

Public Involvement Plan Meeting

May 14, 2002

Former Raytheon Facility
430 Boston Post Road, Wayland, Massachusetts

Purpose of Meeting

- **Raytheon Contributes \$25K to Fund Technical Expert**
- **Overview of Previous Site Investigations**
- **Phase II/III Addendum Activities**

Groundwater

- **additional assessment activities for Phase II/III Addendum**
- **status of DEP Study**
- **assessment Activities for Pre-Design Assessment**

Wetlands

- **IRA Status Report**
- **additional Assessment Activities for Phase II/III Addendum**

Soil and Groundwater Issues

Soil Investigations

- **67 Samples Analyzed for Metals, VOCs, PAHs, and PCBs**
 - 29 soil borings
 - 24 test pits
- **4 Limited Removal Actions (“LRAs”) performed**
- **Two RAMs Performed**
 - tank removal and Activity and Use Limitation
 - soil removal at TP-3
- **Soil Concentrations are Below MCP Standards with Exception of the AUL Restricted Area**

Groundwater Investigations

- **74 GW Wells Installed (shallow, intermediate, deep and bedrock wells)**
- **Groundwater Flow in South/Southwest direction**
- **Iterative Process, 5 Phases of Drilling**
- **> 300 Samples Analyzed Since 1996**
 - **VOCs, metals, TPH and inorganic compounds**
 - **VOCs exceed applicable MCP GW-1 guidelines**

Pilot Study

- **PIP Meeting held on August 31, 2001**
- **Plan Submitted to DEP on September 11, 2001**
 - to evaluate chemical oxidation as a remedial option
 - installed 16 monitoring wells as part of pilot
- **On October 6 and 7, 2001, Injected**
 - 2% potassium permanganate in southern area
 - 4% sodium permanganate in courtyard area
- **Three Rounds of Groundwater Sampling to Date**
- **Status Report Submitted to DEP on January 25, 2002**

DEP Independent Groundwater Investigation

- **Purpose: evaluate potential TCA impacts to Baldwin Pond Wellfield**
- **Methods**
 - DEP samples select wells on-site
 - installed temporary and permanent points off-site
 - groundwater analyzed for VOCs
- **The following VOCs were detected:**
 - chlorinated solvents and degradation products
 - gasoline constituents

Q & A

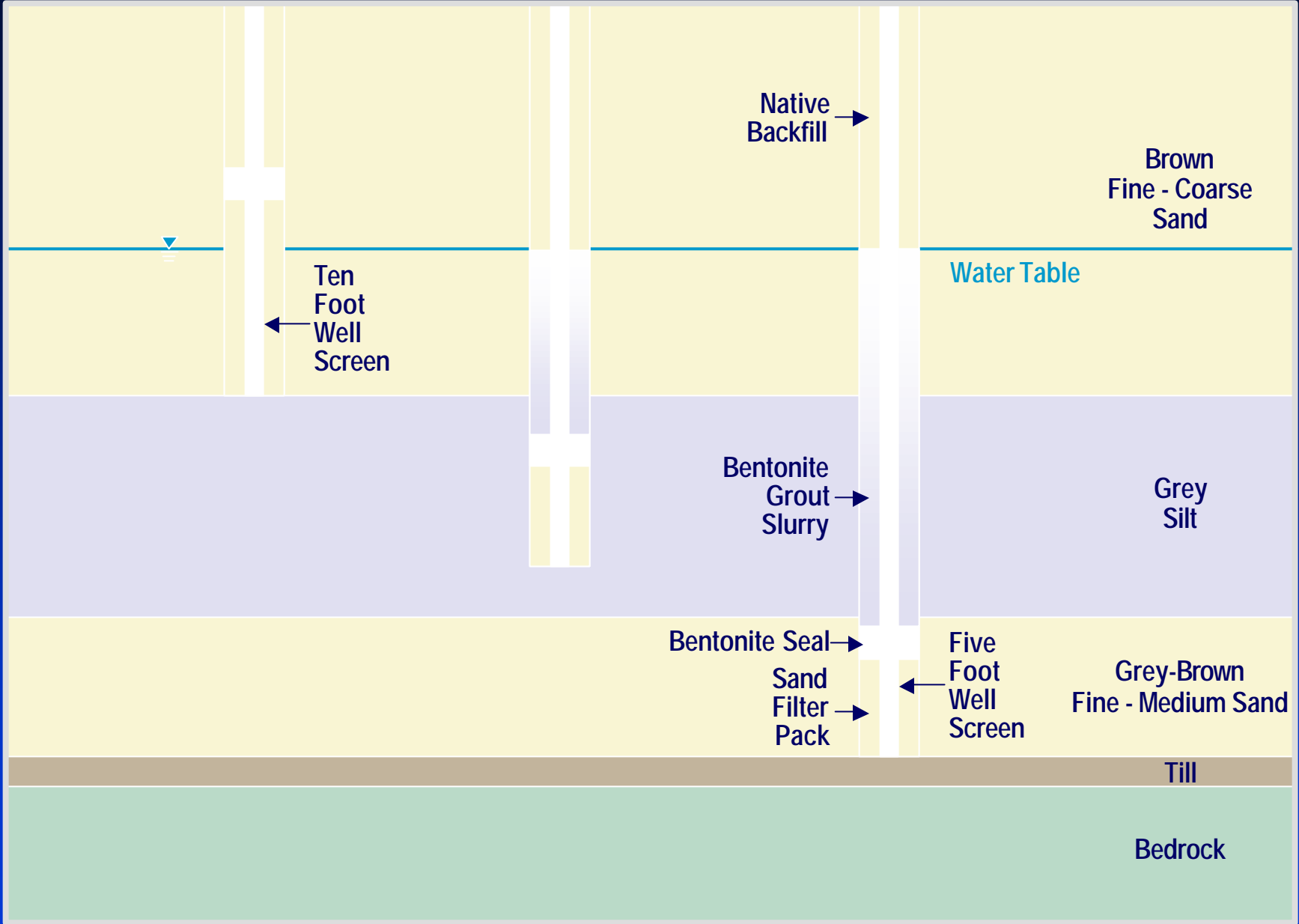
Phase II/III Groundwater Comments & Concerns

- Area north of MW-TP-3
- Wetlands area
- Area south of the site
- Area east of MW-40

Scope of Work - Groundwater

- **Further Evaluate Extent of VOC Impacts to Groundwater (24 Proposed Wells)**
 - **advance 8 monitoring well triplets (24 monitoring wells)**
 - shallow, intermediate, deep
 - three locations north of MW-TP-3
 - two locations east of MW-40
 - four locations on Russell's Garden Center property
- **Evaluate Potential Impacts to Groundwater in the Wetlands (6 Proposed Wells)**
 - **three monitoring well couplets in wetlands**
 - shallow and deep
 - **conduct groundwater monitoring**
 - VOCs in all wells
 - Priority Pollutant (PP) 13 Metals, PCBs, PAHs in wetland wells.

**Flush-Mount Roadbox
or Protective Standpipe**



Scope of Work - Pre-Design Assessment

- **Additional Characterization for Pre-Design**
 - advance up to nine borings in parking lot to find silt layer
 - install 33 monitoring wells
 - conduct soil and groundwater sampling
 - analyze for VOCs in select soil samples
 - analyze for VOCs in groundwater

Q & A

Wetland Issues

Previous Wetland Soil/Sediment Investigations

- **> 100 Analyses of Samples Since 1991**
- **Majority of Impact within 200 ft of Outfall (OF-1)**
- **Metals, PCBs and PAHs Detected in Sediment at Depths 0 - 12 inches**
- **Area of Stunted Growth Coincides with Metal Concentrations**

Immediate Response Action (IRA) Plan Status Report

- **IRA Plan**
 - IRA Plan submitted to DEP on June 26, 2000
 - IRA condition due to observed stressed vegetation
 - previous assessment activities documented in Phase II/III
- **Findings of IRA**
 - no Potential Imminent Hazard to human health or public
 - Potential Imminent Hazard to the environment
 - additional comprehensive response actions required

Phase II/III Comments and Concerns

- **Wetland Concerns**
 - request to sample for additional constituents in wetlands
 - request to sample wetland bank area

Scope of Work - Wetlands

- **Additional Compound Analysis of Wetland Soils**
 - six proposed soil samples for stunted growth area
 - soil samples will be analyzed for > 100 additional constituents
 - cyanides, VOCs, dioxins, dibenzofurans, aldehydes, alcohols, ammonia and glycol ethers
- **Additional Soil Characterization Along Wetlands Bank**
 - 12 proposed soil borings along wetlands bank
 - six north of outfall OF-1
 - six south of outfall OF-1
 - samples to be analyzed for PCBs, PP13 Metals, VOCs, PAHs

PIP Schedule for Scope of Work

- **PIP Comments Due 20 Days after Submittal of Draft**
- **A Summary of the Comments Received and a Response to Comments will be Prepared 30 days after end of Public Comment**
- **All Documents will be made Available at the Repositories**
 - **Public Library**
 - **Board of Health**
- **Notice of Availability of the Documents will be Mailed to PIP**

Q & A

Thank You

PIP Schedule for Scope of Work

- **May 31, 2002 - Written Comments on the SOW Due to Raytheon**
- **A summary of the SOW comments received and a response to comments will be prepared and submitted by June 30, 2002**
- **All documents will be made available at the document repositories (Public Library and Board of Health)**
- **Notice of availability of the documents will be mailed to PIP**

Postponement of Phase IV - Remedy Implementation Plan

- **Regulatory deadline of May 29, 2002 to submit Phase IV to DEP.**
- **Raytheon has submitted an extension request to DEP on April 15, 2002**
 - Six Months - New Deadline December 31, 2002
 - Will discuss Phase IV during subsequent meetings.
- **Wetland Remediation**
 - Postponed to summer/fall of 2003
 - MWRA discharge to Sudbury River in 2002
 - Extensive permitting and public comment process

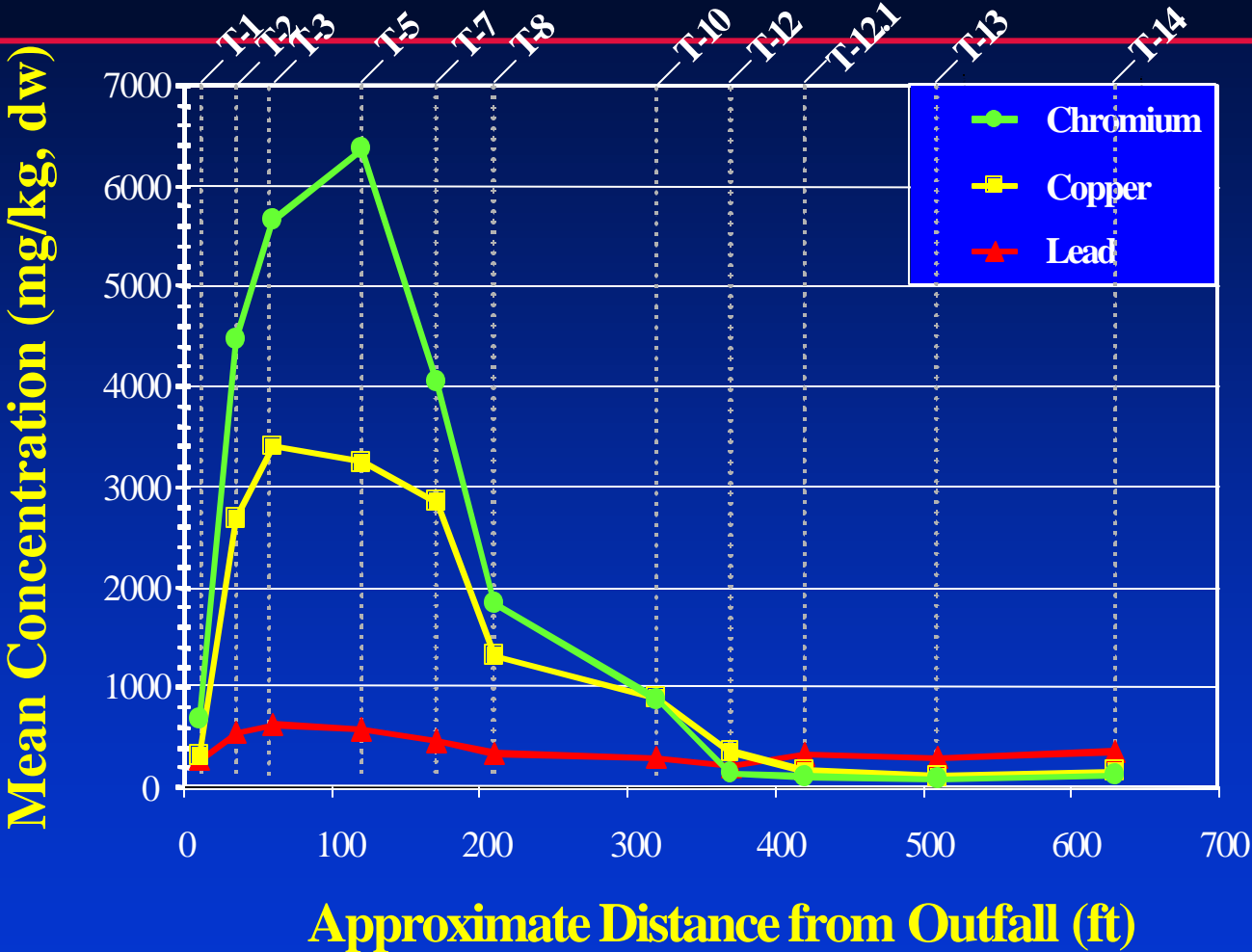
Tentative Site Schedule

- **April 25, 2002** – **IRA Status Report**
- **Spring/Summer 2002** – **Additional Site Characterization - SOW**
- **Summer 2002** – **Groundwater Pilot Study/RAM Report**
- **Summer/Fall 2002** – **EPA TSCA Report**
- **Winter 2002** – **Wetland Permitting**
- **Winter 2002** – **Submit Phase IV Remedy Implementation Plan**
- **Winter 2002** – **Potential Implementation of Groundwater Remediation**
- **Summer/Fall 2003** – **Implement Wetland Remediation**

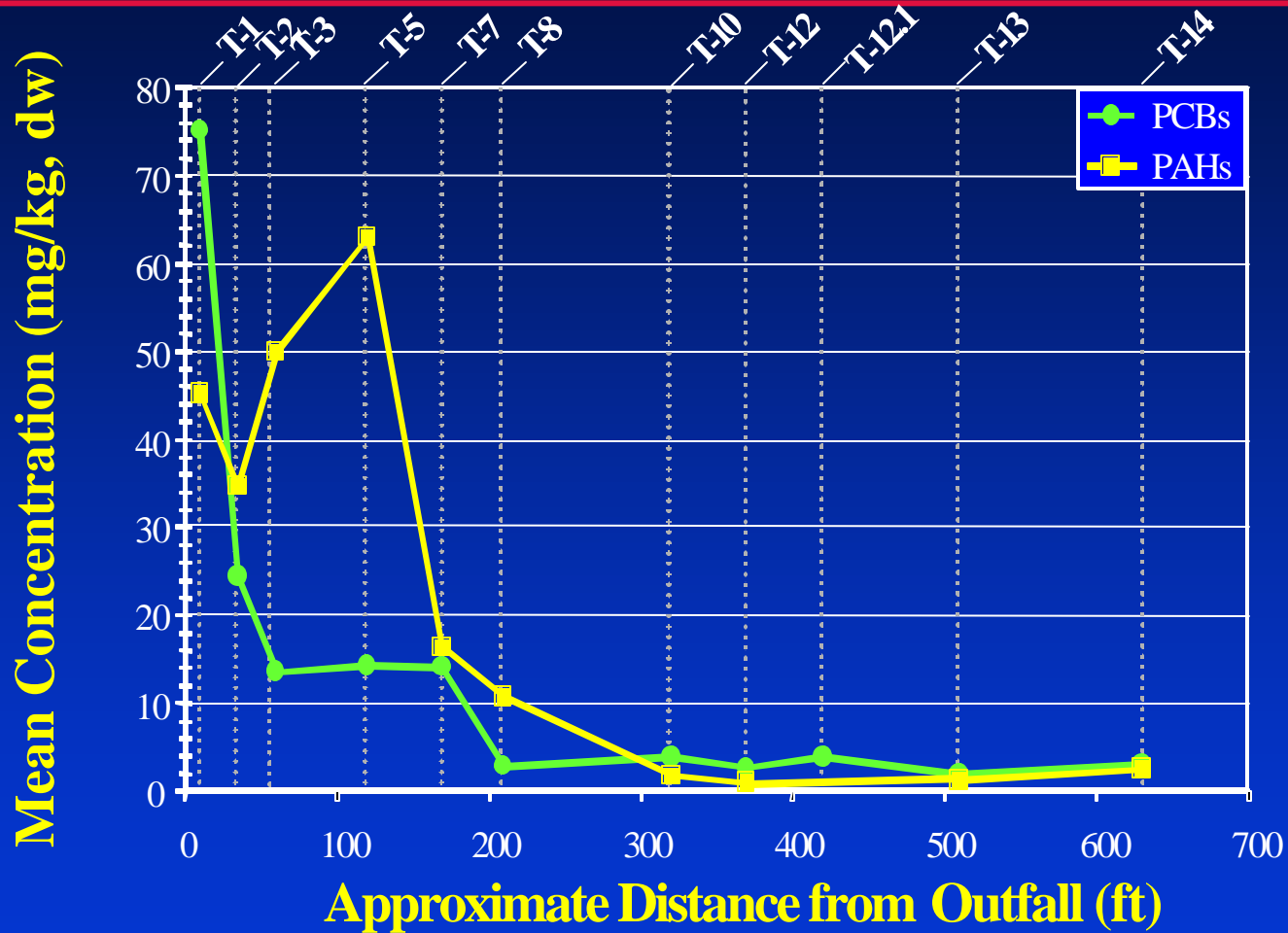
Public Involvement Process

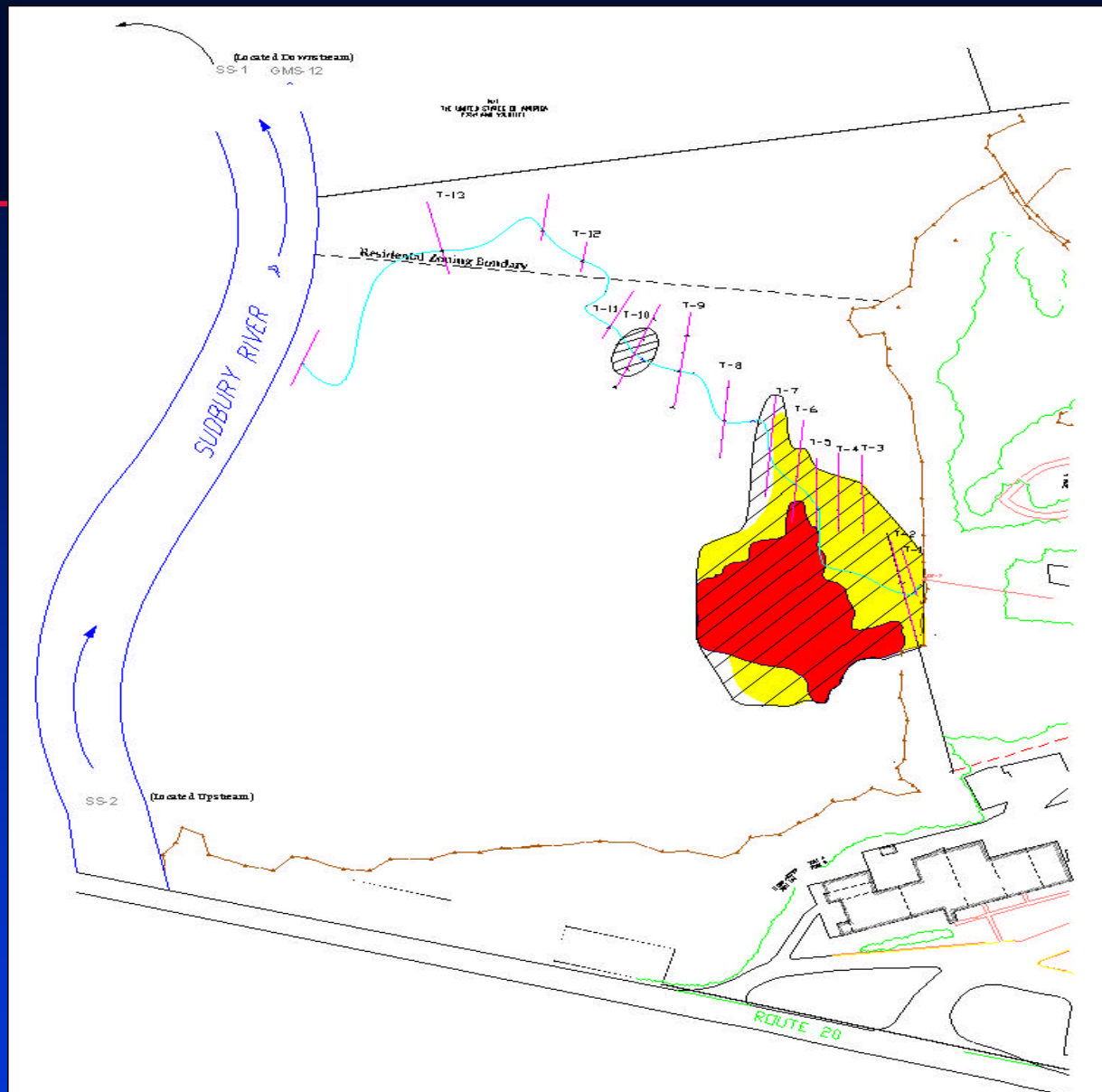
- **Future opportunities for the public to comment on submittals:**
 - Phase IV Remedy Implementation Plan
 - IRA and RAM Completion Reports
 - Wetland Permits
 - Next Public Meeting will be scheduled for June

Concentrations of Metals in Wetland Soils



Concentrations of PCBs and PAHs in Wetland Soils





AREA OF EXCAVATION

Raytheon's Split Groundwater Results

Sample ID	MW-TP-3	MW-32	MW-44S	MW-43D
Sampling Date	1-Mar-02	1-Mar-02	1-Mar-02	1-Mar-02
Depth to Groundwater (ft)	12.54	5.56	17.22	17.40
Tetrachloroethene (Previous Historical Range)	2.2 (1.3 – 2.0)	<0.5 (ND)	2.6 (0.78 – 2.6)	<0.5 (ND)
Trichloroethene (Previous Historical Range)	16 (ND – 23)	<0.5 (ND)	13 (ND – 0.78)	<0.5 (ND)
cis-1,2 Dichloroethene (Previous Historical Range)	18 (1.7 – 35)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)
1,1,1-Trichloroethane (Previous Historical Range)	<0.5 (ND)	<0.5 (ND)	0.63 (ND – 0.63)	<0.5 (ND)

Concentrations expressed in parts per billion
(ug/l)

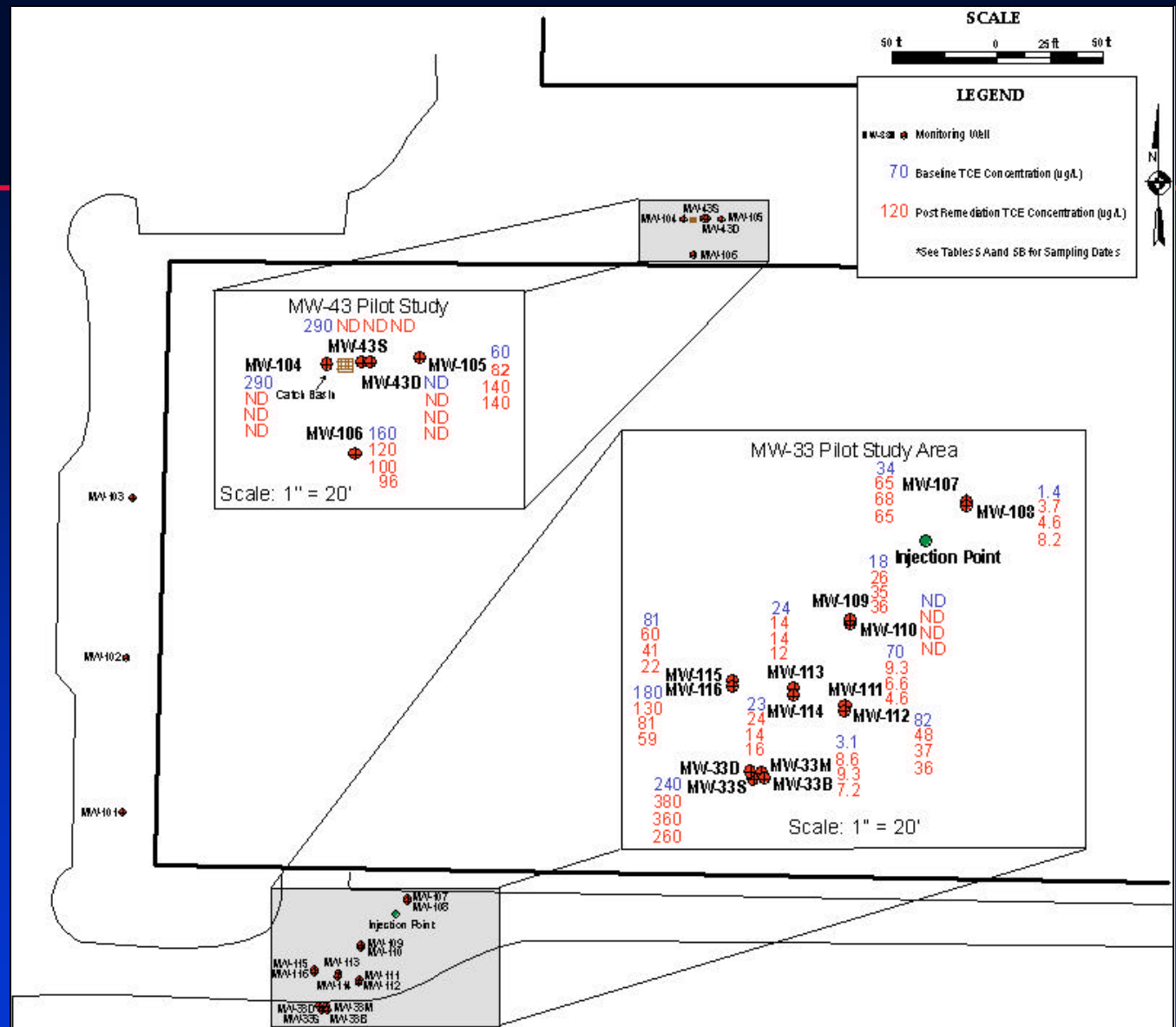
Sampling Dates

MW 43 Pilot Test Area

- 27 Aug 01
- 12 Dec 01
- 18 Feb 02
- 11 Apr 02

MW-33 Pilot Test Area

- 27 Aug 01
- 12 Nov 01
- 10 Dec 01
- 15 Jan 02



TCE Concentrations in Pilot Test Area

DEP Request to Sample Wells On-Site

- **January 31, 2002 - Raytheon received a request from the DEP to sample select wells on-site**
- **February 4, 2002 - site visit with DEP**
- **March 1, 2002 - DEP and Raytheon sampled select wells.**
 - Wells MW-32, MW-43D, MW-44S and MW-TP-3
- **All concentrations were within historical ranges**
- **April 9, 2002 - results were submitted to the DEP and Public Repositories (Public Library and Board of Health)**

Memorandum of Understanding (MOU)

- **December 18, 2001 - Town requested funding for technical expert**
- **Subsequent meeting was held between Raytheon and Town**
 - Town presented draft MOU
- **Raytheon has contributed \$25K**
- **Raytheon is committed to work cooperatively with Town and PIP**