



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

24 March 2004

Mr. Fred Evans, P.E., Remedial Project Manager
US Department of the Navy
Engineering Field Activity Northeast
Naval Facilities Engineering Command
10 Industrial Highway
Lester, PA 19113-2090

RE: Navy Responses to RIDEM Comments
Addendum to QAPP – Supplemental Phase II Hydrogeological Investigation
IR Program Site 16
(Former Creosote Dip Tank and Fire Fighting Training Area)
Naval Construction Battalion Center
Davisville, Rhode Island
Submitted 23 March 2004, Dated March 2004

Dear Mr. Evans:

The Rhode Island Department of Environmental Management, Office of Waste Management (RIDEM) has reviewed the above referenced document and comments are presented below:

1. General Comment -- At Well MW-39 the deep well had 0.2 ug/l of total VOC and the intermediate well has 86.74 ug/l total VOC for the November/December 2002 measurement, indicating higher concentrations vertically upward. The closest shallow well MW16-02 is about 500 feet away which had a non-detect for this sampling period. In lieu of Well MW16-56 D it is proposed to place a shallow well at or near MW16-39. Another possibility is to place the shallow well at MW16-57. The rationale for eliminating Well MW16-56D is that there is sufficient coverage, of deep wells, around this location which include MW16-02D, 20D, 24D, 27D, and 39D. In addition, new Wells MW16-57D and 58D are also in the vicinity of Well MW16-56D.

Navy 1st Response -- The referenced well locations are shown on the attached Figure 6-1. Monitoring well MW16-56R is needed to fill a data gap in the eastern CVOC extent in the upper bedrock zone (from the Phase II report). The 'D' well of the pair is planned to provide vertical hydraulic gradient data (important to Nike site concerns) at that location (there are no nearby D/R well pairs; MW16-56D/R is

located approx midway between MW16-25D/R and MW16-27D/R). The nearby 'D' wells are paired with 'I' wells (MW16-24D/I and MW16-20D/I).

The Navy does not believe that a shallow ('S') well at MW16-39 or MW16-57 would be helpful to the purpose of the MW16-57 location (assessment the east extent of the 86.74 $\mu\text{g/L}$ total CVOC at MW16-39I). For the relationship of these locations, please see the attached cross section location map and the Cross Section F'F' annotated with the total CVOC concentrations detected in the November/December 2002 ground-water samples.

RIDEM 2nd Comment -- Upon re-examination of the physical data for this site it is clear that the nature and extent of contamination has not yet been determined for any of the groundwater intervals. The nature and extent of contamination for each of the groundwater intervals must be determined in order to adequately evaluate alternatives and their potential effectiveness in the feasibility study.

The overburden appears to consist of mainly sand and silty sand ranging from approximately thirty to ninety feet in thickness with pockets of fill, reworked soil, silt, and clay. Shallow groundwater flow, in general appears to move in an easterly to northerly direction. Intermediate groundwater appears to flow in a northeasterly direction. Deep groundwater, in general appears to flow in an easterly-northeasterly direction. Groundwater in bedrock appears to flow in a general easterly direction.

While this work plan addresses the intermediate, deep, and rock zones for groundwater, it completely ignores shallow groundwater. Based on the November/December 2002 data, sampling in the shallow groundwater only occurred in the former Creosote Dip Tank Area and in the vicinity of Building 41. The data clearly shows exceedances of CVOC for both RIDEM GA and GB groundwater objectives. What is not clear is whether there is one or more source areas and how far to the west, south, and east the contamination extends. The extent of contamination to the north appears to be adequately characterized. Given the direction of shallow groundwater flow, further characterization in the western portion of the site may not be necessary to evaluate remedial alternatives. Further characterization of the shallow groundwater is needed in the south, east and central portions of this site to determine the nature and extent of contamination. Please add additional shallow wells as necessary to this work plan to fully characterize the shallow groundwater.

2. General Comment -- All wells in this site should be sampled at the same time so that we have a complete picture of what is going on rather than comparing the results of the new wells with prior samples from the old wells. This would eliminate potential seasonal variations as well as other issues.

Navy 1st Response -- Please see the Navy's response to related EPA General Comment No. 3.

RIDEM 2nd Comment -- **Response is acceptable.**

3. General Comment -- While it is understood that the purpose of this QAPP is to evaluate CVOC, at some point in the future consideration should be given to human health and ecological risk issues. This would include a sampling of the full suite of compounds in the soil and groundwater such as metals, PCBs, pesticides, etc.

Navy 1st Response -- Comment noted.

RIDEM 2nd Comment -- **Please state if the above response means the Navy will comply with the comment.**

RIDEM looks forward to working with the Navy and USEPA on the completion of this document. If you have any questions or require additional information please call me at (401) 222-2797 ext. 7138 or e-mail me at rgottlie@dem.state.ri.us.

Sincerely,

Richard Gottlieb, P.E.
Principal Engineer

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