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MCRD PARRIS ISLAND
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LETTER OF TRANSMITTAL AND U S EPA REGION IV COMMENTS ON ENGINEERING EVALUATION/INTERIM MEASURES WORK PLAN FOR SITE 45 DRY CLEANER'S FACILITY BUILDING 193 MCRD PARRIS ISLAND SC
10/20/1997
U S EPA REGION IV

03.01.00.0033

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

4WD-FFB

OCT 20 1997

Comanding Officer
Southern Division
Naval Facilities Engineering Command
Attn: Art Sanford, Code 18610
P.O. Box 190010
North Charleston, SC 29419-9010

SUBJ: Engineering Evaluation / Interim Measure Work Plan (September 1997)
Site 45 (Dry Cleaner's Facility - Building 193)
MCRD Parris Island, South Carolina
SC6 170 022 762

Dear Mr. Sanford:

The U.S. Environmental Protection Agency Region 4 (EPA) has completed its review of the above-referenced document for the MCRD Parris Island NPL facility. Our comments are enclosed. The document was reviewed for adequacy in meeting the requirements of an Environmental Assessment/Cost Evaluation (EE/CA), which must be prepared for non-time critical removal actions per Section 300.415(b)(4) of the National Contingency Plan.

The proposed scope and technology of the removal action are generally acceptable. However, several more specific technical issues must be addressed in order for EPA to consider this document final. Our comments may be addressed in the form of a revised EE/CA or revised pages to be inserted into the September 1997 version of the EE/CA.

Should you have any questions, please contact me at (404) 562-8510.

Sincerely,

Allison D. Humphris
Remedial Project Manager

cc: Tim Harrington, MCRD Parris Island
Susan Peterson, SCDHEC
Don Hargrove, SCDHEC
Karen Atchley, Bechtel
Mark Speranza, Brown & Root Environmental
Glenn Wagner, Brown & Root Environmental

U.S.EPA Region 4 Technical Review and Comment
Engineering Evaluation / Interim Measure Work Plan
Site 45/SWMU 45 (Dry Cleaner's Facility - Building 193)
September 1997
Marine Corps Recruiting Depot, Parris Island, S.C.

1. General Comment:
Initiation of the RI/RFI for Site 45 should not be postponed until completion of this removal action. The removal action was initiated to address the imminent threat presented by high solvent concentrations in the groundwater. To delay implementation of the full investigation and final remedy selection would be inconsistent with this goal. Previous record searches and field studies have yielded sufficient information to identify significant remaining data gaps and design an adequate study plan to address those gaps. The plan could also be designed to consider and utilize information obtained during implementation of this removal action. In short, the RI/RFI should be conducted concurrently with the removal action such that information sufficient to select a final remedy for the site is available upon completion of this removal action.

2. Page 1, Section 1.0, Paragraph 3:
According to Figure 1.5, vinyl chloride was also detected above MCLs in one well (170 ppb in 6MW-S). Thus, vinyl chloride should be added to the list of groundwater contaminants in this paragraph and throughout the document.

3. Page 2, Figure 1.1:
A scale should be provided in this, and all subsequent, figures where appropriate.

4. Pages 3-7, Section 1.1.2 and Figures 1.3 and 1.4:
The nature and scope of the proposed removal action is the direct result of site-specific hydrogeologic conditions. As such, this document must include a more thorough, accurate description of these site conditions. The depth, thickness and continuity of low-permeability layers (particularly the 14 foot clay layer) which control the distribution of groundwater contamination must be adequately and consistently described.

The following inconsistencies should be also addressed. According to Section 1.1.2, occasional 6-inch thick silty clay layers were encountered in these sands, yet Figure 1.3 shows silty clay areas up to 3 feet thick and peat layers up to 10 feet thick. Also, the lithology of MW-6 is depicted quite differently in Figures 1.3 and 1.4.

5. Page 8, Section 1.3.2:
The decision to limit this removal action to the top 14' of the aquifer must be better supported with site-specific data. What is the distribution of groundwater contamination relative to all observed low permeability layers? To known or suspected source areas? The technical memorandum entitled: *Groundwater Results, 18 June to 30 June 1996* provides a good summary of these conditions. Recommend that this memo be included as an attachment to the EECA, and that Section 1.3.2 be revised and expanded to ensure consistency with the contents of this technical memorandum.

6. Page 10, Figure 1.6:
According to the legend notes, "Values posted are maximum total VOCs from monitoring well cluster". This was not the case for well cluster MW-8. Please recheck all values and revise the figure for accuracy.

The ground-water concentrations and vertical distribution of PCE and related suggest that an area of pure PCE (DNAPL) may exist in the area between well clusters MW-8 and MW-7 (..following the general rule of thumb that DNAPLs may be present where groundwater contaminant concentrations exceed 1% of the aqueous solubility of the contaminant. The aqueous solubility of PCE is 150 mg/l.). The potential for existence of a DNAPL source area, though not detected, should be considered as investigation and remediation of this site proceeds.

7. Page 11, Section 1.4.3:
The objectives of the proposed removal action should be modified as follows:

A. "Minimize further migration of groundwater containing VOCs...": As stated in Section 1.6.3 of this document, pump and treat "will provide hydraulic control of the site and prevent further migration of the solvent plume." This function should be listed as an objective of the proposed removal action.

B. "Reduce concentrations...": This objective should specify which concentrations are targeted for reduction. For example, is the goal to reduce groundwater contaminant concentrations in all areas of the plume which exceed MCLs? This does not appear to be the case, since groundwater contamination in excess of MCLs extends beyond the vertical extent of the proposed 3-well extraction system.

C. Specify the relation of this action to the final remedial action for the site. As specified in Section 300.415(f) of the NCP, if the removal action does not adequately address the threat posed, this action must be consistent with, and allow for an orderly transition to, any subsequent remedial response activities.

8. Page 12, Table 1-1 and Page 25, Section 4.2.3:
According to this table, Natural Attenuation (NA) is a "readily implementable" technology, which "could be used for final remedial action." This statement is unsupported. A decision to implement NA as a final remedial action at this site must be supported by adequate data collection and analysis. Tables 1A and 1B of the guidance document "Draft Region 4 Approach to Natural Attenuation of Chorinated Solvents" (5/13/97) (copy attached) provide a complete listing of the chemical and geochemical parameters which may be needed to develop an adequate conceptual site model to support this remedial alternative. Section 4.2.3 appears to provide a rough list of parameters to be sampled in support of naturalf natural attenuation. If the intent is to begin collecting parameters in support of NA during this removal action, this goal should be more clearly stated in the text, and the number, location and frequency of samples to be collected, and analytical methods and parameters should be clearly defined.

9. Page 25, Section 4.2.3:
The text proposes collecting quarterly ground-water samples from the existing monitoring wells. A subset of these wells should be monitored on a more frequent basis during the removal action. The deep and shallow wells within the "source area" and along the principal ground-water flow direction away from the source area (including paired wells MW-7, MW-8, MW-6, and MW-5) need to be

monitored on at least a monthly basis, to obtain sufficient data during the removal action to help define the scope of the final remedial action for this contamination. Quarterly sampling of wells in the key areas of contamination may not be adequate to define the appropriate scope of the final remedial action, particularly since contaminant concentrations will likely be changing rather dramatically over some, or all, of this area of contamination. This sampling could focus on the specific chlorinated solvents of concern, to establish how the concentrations of those contaminants change over time.

10. Attachment 2:

A. The modeling presented is basically a screening tool, with limited documentation of modeling input and only partial utilization of standard modeling procedures. For example, the model was not calibrated under ambient conditions before running the two pumping scenarios, and the recharge within the model domain is not well defined. This short-cut modeling approach is acceptable for the analysis of the proposed interim action presented herein, but would not be acceptable for modeling a final remedial action.

B. The source(s) of values presented under the heading "**Aquifer Properties**" should be completely documented.