



DEPARTMENT OF THE NAVY

INDIAN HEAD DIVISION
NAVAL SURFACE WARFARE CENTER
101 STRAUSS AVE
INDIAN HEAD MD 20640-5035

5090
Ser 0952/13
25 Jan 96

Mr. Shawn Phillips
Engineering Field Activity Chesapeake
Washington Navy Yard Building 212
901 M Street SE
Washington, DC 20374-5018

Dear Mr. Phillips:

We are forwarding the meeting minutes from the Installation Restoration (IR) Program Restoration Advisory Board (RAB) meeting that was held on Thursday, January 18, 1996.

We are also forwarding the tentative agenda for the next RAB meeting which is scheduled for April 18, 1996, at the General Smallwood Middle School from 7:00 p.m. until 9:00 p.m.

If you have any comments or questions, you may contact Mr. Shawn Jorgensen on (301) 743-6745/6746. In addition, you may FAX your comments/questions to (301) 743-4180 or submit them in writing to the address above, attention Code 0952.

For those community members on the RAB, please sign the return postcard, enclosure (3), which states that you received this letter, and drop it in the mail. We look forward to seeing you at the next RAB meeting.

Sincerely,

A handwritten signature in cursive script that reads "Michael W. Dunn".

MICHAEL W. DUNN
Acting Director
Environmental Division
By direction of the Commander

Encl:

- (1) Meeting Minutes from
RAB Meeting of 18 Jan 96
- (2) Tentative Agenda for
RAB Meeting of 18 Apr 96
- (3) Return Postcard

Copy to:
RAB Members
EFACHES (Code 181)

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: January 18, 1996

Restoration Advisory Board (RAB) Member Participants:

Capt. W. J. Newton (N)	Mr. Charles Ellison (C)
Mr. Elmer Biles (C)	Mr. Vincent Hungerford (C)*
Mr. Gary Davis (L)	Ms. Donna Lynch (S)
Ms. Sherry Deskins (N)**	Mr. Shawn Phillips (N)

* Co-Chair

** Acting Co-Chair

RAB Members Not in Attendance:

Ms. Susan Adams (N)*	Dr. Philip Giguere (C)
Ms. Kristen Burke (C)	Ms. Patricia Haddon (L)
Mr. Stephen Elder (L)	Ms. Marsha Atlee-Harley (C)
Mr. Bob Foley (F)	Mr. Dennis Orenshaw (F)

* Co-Chair

Additional Attendees:

Mr. Jeff Bossart (N)	Mr. Frank Peters (N)
Ms. Nancy Collins (R)	Ms. Sandy Schroeder (N)
Mr. John Fairbank (S)	Mr. Ivan Tominack (C)
Mr. Shawn Jorgensen (N)	Mr. Billie Weedon (C)
Mr. Tony Klimek (K)	Mr. John Woodburn (N)
Mr. Leo Korkia (C)	Mr. Mark Yeaton (C,N)

C = Community

F = Federal Official

K = Contractor

L = Local Official

N = Navy Official

R = Newspaper Reporter

S = State Official

Major Issues Discussed/Accomplished:

1. Meeting Introduction

Ms. Sherry Deskins of the Indian Head Division, Naval Surface Warfare Center (IHDIV-NSWC) began the meeting by presenting the meeting agenda, which is included as Attachment A. Ms. Deskins also introduced a few new attendees to the meeting. They are as follows:

- a. Mr. John Fairbank, Ms. Donna Lynch's Supervisor from the Maryland Department of the Environment (MDE).
- b. Ms. Nancy Collins, a reporter with the La Plata Ledger.
- c. Mr. Ivan Tominack and Mr. Leo Korkia, community members.
- d. Mr. Billie Weedon, a community member who works at the Dahlgren Division, Naval Surface Warfare Center, a site that is also on the National Priorities List.
- e. Mr. Mark Yeaton, a new member to the community and new employee of the IHDIV-NSWC.
- f. Mr. John Woodburn, Mr. Shawn Phillips's Supervisor from the Engineering Field Activity Chesapeake.

2. IR Site 56 Removal Action Update

Mr. Shawn Jorgensen provided a brief background on IR Site 56, described the work that has been performed at this site and discussed the Removal Action that is scheduled to begin in June 1996. A copy of Mr. Jorgensen's presentation is provided in Attachment B.

3. IR Site 56 Biomonitoring Update

Mr. Tony Klimek of Brown & Root Environmental provided a summary of the latest biomonitoring of biota for lead. Biota were sampled in the tidal pond which receives the discharge from IR Site 56. Biota were also sampled at two control sites. The control sites are located at the beaver pond on Stump Neck Annex and in the Mattawoman Creek at the intersection of Route 224 and Route 225. A copy of Mr. Klimek's presentation is included in Attachment C.

4. IR Site 57 Sampling Results and Future Plans

Mr. Jorgensen described the sampling that was performed at IR Site 57 and the results of that sampling, which are presented in the draft data report. Mr. Jorgensen stated that discussions with the EPA and MDE have begun to determine if the site warrants a Removal Action. A copy of Mr. Jorgensen's presentation is included in Attachment D.

5. Defense Environmental Restoration Account (DERA) Funding for IHDIV-NSWC in 1996

Mr. Shawn Phillips of the Engineering Field Activity Chesapeake described the work that has been funded for IHDIV-NSWC for 1996. This work includes the Removal Action at IR Site 56 and the formulation of a Remedial Investigation Work Plan for 15 IR Sites. In addition, a Removal Action (RA) at IR Site 57 will be funded, if one is necessary.

6. Comments, Questions, and Answers

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

7. Conclusion

Ms. Sherry Deskins concluded the meeting by thanking all in attendance. In addition, she stated that the tentative agenda for the next RAB meeting includes an update on IR Sites 56 and 57 and a discussion of the Remedial Investigation Work Plan.

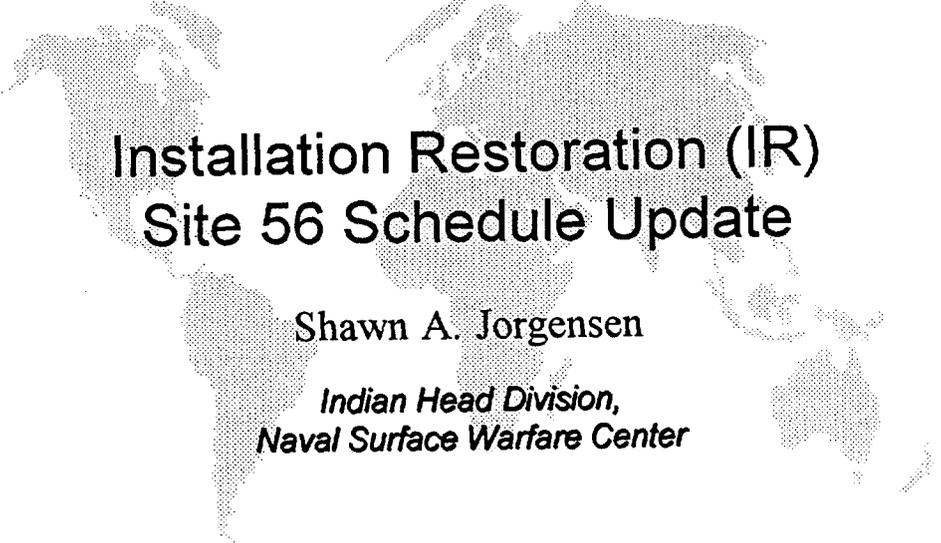
8. Future Schedule

Ms. Deskins ended the meeting by reminding everyone that the next RAB meeting is scheduled for Thursday, April 18, 1996, in the General Smallwood Middle School library at 7:00 p.m.

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

January 18, 1996

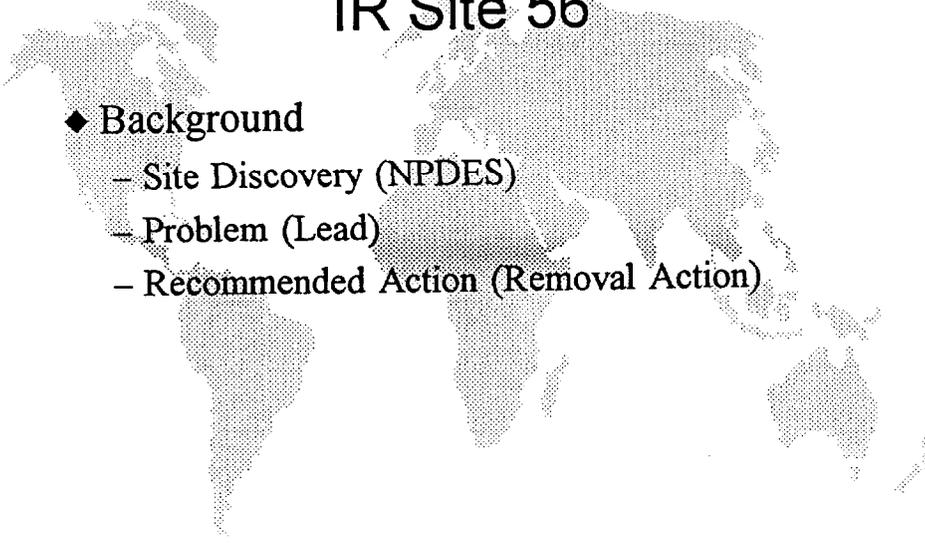
- 7:00 - 7:10** **ARRIVAL/WELCOME**
Ms. Cheryl Deskins
Indian Head Division, Naval Surface Warfare Center
Acting Director, Environmental Division
- 7:10 - 7:30** **IR SITE 56 REMOVAL ACTION UPDATE**
Mr. Shawn Jorgensen
Indian Head Division, Naval Surface Warfare Center
IR Project Manager
- 7:30 - 7:50** **IR SITE 56 BIOMONITORING UPDATE**
Mr. Tony Klimek
Brown & Root Environmental
- 7:50 - 8:10** **IR SITE 57 SAMPLING RESULTS AND FUTURE PLANS**
Mr. Shawn Jorgensen
- 8:10 - 8:30** **DEFENSE ENVIRONMENTAL RESTORATION ACCOUNT
(DERA) FUNDING FOR IHDIV-NSWC IN 1996**
Mr. Shawn Phillips
Engineering Field Activity, Chesapeake
Remedial Project Manager
- 8:30 - 9:00** **COMMENTS, QUESTIONS, AND ANSWERS**
- 9:00** **ADJOURN**



Installation Restoration (IR) Site 56 Schedule Update

Shawn A. Jorgensen

*Indian Head Division,
Naval Surface Warfare Center*



IR Site 56

- ◆ Background
 - Site Discovery (NPDES)
 - Problem (Lead)
 - Recommended Action (Removal Action)

Work Performed

- ◆ Archeological Survey Completed
 - No Archeological Sites Identified
 - No Further Archeological Work Recommended

Work Performed (continued)

- ◆ Sediment and Erosion Control (SEC) Plan Prepared
- ◆ SEC Plan Approved by the Maryland Department of the Environment (MDE)

Work Performed (continued)

- ◆ Army Corps of Engineers Wetlands Permit Prepared
- ◆ Nationwide Permit #38 Obtained
 - Includes Water Quality Certifications

Work Performed (continued)

- ◆ MDE Approval of Wetlands Permit with Additional Requirements
 - Best Management Practices for Working in Nontidal Wetlands
 - In-Stream Work Prohibited from 1 March - 15 June During Any Year
 - Result is 2 Month Delay in Project

Scheduled Work

- ◆ **Final Work Plan - 7 March 1996**
- ◆ **Begin Site Setup - 1 June 1996**
(Previously 1 April 1996)
- ◆ **Start Site Work - 24 June 1996**
(Previously 24 April 1996)
- ◆ **Work Complete - 20 August 1996**
(Previously 20 June 1996)

JANUARY 18, 1996
RAB MEETING
INDIAN HEAD DIVISION,
NAVAL SURFACE WARFARE CENTER



Presentation by:
Anthony P. Klimek, P.E.
Brown & Root Environmental





SITE 56 - BIOMONITORING

INTRODUCTION

- **Objective:** Assess impact of elevated levels of lead in the sediments on fish at Site 56.
- **Strategy:** Collect and analyze fish from the Site 56 pond and compare to levels in fish at unimpacted locations.



SITE 56 - BIOMONITORING

INTRODUCTION

- **Schedule: Five rounds of biomonitoring for lead**
 - **October 1993 (Fall)**
 - **April 1994 (Spring)**
 - **October 1994 (Fall)**
 - **August 1995 (Summer)**
 - **November 1995 (Fall)**
- **Locations:**
 - **Site 8 pond**
 - **Two nearby control sites (1993 and 1994 rounds)**
- **Sampling and lead analysis: Primarily fish tissue**



SITE 56 - BIOMONITORING

BIOASSAY RESULTS

Location	Organism	Lead Concentrations (mg/kg)				
		October 1993	April 1994	October 1994	August 1995	November 1995
Site 8 Pond	Gizzard Shad	---	---	---	1.6	0.7
	Goldfish	---	---	---	0.3	0.4
	Common Carp	---	< 0.2	---	0.4	< 0.2/< 0.2
	Creek Chubsucker	---	---	---	0.4	0.4
	Brown Bullhead	10 U	---	0.5	---	1.2
	Mosquitofish (Gambusia)	10 U	---	0.2	0.3	---
	Bluegill	10 U	< 0.2	0.2 U	0.2	0.4
	Largemouth Bass	---	---	---	0.7/0.2U	0.2 U
	White Crappie	---	---	0.2 U	0.2 U	< 0.2
	Black Crappie	---	---	---	< 0.2	< 0.2
	Notropis sp. (shiner)	10 U	---	0.2	---	---
	Pumpkinseed	---	0.2 U	---	---	---
	Turtle (liver only)	---	0.5	0.2 U/0.3	---	---
Control Site 1 Beaver Pond	Creek Chub	10 U	---	0.2 U	---	---
	Notropis sp. (shiner)	10 U	0.3	0.4	---	---
	Pumpkinseed	10 U	BQ	---	---	---
	American Eel	10 U	---	< 0.2	---	---
Control Site 2 Mattawoman Creek	Creek Chubsucker	10 U	---	0.2 U	---	---
	Brown Bullhead	---	0.3	< 0.2	---	---
	Pumpkinseed	10 U	0.3	---	---	---
	Bluegill	10 U	0.2 U	0.2 U	---	---
	Warmouth	---	---	0.2 U	---	---
Large Mouth Bass	---	---	0.2 U	---	---	



SITE 56 - BIOMONITORING

SUMMARY OF SITE 56 POND

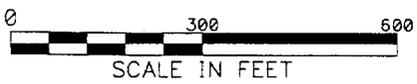
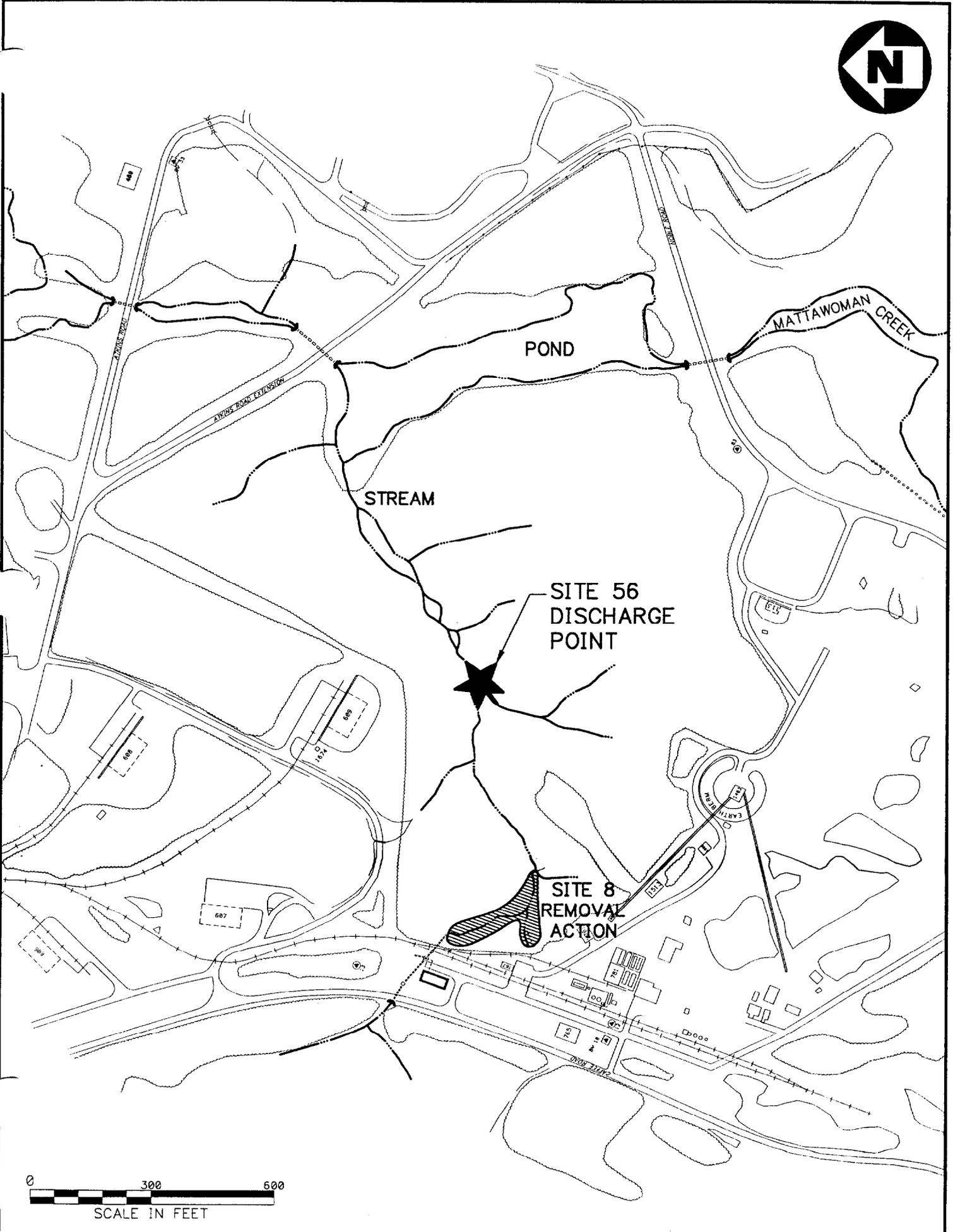
- Pond is a shallow, freshwater pond capable of supporting non-sensitive biota and has a relatively simple community structure.
- Diversity of fish species is low.
- Lead concentrations in fish tissues are consistent with other unimpacted Maryland waterways.



SITE 56 - BIOMONITORING

PRELIMINARY CONCLUSIONS

- **Elevated levels of lead in the sediments at the Site 56 pond may be in a form that is not readily bioavailable.**
- **Site 56 biota are not accumulating lead to a significant degree.**
- **No evidence of food chain biomagnification.**
- **No evidence to suggest that fish at Site 56 have been significantly affected by elevated levels of lead in the sediments.**

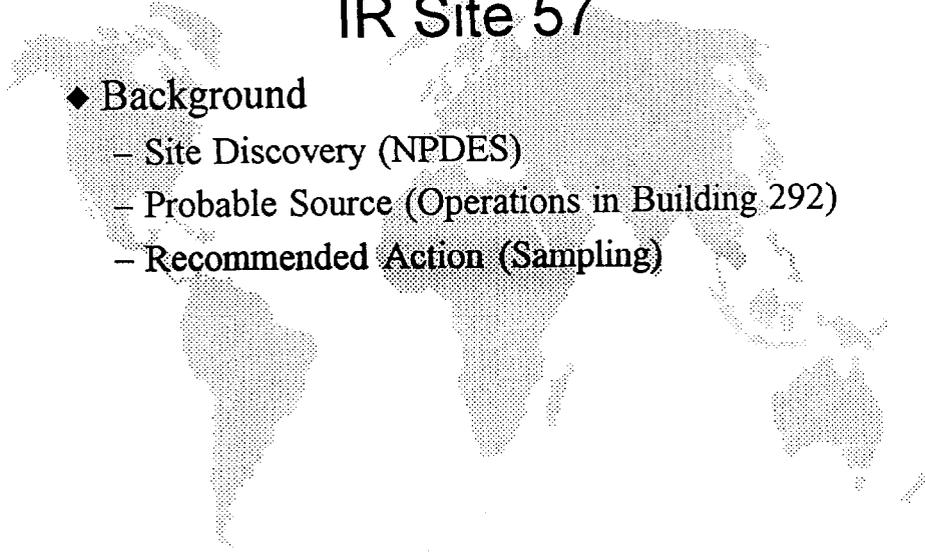




Installation Restoration (IR) Site 57 Data Report Summary

Shawn A. Jorgensen

*Indian Head Division,
Naval Surface Warfare Center*



IR Site 57

◆ Background

- Site Discovery (NPDES)
- Probable Source (Operations in Building 292)
- Recommended Action (Sampling)

Trichloroethylene (TCE)

- ◆ Solvent Used for Degreasing
- ◆ Moderate Vapor Pressure Allows Detection in Gas
- ◆ Dense Non-Aqueous Phase Liquid (DNAPL)
 - More Dense Than Water
 - Will Sink Down To Confining (Clay) Layer

Purpose of Sampling

- ◆ Confirm that a Site Exists
- ◆ Confirm that Operations in Building 292 were the Source

Work Performed (Sampling)

- ◆ Soil-gas
- ◆ Soil
- ◆ Groundwater
- ◆ Surface Water

Work Performed

- ◆ Soil-gas Survey
 - 24 Soil-gas Samples Obtained from 24 Locations
 - TCE Ranged from Non-Detect (ND) to 9,600 milligrams per liter (mg/L) of air
 - Highest Concentration Located 25 Feet Downgradient from Building 292 (Sample SG-07)

Work Performed (continued)

- ◆ Eight Soil Samples Taken at Four Locations
(and 1 Duplicate)
 - Four Soil Samples 2 - 4 Feet Below Grade
(and 1 Duplicate)
 - ✦ TCE Ranged from 0.120 milligrams per kilogram
(mg/kg) of soil to 840 mg/kg
 - ✦ Highest Concentration Located 50 Feet
Downgradient from Building 292 (Sample SG-02)

Work Performed (continued)

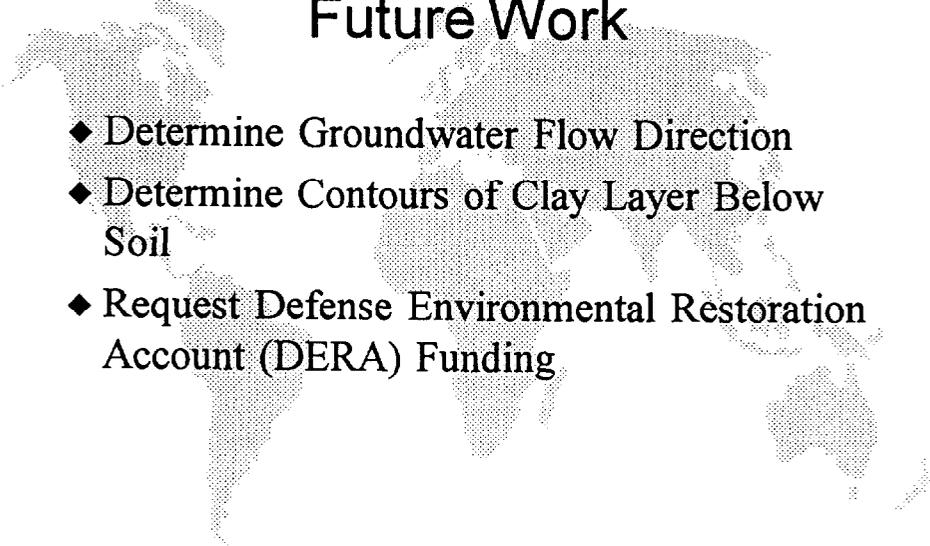
- Four Soil Samples at the Soil/Water Interface
(10 - 12 Feet Depth)
 - ✦ TCE Ranged from Non-Detect (ND) to 0.150 mg/kg
of soil
 - ✦ Highest Concentration Located 25 Feet
Downgradient from Building 292 (Sample SG-07)

Work Performed (continued)

- ◆ Two Groundwater Samples Obtained at Soil/Water Interface
 - TCE 0.003 milligrams per liter (mg/L) of water and 370 mg/L
 - Highest Concentration of TCE Located at SG-07
- ◆ Two Storm Water Samples (Manhole #1)
 - TCE 0.002 mg/L and 0.039 mg/L

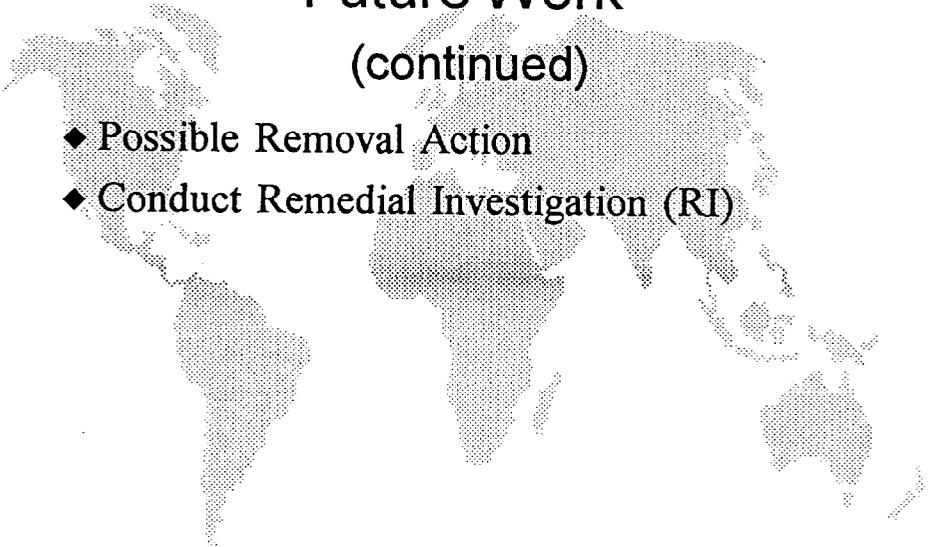
Purpose of the Sampling Met

- ◆ IR Site Exists in the Area of Building 292
- ◆ Operations at Building 292 the Most Probable Source



Future Work

- ◆ Determine Groundwater Flow Direction
- ◆ Determine Contours of Clay Layer Below Soil
- ◆ Request Defense Environmental Restoration Account (DERA) Funding



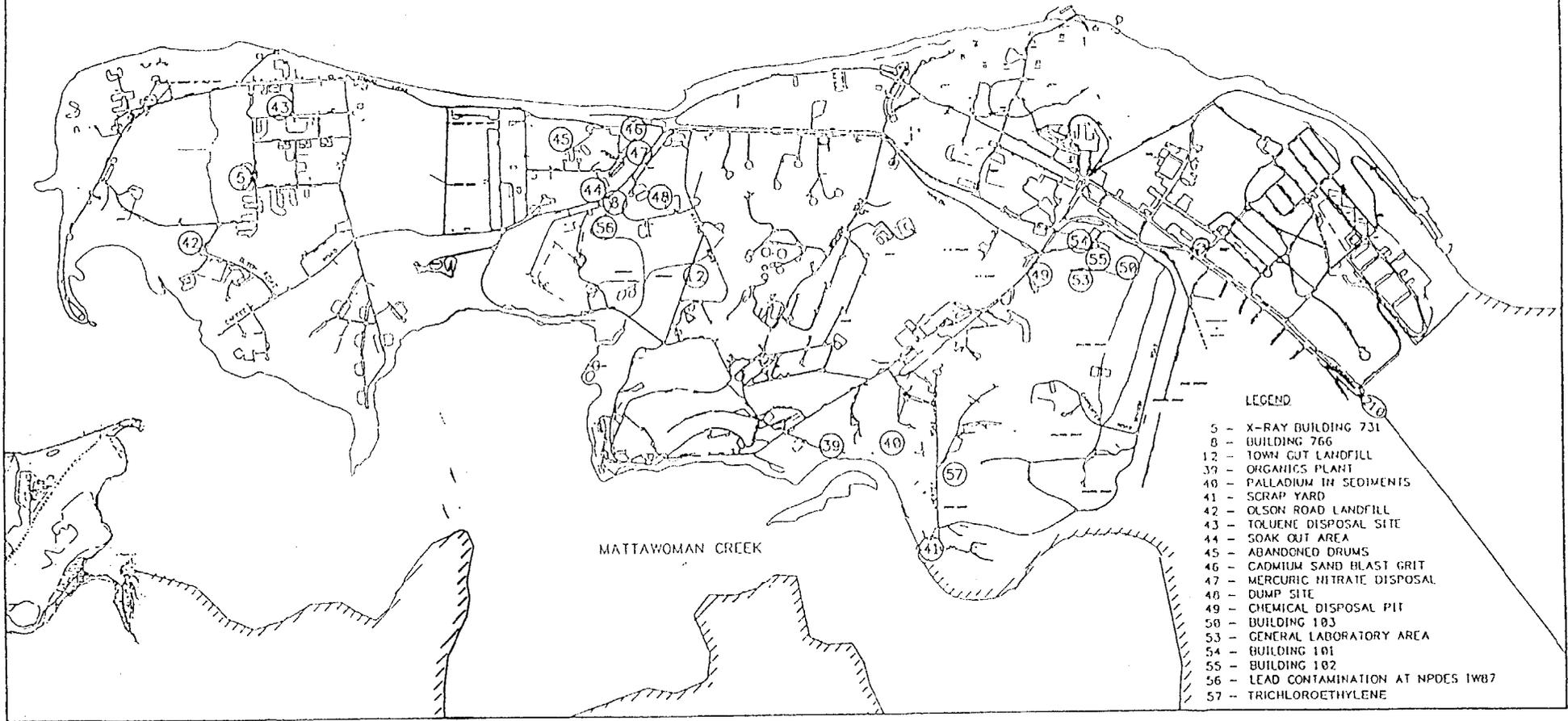
Future Work

(continued)

- ◆ Possible Removal Action
- ◆ Conduct Remedial Investigation (RI)



POTOMAC RIVER



LEGEND

- 5 - X-RAY BUILDING 731
- 8 - BUILDING 766
- 12 - TOWN GUT LANDFILL
- 39 - ORGANICS PLANT
- 40 - PALLADIUM IN SEDIMENTS
- 41 - SCRAP YARD
- 42 - OLSON ROAD LANDFILL
- 43 - TOLUENE DISPOSAL SITE
- 44 - SOAK OUT AREA
- 45 - ABANDONED DRUMS
- 46 - CADMIUM SAND BLAST GRIT
- 47 - MERCURIC NITRATE DISPOSAL
- 48 - DUMP SITE
- 49 - CHEMICAL DISPOSAL PIT
- 50 - BUILDING 103
- 53 - GENERAL LABORATORY AREA
- 54 - BUILDING 101
- 55 - BUILDING 102
- 56 - LEAD CONTAMINATION AT NPDES 1WB7
- 57 - TRICHLOROETHYLENE

MATTAWOMAN CREEK

FACILITY MAP AND
IR SITE LOCATIONS
INDIAN HEAD DIVISION NSWC

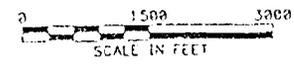
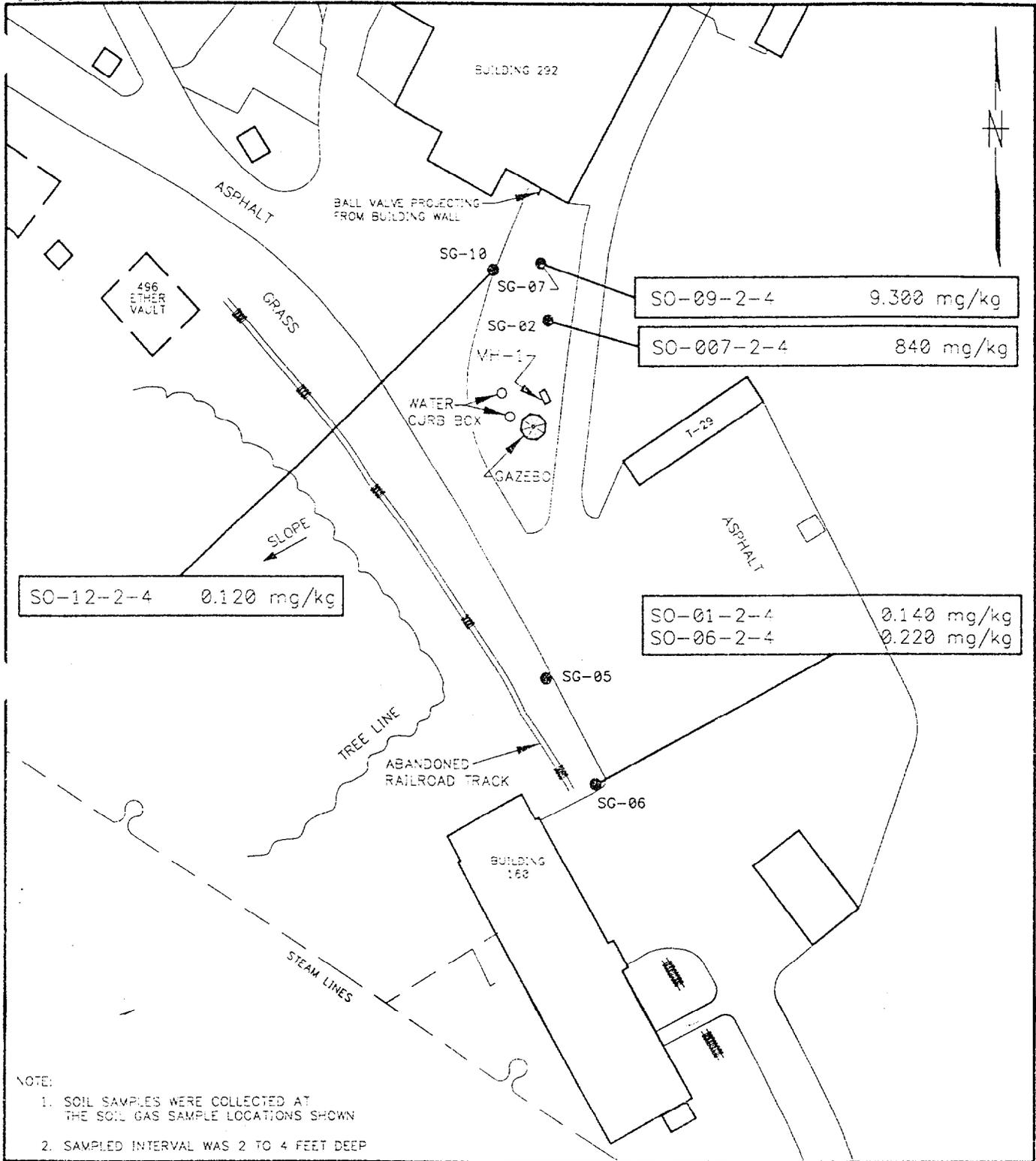


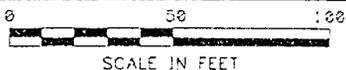
FIGURE 2-3



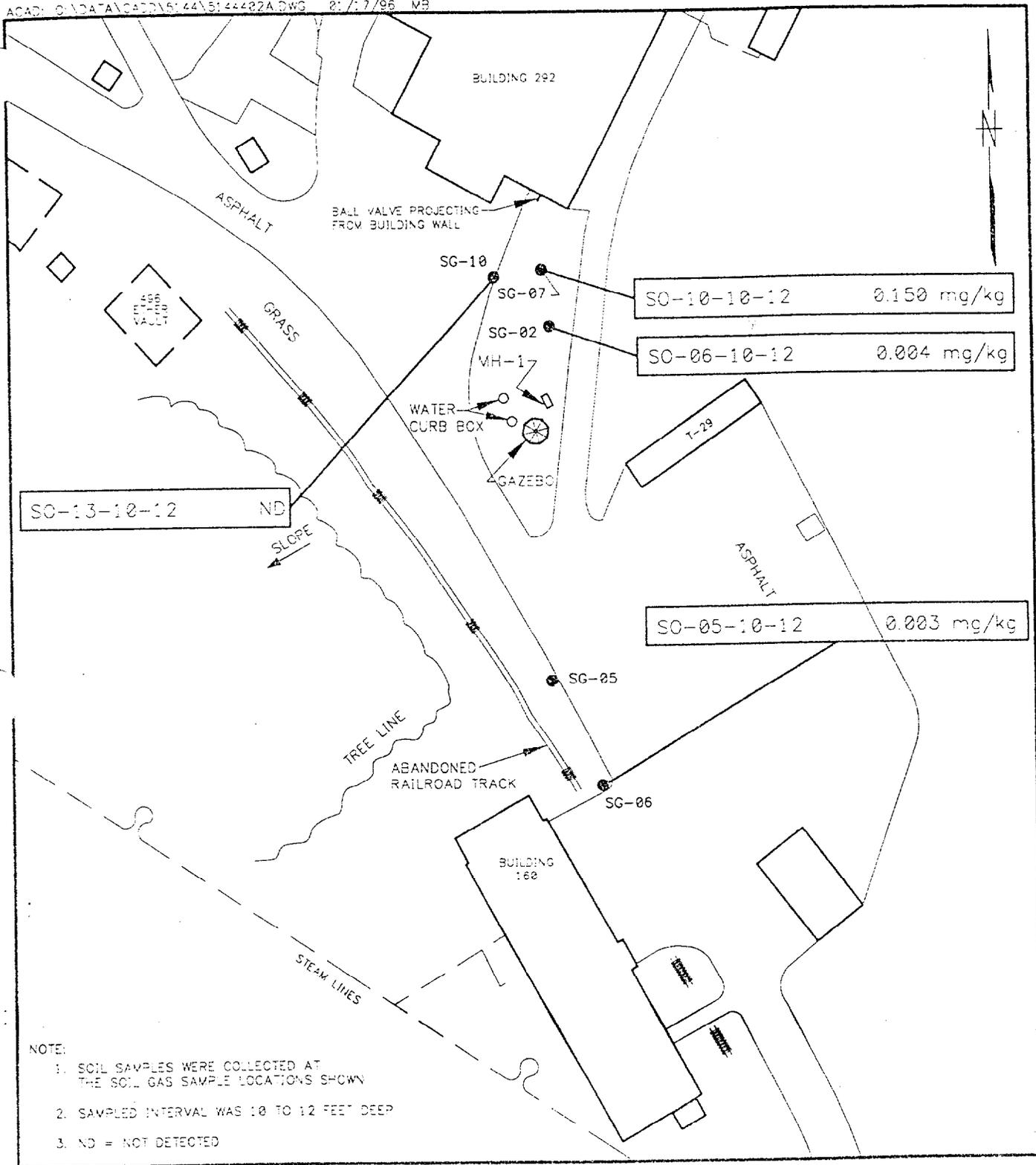
2-13



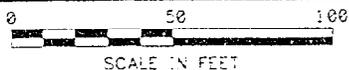
TRICHLOROETHENE IN SHALLOW SOIL (mg/kg)
BUILDING 292, FORMER DRUM LOADING AREA
NAVAL SURFACE WARFARE CENTER,
INDIAN HEAD, MARYLAND

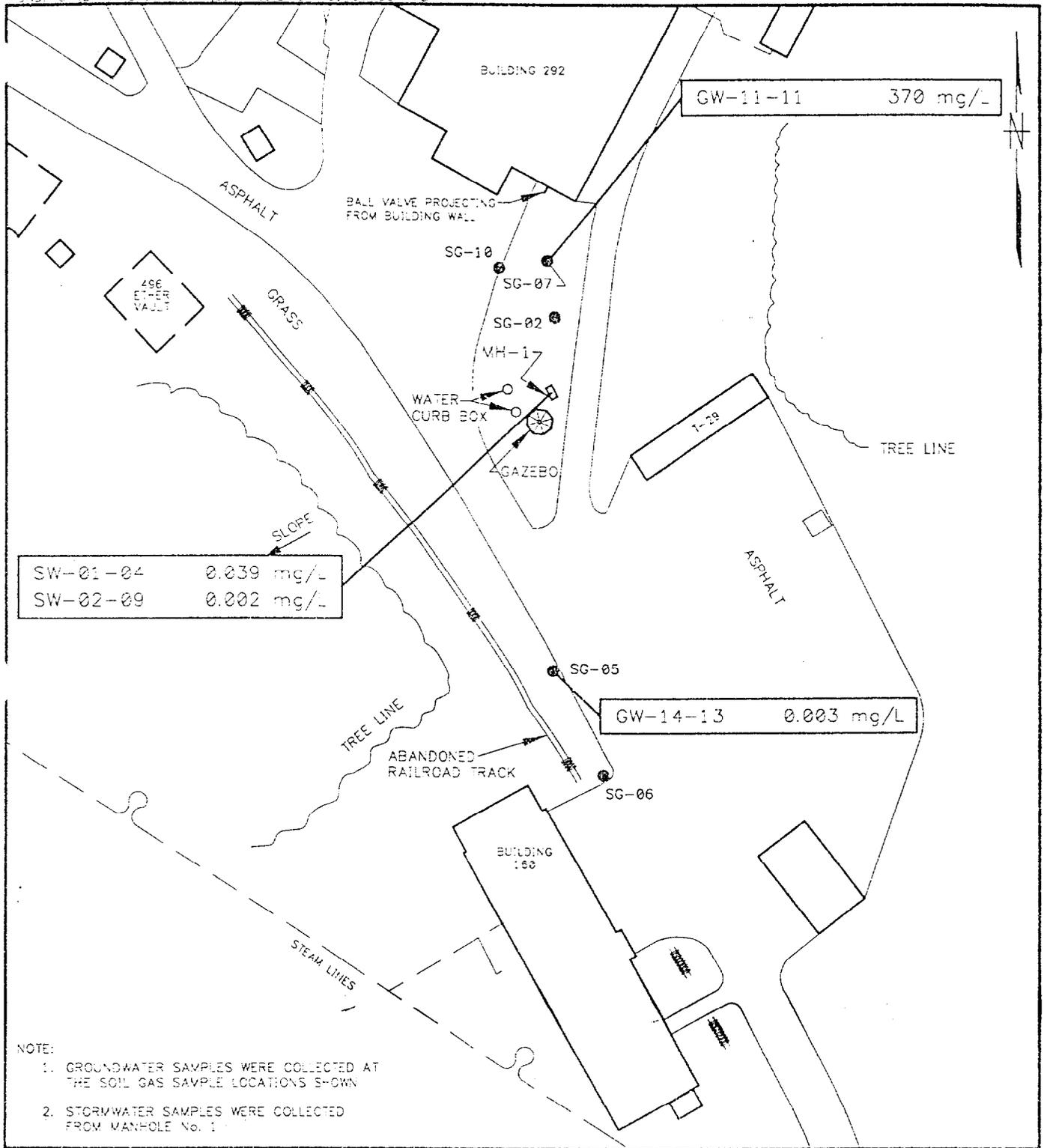


Brown & Root Environmental



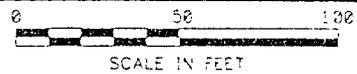
TRICHLOROETHENE IN DEEP SOIL (mg/kg)
BUILDING 292, FORMER DRUM LOADING AREA
NAVAL SURFACE WARFARE CENTER,
INDIAN HEAD, MARYLAND





NOTE:
 1. GROUNDWATER SAMPLES WERE COLLECTED AT THE SOIL GAS SAMPLE LOCATIONS SHOWN
 2. STORMWATER SAMPLES WERE COLLECTED FROM MANHOLE No. 1

TRICHLOROETHENE IN GROUNDWATER
AND STORMWATER (mg/L)
BUILDING 292, FORMER DRUM LOADING AREA
NAVAL SURFACE WARFARE CENTER,
INDIAN HEAD, MARYLAND



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 19, 1995

Installation Restoration (IR) Site 56 Removal Action (RA) Update

Question: What were the levels of lead in the pipe?

Answer: In the pit leading to the pipe, the levels of lead were approximately 18,000 parts per million (ppm). At the end of the pipe, the lead level was approximately 2,000 ppm.

Question: What is the cost of the RA?

Answer: About \$440,000. This includes cleaning the pipe, relining the pipe, removing the last 70 feet of pipe, and removing sediment in 30 feet of stream.

Question: Is there any flow through the pipe during normal times (typical day and weather)?

Answer: Yes. Cooling water also drains through this pipe.

IR Site 56 Biomonitoring Update

Question: Does the cleanup level for these types of sites vary?

Answer: Yes.

Question: If the lead does not appear to be accumulating in fish, why are we spending over \$400,000 to clean it up?

Answer: Some forms of lead lend themselves to bioaccumulation. In our case, the lead may not bioaccumulate in fish; however, the sediment samples failed the Toxicity Characteristic Leaching Procedure (TCLP) test. In other words, once the sediment is removed, it is

considered a hazardous waste and must be properly disposed of.

Question: Did you test any birds?

Answer: No. Only small organisms, fish, and turtles were sampled. The assumption is made that if the larger fish, which feed on the smaller ones, are not bioaccumulating lead, then birds, which feed on the larger fish, are not accumulating lead either.

Question: Was the interior of the pipe examined? Are there any holes in the pipe where sediment could be coming out?

Answer: A video survey of the pipe was conducted. However, when the camera reached 278 feet, the sediment in the pipe became too great for the camera to pass. Groundwater was seen entering the pipe in many locations, especially at pipe seams. No large holes in the pipe were observed.

Comment: The pipe will be relined during the RA to ensure that lead around the pipe, if any exists, will not migrate back into the pipe or stream.

Question: How will the pipe be relined?

Answer: Slip lining will be used to reline the pipe. The previously discussed method, in-situ pipe relining, proved to be too costly.

Question: Were soil borings taken from around the outside of the pipe?

Answer: Soil borings have not been taken to date. However, soil borings will be taken in the future during the Remedial Investigation phase of the IR Program.

Question: Is that a natural pond?

Answer: The pond was created by beavers many years ago. Although the beavers are gone, the installation of a weir under Noble Road keeps the pond in existence. The pond acts as a settling area, giving any sediment particles with lead attached enough time to settle out, preventing lead from entering the Mattawoman Creek.

Question: Would we expect the level of lead in the pond to increase if we left this site for another 100 years?

Answer: The lead in the pond would increase, since the lead in the upper portion of the stream would work its way downgradient into the pond.

Question: How do the levels of lead at this site compare to lead based paint in homes?

Answer: The two types of lead are different and cannot be easily compared.

IR Site 57 Sampling Results and Future Plans

Question: Where is the manhole?

Answer: The manhole is located approximately 50 feet outside the front of Building 292.

Question: What level of Trichloroethylene (TCE) in the soil do we get excited about?

Answer: That depends on where the TCE is going. For example, the Ambient Water Quality Criteria (AWQC) value for TCE in aquatic fresh water is 21,000 micrograms per liter ($\mu\text{g/L}$). Our effluent from the manhole is only 60 $\mu\text{g/L}$, well below what could harm aquatic life.

In drinking water, the maximum contaminant level (MCL) for TCE is 0.005 mg/L. The values we obtained from two shallow groundwater samples are 370 mg/L (the location in soil of highest TCE) and 0.003 mg/L (a location approximately 200 feet downgradient from Building 292. Two things should be noted here. The shallow groundwater is not used for drinking water and well water on the base that is used for drinking water has been tested for TCE and no TCE was found in the drinking water. In addition, the sharp decrease in the level of TCE in the groundwater 200 feet away suggests that the TCE is concentrated near the building and is not moving quickly in the soil and shallow groundwater.

Finally, the Risk-Based Concentration for TCE in soil is 58 milligrams per kilogram (mg/kg) in residential areas and 520 mg/kg in industrial areas. Only one soil sample exceeded the level for industrial areas with a value of 870 mg/kg.

Question: Does TCE stay around forever.

Answer: TCE will break down with time.

Question: Were any other products detected in the samples?

Answer: Yes. Vinyl chloride, a typical breakdown product of TCE, was found in samples at much lower concentrations than TCE.

Question: Was vinyl chloride detected in groundwater samples?

Answer: Vinyl chloride was found in only one groundwater sample at a concentration of 2 mg/L.

Question: How deep were groundwater samples taken?

Answer: The groundwater samples were located at 11 to 13 feet below grade, where groundwater was encountered.

Defense Environmental Restoration Account (DERA) Funding for
IHDIV-NSWC in 1996

Question: Does being on the National Priorities List (NPL) give us any advantage in funding?

Answer: All of the money for Navy IR work comes from the same account. However, being on the NPL will help IHDIV-NSWC to obtain a larger part of the pot.

Comment: Superfund is an account that was set up by congress to clean sites that have been left by unknown sources. Under Superfund, the EPA must clean these sites then locate Potentially Responsible Parties (PRPs) for reimbursement. This account is not the same as DERA. DERA was set up by the Department of Defense to clean its own sites.

Question: Do any of the studies examine chemicals in drinking water wells or saltwater intrusion?

Answer: IHDIV-NSWC tests their drinking water wells for numerous chemicals, including sodium, as required by law. The law requires IHDIV-NSWC to notify those drinking the water if a problem exists. To date, only the sodium (salt) has been detected at a slightly elevated level, a result of salt water intrusion.

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

April 18, 1996

- 7:00 - 7:10** **ARRIVAL/WELCOME**
Ms. Susan P. Adams
Indian Head Division, Naval Surface Warfare Center
Director, Environmental Division
- 7:10 - 7:30** **IR SITE 56 REMOVAL ACTION UPDATE**
Mr. Shawn Jorgensen
Indian Head Division, Naval Surface Warfare Center
IR Project Manager
- 7:30 - 7:50** **IR SITE 57 UPDATE**
Mr. Shawn Jorgensen
- 7:50 - 8:30** **REMEDIAL INVESTIGATION WORK PLAN DISCUSSION**
Mr. Shawn Phillips
Engineering Field Activity, Chesapeake
Remedial Project Manager
- 8:30 - 9:00** **COMMENTS, QUESTIONS, AND ANSWERS**
- 9:00** **ADJOURN**

ENCL (2)