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MEETING MINUTES FROM 21 APRIL 2010 RESTORATION ADVISORY BOARD MEETING
WITH INVITATION TO UPCOMING RESTORATION ADVISORY BOARD MEETING ON 3
NOVEMBER 2010 NWIRP BETHPAGE NY
10/14/2010
TETRA TECH



TETRA TECH

NOR-00872

October 14, 2010

Project Number: 112G02019

Reference: Contract No. N62470-08-D-1001
Contract Task Order No. WE06

Subject: RAB Meeting Notification

MEMORANDUM

**FOR THE MEMBERS OF THE RESTORATION ADVISORY BOARD (RAB)
FOR THE INSTALLATION RESTORATION PROGRAM AT NAVAL
WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP) BETHPAGE, NEW
YORK**

The Navy would like to announce that a **Restoration Advisory Board (RAB)** meeting has been scheduled for Wednesday, November 3, 2010. This meeting is open to the general public and will begin at 7:00 PM. The location of the meeting is *the Town of Oyster Bay Ice Skating Center Community Room, 1001 Stewart Avenue, Bethpage, New York.*

Items that will be discussed during this meeting will include:

- Site 1 Soil Vapor Extraction Containment System
- Offsite Groundwater Investigation
- Public Water Supply Design
- GM-38 Operation Status
- Site 1 – PCB Investigation

Attached for your review are the minutes from the RAB meeting held on April 21, 2010. The Navy requests that you review the meeting minutes and provide comments that you have to the Remedial Project Manager, Ms. Lora Fly. These minutes will be discussed and approved at the November 3, 2010 meeting. If you need additional information, please call Ms. Lora Fly at (757) 341-2012, or email, lora.fly@navy.mil.

Sincerely,

David D. Brayack
Project Manager

Distribution:

NAVFAC Mid-Atlantic, Lora Fly
NAVAIR, Richard Smith
NYSDEC (Albany), Steve Scharf
NYSDEC (Albany), Henry Wilkie
NYSDEC (Stony Brook), Walter Parish
NYSDOH, Steve Karpinski
USEPA Region II, Carol Stein
USEPA Region II, Carla Struble
Town of Oyster Bay, Hon. John Venditto
Town of Oyster Bay, Richard Pfaender
Town of Oyster Bay DPW, Matt Russo
Tetra Tech NUS, Dave Brayack
ECOR Solutions, Al Taormina
Northrop Grumman, John Cofman
ARCADIS, David E. Stern
Community Co-Chair, Jim McBride
Community RAB Member, Mike Grello
Community RAB Member, Ed Mangano, County Executive
Community RAB Member, Linda Mangano
Community RAB Member, Ed Resch
Community RAB Member, Charles Bevilacqua
Community RAB Member, Roy Tringali
Community RAB Member, Rosemary Styne
Community RAB Member, Eugenia Mazzara

**RESTORATION ADVISORY BOARD MEETING
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP), BETHPAGE
TOWN OF OYSTER BAY ICE SKATING CENTER COMMUNITY ROOM
1001 STEWART AVENUE, BETHPAGE, NEW YORK
WEDNESDAY, APRIL 21, 2010**

The twenty-fifth meeting of the Restoration Advisory Board (RAB) was held at the Town of Oyster Bay's Ice Skating Center Community Room in Bethpage, New York. Meeting attendees included representatives from the Navy (Jim Brantley, Lora Fly, and Tom Kreidel), New York State Department of Environmental Conservation (NYSDEC) (Steven Scharf and Ajay Shah), Nassau County Department of Health (John Lovejoy), Bethpage Water District (Anthony Sabino), RAB Community Members (Charles Bevilacqua and Roy Tringali), Tetra Tech Inc. (David Brayack, Debbie Cohen, Stavros Patselas, and Robert Sok), ECOR Solutions, Inc. (Matt Lapp, Al Taormina, and Will Torres), and ARCADIS (David Stern). Eleven Bethpage residents also attended the meeting. The meeting sign-in sheet is provided as Attachment 1.

WELCOME AND AGENDA REVIEW

The Navy representative, Ms. Lora Fly, welcomed everyone to the RAB meeting and introduced the meeting agenda. The agenda for the meeting is included as Attachment 2. The presentations for the meeting are included in Attachments 3 and 4.

COMMUNITY UPDATE AND REVIEW AND APPROVAL OF MEETING MINUTES

Ms. Fly asked whether the RAB members received the September 2009 minutes, which were distributed in December 2009, and asked whether there were questions or comments on the minutes. There were no questions or comments. Because there were not enough RAB members present to approve the September 2009 meeting minutes, approval was tabled until the next RAB meeting. The March 2009 RAB meeting minutes have also been tabled.

SITE 1 SOIL VAPOR INTRUSION

Mr. Robert Sok (Tetra Tech) provided a presentation on the status of the Site 1 soil vapor investigation and indoor air sampling update and Mr. Stavros Patselas (Tetra Tech) provided a presentation on the soil vapor extraction containment system at Site 1. The presentations are included in Attachment 3.

Mr. Sok began with a review of the site history. Treatment of volatile organic compound (VOC) contamination in soil and groundwater at Site 1 was conducted from 1998 to 2002. Based on 2006 New

York State Department of Health (NYSDOH) vapor intrusion guidelines, the Navy re-evaluated onsite soil gas concentrations and the potential migration of VOCs. In addition, the Navy is evaluating indoor air quality in offsite residential housing. As discussed at previous RAB meetings, soil gas sampling results from the soil gas investigation at the eastern fence line of Site 1 indicated elevated levels at the fence line. In 2008, the Navy conducted an investigation of offsite soil gas, which included soil gas sampling in the neighborhood adjacent to Site 1 along 10th and 11th Streets and Sycamore and Maple Avenues. Additional soil gas sampling, on 9th and 11th Streets, was conducted to determine the boundary of the offsite soil gas contamination. Elevated levels were found on 10th and 11th Streets between Maple and Sycamore Streets. In 2009, the Navy conducted indoor air and sub-slab sampling in homes along 11th street. Results for trichloroethene (TCE) were above NYSDOH guidelines in some indoor air and sub-slab samples. The Navy installed portable air purification units (APUs) as temporary mitigation measure, and in several homes, sealed utility access sumps in basements and installed Sub-Slab Depressurization (SSD) systems. In 2009, the Navy designed and constructed a soil vapor extraction (SVE) containment system to prevent soil gas from continuing to move off site.

Mr. Sok reviewed a figure showing where elevated results were found and showed photographs of an APU and sealed access sump. Since the September 2009 RAB meeting, the Navy continued indoor air monitoring to check vapor levels and the effectiveness of APUs and SSD systems, conducted indoor and outdoor air sampling before and after start up of the SVE containment system, and began full-time operation of the containment system. Sampling results from the latest round (March 2010) indicated that all indoor air levels were below NYSDOH air guidelines. Stack samples from the SSD systems indicated that concentrations of VOCs were much lower than during the initial stack sampling conducted in June 2009.

Future work includes:

- Conducting soil gas and SSD system stack sampling (planned for August 2010).
- Conducting indoor air, outdoor air, and sub-slab sampling (planned for November 2010).
- Based on the results of the August and November 2010 sample results, evaluate the effectiveness of removal the mitigation systems from houses.
- If needed, conducting future soil gas and indoor air, outdoor air, and SSD stack sampling to monitor the effectiveness of short-term and long-term mitigation measures.

Mr. Patselas reviewed the Site 1 soil vapor extraction containment system. The system is being operated to remove VOCs in soil gas at Site 1 and prevent offsite migration of VOCs from Site 1. The system consists of 12 soil vapor extraction wells that were installed between 35 to 60 feet below ground surface (bgs). An existing building at Site 4 is being used to house the extraction blowers and vapor treatment system. The treatment system consists of vapor phase activated carbon to remove the VOCs before

discharge to the atmosphere. There are several monitoring points in the residential neighborhood that are being used to ensure that the system is capturing the offsite soil gas. System construction completion and start up occurring in December 2009. Sampling results since system start up shows VOC concentrations are decreasing. Tetra Tech will conduct the first 6 months of operation and maintenance (O&M) (until June 2010) and subsequently will transition O&M to another Navy contractor. Mr. Patselas showed figures of the treatment scheme for the collected soil gas and photographs of system installation and treatment system components.

Questions and discussion regarding the Navy's presentation include the following:

- Several questions were asked regarding home testing and whether there are any health concerns for the residents. The Navy explained that testing is being conducted for the same homes as previously tested and that concerns for additional homes have not been identified. The most recent testing results have shown that the homes within the area of concern are in compliance with NYSDOH health requirements. NYSDOH has been involved in the project. The Navy provides documents and data to NYSDOH. In regards to health concerns, NYSDOH is continuing to evaluate these concerns, and Mr. Lovejoy provided information to those attending the RAB who wanted to contact NYSDOH. The community members explained that they understand that treatment systems are in place to prevent continued health impacts, but are concerned about what health impacts contamination may have had in the past. The community members requested that they be kept informed.
- Several questions were asked on how long the soil vapor extraction containment system would be operated. The Navy anticipated that it would take 4 to 5 years to meet the treatment requirements. The goal is to operate the containment system until the contaminated soil at the site can be remediated. The Navy will evaluate the effectiveness of the containment system to determine whether the treatment requirements are being met.
- Have the recent heavy rain affected the system? Yes. Mr. Patselas explained that the extraction wells were pulling water in to the system and it required various maintenance activities to remove the water from the system.
- Are there similar containment systems in use. The Navy indicated that there are some operating on other Navy properties. Mr. Scharf explained that there was another similar system being operated in a nearby residential area. Mr. Patselas explained that soil vapor extraction systems are commonly used to treat contaminated soil at gas station and dry cleaner sites. These systems are typically contained within trailers or buildings so that they would not be noticeable.
- There were also some community concerns that property value would be affected by the environmental problems in the area. Mr. Scharf explained that the type of treatment systems are

not uncommon for treatment of soil gas and radon and property values are not necessarily impacted by having such treatment systems in place.

OFFSITE GROUNDWATER INVESTIGATION – GM-75 INVESTIGATION

Mr. Brayack discussed the progress of the offsite groundwater investigation in the GM-75 area. The presentation is included in Attachment 3.

Mr. Brayack reviewed some of the history of the project, explaining that the GM-75 program is being conducted to delineate an area of VOC contamination in groundwater beyond the capture zone of the onsite groundwater containment system. Contamination in this area is deep. The results of the investigation in the GM-75 area will be used to delineate the area with TCE concentrations greater than 1,000 µg/L in groundwater. Investigation of lower concentrations of VOC contamination in groundwater that may impact public water supplies is also being conducted as part of the program. Vertical profile borings are being installed as part of the investigation to quickly screen areas for the presence, depth, and concentration of contamination. The borings are approximately 12-inch diameter holes drilled into the ground. Drilling of each boring takes 4 to 6 weeks to complete. Samples of groundwater are collected during drilling at various depths and the borings extend to the Raritan Clay layer at a depth of up to 840 feet bgs. Approximately 36 groundwater samples per boring are collected and analyzed for VOCs. Based on the results of the analysis, permanent monitoring wells may be installed.

The Navy previously identified six locations for vertical profile borings. The work started in January 2009 and was completed in July 2009. The Navy prepared an interim report in September 2009, and based on the results additional borings and monitoring wells are planned for 2010 and 2011. Mr. Brayack showed figures of the 2009 borings, the area of offsite groundwater contamination, and the proposed area for further investigation. The Navy is preparing a work plan and then will work to obtain access agreements for installation of the additional borings.

Questions and discussion regarding the Navy's presentation include the following:

- Has the interim report been provided to the Bethpage Water District? Yes, the NYSDEC provided the report to the water district.
- Where are you finding contaminated groundwater and why is it so far south of 11th Street? The GM-75 investigation addresses contaminant releases from various sources from the 1940s and 1950s, before environmental regulations were in effect. A containment system is in operation to prevent contamination from continuing to leave the property; however, some contamination

migrated off the property before operation of the containment system. This contamination is what is being investigated.

- The community members indicated concern that the contamination has been in the environment for a long time and asked whether the community and NYSDOH have been informed. Ms. Fly explained that this offsite contamination is very deep and is not a soil vapor concern. The investigation of lower concentrations of VOC contamination is being conducted to ensure protectiveness of public water supplies. The Navy continues to keep NYSDEC and NYSDOH informed and involved in the groundwater investigation. Mr. Scharf explained that the Navy has been committed to cleaning up the area and has been conducting the necessary actions requested by NYSDEC.

PUBLIC WATER SUPPLY DESIGN

Mr. Brayack provided a presentation on the public water supply design. The presentation is included in Attachment 3.

Mr. Brayack explained that trace levels of TCE (approximately 2 micrograms per liter or less) were detected in an offsite public water supply well. The trace amounts are less than concentrations that could cause a health concern, but the wells are being monitored on a regular basis to make sure the concentrations do not increase to levels that could be of concern. Evaluation of the data for the contaminant groundwater plume indicates that a maximum concentration of 10 ug/L could reach the public supply well in the future. The Navy will install a treatment system on the public supply well as a precaution to be able to treat groundwater if concentrations begin to increase. The Navy is anticipating completion of the design in the summer of 2010 and to begin construction of the system in 2011.

GM-38 AREA GROUNDWATER REMEDIATION PROJECT

Matt Lapp with ECOR provided a presentation on the status of the GM-38 Area Groundwater Remediation Project since the September 2009 RAB presentation. The presentation is included in Attachment 4.

The treatment system is being operated to remove VOCs from groundwater. The primary treatment process is air stripping followed by carbon polishing. The extracted water is being treated to meet NYSDEC treatment standards before discharge into one injection well and into a county recharge basin. Vapor from the air stripping process is being treated with carbon prior to venting to the atmosphere. Tetra Tech's 6-month prove out of the system was completed in March 2010, and ECOR began long-term operation and maintenance (O&M) activities. Mr. Lapp explained that the operator monitors system

equipment, performs preventative maintenance, obtains instrument measurements, and performs general site inspections. Air and water compliance sampling and quarterly groundwater sampling is also being conducted. Monthly O&M compliance reports and quarterly groundwater monitoring reports will be prepared.

Questions and discussion regarding the Navy's presentation include the following:

- How is the Navy ensuring that the discharge water is being sufficiently treated? There is a two-phased treatment approach (air stripping and carbon polishing) and continued monitoring of the system and treated water. The prove out period also included stringent sampling and monitoring to ensure that the system is working properly. Monthly reports of the results are being prepared.

SITE 1 PCB INVESTIGATION WORK PLAN

Mr. Sok provided a presentation on the planned PCB investigation at Site 1. The presentation is included in Attachment 3.

From the 1950's to early 1980's, PCB wastes were staged at Site 1. Investigation of the site showed that release of PCB wastes has resulted in soil and groundwater contamination. The horizontal extent of soil contamination was delineated; however, the vertical extent of PCB-contaminated soil in the source area has not been delineated. The investigation will be conducted to collect data to determine the vertical extent of PCB-contaminated soil in the source area and the horizontal and vertical extent of groundwater contamination if present beyond the site boundary.

Mr. Sok reviewed the current understanding of site conditions and contaminant concentrations. The extent of PCB-contaminated soil is defined from 0 to 25 feet bgs. The Navy is planning to install soil borings to a depth of approximately 250 feet bgs, collect subsurface soil samples, and analyze the soil samples using onsite field test kits. Confirmatory samples will be conducted and these samples analyzed at a fixed-base laboratory. Groundwater grab samples in downgradient soil borings will be collected to guide placement of permanent monitoring wells. Twelve permanent monitoring wells are planned. The Navy submitted a draft work plan to NYSDEC in March 2010, comments are expected by the end of April 2010, and the final work plan is anticipated in May 2010. Installation of soil borings is currently anticipated to begin in June 2010 and monitoring well installation and sampling is anticipated to begin in August or September 2010.

Questions and discussion regarding the Navy's presentation include the following:

- Is there any connection to the Hooker/RUCA Site. No, the PCB contamination is on Navy property.
- Did any of the PCB contamination migrate past the site boundary? The planned investigation will address this issue.
- Are there other sites with PCB contamination? During initial investigations at the NWIRP Bethpage sites, PCBs were investigated and found at Sites 1 and 2. There was no evidence of PCB contamination at Site 3. Site 2 had a small area of PCB contamination in surface soil that was removed.

CLOSING REMARKS

Ms. Fly asked whether there were any other questions or comments. With no questions or comments, Ms. Fly proposed the next RAB meeting be held on November 3, 2010. The Navy will have information from the various investigations by the next RAB meeting. Ms. Fly thanked everyone for coming to the meeting and the meeting was adjourned.

ATTACHMENT 1

APRIL 21, 2010 RAB MEETING SIGN-IN SHEET

25th RAB Meeting for NWIRP Bethpage

April 21, 2010

Sign-In List

Name	Address (if interested in being on mailing list)	Organization	How Did You Hear of Meeting?
JIM BRANTLEY		NAUFAC LANT	✓
CHARLES BEVILACQUA		RAB	
Tom Kreidel		NAUFAC Mid-Island	
DAVID STERN		ARCADIS - NYC	
Anthony Sabino		Bethpage Water District	
Stavros Patselas		TEEC	
MIKE GIAMBALVO			
FRANK ASSELTIA		LONG ISLAND JUNIOR SOCCER	
Will TORRES		ECOR FEDERAL SERVICES	
AL TAORMINA		ECOR	
Mary Burgerid			
Roy Junga		Community	
ED QUAREMBA		RESIDENT	
Dave Brayack			

25th RAB Meeting for NWIRP Bethpage

April 21, 2010

Sign-In List

Name	Address (if interested in being on mailing list)	Organization	How Did You Hear of Meeting?
ROSE DELPRETE		RESIDENT	MAIL
MARTIN HACKER		RESIDENT	MAIL
John Lovejoy		Nassau Co. Dept. of Health	NYSOH
MATT LAPP		ECOR	
Brian Moss		MREI	
Joanne Perico		resident.	
Daniel Grindstaff		resident	
KEVIN LUMPE		STEEL EQUITIES	
Robert Sok		Tetra Tech	
Corinne McKeown		Resident	Letter
Debbie Cohen		Tetra Tech	
Ajay Shah		NYSDEC	
Steven Scharf		NYSDEC	

ATTACHMENT 2

APRIL 21, 2010 RAB MEETING AGENDA

Agenda

**Restoration Advisory Board
Naval Weapons Industrial Reserve Plant Bethpage**

**April 21, 2010
Town of Oyster Bay Ice Skating Center Community Room
1001 Stewart Avenue, Bethpage, New York
7:00 p.m.**

Welcome and Agenda Review
Lora Fly, NAVFAC Mid-Atlantic

Meeting Minutes
All Members

Technical Progress

Site 1 - Soil Vapor Intrusion
Rob Sok, Tetra Tech/Stavros Patselas, Tetra Tech

Offsite Groundwater Investigation – GM-75 Investigation
David Brayack, Tetra Tech

Public Water Supply Design
David Brayack, Tetra Tech

GM-38 Operation Status
H & S

Site 1 - PCB Investigation Work Plan
Rob Sok, Tetra Tech

Closing Remarks
Lora Fly

Presenters will be available after the program for questions.

ATTACHMENT 3

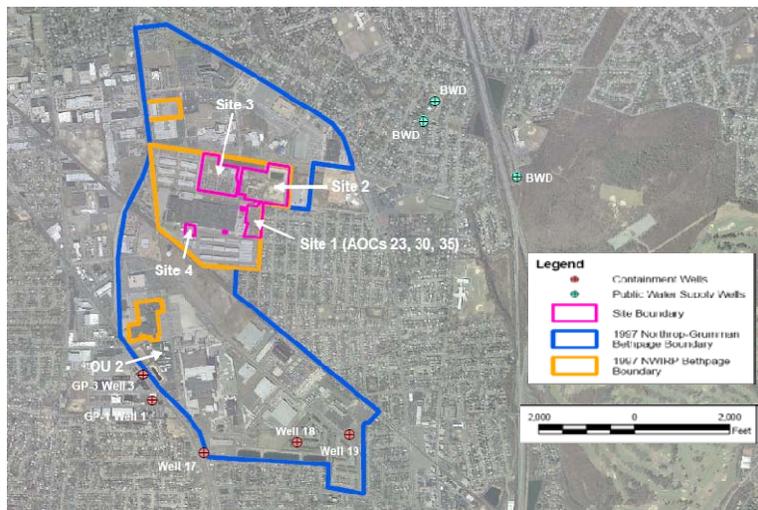
Tetra Tech Presentations

Restoration Advisory Board
(RAB) Meeting

Site 1 – Soil Vapor Investigation and
Indoor Air Sampling Update

Naval Weapons Industrial Reserve
Plant (NWIRP) Bethpage
April 21, 2010

FACILITY MAP



SOIL VAPOR OVERVIEW



- October 2006 New York State Department of Health issued soil vapor intrusion guidelines
- 2008 and 2009 - Navy conducted soil gas and soil vapor intrusion testing
- 2009 - Navy installed air purification units (APUs) and Sub-slab Depressurization (SSD) systems and conducted monitoring
- 2009 - Navy design and constructed Soil Vapor Extraction (SVE) Containment System
- January 2010 – SVE Containment System begins full time operation

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SOIL VAPOR INTRUSION



- Jan thru May 2009 - Navy conducted indoor air and sub-slab vapor sampling in homes
- Sampling results indicated TCE levels above NYSDOH guidelines in some indoor air and sub-slab vapor samples
- Portable carbon air filtration units (APUs) installed as temporary mitigation measure and utility access sumps sealed (as needed) in basements
- March 3, 2009 – Public Informational Meeting regarding the soil vapor investigation, indoor air sampling, future monitoring and mitigation measures
- Ongoing indoor and outdoor air monitoring (March 2009 – present)

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SOIL GAS SAMPLE LOCATIONS AND NYSDOH SUB-SLAB GUIDELINES



SITE 1
(Approximate
Site
Boundary)



Approx. Scale
200 feet

- Legend:
- Soil Vapor Sampling – Shallow TCE conc. greater than 250 ug/m³
 - Soil Vapor Sampling – Shallow TCE conc. less than 250 ug/m³

APU AND SUMP ACCESS PHOTO



SOIL VAPOR INTRUSION



- Sub-Slab Depressurization (SSD) Systems (May 2009) – Installed where sub-slab vapor levels indicated the need for this type of mitigation (NYSDOH - Mitigation Matrix)
- Indoor /Outdoor Air and SSD Stack Monitoring – Sampling events June 2009 to present

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SSD SYSTEM



8

2010 SAMPLING SUMMARY



- Indoor and Outdoor Air Sampling event conducted in early March 2010, after two months of SVE operation
- Air sampling and monitoring consisted of indoor, outdoor, and SSD stack samples
- Sampling results (March 2010) indicated indoor air levels were below the NYSDOH air guidelines
- SSD System stack samples (March 2010) indicated concentrations ranging from significantly lower than the initial stack sampling conducted in June 2009

FUTURE ACTIONS



- Soil gas and SSD system stack sampling planned for August 2010
- Indoor air, outdoor air, and sub-slab sampling event to be conducted in November 2010
- Evaluate APU removal from homes
- Additional soil gas, indoor air, outdoor air, and SSD stack sampling to monitor effectiveness of short-term and long-term mitigation measures

QUESTIONS ?



Restoration Advisory Board (RAB) Meeting

GM-75 Groundwater Investigation

Naval Weapons Industrial Reserve
Plant (NWIRP) Bethpage
April 21, 2010

GM-75 PROGRAM PURPOSE



- Purpose: Delineate area of groundwater contamination that has TCE at a concentration greater than 1,000 $\mu\text{g/l}$
- Program is also being used to investigate lower concentrations in groundwater that may impact water supplies
- Vertical profile borings are used to quickly screen areas for the presence, depth, and concentration of contamination

GM-75 VERTICAL PROFILE BORING PROGRAM



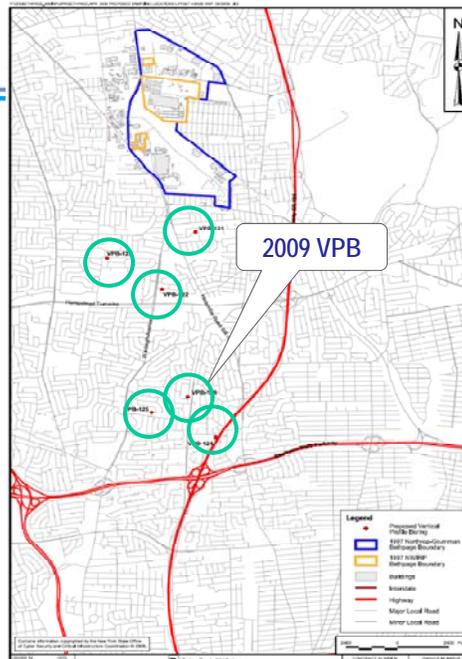
- A vertical profile boring is a 12-inch diameter hole drilled into the ground. At select depths, the drilling is stopped, sampling device is lowered to depth, and a sample of the water is collected
- The borings will extend to the Raritan Clay Layer at a depth up to 840 feet below ground surface
- 36 groundwater samples will be collected per boring and analyzed for VOCs

GM-75 VERTICAL PROFILE BORING PROGRAM

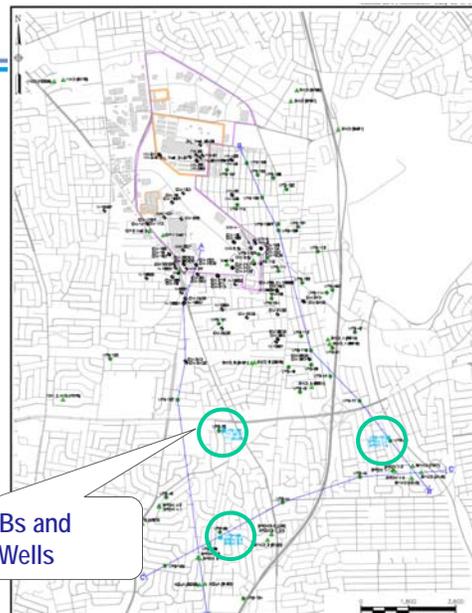


- Each boring requires 4 to 6 weeks to complete and costs \$150,000 to \$200,000
- Six locations were completed in July 2009
- Interim report issued in September 2009
- Addition borings and monitoring wells planned for 2010/2011

2009 Vertical Profile Borings



2010/2011 Vertical Profile Borings and Monitoring Wells



GM-75 VERTICAL PROFILE BORING PROGRAM



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04/21/10

GM-75 VERTICAL PROFILE BORING PROGRAM



8

04/21/10



Questions



Restoration Advisory Board (RAB) Meeting

Public Water Supply Design

Naval Weapons Industrial Reserve
Plant (NWIRP) Bethpage
April 21, 2010

PUBLIC WATER SUPPLY DESIGN PROGRAM

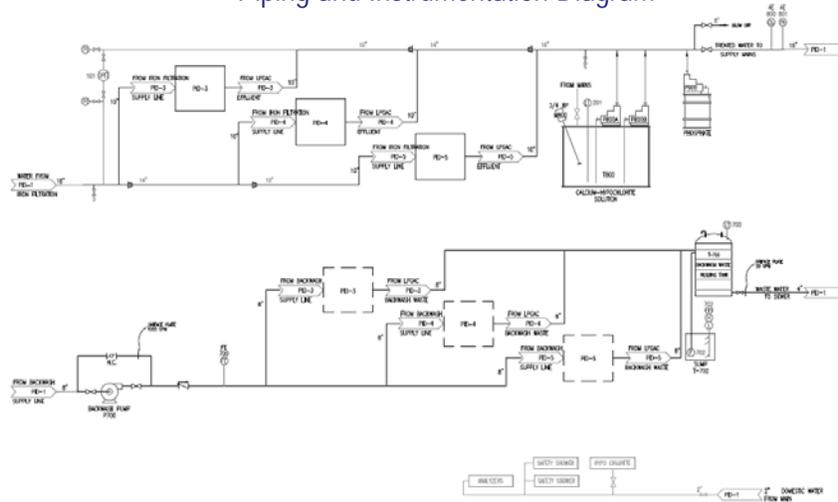


- Trace levels of TCE have been detected in an off site public water supply well
- Concentrations are less than MCLs and are being monitored on a regular basis
- Navy is designing a liquid phase granular activated carbon (LPGAC) treatment system
- Design completion – summer 2010
- Construction - 2011

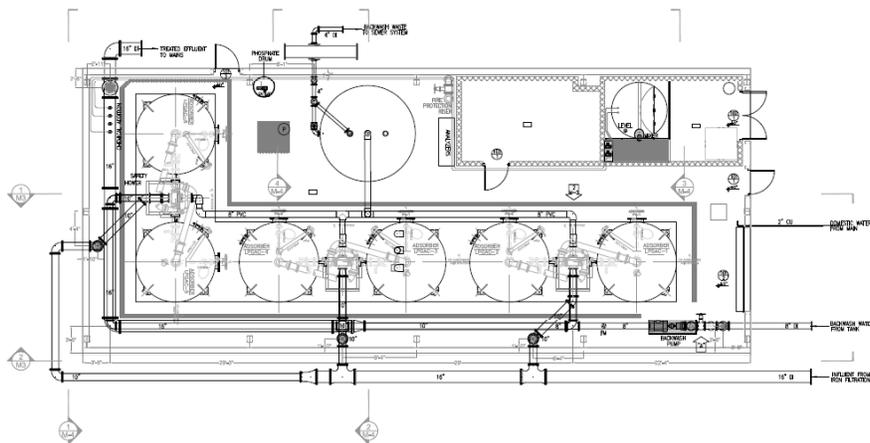
PUBLIC WATER SUPPLY DESIGN PROGRAM



Piping and Instrumentation Diagram



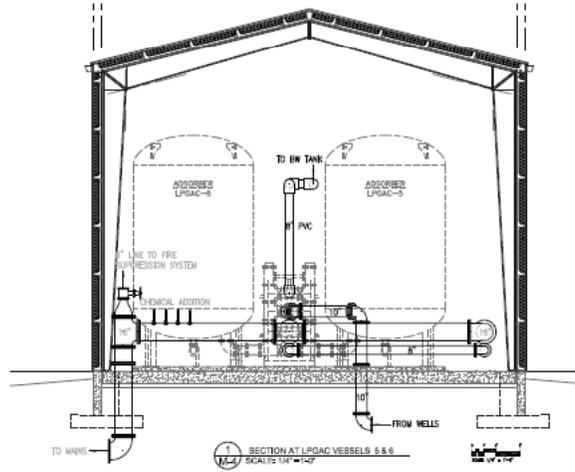
PUBLIC WATER SUPPLY DESIGN PROGRAM



GAC Unit Layout (6 vessels)



GAC Unit Profile



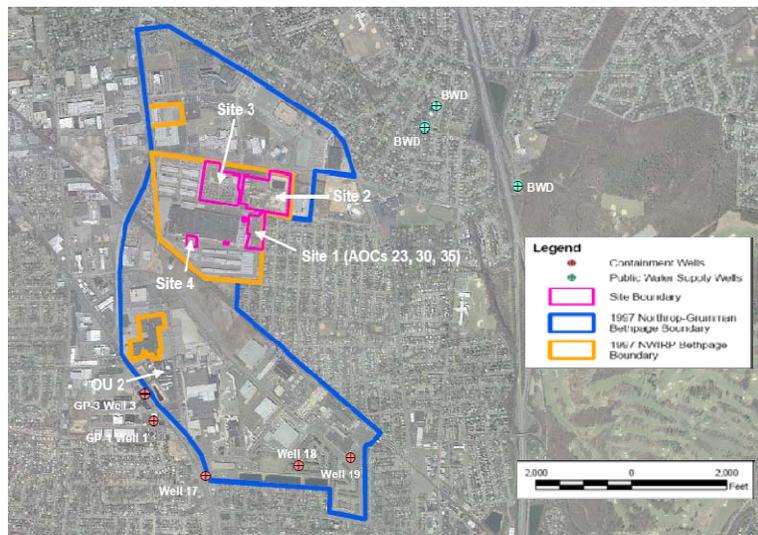
Questions

Site 1 – Former Drum Marshalling Area PCB Investigation Work Plan

RAB Presentation

Naval Weapons Industrial Reserve
Plant (NWIRP) Bethpage
April 21, 2010

FACILITY MAP



SITE 1 – FORMER DRUM MARSHALLING AREA HISTORICAL SUMMARY



- 1950's through the early 1980's - staging of waste solvents, liquid plating wastes (metals), and autoclave (PCB fluid) wastes
- 1992 - 1993 - Remedial Investigations conducted, delineated the horizontal extent of soil contamination
- 1995 - Site 1 ROD was issued, known PCB contamination to 7 feet bgs
- 1995 – 2002 - Pre-Remedial Design Investigations, Investigation concluded PCB contamination significantly more extensive
- 1998 – 2002 – AS/SVE system installed and operated to address VOC contaminated soil
- 2003-2007 – Navy conducts internal evaluations of potential alternative remedies for addressing PCB and metal contamination at Site 1

3

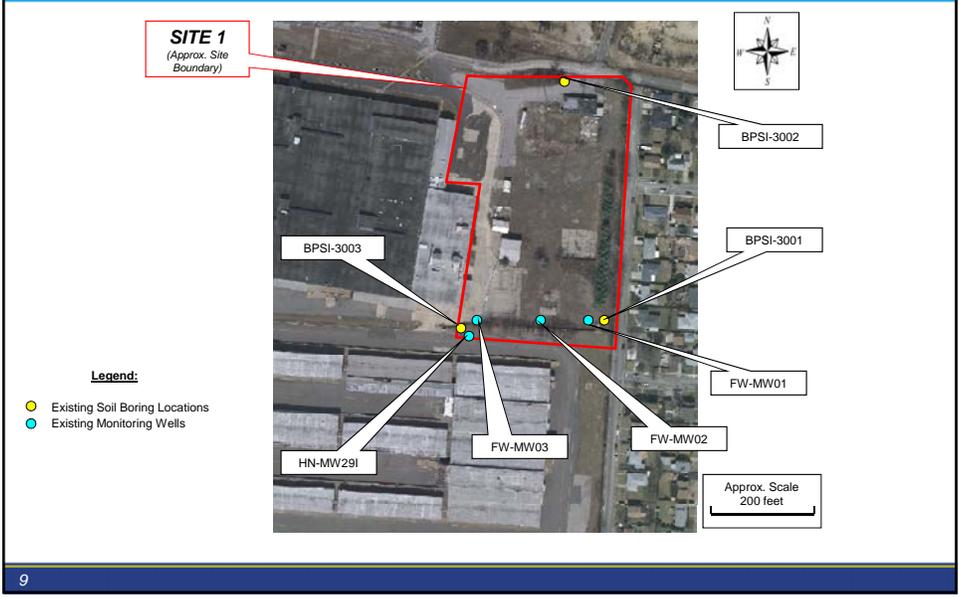
SITE 1 – FORMER DRUM MARSHALLING AREA WHAT WE KNOW



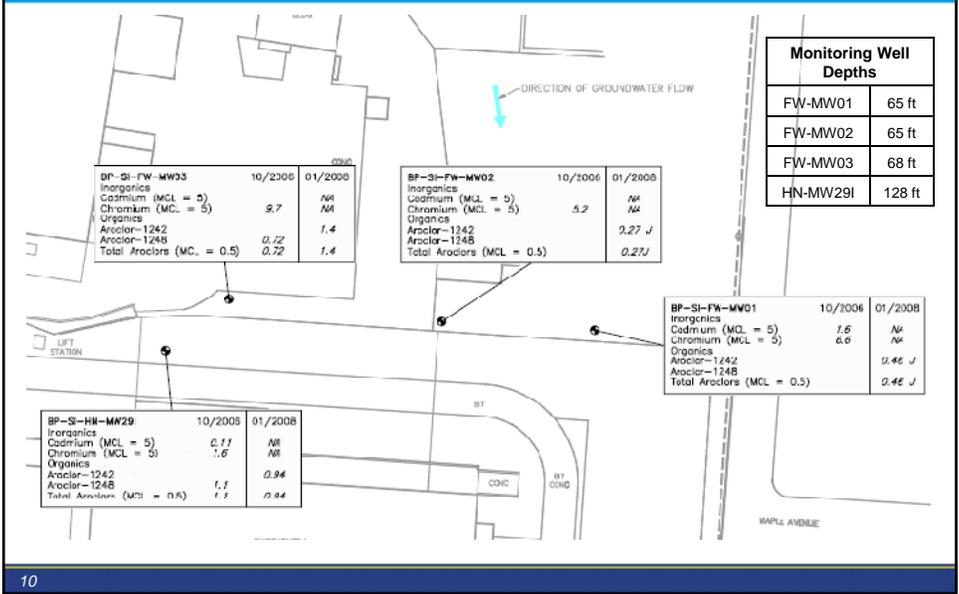
- Volume of PCB-contaminated soil exceeds 38,000 cubic yards
- Vertical extent of PCB-contaminated soil extends below the depth of groundwater
- PCBs at depths near the water table above NYSDEC cleanup goals
- PCBs detected in downgradient monitoring wells at concentrations near MCLs

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SITE 1 – EXISTING MONITORING WELLS AND BORING LOCATIONS (MAY 2009)



SITE 1 – JANUARY 2008 GROUNDWATER RESULTS



SITE 1 – FORMER DRUM MARSHALLING AREA CONCEPTUAL SITE MODEL (CSM)



- The extent of PCB-contaminated soils fairly well defined from 0 - 25 feet below ground surface (bgs)
- The extent of PCB-contaminated soils below 25 feet is not defined horizontally or vertically
- Lithological information suggests clay units are present at approximately 100 feet bgs and 220 feet bgs, unknown whether units are continuous below source area
- Detections of PCBs in site monitoring wells
- Questionable detections of PCBs in groundwater, may be present due to well installation technique

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SITE 1 – FORMER DRUM MARSHALLING AREA SCOPE OF WORK



- Nine soil borings to a depth of approximately 250 feet bgs
- Subsurface soil sampling via onsite field test kits
- Confirmatory sampling via fixed based laboratory
- Groundwater grab samples in downgradient soil borings to guide placement of permanent monitoring wells
- Well installation (12 wells) to monitor potential migration of PCBs and VOCs in groundwater, approximate three depths at each cluster
- Monitoring well depths to be determined based on soil boring lithology and source area PCB sampling results

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SITE 1 – PROPOSED MONITORING WELLS AND BORING LOCATIONS



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PCB INVESTIGATION ANTICIPATED SCHEDULE



Work Plan:

- Draft submitted to the NYSDEC on March 31, 2010
- Comments are expected by the end of April 2010
- Final Work Plan anticipated by mid May 2010

First Field Event (Soil Borings):

- Fieldwork to begin in June 2010

Second Field Event (Monitoring Well Installation and Sampling):

- Fieldwork anticipated to begin in August /September 2010

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Questions ?

ATTACHMENT 4

ECOR Presentation

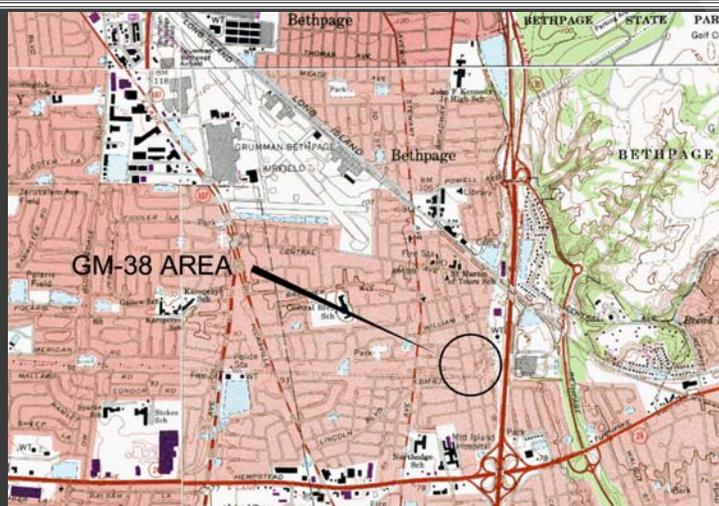


GM-38 Area
Groundwater Treatment Plant
Former Naval Weapons Industrial Reserve Plant
Bethpage, NY

Restoration Advisory Board Meeting
April 21, 2010



Site Location



Project Transition

- GWTP construction completed by TtEC - September 2009
- Six month “prove out” period completed by TtEC on March, 14 2010
- ECOR Federal Services awarded operation and maintenance (O&M) and long term monitoring (LTM) beginning on March 14, 2010
- Period of performance is 1 year through March 2011



Project Overview

- GWTP entrance is located at 100 Broadway
- Constituents of Concern:
 - VOC's in groundwater (TCE, PCE, 1,2-DCE)
- Goal:
 - Mass removal of VOC constituents via groundwater extraction
 - GWTP to operate until remediation goals are attained



Treatment System Design

- Extraction from 2 recovery wells (RW-1, RW-3)
- Process flowrate of 1000-1100 GPM
- Primary treatment is Air Stripping
- Secondary treatment (polishing), liquid phase carbon
- Vapors from Air Stripper treated with vapor phase carbon and hydrosil media
- Discharge sent to reinjection well and/or recharge basin



Operational Activities

- March 11, 2010 – EFS assumed O&M/LTM
 - Monitor system equipment (AS, LGAC, VGAC, bag filters, etc)
 - Perform preventative maintenance
 - Obtain instrument measurements
 - Perform general site inspections
- April 9, 2010 – Air Permit compliance samples collected
- April 12, 2010 – SPDES permit compliance samples collected
- April 13-16, 2010 – Liquid phase carbon changed out
- April 21-22, 2010 – long term monitoring sampling scheduled



Plant Effectiveness

- Plant has continually been in compliance with air and SPDES permits
- Runtime has been above 95% with minimal downtime due to power outages
- Approximately 250 million gallons of water treated through mid April 2010



Future Activities

- Continue to collect monthly air and water compliance samples
- Continue to collect quarterly groundwater samples (July 2010, October 2010, and January 2011)
- Submit monthly O&M compliance reports
- Submit quarterly LTM reports



Questions?

