

0301-10/08/93-01185

State of North Carolina  
Department of Environment,  
Health and Natural Resources  
Division of Solid Waste Management

James B. Hunt, Jr., Governor  
Jonathan B. Howes, Secretary



October 8, 1993

Commander, Atlantic Division  
Naval Facilities Engineering Command  
Code 232

Attention: MCB Camp Lejeune, RPM  
Ms. Katherine Landman  
Norfolk, Virginia 23511-6287

Commanding General  
Attention: AC/S, Environmental Management  
Building 67, Marine Corps Base  
Camp Lejeune, NC 28542-5001

RE: Draft Remedial Investigation Feasibility Study Work  
Plan, Sampling and Analysis Plan, and Health and  
Safety Plan for Operable Unit #7 (sites 1, 28, and  
30)

The referenced documents have been received and reviewed by  
the North Carolina Superfund Section.

Our comments are attached. In addition, we have received a  
copy of EPA Region IV comments on these documents and concur with  
their findings. Note also that comments on the Health and Safety  
Plan are attached as a memorandum from David Lilley, our Industrial  
Hygienist, to Peter Burger. Please call me at (919) 733-2801 if  
you have any questions about this.

Sincerely,

*Patrick Watters*

Patrick Watters  
Environmental Engineer  
Superfund Section

Attachment

cc: Gina Townsend, US EPA Region IV  
Neal Paul, MCB Camp Lejeune  
Bruce Reed, DEHNR - Wilmington Regional Office

North Carolina Superfund Comments  
Camp Lejeune MCB Operable Unit 7 RI/FS Project Plans

General

I would like to suggest that we consider modifying the format of future Work Plans and Sampling and Analysis Plans to help the document preparation and review process be more effective and efficient. During my review of these OU 7 documents, I noted what I consider to be an large number of inconsistencies between these two plans. I also noted that there is a considerable amount of text duplication. I believe that this duplication could be easily eliminated without jeopardizing quality and without sacrificing any contractual obligations. The potential benefits from this include the following.

- The volume of these documents could be reduced by as much as 50 percent.
- The potential for document inconsistencies and errors would surely decrease.
- Most importantly, a considerable time savings would be seen in the document preparation and review process which is significant in terms of meeting the expedited schedules.

A possible format to consider would be to make the Work Plan a document that discusses in general terms the scope of work and tasks needed for a particular site. All specifics on the sampling and analyses would then be left to the Sampling and Analysis Plan. Site descriptions and histories would be included only in the Work Plan. Use one set of drawings and figures to describe the sampling scheme only in the Sampling and Analysis Plan.

RI/FS Work Plan Specific Comments

1. Page 2-13, Section 2.2.4  
This section states that 7 shallow wells have been installed at French Creek Liquids Disposal Area (FCLDA) however, Section 2.2.5.3 and Figure 2-3 identify only 6 wells.
2. Page 2-14, Section 2.2.5.3  
This section states that 5 of the wells were placed down gradient of Sites 1-N and 1-S. If the groundwater flow is predominantly west, then wells 1GW1 and 1GW2 do not appear to be adequately downgradient of Site 1-N.
3. Page 2-14, Section 2.2.5.3  
The figure identified as 5-3 should probably be Figure 2-3.
4. Page 2-15, Section 2.2.5.3  
The second paragraph on this page reads as if 6 additional groundwater wells were installed in 1984 to go with the 6 wells described on the previous page.

Comments  
Page 2

5. Figure 2-4  
The units of measurement are not indicated. Groundwater flow direction is not indicated. The text (2-17) indicates that mercury was detected in 1GW1 yet it is not shown on Figure 2-4. Zinc was detected in well 1GW4 yet is not shown on Figure 2-4.
6. Page 2-17, Section 2.2.5.3  
Based on Figure 2-4, it is incorrect to state that all groundwater samples from the six monitoring wells show cadmium and lead contamination. Also, the second paragraph on this page indicates that wells 1GW1, 1GW2, and 1GW6 showed levels of mercury and in both wells the concentrations exceeded the state MCL. Clarify which wells showed the mercury contamination.
7. Page 2-18, Section 2.2.5.4  
Are the surface water and sediment samples discussed in this section those indicated as 1SW1 and 1SW2 on Figure 2-4?
8. Page 2-20, Section 2.3.2  
The Hadnot Point Burn Dump (HPBD) pond should be indicated on Figure 2-5.
9. Page 2-20, Section 2.3.4  
The groundwater flow direction is not indicated on Figure 2-5.
10. Page 2-21, Section 2.3.5  
It does not appear that well 28GW4 is far enough away to provide suitable background values.
11. Figure 2-6  
Figure 2-6 does not include the units of measurement for the contaminants identified.
12. Page 2-25, Section 2.3.5  
Clarify if the "fresh water pond" noted at the top of the page the same as the HPBD pond noted earlier on page 2-20.
13. Page 2-25, Section 2.4.1 and Figure 2-7  
Based on Figure 2-7, the two streams that comprise the headwaters of French Creek are west of Site 30 instead of east.
14. Page 3-7, Section 3.2.3  
The structure of the last sentence in this section includes birds and reptiles as types of mammals.

Comments  
Page 3

15. Page 3-10, Section 3.2.6.3  
The second sentence of this section needs to be restructured for clarity. We interpret what is written to mean that site groundwater and soils data will be used to help assess the human health and ecological risks and determine the impact on surface water/sediment quality.
16. Page 3-11, Section 3.3.3  
Regarding the last sentence of this section, see comment 14 regarding birds and reptiles as mammals.
17. Page 3-11, Section 3.3.4.1  
The third sentence references Hadnot Point Industrial Area (HPIA) instead of the Fuel Tank Sludge Area (FTSA).
18. Page 5-3, Section 5.4.1.2  
The first sentence in the third paragraph should indicate that test borings will be augered and not angered. Use of the word angered for augered was noticed in several other places in the Work Plan and the Sampling and Analysis Plan.
19. Page 5-16, Section 5.4.1.3  
The first sentence of the fourth paragraph indicates that there are 7 existing wells on site 1. Figure 5-2 shows only 6 existing wells (or 8 if the unknown wells are included in this count).
20. Page 5-19, Section 5.4.1.5  
It appears from Figure 5-2 that some surface water/sediment samples should be taken directly west of the 1-N area.
21. Page 5-23, Section 5.4.2.2  
What would be the criteria that would trigger the need for trenching?
22. Page 5-24, Section 5.4.1.3 (should be 5.4.2.3)  
The second paragraph indicates that there are three existing monitoring wells on Site 28. Figure 5-4 shows five existing wells.
23. Page 5-24, Section 5.4.1.3 (should be 5.4.2.3)  
The third paragraph identifies two shallow monitoring wells as 28GW5 and 28GW6. The 28GW6 well is not shown on Figure 5-4.
24. Page 5-24, Section 5.4.1.3 (should be 5.4.2.3)  
The last paragraph identifies the deep monitoring wells as 28GW7D, 8D, and 9D. Well 7D is not shown on Figure 5-4. Also, this paragraph states that these wells will be used "...to further evaluate the vertical extent of contamination within the two burn dump areas and also to evaluate background

conditions." This sentence needs to be restructured to clearly delineate which well(s) are for evaluating contamination and which are intended for evaluating background conditions.

25. Page 5-28, Section 5.4.1.3  
This section indicates that well 1GW1 will be sampled for engineering parameters at Site 28. This should be 28GW1.
26. Pages 5-29 and 5-30, Section 5.4.1.4  
The discussion on surface water/sediment samples indicates a total of 15 sampling locations. Figure 5-5 indicates 16 locations (which are apparently misidentified as "Existing Monitoring Wells").
27. Page 5-33, Section 5.4.3.2  
The second paragraph of this section calls for 6 soil borings/monitoring wells for background sample locations. Figure 5-6 only shows five locations.
28. Page 5-36, Section 5.4.1.3 (should be 5.4.3.3)  
The use of only one monitoring well outside the area of concern to define the extent of groundwater contamination downgradient of Site 30 does not appear to be adequate.
29. Pages 5-32 through 5-40, Section 5.4.3  
There is no discussion of the intended surface water/sediment sampling to be conducted on Site 30.

RI/FS Sampling and Analysis Plan (S&AP)

30. General  
None of the figures referenced throughout Section 3.0 (3.1 through 3.10) were included in our copy of the S&AP.

Also note that the majority of the remaining comments are due to inconsistencies between the commitments described in the Work Plan versus those in the S&AP.

31. Table 2-1  
The RI/FS objectives are not consistent with those listed in Table 4-1 of the Work Plan.
32. Page 3-2, Section 3.1.2.1  
This section calls for 4 borings to confirm the thickness of fill material. Page 5-3 of the Work Plan (Section 5.4.1.2) estimated five borings would be needed.

33. Page 3-3, Section 3.1.2.1 (Acid and POL Disposal Area 1-S)  
This section projects a total of 18 soil borings to be used for the soil investigation. Page 5-3 of the Work Plan states that 13 soil borings will be used.

The S&AP states that 5 background soil borings will be used while the Work Plan indicates that 4 will be used.

This section of the S&AP calls for 8 borings to be used to characterize the contamination source with 10 additional soil borings to evaluate the extent of the contamination. The Work Plan listed only 5 and 8 soil borings respectively as required for this work.

34. Pages 3-5 through 3-7, Section 3.3.3.2 (POL and Acid and POL Disposal Areas 1-N)

The description of the sampling schemes for these two areas are combined in Section 3.3.3.2 of the S&AP whereas they are split into two parts in the Work Plan (Section 5.4.1.2). This change in format added to the difficulty in reviewing these documents.

This section of the S&AP states that exploratory test borings may be used. The Work Plan states on pages 5-6 and 5-12 that they will be used.

Suffice to say that the number of soil borings described in this section of the S&AP is totally different than that described in the Work Plan. I site the following as examples.

The S&AP states that three borings will be used to confirm the thickness of fill material. The Work Plan states on page 5-6 that 5 borings will be used for POL Disposal Area 1-N. The Work Plan also states on page 5-12 that 5 soil borings will be used for the Acid and POL Disposal Area 1-N.

The S&AP calls for 19 soil borings on page 3-6 for these disposal areas. The Work Plan indicates a total of 15 on pages 5-11 and 5-13.

The S&AP states on page 3-6 that 5 background soil borings will be used while the Work Plan indicates that 4 will be used.

Page 3-7 of the S&AP indicates that 2 samples will be taken for engineering parameters. The Work Plan identifies 4 samples on pages 5-12 and 5-14.

Comments  
Page 6

35. Page 3-10, Section 3.1.4.2  
The S&AP states that groundwater samples will be collected from each existing well on Site 1. The Work plan states that only 5 of the 7 existing wells will be sampled.
36. Page 3-20, Section 3.2.3.2  
This section indicates that groundwater samples from 28GW1 and 28GW7D will be analyzed for engineering parameters. The Work Plan has only 1GW1 as being sampled for engineering parameters. (see also comment # 25)
37. Page 3-21, Section 3.2.4.2  
This section indicates that 9 surface water samples are necessary for Cogdel Creek. The Work Plan lists 8 samples as required on page 5-29.
38. Page 3-24, Section 3.3.2.1  
See comment 34 and page 5-35 of the Work Plan regarding the use of may versus will.

This section requires 4 soil borings to assess the thickness of the fill material. Page 5-35 of the Work Plan states that 5 to 10 soil borings will be used for this purpose.

August 25, 1993

TO: Peter Burger

FROM: David Lilley

*DBL*

RE: Comments prepared on the Draft Remedial Investigation/Feasibility Study Health and Safety Plan for Operable Unit No. 7 (Sites 1, 28, and 30), MCB Camp Lejeune, NC

1. Page 5-2: Parameters for when to stop work in combustible atmospheres are given. On page 5-1, it is stated breathing zone air will be sampled. Will other areas (such as trenches) be sampled for combustible atmospheres?
2. Page 5-2: It is unclear to the reader what information is being conveyed by differentiating between external and internal probes for radiation survey meters.
3. Appendix A, Safe Boat Operations: "Federal Requirements for Recreational Boats" is not included in this appendix as stated.
4. Cartridge respirators are not recommended for use on site 1 because 1,1,2,2-tetrachloroethane has inadequate warning properties.
5. Cartridge respirators are not recommended for use on site 28 because manufacturer's literature states that cartridge respirators should never be used to protect against vinyl chloride.
6. Page 5-1: How sure are you that the chemicals listed on Table 3-1 are the only chemical contaminants present on site 30? If the site has been extensively sampled and you are very sure these are the only contaminants present, level C protection may be appropriate. If not, level C will not be appropriate.