05.01-3/11/94-00578

DEPARTMENT OF THE NAVY
NAVY ENVIRONMENTAL HEALTH CENTER
2510 WALMER AVENUE
NORFOLK, VIRGINIA 23513-2617

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Ser 61/ 01070
11 MAR '94

From: Commanding Officer, Navy Environmental Health Center
To: Commander, Atlantic Division, Naval Facilities Engineering Command

Subj: MEDICAL REVIEW OF INSTALLATION RESTORATION PROGRAM DOCUMENTS FOR MARINE CORPS BASE CAMP LEJEUNE, NC

Ref: (a) LANTNAVFACENGCOM transmittal ltr of 21 Jan 94, Contract N62470-193-CTO-0193

Encl: (1) Health and Safety Plan Review

1. As you requested in reference (a), we completed a medical review of the "Draft Health and Safety Plan for Site Inspection of Sites A, 12, 68, 75, 76, 84, and 85, Marine Corps Base Camp Lejeune, NC." Our comments are provided in enclosure (1).

2. The technical point of contact for comments is noted in the enclosure. We are available to discuss the enclosed information by telephone with you and, if necessary, with you and your contractor. If you require additional assistance, please call Ms. Sheila Berglund, P.E., Head, Installation Restoration Program Support Department at (804) 444-7575 or DSN 564-7575, extension 430.

W. P. THOMAS
By direction

HEALTH AND SAFETY PLAN REVIEW

Ref : (a) 29 CFR 1910.120
(b) Navy/Marine Corps Installation Restoration Manual (February 1992)

General Comments:

1. The "Draft Health and Safety Plan for the Site Inspection of Sites A, 12, 68, 75, 76, 84 and 85, Marine Corps Base Camp LeJeune, North Carolina" was prepared for LANTNAVFACENGCOM by Baker Environmental, Inc. and forwarded to the Navy Environmental Health Center on 24 January 1994. The document was dated 21 January 1994.

2. This review addresses both health and safety and emergency response sections of the plan.

3. The method used for this review is to compare the health and safety plan to the federal requirements under OSHA regulations (29 CFR 1910.120) and to Department of the Navy requirements under the "Navy/Marine Corps Installation Restoration Manual." See references (a) and (b) above. Deviations and/or differences in the plan from these two primary references are noted. Specific comments are noted below.

4. The point of contact for review of the health and safety plan is Ms. Mary Ann Simmons, Industrial Hygienist, who may be contacted at (804) 444-7575, or DSN 564-7575, extension 477.

Specific Comments:

1. Section 2.0, "*Project Personnel and Responsibilities*": Copies of training and medical clearances for Baker employees should be maintained on-site. Recommend including this item as a responsibility for one of the project personnel in this section.

2. Section 3.0, "*Site Characterization*":

a. Consolidation of the pieces of information scattered throughout the plan for each individual site would provide a clearer understanding of site/task specific conditions.

b. Section 3.3.3.3, "Noise": Noise is anticipated as a hazard produced during drilling and other heavy equipment operation, yet, a hearing conservation program is not included nor is a method with which to evaluate noise levels.

c. Section 3.3.4.1, "Environmental Hazards": The last sentence of this section cites the requirement to question each individual "as to any known sensitivities to the previously

mentioned organisms or agents." This information should typically be queried during the medical surveillance examination for example while completing the medical history.

3. Sections 4.5.1, and 4.5.2, "*Heavy Equipment*": Comments are made in both sections relating to sub-contractor requirements. Recommend requiring all sub-contractors, at a minimum, to provide task specific hazard analysis, including PPE requirements.

4. Section 5.0, "*Environmental Monitoring*": Provide an explanation on how real time, direct reading instruments will be used to evaluate employee exposure levels since the exposure standards are based on an 8-hour time weighted average. Include methods to evaluate employee exposures to specific substances expected to be encountered. Monitoring equipment should be calibrated before and after each period of use.

5. Section 6.0, "*Personal Protective Equipment*":

a. It is not clear to what the footnote at bottom of page 6-1 refers.

b. Section 6.3.2, "Level C" stipulates that the "North" or "MSA" air-purifying respirator (APR) with an organic vapor and HEPA cartridge will be used based on the detected hazardous materials and the measured contaminant concentrations. No information regarding the contaminant concentration expected on these sites is included. Recommend all personnel using APRs be properly fit tested since it is not unusual that other respirator brands may fit some personnel better than the "North" or "MSA" brands.

6. Section 7.3, "*Equipment Decontamination*": Include a requirement for the sub-contractor tasked to steam clean drilling and trenching equipment to provide, at a minimum, a task-specific hazard analysis.

7. Section 8.0, "*Emergency Procedures*":

a. Emphasis should be placed on those procedures most likely to be implemented in the event of an emergency if the work is remediation or investigative. If Baker employees are expected to respond to emergencies, include the additional training requirements they will have met prior to the start of work.

b. Recommend referencing the Bloodborne Pathogen Program, found in Appendix A, in the body of the HASP.

c. In section 8.6, "Emergency Hospital Route," mention is made of taking injured contractor employees to the Naval Hospital. Include information regarding arrangements and under what provisions, i.e., civilian humanitarian or other, that the injured employee would be treated.

d. Section 8.7.2, "Physical Injury": Since emergency medical personnel may be allowed into the exclusion zone or the contamination reduction zone to rescue or treat a casualty, prior coordination with the emergency medical facility is important so the responders' training and medical surveillance requirements can be met.

e. In section 8.7.3, "Chemical Injury," the first bullet discusses eye exposure to chemicals. Initial treatment is to wash the eyes at the 15-minute eye wash station or with the emergency eye wash bottle when an eye wash station is not available. Recommend deletion of any eye wash equipment that can not provide 15-minutes of flushing capability. Ensure eye wash equipment complies with ANSI Z358.1-1990.

f. Section 8.7.4, "Snakebite Injury": Recommend items two and eight be combined and that item three be deleted since this is more appropriately a function of the emergency medical facility.

g. Include provisions for exercising and critique of this plan.

h. Section 8.15, "Spill Containment Procedures": In the first paragraph of this section reference is made to 40 CFR 304 and 40 CFR 177. It is not clear what "Arbitration of Small Superfund Claims" (40 CFR 304) or "Issuance of Food Additive Regulations" (40 CFR 177) has to do with spill containment procedures. Review and revise as necessary.

8. Attachment A, Section 2.0, *"Respiratory Protection Program"*: North and MSA APRs are specified. It is unlikely that all employees are able to be successfully fitted to a single type of respirator. Recommend revising this procedure to allow for individual fitting variation.

9. Attachment A, Section 3.0, *"Care and Cleaning of Personal Protective Equipment"*: Paragraph 3.3.3 does not include provisions for collection and disposal of decontamination solutions.

10. Attachment A, Section 4.0, *"Bloodborne Pathogens"*: Paragraph 4.7.2.2: Disposable chemical-protective gloves are cited in the third paragraph as PPE items provided. Recommend considering using latex surgical gloves to allow greater flexibility to the care provider while also providing protection.

11. Attachment A, Section 5.0, *"Heat Stress"*:

a. In paragraph 5.2, the last sentence addresses the potential for hypothermia resulting from excessive cooling of a heat stroke victim. We suggest the initial concern is to cool the victim and transport to a medical facility as soon as possible. Since this incident would most likely occur during warm weather operations, the probability of inducing a hypothermic condition is negligible.

b. In paragraph 5.4.1, the second bullet refers to fluid intake discipline. One of the prime functions of a viable heat stress control program is to ensure that the employees remain well hydrated. Recommend including additional details describing how employees will be encouraged to drink sufficient fluids.

 (no page 4 - it was blank)

01.01-03/17/94-01052

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
William L. Meyer, Director

DEHNR

March 17, 1994

Commander, Atlantic Division
Naval Facilities Engineering Command
Code 1823-2
Attention: MCB Camp Lejeune, RPM
Ms. Katherine Landman
Norfolk, Virginia 23511-6287

Commanding General
Attention: AC/S, EMD/IRD
Marine Corps Base
PSC Box 20004
Camp Lejeune, NC 28542-0004

RE: Draft Site Inspection Project Plans for Sites A, 12, 68, 75, 76, 84, and 85

Dear Ms. Landman:

The referenced document has been received and reviewed by the North Carolina Superfund Section. Our comments are attached. Also, comments on the Health and Safety Plan is attached to this letter as a memo from David Lilley, our Industrial Hygienist to myself. Please call me at (919) 733-2801 if you have any questions about this.

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 5
To KATE LANDMAN	From PATRICK WATTERS
Co. LANTDIV	Co. NC SF
Dept.	Phone #
Fax # 804-322-4805	Fax #

Sincerely,

Patrick Watters

Patrick Watters
Environmental Engineer
Superfund Section

Attachment

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

North Carolina Superfund Comments
Draft Site Inspection Project Plans for
Camp Lejeune Sites A, 12, 68, 75, 76, 84, and 85

Work Plan Comments

1. Page 2-9, Section 2.1.11
This section indicates that the water treatment plants have a total capacity of 15,821 million gallons per day which should be 15.821 million gallons per day.

2. Page 2-14, Table 2-2
The areas indicated for the different sites in this table are not consistent with the size of the study areas shown in the various figures throughout the document.

3. Page 4-7, Section 4.3.4
The third bullet under Soil Investigation does not indicate how many samples will be taken in the soil sampling grid if the geophysical evaluation does not find evidence of buried drums.

Sampling and Analysis Plan

4. General

Groundwater Investigations
It is not clear why both the shallow and deep aquifers are being assessed only for Site 68 and not the other sites covered by this project plan.

Test Pits
It is not clear why test pits are planned for Site A while soil borings are being used for the other sites. Very little is known about the location of Site A or the nature of the contaminants that may be present. It would seem to be more prudent from a safety and site investigation perspective due to the uncertainties of this site to initially use soil borings instead of test pits. The effort expended for the six test pits at Site A could be used for soil borings that would cover a much broader area. Whether or not contamination is found in any of the proposed test pits, there may still be concerns about the adequacy of the site investigation immediately north and south of the study area. Another consideration of soil borings versus test pits is the potential amount of investigation derived waste that will require disposal.

US Army Technical Escort Unit (TEU)
The project plan indicates that a US Army TEU will be used for Sites 75 and 76 to screen for chemical agents. It would seem appropriate to include this provision for Sites A and 68 unless there is other information indicating this would not be necessary.

Soil Sampling Depths
The Sampling & Analysis Plan does not indicate the depth of the Site A test pits. Also, the soil sampling depths vary from site to site as listed below with no rationale provided to explain why different depths are to be used.

- Sites 12: One soil sample at each location just above the water table.
- Sites 28, 75, and 76: Two soil samples at each location at the surface (0"-12") and "above the water table".
- Sites 84 and 85: Two soil samples at each location at 0"-12" and 12"-24".

5. Page 3-1, Section 3.1
Please explain why surface water and sediment samples are not being taken for Site A.

6. Page 3-1, Section 3.1.3
The groundwater investigation scheme for Site A calls for one sample to be taken from the existing two monitoring wells. One of these wells is over 300 feet upgradient from the edge of the suspected disposal area which may provide good data on background conditions but not on the suspected disposal area. Since this essentially provides only one specific data point, there needs to be additional wells installed to investigate Site A.

7. Page 3-3, Section 3.2
The need for a unexploded ordnance (UXO) survey for Site 12 is acknowledged in the Health & Safety Plan, however it might be worth listing this under Section 3.2 as part of the support activities for the site.

8. Page 3-5, Section 3.2.2.2
Explain why the analytical requirements for Site 12 samples do not include explosive ordnance constituents.

9. Page 3-7, Section 3.3
Please indicate the rationale for not performing a geophysical or UXO survey for Site 68.

10. Page 3-21, Section 3.7.2
The groundwater investigation plan for Site 85 calls for only two wells within the study area with the third well located ~700 ft NE (possibly upgradient) of the study area. Two wells may not provide enough data to assess the nature of the groundwater contamination resulting from the battery disposal areas.

11. Page J-3, Appendix J
The description of the criteria for handling PCB contaminated waste is not consistent with the EPA publication: "Guidance on Remedial Actions at Superfund Sites With PCB Contamination", OSWER Directive No. 9355.4-01.

12. Attachment A of Appendix K
Some of the holding times indicated on Attachment A are not consistent with those on pages 6-2 and 6-3 of the Quality Assurance Project Plan.

March 1, 1994

TO: Patrick Watters

FROM: David Lilley DBL

RE: Comments prepared on the Draft Health and Safety Plan, Site Inspection, Sites A, 12, 68, 75, 76, 84, and 85, Marine Corps Base, Camp Lejeune, NC

After reviewing the above mentioned document, I offer the following comments:

1. Page 5-1: Please provide more information on exactly what a "Minicam Model FM-3000" is, who makes it, what environmental parameters it measures, and what conditions activate the alarm.

2. Page 5-1, Under the heading "Drager Tubes": Where level C is recommended, the phrase "if adequate NIOSH certified air-purifying cartridge is available" is used. This phrase should also be used where level C is recommended under the "PID" heading.

Dl/dl/wpcommen.doc/27

Draft Site Inspection Project Plans March 17, 1994
MCB Camp Lejeune
Sites A, 12, 68, 75,76,84, and 85
LANTDIV Remarks Concerning NC Comments

Please don't respond specifically to these remarks - they are things to consider when preparing responses to the NC comments. Hopefully, they will help speed your responses.

Work Plan Comments

2. Page 2-14, Table 2-2
As I see it, the following changes would satisfy Patrick's comments:

a. Page 2-10, Section 2.2.1 and Table 2-2
Include a reference to assumed site size here. As shown in Figure 2-4, the suspected disposal area is approximately 150'x200', or less than 1 acre. Even though we don't really know the site size, we have made an assumption. Table 2-2 should also reflect this < 1 acre size assumption.

b. Page 2-15, Figure 2-6
The EOD Detonation Area outlined on the map also is an approximate outline of the study area. Adding an indication on the map that also identifies this area as the study area would make it clear that this is the 2 acre parcel that we will investigate.

c. Page 2-18, Section 2.5.1 and Table 2-2
Although the disposal pit is reported to be 90'x70', the study area is much larger due to the fact that we don't know where the pit is. Thus, the site size in Table 2-2 should reflect the study area of about 6 acres, as shown on Figure 2-9. Also, the text on page 2-18 should indicate that the study area that reportedly contains the 90'x70' pit is about 6 acres in size.

d. Page 2-24, Section 2.6.1 and Table 2-2
Figure 2-12 indicates that the study area is about 13.5 acres in size. Section 2.6.3 indicates that the suspected burial pit is about 1/4 acre in size. Again, since we don't know where the pit is, the site size is the 13.5 acre study area. This should be reflected on Table 2-2. The text on page 2-24, Section 2.6.1 should indicate both the study area size (approx. 13.5 acres), and the reported pit size (1/4 acre).

e. Page 2-26, Section 2.7.1 and Table 2-2
Figure 2-13 indicates that the study area is about 2 acres in size. Text in Section 2.7.1 should indicate this, as well as Table 2-2. Not sure where the < 1/2 acre size came from on Table 2-2.

f. Page 2-29, Section 2.8.1 and Table 2-2
Figure 2-15 indicates that the study area is about 4 acres in size. Text in Section 2.8.1 should indicate this, ad well as table 2-2. Not sure where the <1/2 acre size came from on Table 2-2.

3. Page 4-7, Section 4.3.4
I am inclined to recommend a response that indicates that specific details of the sampling program are included in the Sampling & Analysis plan, so the exact number of samples need not be included here. (This *was* part of the original idea of the condensed, less duplication format. In

fact, this particular idea came straight from Patrick to begin with!) However, I notice that every other site in the Work Plan lists specific sample numbers for each investigation (soil, gw, etc.). Because it is certainly not worth the time to go back & change all the text at all the other sites, I guess the best approach would be to go ahead & include here the number of samples to be taken under this "no drums found" scenario. (Note for future reference that we should consider leaving out these kind of details all together and keeping the Work Plan limited to general statements just like this one! Then, we can let the specifics live in the FSAP *only*.)

While I wrote this comment, I flipped to the FSAP to see how many samples were proposed under this "no drums" scenario. What I found on page 3-14 of the FSAP was the same as the Work Plan - no quantity given. Certainly, we need to specify the logic to be used to lay out the grid (i.e. 200ft spacings, etc.), and the total number of samples expected under this scenario, even if exact amount will change in the field. Please add a few sentences to the FSAP (page 3-14) to address this issue. (This will make our intentions very clear to the regulators and avoid any confusion in the field and also later when the RI/FS reports come out. Also, we'll need this info for cost estimating purposes.)

Sampling and Analysis Plan Comments

4. General

It appears to me that these comments really apply to the Work Plan. The Work Plan addresses the *what* and *why* issues (i.e. generally what we plan to do & why we plan to do it), while the FSAP addresses the *how* (i.e. specific number of samples & sample locations). Also, the Sampling Objectives, Work Plan Table 3-1 summarizes the rationale for the approaches planned for each site.

Because these comments hit upon the basic structure of the proposed field work, I think a phone call to Patrick to discuss the issues would be in order - kind of a scoping format. Then, we can easily explain the investigation rationales to Patrick (and make changes on the spot is needed). Also, we can determine exactly what changes to the text will fully describe the approach to his satisfaction (with or without changes to the investigation approach). If we start changing the approach too much, we'll want to get Gena involved too.

Test Pit IDW

A reference in the Test Pit section talks about generation of IDW related to test pits. Section 5.1.3 (page 5-3) of the FSAP clearly states that pits will be immediately backfilled following excavation, logging, and sampling. I'm guessing that once this is pointed out to Patrick, this information is likely to generate new comments concerning appropriateness of backfilling, or perhaps inclusions of contingency plans in the event that some kind of gross contamination is found. We should be sure to address this issue in the phone conversation to ensure that we are addressing all of his concerns appropriately.

Atlantic Division
Naval Facilities Engineering Command
Environmental Quality Division

FACSIMILE TRANSMISSION

TOTAL # OF PAGES: 13

DATE: 17 March 1994

TO: Ray Wattras

FROM: Kate Landman, Code 1823

COMPANY: Baker Environmental

PHONE #: (804) 322-4818

PHONE #: (412) 269-2016

DSN: 262-4818

FAX #: (412) 269-2002

FAX #: (804) 322-4805

REMARKS: CTO-0193
Draft SI Project Plans
CLEJ Sites A,12, 68,75,76,84,85

Attached are comments from Patrick Watters (NCDEHNR) and NEHC. I have included a few remarks concerning Patrick's comments as well. As I indicate there, I think we should give Patrick a phone call to discuss his comments. I think the background information in the project plans already provides a good rationale for many of the items he is questioning. However, because he is suggesting significant approach changes, I think a phone call before sending formal comments would be appropriate. If we're lucky, maybe we can talk when we all meet for scoping of Sites 3, 7, 16, & 80....

By the way, I have not been able to get in touch with Gena today to schedule the scoping meeting for CTO-0193. Also, I have not received comments on the SI plans from her.

Note that there is no Page 4 to the NEHC comments - it was blank.

-Kate