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LETTER REGARDING SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL NOTICE OF TECHNICAL INADEQUACY FOR DRAFT REMEDIAL INVESTIGATION ADDENDUM WORK PLAN FOR SITE 45 WITH ATTACHMENTS
MCRD PARRIS ISLAND SC
10/21/2004
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

D H E C
PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

October 21, 2004

Art Sanford
NAVFAC EFD SOUTH
2155 Eagle Drive
North Charleston, SC 29406

RE: **NOTI** – Notice of Technical Inadequacy
Draft RI Addendum Work Plan
Site/SWMU 45
Parris Island Marine Corp Recruit Depot (MCRD)
Parris Island, South Carolina
SC6 170 022 767

Dear Mr. Sanford:

The South Carolina Department of Health and Environmental Control (Department) received the above referenced Draft RI Addendum Work Plan on August 11, 2004. The Department reviewed work plan with respect to the applicable sections of the South Carolina Hazardous Waste Management Regulations (SCHWMR). Based on this review, the Department has determined that revisions are necessary. Please refer to the attached engineering comments and memoranda prepared by Don Hargrove.

The response to these comments can either consist of revision pages to be inserted in the Draft Report or a new document. If revision pages are submitted, each page should be coded; for example, 32(R-2/13/03) would be page 32, revised 2/13/03. In addition to the revisions, revised response to comments and a summary of changes to the document should be submitted. If you have any questions regarding this issue, please contact me at (803) 896-4192.

Sincerely,

Leon F. Fulmer, Jr.
Corrective Action Engineering Section
SCDHEC

Cc: Don Hargrove, Hydrogeology – SCDHEC
Tim Harrington, MCRD Parris Island
Mac McRae, Parallax, Inc.
Mark Sladic, TtNUS
Patricia Goldberg, USEPA

ENGINEERING COMMENTS

Parris Island Marine Recruit Depot
Draft RI Addendum Work Plan
Dated August 2004

Prepared By: Leon F. Fulmer, Jr.
Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management
October 21, 2004

General Comment

1. Most of the work proposed in the plan includes further identification of the extent of the groundwater contamination. However, the plan refers to several soil samples (both surface and subsurface) that have been collected previously which were found to be contaminated. What actions will be taken to verify these soils are not continuing to be source of contamination to the groundwater?

Specific Comments

1. Section 2.1 refers to an underground storage system for hydrocarbon-cleaning solvents that was removed and replaced with the above ground tanks. Has any studies been performed to determine if this system was leaking and contaminating the surrounding soil area? If not, what steps will be taken to insure any contaminated soil is not a current source of pollution to the groundwater?

2. Section 2.3.3 states several soil samples where taken during the drilling of the monitoring wells for 1996 study. Accordingly, PCE and TCE were detected in several of the samples. Was this soil/source left in place?

3. What were the tests' results for the subsurface soil samples collected from the 13 soil borings referred to in Section 2.3.6?

4. Section 7.2.1 refers to subsurface soil samples to be taken from the peat layer. If contaminated soils are found, what action will be taken to remediate this potential source?

D H E C
ROMOTE PROTECT PROSPER
600 Bull Street
Columbia, SC 29201-1708

MEMORANDUM

TO: Leon Fulmer, Engineering Associate
Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

FROM: Donald C. Hargrove, Hydrogeologist
RCRA-Hazardous Waste Section I
Division of Hydrogeology
Bureau of Land and Waste Management

DATE: 30 August 2004

RE: Parris Island Marine Corps Recruit Depot (MCRD)
Parris Island, South Carolina
Beaufort County
SC6 170 022 767

DRAFT Site/SWMU 45 RI/RFI Addendum Work Plan
(August 2004)

The Division of Hydrogeology has reviewed the above referenced document. This work plan (dated 10 August 2004) was received on 11 August 2004. This work plan describes the history of SWMU-45; it presents the results of previous environmental investigations, and the status of the groundwater treatment system that is currently installed but not operational at SWMU-45. This work plan also presents the analytical data generated during the recent initial RI/RFI, and identifies the need to fill data gaps to support the delineation of the nature and extent of contamination at SWMU-45.

This document was reviewed with respect to R.61-71 of the South Carolina Well Standards, R.61-79 of the South Carolina Hazardous Waste Management Regulations (SCHWMR), and appropriate guidance documents.

Based on this review, the Division of Hydrogeology finds that this document is technically inadequate. The following comments should be addressed, and a revised document submitted for review:

1) Section 6.3, Membrane Interface Probe Logging:

a) Last sentence, bottom of page 6-2: The word "backfilled" should be replaced with "abandoned." Please revise the text accordingly.

b) Abandonment of the MIP points must follow the appropriate sections of R.61-71 for abandonment. The specific regulation citations are given below:

R.61-71.H.4.c(3): A Temporary Direct Push Well that does not penetrate a confining layer shall be abandoned by forced injection of neat cement, bentonite-cement, or 20% high solids sodium bentonite grout through a tremie pipe after the sampling device has been removed.

The proposed MIP points that do not penetrate the confining layer must be abandoned according to R.61-71.H.4.c(3).

R.61-71,H.4.c(4) A Temporary Direct Push Well that penetrates a confining layer shall be abandoned by forced injection of neat cement, bentonite-cement, or 20% high solids sodium bentonite grout through the sampling device as the sampling device is removed from the sub-surface. Abandonment shall occur during the initial withdrawal from the original push borehole and not by a separate tremie tool after the sampling device has been removed to ensure the breech in the confining layer is permanently sealed.

The proposed single MIP point that will be advanced to 30 feet bgs must be abandoned according to R.61-71,H.4.c(4).

Please revise the text in accordance with these two regulations.

2) Section 6.4, Peat Layer Sampling: The proposed sampling of the peat/clay layer poses the risk of connecting two geologically separated portions of the surficial aquifer. As such, these sample points should be abandoned according to R.61-71.H.4.c(4). Please revise the text to specify proper abandonment.

3) Section 6.5, Temporary Well Installation: The type of grout to be used during abandonment is not specified. The text specifies that these temporary wells will be installed above the peat/clay layer. As such, they must be abandoned according to R.61-71.H.4.c(3). The types of grout that are allowable are: neat cement; bentonite-cement; or 20% high solids sodium bentonite grout. Please revise the text to include this specification.

* ***nota bene***: It would be acceptable to address all of the abandonment comments listed above by the inclusion of a specific section concerning abandonment of all temporary wells.

4) Section 6.6, Monitoring Well Installation: First sentence, top of page 6-5: This sentence states that the primary filter pack will be installed flush with the bottom of the well. The Division suggests

that at least six (6) inches of filter pack be installed below the well screen prior to placement of the primary casing. This additional filter pack will ensure that there is no bridge between the formation and the screen. The typical monitoring well detail figures that are included in this section already reflect filter pack placement below the casing.

5) Section 7.2.2, Groundwater Sampling: This section incorrectly references Figure 7-2. Please revise to reference Figure 7-1.

6) Appendix B-8, SA-2.5: Direct Push Technology (Geoprobe/Hydropunch): Section 6.3, fifth bullet, states that "The hole will be backfilled with bentonite chips or bentonite cement grout, depending upon project requirement." It should be understood that the use of pure bentonite for abandonment is not acceptable. Acceptable abandonment materials are: Neat Cement; Cement/Bentonite Grout; or 20% High Solids Sodium Bentonite Grout. It is understood that this Appendix is part of a company-wide SOP; therefore no revision to this Appendix is necessary. However, the type of abandonment material should be specified in the text of this work plan.

If you have any questions concerning this decision, please contact me at (803) 896-4033.