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MCRD PARRIS ISLAND  
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LETTER REGARDING U S EPA REGION IV COMMENTS ON DRAFT DEMONSTRATION  
PLAN SITE-SPECIFIC VERSION FOR SITE 45 FORMER MORALE, WELFARE AND  
RECREATION DRY CLEANING FACILITY MCRD PARRIS ISLAND SC  
9/30/2008  
U S EPA REGION IV



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION 4**

**Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, Georgia 30303-8960**

September 30<sup>th</sup>, 2008

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

4SD-FFB

Naval Air Station, JAX  
Navy Facilities Engineering SE  
Installation Restoration, SC IPT  
Attn: Charles Cook  
PO Box 30  
North Ajax Street, Bldg 135  
Jacksonville, FL 32212-0030

And

Commanding General  
Marine Corps Recruit Depot  
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Attn: Heber Pittman  
PO Box 5028  
Parris Island, SC 29905-9001

SUBJ: Draft Demonstration Plan Site-Specific-Version for Former MWR Dry Cleaning Facility, Site 45 Marine Corps Recruit Depot (MCRD) Parris Island, South Carolina Assessment of Natural Attenuation of NAPL Source Sones and Post-Treatment Zones ER-0705 (August 2008)

Dear Sirs:

The U.S. Environmental Protection Agency (EPA) has completed review of the subject document and offers the following comments to be addressed in a revised document.

**TECHNICAL REVIEW COMMENTS**

1. The Demonstration Plan Site-Specific-Version for Former MWR Dry Cleaning Facility, Site SWMU 45 Marine Recruit Depot (MCRD) Parris Island, South Carolina Assessment of the Natural Attenuation of NAPL Source Zones and Post-Treatment NAPL Source Zones ER-0705, dated August 2008 (Demonstration Plan) recognizes the Environmental

Security Technology Certification Program/Strategic Environmental Research and Development Program (ESTCP/SERDP) Demonstration ER-0431 injection of emulsified zero-valent iron (EZVI) into the source zone to treat the chlorinated solvent dense non-aqueous phase liquids (DNAPL). The goal of the EZVI demonstration was to evaluate the potential to reduce dissolved phase DNAPLs and the mass flux of dissolved phase DNAPLs. The longevity of the EZVI nano-scale iron and oil in the subsurface and whether they continue to contribute/facilitate the degradation of the chlorinated DNAPL has not been discussed and is not known. Although not proposed in the Site-Specific Demonstration Plan, sampling and analysis of fatty acids may provide evidence that the oil continues to breakdown and is available to contribute to DNAPL degradation. Revise the Site-Specific Demonstration Plan to address this issue.

2. In Section 3.4 of the Sampling Plan under subsection (1)b., the text indicates Table 3.1 and Figure 3.1 identify those locations for possible hydraulic conductivity testing, i.e., slug test or aquifer specific-capacity testing. Table 3.1 includes the monitoring construction details for the well locations shown in Figure 3.1 except for monitoring well locations MW06 and MW07. Revise the Site-Specific Demonstration Plan to include the construction details for wells MW06 and MW07 or revise Figure 3.1 to clearly indicate which wells will be used for aquifer testing.
3. In Section 3.4 of the Sampling Plan under subsection (2)a., add text stating that following groundwater sample collection the temporary direct push well borings will be abandoned in accordance with all federal and state rules and regulations. Additionally, include text in this section specifying that the peat and clay unit underlying the surficial aquifer which serves as a local confining unit will not be penetrated during the temporary groundwater sampling activities.
4. Figure 2.5 depicts the Cis 1,2-DCE groundwater concentrations in the lower surficial aquifer and not the upper surficial aquifer as indicated in the figure title. The figure legend indicates "Selected well in the "SL" horizon...", or surficial lower horizon. Revise the figure to correct this error.
5. For clarity and consistency with Table 3.1, Depth-to-Water and Hydraulic Conductivity Test Locations in Permanent Monitoring Wells and Monitoring Well Completion Specifications, specify in the legend of Figure 3.1 Permanent Monitoring Well Network to be Used for Depth-to-Water Measurements and Hydraulic Conductivity Testing to indicate all well locations shown in the figure consist of an upper shallow (SU) and lower shallow(SL) aquifer zone well except for well location MW24 which consists only of one well screened in the upper surficial (SU) aquifer zone.
6. Figure 3.2 Depth-Specific Groundwater Sampling and Soil Core Collection Locations shows two (2) locations designated ASUGW9 and ASUGW10 where soil cores will be collected. However, the purpose and objectives of the soil coring activity and intended use of any testing data was not clearly discussed in the Demonstration Plan. To provide a clear and transparent understanding of the objectives of the soil core sampling this information should be discussed in the Site-Specific Demonstration Plan

7. The Site-Specific Demonstration Plan does not indicate how or when the results of the study will be reported. However, the Non Site-Specific Demonstration Plan date July 2008 states in Section 5.0 End-User Issues on Page 22 that the results of this study will be presented in the annual SERDP/ESTCP symposium and a technology transfer report will be produced and a manuscript for publication in *Ground Water Monitoring and Remediation* will be prepared. The Non Site-Specific Demonstration Plan also indicates in addition to preparation of the final report in 2010, progress reports will be prepared. Rather than wait for the final report for the assessment of the natural attenuation of post-treatment DNAPL source zones. EPA requests review of the progress reports as they become available, as well as the final report in 2010 when it is drafted, and again once it is finalized.

EPA is available for any questions regarding these comments. If there are any questions, please do not hesitate to contact me at (404) 562-9969. I look forward to your submission of the revised Demonstration Plan.

Sincerely,

Lila Llamas  
Senior RPM

cc: Meredith Amick, SCDHEC  
Sommer Barker, SCDHEC  
Mark Sladic, TtNUS