

MEETING MINUTES

RESTORATION ADVISORY BOARD For PLUM BROOK ORDNANCE WORKS

Meeting Date: December 6, 2000

Meeting Time: 7:00 p.m.

Meeting Location: Firelands College Library

Meeting Attendees:

Mark Bohne, RAB, Co-Chair
Rick Meadows, USACE, Co-Chair
Janet Bohne, RAB
Peg Kingsley, RAB
Gil Steinen, RAB
Lee Yeckley, RAB
David Speer, RAB
Lisa Humphreys, USACE
Becky Terry, USACE
Linda Ingram, USACE
Melanie Lesloe, USACE

Robert M. Puzak, NASA
Mike Gunderson, IT Corp.
Mike Spangberg, IT Corp.
Archie Lunsey, OEPA
Ron Nabors, OEPA
Eugene Dahs, Visitor
Jim Fisher, Visitor
Charlie Herdendorf, Visitor
Robert Barnes, Visitor
Helen Owens, ICI

- Rick Meadows and Mark Bohne opened the meeting by welcoming the attendees and since there were new faces in attendance, all were asked to introduce themselves.
- Mark Bohne attended the "Department of Defense Environmental Cleanup Stakeholder Forum" which was held in St. Louis, Missouri on November 14-16, 2000. Mark discussed several websites that may be of interest to the RAB members. The website information is provided in this package. The complete information packet that Mark provided was extensive, however, if you wish to receive a copy of the information, please contact Helen Owens, International Consultants, Inc. @ (937) 252-0341 or email howens@intlconsinc.com.
- The meeting agenda included a presentation by IT Corporation, which detailed the sampling efforts in TNT Areas A, and C and the Red Water Ponds Area. Mike Gunderson of IT Corporation presented the information on the strategies employed to identify the appropriate sampling location as well as sampling procedures for soils and groundwater. Sample results are being prepared for review and were not part of this presentation. The results are scheduled for delivery in the 1st quarter of 2001. A copy of the information that was presented is included as an attachment to these minutes.

Department of Defense Environmental Cleanup Stakeholder's Forum
St. Louis, MO
November 14-16, 2000

Web addresses of interest:

www.denix.osd.mil

Use this site to comment of the information discussed at the conference. Public input is encouraged. Forum report and information is posted here.

www.itrcweb.org

ITRC is a state-led national coalition dedicated to achieving better environmental protection through the use of innovative technologies. ITRC helps regulatory agencies and technology developers, vendors, and users reduce the technical and regulatory barriers to the deployment of new environmental technologies. ITRC products and services are building the collective confidence of the environmental community about using new technologies.

Originating in 1995 from a previous initiative by the Western Governors' Association, ITRC has expanded to include the environmental agencies of more than 30 states and the District of Columbia, multiple federal partners, industry participants, and other stakeholders. In January 1999, ITRC affiliated with the Environmental Research Institute of the States. ERIS is a 501(c) 3 nonprofit educational subsidiary of the Environmental Council of the States (ECOS). ITRC receives regional support from the Southern States Energy Board (SSEB) and the Western Governors' Association (WGA) and financial support from the U.S. Department of Energy, U.S. Department of Defense, and the U.S. Environmental Protection Agency.

www.keystone.org

The Keystone Center is the group that coordinates Stakeholder's Forums and accumulates data and documentation for presentation to Congress. Good source of existing reports and information.

National Caucus of RAB Members

Group consisting of community stakeholders and RAB members. Network of professional engineers, attorneys, environmentalists, and responsible community members for the sole purpose of communicating about active and inactive defense sites. Excellent resource for technical questions and relevant stories from people involved with RABs in their own areas.

SUMMARY AND PRELIMINARY RESULTS

***PHASE II RED WATER PONDS ECOLOGICAL RISK
ASSESSMENT INVESTIGATION***

TNT AREAS A & C REMEDIAL INVESTIGATION

FORMER PLUM BROOK ORDNANCE WORKS

Presented To:

Restoration Advisory Board

December 6, 2000



Purpose and Objectives

- Define site physical features and characteristics
- Determine the nature and extent of source areas
- Determine whether contaminant distribution is consistent with DOD activities
- Characterize the risk to current and future human and/or ecological receptors

NOTE: TNT Areas A & C Remedial Investigation Report of Findings is presently being prepared to be issued as Draft in January 2001. Therefore, findings, recommendations, and conclusions presented herein are subject to revision.



Field Activities for the Red Water Ponds Investigation

- Preliminary land surveying for sample location
- Surface soil sampling for earthworm COPEC uptake estimates
- Fish sampling for COPEC uptake estimates based on tissue
- Sediment sampling for COPEC uptake estimates
- Surface water sampling for COPEC uptake estimates
- Background sampling
 - ◆ Analytical procedures
 - ◆ Land survey



Pre-Sampling Field Activities for the TNT Areas A & C Investigation

■ Locations of former building foundations determined by:

- Historical maps and land surveying
- Land topography
- Metal detector

■ Foundation locations confirmed by excavation

- Foundations located up to 3 ft below fill material





TNTA, Building 182 - DNT Sweating & Graining House. Trench with rebar. Western side of building foundation. Fill depth approximately 1 foot. Looking north.



TNTC, Building 613 - Fortifier House. SE corner of building foundation. Looking west.

Rationale for Screening Soil Sample Placement

- Based on locations of potential sources (buildings, pipelines, dewatering tanks, catch basins, etc.)
 - 3-5 Feet from building foundation
- Nitroaromatic detections observed at TNT Area B
- Experience at similar TNT production areas (West Virginia Ordnance Works, Volunteer Army Ammunition Plant)
- Historical nitroaromatic detections at TNT A and TNT C



Phase I & II - Surface Soil Screening Investigation

- **Soil sampling approach**

- Identification of fill thickness/original ground surface

- Sample collection

- **Collected 719 “surface soil” screening samples**

- 386 surface soil screening samples from TNTA

- 333 surface soil samples collected from TNTC

- **Surface soil samples collected in an iterative approach using field screening data to delineate contamination**





TNTC, Building 681 - Mono House. SW corner of building foundation. Looking north.



TNTA, Building 116 - Wash House. Northern foundation wall.
Fill depth approximately 1 foot. Looking north.



TNTA, Building - Wash House, Blue stake indicating NW foundation corner. Looking south.

Phase III - Subsurface Soil Screening Investigation

■ Soil sample placement

→ 44 subsurface samples were collected at TNT A

→ 52 subsurface samples were collected at TNT C

■ Soil sampling procedures

→ Direct push technology used to collect samples



Confirmation Samples

■ Surface soil sampling

- Surface soil sampling procedures
- Collected 22 surface soil confirmation samples in TNTA and 25 from TNTC

■ Subsurface soil sampling

- Subsurface soil sampling procedures
- Collected 17 subsurface soil confirmation samples in TNTA and 15 from TNTC



Groundwater Samples

- **Sample placement**
- **Sampling procedures**
 - Temporary piezometer installation
 - Hydropunch sampling
- **Collected 9 groundwater samples from 10 locations at TNTA**
- **Collected 9 groundwater samples from 10 locations at TNTC**



Surface Water and Sediment Samples

- **Sample placement**

- **Sample collection procedures**

- **TNTA (on-site and off-site)**

- Collected 10 surface water samples (9 on-site and 1 off-site)

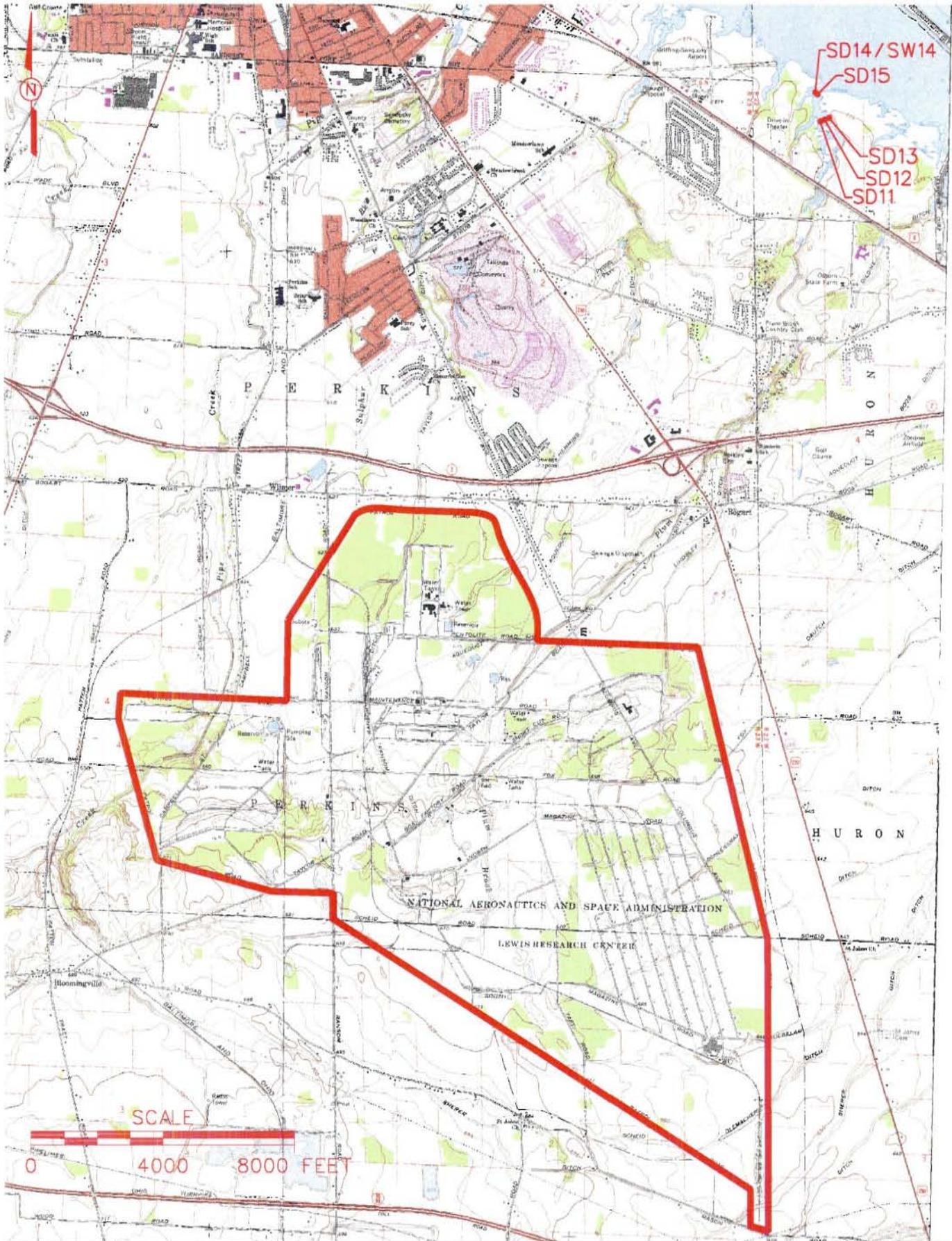
- Collected 15 sediment samples (10 on-site and 5 off-site)

- **TNTC (on-site)**

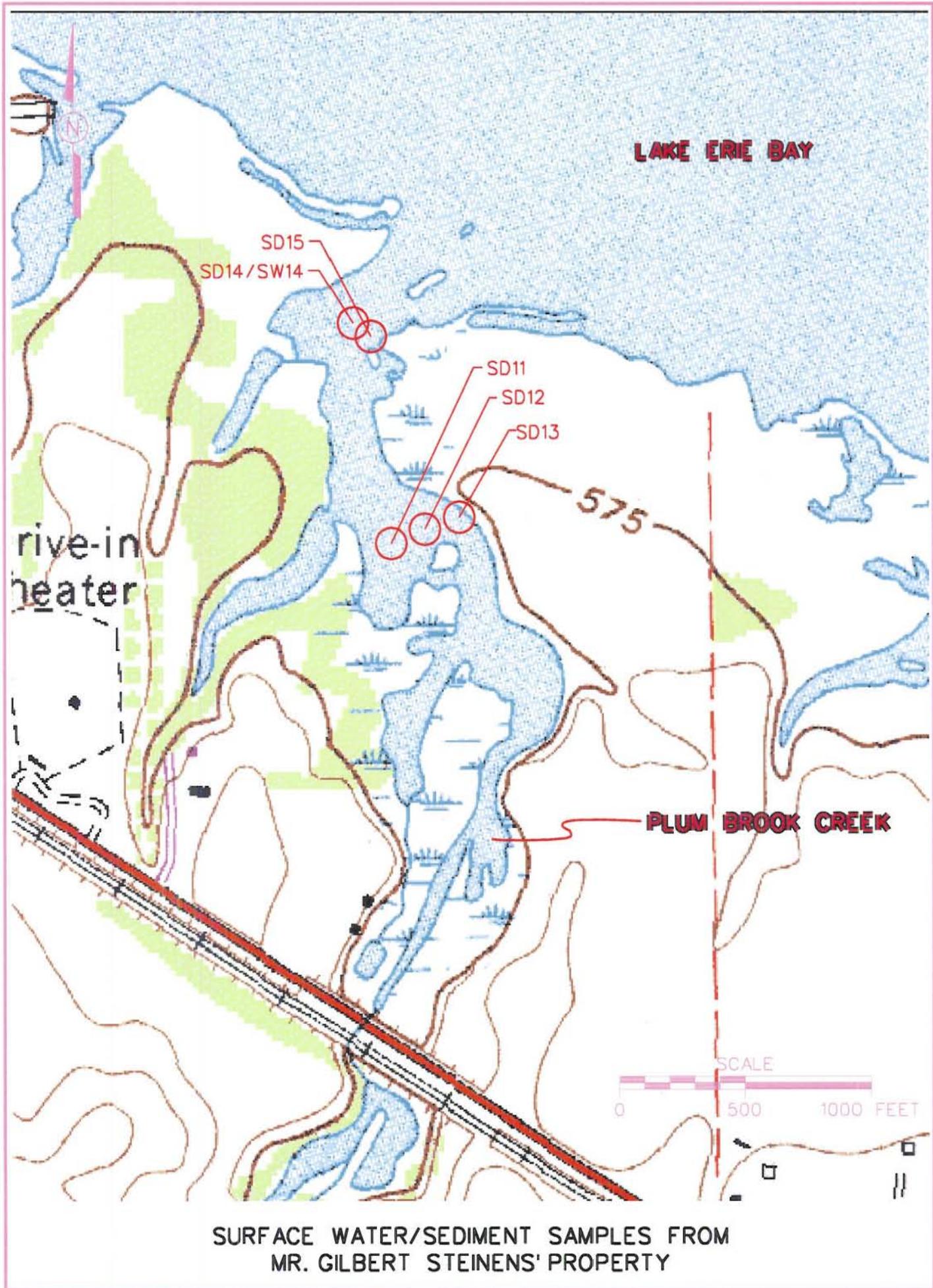
- Collected 10 surface water samples

- Collected 15 sediment samples

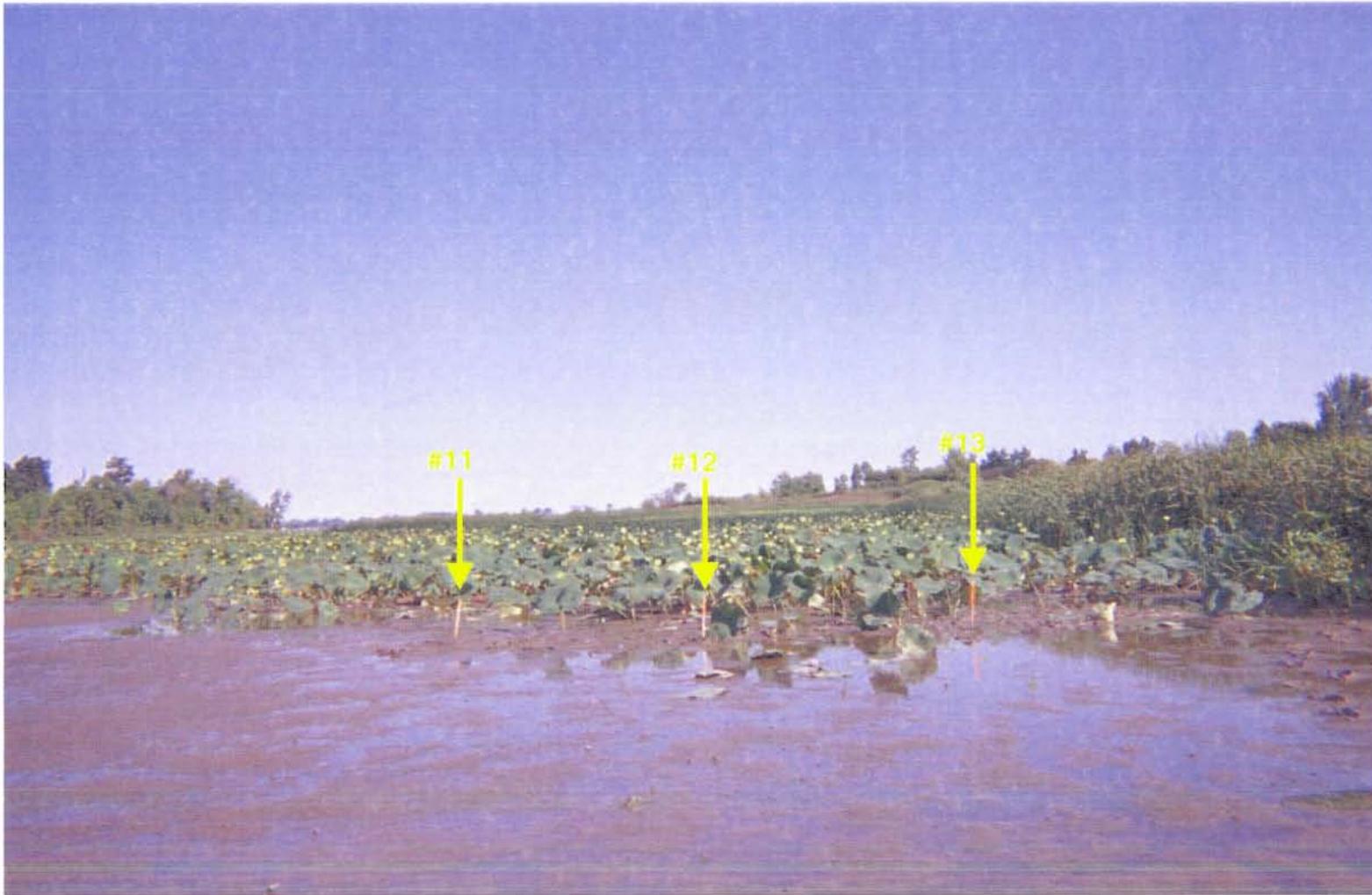




REGIONAL LOCATION OF OFF-SITE SURFACE WATER/SEDIMENT SAMPLING



**SURFACE WATER/SEDIMENT SAMPLES FROM
MR. GILBERT STEINENS' PROPERTY**



Sediment sampling locations SD11, SD12, and SD13 in Plum Brook Creek.
Mr. Gilbert Steinen's property. Looking north.

Screening Analysis (Soil Only)

- Analysis performed by off-site laboratory using nitroaromatic high performance liquid chromatography (HPLC) screening
- Based on SW-846, Method 8330
 - Shorter extraction time
 - No second column confirmation
 - Lower detection limits with multiple compounds than other “screening” analyses (e.g., colorimetric analysis)



Confirmation Analysis (Soil and Groundwater)

- Full suite analysis of selected samples based on field screening results
 - Nitroaromatics (Method 8330)
 - VOCs (Method 8260)
 - SVOCs (Method 3550B/8270C)
 - PCBs (Method 3550B/8082)
 - Metals (Method 3050B/6010B)



Land Survey

- Confirmation soil sample locations
- Collocated surface water and sediment sampling locations
- Groundwater sampling locations



TNT Area A & C Findings

■ Field Observations:

➔ Foundations visible:

- ◆ TANTA - Corner portions for Mono House 111
- ◆ TANTC - Acid & Fume Recovery 689, Wastewater Settling Basins 657, corner portions for Mono House 601

➔ Storm Water Ditches

➔ Manholes:

- ◆ TANTA - Acid Fume Recovery Buildings 139, 149
- ◆ TANTC - Acid Fume Recovery Buildings 619, 609, 689, 699, and Wash House 616



TNT Area A & C Findings (continued)

■ Field Observations (continued):

→ Nitroaromatic residue from TNT manufacturing operations:

- ◆ TNTA - Bi-Tri House 112
- ◆ TNTC - Bi-Tri Houses 602, 682, and 692

→ Red Water:

- ◆ TNTA - Wash House 146 along with possible drum carcasses





TNTC - Storm ditch in front of/between Buildings 683 and 693. Stake SD-15 in front. Looking east.



TNTC, Building 692 - Bi-Tri House. SW corner of building foundation.
Arrow indicates location of possible former flume line. Looking north.



TNTA, Building 146 - Wash House. West foundation. Looking north.



TNTC, Building 611 - Mono House. Sign on northern wall with blue stake indicating NE corner of building. Lead debris in front of sign. Looking south.

TNT A and TNT C Screening Analytical Summary

- **Soil contamination evident at the Bi-Tri Houses, Wash Houses, and Fortifier Houses.**
- **Findings consistent with TNT B in terms of depths of contamination and extents.**
- **Findings consistent with historical investigations at TNT A and TNT C**

