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LETTER OF TRANSMITTAL AND SOUTH CAROLINA DEPARTMENT OF HEALTH AND  
ENVIRONMENTAL CONTROL COMMENTS ON DRAFT DATA QUALITY OBJECTIVES FOR  
SITE 27 PARADE DECK AND FIBER OPTIC VAULT AREA MCRD PARRIS ISLAND SC  
2/25/2010  
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



C. Earl Hunter, Commissioner

*Promoting and protecting the health of the public and the environment.*

February 25, 2010

Commanding Officer  
NAVFAC Southeast  
ATTN: Mr. Charles Cook  
PO Box 30  
Ajax Street North, Bldg 135  
Jacksonville, Florida 32212

RE: Comments to the Site 27 Draft DQOs for Parade Deck and Site 27 Draft DQOs for the FOV Marine Corp Recruit Depot (MCRD) Parris Island SC6 170 022 762

Dear Mr. Cook:

The Division of Waste Management of the South Carolina Department of Health and Environmental Control (Department) completed the review of the Site 27 Draft DQOs for Parade Deck and the Site 27 Draft DQOs for the FOV received December 22, 2009. Based on this review the Department provides the following engineering, hydrogeology and risk assessment comments. The attached memos will be broken into three different sections: comments that apply to both sets of DQOs, comments that apply to the FOV DQOs, and comments that apply to the Parade Deck DQOs.

The Department's comments are based on the information presented by MCRD to date; any information found to be contradictory may result in additional comments or require further action. The response to the review should consist of response to comments and revision pages. If you have any questions regarding this issue, please contact me at (803) 896-4218.

Sincerely,

Meredith Amick, Environmental Engineer Associate  
Corrective Action Engineering Section  
Division of Waste Management

cc:

Tim Harrington, MCRD Parris Island  
Annie Gerry, Hydrogeology  
Priscilla Wendt, SCDNR  
Russell Berry, EQC Region 8, Beaufort

Lila Llamas, EPA Region 4  
Tom Dillon, NOAA (via email)  
**Mark Sladic, TtNUS**  
Heber Pittman, MCRD Parris Island

## ENGINEERING COMMENTS

Prepared by Meredith Amick *MA*

Marine Corps Recruit Depot (MCRD)

February 25, 2010

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### Comments that apply to FOV DQOs and Parade Deck DQOs

1. Please clarify the goal of both sets of DQOs.
2. Please justify how the proposed samples in Figure 17-1 (both documents) assist in reaching the DQOs. (i.e. Explain why you are taking the samples where, how the analytical approach was selected, how the field test screening was selected, how the screening levels were selected, etc.)
3. Figure 17-1 from the FOV DQOs seems to duplicate samples from the Parade Deck DQOs. However, around the area of PAI-27-SO-28 the sampling layout is not the same as proposed in the Parade Deck DQOs. Please remove the duplicate sample points from this map. The sampling points around PAI-27-SO-28 should be correct on one of the Figures 17-1 and should only be shown on either the FOV DQOs or the Parade Deck DQOs.
4. In the September 2009 Partnering Meeting, it was discussed that the location of the Motor T Facility buildings were to be moved. Please show the correct location of the future Motor T Facility buildings.
5. The Department believes that some of the proposed grid samples (NW corner) are not necessary. Because these DQOs are intended to fill RI data gaps, the Department believes that additional samples are need around the Site 9 and 16 area for delineation. Please modify the sampling plan accordingly.
6. Section 10.2

Please note when the RI Report is finalized, it should be clear that all samples (soil and groundwater) were not run for the same constituents.

### Comments that apply to FOV DQOs

1. Section 11.1

This section states, "Any areas posing unacceptable risks in the Motor-T area will also be addressed during the NTCRA." Please note that in addition to the area around the Fiber Optic Vault, pending sampling results the area around PAI-27-SO-28 as well as the area in question around Sites 9 and 16 (See comment #5) may be candidates for the NTCRA.

**Comments that apply to Parade Deck DQOs**

1. The Department does not believe that grid sampling needs to be completed in the Parade Deck area. There are already several samples in this area, of which most exceedences are for Ecological and Leachability screening criteria. The pavement over the area reduces the rain infiltration as well as the possibility for ecological receptors to come in contact with the soil. Other compounds such as BAP equivalents and metals exceed industrial criteria, however they are most likely due to anthropogenic and background conditions (note, this should be proven in the RI Report with a defensible background presentation). However, it would be appropriate to use some of these proposed samples around the area of PAI-27-SO28 to delineate the hot spot horizontally and vertically.

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## MEMORANDUM

TO: Meredith Amick, Environmental Engineering Associate  
Corrective Action Engineering Section  
Division of Waste Management  
Bureau of Land and Waste Management

FROM: Kent Krieg, Risk Assessor  
Corrective Action Engineering Section  
Division of Waste Management  
Bureau of Land and Waste Management

DATE: February 25, 2010

RE: Marine Corps Recruit Depot  
Parris Island, South Carolina

Documents:

Sampling and Analysis Plan Site 27 – Equipment Parade Deck  
Fiber Optic Vault LNAPL Delineation  
Dated December 2009

Sampling and Analysis Plan Site 27 – Equipment Parade Deck DQO  
Dated December 2009

The above referenced documents by Tetra Tech NUS, Inc. have been reviewed. The Department has the following risk related comments:

### General Comments:

1. *Parade Deck DQO:*

Historical evidence does not indicate that extensive contamination is present above industrial screening values in the Parade Deck with the exception of the area around PAI-27-SO-28. The Department believes an EE/CA required risk-based decision can be reached without the proposed grid-based sampling, however; further delineation of the vertical and horizontal extent of soil and groundwater around PAI-27-SO-28 is needed. To allow for construction of the Motor-T facility to begin, the Department would support the creation of a barrier (i.e. construction fence, etc.) around this “hot-spot” boundary to remove the receptor from the potential risk until the NTCRA can be conducted.

2. *Parade Deck and FOV DQOs:*

The Department suggests that post-removal data be used for future risk assessment purposes.

3. *Parade Deck and FOV DQOs:*

Since Region IV Risk Guidance states that exposure point concentration is based on the most concentrated area of the groundwater contaminant plume, it is recommended that, at a minimum, monitoring wells be placed in close proximity to the "hottest" portions within the "hot-spots," near PAI-27-SO-28 and Site 9/16. It is suggested that deep and shallow wells be placed near PAI-27-SO-28 or near the highest concentration found during delineation of the area (if data determines that PAI-27-SO-28 is not the 'hottest' location). It is also suggested that a well be placed near or down gradient the highest concentration found during delineation of the Site 9/16 area (current, limited data suggest a location between PAI16-SB1 and PAI09SB03).

**Specific Comments:**

1. *Parade Deck and FOV DQOs*

Worksheet #11, pg. 1, section 11.2 – Identify the Inputs to the Decision

Based on the data usability for the RI report, the Department recommends ensuring that MDLs are below screening criteria. In order to prevent re-sampling and to allow for proper risk based screening during the RI, a Special Analytical Service (SAS) may need to be chosen at this sampling event.

2. *Parade Deck DQO*

Worksheet #17, pg. 2 – Sampling Design and Rationale – Groundwater Sampling and Table 17-1, Proposed Groundwater Samples

The document and table indicates that proposed groundwater samples will only be analyzed for TCL SVOCs, TAL metals, TDS, TOC, and alkalinity. The Department recommends **all** samples (for both Parade Deck and FOV DQOs) be run for VOCs, SVOCs, PCB/Pesticide, and TAL Metals since the data will be used to complete delineation and risk calculations in the Remedial Investigation (RI) report.

If you need any further information, feel free to contact me at (803) 896-4262.



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**MEMORANDUM**

**TO:** Meredith Amick, Engineering Associate  
Corrective Action Engineering Section  
Division of Waste Management  
Bureau of Land and Waste Management

**FROM:** Annie Gerry, Hydrogeologist *Annie Gerry*  
Federal Facilities Groundwater Section  
Division of Waste Management  
Bureau of Land and Waste Management

**DATE:** February 25, 2010

**RE:** Marine Corps Recruit Depot  
SC6 170 022 762

Review of Sampling and Analysis Plan Site 27-Equipment Parade Deck Fiber Optic Vault LNAPL Delineation and Parade Deck/Motor T Draft DQOs Marine Corps Recruit Depot (MCRD), Parris Island, South Carolina dated December 2009

The above referenced documents have been reviewed with respect to the conditions of the Federal Facility Agreement (FFA) that the Department entered into with the Navy and EPA Region 4 in January 2005. Site 27 was formerly used as a parade ground and a storage area for out-of-service storage tanks, concrete cylinders, boilers, scrap metal and piping. Transformers containing polychlorinated biphenyls (PCBs) were reportedly stored in the northern portion of the Equipment Parade Deck. Site 9 (Former Paint Waste Storage Area), Site 16 (Pesticide Rinsate Disposal Area), and Site 55 (Fiber Optic Vault) are also included in this area for investigation. These Data Quality Objectives (DQOs) will be used to further delineate the site for contamination and fill address any data gaps.

In team meetings, the MCRD has requested comments from the Department as to identify are data gaps that can be addressed in the upcoming investigations referenced above. With respect to groundwater assessment, it is difficult to make these determinations based on the documents and information submitted to the Department to date. Previous documents, such as those referenced above, the RI Work Plan Addendum (dated July 2008), etc. do not include adequate interpretation of the hydrogeology of Site 27, interpretation and presentation of the extent of groundwater contamination, geologic cross sections, potentiometric data, groundwater quality data, etc. necessary to make these types of determinations. The Department recognizes, and agrees that a more comprehensive presentation of assessment data for Site 27 will be included in forthcoming document(s) (for example, an RFI Report). Therefore, the comments below

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regarding the need for additional groundwater assessment are presented in an effort to direct the forthcoming work. Additional assessment will be necessary upon review of the data generated from this field effort.

Based on review of these documents, the following comments have been generated.

General Comments (Applicable to both documents/DQOs)

1. The full horizontal and vertical extent of groundwater contamination has not been defined at this site. Therefore, additional groundwater assessment is necessary. Areas in which additional monitoring wells are necessary, but may not be limited to:
  - a. Site 9 (Pesticide Rinsate Disposal Area) and Site 16 (Paint Waste Storage Area). In this area, there is a lack of groundwater monitoring wells. Also soil samples taken in this detected concentrations of constituents that were elevated and exceed leachability factors. For example, in *Figure 10-3- Soil Exceedances for Site 27* shows detections in PAI09SB03 of Total DDT HALFND at 6555 ppb (leachability is 60 ppb), and in PAI09SB02, Aroclor-1260 was detected at 810 ppb (leachability is 14 ppb). Additional groundwater monitoring wells are required in this area based on this information.
  - b. East of the Fiber Optic Vault area. There is evidence of radial groundwater flow in the vicinity of the Fiber Optic Vault (see Figure 2-6 – Potentiometric Surface Map for Sites 9, 16, 27, and 55 included in the RI Work Plan Addendum for the Equipment Parade Deck – Site 27, dated July 2008). Additional monitoring wells should be installed east of the Fiber Optic Vault area to determine if radial groundwater flow in fact exists and to define the extent of contamination, if any, in this direction.
  - c. In *Figure 10-3- Soil Exceedances for Site 27*, detections of Alpha-BBC (14000 ppb), Delta-BBC (20000 ppb), and Total DDT HALFND (308000 ppb) were elevated near PAI-27-SO-28. The Department requests the installation of additional groundwater monitoring well(s) in this area to determine groundwater quality.
2. The Sampling and Analysis Plan for Site 27 - Equipment Parade Deck proposes to collect groundwater samples from 20 monitoring wells located across Site 27. However, due to the lack of recent groundwater data (the last samples were collected in 2008), the Department recommends a more comprehensive sampling approach. The MCRD should propose to collect groundwater samples from all monitoring wells at Site 27.

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In addition, a routine groundwater sampling schedule should be established. Although the Department is requesting that all monitoring wells are sampled initially, it may not be necessary to sample all monitoring wells each time wells are sampled (e.g. it may be appropriate to alternate sampling of adjacent wells). The MCRD should propose a groundwater sampling schedule to the Department for review and approval.

#### Specific Comments:

#### Parade Deck/Motor T Draft DQOs

3. On Page 10-5, the second paragraph states, *"Twenty six temporary monitoring wells (12 shallow, 13 intermediate, and one deep) and 17 permanent monitoring wells (nine shallow and eight intermediate) were installed in 2007 and 2008."* Please indicate the screening levels of these wells, and also show in a figure and/or table.

In addition, Figure 10-4 depicts two deep permanent monitoring wells, but is not listed in the above-mentioned sentence. Please correct this discrepancy.

4. On Page 10-6, the second completed paragraph states, *"In order to address the potential for Site 55 to act as a continuing source of contamination to Site 27, refined delineation is necessary to support a non-time critical removal effort."* The Department disagrees with this statement and believes that Site 55 is not a source, but has acted more like a sump. As a result, contamination may have entered the Fiber Optic Vault. Please clarify this in these documents and ensure this concept is clear in future submittals.
5. On Table 17-1-Proposed Groundwater Samples, VOCs, PCBs, pesticides, and MNA parameters are not included in the Proposed List of Analytes. Please add these parameters to the analyte list to obtain a complete picture of groundwater quality at Site 27.

#### Fiber Optic Vault LNAPL Delineation DQOs

6. Hotspot removals of contaminated soils are discussed in these DQOs. Once a hotspot removal has been completed, the Department requests that groundwater confirmation samples are taken.

Should you have any questions regarding this memo, please contact me via email at [GerryAM@dhec.sc.gov](mailto:GerryAM@dhec.sc.gov) or by phone at (803) 896-4018.

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