N62578.AR.002563
NCBC DAVISVILLE
5090.3a

EMAIL REGARDING THE REVISED FEASIBILITY STUDY SUPPORT SAMPLING ANALYSIS PLAN FIGURES NCBC DAVISVILLE RI
2/18/2010
U S NAVY

Vetere, Stephen

From: Dale, Jeffrey M CIV NAVFAC MIDLANT, PNBC [jeffrey.m.dale@navy.mil]
Sent: Thursday, April 08, 2010 12:52 PM
To: williams.christine@epamail.epa.gov; Richard Gottlieb
Cc: Barney, David A CIV OASN (EI&E), BRAC PMO NE; Brandon.Bill@epamail.epa.gov; Vetere, Stephen
Subject: FW: Davisville Site 16 - Revised FS Support SAP Figures
Attachments: Figure 17-7.pdf; Figure 17-3A.pdf; Figure 17-3B.pdf; Figure 17-2.pdf
Signed By: jeffrey.dale@navy.mil

Christine and Richard

I'm forwarding figures that are edited to reflect agreements from the March 4 conference call. I apologize for the size of the attachments and I limited distribution because of it - forward as you desire. If you can not open the attachments, Tetra Tech will add to the FTP site.

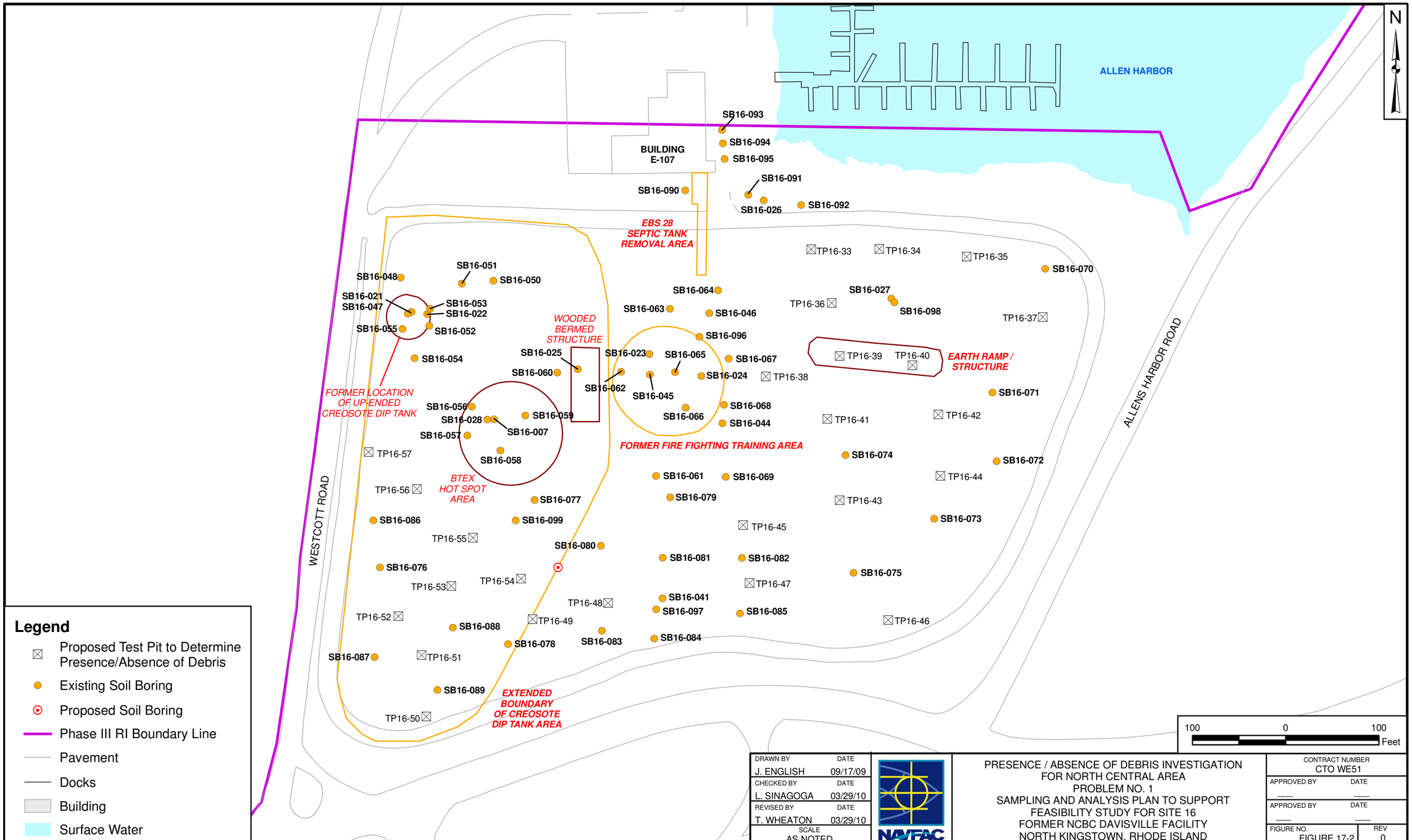
Figure 17-2 was modified to include 6 new test pits and a soil boring (southeast of the BTEX "hot spot").

Figure 17-3 was modified to add/adjust sampling points in Allen Harbor (closer to shore and one additional contingent row further north) to include a sample location in the former stream channel. Note that there are two versions 17-3A is a current background and 17-3B has the 1939 photo as the background.

Figure 17-7 was modified to add 4 new boring locations at the eastern end of Building 41 (EPA request).

Jeff

P:\GIS\DAVISVILLE_NCBC\MAPDOCS\MXD\SITE16_DEBRIS_NORTH_CENTRAL_AREA.MXD 03/29/10 TW



DRAWN BY	DATE
J. ENGLISH	09/17/09
CHECKED BY	DATE
L. SINAGOGA	03/29/10
REVISED BY	DATE
T. WHEATON	03/29/10
SCALE	
AS NOTED	

NAVFAC

PRESENCE / ABSENCE OF DEBRIS INVESTIGATION
FOR NORTH CENTRAL AREA
PROBLEM NO. 1
SAMPLING AND ANALYSIS PLAN TO SUPPORT
FEASIBILITY STUDY FOR SITE 16
FORMER NCBC DAVISVILLE FACILITY
NORTH KINGSTOWN, RHODE ISLAND

CONTRACT NUMBER	
CTO WE51	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO.	REV
FIGURE 17-2	0

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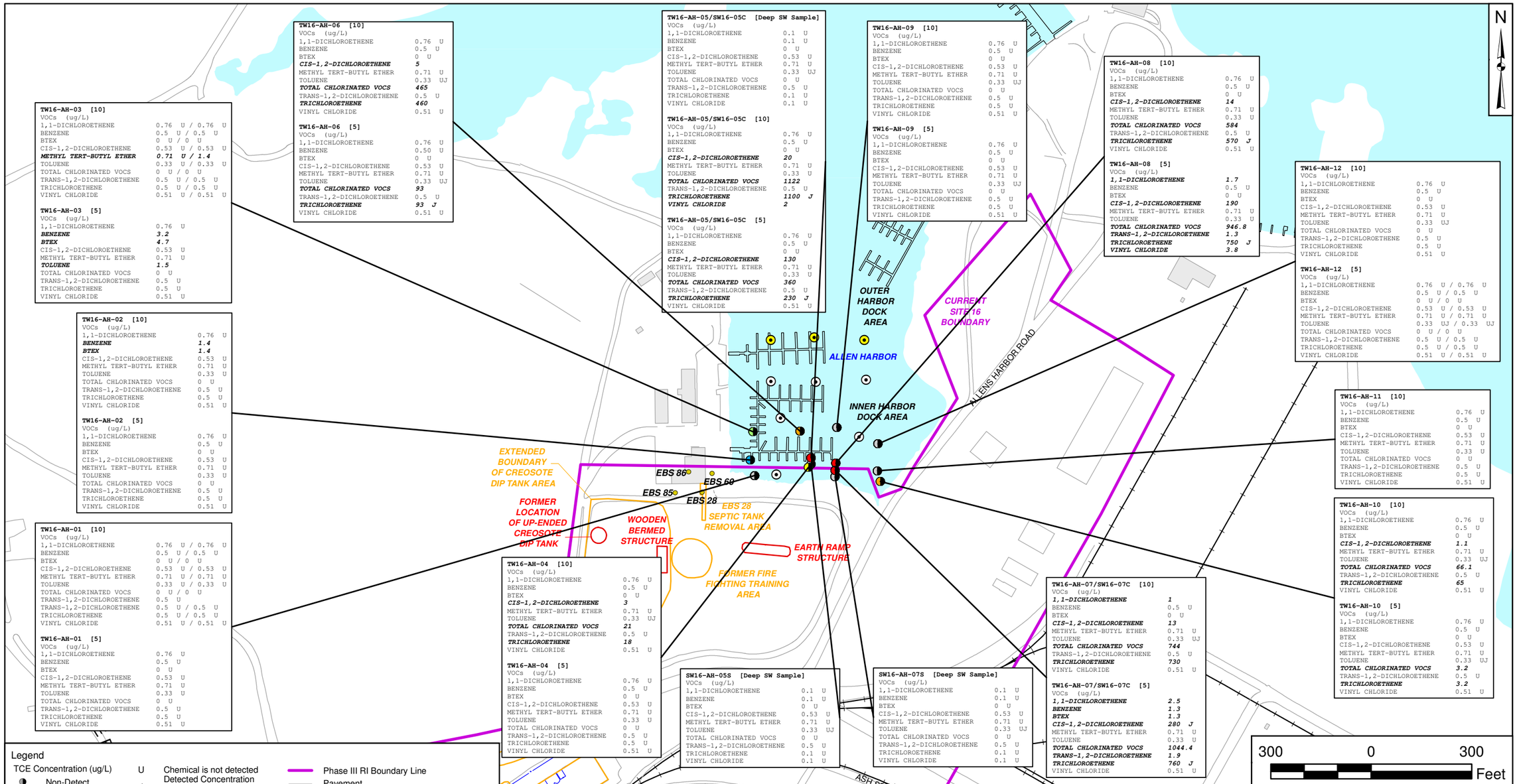

TW16-AH-03 [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U / 0.76 U
BENZENE	0.5 U / 0.5 U
BTEX	0 U / 0 U
CIS-1,2-DICHLOROETHENE	0.53 U / 0.53 U
METHYL TERT-BUTYL ETHER	***0.71 U / 1.4***
TOLUENE	0.33 U / 0.33 U
TOTAL CHLORINATED VOCS	0 U / 0 U
TRANS-1,2-DICHLOROETHENE	0.5 U / 0.5 U
TRICHLOROETHENE	0.5 U / 0.5 U
VINYL CHLORIDE	0.51 U / 0.51 U

TW16-AH-03 [5]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	***3.2***
BTEX	***4.7***
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	***1.5***
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-06 [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***5***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***465***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***460***
VINYL CHLORIDE	0.51 U

TW16-AH-06 [5]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.50 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***93***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***93 J***
VINYL CHLORIDE	0.51 U

TW16-AH-05/SW16-05C [Deep SW Sample]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.1 U
BENZENE	0.1 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.1 U
VINYL CHLORIDE	0.1 U

TW16-AH-05/SW16-05C [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***20***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	***1122***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***1100 J***
VINYL CHLORIDE	***2***

TW16-AH-05/SW16-05C [5]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***130***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	***360***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***230 J***
VINYL CHLORIDE	0.51 U

TW16-AH-09 [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-09 [5]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-08 [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***14***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	***584***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***570 J***
VINYL CHLORIDE	0.51 U

TW16-AH-08 [5]
VOCs (ug/L)

1,1-DICHLOROETHENE	***1.7***
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***190***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	***946.8***
TRANS-1,2-DICHLOROETHENE	***1.3***
TRICHLOROETHENE	***750 J***
VINYL CHLORIDE	***3.8***

TW16-AH-12 [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-12 [5]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U / 0.76 U
BENZENE	0.5 U / 0.5 U
BTEX	0 U / 0 U
CIS-1,2-DICHLOROETHENE	0.53 U / 0.53 U
METHYL TERT-BUTYL ETHER	0.71 U / 0.71 U
TOLUENE	0.33 UJ / 0.33 UJ
TOTAL CHLORINATED VOCS	0 U / 0 U
TRANS-1,2-DICHLOROETHENE	0.5 U / 0.5 U
TRICHLOROETHENE	0.5 U / 0.5 U
VINYL CHLORIDE	0.51 U / 0.51 U

TW16-AH-02 [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	***1.4***
BTEX	***1.4***
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-02 [5]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-11 [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-01 [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U / 0.76 U
BENZENE	0.5 U / 0.5 U
BTEX	0 U / 0 U
CIS-1,2-DICHLOROETHENE	0.53 U / 0.53 U
METHYL TERT-BUTYL ETHER	0.71 U / 0.71 U
TOLUENE	0.33 U / 0.33 U
TOTAL CHLORINATED VOCS	0 U / 0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRANS-1,2-DICHLOROETHENE	0.5 U / 0.5 U
TRICHLOROETHENE	0.5 U / 0.5 U
VINYL CHLORIDE	0.51 U / 0.51 U

TW16-AH-01 [5]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-04 [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***3***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***21***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***18***
VINYL CHLORIDE	0.51 U

TW16-AH-04 [5]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

SW16-AH-05S [Deep SW Sample]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.1 U
BENZENE	0.1 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.1 U
VINYL CHLORIDE	0.1 U

SW16-AH-07S [Deep SW Sample]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.1 U
BENZENE	0.1 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.1 U
VINYL CHLORIDE	0.1 U

TW16-AH-07/SW16-07C [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	***1***
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***13***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***744***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***730***
VINYL CHLORIDE	0.51 U

TW16-AH-07/SW16-07C [5]
VOCs (ug/L)

1,1-DICHLOROETHENE	***2.5***
BENZENE	***1.3***
BTEX	***1.3***
CIS-1,2-DICHLOROETHENE	***280 J***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	***1044.4***
TRANS-1,2-DICHLOROETHENE	***1.9***
TRICHLOROETHENE	***760 J***
VINYL CHLORIDE	0.51 U

TW16-AH-10 [10]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***1.1***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***66.1***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***65***
VINYL CHLORIDE	0.51 U

TW16-AH-10 [5]
VOCs (ug/L)

1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***3.2***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***3.2***
VINYL CHLORIDE	0.51 U

Legend

TCE Concentration (ug/L)
- Non-Detect
- (Non Detect - 1.7)
- (1.71 - 5)
- (5.01 - 50)
- (50.01 - 500)
- > 500

U — Chemical is not detected
J — Detected Concentration is Estimated
(ug/L) — Microgram per Liter
VOCs — Volatile Organic Compounds
BTEX — Benzene Toluene Ethylbenzene and Xylene
New Piezometer / Surface Water / Sediment Location

Phase III RI Boundary Line
Pavement
Railroad
Docks
Building
Former Building
Surface Water
Tentative Surface Water/Sediment Location (based on results of initial 6 points)

Notes:
1) Bold italicized values in tags indicate positive hit.
2) [5] indicates groundwater collected from piezometer advanced to 4-5 feet below sediment surface.
3) [10] indicates groundwater collected from piezometer advanced to 9-10 feet below sediment surface.

DRAWN BY T. WHEATON	DATE 03/29/10	Tetra Tech NUS, Inc.	CONTRACT NUMBER CTO WE51 / OWNER NUMBER 0822
CHECKED BY L. SINAGOGA	DATE 03/29/10	PROPOSED ALLEN HARBOR SAMPLING LOCATIONS AND PHASE III VOLATILE ORGANIC CHEMICAL RESULTS FOR GROUNDWATER/SURFACE WATER SAMPLES PROBLEM NO. 3 SAMPLING AND ANALYSIS PLAN TO SUPPORT FEASIBILITY STUDY FOR SITE 16 FORMER NCBC DAVISVILLE FACILITY NORTH KINGSTOWN, RHODE ISLAND	APPROVED BY — DATE —
COST/SCHEDULE-AREA			APPROVED BY — DATE —
SCALE AS NOTED			FIGURE NO. FIGURE 17-3 A / REV 0

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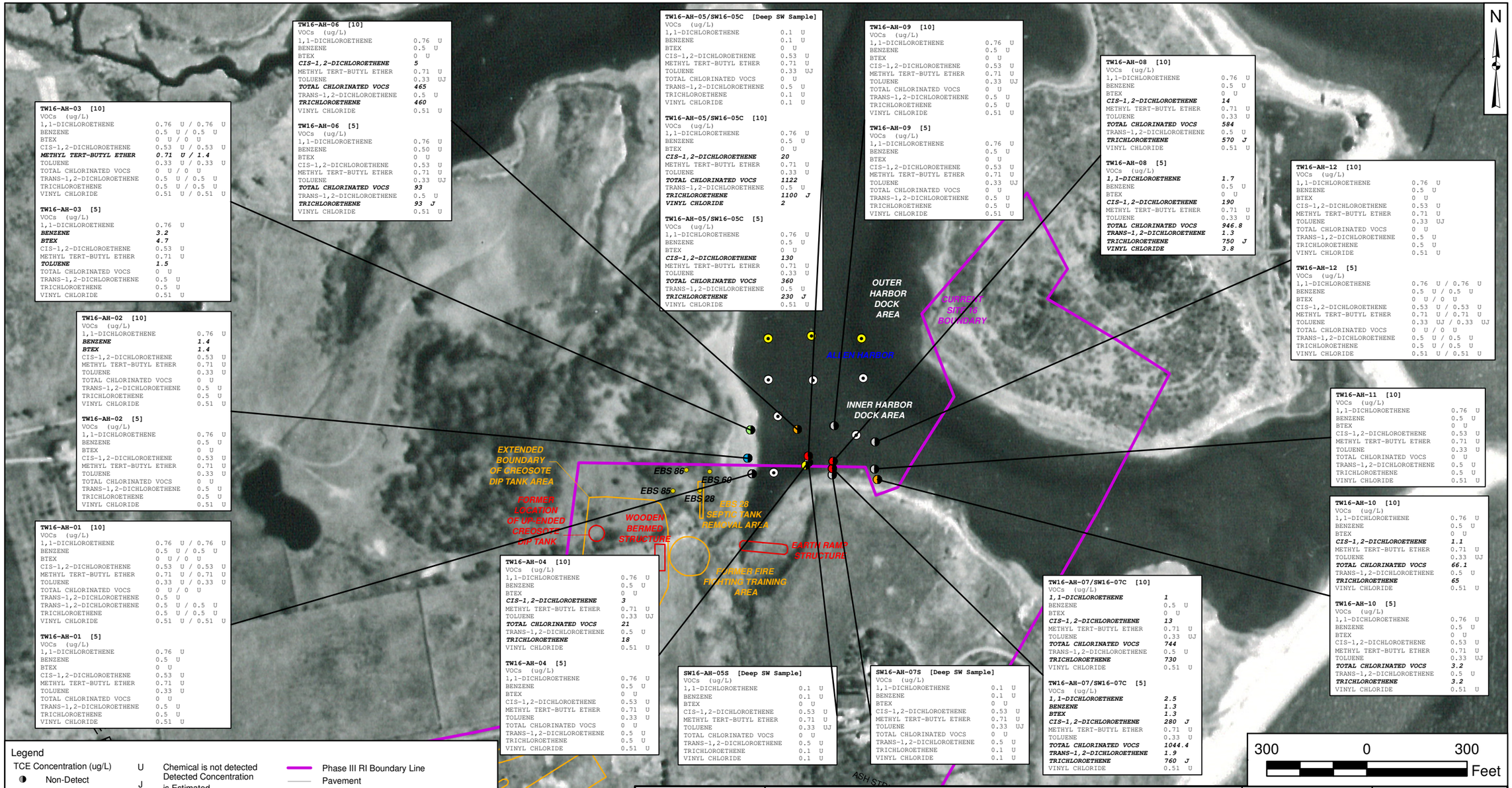


TW16-AH-03 [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U / 0.76 U
BENZENE	0.5 U / 0.5 U
BTEX	0 U / 0 U
CIS-1,2-DICHLOROETHENE	0.53 U / 0.53 U
METHYL TERT-BUTYL ETHER	***0.71 U / 1.4***
TOLUENE	0.33 U / 0.33 U
TOTAL CHLORINATED VOCS	0 U / 0 U
TRANS-1,2-DICHLOROETHENE	0.5 U / 0.5 U
TRICHLOROETHENE	0.5 U / 0.5 U
VINYL CHLORIDE	0.51 U / 0.51 U

TW16-AH-03 [5]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	***3.2***
BTEX	***4.7***
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	***1.5***
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-06 [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***5***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***465***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***460***
VINYL CHLORIDE	0.51 U

TW16-AH-06 [5]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.50 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***93***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***93 J***
VINYL CHLORIDE	0.51 U

TW16-AH-05/SW16-05C [Deep SW Sample]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.1 U
BENZENE	0.1 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.1 U
VINYL CHLORIDE	0.1 U

TW16-AH-05/SW16-05C [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***20***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	***1122***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***1100 J***
VINYL CHLORIDE	***2***

TW16-AH-05/SW16-05C [5]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***130***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	***360***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***230 J***
VINYL CHLORIDE	0.51 U

TW16-AH-09 [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-09 [5]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-08 [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***14***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	***584***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***570 J***
VINYL CHLORIDE	0.51 U

TW16-AH-08 [5]

VOCs (ug/L)	
1,1-DICHLOROETHENE	***1.7***
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***190***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	***946.8***
TRANS-1,2-DICHLOROETHENE	***1.3***
TRICHLOROETHENE	***750 J***
VINYL CHLORIDE	***3.8***

TW16-AH-12 [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-12 [5]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U / 0.76 U
BENZENE	0.5 U / 0.5 U
BTEX	0 U / 0 U
CIS-1,2-DICHLOROETHENE	0.53 U / 0.53 U
METHYL TERT-BUTYL ETHER	0.71 U / 0.71 U
TOLUENE	0.33 UJ / 0.33 UJ
TOTAL CHLORINATED VOCS	0 U / 0 U
TRANS-1,2-DICHLOROETHENE	0.5 U / 0.5 U
TRICHLOROETHENE	0.5 U / 0.5 U
VINYL CHLORIDE	0.51 U / 0.51 U

TW16-AH-02 [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	***1.4***
BTEX	***1.4***
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-02 [5]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-11 [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-01 [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U / 0.76 U
BENZENE	0.5 U / 0.5 U
BTEX	0 U / 0 U
CIS-1,2-DICHLOROETHENE	0.53 U / 0.53 U
METHYL TERT-BUTYL ETHER	0.71 U / 0.71 U
TOLUENE	0.33 U / 0.33 U
TOTAL CHLORINATED VOCS	0 U / 0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRANS-1,2-DICHLOROETHENE	0.5 U / 0.5 U
TRICHLOROETHENE	0.5 U / 0.5 U
VINYL CHLORIDE	0.51 U / 0.51 U

TW16-AH-01 [5]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

TW16-AH-04 [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***3***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***21***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***18***
VINYL CHLORIDE	0.51 U

TW16-AH-04 [5]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.5 U
VINYL CHLORIDE	0.51 U

SW16-AH-05S [Deep SW Sample]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.1 U
BENZENE	0.1 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.1 U
VINYL CHLORIDE	0.1 U

SW16-AH-07S [Deep SW Sample]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.1 U
BENZENE	0.1 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	0 U
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	0.1 U
VINYL CHLORIDE	0.1 U

TW16-AH-07/SW16-07C [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	***1***
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***13***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***744***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***730***
VINYL CHLORIDE	0.51 U

TW16-AH-07/SW16-07C [5]

VOCs (ug/L)	
1,1-DICHLOROETHENE	***2.5***
BENZENE	***1.3***
BTEX	***1.3***
CIS-1,2-DICHLOROETHENE	***280 J***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 U
TOTAL CHLORINATED VOCS	***1044.4***
TRANS-1,2-DICHLOROETHENE	***1.9***
TRICHLOROETHENE	***760 J***
VINYL CHLORIDE	0.51 U

TW16-AH-10 [10]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	***1.1***
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***66.1***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***65***
VINYL CHLORIDE	0.51 U

TW16-AH-10 [5]

VOCs (ug/L)	
1,1-DICHLOROETHENE	0.76 U
BENZENE	0.5 U
BTEX	0 U
CIS-1,2-DICHLOROETHENE	0.53 U
METHYL TERT-BUTYL ETHER	0.71 U
TOLUENE	0.33 UJ
TOTAL CHLORINATED VOCS	***3.2***
TRANS-1,2-DICHLOROETHENE	0.5 U
TRICHLOROETHENE	***3.2***
VINYL CHLORIDE	0.51 U

Legend

TCE Concentration (ug/L)
- Non-Detect
- (Non Detect - 1.7)
- (1.71 - 5)
- (5.01 - 50)
- (50.01 - 500)
- > 500

U — Chemical is not detected
Detected Concentration
J — is Estimated
(ug/L) — Microgram per Liter
VOCs — Volatile Organic Compounds
BTEX — Benzene Toluene Ethylbenzene and Xylene
New Piezometer / Surface Water / Sediment Location

- Phase III RI Boundary Line
- Pavement
- Railroad
- Docks
- Building
- Former Building
- Surface Water
- Tentative Surface Water/Sediment Location (based on results of initial 6 points)

Notes:
1) Bold italicized values in tags indicate positive hit.
2) [5] indicates groundwater collected from piezometer advanced to 4-5 feet below sediment surface.
3) [10] indicates groundwater collected from piezometer advanced to 9-10 feet below sediment surface.

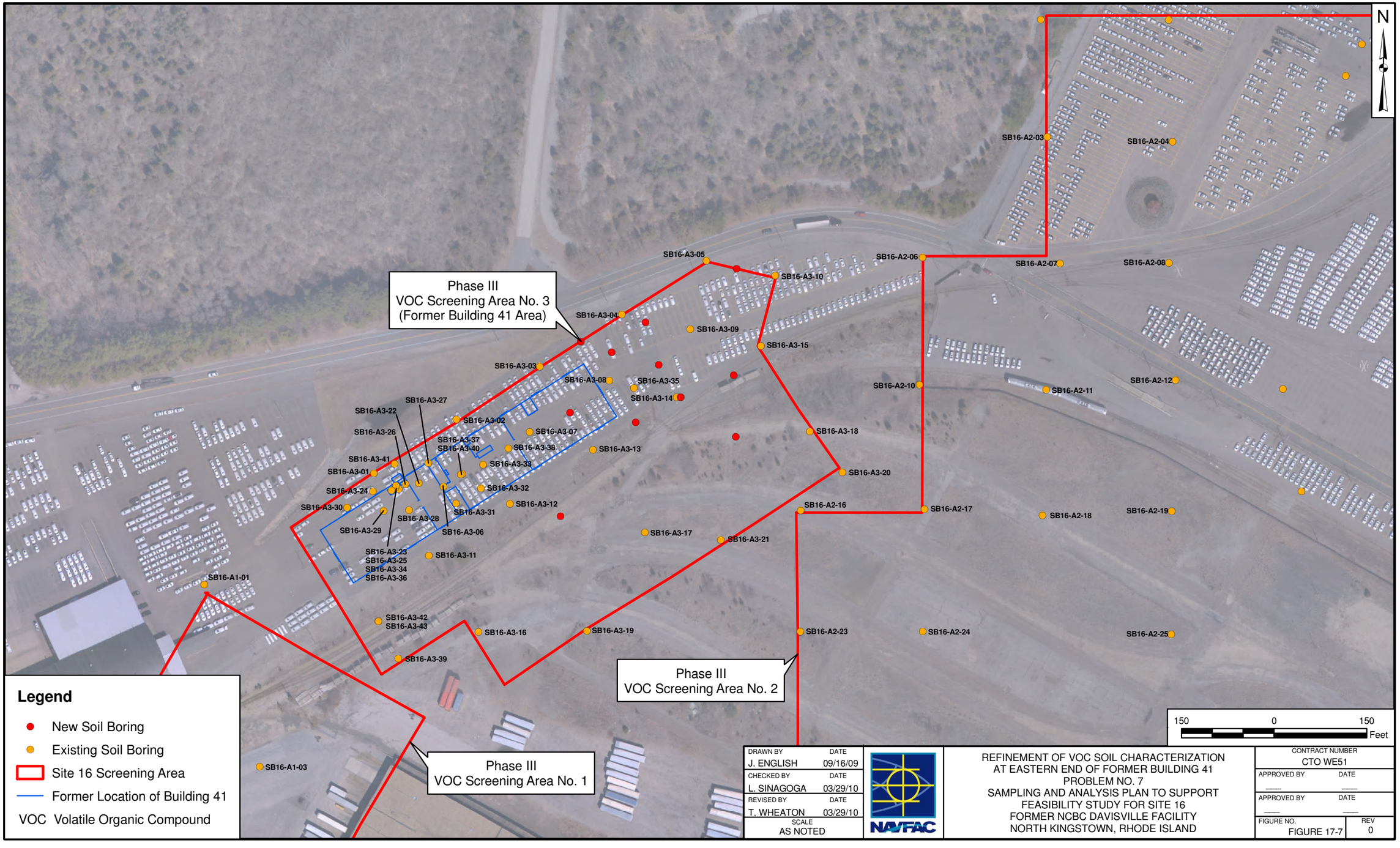
DRAWN BY	DATE
T. WHEATON	03/29/10
CHECKED BY	DATE
L. SINAGOGA	03/29/10
COST/SCHEDULE-AREA	
SCALE AS NOTED	

Tetra Tech NUS, Inc.

PROPOSED ALLEN HARBOR SAMPLING LOCATIONS AND PHASE III VOLATILE ORGANIC CHEMICAL RESULTS FOR GROUNDWATER/SURFACE WATER SAMPLES
PROBLEM NO. 3
SAMPLING AND ANALYSIS PLAN TO SUPPORT FEASIBILITY STUDY FOR SITE 16
FORMER NCBC DAVISVILLE FACILITY
NORTH KINGSTOWN, RHODE ISLAND

CONTRACT NUMBER	OWNER NUMBER
CTO WE51	0822
APPROVED BY	DATE
—	—
APPROVED BY	DATE
—	—
FIGURE NO. FIGURE 17-3 B	REV 0

P:\GIS\DAVISVILLE_NCBC\MAPDOCS\MXD\SITE16_VOC_REFIENMENT.MXD 03/29/10 TW



DRAWN BY J. ENGLISH	DATE 09/16/09	
CHECKED BY L. SINAGOGA	DATE 03/29/10	
REVISED BY T. WHEATON	DATE 03/29/10	
SCALE AS NOTED		

NAVFAC

REFINEMENT OF VOC SOIL CHARACTERIZATION
AT EASTERN END OF FORMER BUILDING 41
PROBLEM NO. 7
SAMPLING AND ANALYSIS PLAN TO SUPPORT
FEASIBILITY STUDY FOR SITE 16
FORMER NCBC DAVISVILLE FACILITY
NORTH KINGSTOWN, RHODE ISLAND

CONTRACT NUMBER CTO WE51	
APPROVED BY ___	DATE ___
APPROVED BY ___	DATE ___
FIGURE NO. FIGURE 17-7	REV 0