

M00263.AR.000312  
MCRD PARRIS ISLAND  
5090.3a

LETTER OF TRANSMITTAL AND SOUTH CAROLINA DEPARTMENT OF HEALTH AND  
ENVIRONMENTAL CONTROL COMMENTS ON DRAFT PRELIMINARY ASSESSMENT/SITE  
INSPECTION AND CONFIRMATORY SAMPLING REPORT FOR SITE 55 MCRD PARRIS  
ISLAND SC  
2/21/2004  
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



2600 Bull Street  
Columbia, SC 29201-1708

February 12, 2004

COMMISSIONER:  
Douglas E. Bryant

Mr. Arthur Sanford  
Southern Division  
Naval Facilities Engineering Command  
P. O. Box 190010  
North Charleston, SC 29419-9010

BOARD:  
Bradford W. Wyche  
Chairman

William M. Hull, Jr., MD  
Vice Chairman

Mark B. Kent  
Secretary

Howard L. Brilliant, MD

Brian K. Smith

Rodney L. Grandy

Larry R. Chewning, Jr., DMD

RE: Comments  
DRAFT Preliminary Assessment/Site Inspection and Confirmatory Sampling  
Report for Site/SWMU 55, Fiber Optic Vault (November 2003)  
Parris Island Marine Corps Recruit Depot (MCRD)  
Parris Island, South Carolina  
Beaufort County  
SC6 170 022 767

Dear Mr. Sanford:

The Division of Hydrogeology and the Corrective Action Engineering Section of the South Carolina Department of Health and Environmental Control (Department) have completed the review of the above referenced document (received November 17, 2003) according to applicable South Carolina Hazardous Waste Management Regulations, R.61-79, Federal Regulations, and all applicable guidance documents. The Department has determined that the attached comments must be addressed before a final determination may be made concerning this site.

If you have any questions or concerns, please contact me at (803)-896-4192. Thank you for your cooperation.

Sincerely,

Gilbert A. Rennhack, Engineer Associate  
Corrective Action Engineering Section  
Bureau of Land and Waste Management

Attachment: Memorandum: Don Hargrove to Gil Rennhack dated January 15, 2004  
Comments: Gil Rennhack, Engineer Associate dated February 12, 2004

cc: Mark Sladic, Tetra Tech NUS, Inc.  
Mac McRae, Parallax, Inc.  
Robert Pope, EPA Region IV  
Tim Harrington, Parris Island MCRD  
Don Hargrove, SCDHEC-BLWM



2600 Bull Street  
Columbia, SC 29201-1708

## MEMORANDUM

TO: Gil Rennhack, Engineering Associate  
Corrective Action Section  
Division of Waste Management  
Bureau of Land and Waste Management

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

DATE: 15 January 2004

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

DRAFT Preliminary Assessment/Site Inspection and Confirmatory Sampling Report  
for Site/SWMU 55, Fiber Optic Vault  
(November 2003)

The Division of Hydrogeology has reviewed the above referenced document, dated 14 November 2003. This document was received on 17 November 2003. It contains a site description, as well as the environmental investigative activities completed as a combination Preliminary Assessment/Site Investigation (PA/SI), to determine if an RI/RFI is required.

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 has determined that this document is technically inadequate. The following comments should be addressed:

- 1) This document should be revised to include an Executive Summary.
- 2) Section 3.2, Investigation Activities:
  - a) This section and Section 3.6.1 state that 21 temporary wells and 5 piezometers were installed in 2002 using DPT methods. The abandonment method used on these wells should be

specified in the text. The Appendices should also be revised to include the driller's logs for all of the DPTs performed. This includes the five piezometers.

- b) This section should be revised to reflect that two Monitoring Well Approvals (MWAs) were issued, and that the first MWA came from the UST Program, while the second MWA was written through the Division of Hydrogeology (RCRA Program).
- 3) Section 3.3.1, Subsurface Soil Sampling: Part of this section is missing, and will be reviewed when submitted.
- 4) Sections 3.3.2, and 3.3.3 are missing. These sections will be reviewed when submitted.
- 5) Section 3.3.3 (partial), top of page 3-4: The portion of sentence at the top of this page indicates that development ceased when turbidity was measured "...within a 10 nephelometric turbidity unit (NTU) range for two consecutive readings." This is not the correct protocol.

Section 2.3.3 of the MCRD Master Work Plan, 1997, states that "If a value of less than 10 NTUs cannot be achieved, attempts to stabilize the turbidity at a constant value will be made."

Additionally, Section 7 of the EPA's EISOPQAM states:

"With respect to the ground water chemistry, an adequate purge is achieved when the pH, specific conductance, and temperature of the ground water have stabilized and the turbidity has either stabilized or is below 10 Nephelometric Turbidity Units (NTUs) (twice the Primary Drinking Water Standard of 5 NTUs). Although ten NTUs is normally considered the minimum goal for most ground water sampling objectives, 1 NTU has been shown to be easily achievable and reasonable attempts should be made to reach this level. Stabilization occurs when pH measurements remain constant within 0.1 Standard Unit (SU), specific conductance varies no more than 10 percent, and the temperature is constant for at least three consecutive readings. There are no criteria establishing how many sets of measurements are adequate for the determination of stability. If the calculated purge volume is small, the measurements should be taken frequently to provide a sufficient number of measurements to evaluate stability. If the purge volume is large, measurements taken every 15 minutes may be sufficient."

Section 3.3.3 of the document under review will be reviewed in its entirety once the missing pages have been submitted. The above comment on turbidity measurement should be applied to all subsequent groundwater investigations.

- 6) Section 3.3.4, Groundwater Sampling, Groundwater Field Screening: This section states that, along with the monitoring well sampling, groundwater samples were collected from two piezometers. MCRD should be made aware that piezometers can only be used for groundwater elevation measurements. They are not constructed the same as a standard monitoring well, and were not approved for groundwater sampling. In the future, analytical data from piezometers will not be acceptable.

- 7) Section 3.3.4, Groundwater Sampling, Groundwater Sampling: This section specifies how the samples were collected for SVOCs and Pesticides/PCB analyses, but specifically omits VOCs from the explanation on sample collection. Please revise the text to include this explanation.
- 8) Section 3.5, Site-Specific Ecological Setting: This section lists the endangered and threatened animal species in the vicinity of SWMU-55, but neglects to discuss any federally listed endangered or threatened plant species. Please review, and revise as appropriate.
- 9) Figure 3-1, DPT and Piezometer Locations:
  - a) The text states that five (5) piezometers were installed, but only four are shown on this figure (P1 is missing). Please revise to include P1.
  - b) The sequence of DPT well numbering goes from FDP12 to FDP14. Was FDP13 installed? If so, it should be shown on the figure and reported in the text and appendices. If there was a problem during the installation of FDP13, it should be stated in the text and the status of FDP13 specified. Please revise accordingly.
  - c) The order of installation of the DPT locations is not specified in the text. If the numbering of the DPT locations is sequential, the reasoning behind the erratic installation pattern at SWMU-55 should be explained in the text.
- 10) Figure 3-2, Permanent Monitoring Well Locations: Future figures showing well locations in this area should show all permanent monitoring wells located within the area depicted. These wells could prove useful for the upcoming investigation at SWMU-55, if only for water level measurements. No revision necessary.
- 11) Appendix D2, Soil Boring Logs: The State Certified Well Driller that installed these wells should be listed by name and Certification Number, either on these logs, or on the Well Completion Diagrams (Appendix D3). The use of initials does not fulfill the reporting requirements under R.61-71 of the South Carolina Well Standards. Please revise Appendix D to include this information.
- 12) Appendix D3, Overburden Monitoring Well Sheet:
  - a. The same measurement is recorded for depth to bottom of screen, depth to bottom of sand (filter pack), and depth to bottom of hole on many of these wells (e.g., PAU-FOV-3). This is inconsistent with proper monitoring well construction, the result of which could be turbidity issues. Figures 2-1 and 2-2 of the Master Work Plan, Volume II, graphically show and explain that the filter pack will extend six (6) inches past the bottom of the well screen. The measurements reported in this document should be verified if possible, and revised as necessary.

All future monitoring wells installed at MCRD must have at least six inches of filter pack installed below the well screen.

- b. Some of the well construction diagrams show concrete pads that were not installed correctly (e.g., PAI-FOV-8D, PAI-FOV-9). According to R.61-71.H.2.a(5), "A cement or aggregate reinforced concrete pad at the ground surface of appropriate durability and strength, considering the setting and location of each well, that extends six inches beyond the borehole diameter and six inches below ground surface is required. The pad shall be capable of preventing infiltration between the surface casing and the borehole to the subsurface." An example of the correct pad construction is PAI-FOV-1, except that the depth of the pad below ground surface is not reported. The actual construction of the concrete pads for the 21 permanent monitoring wells at SWMU-55 should be verified. If the pads were constructed as reported, they should be removed, and new pads installed. If the pads were constructed properly, the text should be revised to explain the deviation on the well construction figures. In the future, the well completion diagrams should be revised to reflect construction details that are both accurate, and follow the requirements of R.61-71.H.
- c. The development logs for these wells are missing from this appendix. Please revise to include the development logs.

13) Appendix D4, Groundwater Sample Log Sheets:

- a. The purge logs do not accurately reflect the time intervals for each round of parameter measurements that were recorded. Since these are field logs, no revisions to the logs are necessary. However, the field personnel should be instructed to record the actual time for each measurement interval.
- b. The purge log for MW-1 indicates that purging was not continued to the point of stabilization. Please refer to Comment 4 (above), and Volume II of the Master Work Plan, on acceptable and approved criteria for ceasing purging of monitoring wells during future sampling rounds at MCRD. No revision necessary.
- c. The purge logs for MW-8D, MW-11, MW-13, MW-17, MW-18, and MW-20 show that only two measurement intervals were completed prior to sampling. Additional measurements should have been taken to adequately show stabilization prior to sampling. No revision is necessary. However, for all future groundwater sampling events at MCRD, the field personnel should be instructed to follow the Master Work Plan, as well as any site specific work plan.
- d. There are inconsistencies with respect to the units of volume used on the logs. The flow rates are recorded in mL/min, but the well volumes and volumes purged appear to be gallons. One unit of measure should be consistently used in the future. No revision necessary.

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

Comments by Gil Rennhack, Engineer Associate

February 12, 2004

DRAFT Preliminary Assessment/Site Inspection and Confirmatory Sampling Report for Site/SWMU 55, Fiber Optic Vault (November 2003)

1. Figure 3-1 does not identify Building 450 as shown in Appendix C (4<sup>th</sup> photo in sequence).
2. Figure 3-1 does not identify former parade deck area in Appendix C (5<sup>th</sup> photo in sequence).
3. Figure 3-1 does not identify present scrap storage area in Appendix C (6<sup>th</sup> photo in sequence).
4. Page 3-10, Section 3.7 bottom of page: 2002 field screenings --- indicated only three detections of naphthalene in the DPT borings. Please identify these boring in text.
5. Section 3.3.1 "Subsurface Soil Sampling"; page 3-3 is missing. This page will be reviewed when submitted.
6. Sections 3.3.2 and 3.3.3 are missing. The Table of Contents does not indicate a Section 3.3.2 but does indicate Section 3.3.3 on page 3-3. Please resolve so that the Table of Contents and the contents of the sections are the same.