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LETTER AND COMMENTS FROM U S EPA REGION I ON RESPONSE TO COMMENTS  
REGARDING DRAFT AND DRAFT FINAL REMEDIAL INVESTIGATION WORK PLAN  
ADDENDUM FOR SOLVENT RELEASE AREA NAS SOUTH WEYMOUTH MA  
06/26/2009  
U S EPA REGION I



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 1

1 CONGRESS STREET, SUITE 1100  
BOSTON, MASSACHUSETTS 02114-2023

June 26, 2009

Brian J. Helland, P.E.  
BRAC Program Management Office NE  
4911 South Broad Street  
Philadelphia, PA 19112-1303

Re: Response to EPA Comments on the Remedial Investigation Work Plan Addendum for the Solvent Release Area and the Draft Final Remedial Investigation Work Plan Addendum for the Solvent Release Area (IR-11)

Dear Mr. Helland:

Thank you for the opportunity to review the aforementioned documents. EPA has a few outstanding concerns related to the vapor intrusion analysis, the Conceptual Site Model (CSM), the extent of contamination, and the location of groundwater wells. While the new monitoring wells, borings, surface water/sediment sampling locations and related activities proposed in the Work Plan will provide useful information, many of the issues raised in the EPA's earlier comments have not been adequately addressed by the responses and RI Work Plan Addendum and therefore this phase of work may not be sufficient to finalize the RI. EPA believes that the Navy must delineate the nature and extent of contamination before interpreting the data with respect to risk. All new data should be incorporated into the CSM. Detailed comments are provided in Attachment A.

There is limited information that supports the presumption that there is only one release at this site. While this may be correct, the possibility that another release may be present in instances where contaminants have been identified in areas outside of the known hotspot should be explored.

As noted in letter comment 3, at least one new bedrock boring location is needed directly southwest of the MW-405 area (about 100 feet to the southwest) in addition to the locations proposed in the work plan. This well should be installed and evaluated before finalizing the location for MW20-502D. EPA recommends a meeting and field visit to reach consensus on the final location for this well and to field locate all final locations for wells/borings, surface/sediments sampling locations, etc. Since there has been some difficulty encountered using the air-hammer drilling methodology, alternative methods for investigating bedrock should be considered.

Letter Comment 1: Many of the data points along the western edge of the data area still have measurable detections of contaminants. EPA is concerned that SB10-503 and MW10-405 are essentially unconstrained to the west, and the data qualifiers ("J" values) project additional uncertainty onto the robustness of the delineation in this area.

The relationship of the known soil hits to the known groundwater hits does not address the possibility of an additional release or hotspot in soil. An unknown area of soil contamination to the west of the existing data could be a locus for high groundwater values. While new soil data from MW20-316 will improve the delineation, it should be noted that this location is almost 200 feet

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away, and the additional existing wells to the west are even further. As a result, a large degree of uncertainty remains with respect to the adequacy of the soil delineation.

Letter Comment 2 (item 1): EPA's pointed out the possibility of an additional source in the vicinity of the eastern ditch. The Navy's statement that, "if there was a second release along the eastern ditch, concentrations of PCE in this area would be anomalous and not fit as well into the conceptual model presented in the Draft RI," is certainly true. Clearly, if new contamination was identified, the CSM would have to be modified accordingly. EPA believes that new data focused in this area would be the most expeditious way to strengthen the CSM.

Letter Comment 2 (item 2): EPA maintains that the extent of soil contamination is not well delineated to the east of "the source area" and therefore recommends a limited data collection effort between SB10-504 and the eastern ditch. Could the presence of an additional release in this vicinity account for the anomalous "spreading" of the plume in this area?

Letter Comment 3: The depth-discrete data presented for MW-405D1 illustrate the prevalence of significant contamination in the upper 80 feet of bedrock as well as the diminishment of contamination in the less fractured areas. Conversely, EPA believes that the potential presence of a significant NE-SW striking fracture zone in the vicinity of MW-405 suggests the potential for spreading of contaminants/DNAPL in these directions. The proposed location to the northeast of MW-405 will contribute to a better understanding of the three-dimensional extent of contaminants to the northeast, but a significant data gap remains to the southwest of the MW-405 area, particularly in the near-field (*i.e.*, approximately 100 feet to the southwest from MW-405). It is essential to install a new bedrock well in this area. After this well is installed and evaluated, the need and location for MW-20-502D can be assessed. An understanding of the precise location and orientation of fractures in the system defined as "fracture zone 4" on Figure 3-7 is needed in order to site an appropriate well location in this direction. A detailed evaluation of all existing data is needed to identify data needs.

Letter Comment 4: EPA respectfully disagrees with the response because the top-of-rock surface may often provide critical insight into the rock structure and fracturing. It is imperative that all new existing wells planned for bedrock are sited in consideration of the top-of-rock surface and other relevant data (*e.g.*, geophysical data). EPA recommends a meeting and field visit in order to review existing information, reach consensus on the final locations of all wells/borings, surface/sediments sampling locations, *etc.*, and stake them in the field. In this manner, we can evaluate the adequacy of the top of rock data on a case-by-case basis.

Letter Comment 5: There appears to be a limited potential for (unmonitored) contaminant transport in a number of locations. For instance, the upper six feet of bedrock is unmonitored at MW-406D and MW-411D. In addition to the information in the, the evaluation of any potential monitoring gaps should also consider the position of any overlying overburden screens, the morphology of the top-of-bedrock surface at that location, and other pertinent information. EPA looks forward to reviewing this information in detail before an upcoming meeting to select final well locations and recommends development of a strategy to ensure that the deep overburden and uppermost bedrock intervals are comprehensively assessed during the next phase of characterization.

Letter Comment 9: Please update cross section B-B' from the Draft RI to include borehole geophysical data and locations of surface geophysical anomalies. Additionally, a new

comprehensive hydrogeologic cross section alignment is needed in an N-S alignment from the Building 95 area (MW-01) to MW10-409D1/D2 to MW10-410D1/D2.

Letter Comment 12 pertains to the vapor intrusion pathway in the HHRA. While the response mostly addresses the comment, a reasonable exposure time (ET) has not been provided for review.

Letter Comment 13 recommended 8-hour SUMMA samples during the summer when groundwater levels are high. The vapor probe sampling section (Section 3.6) in the WP Addendum proposes a 2-hour sample duration to collect a 1-liter sample. Please explain why a 2-hour duration was selected instead of the recommended 8-hour duration (EPA notes that it may be more appropriate to collect a 6-liter SUMMA sample over a 24-hour period to get a representative sample.) EPA also recommended that samples be collected during the summer and when groundwater levels are high. This recommendation has not been incorporated into the WP Addendum text. The sub-slab investigation should also adhere to the extent possible to methodologies described in *Assessment of Vapor Intrusion in Homes Near the Raymark Superfund Site using Basement and Sub-slab Air Samples, EPA 600/R-05/147, March 2006*. Please discuss the depths to which the vapor monitoring probes will be installed, the proposed screened length, and the basis for these.

Letter Comment 13 also addressed the limitations of the box modeling approach to estimate ambient air concentrations. The response notes that this method will be maintained for the trespasser. As suggested in the original response, if there are too many uncertainties with the model assumptions, the applicability of the box model will be limited and confidence in the results low.

Before sampling, please provide a figure depicting the sample locations including the groundwater VOC concentrations and depths.

Please provide a drawing of a typical probe to support the written description of the sampling mechanisms.

Sealing of the probe to the ground surface and the teflon tube to the probe cap are critical elements - the figure should show in greater detail how that will be done - will the hole in the cap be smaller than the teflon tube thereby creating a tight seal? How thick will the bentonite seal be over the sand surrounding the probe?

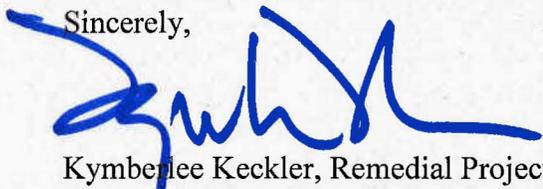
A better description of the leak test procedure is warranted because this is a critical element of the sampling. It is not clear from the description how the test will be conducted.

The sampling should not be conducted after any significant rainfall or during any time when rain is expected. No sampling should be conducted if rain has occurred within three days of the sampling event or if there is a chance of rain in the forecast. Rain and residual moisture can reduce soil vapor concentrations.

The second paragraph of Section 3.6 indicates that analytical data will be compared with the OSWER draft vapor intrusion guidance. This is acceptable provided that the COPC truncated at the MCL will be compared to risk-based groundwater concentrations as provided by EPA earlier. Please insert "Concentrations of COPCs truncated at the MCL in the draft guidance will be compared with EPA Region I risk-based groundwater concentrations." after the first sentence in the second paragraph.

I look forward working with you and the Massachusetts Department of Environmental Protection on completing the investigation of the Solvent Release Area. Please contact me at (617) 918-1385 to arrange a technical meeting to discuss the issues raised in this letter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Kymberlee Keckler', written over the word 'Sincerely,'.

Kymberlee Keckler, Remedial Project Manager  
Federal Facilities Superfund Section

Attachment

cc: Dave Barney, USN, South Weymouth, MA  
Dave Chaffin, MADEP, Boston, MA  
Kevin Donovan, SSTDC, South Weymouth, MA  
Phoebe Call, TTNUS, Wilmington, MA

## ATTACHMENT A

<u>Page</u>	<u>Comment</u>
p. 1-2, §1.0, (D., bullet 1)	Consideration needs to be given to best available information on fracture orientation and dip when determining the final location of proposed well MW20-502D ( <i>see</i> letter comment 9). EPA looks forward to reviewing this information with the Navy when selecting the final well locations and depths in the field before drilling.
p. 1-2, § 1.0, (D., bullet 3)	The proposed new bedrock well on the East Mat SSW of MW-411 should be shown. Is MW20-411 mislabeled on Figure 2-1?
p. 3-1, § 3.3	Given the perturbations to the groundwater system following the last phase of drilling, please discuss alternative methodologies to employ with EPA in lieu of the air rotary. Whichever method is ultimately used, drilling, well design, well installation, well development, <i>etc.</i> should adhere to the specifications outlined in <i>Army Corps of Engineers Engineering Manual EM-1110-1-4000, 1 Nov 1998, (Engineering and Design), Monitoring Well Design, Installation and Documentation at Hazardous, Toxic, and Radioactive Waste Sites.</i>