RESTORATION ADVISORY BOARD MEETING
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT CALVERTON
CALVERTON COMMUNITY CENTER
CALVERTON, NEW YORK
THURSDAY, MARCH 29, 2007

The twenty-third meeting of the Restoration Advisory Board (RAB) began at approximately 7:00 pm. Meeting attendees included representatives from the Navy (Susan Clarke), New York State Department of Environmental Conservation (Henry Wilkie and Larry Rosenmann), RAB community members (Bill Gunther, Sid Bail, Harry Histand, and Vincent Racaniello), Town of Riverhead (Andrea Lohneiss), Peconic River Group (Bob Conklin), TAPP Consultant (Frank Anastasi), SCDHS Representative (Andrew Rapiesko), Tetra Tech NUS, Inc. Representatives (David Brayack and Timothy Smith), and ECOR-Solutions Representatives (Will Torres, Ed King, and Matt Lapp). The meeting sign-in sheet is provided as Attachment 1.

WELCOME AND AGENDA REVIEW

The Navy representative, Susan Clarke, Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic, welcomed everyone to the RAB meeting and reviewed the meeting agenda. The agenda for the meeting is included as Attachment 2.

COMMUNITY UPDATE AND REVIEW AND APPROVAL OF MEETING MINUTES

Ms. Clarke asked for comments or concerns on the meeting minutes taken during the November 2, 2006 RAB meeting. These meeting minutes were distributed on February 15, 2007. With no comments or concerns voiced, Ms. Clarke motioned for the approval of the November 2, 2006 RAB meeting minutes. The meeting minutes were approved.

Mr. Gunther, RAB Community Co-Chair, asked the other community members present whether they had any input or concerns since the last November RAB meeting. There were no concerns voiced at this time.

STATUS OF SITES 1, 9, and 10A RCRA PERMIT MODIFICATION AND PROPERTY TRANSFER

Ms. Clarke indicated that the RCRA Permit Modification for the Sites had been received in February 2007 and that the Navy was proceeding with the property transfer. Ms. Clarke indicated that the property transfer for these areas to the Town should occur within the next 6 months.

SITES 6A AND 10B STATEMENT OF BASIS

Mr. Brayack explained that the Navy had originally planned on conducting the public comment period for remedy selection at Sites 6A and 10B and the Onsite Southern Area at this time. However, all of the requirements to start the public comment period were not ready, and so it was decided to post pone it until the August 2007 RAB meeting time frame. The plan for this area included the removal of contaminated soils from Sites 6A and 10B and implementation of a groundwater monitoring program.

Mr. Anastasi asked what the process was to solicit comments from the community on the proposed plan and what the notification requirements were for the public meeting to present and discuss the proposed plan.

Mr. Brayack, TtNUS, indicated that following the publication of the proposed plans, the public would have 30 to 45 days to review the proposed plan and submit comments. During the comment period, a public meeting would be held to present the proposal and receive comment. Weekly notices of the public meeting would be advertised in the local paper for four weeks. Mr. Brayack also indicated that if no comments were received and the State found the proposed action to be acceptable, the State would proceed with modifying the permit to select the remedy. The Navy would then start a remedial design.

OFF SITE SOUTHERN AREA UPDATE – PECONIC RIVER SAMPLE DATA

Mr. Brayack, TtNUS, provided a presented the results of groundwater sampling in the Offsite Southern Area, including wells along Connecticut Avenue and Peconic River. The presentation is included as Attachment 3. The discussion focused on the known

extent of the Offsite Southern Area groundwater contamination, surface water and sediment sampling performed within the Peconic River, the results of the sampling, and the next steps proposed for the Offsite Southern Area groundwater contamination.

During the presentation discussions were held concerning the vertical distribution and concentration of contaminants within the groundwater contamination plume, and the need to address public and private wells located within the extent of the groundwater contamination plume. Some relevant findings from this investigation were as follows.

- VOCs were detected in one of the newly installed wells immediately adjacent to the Peconic River. Detected concentrations were greater than potable water supply standards, but less than surface water quality criteria for the river.

- A VOC was detected in the surface water sample at the detection limit (0.5 ug/l). This concentration is less than surface water quality criteria.

Details of the discussions are as follows.

- Mr. Rapiesko (SCDHS) requested the Navy to begin collecting water samples at the adjacent Sportsman Club. This testing is currently being conducted by SCDHS. Mr. Rapiesko also requested the fire suppression water supply well located at the Sportsman Club be added to the list of wells for sampling.

  Ms. Clarke asked Mr. Rapiesko to provide the Navy with a letter detailing this request.

- Mr. Rapiesko recommended that the Navy continue to sample for the full list of VOCs and not to disregard volatile organic compound detections such as benzene and toluene that were detected in water/sediment sample as just anomalies or atmospheric contamination.

  Ms. Clarke agreed that the plan is to continue monitoring the samples for full VOC analysis.

- Mr. Rapiesko requested that the Navy determine the discharge location (location where groundwater discharges to the Peconic River) and to focus continued monitoring at this location.

  Ms. Clarke requested that SCDHS provide the Navy with a letter clarifying this request and the Navy would look into the recommendation.

- Mr. Rapiesko recommended that the Navy collect a sample from the pond that is located west of the Connecticut Avenue Culverts that feeds the Peconic River during the next sampling round.

  Ms. Clarke indicated that the Navy will evaluate collecting a sample from this pond during the next sampling round.

Mr. Brayack's presentation ended with a discussion on the next steps for the Offsite Southern Area. The Navy's current plan is to collect another round of groundwater, surface water and sediment sampling and then finalize the Feasibility Study/Corrective Measures Study.

At this time, there was a general discussion on what this new data at the River means. Prior to this current data, it was suspected that the contamination was moving toward the River, but that there was no confirmation of the contamination entering the River. The current data confirms the River as an endpoint for the contamination. The next step will be to better quantify contaminants entering the river, determine whether there is a significant impact, and evaluate alternatives to reduce the impact.

Mr. Anastasi asked if the new information will result in a change to the proposed remedy for the Onsite Southern Area contamination issue. Mr. Brayack indicated that the new information will be evaluated, but is consistent with the previous understanding of the area. Since the Natural Attenuation remedy includes continual sampling and the removal of source material.

SITE 7 FUEL DEPOT AREA OPERATION

Mr. Torres, ECOR Solutions, provided a presentation on the Groundwater Remediation Project for Site 7 – Former Fuel Depot. The presentation is included as Attachment 4. The discussion focused on the ECOR Solutions project team, a project overview, the air sparge system and soil vapor extraction system, remediation system monitoring, remediation system operations, and the monitoring results since March 2006. Mr. Torres concluded his presentation with a status report that focused on the 2007 activities.

Mr. Torres was asked whether the system was designed to be shut down during the winter months and what the function of the knock out tank was. Mr. Torres indicated that the system was designed to be shut down during the winter months due to the freezing concerns with the piping. Mr. Torres also indicated that the knock out tank was used to collect any moisture that might be pulled out of the ground and pulled back to the treatment system through the vapor extraction portion of the system.

SCA ASSOCIATES UPDATE

Mr. Anastasi, RAB Community Technical Advisor, reported on the correspondences since the November RAB meeting. Mr. Anastasi indicated the following;

- The completion reports for the fire well located at the Sportsman club were obtained.
- A copy of the Offsite Southern Area CMS is being reviewed. Mr. Anastasi noted that it does not put forth a preferred remedy, which is appropriate, especially in light of the new data and preliminary finding that detectable levels of contaminants are being discharged into the river. He will complete his review of the CMS, along with the new data that has a bearing on the matter, and will prepare a review memo for the RAB and Navy as he did for the Onsite Southern Area CMS.

Mr. Anastasi, concluded by indicating that he was still contracted through the end of 2007 to act as the RAB community chair and that he would be monitoring the progress at Calverton in the future. Mr. Anastasi asked for questions and concluded. The general questions were raised.

Q: How is the Calverton Site regulated?
A: The Calverton Site is regulated as a RCRA Site under the RCRA program.

Q: Is the team going to be doing more sampling on-site?
A: Navy will be doing on-site sampling the third week in June.

Q: Is there a New York DOH representative on the RAB?
A: Yes, Jacquelyn Nealon

Q: When is the next Calverton RAB Meeting?
A: August 2, 2007.

CLOSING REMARKS

Ms. Clarke thanked everyone for coming to the meeting and verified that the Next RAB meeting would be held August 2, 2007. A notice for the next RAB meeting will be provided.

No other RAB members had closing remarks, and the meeting was adjourned at approximately 9:10 pm.

ATTACHMENT 1

MARCH 29, 2007 RAB MEETING SIGN-IN SHEET

23rd RAB Meeting for NWIRP Calverton
March 29, 2007
Sign-In List

Name	Address (if interested in being on mailing list)	Organization	How Did You Hear of Meeting?
Bill Gunther		RAB	
[illegible] Wilkie		NYSDEC	
LARRY ROSENMANN		NYSDEC	
Andrew Rapiejko		SCDHS	
[illegible] Bail		Wading River Civic · RAB	
BOB CONKLIN		PRFRC	
Harry Histand		Calverton RAB	
[illegible]		"	"
Andrea Lohneiss		TORCDA	
[illegible]		SCA Assoc.	
Will Torres		ECOR - Solutions	
ED KING		ECOR - Solutions	

23rd RAB Meeting for NWIRP Calverton
March 29, 2007
Sign-In List

Name	Address (if interested in being on mailing list)	Organization	How Did You Hear of Meeting?
Matt Labb		ECOR Solutions	
Timothy Smith		TtNUS Inc.	

ATTACHMENT 2

MARCH 29, 2007 RAB MEETING AGENDA

Agenda

Restoration Advisory Board
Naval Weapons Industrial Reserve Plant Calverton

March 29, 2007
Calverton Community Center, Calverton NY
7:00 p.m.

Welcome and Agenda Review
Susan Clarke, NAVFAC Mid-Atlantic

Distribution of Minutes
All Members

Community Update
Bill Gunther, RAB Co-chair

Technical Progress

General Program - Susan Clarke, NAVFAC Mid-Atlantic

Status of Sites 1, 9, 10A & Agricultural Outlease RCRA Permit Modification and Property Transfer – Susan Clarke

Sites 6A and 10B and Onsite Southern Area - Statement of Basis - Dave Brayack, Tetra Tech NUS

Off-Site Southern Area Update - Peconic River Sample Data - Dave Brayack, Tetra Tech NUS

Site 7 Fuel Depot Area Operation - ECOR

SCA Associates Update - Frank Anastasi

Closing Remarks
Susan Clarke

Presenters will be available after the program for questions.

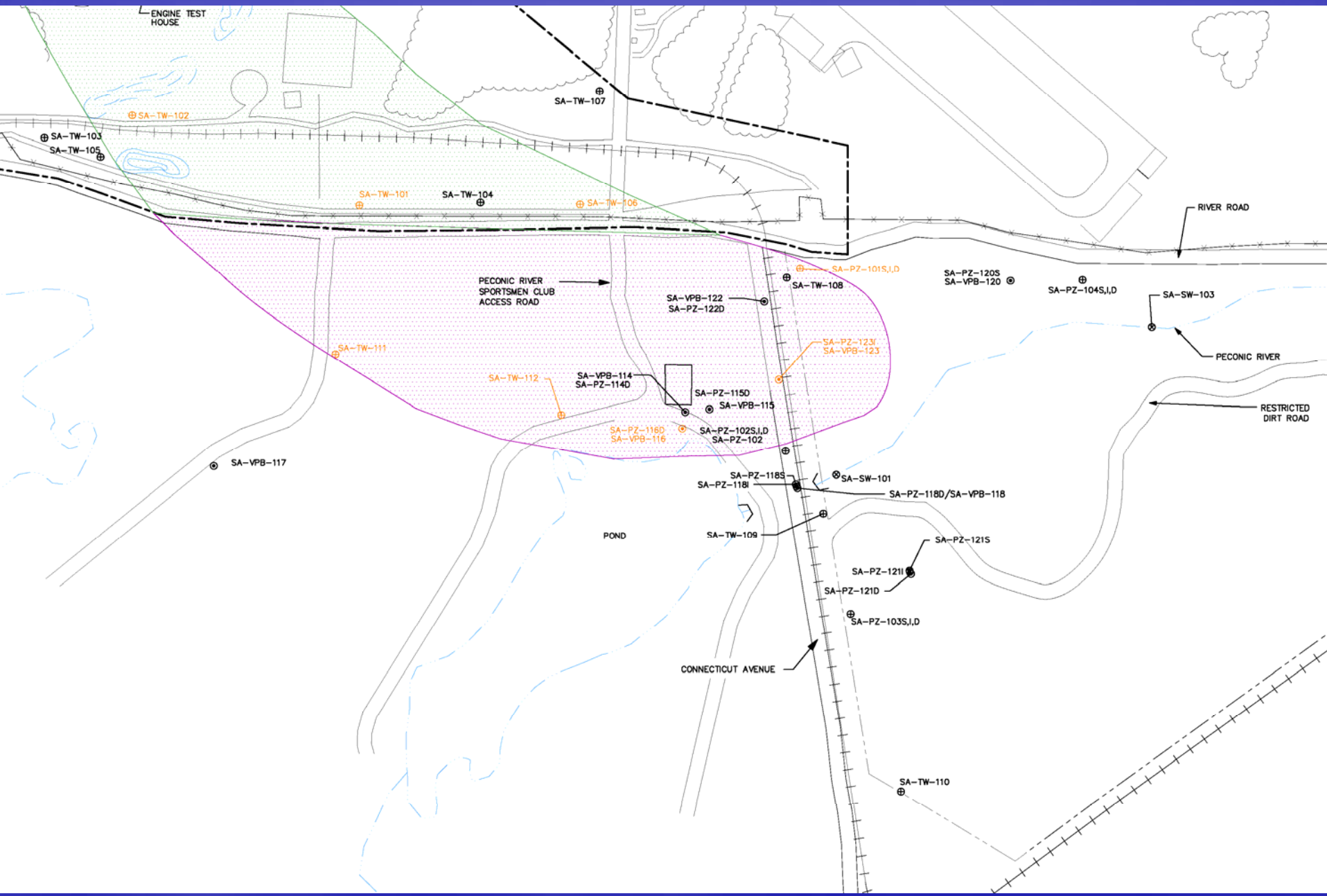
ATTACHMENT 3

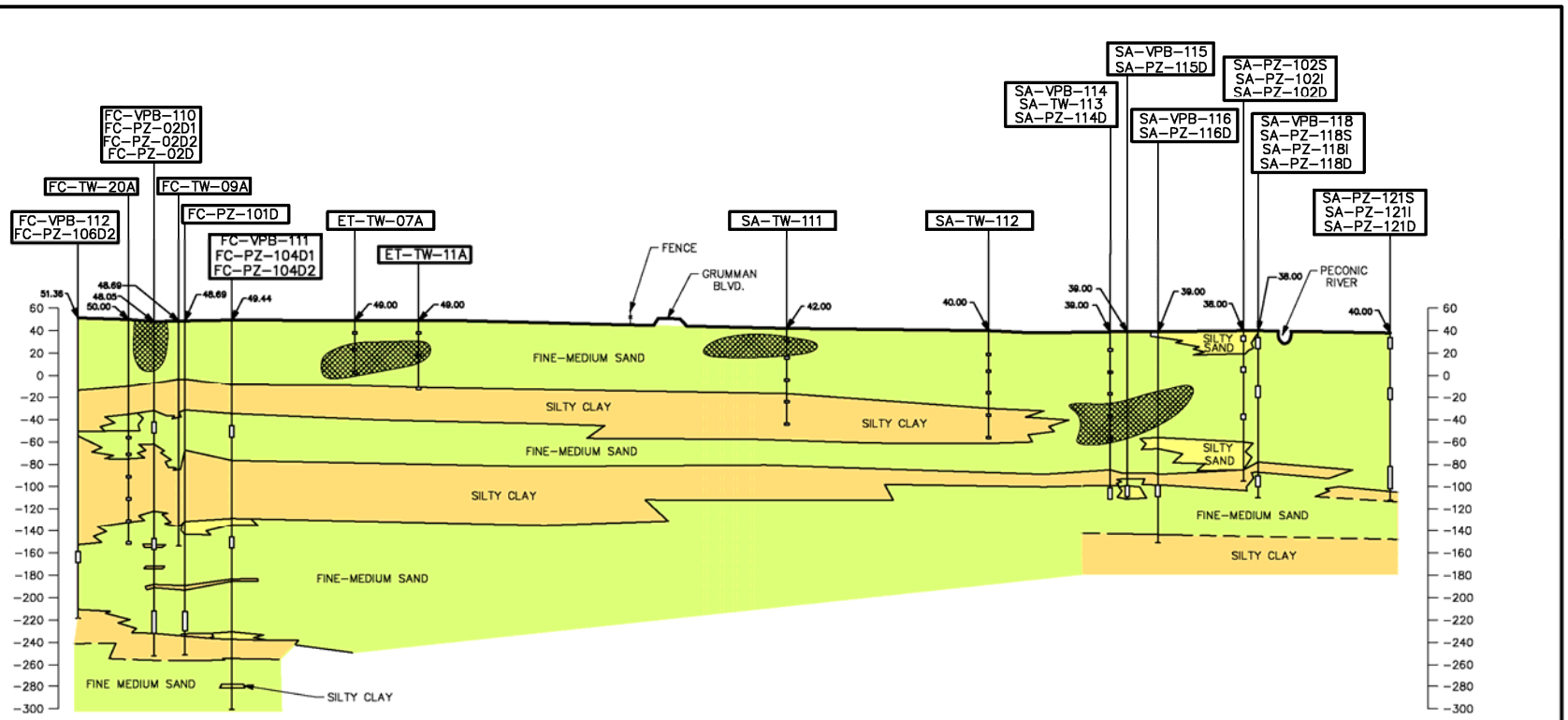
TETRA TECH NUS, INC. - PRESENTATION

OFFSITE SOUTHERN AREA CONNECTICUT AVENUE AND PECONIC RIVER NWIRP CALVERTON

Offsite Southern Area
Connecticut Avenue and Peconic River
NWIRP Calverton


SITE 1
SITE 9
SITE 7/SITE 10A
SITE 6A/SITE 10B/SOUTHERN AREA
SITE 2


ENGINE TEST HOUSE
SA-TW-102
SA-TW-103
SA-TW-105
SA-TW-107
SA-TW-101
SA-TW-104
SA-TW-106
RIVER ROAD
PECONIC RIVER SPORTSMEN CLUB ACCESS ROAD
SA-PZ-101S,I,D
SA-TW-108
SA-PZ-120S
SA-VPB-120
SA-PZ-104S,I,D
SA-SW-103
SA-VPB-122
SA-PZ-122D
SA-TW-111
SA-PZ-123I
SA-VPB-123
PECONIC RIVER
SA-TW-112
SA-VPB-114
SA-PZ-114D
SA-PZ-115D
SA-VPB-115
RESTRICTED DIRT ROAD
SA-PZ-116D
SA-VPB-116
SA-PZ-102S,I,D
SA-PZ-102
SA-VPB-117
SA-PZ-118S
SA-PZ-118I
SA-SW-101
SA-PZ-118D/SA-VPB-118
POND
SA-TW-109
SA-PZ-121S
SA-PZ-121I
SA-PZ-121D
SA-PZ-103S,I,D
CONNECTICUT AVENUE
SA-TW-110



LEGEND:

- SILTY SAND
- FINE-MEDIUM SAND
- SILTY CLAY
- CONTAMINATED AREA

0 700 1400
HORIZONTAL SCALE IN FEET (APPROX.)

0 100 200
VERTICAL SCALE IN FEET (APPROX.)

DRAWN BY: DM	DATE: 7/27/05	Tetra Tech NUS, Inc.	GENERALIZED CROSS SECTION MAP SITE 6A AND SOUTHERN AREA NWIRP CALVERTON CALVERTON, NEW YORK
CHECKED BY	DATE		
REVISED BY	DATE		
SCALE: AS NOTED			

CONTRACT NO.	1610
OWNER NO.	0000
APPROVED BY	DATE
DRAWING NO.	FIGURE 3-6
REV.	0

ACAD:1610GX05.dwg 07/23/05 DM PIT

FORM CADD NO. TTNUS-BH.DWG - REV 1 - 9/10/98

Surface Water and Sediment Sampling October 2006

- Two new monitoring wells (piezometers) were installed in October 2006.
- Area monitoring wells sampled.
  - 2 new
  - 5 existing
- Surface water and sediment samples collected.
- Samples analyzed for Volatile Organic Compounds (VOCs).

Test Results

- For existing wells, no significant change.
  SA-PZ-123I: 1,1-Dichloroethane: 91 ug/l.

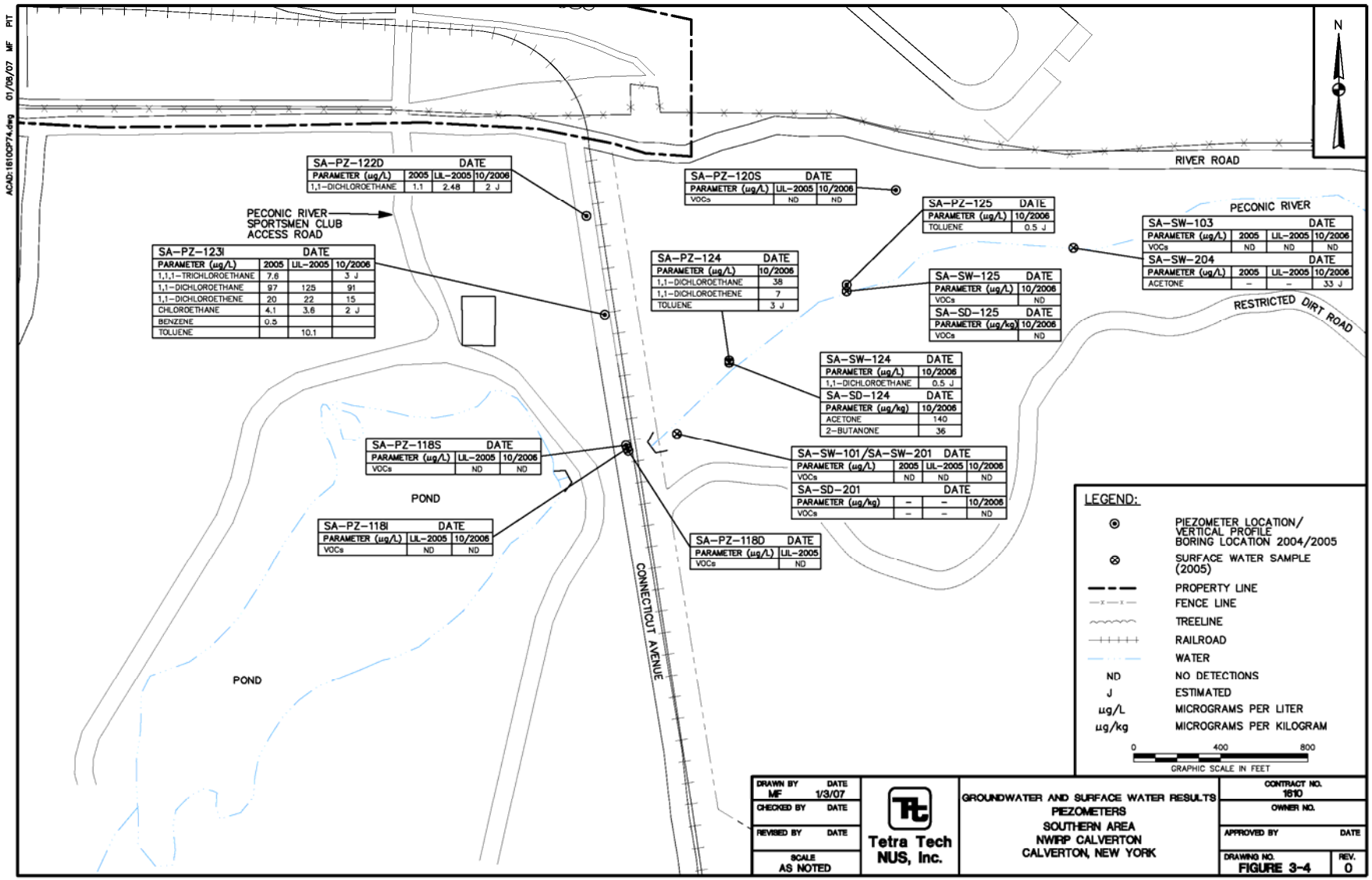
- For new well SA-PZ-124:
  - 1,1-Dichloroethane: 38 ug/l.
  - 1,1-Dichloroethene: 7 ug/l.

- Drinking water standards: 5 ug/l.

Test Results

- For surface water samples:
  - 3 samples: no detections
  - 1 sample (SA-PZ-124): 0.5 ug/l.

- Surface Water Quality Criteria: 2,100 ug/l/47 ug/l.


ACAD:1610CP74.dwg 01/05/07 MF PIT
N
RIVER ROAD
PECONIC RIVER
SPORTSMEN CLUB
ACCESS ROAD
PECONIC RIVER
RESTRICTED DIRT ROAD
CONNECTICUT AVENUE
POND
POND
SA-PZ-122D DATE
PARAMETER (µg/L) 2005 LIL-2005 10/2006
1,1-DICHLOROETHANE 1.1 2.48 2 J
SA-PZ-123I DATE
PARAMETER (µg/L) 2005 LIL-2005 10/2006
1,1,1-TRICHLOROETHANE 7.6 3 J
1,1-DICHLOROETHANE 97 125 91
1,1-DICHLOROETHENE 20 22 15
CHLOROETHANE 4.1 3.6 2 J
BENZENE 0.5
TOLUENE 10.1
SA-PZ-120S DATE
PARAMETER (µg/L) LIL-2005 10/2006
VOCs ND ND
SA-PZ-125 DATE
PARAMETER (µg/L) 10/2006
TOLUENE 0.5 J
SA-SW-103 DATE
PARAMETER (µg/L) 2005 LIL-2005 10/2006
VOCs ND ND ND
SA-SW-204 DATE
PARAMETER (µg/L) 2005 LIL-2005 10/2006
ACETONE - - 33 J
SA-PZ-124 DATE
PARAMETER (µg/L) 10/2006
1,1-DICHLOROETHANE 38
1,1-DICHLOROETHENE 7
TOLUENE 3 J
SA-SW-125 DATE
PARAMETER (µg/L) 10/2006
VOCs ND
SA-SD-125 DATE
PARAMETER (µg/kg) 10/2006
VOCs ND
SA-SW-124 DATE
PARAMETER (µg/L) 10/2006
1,1-DICHLOROETHANE 0.5 J
SA-SD-124 DATE
PARAMETER (µg/kg) 10/2006
ACETONE 140
2-BUTANONE 36
SA-SW-101/SA-SW-201 DATE
PARAMETER (µg/L) 2005 LIL-2005 10/2006
VOCs ND ND ND
SA-SD-201 DATE
PARAMETER (µg/kg) - - 10/2006
VOCs - - ND
SA-PZ-118S DATE
PARAMETER (µg/L) LIL-2005 10/2006
VOCs ND ND
SA-PZ-118I DATE
PARAMETER (µg/L) LIL-2005 10/2006
VOCs ND ND
SA-PZ-118D DATE
PARAMETER (µg/L) LIL-2005
VOCs ND
LEGEND:
PIEZOMETER LOCATION/ VERTICAL PROFILE BORING LOCATION 2004/2005
SURFACE WATER SAMPLE (2005)
PROPERTY LINE
FENCE LINE
TREELINE
RAILROAD
WATER
ND NO DETECTIONS
J ESTIMATED
µg/L MICROGRAMS PER LITER
µg/kg MICROGRAMS PER KILOGRAM
0 400 800
GRAPHIC SCALE IN FEET
DRAWN BY MF DATE 1/3/07
CHECKED BY DATE
REVISED BY DATE
SCALE AS NOTED
Tetra Tech NUS, Inc.
GROUNDWATER AND SURFACE WATER RESULTS
PIEZOMETERS
SOUTHERN AREA
NWIRP CALVERTON
CALVERTON, NEW YORK
CONTRACT NO. 1610
OWNER NO.
APPROVED BY DATE
DRAWING NO. FIGURE 3-4
REV. 0
FORM CADD NO. TTNUS-BH.DWG - REV 1 - 9/10/98

Next Steps

- Conduct another round of groundwater sampling.
- Finalize Feasibility Study/Corrective Measures Study.


CONNECTICUT AVENUE
CANOE LAUNCH SITE
State of New York
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

ATTACHMENT 4

ECOR SOLUTIONS - PRESENTATION

GROUNDWATER REMEDIATION PROJECT
SITE 7 – FORMER FUEL DEPOT

Groundwater Remediation Project

Air Sparge/Soil Vapor Extraction System
Naval Weapons Industrial Reserve Plant
Calverton, NY
Site 7: Former Fuel Depot

Restoration Advisory Board Meeting

March 29, 2007

Delivering environmental construction, operations and remediation solutions to industry and government

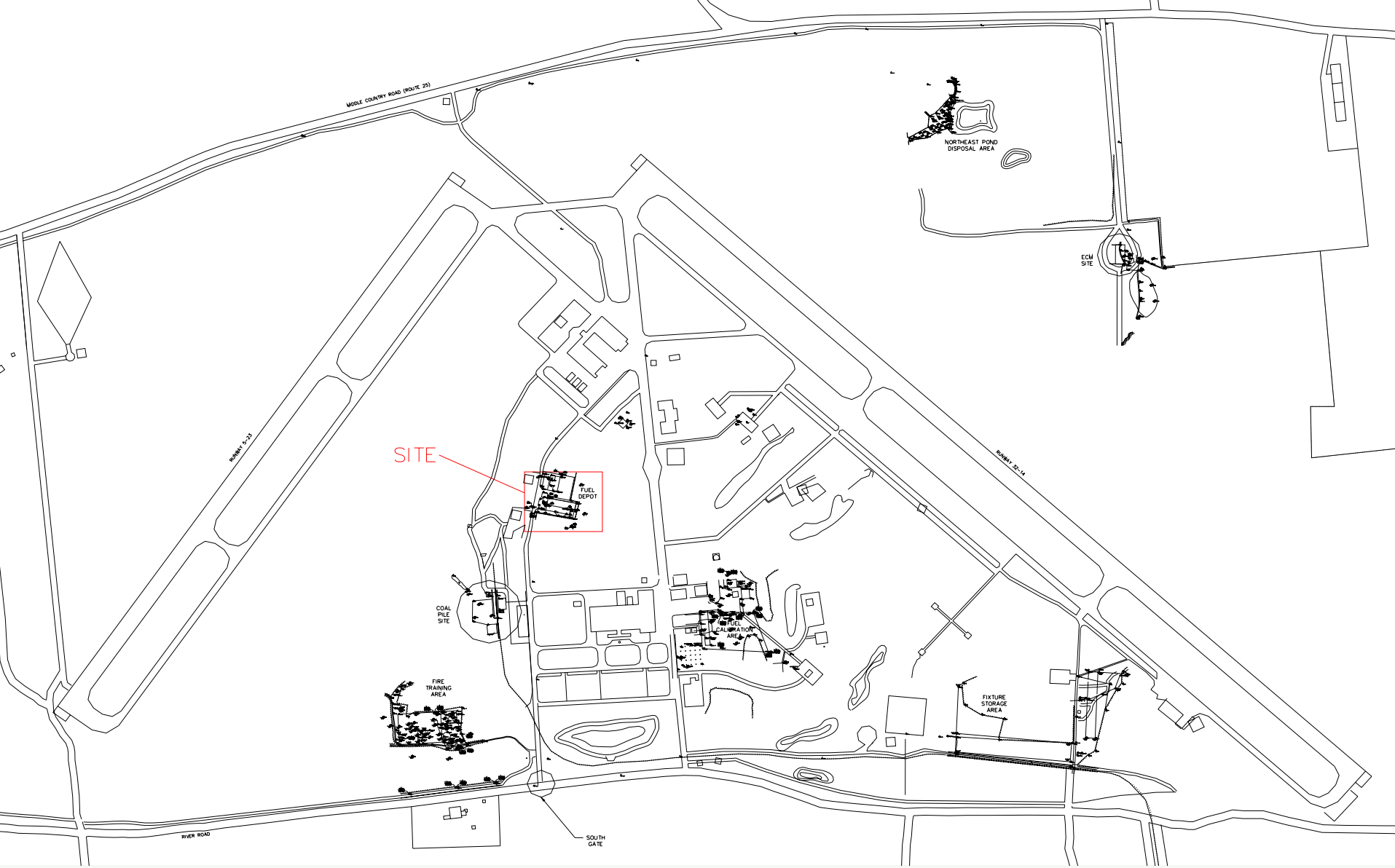
Introduction to ECOR

- **Navy's Operations & Maintenance (O&M) Contractor for the site**
- **ECOR currently provides O&M services at several additional Navy and industrial facilities including:**
  - **Groundwater Treatment Systems (Metals Precipitation, Free Product Recovery Systems, Air Strippers, Carbon Systems, and Biological Treatment)**
  - **Soil Vapor Extraction/Air Sparging (Catalytic Oxidizers, Thermal Oxidizers, Dual Phase Extraction Systems, Carbon Systems, and In-situ Treatment Technologies)**
- **ECOR Project Team**
  - **Program Manager – Patrick Schauble**
  - **Project Manager – William Torres**
  - **Facilities Manager – Al Taormina**
  - **Project Engineer – Matthew Lapp**
  - **Operator – Robert Ingram**

Project Overview

- Contaminants of Concern:

  BTEX, Napthalene, and Freon in groundwater
- Air Sparge/Soil Vapor Extraction System constructed 2004
- Goal:
  - Mass removal of groundwater contaminants
  - Operate & Maintain in-situ treatment system until remediation goals are attained



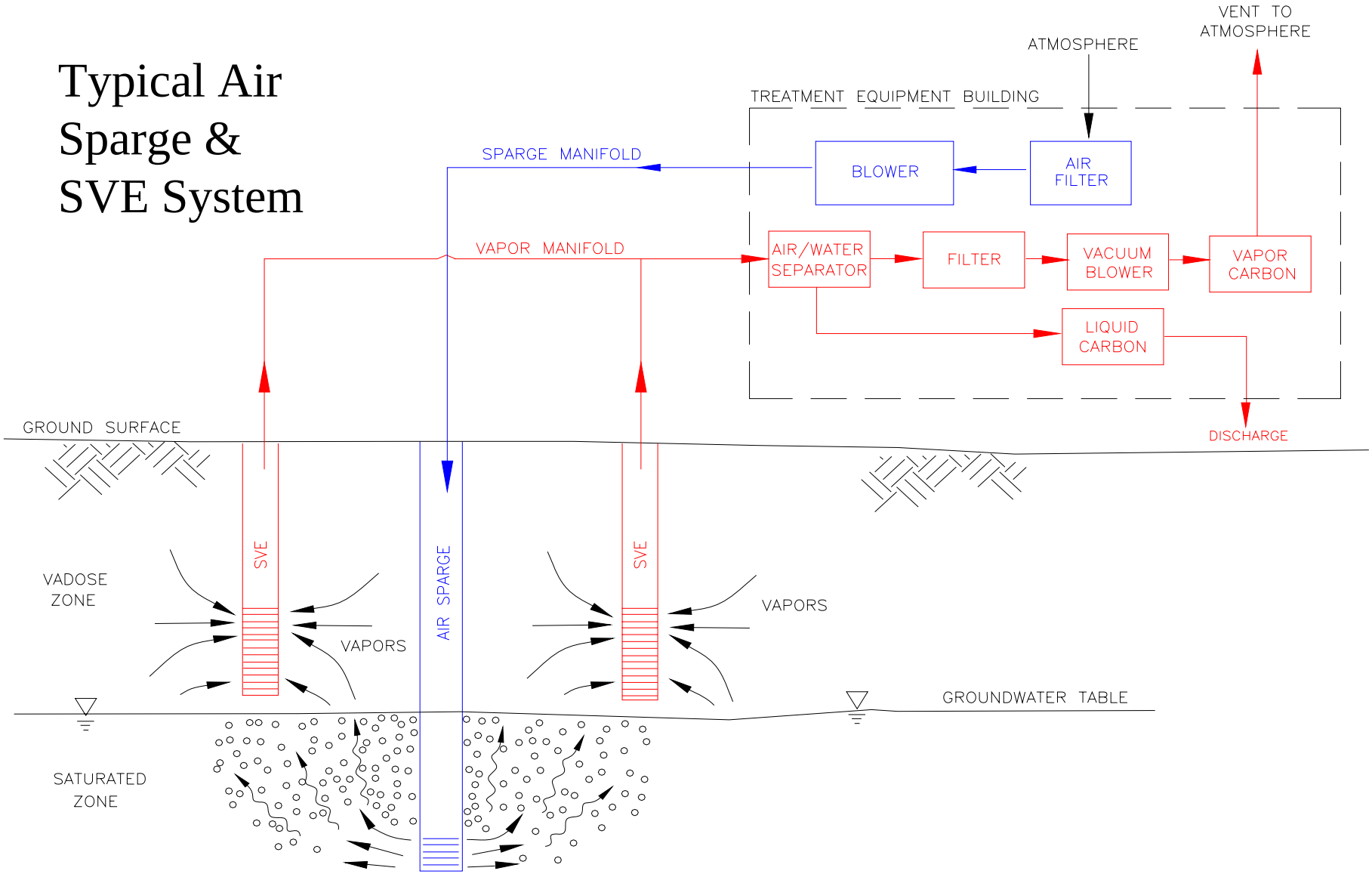
Source: TtEC, Inc.

Area Map

Delivering environmental construction, operations and remediation solutions to industry and government

ECOR Solutions, Inc.

Typical Air Sparge & SVE System



Source: TtEC, Inc.

Air Sparge System

- Total of thirty-four 2-inch diameter wells
- Approx. depth of wells is 35 feet bgs
- 60 Hp AS blower with variable speed drive
- Typical injected air flow rate up to 180 cubic feet per minute (cfm)
- Heat exchanger unit for temperature reduction

Soil Vapor Extraction

- Total of thirteen 4-inch diameter wells
- Approx. depth of wells is 25 feet
- 75 Hp SVE blower with variable speed drive
- Typical vapor extraction flow rate up to 1,600 cfm
- 400 gallon moisture separator
- Four 3,000lb vapor phase carbon adsorbers

Aboveground Piping Network

Typical SVE Well Head Connection

Piping Enters/Exits Building

Source: TtEC, Inc.

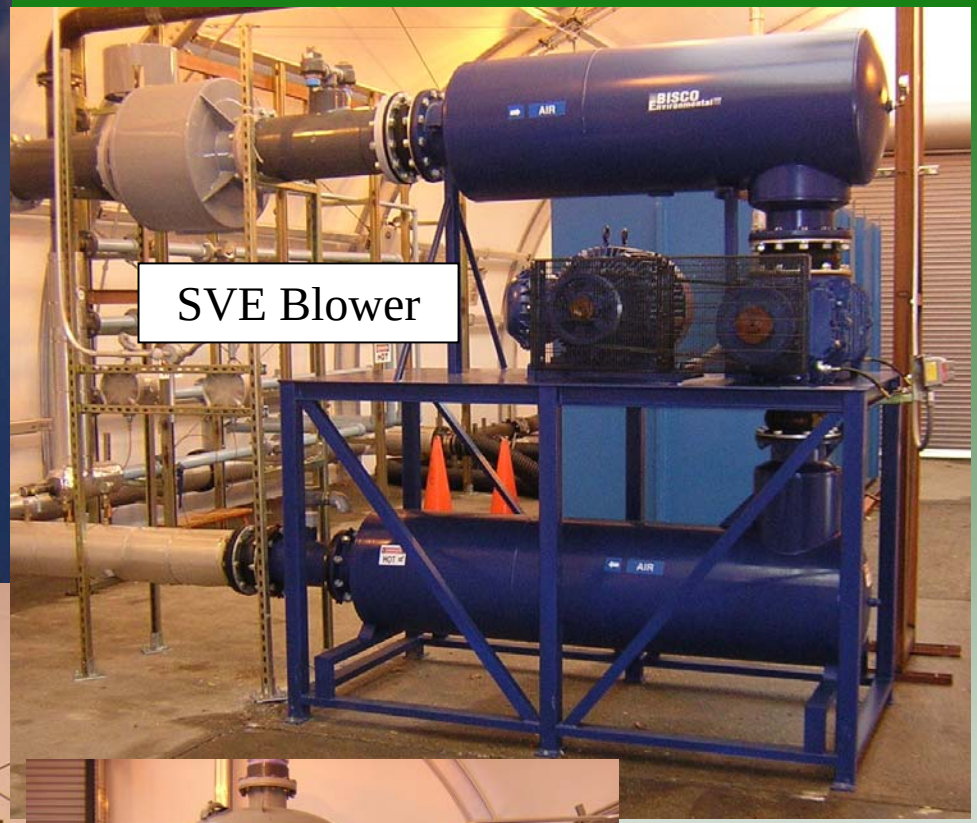
Sprung Structure
Equipment Building

Discharge
Stack

Heat
Exchanger

Source: TtEC, Inc.

Carbon Adsorbers



SVE Blower

Air Sparge Blower

Moisture Separator

Source: TtEC, Inc.

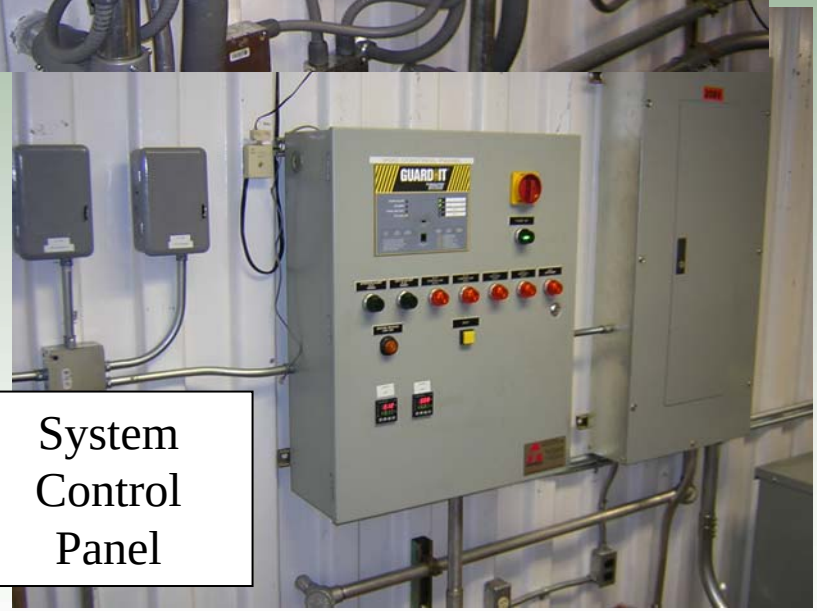
Delivering environmental construction, operations and remediation solutions to industry and government

ECOR Solutions, Inc.

Interior Piping

Motor VSD Units

Air Sparge Piping Manifold



System Control Panel

Source: TtEC, Inc.

System Monitoring

What is measured

- Extracted organic vapor concentrations
- Dissolved oxygen concentrations in groundwater
- Beneficial microbial activity
- Depths to groundwater
- Groundwater contaminant concentrations
- Treatment system performance parameters

Project Transition

Transitional meetings were held at the site in October 2006 with TtEC, Inc. to familiarize ECOR with:

- Site 7 (Former Fuel Depot Area)
- The AS/SVE system
- Sampling procedures and protocol

Operational Activities

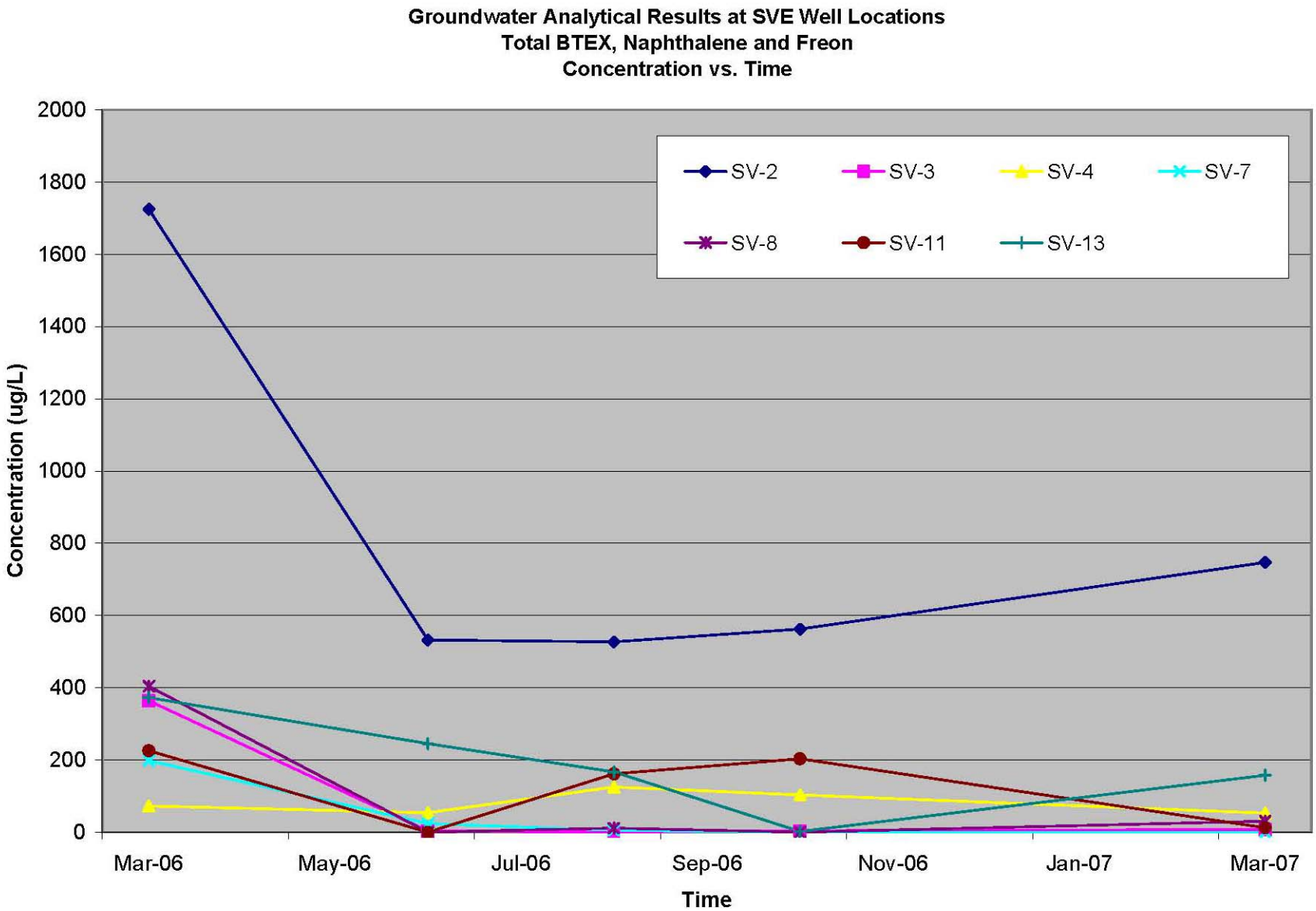
- TtEC suspended operations on October 26, 2006 to facilitate groundwater sampling activities.
- ECOR started operation of system on November 2, 2006
- System ran continuously through December 11, 2006
- Performed weekly O&M visits to:
  - Monitor vapor phase carbon adsorbers
  - Obtain instrument measurements
  - Perform general site inspections

System Shut Down

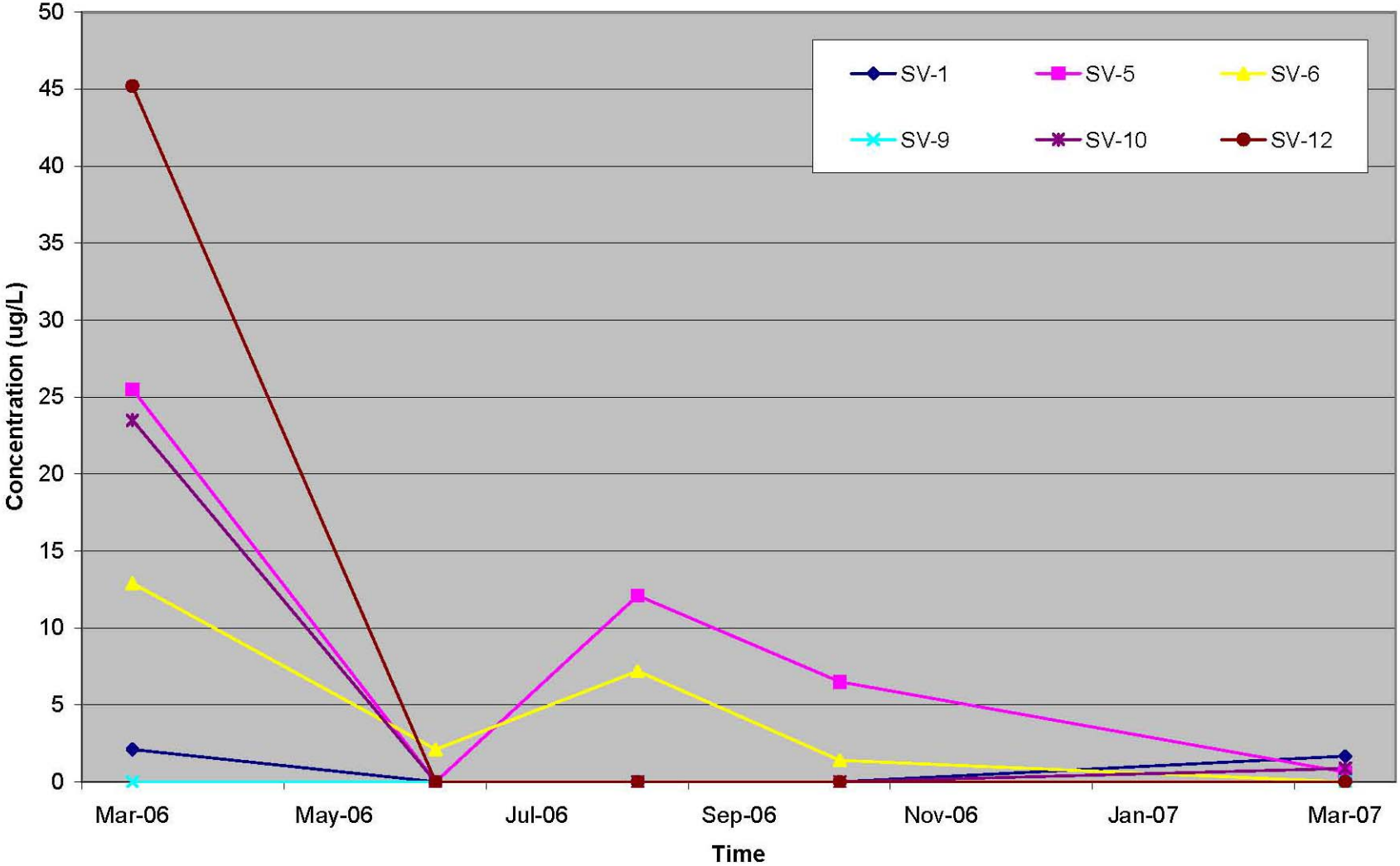
- The System was shut down for the winter on December 11, 2006
- Some system piping was disassembled to allow for demolition of fuel depot building by TtEC
- On December 22, 2006, reassembled piping was inspected by ECOR
- The site was secured for the winter until it was restarted in March 07

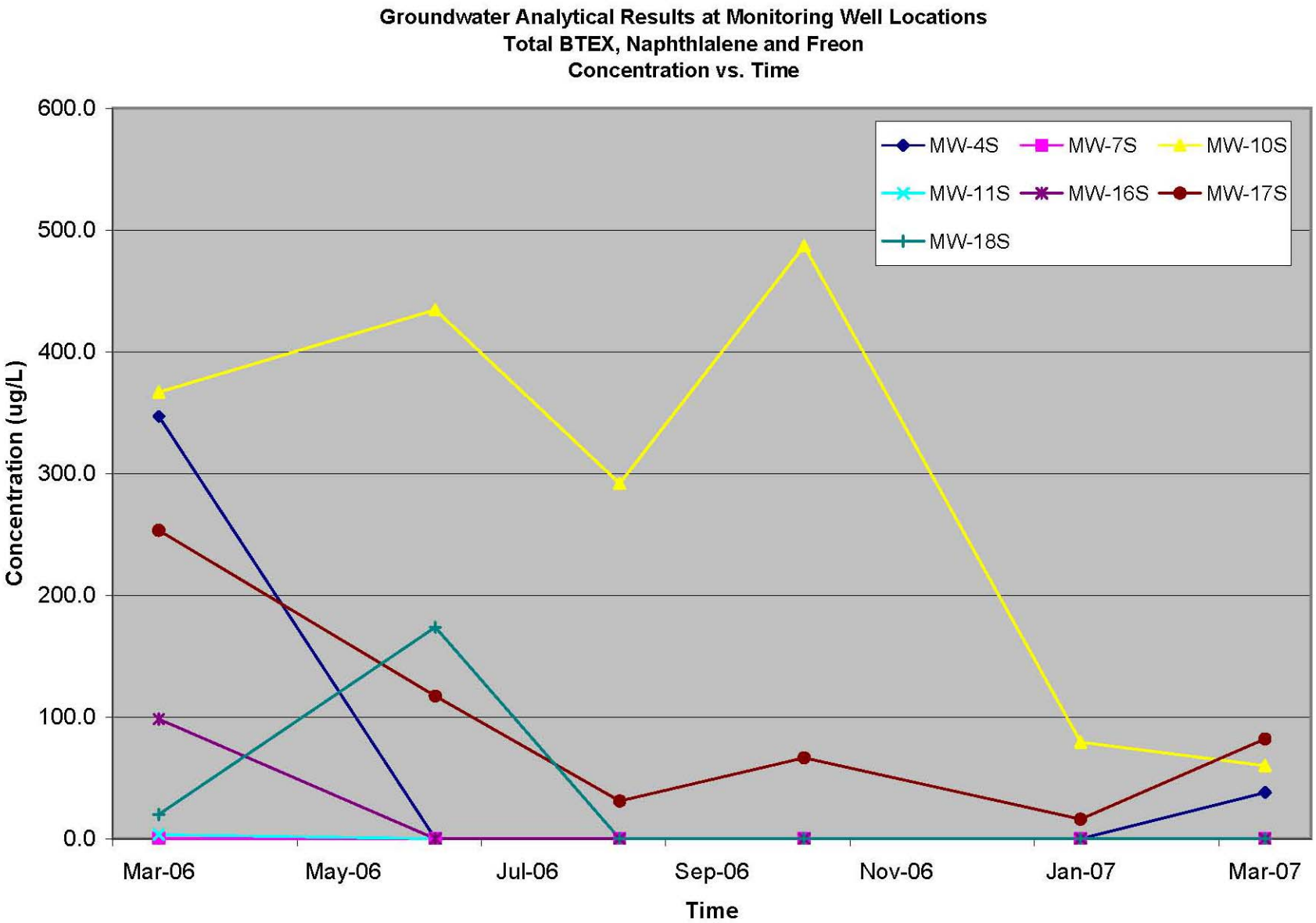
Graphs

- Groundwater analytical results at SVE wells #1
- Groundwater analytical results at SVE wells #2
- Groundwater analytical results at monitoring wells


Groundwater Analytical Results at SVE Well Locations
Total BTEX, Naphthalene and Freon
Concentration vs. Time
Concentration (ug/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
SV-2
SV-3
SV-4
SV-7
SV-8
SV-11
SV-13
Mar-06
May-06
Jul-06
Sep-06
Nov-06
Jan-07
Mar-07
Time

Groundwater Analytical Results at SVE Well Locations
Total BTEX, Naphthalene and Freon
Concentration vs. Time




Groundwater Analytical Results at Monitoring Well Locations
Total BTEX, Naphthlalene and Freon
Concentration vs. Time
600.0
500.0
400.0
300.0
200.0
100.0
0.0
Concentration (ug/L)
MW-4S
MW-7S
MW-10S
MW-11S
MW-16S
MW-17S
MW-18S
Mar-06
May-06
Jul-06
Sep-06
Nov-06
Jan-07
Mar-07
Time

Status

Where we are currently

- Groundwater samples collected March 5-8, 2007
- System restarted on March 23, 2007
- Weekly O&M until next groundwater sampling event in June of 2007
- Monitoring includes monthly vapor sampling

Questions?