

N62578.AR.002577
NCBC DAVISVILLE
5090.3a

LETTER REGARDING THE ATTACHED NAVY REQUEST FOR ADDITIONAL JUSTIFICATION
FOR EPA RECOMMENDED MOVEMENT OF SOILD BORING LOCATIONS AT THE CALF
PASTURE POINT SOLVENT DISPOSAL AREA OPERABLE UNIT 8 NCBC DAVISVILE RI
8/16/2010
U S EPA REGION I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
1 CONGRESS STREET, SUITE 1100 (HBT)
BOSTON, MASSACHUSETTS 02114-2023

August 16, 2010

Jeff Dale
Dept of the Navy, BRAC PMO Northeast
Code 5090 BPMO NE/JD, 4911 South Broad St
Philadelphia, PA 19112-1303

Re: *Navy request for Additional Justification for EPA Recommended Movement of Soil Boring Locations at the Calf Pasture Point Solvent Disposal Area (OU8) at the former Davisville Naval Construction Battalion Center, North Kingstown, RI*

Dear Mr. Dale:

As requested, please find attached the additional justification for movement of soil boring locations and well locations we had proposed in our August 4, 2010 letter concerning Navy workplan figures.

We look forward to working with you to implement the "Source Area Investigation" this fall. We are interested in discussing our rationale for moving some of the borings and wells after you've had a chance to review this additional justification and our original comments. Please contact me at (617) 918-1384 to set up a meeting or conference call.

Sincerely,

A handwritten signature in cursive script, appearing to read "Christine Williams".

Christine A.P. Williams, RPM
Federal Facilities Superfund Section

Enclosures

cc:

Richard Gottlieb, RIDEM
Johnathan Reiner, ToNK
Steven King, RIEDC
Dave Barney, BEC (via e-mail only)
Bill Brandon, EPA (via e-mail only)
Steve DiMattei, EPA (via e-mail only)
Rick Sugatt, EPA (via e-mail only)
Kathleen Campbell, CDW (via e-mail only)
Conrad Leszkiewicz, CDW (via e-mail only)
Stephen Vetere, Tetra Tech NUS, Inc (via e-mail only)

Technical Memorandum
Relocation of Source Area Investigation Soil Borings

Introduction

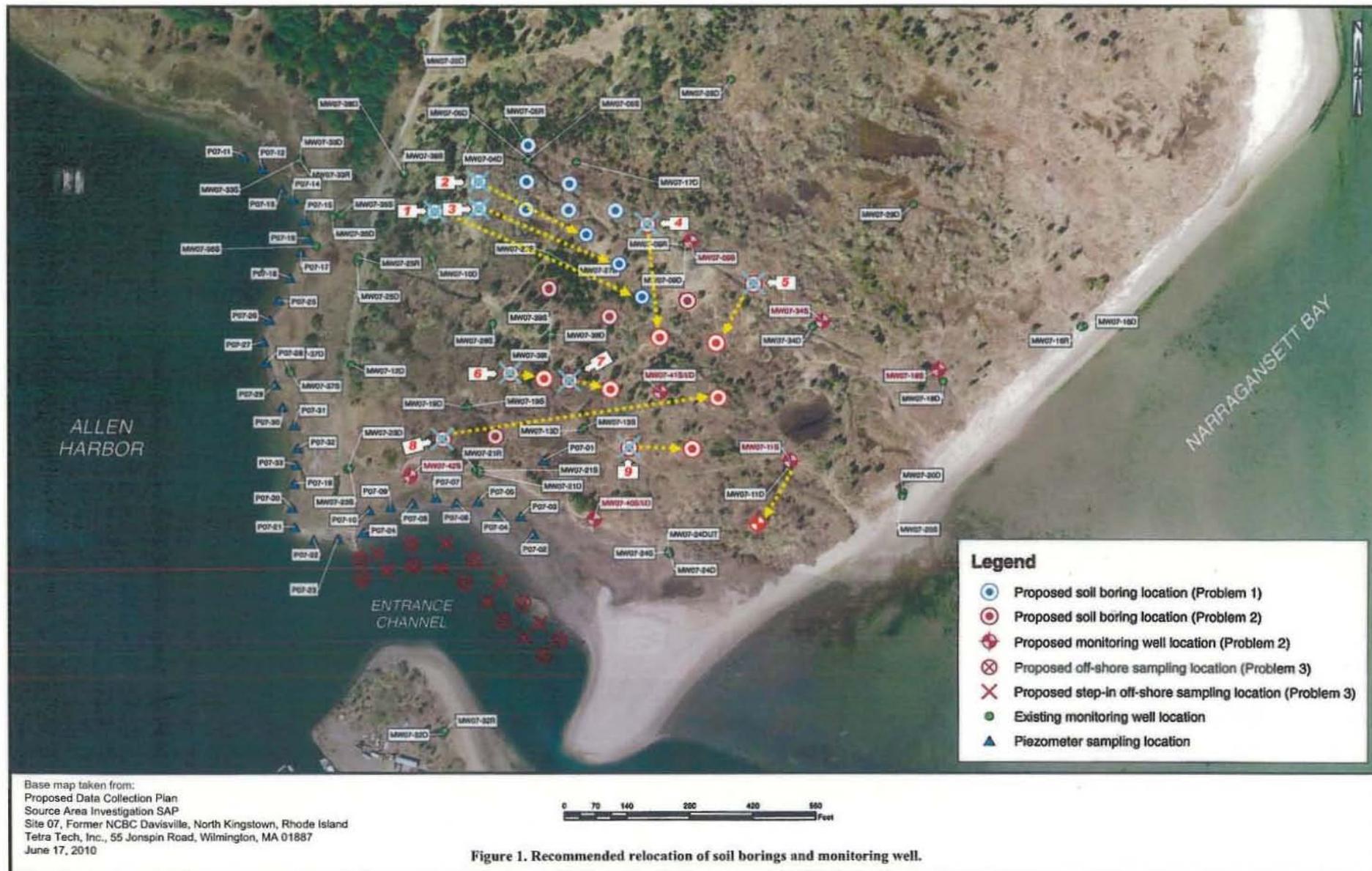
The following table provides rational for the recommended relocation of several of the planned soil borings identified in the Navy Site 07 Source Area Investigation Work Plan Sheets. The recommended soil borings for relocation are numbered with the current and recommended relocations shown on the attached figure. The recommended relocations are based upon several factors. These include analysis of preferential groundwater flow paths, historic concentrations and trends in chlorinated volatile organic compounds (CVOC), and estimated contaminant migration velocities as presented in the USEPA Updated Conceptual Site Model (CSM). They are also based upon analysis of the Battelle CVOC Mass Estimate Report. That report indicates that the center of CVOC mass resides south of MW07-27S/D. While the location of the CVOC mass is somewhat different from that estimated by USEPA, resulting from the Battelle estimate model weighting the mass more to the west due to a lower density of data to the east for the data set, it nonetheless, corresponds to the USEPA estimate for the dissolved plume center of mass to be further to the southeast than is presently assumed in the Navy Source Area Investigation Plan. The objective of the proposed relocations of Problem One and Problem Two soil borings as well as MW07-11S is to provide more coverage along the preferential down gradient groundwater flow path from the Inferred Source Area.

Soil Boring – Monitoring Well Designation	Rational
Problem One Soil Boring (Blue) #1	Preferential groundwater flow path is toward the southeast. Battelle and EPA Updated CSM indicate CVOC center of mass south of MW07-27S/D. Analytical data does not indicate significant CVOC mass at the west end of the Problem One Soil Boring Grid. Recommended location is along the axis of preferential GW flow.
Problem One Soil Boring (Blue) #2	Preferential groundwater flow path is toward the southeast. Battelle and EPA Updated CSM indicate CVOC center of mass south of MW07-27S/D. Analytical data does not indicate significant CVOC mass at the west end of the Problem One Soil Boring Grid. Recommended location is along the axis of preferential GW flow.
Problem One Soil Boring (Blue) #3	Preferential groundwater flow path is toward the southeast. Battelle and EPA Updated CSM indicate CVOC center of mass south of MW07-27S/D. Analytical data does not indicate significant CVOC mass at the west end of the Problem One Soil Boring Grid. Recommended location is along the axis of preferential GW flow.
Problem Two Soil Boring (Red) #4	Current location is redundant with data that will be obtained from the soil boring and groundwater for MW07-09S. The proposed relocation further to the south will augment coverage along the axis of preferential groundwater

Encl 1

	flow to the southeast along with the proposed relocation of the three Problem One soil borings.
Problem Two Soil Boring (Red) #5	Current location is redundant with data that will be obtained from the soil boring and groundwater for MW07-34S. The proposed relocation further to the southwest will augment coverage along the axis of preferential groundwater flow to the southeast along with the proposed relocation of the three Problem One soil borings.
Problem Two Soil Boring (Red) #6	Current location is likely off axis to the west based on analysis of groundwater flow and cyclical patterns of CVOC observed in MW07-39D. Shifting the location approximately 100 feet to the east will place the soil boring in a more suitable location to intercept contaminated groundwater flowing past MW07-39.
Problem Two Soil Boring (Red) #7	Current location is likely off axis to the west based on analysis of groundwater flow and cyclical patterns of CVOC observed in MW07-39D. Shifting the location approximately 100 feet to the east will place the soil boring in a more suitable location to intercept contaminated groundwater flowing past MW07-39.
Problem Two Soil Boring (Red) #8	One soil boring as well as existing monitoring wells provides reasonable coverage along the southwest groundwater flow path. The proposed relocation of this soil boring to the east of the planned MW07-41 will augment down coverage of the down gradient aquifer along with relocation of the soil borings above.
Problem Two Soil Boring (Red) #9	Groundwater flow paths appear to be diverted to the west and east of MW07-13S/D. Also, groundwater flowing to the south of the SAP location will be intercepted by the planned MW07-40. Shifting this soil boring to the east will fill in a gap in coverage along the primary groundwater flow path from the Inferred Source Area.
MW07-11S	Relocate this monitoring well to southwest approximately midway between MW07-11D and MW07-24S. Analysis indicates wetlands may intercept/divert shallow groundwater. Also, the general trend of deep overburden groundwater (no shallow data available) suggests shallow groundwater also flows to this location.

While the Battelle and USEPA Updated CSM indicate that the CVOC center of mass is past the location of MW07-27S/D the actual location may be somewhat further to the southeast than is presently estimated. Currently, there is an absence of data in the central area of Site 07, including hydraulic conductivity and total organic carbon content of aquifer materials, such that contaminant migration velocity in that down gradient area cannot be precisely estimated. The above recommendations are intended to maximize assessment of potential CVOC in soils in the down gradient locations from the Inferred Source Area with the available resources in order to assess the need/viability of a dissolved source remediation.



ENG/2