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LETTER OF TRANSMITTAL AND SOUTH CAROLINA DEPARTMENT OF HEALTH AND  
ENVIRONMENTAL CONTROL COMMENTS ON DRAFT REMEDIAL INVESTIGATION WORK  
PLAN FOR SITE 2 BORROW PIT LANDFILL AND SITE 15 DIRT ROADS MCRD PARRIS  
ISLAND SC  
2/20/1997  
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



**Commissioner:** Douglas E. Bryant

**Board:** John H. Burriss, Chairman  
 William M. Hull, Jr., MD, Vice Chairman  
 Roger Leaks, Jr., Secretary

Richard E. Jabbour, DDS  
 Cyndi C. Mosteller  
 Brian K. Smith  
 Rodney L. Grandy

*Promoting Health, Protecting the Environment*

**CERTIFIED MAIL**

February 20, 1997

Commanding General, MCRD  
 ATTN.: I&L ERR (NREAO)  
 P.O. Box 19001  
 Parris Island, SC 29905-9001

RE: Notice of Technical Inadequacy  
 Review of Draft Remedial Investigation Work Plan  
 Site 2 - Borrow Pit Landfill and Site 15 - Dirt Roads  
 Marine Corps Recruit Depot, dated December 1996  
 Parris Island, South Carolina  
 Beaufort County  
 SC6 170 022 767

Dear Commanding General:

The Hazardous Waste Permitting Section and the Hydrogeology Section of the South Carolina Department of Health and Environmental Control (Department) have reviewed the MCRD's Draft Remedial Investigation Work Plan for Site 2 - Borrow Pit Landfill and Site 15 - Dirt Roads, dated December 1996. Based on this review the Department has determined that the MCRD's Work Plan is technically inadequate. It needs to be revised by responding to the attached comments, provided by the Hazardous Waste Permitting Section and the Hydrogeology Section (memo Hargrove to Peterson). The response to comments should be in the form of a revised Work Plan or revised pages (with filing instructions included) to be inserted into the December 1996 document.

Should you have any questions regarding this issue, please contact me at (803) 896-4182 or Don Hargrove at (803) 896-4033.

Sincerely,



Susan C. Peterson, Environmental Engineer Associate  
 Hazardous Waste Permitting Section  
 Bureau of Land & Waste Management

Attachments

cc: Don Hargrove, Hydrogeology  
Mr. Russell Berry, SCDHEC-Low Country EQC  
Allison Humphris, USEPA Region IV  
Scott Glass, Southern Division  
Mark Speranza, Brown & Root Environmental  
Glenn Wagner, Brown & Root Environmental

## MEMORANDUM

TO: Susan Peterson, Engineering Associate  
Hazardous Waste Permitting Section  
Division of Hazardous and Infectious Waste Management  
Bureau of Land and Waste Management

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



DATE: 18 February 1997

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

DRAFT Remedial Investigation Work Plan for Site 2 - Borrow Pit Landfill and Site 15 - Dirt Roads (dated December 1996)

The Division of Hydrogeology has reviewed the DRAFT Remedial Investigation Work Plan for Site 2 - Borrow Pit Landfill and Site 15 - Dirt Roads at MCRD. This work plan (dated December 1996) was received on 13 December 1996. This work plan provides a physical description of Site 2 and Site 15 that includes the history of these two sites. It briefly describes previous studies performed at these sites and indicates that the previous studies have data gaps. This work plan proposes a sample strategy to fill the data gaps in order to fully characterize the nature and extent of contamination. This sample strategy includes seven (7) surface water samples, seven (7) sediment samples, sixteen (16) surface soil samples, twelve (12) subsurface soil samples, and six (6) groundwater samples (three samples from existing wells and three samples from newly proposed wells).

This document was reviewed with respect to 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 work plan is technically deficient and should be revised. This work plan should be resubmitted after being revised to address the following specific comments:

- 1) Section 4.1, Investigation Rationale, page 4-1:

Note that as per R.61-68.(H) of the Water Classifications and Standards, "...all South

Carolina groundwater is classified GB effective on June 28, 1985.” Groundwater classified as “GB” is considered a potential underground source of drinking water.

- 2) Section 4.2.2.1, Target Compound List (TCL) and Target Analyte List (TAL) Parameters, page 4-6:

This work plan proposes using the TCL and TAL parameters specified under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The State has expressed its need to recognize and follow the Resource Conservation and Recovery Act (RCRA).

Given the ongoing CERCLA/RCRA discussions in the negotiation of a Federal Facilities Agreement (FFA) among Navy, Marine Corps, USEPA, and SCDHEC representatives, the combination of the analytes identified under CERCLA and RCRA should be used as a starting point for investigation. This could eliminate the possibility of resampling depending on the outcome of the FFA negotiations. In order to accomplish this, R.61-79.261 Appendix VIII constituents should be studied for soils and R.61-79.264 Appendix IX constituents should be studied for groundwater. Please revise the text accordingly.

- 3) Section 6.0, Field Operations, page 6-1:

Note: It is good you have specified that a state certified geologist will be present for the field operations. However, all monitoring wells must still be installed by a state-certified well driller. This includes direct push groundwater sampling activities.

- 4) Section 6.4, Monitoring Well Installation and Construction, page 6-3:

- a) Note decision criteria for using different slot sizes at different depths. Is this assumed due to local geology or will this be determined upon drilling activities? Please revise to include the methodology used for making this determination.
- b) It is suggested that bentonite chips not be used for placement of the bentonite seal. Chips take longer to hydrate than pellets and full hydration is not guaranteed. If chips are used, hydration times greater than eight (8) hours are warranted.

- 6) Figure 6-1, Typical Monitoring Well Detail, page 6-5:

Include ID plate in monitoring well detail. Note that as per R.61-71.6(H), the information listed on the identification plate must include:

- a) Well identification number
- b) Date of construction
- c) Driller name and certification number.

- d) Screened interval
- e) Static water level

7) Figure 7-2, Proposed Soil Sample Locations, page 7-9:

Additional sample points are needed in the area within the center of the landfill in order to get better coverage within the confines of the landfill. Please revise the work plan to include extra samples.

8) Figure 7-3, Proposed Groundwater Sample Locations, page 7-10:

The well cluster containing PAI-02-GW04, PAI-02-GW05, and PAI-02-GW06 should be shifted to southeast in order to intercept groundwater flow from the central portion of the landfill rather than the edge.

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

COMMENTS ON DRAFT REMEDIAL INVESTIGATION WORK PLAN  
FOR SITE 2 - BORROW PIT LANDFILL AND SITE 15 - DIRT ROADS  
FOR MARINE CORPS RECRUIT DEPOT  
PARRIS ISLAND, SOUTH CAROLINA

1. Overall

This document was reviewed to meet the requirements of an RFI Work Plan. Please change the title to reflect this.

2. Section 1.1, Scope and Objective

- a) The 1st sentence should be deleted. This is information already stated in Section 1.0 and has nothing to do with Scope and Objective.
- b) The objective of this investigation is less specific than that of the Master Work Plan. The scope and objective should be specific since this is a site specific work plan. Please rewrite to give the reader a clear statement of the specific objectives of the investigation. In some cases, the objectives of the study may be to generate data to justify a “no-further action” decision. Describe fully the objectives of Site 2 and 15.

3. Section 2.0, SITE BACKGROUND

Based on this sentence, it would be logical to either rename section 2.1 to Site Description and History or rename Section 2.1 to Site History and add a Section 2.2 named Existing Site Conditions (and of course renumbering the following sections).

4. Section 2.1, Site Description

As mentioned above, you could consider renaming the section Site Description and History. Due to the status of the landfill, the description is history.

5. Section 2.1.1, Site 2 - Borrow Pit Landfill

- a) Only from verb tenses does the reader know that this landfill is no longer in operation. The reader’s beliefs are confirmed with the last sentence of the 2nd paragraph. Consider replacing the first words “Site 2 is” with **“Borrow Pit Landfill is a former landfill that was in operation from 1965 to 1968. There is currently no activity in this area. It is located...”** This lets the reader know immediately that “there is currently no activity in this area,” and the time frames of those activities.
- b) The paragraphs are not in chronological order and should be corrected. You could combine the paragraphs (if you choose to not add a separate section for Site

History). Suggested wording: **Borrow Pit Landfill began as a pit that had been dug...**

- c) Suggested wording: From historical aerial photographs **taken in** and ,
- d) Aerial photographs should be referenced in the text and therefore included in the REFERENCES section. Include a xerox copy of the photographs in the work plan.

6. Section 2.1.2: Dirt Roads

Refer to Section 2.3.1.2: Site 15 - Dirt Roads. That section contains some information that is not included in Section 2.1.2. For clarification, include in this section the number of gallons of waste oils and other liquids the two roads accessing Elliott's Beach and the Borrow Pit Landfill received.

7. Section 2.2.3: Floridan Aquifer

This section confirms the existence of a public water supply well within 1/4 of a mile radius of the MCRD. This public supply well should be identified on Figure 2.1.

8. Section 2.3.1.2 Site 15 - Dirt Roads

Refer back to Section 2.1.2. That section contains some information that is not included in Section 2.3.1.2. For clarification, include in this section the estimated gallons sprayed from 1918-1940.

9. Figure 2.1

This quadrangle is 18 years old. Is there anything that has changed that would warrant additions or deletions?

10. Section 6.2, Site Restoration

This paragraph states "the site will be restored to its original condition prior to investigation activities." It should be explained what "original condition" means, and why the site will be restored prior to the investigation activities and then will be disturbed again to do the investigation. The paragraph is vague and should be more specific and/or correct the proposed approach.