INSTALLATION RESTORATION PROGRAM

INDIAN HEAD DIVISION,
NAVAL SURFACE WARFARE CENTER
101 STRAUSS AVENUE
INDIAN HEAD, MARYLAND
20640-5035

RESTORATION ADVISORY BOARD (RAB) MEETING

Date of Meeting: October 25, 2001

Restoration Advisory Board (RAB) Member Participants:

Mr. Elmer Biles (C)
Mr. William Bohli (N)*
Mr. Curtis DeTore (S)
Mr. Vincent Hungerford (C)*
Mr. Wayne McBain (C)
Mr. Jeff Morris (N)

RAB Members Not in Attendance:

Mr. Gary Davis (L)
Mr. Stephen Elder (L)
Mr. Dennis Orenshaw (F)
Mr. Fred Pinkney (F)
Ms. Karen Wiggen (L)

Additional Attendees:

Ms. Sherry Deskins (N)
Mr. Shawn Jorgensen (N)
Ms. Heidi Morgan (N)
Mr. Neal Parker (N)

* Co-Chair

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

ENCL (1)

Major Issues Discussed/Accomplished:

1. Meeting Introduction

Mr. William Bohli of the Indian Head Division, Naval Surface Warfare Center (IHDIV-NSWC) began the meeting by introducing himself and welcoming everyone to the Indian Head Senior Center.

Mr. Bohli then presented the meeting agenda, which is included as Attachment A.

2. Brief Summary of the Navy Installation Restoration (IR) Program

Mr. Shawn Jorgensen of the IHDIV-NSWC provided a brief summary of the Navy IR Program, including the major steps in the program. Mr. Jorgensen provided a status of IR Sites at IHDIV-NSWC. Of the 26 sites requiring Remedial Investigations, 6 have been completed, 16 are being conducted, and 4 remain to be conducted. In addition, Mr. Jorgensen briefly discussed the Federal Facilities Agreement between the Navy and the EPA, which will be a topic of discussion at our next meeting.

A copy of Mr. Jorgensen's presentation is included in Attachment B.

3. Budget and Schedule for Fiscal Year 2002 (FY02)

Mr. Jeff Morris of the Engineering Field Activity Chesapeake briefly discussed the funding obligated in Fiscal Year 2001 (FY01) and the proposed funding for FY02. IHDIV-NSWC obligated over $3.2 million dollars for the IR Program in FY01 and is requesting $3.4 million dollars for FY02. Mr. Morris stated, however, that FY02 funding may be an issue based on the current state of affairs in America. However, we do have enough work from last years funding obligations to keep us busy.

A copy of Mr. Morris's presentation is included in Attachment C.

4. Update on Fieldwork at IR Sites 5, 6, 39, and 45

Mr. Shawn Jorgensen provided brief histories of IR Site 5 - X-ray Building 731, IR Site 6 - Hypo Spill, IR Site 39 - Silver Release to Sediment and Stack Emissions, and IR Site 45 - Abandoned Drums. Since our last meeting, shallow groundwater monitoring wells have been installed at Sites 5 and 6. We are awaiting results of these samples. Based on sample results of surface soil and subsurface soil at Sites 39 and 45, no additional sampling will be conducted at these sites. Human health and ecological risk assessments included in the Remedial

Investigation (RI) Report will assist in determining whether these sites continue into the Feasibility Study (FS) phase of the program. The cost for the investigation at Site 5 is $130,000 and for Sites 6, 39, and 45 is $280,000.

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

5. Update on IR Sites 11, 13, 17, 21 and 25

Ms. Heidi Morgan of IHDIV-NSWC provided the status of the work performed at the following IR sites: IR Site 11 - Caffee Road Landfill, IR Site 13 - Paint Solvents Disposal Ground, IR Site 17 - Disposed Metal Parts Along Shoreline, IR Site 21 - Bronson Road Landfill, and IR Site 25 - Hypo Discharges From X-ray Building No. 2.

Although the sampling has been completed at these sites, additional sampling may be required at Site 11. This may change the anticipated date of November 2001 for the completion of the final RI Report. Based on the risk assessments performed on these sites, Sites 11, 17, 21, and 25 will continue into the FS phase of the IR Program and no further action is required at Site 13. The cost for the RI effort is approximately $675,000.

A copy of Ms. Morgan's presentation is included in Attachment E.

6. Lab Area Update

Ms. Heidi Morgan discussed seven sites on which RIs are being conducted. These include: IR Site 15 - Mercury Deposits in Manhole, Fluorine Lab; IR Site 16 - Laboratory Chemical Disposal; IR Site 49 - Chemical Disposal Pit; IR Site 50 - Building 103 Crawl Space; IR Site 53 - Mercury in the Sewage System; IR Site 54 - Building 101 Mercury Contamination; IR Site 55 - Building 102 Mercury Contamination. Ms. Morgan provided a brief background on these sites and stated that due to the close proximity of these sites to one another, and the similar suspected chemicals involved, they are being studied as one area.

The draft RI Report is expected to be completed in November 2001. As anticipated, mercury was found in the Lab Area and the sites will continue into the FS phase of the IR Program.
The cost of this RI work is estimated at $300,000.

A copy of Ms. Morgan's presentation is included in Attachment F.

7. Update on IR Site 47 - Mercuric Nitrate Disposal Area

Ms. Heidi Morgan provided information on the sampling that was conducted at Site 47. To date, two phases of sampling have occurred. However, additional sampling, a third phase, is required to determine the extent of contamination at the site. This sampling is scheduled to take place next week and includes taking insitu groundwater samples and seep samples to determine the extent of shallow groundwater contamination and to better define the clay layer under the site. Ultimately, additional shallow groundwater monitoring wells will be installed at the edge of the contaminant plume.

The draft final RI Report for this effort is anticipated in May 2002 at a cost of $400,000, which includes the cost of the additional fieldwork.

A copy of Ms. Morgan's presentation is located in Attachment G.

8. Mattawoman Creek Study Update

Mr. Neal Parker of the Engineering Field Activity Chesapeake provided an update of the work performed on the Mattawoman Creek Study and the future schedule for the study. Sampling has occurred in two phases. The first phase included rapid screening sampling, to better focus the main investigation. The second phase included taking 55 samples at 7 areas, which included 6 areas in the Mattawoman Creek and 1 area in Nanjemoy Creek. Preliminary conclusions of the study are expected in March 2002 with a draft final document in June 2002.

A copy of Mr. Parker's presentation is provided in Attachment H.

9. Comments, Questions, and Answers

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

10. Conclusion

Mr. William Bohli concluded the meeting by thanking all in attendance.

INDIAN HEAD DIVISION,
NAVAL SURFACE WARFARE CENTER
INSTALLATION RESTORATION (IR) PROGRAM
RESTORATION ADVISORY BOARD (RAB) MEETING
AGENDA

October 25, 2001

7:00 - 7:10	**ARRIVAL/WELCOME** Mr. William H. Bohli Indian Head Division, Naval Surface Warfare Center Head, Safety Department
7:10 - 7:20	**BRIEF SUMMARY OF NAVY IR PROGRAM** Mr. Shawn Jorgensen Indian Head Division, Naval Surface Warfare Center IR Project Manager
7:20 - 7:30	**BUDGET AND SCHEDULE FOR FISCAL YEAR 2002** Mr. Jeff Morris Engineering Field Activity, Chesapeake Remedial Project Manager
7:30 - 7:45	**UPDATE ON FIELDWORK AT IR SITES 5, 6, 39, AND 45** Mr. Shawn Jorgensen
7:45 - 7:55	**UPDATE ON IR SITES 11, 13, 17, 21, AND 25** Ms. Heidi Morgan Indian Head Division, Naval Surface Warfare Center IR Project Manager
7:55 - 8:05	**LAB AREA UPDATE** Ms. Heidi Morgan
8:05 - 8:15	**UPDATE ON IR SITE 47** Ms. Heidi Morgan

Attachment A

INDIAN HEAD DIVISION,
NAVAL SURFACE WARFARE CENTER
INSTALLATION RESTORATION (IR) PROGRAM
RESTORATION ADVISORY BOARD (RAB) MEETING
AGENDA

October 25, 2001
(continued)

8:15 - 8:30	**MATTAWOMAN CREEK STUDY UPDATE** Mr. Neal Parker Engineering Field Activity, Chesapeake Ecological Risk Assessor
8:30 - 9:00	**COMMENTS, QUESTIONS, AND ANSWERS**
9:00	**ADJOURN**

NAVAL SURFACE WARFARE CENTER
INDIAN HEAD DIVISION
RESTORATION ADVISORY BOARD

Summary of Navy Installation Restoration (IR) Program

Shawn Jorgensen
IR Project Manager

October 25, 2001

Attachment B

Summary of Navy IR Program
Major Steps in the Program

- *Major Steps in the IR Program, which is modeled after the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)*
  - *Preliminary Assessment / Site Inspection (PA/SI)*
  - *Remedial Investigation / Feasibility Study (RI/FS)*
  - *Proposed Plan (PP)*
  - *Record of Decision (ROD)*
  - *Remedial Design / Remedial Action (RD/RA)*

Summary of Navy IR Program PA/SI

- *Preliminary Assessment (PA)*
  - *Identifies Existence of Potential Sites*
    - *Maps*
    - *Aerial Photographs*
    - *Interviews with past and current employees on past waste disposal practices*
- *Site Inspection (SI)*
  - *Includes Limited Sampling*
  - *Includes a Screen for Potential Human Health and Ecological Risks*
    - *EPA Region III's Risk Based Concentrations (RBCs)*
    - *EPA Biological Technical Assistance Group (BTAG) Screening Values*

Summary of Navy IR Program RI/FS

- *Remedial Investigation*
  - *Includes Extensive Sampling*
  - *Includes Site-Specific Human Health and Ecological Risk Assessments*
- *Feasibility Study (FS)*
  - *Provides Cleanup Alternatives*
  - *Compares Alternatives to 9 Criteria in the National Contingency Plan (NCP) to Determine Viability of Alternatives*

Summary of Navy IR Program
Nine Criteria of the NCP

- *Nine Criteria of the NCP*
  - *Threshold Criteria*
    - *Overall Protection of Human Health and the Environment*
    - *Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) and To Be Considered Criteria (TBCs)*
  - *Primary Balancing Criteria*
    - *Long-Term Effectiveness and Permanence*
    - *Reduction of Toxicity, Mobility, or Volume Through Treatment*
    - *Short-Term Effectiveness*
    - *Implementability*
    - *Cost*
  - *Modifying Criteria*
    - *State Acceptance*
    - *Community Acceptance*

Summary of Navy IR Program PP and ROD

- *Proposed Plan (PP)*
  - *Identifies the Navy's Selected Alternative for the Site*
  - *Provides the General Public the Opportunity to Review and Comment on the Selected Alternative*
- *Record of Decision (ROD)*
  - *Documents the Selected Remedy*
  - *Is Signed by the EPA and the Navy*

Summary of Navy IR Program RD/RA

- *Remedial Design (RD)*
  - *Includes Drawings that Implement the Selected Alternative*
  - *Includes Additional Engineering Requirements for the Selected Alternative*
- *Remedial Action (RA)*
  - *Includes the Actual Response Action to Cleanup the Site For example, removal of contaminated soil*

Summary of Navy IR Program Summary

- *The IR Program:*
  - *Identifies Sites that May Require Cleanup from Past Waste Disposal Practices*
  - *Provides Various Cleanup Alternatives and Compares Them to the 9 Criteria Set Forth in the NCP*
  - *Provides Opportunity for Public Involvement*
  - *Provides for EPA and State Involvement*
  - *Cleans up Sites to Levels that are Protective of Human Health and the Environment*

Summary of Navy IR Program
Indian Head Summary

- *Remedial Investigation - 26 Sites Require*
  - *6 Completed*
  - *16 Being Conducted*
  - *4 To Be Conducted*
- *Feasibility Study - Up To 25 Sites Require*
  - *3 Completed*
  - *22 Potentially To Be Conducted*
  - *1 Not Required*
- *Proposed Plans - 3 Sites (Completed)*
- *Record Of Decision - 3 Sites (Underway)*
- *Remedial Design - 3 Sites (Underway)*

Summary of Navy IR Program
Total Site Summary

- *145 Sites Identified in Signed Federal Facilities Agreement (includes sites at Stump Neck Annex)*
  - *26 Sites Require Remedial Investigation*
  - *37 Sites Require Site Screening (Site Screening Areas)*
    - *Limited Sampling*
    - *Similar to Site Inspection*
  - *41 Sites Require Desk-Top Audit (Areas of Concern)*
    - *Review Documentation on Sites*
    - *Sites either move to RI or Closure*
  - *41 Sites Active, RCRA Permitted, or RCRA Closed (Solid Waste Management Units, or SWMUs)*
    - *Sites will only be sampled if release ~~or potential release~~ is discovered at sites*

Information Repositories

Indian Head Division
Naval Surface Warfare Center
Building 620 (Crossroads)
101 Strauss Avenue
Indian Head, MD
20640-5035

Charles County Public Library
La Plata Branch
Charles & Garrett Streets
La Plata, MD 20646

STATUS OF INSTALLATION (IR) RESTORATION SITES THAT ARE ACTIVE IN THE IR PROGRAM

SITE INFORMATION		PHASE							
SITE NAME/GROUP	SITE NUMBERS	SS	RI	FS	PP	ROD	RD	RA	RC
Lab Area	15, 15, 49, 50, 53, 54 ,55	X	O						
Bldg. 1349, Hypo Spill	6	X	O						
Caffee Road Landfill	11	X	O						
Town Gut Landfill	12	X	✓	✓	✓	O	O		
Paint Disposal Area	13	X	O						
Disposed Metal Parts	17	X	O						
Bronson Road Landfill	21	X	O						
X-Ray Bldg. 588	25	X	O						
Organics Plant	39	X	O						
Palladium Catalyst	40	X							
Scrap Yard	41	X	✓	✓	✓	O	O		
Olsen Road Landfill	42	X	✓	O					
Toluene Disposal	43	X							
Soak Out Area	44	X	✓	X	✓	O	X	X	
Abandoned Drums	45	X	O						
Cadmium Sandblast Grit	46	X							
Mercuric Nitrate Disposal	47	X	O						
NG Plant Disposal Area	48	X							
X-Ray Bldg. 731	5	O							

Installation Restoration Funding and Plans for Fiscal Year 2002

Jeff Morris
Remedial Project Manager
Engineering Field Activity Chesapeake
October 25, 2001

Attachment C

NSWC Indian Head
IR Program FY 2001 Execution

Sites	Project	Awarded
Site 12	Remedial Action	$947,152
Sites 12, 41, 42	Design Review/PCAS	$133,353
Site 47	Remedial Investigation	$238,585
Site 57	FS/Remedial Design	$511,197
Sites 6, 39, 45	Remedial Investigation	$264,619
Sites 11,13,17,21,25	Feasibility Studies/RODs	$234,439
Mattawoman Creek Study	Risk Assessment	$663,174
Lab Area	Remedial Investigation	$238,585
Total		**$3,231,104**

NSWC Indian Head
FY 2002 Planned Execution

Sites	Project	Planned Award
Site 41	Remedial Action	$719,153
Sites 39, 42, 47, 50, 53, 54, 55	Remedial Design	$295,603
Sites 11,13,17,21,25, 47	RI – ROD	$948,877
Sites 39, 50	Remedial Action	$405,654
Sites 58 - 65	Site Screening Process	$1,032,792
Total		**$3,402,079**

NAVAL SURFACE WARFARE CENTER
INDIAN HEAD DIVISION
RESTORATION ADVISORY BOARD

Site Screening
Project Status

Site 5 - X-Ray Building 731

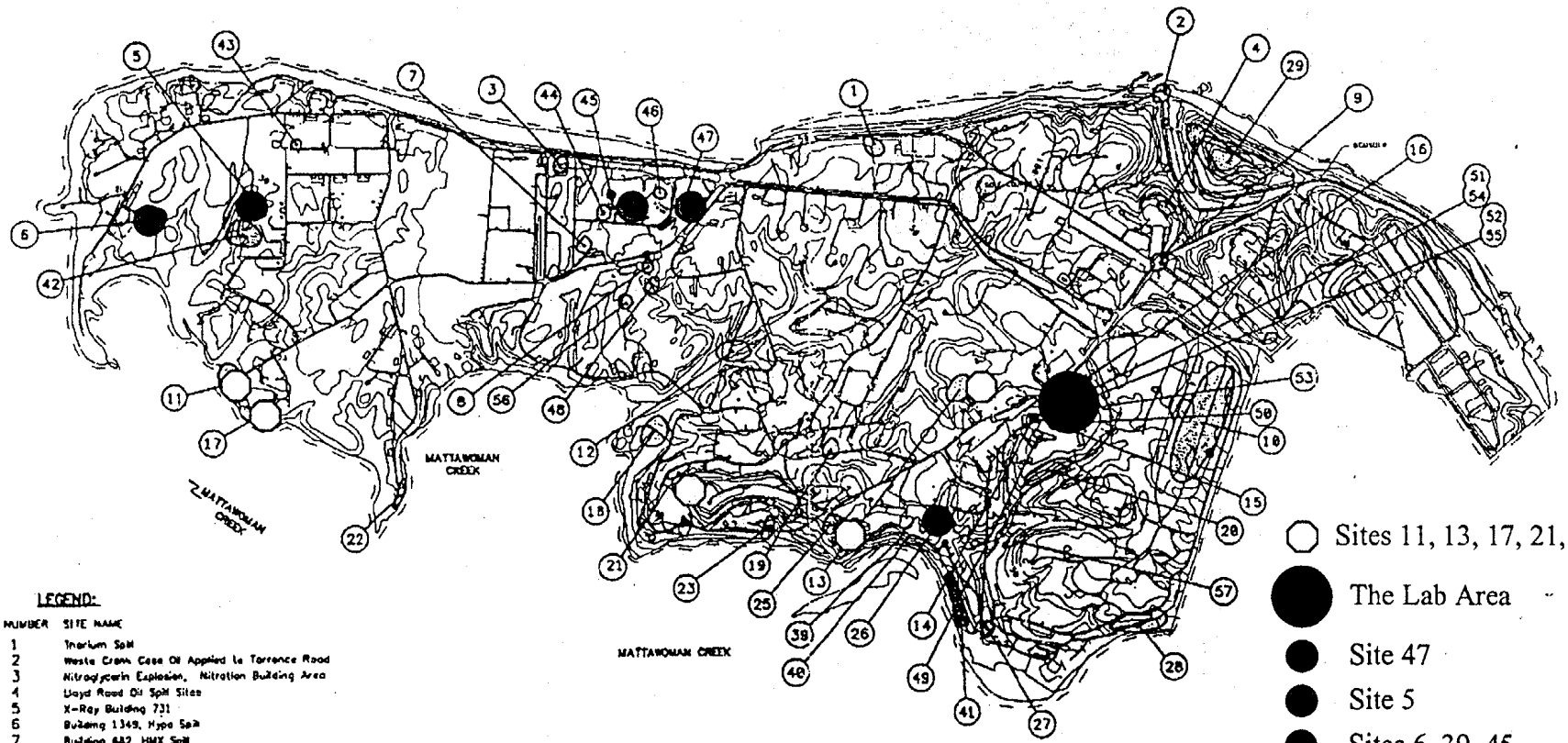
Shawn Jorgensen
IR Project Manager
October 25, 2001

Attachment D

Site Screening Project Status - Site 5

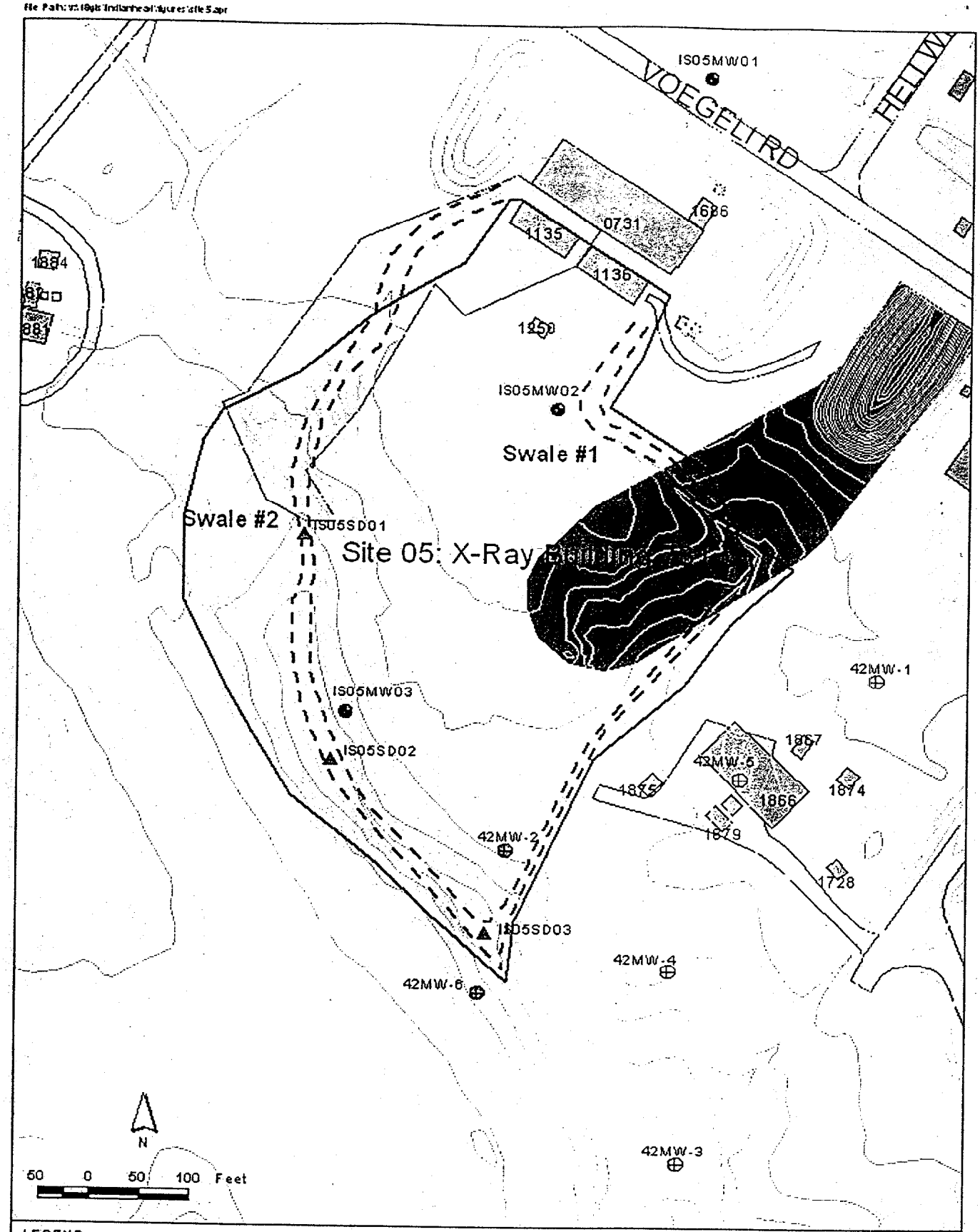
- ***Background of Site 5 - X-Ray Building 731***
  - *Grain manufacture and X-ray building constructed in 1953*
  - *Process waste water discharged to open swales prior to 1965*
  - *Over 12 year period, an estimated 180,000 gallons of sodium thiosulfate (fixer) and hydroquinone (developer) containing 720 lbs of silver discharged to ditches.*
  - *Removal action performed on Swale 1 between November 1992 and January 1993*
  - *Removal action performed on Swale 2 in December 1994*

NSWC Indian Head
IR Site Map



LEGEND:

SITE NUMBER	SITE NAME
1	Thorium Spill
2	Waste Creek Case Oil Applied to Torrence Road
3	Nitroglycerin Explosion, Nitration Building Area
4	Lloyd Road Oil Spill Sites
5	X-Ray Building 731
6	Building 1349, Hypo Spill
7	Building 682, HMX Spill
8	Building 786, Mercury Deposits
9	Patterson Avenue, Oil Spill
10	Single-base Propellant Grains Spill
11	Coffee Road Landfill
12	Team Cut Landfill
13	Paint Solvents Disposal Ground
14	Waste Acid Disposal Pit
15	Mercury Deposits in Manhole, Flourine Lab
16	Laboratory Chemical Disposal
17	Disposal Metal Parts Along Shoreline
18	Moe Island
19	Catch Basins at Chip Collection Houses
20	Single-base Powder Facilities
21	Bronson Road Landfill
22	NG Slums Burning Site
23	Hydraulic Oil Spill Discharges From Extrusion Plant
24	Abandoned Drain Lines
25	Hypo Discharge X-Ray Building No. 2
26	Thermal Destructor 2
27	Thermal Destructor 1
28	Original Burning Ground
29	The Valley
38-38	Slums Neck Annex (SEE FIGURE-3-2)
39	Organic Plant Outfall
40	Palladium Catalyst in Sediments
41	Scrap Yard
42	Olson Road Landfill
43	Tatuana Disposal Site
44	Soak Cut Area
45	Abandoned Drums
46	Cadmium Sandblast Cut
47	Mercuric Nitrate Disposal Area
48	Nitrocellulose Plant Disposal Area
49	Chemical Disposal Area
50	Building 185, Crawl Space
51	Building 181, Dry Well
52	Building 182, Dry Well
53	Mercury Contamination of the Sewage System
54	Building 181
55	Building 182
56	IWB7 - Lead Contamination
57	TCE Building 292 Area



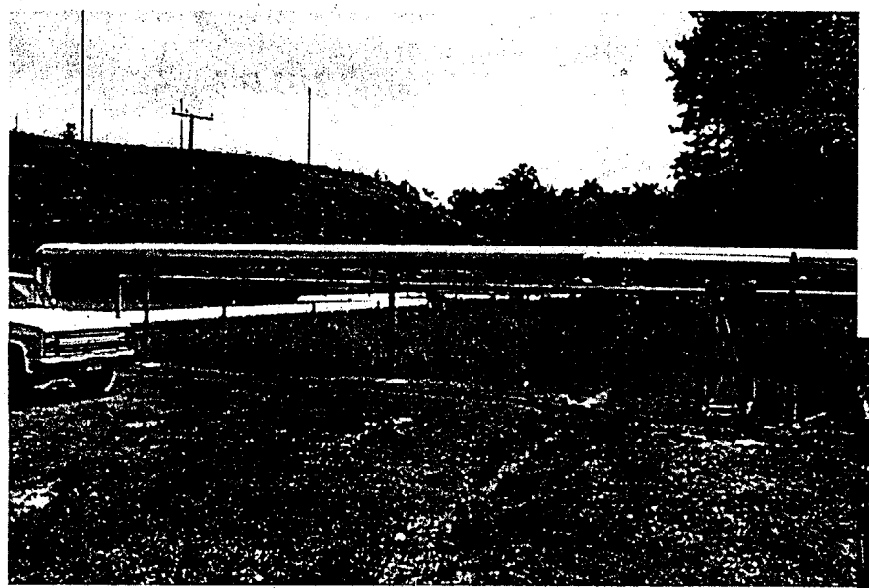
LEGEND

- Proposed Monitoring Well Locations
- Existing Monitoring Wells
- Existing Monitoring Wells to be used in Monitoring Network
- Proposed Sediment Sample Location
- Approximate Limit of Excavated Area (1994)
- Berm Location
- Drainage Swales
- IR Sites
- Buildings

Figure 3-1
Proposed Monitroing Well and Sediment Sample Locations
Site-Specific Investigative Work Plan
IR Site 5
Naval Surface Warfare Center
Indian Head Division

CH2MHILL

IR Site 5
X-ray Building 731



Swale 1 - Looking South

Swale 2 - Looking Northeast

Site Screening Project Status - Site 5

- *Site Screening Process - Site 5*
  - *Project awarded in February 2001*
  - *Fieldwork was completed August 2001*
  - *Fieldwork included:*
    - *Installing 3 shallow groundwater monitoring wells and sampling the new wells plus two existing wells*
    - *Taking 3 sediment samples and 3 surface water samples from Swale 2*
  - *Draft Site Screening report expected December 2001.*

Site 5 Future Schedule and Budget

- *Final Site Screening Report Expected March 2002*
- *Total projected cost:*
  - *Field investigation and Site Screening report - $130,000*
  - *No Further Action Plan - $53,000*
    - *Based on current belief that:*
      - *silver is the only contaminant at the site*
      - *silver has not traveled vertically*
      - *no ecological risks are present at the site*
    - *If contamination is found in the shallow groundwater at levels exceeding human health risks or if potential ecological risks are found to be present, then the site will continue into the Remedial Investigation phase.*

NAVAL SURFACE WARFARE CENTER
INDIAN HEAD DIVISION
RESTORATION ADVISORY BOARD

Remedial Investigations - Project Status

Sites 6, 39 and 45

Shawn Jorgensen
IR Project Manager
October 25, 2001

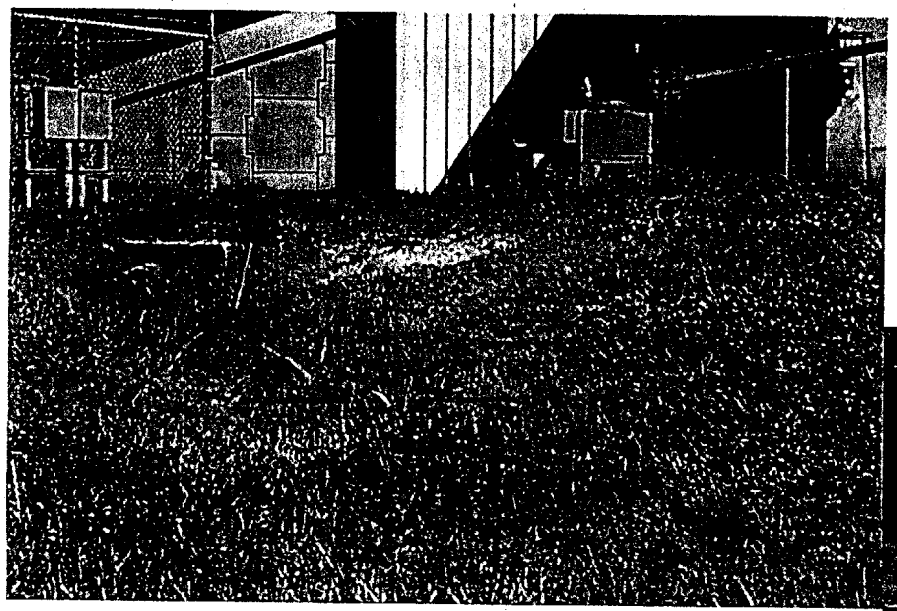
Sites 6, 39 and 45 - Project Status
Sites Studied

- *6 - Hypo Spill, Radiographic Facility Accelerator Control Building and Open Drain*
- *39 - Silver Release to Sediments/Stack Emissions*
- *45 - Abandoned Drums*

Sites 6, 39 and 45 - Project Status
Site 6 - Hypo Spill

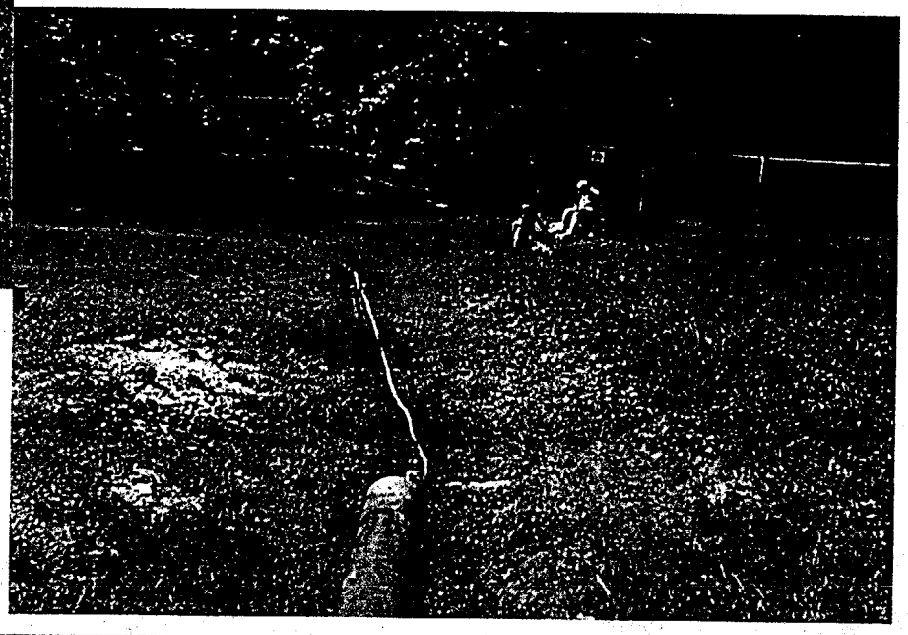
- *Background*
  - *Area around Buildings 1349, 1718 and 1140*
  - *Building 1140 contains an X-ray facility - spent fixer and developer were reportedly discharged into a nearby ditch prior to 1977*
  - *Ten gallons of fixer were reportedly spilled on the ground behind Building 1349 in 1973*

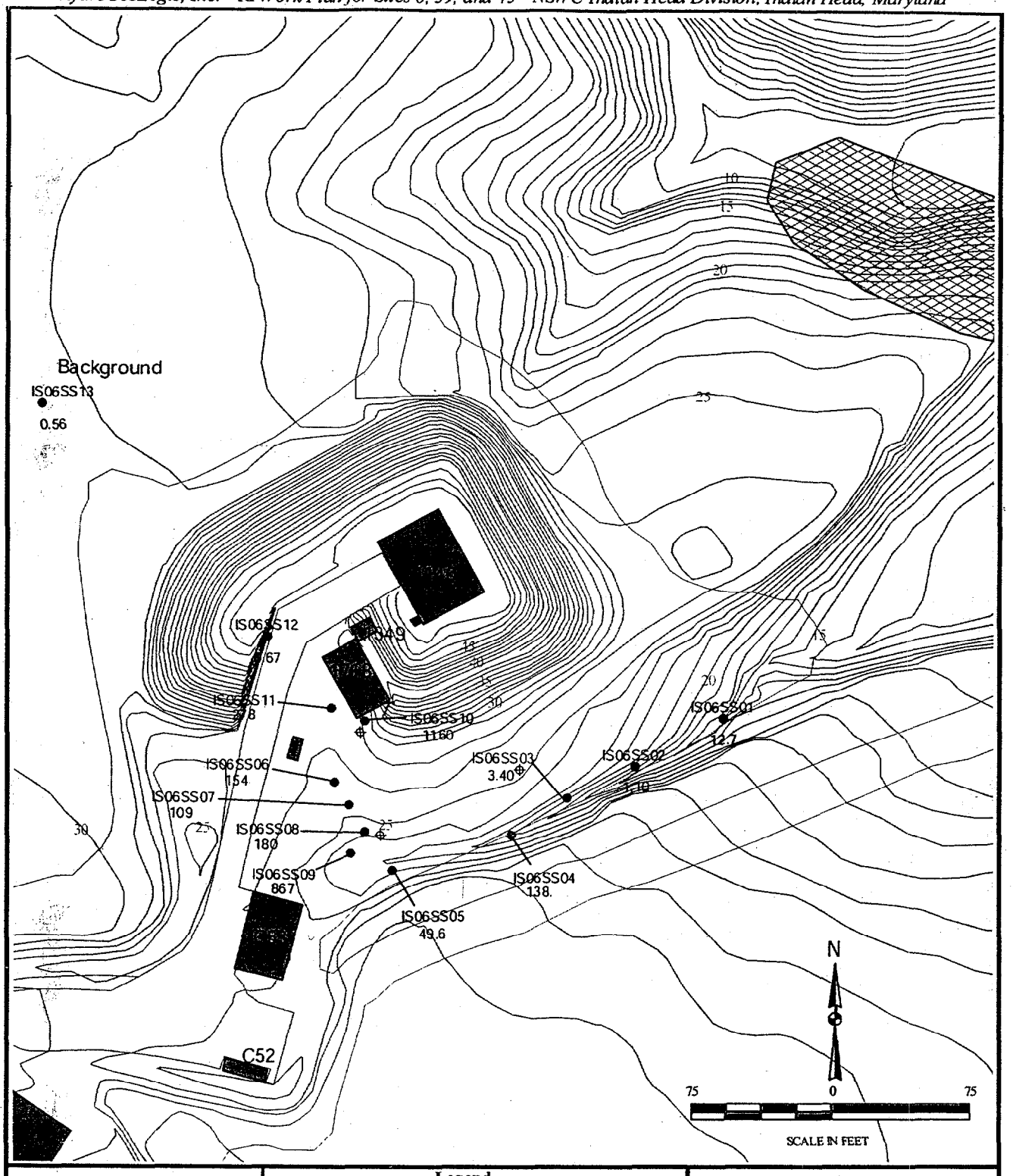
IR Site 6
Hypo Spill



Looking north at Buildings 1349 and 1718

Looking southeast from Buildings 1349 and 1718





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Project: CHM003-0403
Created: 11/13/00 TH
Revised: 08/03/01 cf
Source: CH2MHILL, HydroGeoLogic, Inc.

HYDRO GeoLogic

Legend

- Building/Structure
- Surface Water Drainage
- Wetland
- Forested Area
- Ground Elevation Contour (1ft.)
- Surface Soil Sample Locations
- Proposed Monitoring Well Location

Figure 3.3
Proposed Monitoring Well Locations
Site 6

Sites 6, 39 and 45 - Project Status
Site 6 - Hypo Spill

- *Phase 1 Fieldwork - June 2001*
  - *Surface Soil Samples: 9*
  - *Subsurface Soil Samples: 4*
  - *Surface Soil from Seasonally Wet Area: 3*
  - *Surface Water Samples: 2*
  - *Background Samples: 2*
- *Phase 2 Fieldwork - August 2001*
  - *Shallow Groundwater Samples: 3*

Sites 6, 39 and 45 - Project Status
Site 6 - Hypo Spill

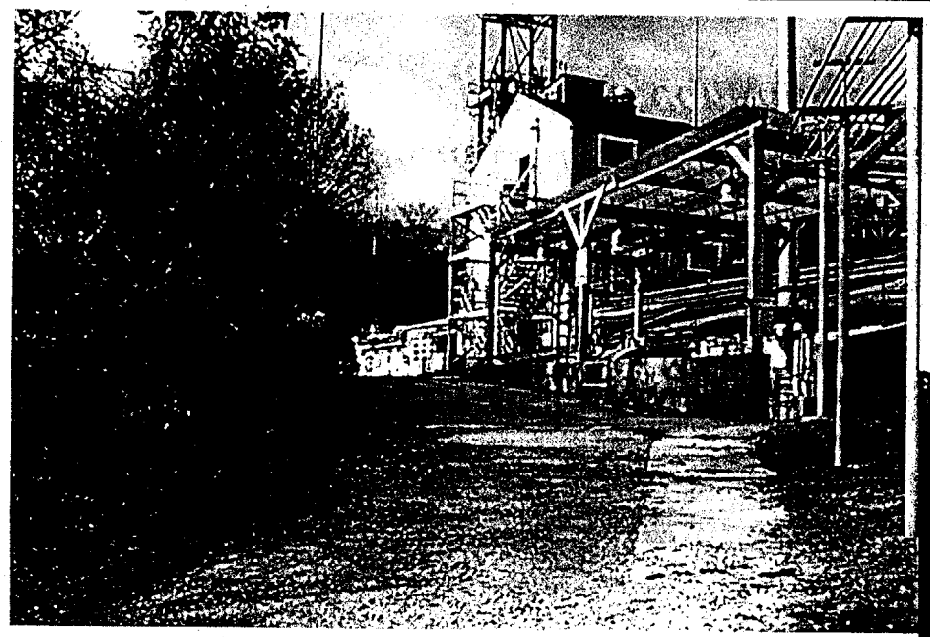
- *Results of Phase 1 Fieldwork*
  - *Silver found in surface soil*
    - *0.67 ppm (background)*
    - *1160 ppm (southern corner of Building 1718)*
  - *Silver found in subsurface soil*
    - *1100 ppm (southern corner of Building 1718)*
    - *Less than 1.2 ppm at all other sample locations*
- *Awaiting Results of Phase 2 Fieldwork*

Sites 6, 39 and 45 - Project Status
Site 39 - Silver Release to Sediments/Stack Emissions

- *Background*
  - *Area around Buildings 497, 497A and 498 was originally identified as an IR site due to reported silver and silver nitrate releases to Mattawoman Creek between 1961 and 1965*
  - *These buildings have also been used for large-scale manufacture of chemicals and explosives including Unsymmetrical Dimethyl Hydrazine (UDMH) and Nitroguanidine (NQ)*
  - *Silver releases being studied under Mattawoman Creek study; this investigation addressed whether emissions from the stacks have caused surface soil contamination in the vicinity of these buildings*

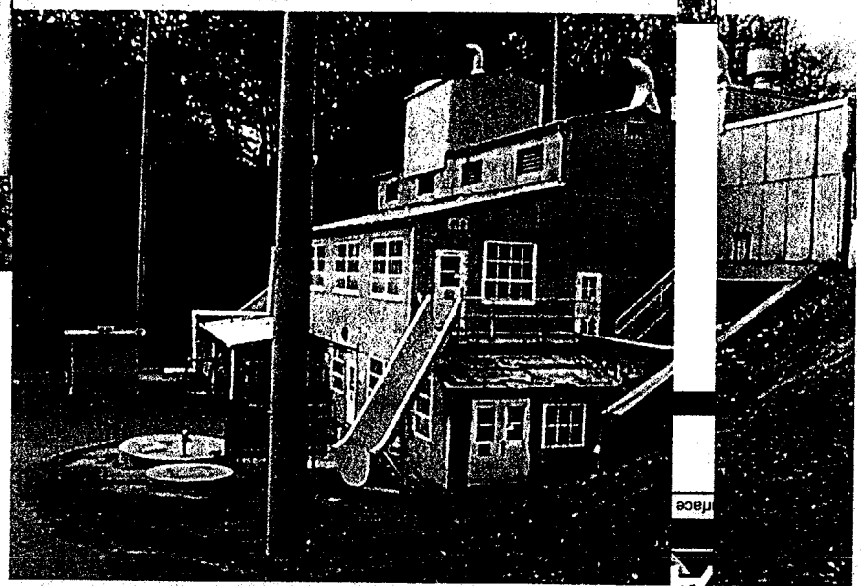
IR Site 39

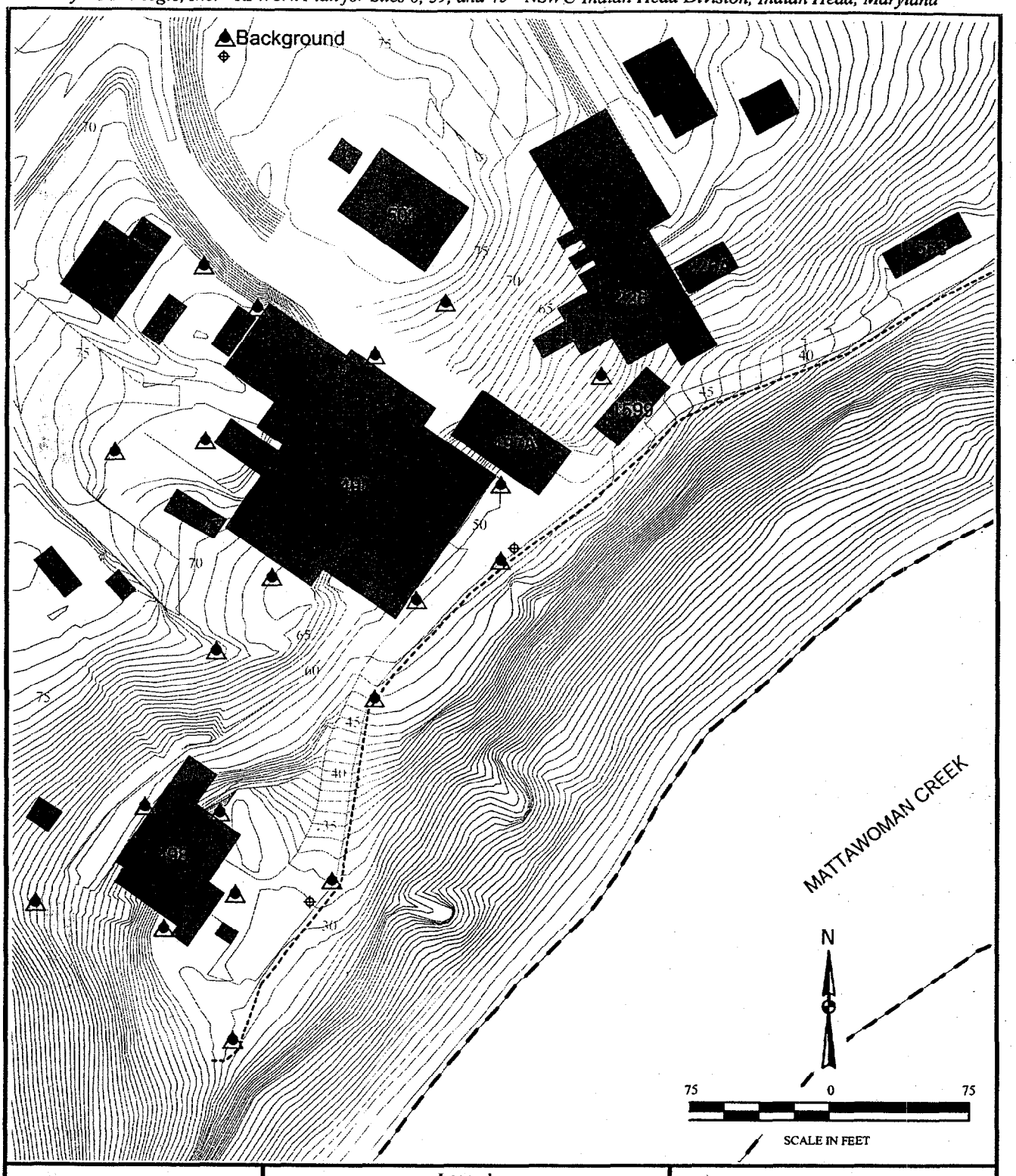
Silver Release to Sediments



Building 497

Building 498





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Revised: 12/12/00 jb
Source: CH2MHILL, HydroGeoLogic, Inc.

HYDRO GeoLogic

Legend

- Base Boundary
- Building/Structure
- Surface Water Drainage
- Wetland
- Forested Area
- Ground Elevation Contour (1ft.)
- Surface Soil Sample
- Subsurface Soil Sample
- Phase 2 Monitoring Well, Shallow Groundwater Sample Potential Location

Figure 4.3
Proposed Sampling Locations, Site 39

Sites 6, 39 and 45 - Project Status
Site 39 - Silver Release to Sediments/Stack Emissions

- *Phase I Sampling Completed June2001*
  - *Surface Soil Samples: 20*
  - *Subsurface Soil Samples: 20*
  - *Background Samples: 2*
  - *Groundwater Samples: 0*
- *Results of Phase I*
  - *No UDMH or Acetal/Formal detected*
  - *Low levels of metals (arsenic and chromium) and very low levels of nitrocellulose detected.*
  - *Based on results of Phase I, Indian Head Installation Restoration Team (IHIRT) determined that Phase II groundwater investigation was unnecessary*

Sites 6, 39 and 45 - Project Status
Site 45 - Abandoned Drums

- *Background*
  - *Wooded area 300 feet west of Site 44 (Soak Out Area)*
  - *Site previously consisted of 21 empty 55-gallon drums and 2 overpack drums*
  - *Drums may have originated at Site 44 and therefore may have contained solvent used at Soak Out Area, probably Pennchem 901B, containing mercaptan (a sulfur-containing organic compound)*
  - *Rusted drums were removed several years ago. This investigation focused on underlying soil and groundwater and surface water and sediment in nearby wetland*

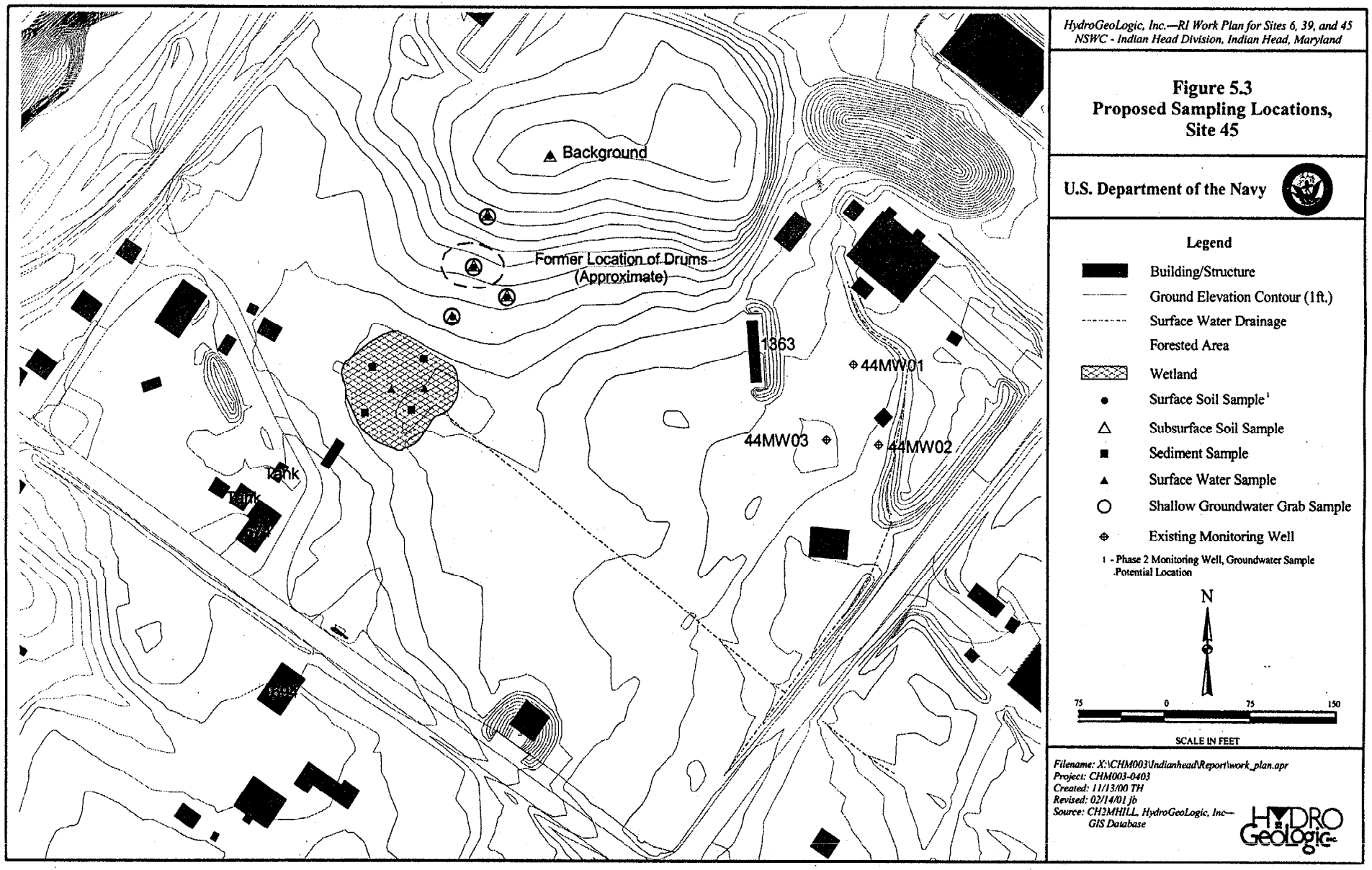
IR Site 45
Abandoned Drums

Looking northeast at Site 45

Looking southeast at Site 45

Sites 6, 39 and 45 - Project Status
Site 45 - Abandoned Drums

- *Completed Sampling June 2001*
  - *Surface Soil Samples: 4*
  - *Subsurface Soil Samples: 4*
  - *Sediment Samples in Wetland: 4*
  - *Surface Water Samples in Wetland: 2*
  - *Shallow Groundwater Samples (using direct push rig): 4*
  - *Background samples: 2*



HydroGeoLogic, Inc.—RI Work Plan for Sites 6, 39, and 45
NSWC - Indian Head Division, Indian Head, Maryland

Figure 5.3
Proposed Sampling Locations, Site 45

U.S. Department of the Navy

Legend

- Building/Structure
- Ground Elevation Contour (1ft.)
- Surface Water Drainage
- Forested Area
- Wetland
- Surface Soil Sample[1]
- Subsurface Soil Sample
- Sediment Sample
- Surface Water Sample
- Shallow Groundwater Grab Sample
- Existing Monitoring Well

1 - Phase 2 Monitoring Well, Groundwater Sample Potential Location

N

75 0 75 150

SCALE IN FEET

Filename: X:\CHM003\Indianhead\Report\work_plan.apr
Project: CHM003-0403
Created: 11/13/00 TH
Revised: 02/14/01 jb
Source: CH2MHILL, HydroGeoLogic, Inc— GIS Database

HYDRO GeoLogic Inc.

Sites 6, 39 and 45 - Project Status
Site 45 - Abandoned Drums

- *Results of Investigation*
  - *No explosives, and only one organic compound (diethylphthalate) detected at 7.1 ppb (less than tap water RBC of 29,200 ppb)*
  - *Metals detected at very low levels in shallow groundwater except for manganese (one sample at 941 ppb out of four taken exceeded RBC of 730 ppb)*
  - *Based on these results, the IHIRT determined that no further investigation of groundwater at the site was necessary*

Sites 6, 39 and 45 - Project Status
Future Schedule

- *Remedial Investigation*
  - *Draft RI report expected January 2002*
  - *Cost for RI - $280,000*
- *Feasibility Studies*
  - *Draft expected late 2002 (if necessary)*
  - *Budgeted for FS - $50,000*

NAVAL SURFACE WARFARE CENTER
INDIAN HEAD DIVISION
RESTORATION ADVISORY BOARD

Remedial Investigations - Project Status

Sites 11, 13, 17, 21, and 25

Heidi Morgan

October 25, 2001

Attachment E

Sites 11, 13, 17, 21, and 25 - Project Status
Sites Studied

- *11 - Caffee Road Landfill*
- *13 - Paint Solvents Disposal Ground*
- *17 - Disposed Metal Parts Along Shoreline*
- *21 - Bronson Road Landfill*
- *25 - Hypo Discharges From X-ray Building No. 2*

Sites 11, 13, 17, 21, and 25 - Project Status
Site 11 - Caffee Road Landfill

- *Background*
  - *One to two acre area located at the end of Caffee Road on the shore of Mattawoman Creek*
  - *Contains various building debris, bulk metal items, and residue from open burning*
- *Completed Sampling August 2001*
  - *Surface Soil Samples: 36*
  - *Subsurface Soil Boring Samples: 7*
  - *Groundwater Samples: 11*
  - *Surface Water Samples: 7*
  - *Sediment Samples: 7*
  - *Waste Samples: 2*

Sites 11, 13, 17, 21, and 25 - Project Status
Site 11 - Caffee Road Landfill

- *Results of Remedial Investigation*
  - *Metals, SVOCs and ordnance compounds were detected in surface and subsurface soils*
  - *Few contaminants detected in groundwater*
  - *Metals detected in sediment in adjoining creeks*
  - *Human health risk calculated for current use and potential future use*
  - *Ecological risk calculated in sediments in creek*
- *Site will proceed to Feasibility Study*

IR Site 11
Caffee Road Landfill

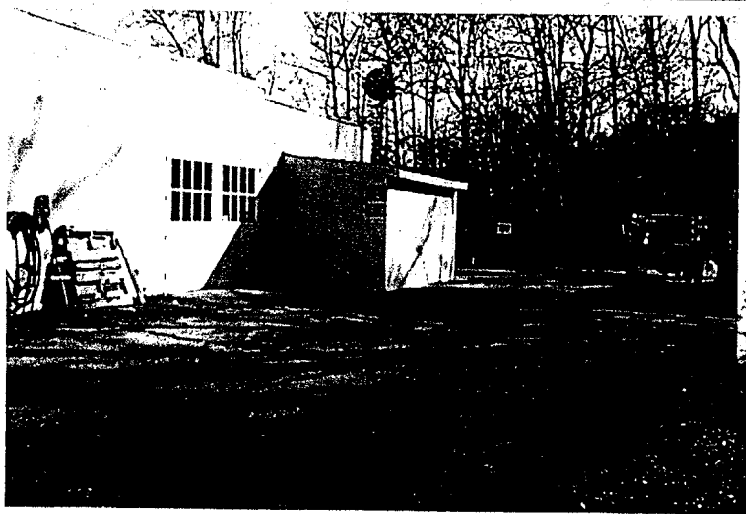
Sites 11, 13, 17, 21, and 25 - Project Status
Site 13 - Paint Solvents Disposal Ground

- *Background*
  - *Approximately 200 square-foot area located behind Building 870*
  - *Contains paint-related wastes - thinners, solvents, and used paint*
  - *Disposal took place from 1953 to 1979*
  - *Estimated 20,000 pounds of waste disposed (~2,000 gallons)*
- *Completed Sampling July 2001*
  - *Surface Soil Samples: 7*
  - *Subsurface Soil Boring Samples: 4*
  - *Groundwater Samples: 0*

Sites 11, 13, 17, 21, and 25 - Project Status
Site 13 - Paint Solvents Disposal Ground

- *Results of Investigation*
  - *Low levels of metals, VOCs and SVOCs detected in surface and subsurface soil*
  - *No human health hazard calculated for current or future use*
  - *Minimal risk to ecological receptors calculated*
- *No further action is proposed for this site*

IR Site 13
Paint Solvents Disposal Ground



Sites 11, 13, 17, 21, and 25 - Project Status
Site 17 - Disposed Metal Parts Along Shoreline

- *Background*
  - *1,000-foot stretch of shoreline along Mattawoman Creek located east of Caffee Road Landfill*
  - *Metal parts disposed of from 1960 - 1980*
  - *Drums disposed of in woods (dates unknown)*
- *Completed Sampling October 2001*
  - *Surface Soil Samples: 16*
  - *Subsurface Soil Boring Samples: 16*
  - *Sediment Samples: 6*
  - *Surface Water Samples: 6*
  - *Installation Of 3 Groundwater Monitoring Wells*
  - *Groundwater Samples: 3*

Sites 11, 13, 17, 21, and 25 - Project Status
Site 17 - Disposed Metal Parts Along Shoreline

- *Results of Investigation*
  - *Low levels of metals, VOCs and SVOCs detected in surface soils, few elevated SVOCs in subsurface soil.*
  - *High concentrations of VOCs (vinyl chloride and 1,2-DCE) detected in groundwater.*
  - *Human health hazards and risks calculated for potential future use of the site*
  - *Ecological risk calculated in sediments along Mattawoman Creek*
- *A Feasibility Study will be performed for this site.*

IR Site 17

Disposed Metal Parts Along Shoreline

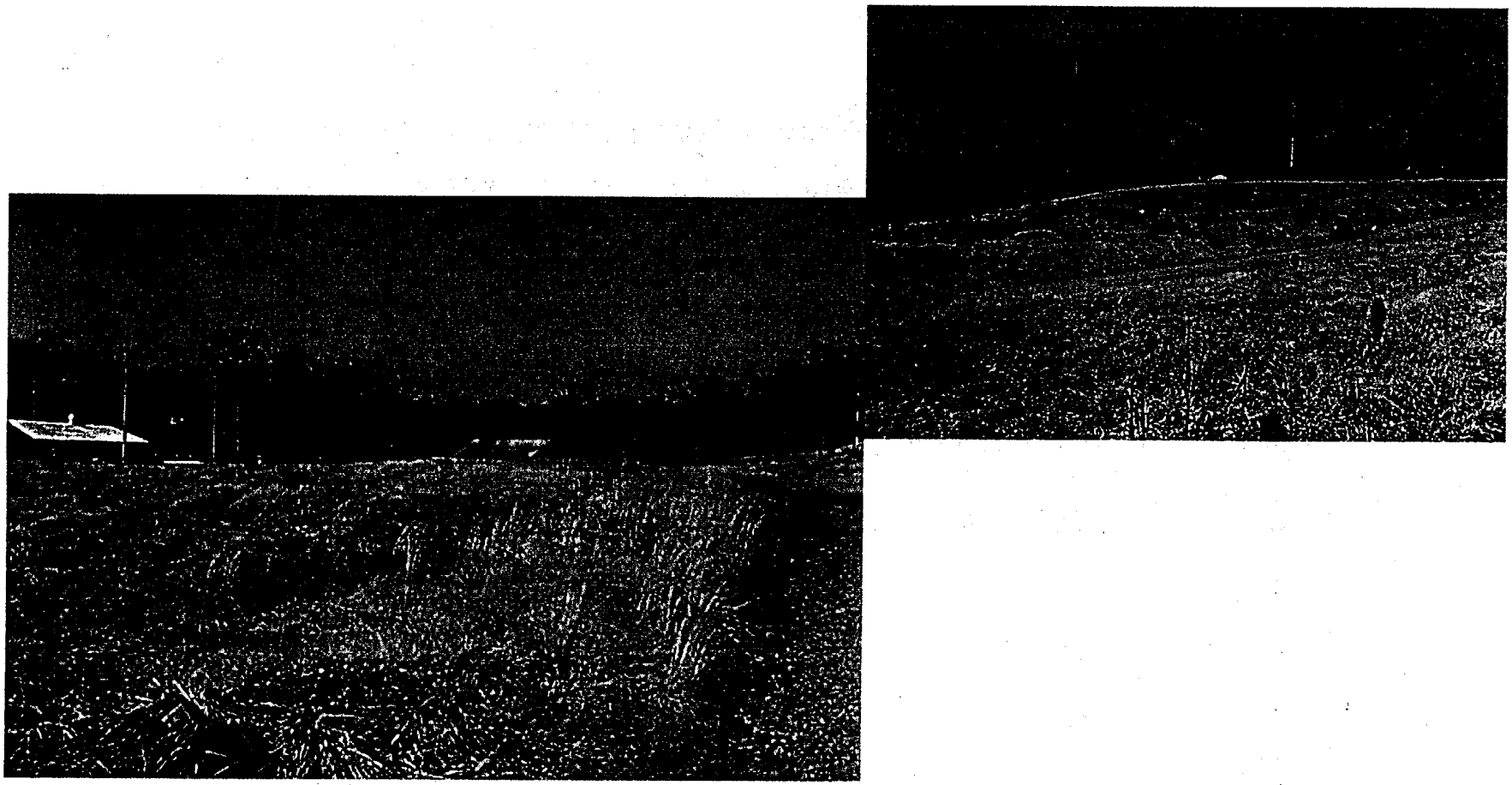
Sites 11, 13, 17, 21, and 25 - Project Status
Site 21 - Bronson Road Landfill

- *Background*
  - *2-acre "borrow pit" near Building 1384*
  - *Contains solid waste from various manufacturing processes*
  - *Disposal occurred from 1975 to 1982*
  - *Waste and estimated amounts include*
    - *Solid waste - 1,500 tons*
    - *Barium sludge - 2.5 tons*
    - *Asbestos - 3.3 tons*
    - *Paint sludge - 3 tons*
- *Completed Sampling*
  - *Surface Soil Samples: 22*
  - *Groundwater Samples: 4*

Sites 11, 13, 17, 21, and 25 - Project Status
Site 21 - Bronson Road Landfill

- *Results of Investigation*
  - *Very low levels of VOCs, SVOCs and ordnance compounds and moderate levels of metals detected in surface soils*
  - *Iron and manganese detected in downgradient wells, one detection of ammonium perchlorate detected in upgradient well*
  - *Human health hazard calculated for a future resident*
  - *Minimal ecological risk calculated*
- *A Feasibility Study will be performed at this site.*

IR Site 21
Bronson Road Landfill



Sites 11, 13, 17, 21, and 25 - Project Status
Site 25 - Hypo Discharges From X-Ray Building No. 588

- *Background*
  - *Drainage swales located behind Building 588*
  - *Reportedly contains silver from spent fixer and developer used to process x-ray film*
  - *Discharged from 1944 - 1964*
  - *Estimated 864 pounds of silver discharged*
- *Completed Sampling in Two Phases*
  - *Surface Soil Samples: 24 (21 first phase, 3 second phase)*
  - *Subsurface Soil Samples: 6*
  - *Groundwater Samples: 2*

Sites 11, 13, 17, 21, and 25 - Project Status
Site 25 - Hypo Discharges From X-Ray Building No. 2

- *Results of Investigation*
  - *SVOCs and metals detected in surface soils, mostly around Building 588*
  - *A few metals were detected at elevated levels in groundwater (no silver)*
  - *Human health risk calculated for the future resident*
  - *Minimal ecological risk calculated.*
- *A feasibility study will be conducted at this site.*

IR Site 25

Hypo Discharges From X-Ray Building No. 588

Sites 11, 13, 17, 21, and 25 - Project Status
Future Schedule

- *Remedial Investigation*
  - *Contract Award - February 2000*
    - *Draft Work Plan - May 2000*
    - *Final Work Plan - July 2000*
    - *Field Work*
      - *Phase 1 - July 2000*
      - *Phase 2 - October 2000*
    - *Draft RI Report - July 2001 (delayed from April 2001)*
  - *Cost for RI - $675,000*

Sites 11, 13, 17, 21, and 25 - Project Status
Future Schedule

- *Feasibility Study*
  - *Contract Award - May 2001*
  - *Draft Feasibility Study - February 2002*
  - *Cost for Feasibility Studies - $115,000*

Information Repositories

Indian Head Division
Naval Surface Warfare Center
Building 620 (Powder Keg)
101 Strauss Avenue
Indian Head, MD
20640-5035

Charles County Public Library
La Plata Branch
Charles & Garrett Streets
La Plata, MD 20646

NAVAL SURFACE WARFARE CENTER
INDIAN HEAD DIVISION
RESTORATION ADVISORY BOARD

Remedial Investigation

Lab Area (Sites 15, 16, 49, 50, 53, 54 and 55)
Project Status

Heidi Morgan

October 25, 2001

Attachment F

Lab Area - Project Status
Sites To Be Studied

- *15 - Mercury Deposits in Manhole, Fluorine Lab*
- *16 - Laboratory Chemical Disposal*
- *49 - Chemical Disposal Pit*
- *50 - Building 103 Crawl Space*
- *53 - Mercury Contamination of Sewage System*
- *54 - Building 101 Mercury Contamination*
- *55 - Building 102 Mercury Contamination*

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

Lab Area - Project Status
Site Background

- *Site 15 - Mercury Deposits in Manhole, Fluorine Lab*
  - *Laboratory waste released from Buildings 502 and 103 to storm sewer from 1942 to 1981*
  - *Reported release of approximately 1 pound of mercury and 64 pounds of lead*

- *Site 16 - Laboratory Chemical Disposal*
  - *Laboratory waste released from wastewater collection system in Building 600 from 1944 to present*
  - *Potential chemicals include acids, amines, cyanide compounds, metals, chlorinated solvents and non-chlorinated solvents*
  - *Actual chemicals and amounts released unknown*

Lab Area - Project Status
Site Background

- *Site 49 - Chemical Disposal Pit*
  - *Disposal of laboratory waste into a brick pit*
  - *Had limited use up to the early 1970's*
  - *Actual chemicals and amounts disposed unknown*

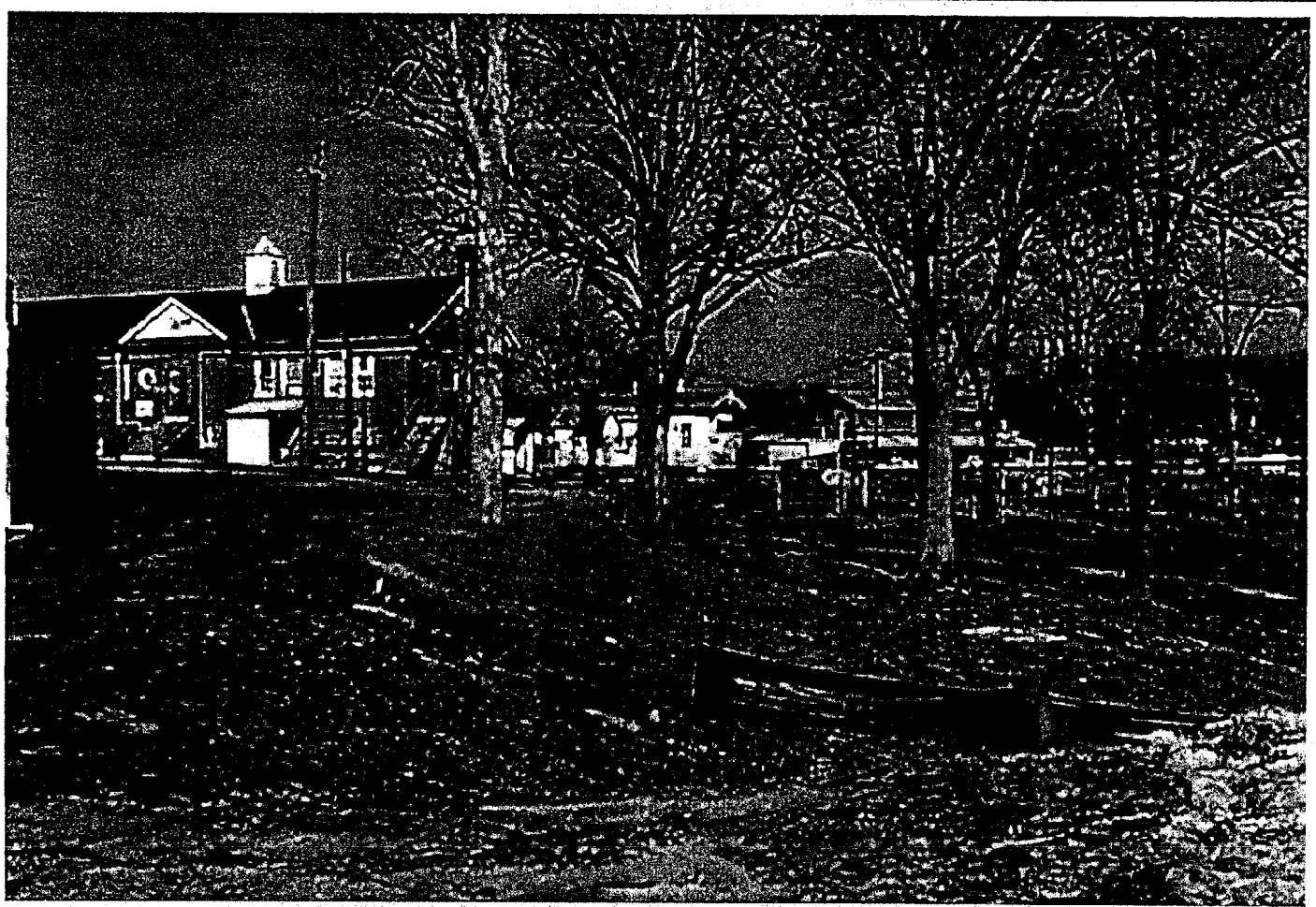
- *Site 50 - Building 103 Crawl Space*
  - *From 1902 to 1985, the two sinks in Building 103 drained to the ground under the building*
  - *Mercury-containing equipment was once used in the building.*
  - *Actual chemicals and amounts discharged unknown*

Lab Area - Project Status
Site Background

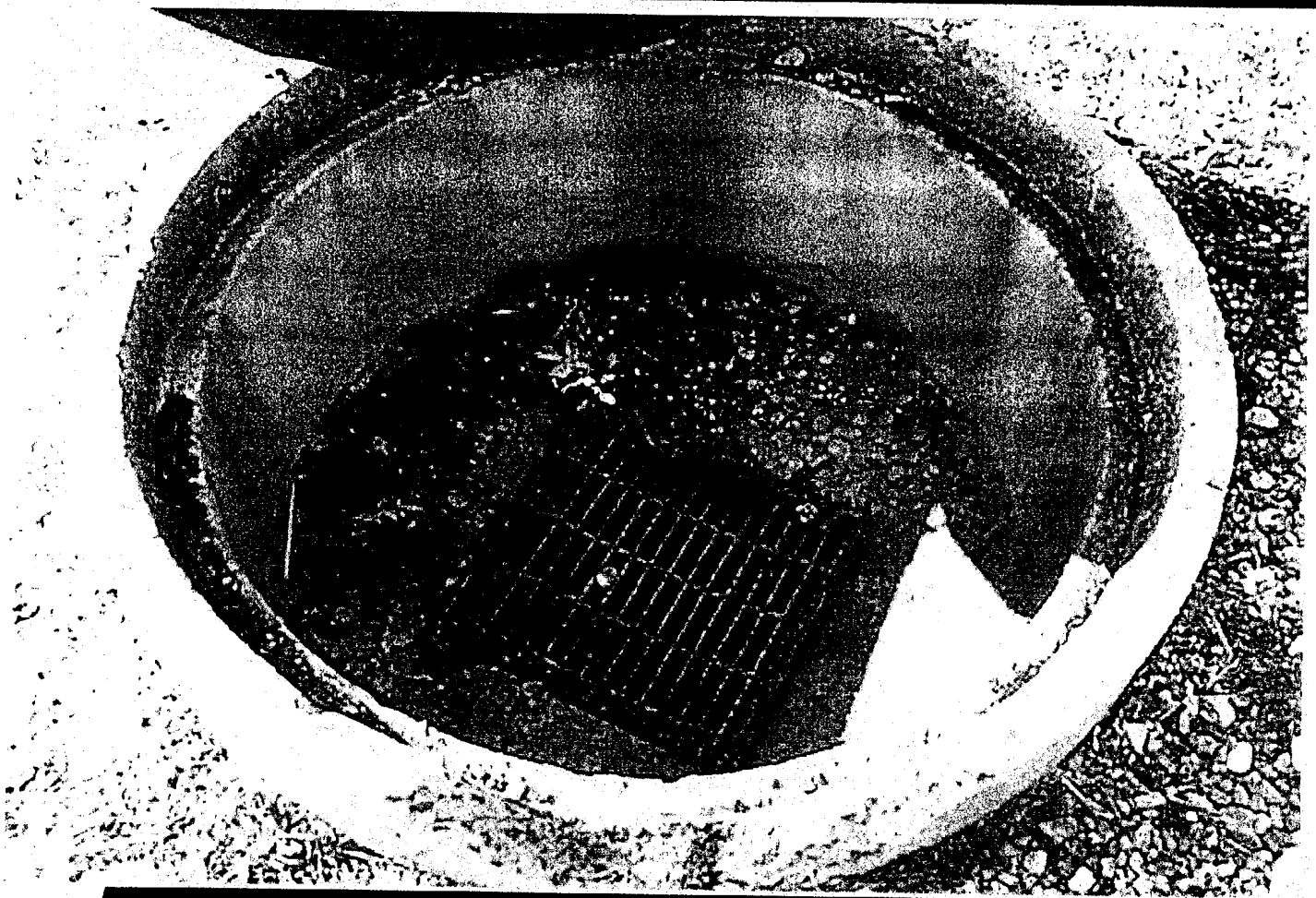
- *Site 53 - Mercury Contamination of Sewage System*
  - *Mercury from Building 102 released to storm and sanitary sewer systems from 1909 through 1986*
  - *Laboratory workers estimated one liter of mercury lost per month. This translates into 28,000 pounds over the 77 year history.*
- *Site 54 - Building 101 Mercury Contamination and Site 55 - Building 102 Mercury Contamination*
  - *Mercury contamination in flooring of buildings*
  - *Possible discarding of small amounts of mercury outside of these buildings*

Lab Area - Project Status
Sites 15, 16, 53, 54, and 55

Lab Area - Project Status
Sites 15, 16, 50, 53 and 55



Lab Area - Project Status
Site 49

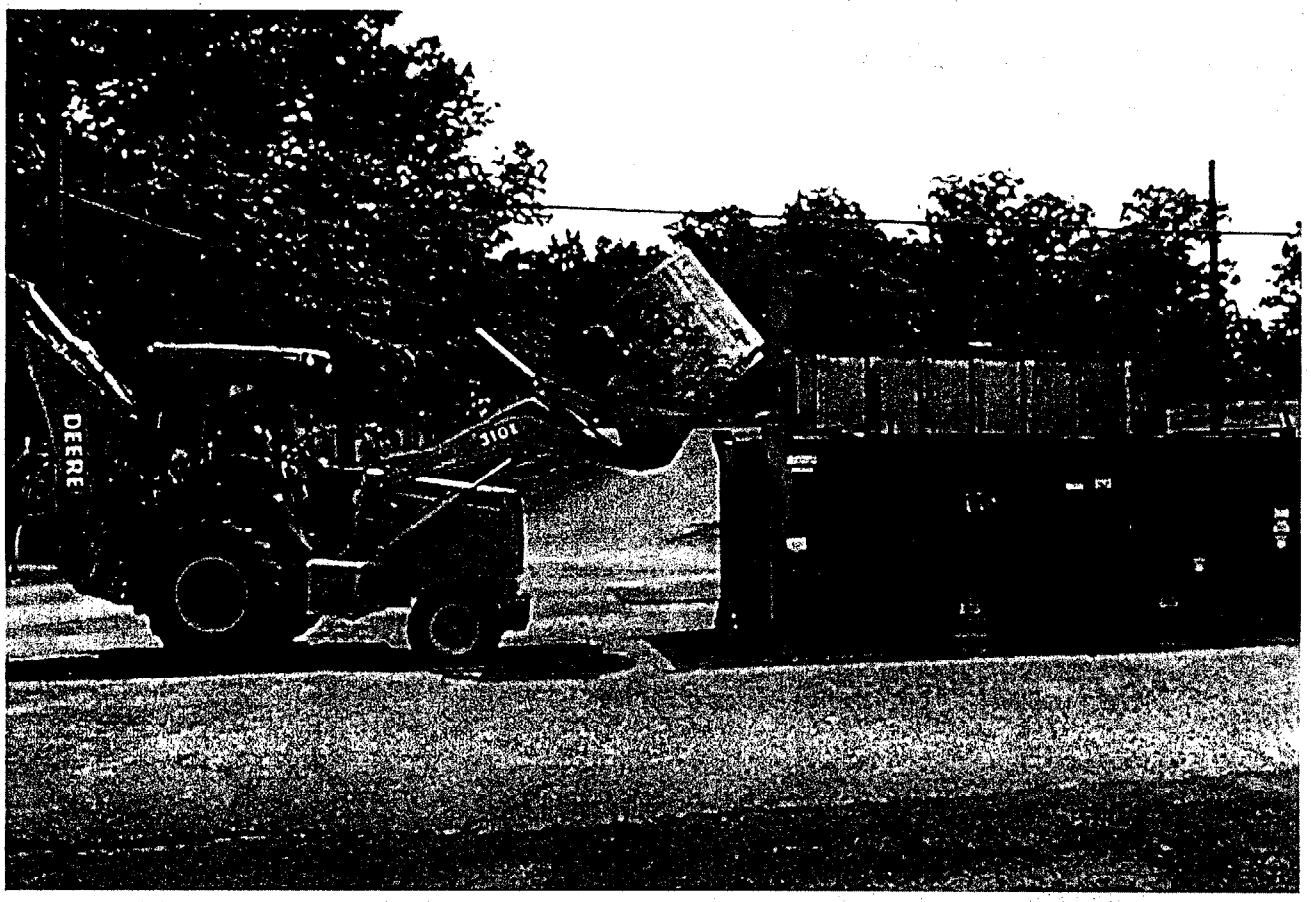


Lab Area - Project Status
Site 49

Lab Area - Project Status
Scope of Investigation

- *Samples Collected*
  - *80 surface soil samples around building*
  - *27 subsurface soil samples around potentially leaking pipes plus one beneath the Chemical Disposal Pit*
  - *8 sediment samples inside manholes (out of 14 attempted)*
  - *6 sediment samples in "wetland area"*
  - *1 surface water sample in "wetland area" (out of 3 attempted)*
- *No groundwater sampled because soils are impermeable and groundwater is very deep*
- *Chemical Disposal Pit removed and disposed of offsite*

Lab Area - Project Status
Removal of Chemical Disposal Pit



Lab Area - Project Status Schedule and Budget

- *Remedial Investigation (RI)*
  - *Contract Award - February 2000*
  - *Field Work - Completed June 2001*
  - *Draft RI Report - November 2001 (delayed from June 2001)*
  - *Cost for RI - $300,000*
- *Feasibility Study (FS)*
  - *Contract Award - December 2000*
  - *Draft Feasibility Study - May 2001 (delayed from December 2001)*
  - *Cost for FS, Proposed Plan, and Record of Decision - $80,000*

NAVAL SURFACE WARFARE CENTER
INDIAN HEAD DIVISION
RESTORATION ADVISORY BOARD

Remedial Investigation
Project Status

Site 47 - Mercuric Nitrate Disposal Area

Heidi Morgan

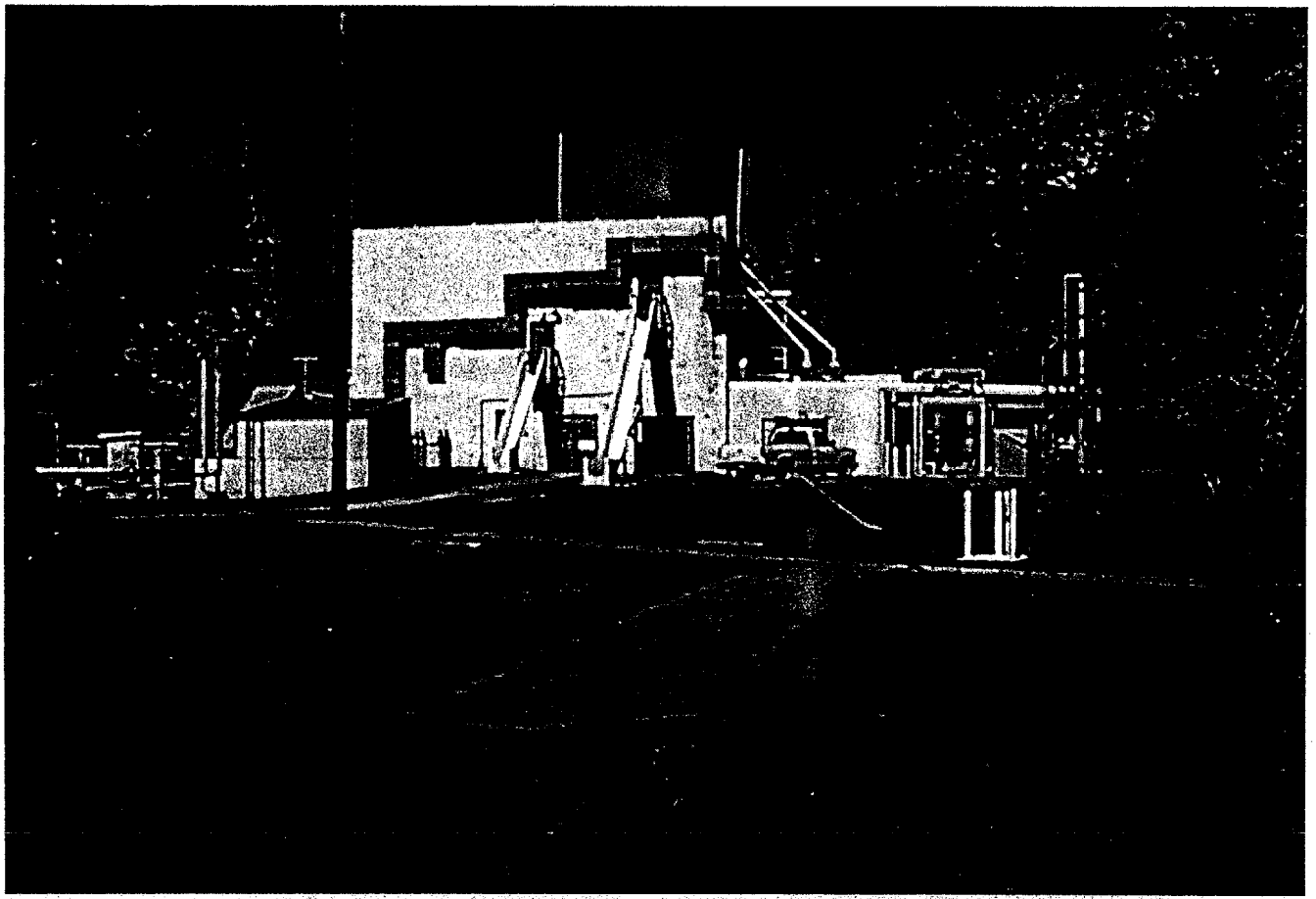
October 25, 2001

Attachment G

Remedial Investigation Project
Status - Site 47

- **Background of Site 47 - Mercuric Nitrate Disposal Area**
  - *Mercuric Nitrate was reportedly disposed in area approximately 24 sq. ft.*
  - *Limestone chips reportedly used to neutralize spent nitric acid*
  - *Procedure carried out between 1957 and 1965*
  - *Initial sampling performed for Site Inspection (SI) in 1992 and 1993*
  - *Final SI Report (March 4, 1994) recommended further study*

IR Site 47



Remedial Investigation Project Status - Site 47

- *Remedial Investigation (RI) Work at Site 47*
  - *Project awarded in November 1998*
  - *Mobilization for field work began July 6, 1999*
  - *RI work included:*
    - *Installing 4 shallow groundwater monitoring wells around Building 856 and sampling the wells*
    - *Taking 10 surface soil samples from around Building 856*
    - *Taking 4 sediment samples from the ditch south of Building 856*
  - *Draft RI report received May 2000 (was expected in December 1999) recommended further investigation*

Remedial Investigation Project Status - Site 47

- *Draft Final RI Report August 2000*
- *Phase II Sampling*
  - *Purpose*
    - *To define the distribution of contaminants in groundwater, the directions of groundwater flow, and the depth, conductivity, and thickness of the clay layer.*
    - *To define the nature and extent of contamination in soil, sediment, and surface water in the drainage ditch originating at Site 47 and to locate the reported acid disposal area*

Remedial Investigation Project
Status - Site 47

- *Samples Collected*
  - *11 Membrane Interface Probe/Electrical Conductivity Shallow Groundwater Samples*
  - *12 Direct Push Groundwater Samples at 7 Locations*
  - *6 Shallow Subsurface Soil Samples*
  - *10 Surface Soil/Sediment Samples*
  - *10 Shallow Groundwater Monitoring Well Samples (6 new and 4 existing wells)*

Remedial Investigation Project Status - Site 47

- *Results - obtained information to help evaluate remedial alternatives*
  - *Better definition of groundwater flow direction and subsurface profile*
  - *Information on hydraulic properties of shallow aquifer*
  - *Better definition of "plume" of carbon tetrachloride and other VOCs in groundwater*
  - *Better definition of extent of contamination in surface soils*
- *However, VOC plume was still not fully defined and there was still some question about the presence of "free product"*

Remedial Investigation Project Status - Site 47

- *Phase III Investigation*
  - *Objectives:*
    1) *Determine distribution of contaminants beyond the site boundaries*
    2) *Determine whether DNAPL (free product) has migrated from the source area*
    3) *Map the surface of the underlying clay layer beyond the site boundary*

Remedial Investigation Project Status - Site 47

- *Phase III Investigation will consist of:*
  - *Membrane Interface Probe/Electrical Conductivity (MIP/EC) investigation*
  - *Insitu groundwater sampling using a direct push rig*
  - *Installation of 2 to 4 additional monitoring wells*
  - *Seep and stream sampling in swales to the south and east of the site*
- *Fieldwork will begin late October/early November*

Site 47 Future Schedule and Budget

- *Phase III Fieldwork to be Completed November 2001*
- *Draft Final RI Report Revision I Expected May 2002*
- *Dollars Spent to-date on IR Site 47 - $200,000*
- *Total projected cost:*
  - *Field investigation and RI report - $400,000*
  - *Feasibility Study, Proposed Plan, Record of Decision - $80,000*

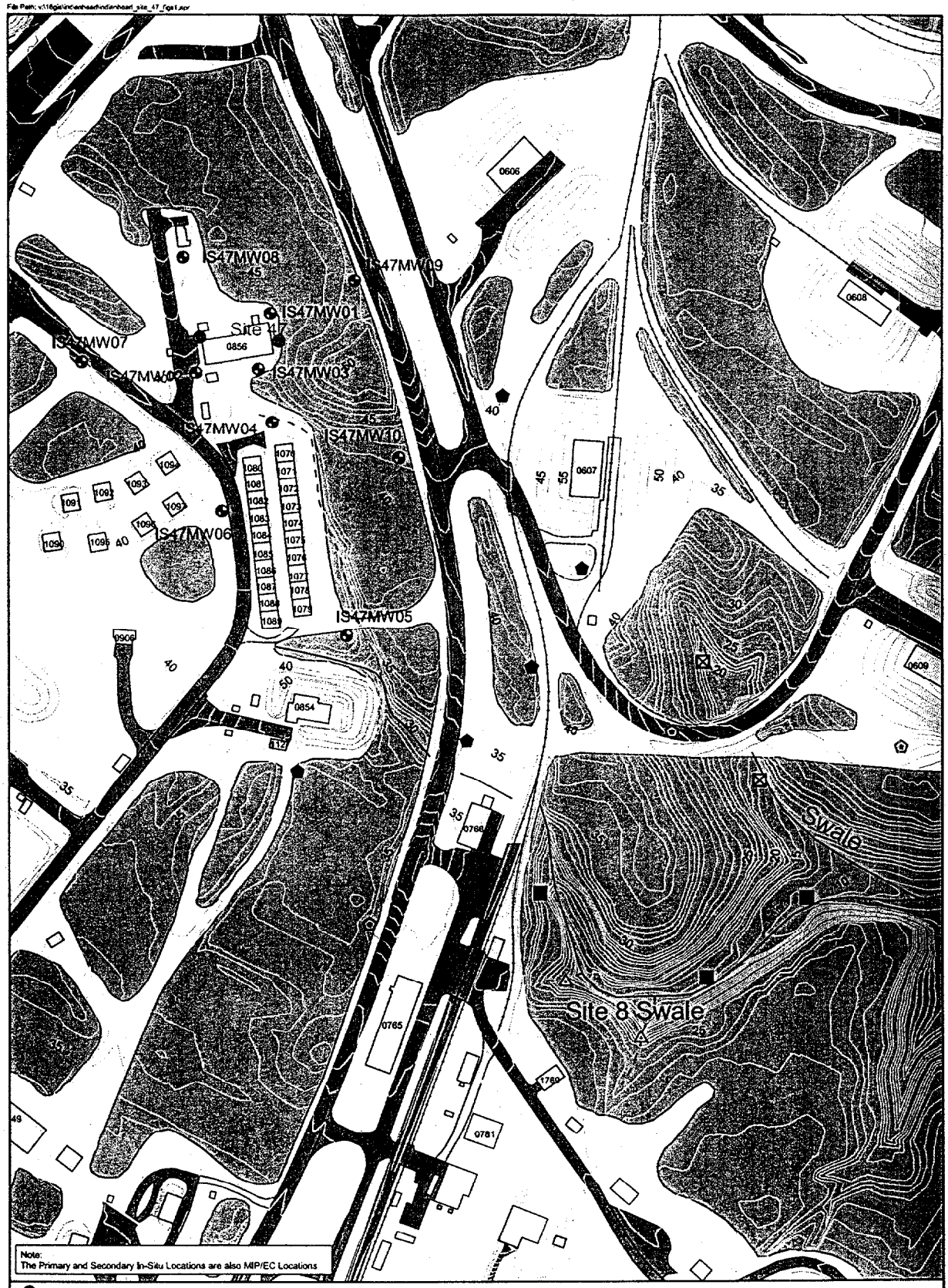


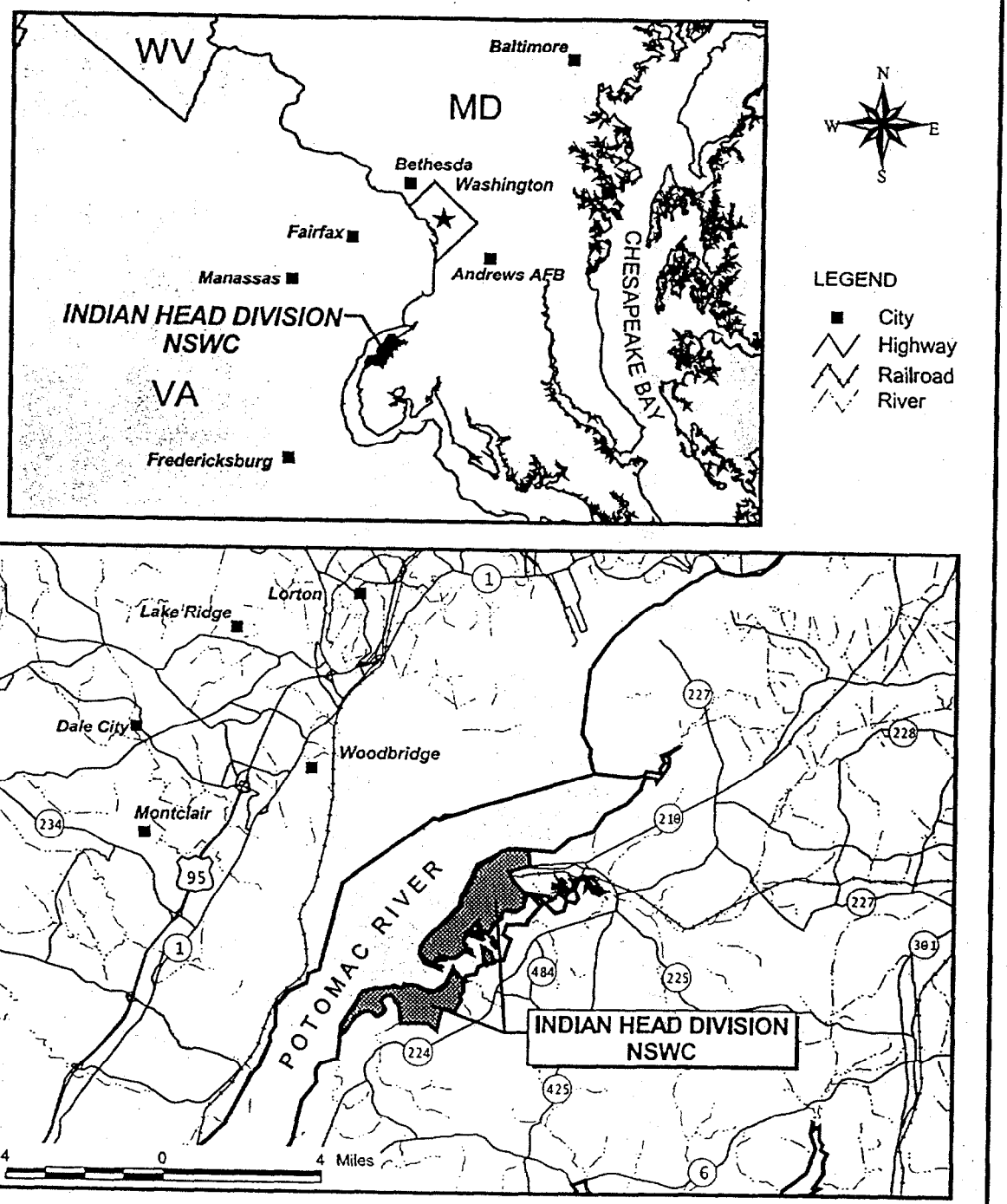
Figure 3
Proposed In-Situ Groundwater, Seep and Stream Sampling Locations
Site 47
IHDIV-NSWC, Indian Head, Maryland

CH2MHILL

Mattawoman Creek Study Update

October 25, 2001

Attachment H



DRAWN BY: J. LAMEY — DATE: 8/2/01	Tetra Tech NUS, Inc.	CONTRACT NUMBER: —	OWNER NO.: —
CHECKED BY: GJL — DATE: 8/3/01	FACILITY LOCATION MAP INDIAN HEAD DIVISION, NSWC INDIAN HEAD, MARYLAND	APPROVED BY: GJL — DATE: 8/3/01	
COST/SCHEDULE-AREA		APPROVED BY: — — DATE: —	
SCALE: AS NOTED		DRAWING NO.: FIGURE 1-1	REV: 0

P:\GIS\NSWC_INDIAN_HEAD\SITE_LOCATION.APR SITE LOCATION MAP 8/3/01 JAL

Site Description

- Drains 79 square mile area in northern Charles county and southern prince George's county, MD
- Average annual discharge is 54 cubic feet per second (0.4% of Potomac flow)
- Little or no salinity
- Interested in portion of creek adjacent to base and the Potomac

Objectives of the Study

- Investigate magnitude of impacts of base-related activities on Mattawoman creek
- Assess ecological and human health risks associated with the impacts
- Field sampling/laboratory analysis will provide data to answer these questions
- Data will be used to determine the most appropriate course of risk management for Mattawoman creek

Timeline of Events

Aug. 15 – 18, 2001	Pilot Study Sampling
Sept. 5 – 10, 2001	Main Sampling Event
March, 2002	Preliminary Conclusions
mid-June, 2002	Draft Final Document

Pilot Study Objectives

- Goal – gather information to design a focused, efficient site evaluation work plan for the baseline risk assessments for Mattawoman Creek
  - Focus the study on specific locations for the main sampling event
  - Focus the study on specific contaminants of concern
  - Provide field information to help develop more efficient sampling
  - Fill data gaps for the main sampling plan

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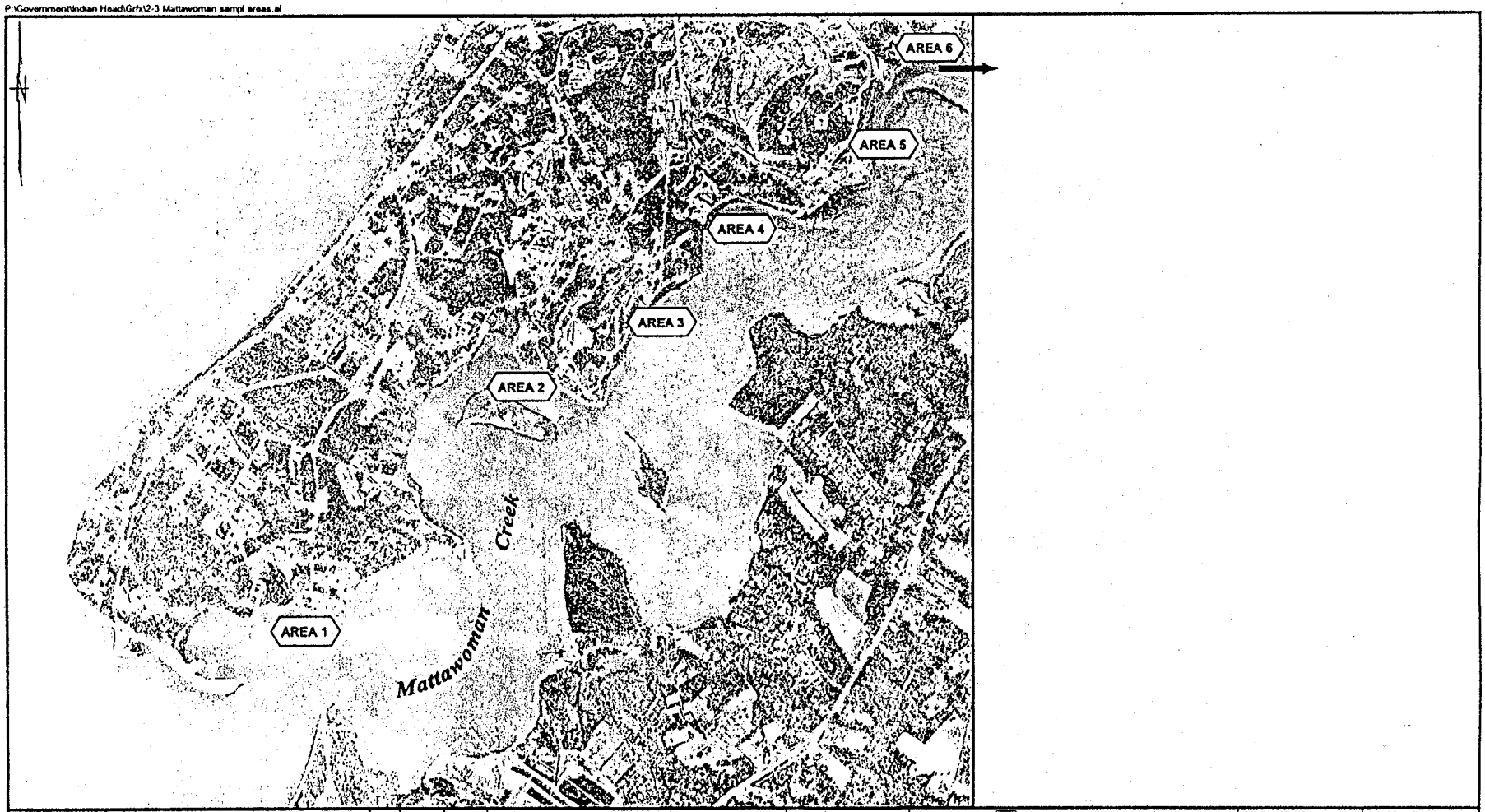

NO.	DATE	REVISIONS	BY	CHKD	APP'D	REFERENCES

DRAWN BY MDB DATE 02/21/01
CHECKED BY DATE
COST/SCHED—AREA
SCALE AS NOTED

TETRATECH

FIGURE 2-3
MATTAWOMAN CREEK
SAMPLING AREAS
MATTAWOMAN CREEK STUDY
IHDIV-NSWC, INDIAN HEAD, MARYLAND

CONTRACT NO. | OWNER NO.
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. | REV. 0

FORM CADD NO. EDV_SHEET.DGN - REV 0 - 1/20/98

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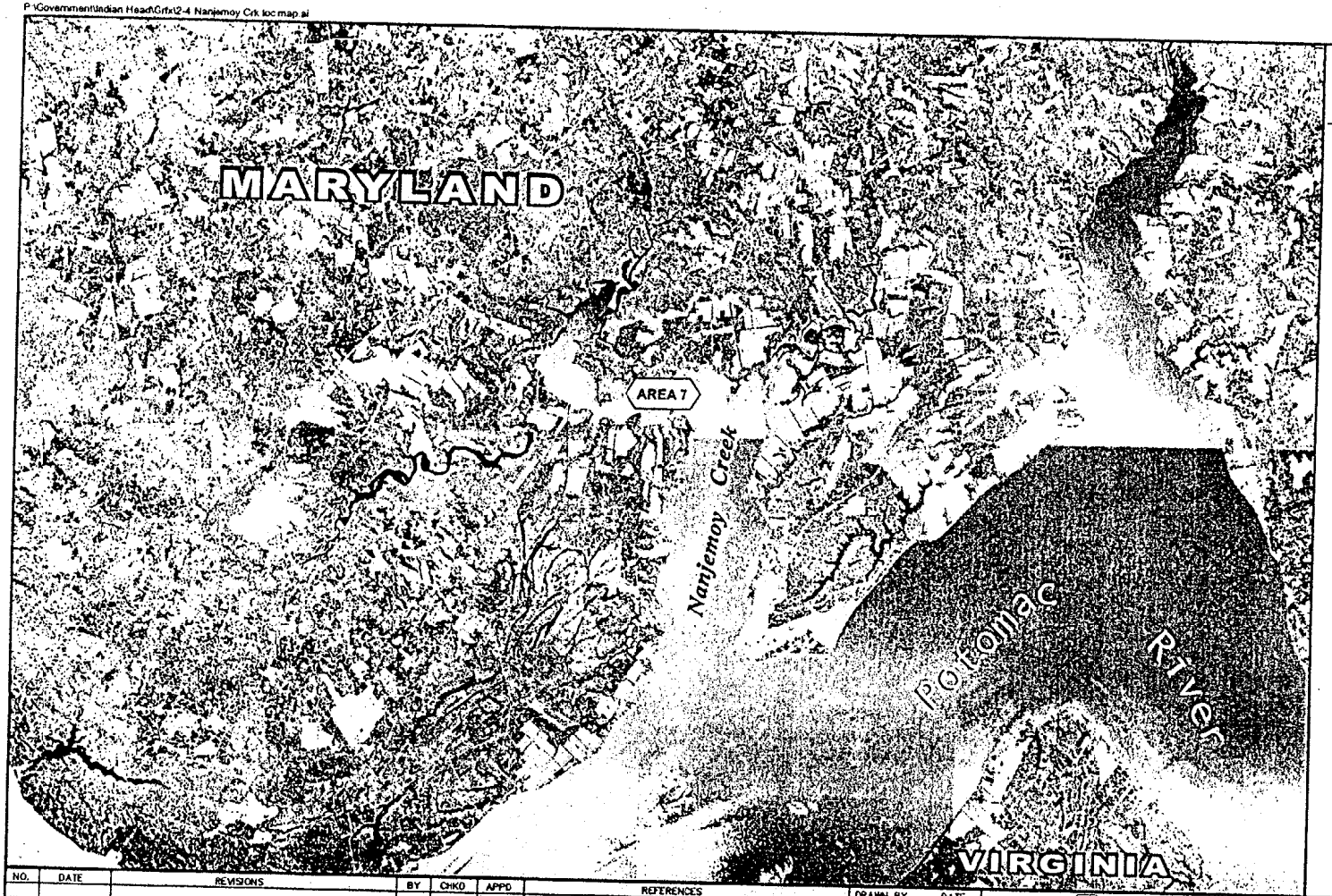

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY MDB	DATE 02/21/01
CHECKED BY	DATE
COST/SCHED–AREA	
SCALE	AS NOTED

TETRA TECH

FIGURE 2-4
NANJEMOY CREEK
SAMPLING AREA
MATTAWOMAN CREEK STUDY
IHDIV-NSWC, INDIAN HEAD, MARYLAND

CONTRACT NO.	OWNER NO.
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO.	REV. 0

FORM CADD NO. SDV_IH12.DGN – REV 8 – 1/20/98

Mattawoman Creek Sampling Areas

(Figures ~~2-27~~ 2-3, ~~2-28~~ 2-4 from MC WP)

Pilot Study Conclusions

- Generally not very much contamination
  - Elevated zinc along shoreline near Former Burn Area (Area 5)
  - Elevated lead near Sites 11/17 (Area 1), and near Sites 39/41 (Area 3)
  - Slightly elevated mercury near Sites 39/41 (Area 3)
  - Elevated silver near Sites 39/41 (Area 3)

Pilot Study Conclusions (cont.)

- Locations within the Creek with elevated contaminants were proximal to specific shore side sites
- Some locations were thick with *Hydrilla*
- Locations near to the bank generally had a rocky substrate
- Observed human use of the creek was used to gather data for the main sampling event

Main Sampling Event

- Conducted from September 5 – 10, 2001 using information from the Pilot Study
- Collected sediment, surface water, *hydrilla*, fish (minnows, catfish, bass)
- Data analysis expected to be complete mid-November
- Results will be used to determine the risk management approach for Mattawoman Creek

NSWC Indian Head
Mattawoman Creek Study
FY 2001 Costs

Project	Cost (approx)
Pilot Project Work Plan	$10,000
Rapid Sediment Screening	$20,000
Confirmatory Analysis	$51,434
Initial Data Compilation	$3,218
Baseline Risk Assessment	$663,174
Total	**$747,826**

INSTALLATION RESTORATION PROGRAM

INDIAN HEAD DIVISION,
NAVAL SURFACE WARFARE CENTER
101 STRAUSS AVENUE
INDIAN HEAD, MARYLAND
20640-5035

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

October 25, 2001

Brief Summary of the Navy Installation Restoration (IR) Program

Question: Can you include the total cost for each site from the beginning by each category?

Answer: We plan to prepare a chart that we will bring to each meeting. We will include the costs on the chart.

Comment: It would be helpful to provide a key to the symbols and abbreviations on the chart.

Answer: A key will be added to the chart.

Question: Are any of the 26 sites requiring Remedial Investigations (RIs) at Stump Neck.

Answer: No.

Question: Are any of the 37 Site Screening Areas (SSA) at Stump Neck?

Answer: Yes.

Question: Any idea how many of the SSAs will be moved up to the RI phase?

Answer: We have no idea at this time. These sites are lower priority.

Question: Is there any problem getting to the Information Repository on base?

Answer: Yes. However, we can arrange a visit to the Repository through our Security Department.

Question: How come the Potomac Branch is not a location of the Repository?

Attachment I

Answer: Space limitation is a concern at all Repository locations. We have been waiting to set up a Repository at the Potomac Branch until the electronic version is completed. We hope to complete this in the near future.

Budget and Schedule for Fiscal Year 2002 (FY02)

Question: In the Fiscal Year 2001 (FY01) slide, are the items listed in the execution phase completed?

Answer: No. These items have been awarded, i.e., the money was obligated, but not spent.

Question: No funding for the Mattawoman Creek Study in FY02?

Answer: The funding for this study was obligated in FY01 and it carries over into FY02.

Question: Does the funding shown on the slides include manpower or labor charges?

Answer: No. This funding is only for cleanup efforts, such as sampling, preparing reports, and remedial actions.

Update on Fieldwork at Installation Restoration (IR) Sites 5, 6, 39, and 45

Site 5

Question: Is the Site 5 building still being used?

Answer: Yes. However, the spent fixer is being collected and is recycled to reclaim the silver.

Question: Where is the Mattawoman Creek in relation to this site?

Answer: The Creek is located to the south/southeast.

Site 6

Question: When you say shallow groundwater wells, how deep are they?

Answer: At Site 6, they are 10 to 14 feet deep. For all sites, the shallow groundwater monitoring wells range from 5 to 50 feet.

Site 39

Question: How old are Buildings 497 and 498?

Answer: These buildings are part of the oldest plant on the Activity. They were built before Building 600, which we know was constructed in 1945.

Site 45

No questions were asked nor comments made on Site 45.

Update on IR Sites 11, 13, 17, 21, and 25

Site 11

No questions were asked nor comments made on Site 11.

Site 13

No questions were asked nor comments made on Site 13.

Site 17

Comment: There are hunks of concrete by marker 1 near Slavin's Dock.

Response: Items, such as concrete, bricks, and metal, were used to control the shoreline from eroding.

Question: Are all these wells being mentioned used for sampling?

Answer: Yes.

Question: How does the $115,000 for the Remedial Investigation tie into the $234,000 shown in the FY01 budget?

Answer: The $115,000 is part of the $234,000. The rest of the money is for the development of the Record of Decision.

Site 21

No questions were asked nor comments made on Site 21.

Site 25

No questions were asked nor comments made on Site 25.

Lab Area Update

No questions were asked nor comments made on the Lab Area.

Update on IR Site 47 - Mercuric Nitrate Disposal Area

Question: Have we determined the thickness of the clay layer between the shallow groundwater and the aquifer?

Answer: No. We have gone about 10 inches into the clay layer in a couple of sample locations and this depth did not pass through the clay layer.

Comment: In some areas, the thickness of the clay is thin. We don't want to fracture the clay layer protecting the underlying aquifer.

Response: We are talking about clay stingers in this area, not the aquitard between the surficial aquifer and the Patapsco Aquifer.

Question: The bulk of the money for FY02 is for Site 47. If we only get a portion of the money scheduled for FY02, where will the money be spent?

Answer: The money will be spent at Sites 47 and 57. These are the highest priority sites.

Question: Concerning the swales that were mentioned, are they natural topographical features where vegetation is growing, or is the vegetation dead?

Answer: The swales have cattails and good vegetation growth.

Comment: There is one site, which we will discuss at our next meeting, where nothing is growing. This site is near Slavin's Dock. The site, which contains zinc, has been moved up from medium to high priority.

Mattawoman Creek Study Update

Question: How far up the creek does the study go?

Answer: The study continues up the creek to a little below the Route 225 bridge.

Comment: Our interest in this study needs to be more than just the creek adjacent to the shore. It should include across the creek on the other side, too.

Response: Based on previous comments on the work plan, samples across the creek were included in the study.

Question: What was the thickness of sediment that you sampled?

Answer: Zero to two inches was sampled. We are looking for direct affects from the sediment.

Question: What sampling techniques were used to catch fish and were any shad caught?

Answer: Techniques used include: rod and reel, electrofishing, and nets. Not sure if any shad were caught.

Question: How did you determine the number of fish to be collected?

Answer: The samplers tried to catch as much as they could based on the amount of time they had out in the field.

Question: Will you compare the information you obtain with U.S. Fish & Wildlife studies done before?

Answer: Yes. The results will be used to make recommendations at specific sites in the creek.

Comment: Wouldn't dredging in the creek (unrelated to cleanup) cause all results to be not applicable.

Answer: Yes, and dredging has obviously been done in the past.

Comment: The creek is smaller than it used to be because, over the years, sediment has been deposited in the creek.

Question: Did you measure the sediment depth in the creek?

Answer: Not sure if this was done.

INDIAN HEAD DIVISION,
NAVAL SURFACE WARFARE CENTER

INSTALLATION RESTORATION (IR) PROGRAM
RESTORATION ADVISORY BOARD (RAB)
MEETING AGENDA
(Tentative)

February 21, 2002

1. **Update on IR Site 47**

2. **Update on IR Site 57**

3. **Mattawoman Creek Study Update**

4. **Site Screening Area - Site 28**

5. **Site Screening Areas - Sites 32, 33, 34, 36, 37, 51, and 52**

ENCL (2)