FORMER NCBC DAVISVILLE
76th Restoration Advisory Board (RAB) Meeting Minutes
January 21, 2010

The 76th Restoration Advisory Board (RAB) meeting was held at the Quonset Development Corporation (QDC) Conference Center at 95 Cripe Street in North Kingstown, Rhode Island on 21 January 2010. The meeting agenda for the 76th RAB is included as Attachment A. The attendance list for the 76th RAB is included as Attachment B. David Barney, the Navy's BRAC Environmental Coordinator, convened the meeting at approximately 7:00 PM on 21 January 2010. Mr. Barney introduced Jeff Dale as the Navy's Remedial Project Manager for the former NCBC Davisville.

NEXT RESTORATION ADVISORY BOARD MEETING

The next RAB meeting will be held on 23 September 2010 at 7:00 PM at the QDC Conference Center. Future RAB meetings will be held on a semi-annual basis rather than quarterly. The Navy will send out postcards prior to the next RAB meeting reminding the public of the date, time, and location of the next meeting.

LONG-TERM MONITORING UPDATES

Steve Vetere gave a brief update on long-term monitoring schedules:

The Navy completed the 31st quarterly monitoring event at Allen Harbor Landfill during the month of January. The 32nd quarterly monitoring event is planned for April. Since the last RAB meeting, the Navy provided a draft data report to the BCT for the 29th and 30th events, which were completed in August and October 2009, respectively. Work on the revision/optimization of the long-term monitoring program for Allen Harbor Landfill is ongoing.

The Navy completed the 13th monitoring event for Calf Pasture Point in October 2009. These data were provided to the BCT in December. Round 14 is scheduled for the spring of 2010. Additionally, the Navy is in the process of preparing a work plan to support supplemental field investigations at Calf Pasture Point to support changes to the long-term monitoring program. Supplemental investigations and review of the monitoring program was an action item from the 2008 Five-Year Review.

The Navy and RIDEM have agreed that no further monitoring is warranted at EBS 21.

OUTFALL 001 PROJECT

The Navy, EPA, and RIDEM are working toward concurrence on the scope of investigations that are appropriate to investigate the extent of contaminants present at QDC Outfall 001, which formerly received drainage from NCBC Building 224. Field investigations are planned for 2010.

SITE 16 REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Lee Ann Sinagoga of Tetra Tech provided a brief update on the Feasibility Study for Site 16. EPA and RIDEM provided comments on the Feasibility Study, to which the Navy responded. Based on the comments and responses exchanged on this document, additional field investigations were determined to be warranted to support the conclusions of the Feasibility Study. The Navy submitted a work plan for these investigations and received comments from EPA and RIDEM. Navy is currently working on responses to regulator comments on the draft work plan.

PRESENTATION: SITE 16 FEASIBILITY STUDY SUPPORT FIELD INVESTIGATION

L. Sinagoga gave a presentation describing the field investigations that are planned to support the Feasibility Study for Site 16. See Attachment C for the slides that were utilized for the presentation.

The objectives of the investigation are as follows:

1. Refine the estimate of the volume of soil requiring remediation to mitigate human health and ecological risks.

2. Determine the extent of land-use controls necessary to mitigate potential human health risks.

3. Understand the extent of groundwater contamination to the north and east of the contaminant plume.

Ms. Sinagoga provided a brief description of the findings of the Remedial Investigation for Site 16 (see Attachment C). After evaluation of the data and consideration of potential remedial alternatives, the following problem statements were developed to guide investigations designed to fill the identified data gaps. These problem statements will provide the basis for the data collection activities that are planned for the Feasibility Study Support Field Investigation:

1. Delineation of soil contamination (e.g. PAHs) in North Central Area and determination of the presence/absence of debris (particularly in the southeastern portion of the North Central Area).

2. Characterization of shallow/intermediate groundwater contamination in the BTEX hot spot area in the North Central Area.

3. Determination of the northern extent of the CVOC plume underlying Allen Harbor.

4. Characterization of water table/overburden groundwater in the vicinity of the Sea Freeze Building, evaluate the potential for vapor intrusion into buildings and for groundwater discharge into Narragansett Bay.

5. Investigation of vapor intrusion potential at periphery of the CVOC plume.

6. Characterization/delineation of PAH contamination in vadose zone soil south of Davisville Road along the southern boundary of former Building 41 to determine if soil should be targeted for remediation.

7. Refine the characterization of CVOCs at the eastern end of former Building 41 to determine if vadose zone source exists in this area.

8. Redevelopment/resampling of upgradient monitoring wells to determine whether there is a CVOC contribution from upgradient sources.

L. Sinagoga noted that the work plan is currently in the draft stage and subject to modification based on discussions between Navy, EPA, and RIDEM. Field work is planned for Spring 2010.

QUESTIONS FROM THE FLOOR

There was a comment from the public that the Navy's fact sheet for Calf Pasture Point has been a useful piece of information for residents that are curious about the environmental status of Calf Pasture Point. Dave Barney of the Navy noted that the fact sheet can be viewed on the Davisville page of the Navy's BRAC PMO website:

http://www.bracpmo.navy.mil/basepage.aspx?baseid=86&state=Rhode%20Island&name=davisville

FORMER PR-58 NIKE SITE

Casey Haskell of the Army Corps of Engineers gave an update on the progress of the Remedial Investigation at the Former PR-58 Nike Site. The Army Corps completed an additional round of field investigations in the late summer/fall, identifying the limits of the groundwater plume to the north, east, and west. Further delineation is needed to identify the southern limits of the plume, and additional field investigations are planned for March 2010. The March field work will include the collection of groundwater samples from three existing monitoring well clusters and the collection of samples from Halls Brook. In late March, the Army Corps is planning to regauge existing monitoring wells to take a snapshot of groundwater levels so that flow patterns can be further evaluated. A work plan for this investigation is anticipated in mid-February.

Tonight's meeting concluded at approximately 8:20 P.M.

ATTACHMENT A

21 JANUARY 2010 RAB MEETING AGENDA

AGENDA
FORMER NCBC DAVISVILLE
76th Restoration Advisory Board (RAB) Meeting

Date: January 21, 2010
Time: 7:00 P.M.
Location: 95 Cripe Street, North Kingstown, Rhode Island

RAB Meetings – Next Meeting Date

Long-Term Monitoring Program Updates

- Site 09: Allen Harbor Landfill
- Site 07: Calf Pasture Point
- EBS 21: Former Aboveground Storage Tank DC-133

Outfall 001 Project

Site 16 Feasibility Study Update

Presentation: Site 16 Feasibility Study Support Field Investigation

Army Corps of Engineers: PR-58 Nike Site Update

ATTACHMENT B

21 JANUARY 2010 RAB MEETING ATTENDANCE LIST

FORMER NCBC DAVISVILLE
RAB MEETING ATTENDANCE LIST
21 JANUARY 2010, 7:00 PM
95 CRIPE STREET – QDC CONFERENCE CENTER

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ATTACHMENT C

21 JANUARY 2010 RAB MEETING PRESENTATION

Former NCBC Davisville Site 16 – Sampling and Analysis Plan to Support the Feasibility Study (FS)

- Review of Site 16 Information
- Draft Field Sampling Plan and Quality Assurance Project Plan to Support the Feasibility Study for Site 16
  - Scope of Proposed Work for Eight Problems/Issues

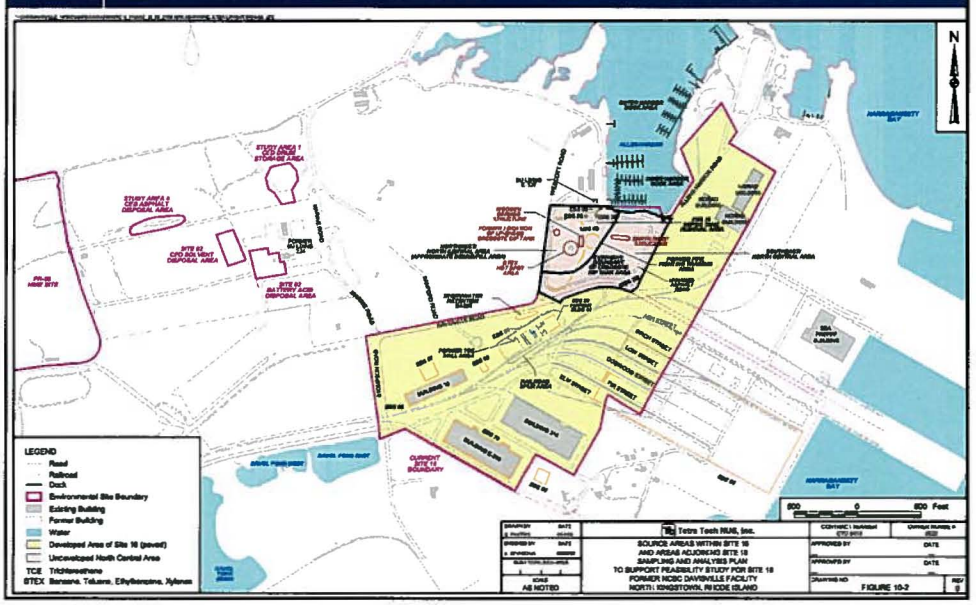
Project Scope

- Focus on the collection of environmental data that will allow for refinement of:
  - 1) Soil volumes that require remediation.
  - 2) Extent for which land use controls are necessary across or adjoining Site 16 boundaries (e.g., for vapor intrusion).
  - 3) Understanding of the extent of groundwater contamination (particularly to the north and east).

Additionally, respond to USEPA recommendations to redevelop/resample certain upgradient wells.

P030701-2

Site 16 Map



Observations Regarding Surface/Subsurface Soils

- Volatile organic compounds (VOCs), primarily chlorinated VOCs (CVOCs - e.g. trichloroethene [TCE]), are the most significant contaminants in deeper soils.
- Minimal unsaturated zone contamination present except in the BTEX hotspot of the undeveloped area.
- Polycyclic aromatic hydrocarbons (PAHs) are detected in surface and shallow subsurface soils (primarily northern undeveloped area).
- Limited evidence of metals contamination (e.g., lead).

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Observations Regarding Surface/Subsurface Soils (Con't.)

- PAH concentrations are highest in the northwestern portion of the northern area (e.g., at the former location of the up-ended creosote dip tank). Some detected concentrations exceed EPA/State of Rhode Island benchmarks.
- Sources of TCE contamination likely have been the former Building 41 area and portions of the undeveloped area (e.g., benzene-toluene-ethylbenzene-xylene [BTEX] hotspot, fire fighting training area [FFTA]).
- *More delineation of contamination extent is needed.*

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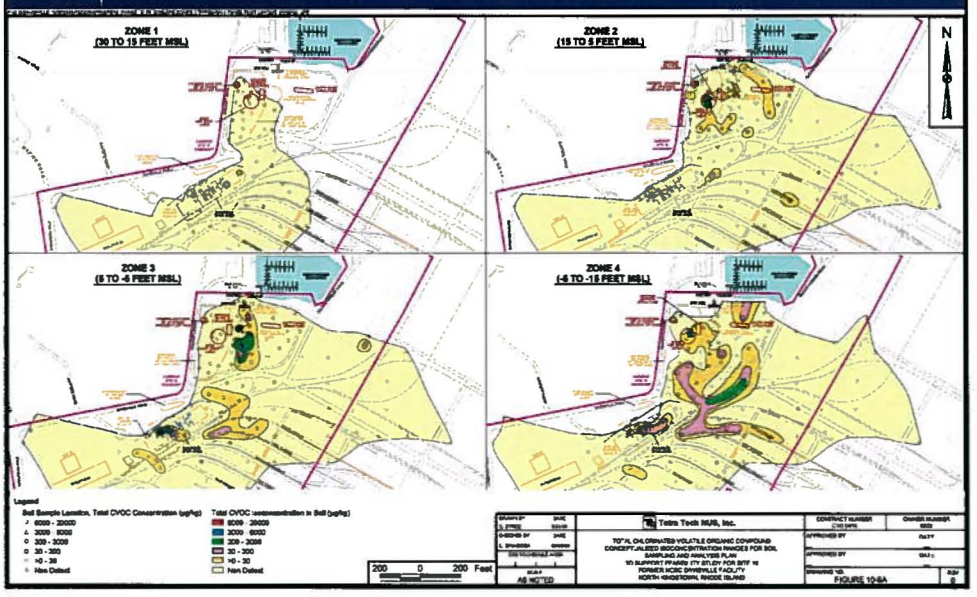
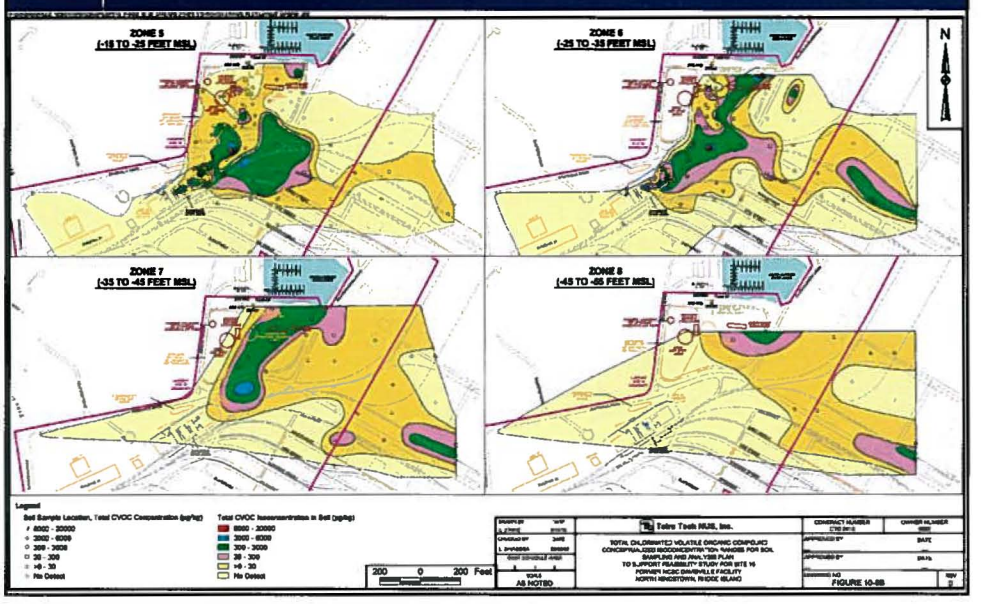
Total CVOC Concentrations in Soil, Zones 1 - 4



Total CVOC Concentrations in Soil, Zones 5 - 8



Observations Regarding Groundwater

- Generally, the groundwater is flowing to the northeast. Groundwater flow in the southeastern portion of former Building 41 is toward Narragansett Bay.
- TCE (maximum concentration greater than 7,000 ppb) is major VOC detected in GW – in most instances comprised more than 95% of CVOC detections. Highest concentrations were from the former Building 41 area. Several degradation by-products have also been detected (e.g., vinyl chloride [VC], cis-1,2-dichloroethene [cis-1,2-DCE]).
- Multiple sources may be contributing to the plume(s) that extend from the former Building 41 area to well MW16-05 in the vicinity of Allen Harbor and to the east/northeast.

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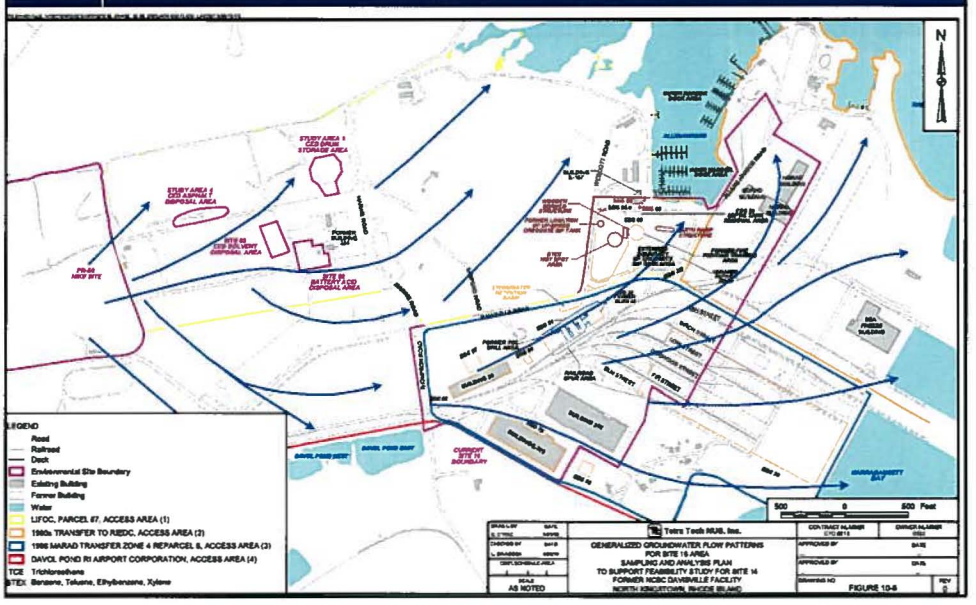
Generalized Groundwater Flow Patterns

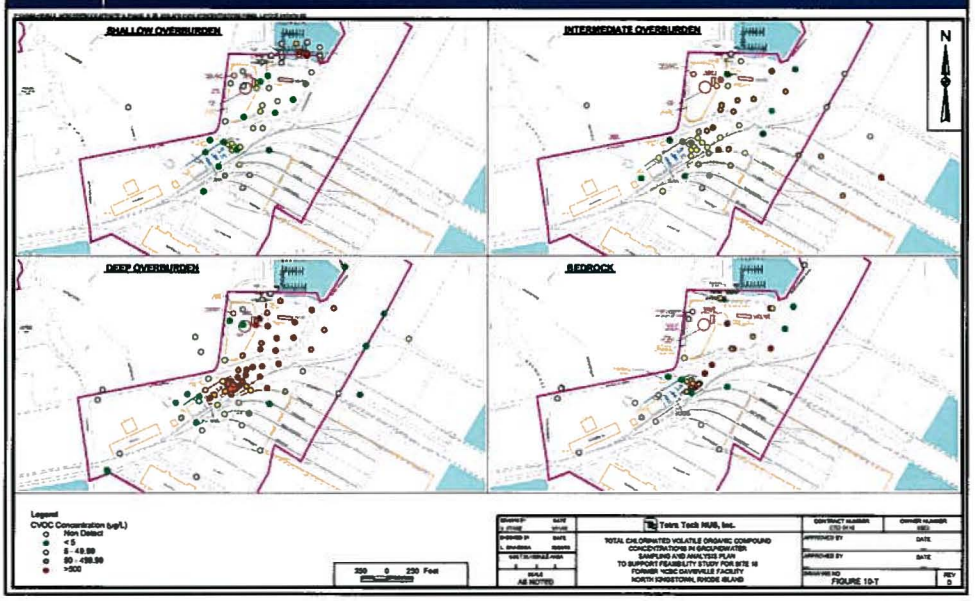


Observations Regarding Groundwater (Con't.)

- Other parameters (e.g., semi-volatile organics [SVOCs], pesticides, and metals) detected infrequently or at concentrations that may represent background.
- No evidence of non-aqueous phase liquid (NAPL) detected to date.
- *CVOC plume(s) not completely delineated to the north (e.g., under Allen Harbor) or the east (towards Narragansett Bay).*

P030701-10

Total CVOC Concentrations in Groundwater



Observations Regarding Surface / Seep Water & Sediments

- Most sediment samples were collected during the Phase II SLERA (2004). CVOCs were detected infrequently in sediments from Allen Harbor.
- Biodegradation of TCE is evident in the sediments due to the presence of degradation products (e.g., VC and 1,2-DCE). VOCs did not exceed screening criteria in sediment.
- CVOCs were not detected at significant concentrations (e.g., exceeding MCLs) in seeps discharging to Allen Harbor or surface water samples from Allen Harbor. *However, significant CVOCs in groundwater samples from under Allen Harbor.*

Observations Regarding Surface / Seep Water & Sediments (Con't.)

- PAHs were the primary chemicals detected in Allen Harbor sediments.
- The environmental forensics investigations (2004 and 2007) concluded that it is unlikely that Site 16 source areas contributed substantially to PAHs in Allen Harbor sediments..... Working hypothesis is that PAHs are likely a consequence of dock pilings, roadway runoff, etc.

P030701-13

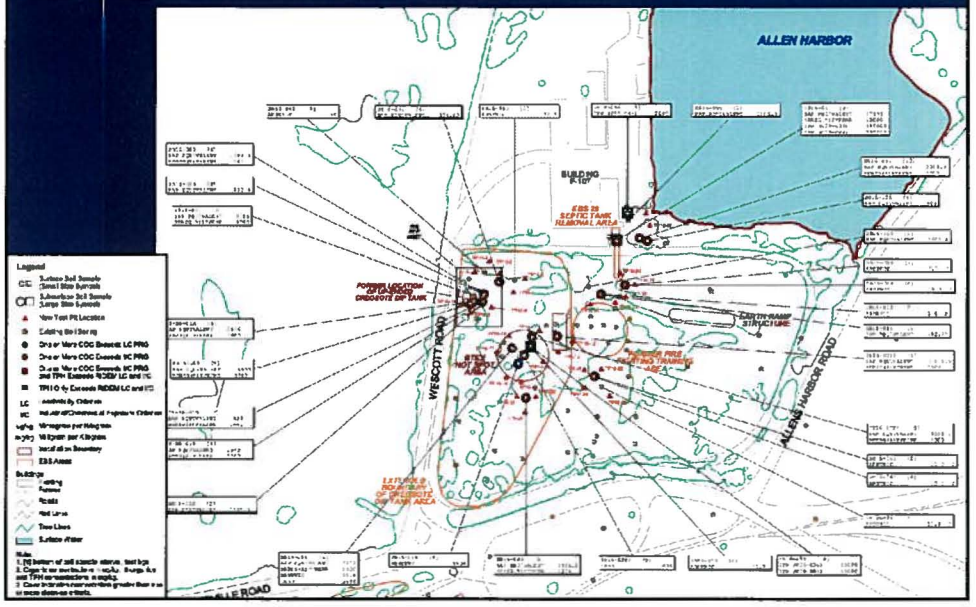
Problems to Address in Support of the FS for Site 16

1. *Delineation of soil contamination (e.g., PAHs) in North Central Area (NCA). Also, determine the presence/absence of debris (particularly in the southeastern portion of NCA).*

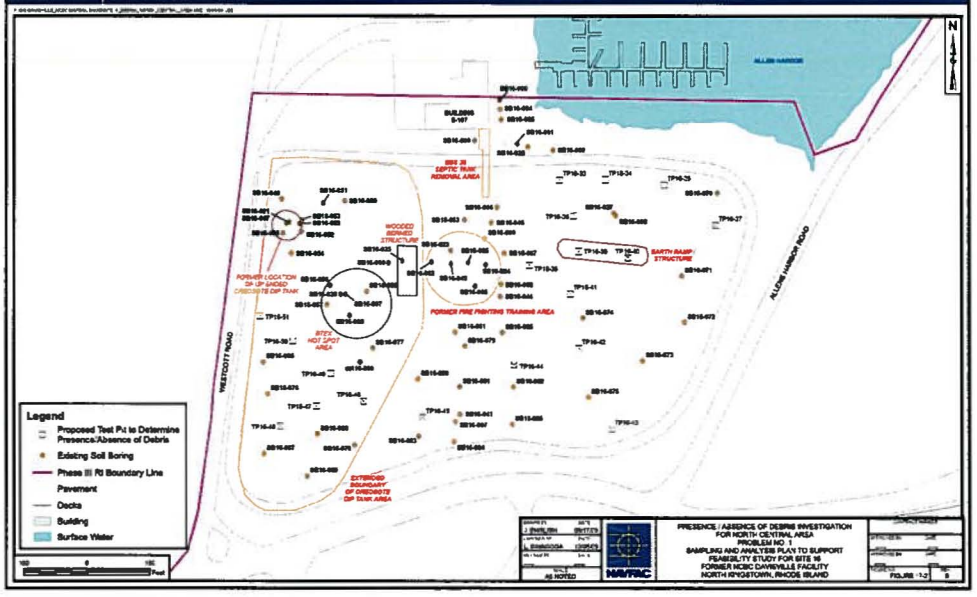
- Excavate approximately 30 test pits ("biased" locations) in northwestern portion of the NCA. Locations chosen to determine extent of contamination. Will collect surface (0-2 ft bgs) and subsurface (from 2 to possibly 16 ft. bgs, 3 different depths) soil samples.
- Excavate test pits in the southeastern portion of NCA to investigate for presence of debris.
- VOC, PAH, and lead screening tools used to help select soil samples for lab analysis. Will add step-out test pit locations as necessary.
- Fixed-base lab tests for PAHs, TPHs, arsenic/lead.

P030701-14

Delineation of COC Concentrations in Northwestern Area of NCA – Problem 1



Presence /Absence of Debris - Problem 1



Problems to Address in Support of the FS for Site 16

2. *Characterization of shallow/intermediate groundwater contamination in the benzene/toluene/ethylbenzene/xylene (BTEX) hot spot area in NCA.*

- Install shallow and intermediate depth monitoring wells (no deeper than 40 ft. bgs) at "biased" locations in the BTEX hot spot area; sample groundwater and soil (every 4 to 5 ft.); both media screened for VOCs.
- Measure water quality parameters and water levels, perform slug tests for new wells.
- Fixed-base lab will analyze selected soil/groundwater samples for VOCs.

P030701-17

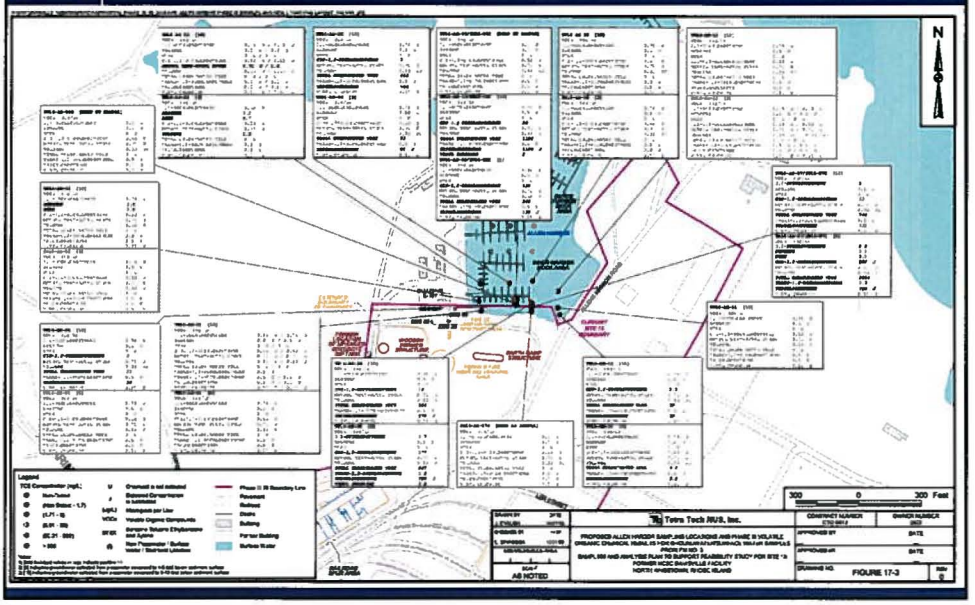
Problems to Address in Support of the FS for Site 16

3. *Determination of the northern extent of the CVOC plume underlying Allen Harbor.*

- Collect sediment, deep surface water, and piezometer groundwater samples from two transects north of previous sample locations in Allen Harbor (at "biased" locations).
- Sediment collected from 4 depths from 0-10 ft. below harbor floor; surface water collected within 6 in. of harbor floor; groundwater collected from 4-5 and 9-10 ft. below harbor floor. Screened for VOCs. Sediment (0-1 ft.), surface water, and groundwater (4-5 ft.) samples sent to fixed-base lab.
- Measure water quality parameters.
- Fixed-base lab will test select samples for VOCs.

P030701-18

Proposed Allen Harbor Sampling Locations - Problem 3



Problems to Address in Support of the FS for Site 16

4. *Characterization of water table/overburden groundwater in the vicinity of Sea Freeze Building - evaluate potential for vapor intrusion and discharge to Narragansett Bay.*

- Install two monitoring wells (one shallow, one intermediate at "biased" locations) near Sea Freeze Building/ Narragansett Bay Piers. Collect groundwater and soil samples; screen for VOCs.
- Collect water quality, water level, and slug test data (new wells).
- Fixed-base lab will test selected samples for VOCs.

P080701-20

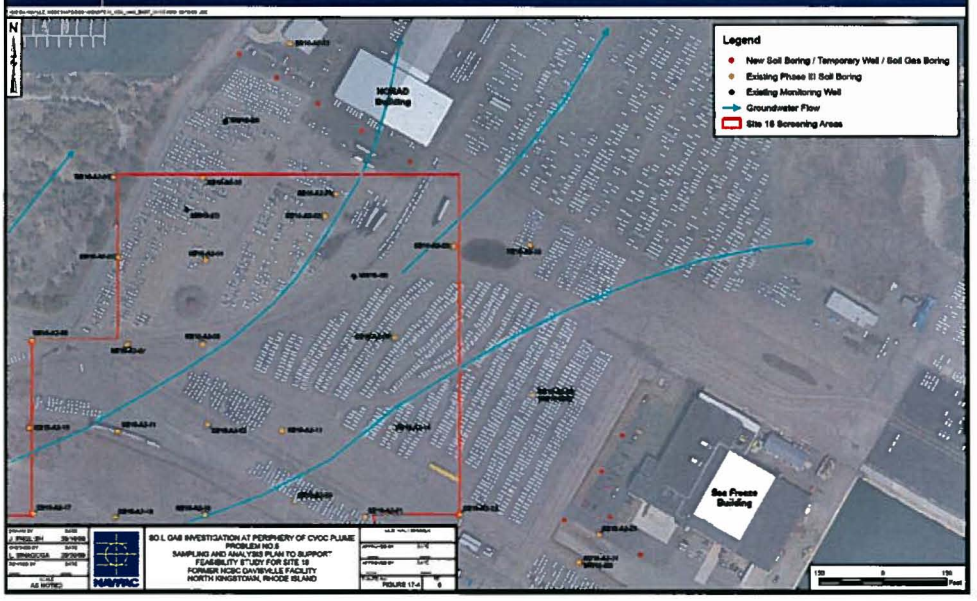
Problems to Address in Support of the FS for Site 16

5. *Investigation of vapor intrusion potential at periphery of the CVOC plume.*

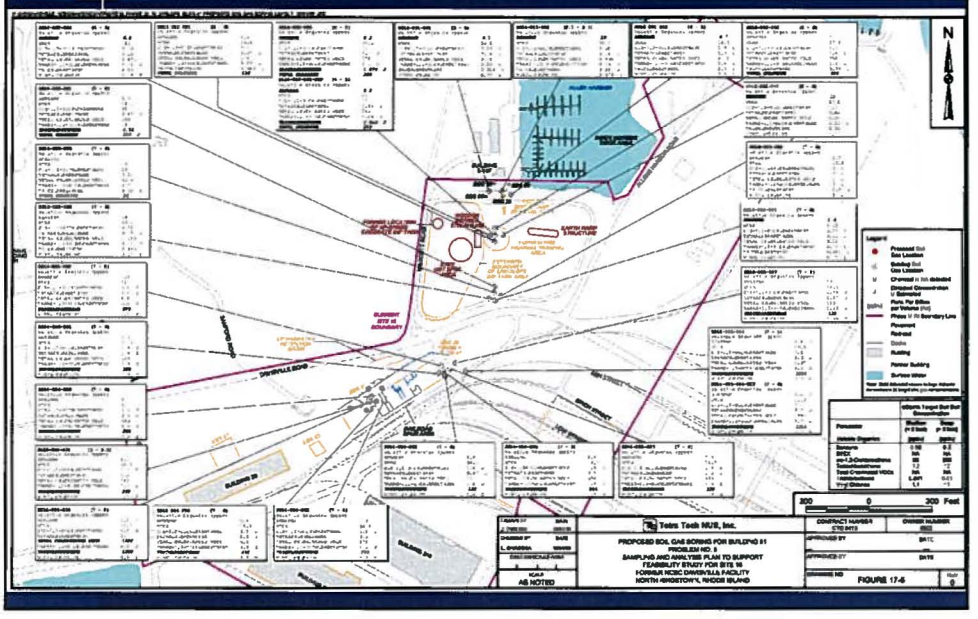
- Install 10 soil borings and 10 temporary wells (maximum depth of 40 ft. bgs.).
- Collect soil samples every 5 feet and collect groundwater samples; screen both for VOCs. Lab will analyze selected samples for VOCs.
- Install 15 soil gas borings (upgradient of Sea Freeze and NORAD Buildings, and within former Building 41 foot print) – collect soil gas samples at 5 and 10 ft. bgs.

P039701-21

Soil Gas Investigation at Periphery of CVOC Plume – Problem 5



Proposed Soil Gas Borings - Problem 5



Problems to Address in Support of the FS for Site 16

6. *Characterization/delineation of PAH contamination in vadose zone soil south of Davisville Road along the southern boundary of former Building 41 – determine if soil should be targeted for remediation in FS.*

- Collect soil samples from a maximum of 10 "grid" borings in the vicinity of SB16-A3-12. Advance borings to a depth of 15 ft. Install 3 additional borings along the southern edge of former Building 41.
- Collect one surface and three subsurface soil samples from each location; use lab screening to select samples for formal fixed-base analysis.
- Lab will test selected samples (8 minimum and 20 maximum) for PAHs. Samples from initial locations will be analyzed; samples from remaining loctations will be analyzed if RIDEM Industrial Direct Contact criteria for PAHs are exceeded.

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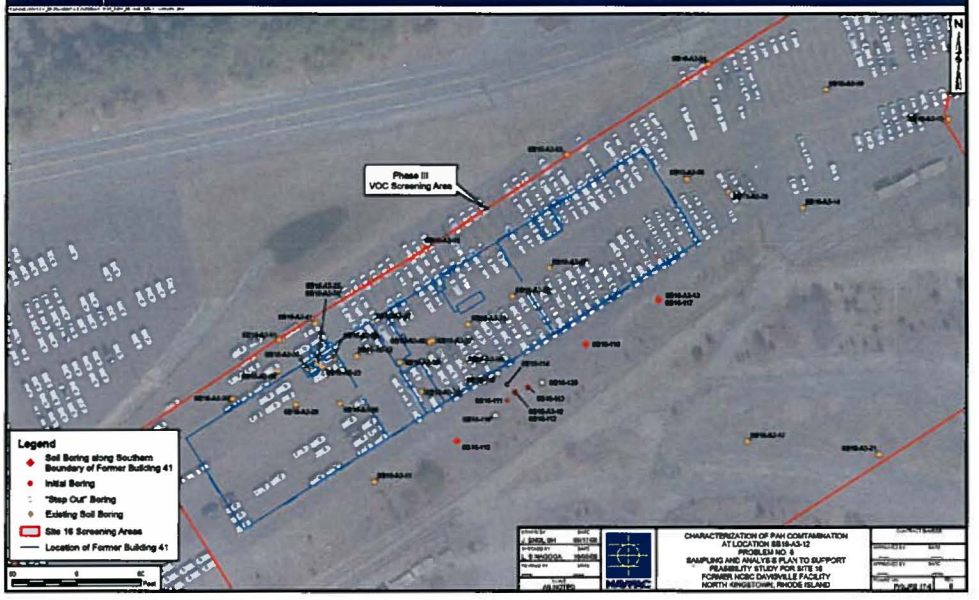
Characterization of PAH Contamination at SB16-A3-12 - Problem 6



Problems to Address in Support of the FS for Site 16

7. *Refinement of characterization of CVOCs at the eastern end of former Building 41 – determine if vadose zone source exists in this area.*

- Install 7 borings to a depth of 30 ft.
- Collect soil samples at every 5 ft. and screen for VOCs.
- Soil samples from two depth intervals (at least 14 samples) will be selected for fixed-base lab analysis and tested for VOCs.

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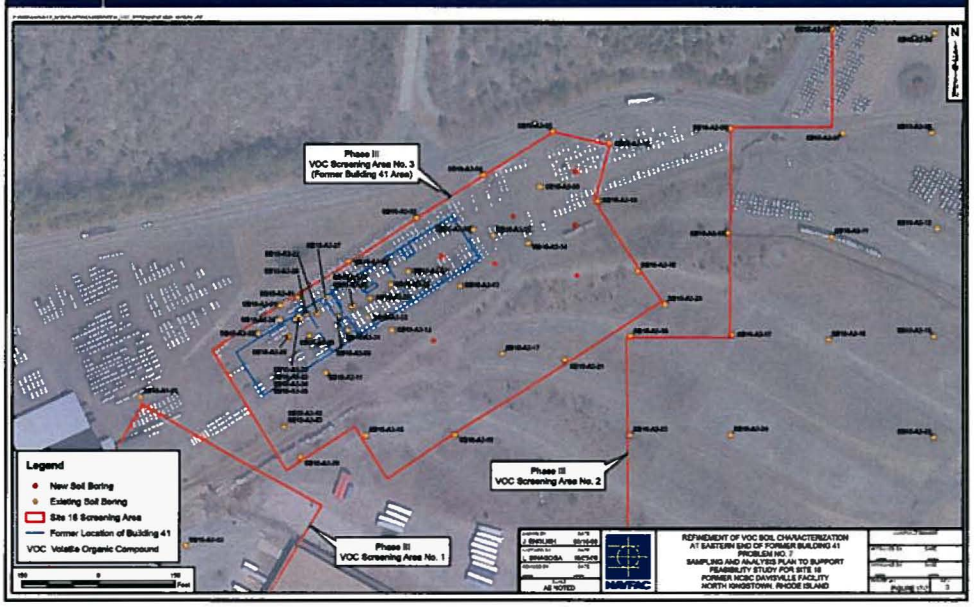
Refinement of VOC Soil Characterization - Problem 7



Problems to Address in Support of the FS for Site 16

8. *Redevelopment/resampling of upgradient monitoring wells – determine CVOC contribution from upgradient sources.*

- Re-develop/re-sample seven upgradient monitoring wells – test for VOCs (using both screening level and fixed-base lab analyses).
- Perform slug testing to verify hydraulic connectivity with aquifer; measure water quality and water level from each well.

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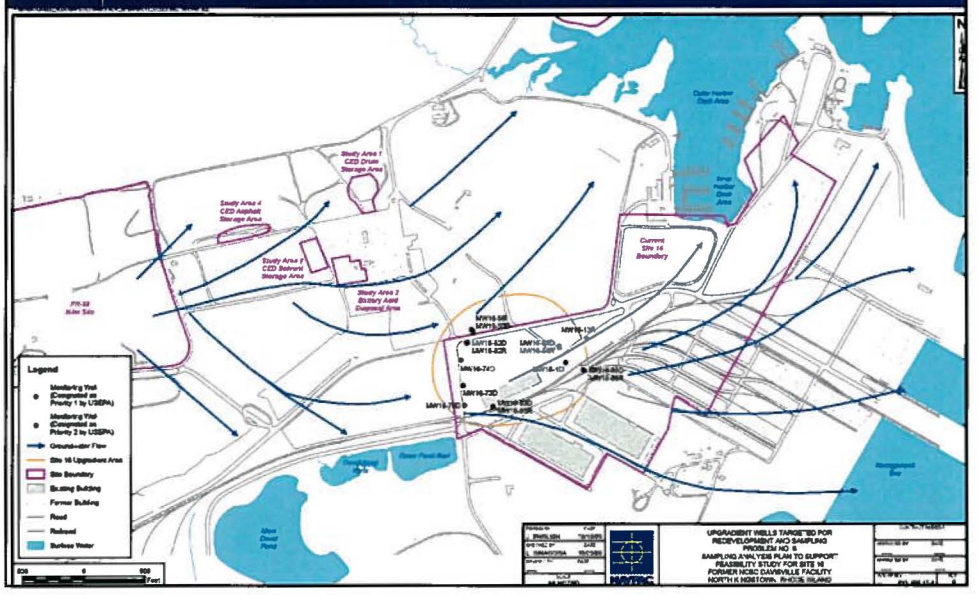
Upgradient Wells Targeted for Redevelopment/Resampling - Problem 8



Thank You!

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