISORY BOARD MEETING 16 OCTOBER 2008 NSWC INDIAN HEAD MD
10/16/2008
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# NAVAL SUPPORT FACILITY, INDIAN HEAD
# INSTALLATION RESTORATION (IR) PROGRAM
# RESTORATION ADVISORY BOARD (RAB) MEETING AGENDA

October 16, 2008

| | |
|---|---|
| **5:00 - 5:05** | **ARRIVAL/WELCOME**<br>Mr. Joseph Rail<br>Naval Facilities Engineering Command, Washington (NAVFACWASH)<br>Remedial Project Manager |
| **5:05 – 5:15** | **FY2009 BUDGET AND PLANNED PROJECTS**<br>Mr. Joseph Rail |
| **5:15 – 5:25** | **SITE 6 REMOVAL ACTION UPDATE**<br>Mr. Joseph Rail |
| **5:25 – 5:40** | **SITE 8 SAMPLING UPDATE**<br>Mr. Nathan Delong |
| **5:40 – 6:00** | **SITE 17 PILOT STUDY**<br>Mr. Joseph Rail |
| **6:00 – 6:15** | **LAB AREA UPDATE**<br>Mr. Joseph Rail |
| **6:15** | **ADJOURN** |

**Attachment A**

**ENCLOSURE (1)**

## NAVAL SUPPORT FACILITY, INDIAN HEAD

# FY09 Budget Update

Joseph Rail
NAVFAC Washington

October, 2008

1

## FY09 Budget Update

- ***Approximate budget for FY 2009-***
  *$4.8 mil for IRP*
  *$420K for MRP*

  ***Planned work includes:***
  - *Remedial Action*
  - *Remedial Investigation*
  - *Feasibility Study*
  - *Engineering Evaluation/Cost Analysis (EE/CA)*
  - *Proposed Plan*
  - *Record of Decision*
  - *Long-Term Monitoring*

2

## *FY09 Budget Update*

- ***Remedial Actions for:***
  - *Site 11- Caffee Road Landfill*
  - *Site 17- Disposed Metal Parts Along Shoreline*
  - *Site 21- Bronson Road Landfill*
  - *Site 57- Building 292 TCE Contamination*
- ***RI/FS for:***
  - *Site 66- Turkey Run Disposal Area*
- ***EE/CA for:***
  - *UXO 19- Igniter Area*

## *FY09 Budget Update*

- ***FS/PP/ROD for:***
  - *Site 36- Closed Landfill*
- ***Long-Term Monitoring for:***
  - *Site 11- Caffee Road Landfill*
  - *Site 28- Original Burning Ground*
  - *Site 42- Olsen Road Landfill*
  - *UXO 32- Scrap Yard*

## *FY09 Budget Update*

*Questions?*

5

# Site 6 (Fenced Area) Removal Action Update

Presented to

Indian Head Installation Restoration Team

October 2, 2008

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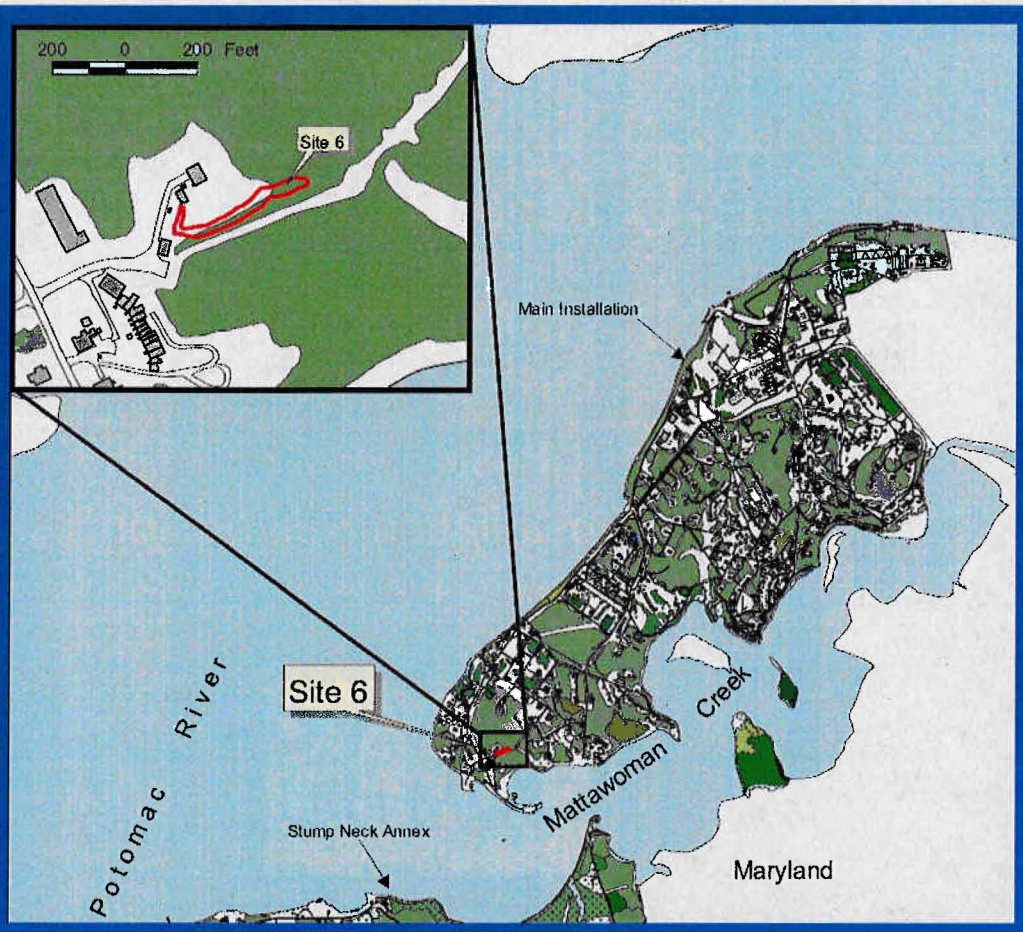
JOINT VENTURE

## Goal and Outcome

- Goal
  - Present an update of recent removal action activities
- Outcome
  - Informed Team
- FY09 Goal
  - Complete PP and ROD




# Pre-Construction Conditions

Facing Northeast from
Western Site Boundary

Facing Southeast from
Northwestern Site Boundary

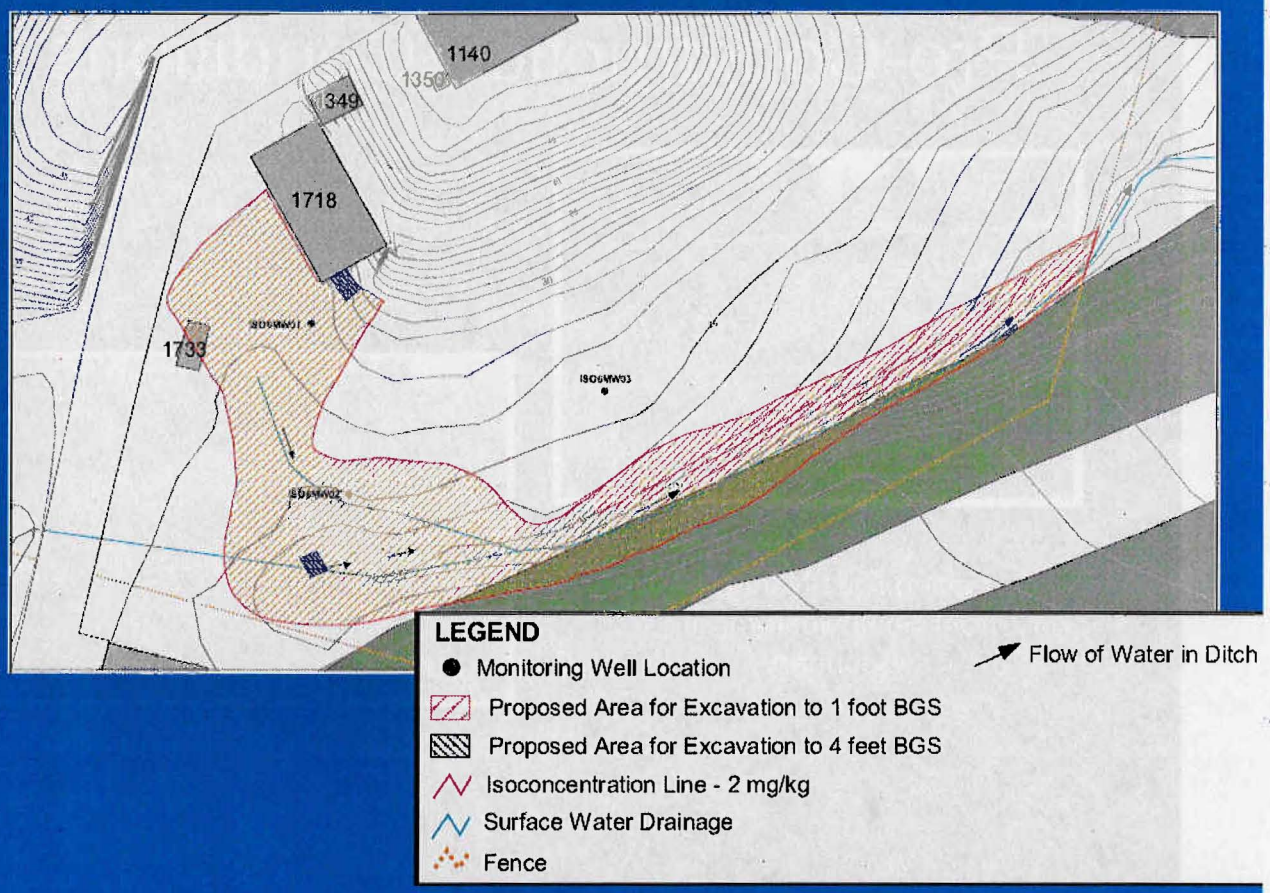
# Pre-Construction Conditions

Facing East-Northeast from Southwestern Site Boundary

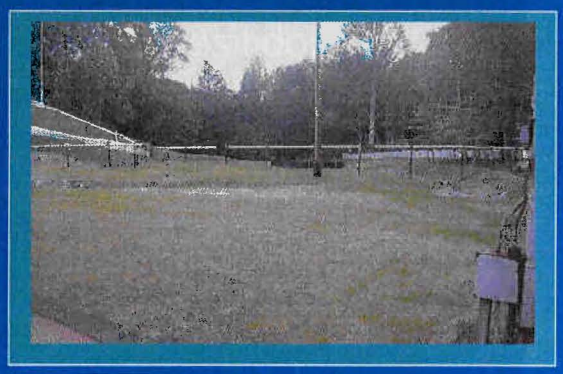
Facing Northeast from Site Center

# Site 6 (Inside the Fence)

- Purpose of Removal Action
  - To remove and dispose of silver-contaminated surface and subsurface soil to the ecological site remediation goal of 2 mg/kg
- Scope of Removal Action
  - Mobilize
  - Conduct pre-construction/site prep activities
  - Excavate, transport, and dispose soils
  - Backfill excavation
  - Abandon three monitoring wells
  - Repair drainage swale and install metal culvert
  - Restore site
  - Demobilize




# Current Site Conditions



# Current Site Conditions

# Removal Action Summary

- Construction start: August 8
- Construction complete: September 12
- Abandoned three site wells
- Excavated approximately 8,100 sf
- Transported and disposed 512.6 tons of soil (36 truck loads)
- Repaired drainage swale and restored site
- Re-vegetated site

Questions?

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# Pre-Excavation Sampling for Lead and Mercury at Site 08

**Presented to:**
NSF-Indian Head RAB
October 16, 2008

## GOAL AND OUTCOME

- Goal: Present conceptual approach for pre-excavation sampling located at Site 08
- Outcome: An Informed RAB



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# Site 08 Background

- **Contamination from lab operations**
  - 1958 to 1981
  - Lead
  - Mercury
- **Mercury discovered during construction of Building 766 in 1985**
- **Soil Removal Actions**
  - 1985
  - 1994
- **Desktop Evaluation completed in 2006**
  - Recommended additional sampling
  - Additional sampling completed in 2006
    - *Recommended No Further Action at Site 08 with the exception of the lower stream and upper pond areas*



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# Site 08 – Upper Stream Area

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# Site 08 Pre-Excavation Sampling Objective

- Delineate extents of lead and mercury contamination in sediment in the lower section of the stream
  - From IW-87 to Upper Pond Area
- Perform cost-benefit analysis based on the analytical results to determine cleanup goal and excavation footprint
- Eliminate need for post-excavation sampling



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# Site 08 – Stream Area

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# Site 08 – Lower Stream Area/Upper Pond Area

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# Site 08 Sampling Approach

- **Ten transects of sampling**
  - Length of transects based on 1' contour intervals
- **Five samples collected along each transect for lateral delineation**
  - One sample on centerline, two samples on each side of centerline
- **Three samples were taken at each sample location**
  - 0" to 6"
  - 18" to 24"
  - 24" to 30"
- **150 sediment samples total**



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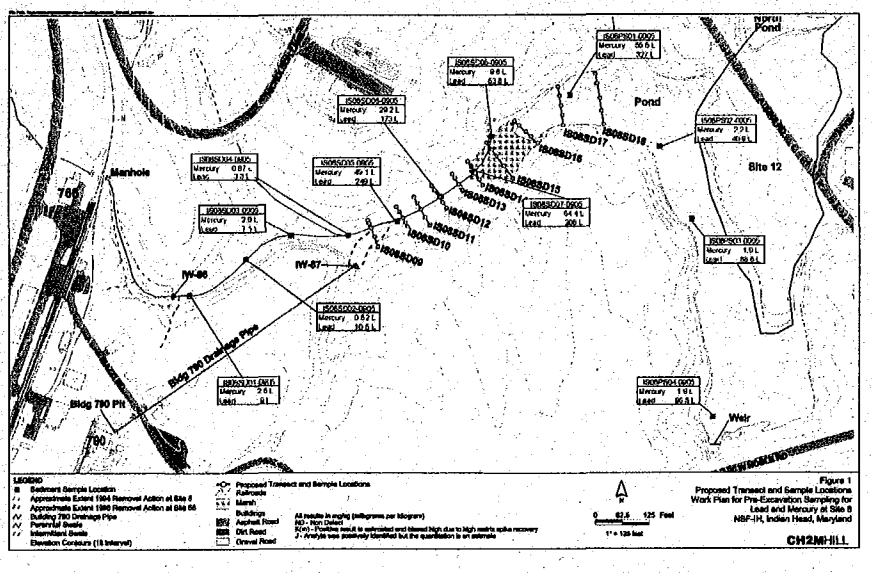
# Site 08 Sampling Approach




# Questions?



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# Pilot Study Conceptual Approach at Site 17

**Presented to:**

**NSF-Indian Head RAB**

**October 16, 2008**

## GOAL AND OUTCOME

- Goal: Present conceptual approach for the pilot study
- Outcome: An Informed RAB



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# Site 17 Feasibility Study Cost Summary

| Remedial Alternative | Description | Construction Time (weeks) | Operation Time (years) | Capital Cost | 2008 Lifetime O&M Cost | PW Lifetime O&M Cost | Total PW Cost |
|---|---|---|---|---|---|---|---|
| 1 | No Action | NA | NA | $0 | $0 | $0 | $0 |
| 2 | MNA and ICs | Minimal | 100 | $24,300 | $1,004,400 | $460,600 | $484,900 |
| 3 | Source Treatment Using ISCO, MNA, and ICs (One time mixing at TCE>1,000 ug/L area) | 8.2 | 30 | $1,526,200 | $522,800 | $348,200 | $1,874,400 |
| 4 | Source Zone Treatment Using ISCR, MNA, and ICs (One time mixing at TCE>1,000 ug/L area) | 9.0 | 30 | $1,394,700 | $522,800 | $348,200 | $1,742,900 |
| 5 | Source Zone Removal, Off-site Disposal, MNA, and ICs | 3 | 30 | $2,866,400 | $399,000 | $348,200 | $3,214,600 |



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# Conceptual Approach for Pilot Study

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# Conceptual Approach for Pilot Study

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# Conceptual Approach for Pilot Study

- **Target area: TCE>1,000 ug/L (~3,500 SF)**
  - 99% TCE mass (727 lbs) is contained within this area
- **Target interval: 2 to 18 feet bgs (contamination interval is between 8 and 18 feet bgs)**
- **Technology: ISCR (ZVI granular + clay)**
- **Delivery method: soil mixing**



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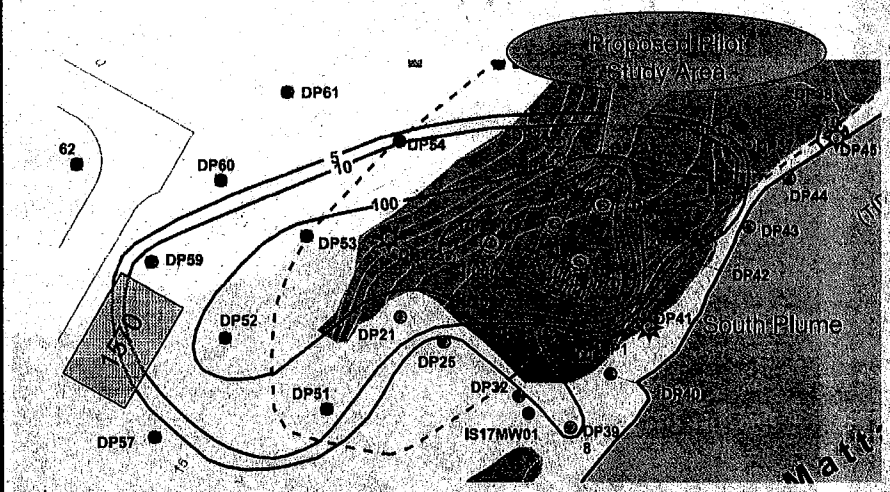




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# Conceptual Approach for Pilot Study (Cont'd)

- **Performance monitoring:**
  - Consists of a 12-month short-term and a long-term monitoring program
  - Short-term program:
    - *Four events (baseline, 6-month, 9-month, and 12-month post-mixing)*
    - *Collect groundwater and soil samples for all event except 12-month post-mixing only groundwater samples*
  - Long-term program:
    - *Quarterly groundwater sampling during Year 1 and 2 post-mixing*
    - *Biannually groundwater sampling during Year 3 post-mixing*
    - *Annually groundwater sampling during Year 4 and 5 post-mixing*
    - *Every five year groundwater sampling during Year 10, 15, 20, 25, and 30 post-mixing*
  - 5 Additional monitoring wells (MWs) will be installed:
    - *Before the baseline sampling event - 2 within the South Plume and 1 within the North Plume*
    - *At approximately 12 months post-mixing - 2 within the South Plume*



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# Conceptual Approach for Pilot Study (Cont'd)

- **Baseline, 6-month, and 9-month post- mixing sampling events:**
  - Soil and grab groundwater samples from 4 DPT soil boring locations within the target area
  - Groundwater samples from 3 existing and 3 new MWs
  - Surface water samples from 3 locations along the shoreline of Mattawoman Creek
- **12-month and subsequent long-term samplings:**
  - Similar to the other monitoring events except additional groundwater samples will be collected from 2 new MWs installed within the soil mixing target area



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# Conceptual Approach for Pilot Study (Cont'd)

- **Analytical Requirements :**
  - Analysis for grab groundwater samples: target VOCs and field parameters such as pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), and conductivity (Baseline, 6- and 9-month post-mixing)
  - Analysis for soil samples: target VOCs (Baseline, 6- and 9-month post-mixing)
  - Analysis for MW groundwater samples: target VOCs, sulfate, nitrate, sulfide, chloride, alkalinity, ferrous iron, and methane-ethene-ethane (MEE) and similar field parameter measurements as the grab groundwater samples
  - Analysis for surface water samples: target VOCs



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# Questions?



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# Post-RI Path Forward for the Lab Area

Presented to:
Indian Head Installation Restoration Team
Lancaster, Pennsylvania
October 1, 2008



# GOAL AND OUTCOME

- Goal: Present overview of the Lab Area and options for post-RI path forward
- Outcome: An informed team and consensus on the path forward for the Lab Area



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# Overview of Lab Area

- Site 14 – Old Waste Acid Disposal Pit (OWAP)
- Site 15 - Mercury Deposits in Manhole, Fluorine Lab
- Site 16 - Laboratory Chemical Disposal
- Site 49 - Chemical Disposal Pit
- Site 50 - Building 103 Crawl Space
- Site 53 - Mercury Contamination of Sewage System
- Site 54 - Building 101 Mercury Contamination
- Site 55 - Building 102 Mercury Contamination
- Emergent wetland area
- Underground network of industrial sewer lines

- Due to the proximity of these sites to one another, and the similar suspected chemicals involved, these sites were studied as one area, called the "Lab Area."



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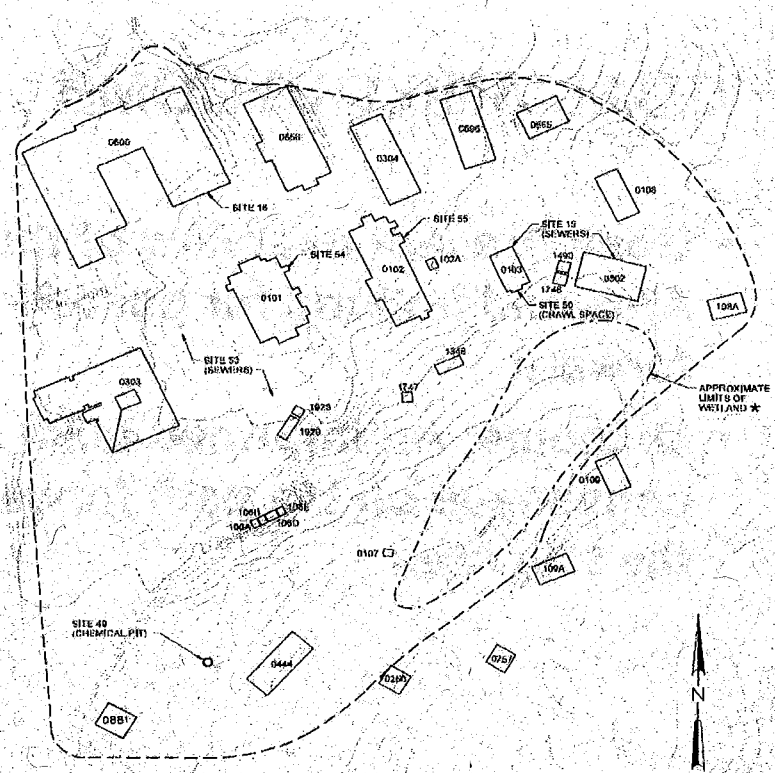




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## Where Are We with the Lab Area?

- **Final RI – January 2004**
  - Include all sites but Site 14
    - *Site 14 was not included in the RI it is co-located with Site 49, Chemical Disposal Pit*
    - *OWAP was removed and filled in with concrete in 1975 and Site 49, Chemical Disposal Pit was likely built on top of the abandoned OWAP location.*
    - *Therefore, Site 49 data were also considered representative for Site 14.*
- **Finalizing BERA for Upland Area – April 2006**



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## Lab Area RI

- **Identified potential sources of contamination:**
  - Past disposal in Chemical Disposal Pit
  - Industrial sewer lines
  - Lead-based paint
- **Performed HHRA & ERA**



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# Human Health Risk Assessment

- **Receptors:**
  - Underground sewer lines:
    - *Maintenance workers: incidental ingestion of, inhalation of, and dermal contact with subsurface soil; and incidental ingestion of and dermal contact with sediment*
  - Surface Soil & Emergent Wetland Area (Surface, Subsurface Soil, Sediment, Surface Water)
    - *Industrial Worker: incidental ingestion of, inhalation of, and dermal contact with surface soil*
    - *Adult/Adolescent Trespasser: incidental ingestion of, inhalation of, and dermal contact with surface soil.*
    - *Other Recreational Person Adult/Child: incidental ingestion of and dermal contact with surface water and sediment*
- **Results:**
  - No carcinogenic risks outside USEPA's acceptable risk range on all receptors
  - Noncarcinogenic hazards greater than the USEPA target levels only for Surface Soil & Wetland Area
    - *Subsurface soil: Hg*
    - *Surface soil: Hg*
    - *Wetland sediment: As*
  - Lead in surface soil around Buildings 102, 104, and 304 - a potential health concern for hypothetical future small children residing near Buildings, as well as current adult industrial workers (and their unborn fetuses) through incidental ingestion and inhalation of surface soil



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# Ecological Risk Assessment

- **SERA (Steps 1 – 3A)**
- **Results:**
  - Cu, Pb, Hg, Zn, and some organics in soil via direct exposure
  - Al, Cu,cyanide, Fe, Pb, Mn, and Hg in emergent wetland surface water via direct exposure
  - As, Pb, Mn, Hg, and Ag in emergent wetland sediment via direct exposure
  - Pb, Hg, and Zn exhibit risk in the food chain for the American robin, white-footed mouse, and/or raccoon



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# RI Findings & Recommendation

- **Human health risks:**
  - adequately characterized
- **Ecological risks:**
  - performed BERA on the upland surface soil, because the SERA indicated potential risk to ecological receptor populations
- **Wetland Area:**
  - remove the impacted media in the emergent wetland based on literature-based PRGs for the contaminated soil/sediment and restore the wetland



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# Upland Area BERA

- **Report was finalized in 2006**
- **Results:**
  - No unacceptable ecological risks



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# Remedial Approach

- **Hot spot removal to address human health risk**
  - Hg in surface & subsurface soil
  - Based on SRGs (PRGs, facility-wide background)
  - Pb will be addressed because the continuing source for lead-based paint associated with buildings has been mitigated.
- **Removal & restoration of wetland area**
  - Based on literature-based PRG for As



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# Wetland Delineation

- **Necessary to determine the extent of wetland requiring remediation**
- **Performed on April 12, 2006**
- **Findings:**
  - The areal extent of the jurisdictional wetland that meets the full criteria of a wetland according to the ACOE 1987 Manual Wetland is half the size of what was documented in the RI.
  - The area what was thought to be wetland was likely the result of old, leaking water pipes buried along and under the project Site, which was repaired.



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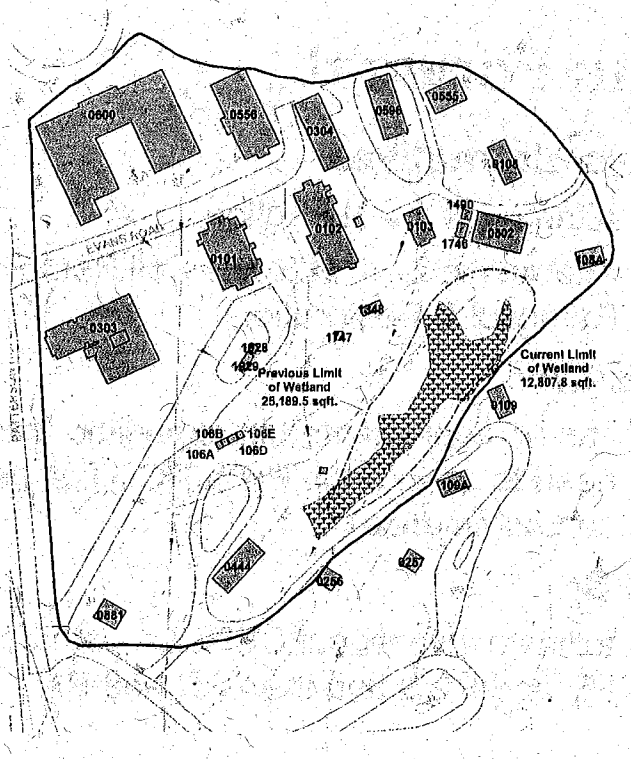


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# Wetland Photographs

Photo 1: View of Lab Area wetland, looking northeast. The clump of cattails (*Typha latifolia*) in the center is the southwestern extent of the wetland. Building 0256 is on the immediate right.

Photo 4: North/northeast view of wetland. Clusters of young Sweetgum shrubs (*Liquidambar styraciflua*) can bee seen to the left. Cattails can be seen in the moister, central areas.

Photo 8: View of small ponded area in center of wetland. Buildings 0256 and 0257 can be seen in the background.

Photo 6: View of Lab Area wetland looking northwest towards buildings 0101 and 0102. Small clumps of rush (*Juncus sp.*) can be seen in the foreground.

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# Path Forward

- **Two alternatives**
  - Alternative 1 – No Action
  - Alternative 2 – Hot Spots Soil Removal, Wetland Removal & Restoration
- **EE/CA**
  - can be implemented in expedited time frame (no need to go through PP & ROD first before actions can commence)
- **FFS**
  - follow conventional CERCLA path; followed by PP and ROD and then RD and RA



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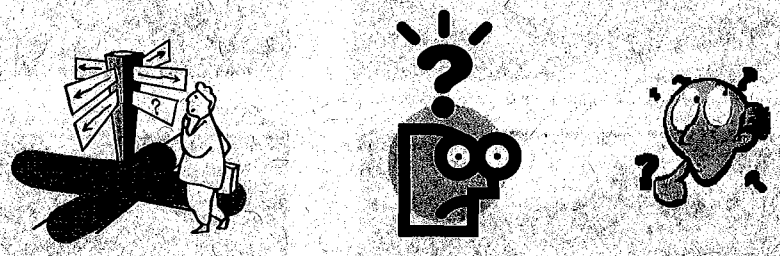
# Questions and Comments





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# 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

October 16, 2008

**Arrival/Welcome**

No questions were asked nor comments made during this topic.

**FY2009 Budget and Planned Projects**

Question: What is TCE?

Answer: Trichloroethene, which is commonly used as an industrial solvent

Question: Is there significant TCE contamination located at Site 57?

Answer: Yes

Question: There was an RA performed at Building 292 a little bit ago, is there something in addition to that?

Answer: Yes, the TCE contamination still needs remediation

Question: Where is Building 292 located?

Answer: Building 292 (and Site 57) is located on the southeastern side of the Main Area of the base, near the Mattowoman Creek. The Buidling is located at the intersection of Thomas and Hersey Roads.

**Site 6 Removal Action Update**

Question: Did the truckloads of removed soil go to the local landfill to be used for daily cover?

Answer: Yes



**Attachment G**

**Site 8 Sampling Update**

Question: How does pre-excavation sampling eliminate the need for post-excavation sampling?

Answer: Pre-excavation is performed so that the contamination can be effectively delineated, establishing clear limits for the future excavation. As long as the pre-excavation sampling data effectively shows that the excavation footprint covers the contaminated area, there is no need to perform post-excavation sampling.

**Site 17 Pilot Study**

There were no questions asked following this presentation.

**Lab Area Update**

Question: Is there an estimate as to when lead abatement will be performed on Building 103?

Answer: Indian Head is trying to secure funds to perform this action within the current fiscal year.

Question: Have we decided whether we'll restore the wetland at the Lab Area location or if it will be somewhere else?

Answer: We have not decided as of now.

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

February 19, 2009

| | |
|---|---|
| **5:00 - 5:05** | **ARRIVAL/WELCOME**<br>Mr. Joseph Rail<br>Naval Facilities Engineering Command, Washington (NAVFACWASH)<br>Remedial Project Manager |
| **5:05 – 5:25** | **SITE 8 SAMPLING RESULTS**<br>Mr. Nathan Delong |
| **5:25 – 5:40** | **SITE 28 REMOVAL ACTION COMPLETION**<br>Mr. Joseph Rail |
| **5:40 – 6:00** | **UXO 32 (SCRAP YARD) UPDATE**<br>Mr. Joseph Rail |
| **6:00 – 6:30** | **SSP SITE UPDATES (SITES 19 & SWMU 14)**<br>Mr. Nathan Delong |
| **6:30** | **ADJOURN** |

**Attachment H**