6/4/01-3066

Baker

Baker Environmental, Inc.
A Unit of Michael Baker Corporation

Airport Office Park, Bldg. 3
420 Rouser Road
Coraopolis, PA 15108

(412) 269-2055
FAX (412) 269-2002

June 4, 2001

Commander
Atlantic Division
Naval Facilities and Engineering Command
1510 Gilbert Street (Bldg. N-26)
Norfolk, Virginia 23511-2699

Attn: Mr. Kirk A. Stevens, Code EV23KS

Re: Contract N62470-95-D-6007
Navy CLEAN II, District III
Contract Task Order (CTO) 0139
Response to Comments
Final RI/FS Project Plans
Site 84/Building 45 Area
Marine Corps Base
Camp Lejeune, North Carolina

Dear Mr. Stevens:

Baker Environmental, Inc. (Baker) is pleased to submit the Final Remedial Investigation/Feasibility Study (RI/FS) Project Plans and the Responses to Comments on the Draft Final document. Comments were received from the Naval Environmental Health Center (NEHC), Marine Corps Base (MCB) Camp Lejeune, U.S. Environmental Protection Agency (USEPA), North Carolina Department of the Environment and Natural Resources (NCDENR), OHM/IT Corporation, and CH2M HILL. The Response to Comments is included as Attachment A and a copy of the comments is included as Attachment B. Changes to the Draft Final Project Plans were minimal; however, one change is noteworthy and is summarized herein.

As discussed and agree upon at the MCB Camp Lejeune Partnering meeting on May 15, 2001, revisions were made to the Draft Final Project Plans concerning additional investigative work at Site 84. The changes included locating drain lines that run from former Building 45 to the lagoon and collection of associated soil samples. These changes to the scope resulted in some additional text being added to the documents that detail the work procedures and associated sampling.

Baker appreciates the opportunity to assist you and MCB Camp Lejeune on this project. If you have any questions regarding this submittal, please contact me at 412-269-2055 or by e-mail at jtepsic@mbakercorp.com

Sincerely,

BAKER ENVIRONMENTAL, INC.

Jeffrey P. Tepsic, P.G.
Project Manger

Enclosures

cc: Ms. Beth Collier, Code AQ115, LANTDIV (w/o Attachments)
Ms. Lee Ann Rapp, P.E., Code EV31LR, LANTDIV (w/o Attachments)
Mr. Rick Raines, MCB Camp Lejeune (w/ attachments)
Mr. Scott Bailey, CH2M HILL (w/ attachments).

Attachment A
Response to Comments

Response to USEPA Region IV Comments

Comment

"attached find the letter that accepts the doc. as final. There is one additional comment. It does not require text correction, just sample quantity awareness.

We state 10% of samples be sent off-site for confirmation. We should make sure for risk assessment purposes that the number is 10 or more. Speaking with Ted Simon more is better. This will generate a more reliable site specific risk."

Response

The number of samples sent off-site for confirmation will be increased. Language in the work plans has been changed to state that between fifteen and twenty percent of the samples will be sent off-site for confirmation.

Response to NC DENR Comments

Comment

"Page 3-2. Section 3.1.1. Second sentence. Comment: The State and EPA regulators are part of the decision-making team."

Response

The referenced section has been changed, stating that the State and EPA regulators are part of the decision-making team.

Comment

"Page 4-7: Please include the exposure of base personnel to groundwater."

Response

Shallow groundwater is not used as a supply source for base personnel; therefore, there is no ingestion, dermal, or inhalation pathway. The exposure scenario will include ingestion for future residents, dermal contact for future residents and future construction workers, and inhalation of volatiles while showering for future residents.

Comment

"Page 4-7: Please include the exposure of the future construction worker to sediment via the dermal route."

Response

The text has been changed to include the exposure of the future construction worker to sediment via dermal contact.

Comment

"Page 4-12: EPA Region IV and the State of North Carolina no longer consider a frequency of detection of less than 5% to be a valid reason for excluding COPCs."

Response

Agreed. This language has been deleted from the document.

Response to Camp Lejeune EMD-IR Comments

Comment

"Work Plan Section 1.2, Page 1-2, 3rd Paragraph

This section discusses the scoping process and project meetings to discuss the proposed RI/FS and all the parties that attended. When were you all able to meet without the activity? Why weren't we invited to your meetings? If we were please include the Activity in the report.."

Response

The text has been changed, making reference to the Activity's involvement. Scoping and project meetings concerning Site 84 took place during several partnering meetings at which the Activity was involved. In addition, the Activity assisted on several site visits and sampling programs.

Comment

"Field Sampling and Analysis Plan Section 1.0, Page 1-1, 2nd Paragraph.

This section still discusses sampling the surface water and sediments of Northeast Creek. This sampling has been removed from the rest of the report and references to it need to be taking out of this section."

Response

The text will be changed to reflect the fact that surface water and sediments in Northeast Creek will not be collected.

Response to IT Group Comments

Comment

General:

"During Partnering meetings we discussed investigation/sampling in the Building 84 basement and drain system as a PCB source area. No sampling of this area is proposed in the plans."

"We also discussed the possibility of combining the investigation with the potential remediation action thereby having equipment available to assist in sample procurement from areas around the drain lines."

Response

A sampling program at Building 84 was completed by Baker in August 1999. It included collecting concrete chip samples from the building and surface water samples from the basement. The concrete chip samples detected PCBs at concentrations below the residential standards. Low concentrations of SVOCs were detected in the surface water samples from the basement area.

In addition to the sampling at the building, a dye tracer study was completed to identify and locate drains running from the building to the lagoon. The tracer test confirmed drains running from inside the building, through the separator systems, and into the lagoon.

The work plan has been adjusted to include further delineation of the drain system using a backhoe to locate the location and depth of the lines.

Comment

Page 4-5, Section 4.6.1.2:

"What is the purpose of calculating the 95% UCL of the sampling program detections? Will the calculated values be utilized in some future decision process?"

Response

The 95% UCL of the arithmetic mean of a compound/analyte that is retained as a Chemical of Potential Concern (COPC) is used as the exposure point concentration in human health risk assessments calculations.

Comment

Field Sampling and Analysis Plan

Page 4-1, Section 4.2.1 and Figure 4-1:

"The Figure does not reflect the "hexagonal grid" that is used in the reference EPA sampling method. Note this grid type has been proved to provide a higher degree of detecting hotspots within a sampling area."

Response

The referenced EPA document was used as a guide in determining the spacing of the grid lines and the sampling scheme. Exact locations will depend upon access, results obtained in the field, and the sampling rationale outlined in the guidance document.

This sample method was discussed at the May 15, 2001 Partnering Meeting. Based on the recommendation made by the EPA at that meeting, this method will not be required since that guideline falls under TSCA, not CERCLA.

Comment

Page 6-12, Section 6.8.4

"PCB analysis should be added to the IDW soil characterization as well as any Base Landfill required parameters if it is a possible disposal site."

Response

PCB analyses will be added to the IDW soil characterization. At this time, there are no plans to use the Base Landfill as a possible disposal site.

Comment

Table 7-1

"Note that immunoassay is accepted as SW-846 method 4020. Add PCBs to the IDW soil analysis. Note 5 – TCLP for disposal does not yield the TCL/TAL analyte list, just the TCLP compounds."

Response

The text will be changed as suggested.

Comment

QAAP

General:

"Check symbols in the document. Our copy has dollar signs as bullets"

Response

The symbols check. There are no dollar signs as bullets.

Comment

Table 6-2:

"Note that there is a 14 day holding time for TCLP extraction for all TCLP compounds."

Response

The text has been changed as noted.

Response to NEHC Comments

Comment

General Comments:

1. *The document entitled "Draft Final Remedial Investigation/Feasibility Study Project Plans Site 84/Building 45 Area Marine Corp Base Camp Lejeune, North Carolina," was provided to the Navy Environmental Health Center (NAVENVIRHLTHCEN) for review on 4 May 2000. A set of figures for the report was provided on 20 March 2001. The reports were prepared for the Atlantic Division, Naval Facilities Engineering Command by Baker Environmental, Inc. This review covers both the original draft and the set of figures.*

2. *The text does not indicate what sampling cycle will be used. The ideal sampling strategy incorporates a full annual sampling cycle. If this strategy cannot be accommodated in the investigation, at least two sampling events should be considered. These sampling events should take place during opposite seasonal extremes.*

Response

Two rounds of groundwater samples will be obtained at Site 84. These sampling rounds will consist of samples collected from the newly installed monitoring wells and any existing wells at Site 84 that are considered appropriate following a review of existing wells and analyses. The first round of samples will be collected approximately one week following the development of the newly installed wells (estimated to be August). The second round will collected approximately three months following the first round.

Comment

Review Comments and Recommendations:

1. *New Figure 2-4, "Estimated Area of Concern Detected PCBs Greater Than 320 mg/kg"*

   Comment: *"The Figure 2-4 uses "ND" to indicate nondetects but does not give the actual numerical value. It is also important that the data summary tables contain the necessary information for efficient risk assessment and regulatory review."*

   Recommendation*: "The text should list the actual numerical value of nondetects or include footnotes listing the sample quantitation limits at the bottom of the sample summary figure."*

Response

The use of "ND" on the figure is a result of applying a field screening method to evaluate the site as opposed to fixed based laboratory results. The methods do not give exact quantitation limits, but simply yield a non-detect at values less than the standards used during the test (in most cases, less than 1 ppm). Future figures will provide more detail when using field screening methods by including footnotes on appropriate figures.

2. *New Figure 2-6, "Organics Detected in Groundwater"*

   ***Comment**: "Figure 2-6 should include the numerical units of the sample results listed."*

   ***Recommendation**: Figure 2-6 Should include the numerical units of the sample results listed.*

Response

Agreed. The figures will be revised to include the numerical units of the sample results.

Comment

3. *Pages 4-4 through 4-7, Section 4.6.1, "Human Health Evaluation Process"*

   ***Comments**:*

   a. *"The report does not contain a schematic of a site conceptual model (SCM) to include both current and future potential exposure pathways applicable for this site. This would help to identify the potential residual risks remaining from migration of site-related chemicals to various media to include nearby surface waters, etc."*

   b. *"The text states on Page 4-5 that "The arithmetic or geometric mean and the upper 95 percent confidence limit of that mean will be used in the summary of potential chemical data." However, the text states on Page 4-7 that "The upper 95 percent upper confidence limits of the means will be used throughout the risk assessment."*

   c. *"An EPA Deputy Administrator memorandum dated 26 February 1992 entitled "Guidance of Risk Characterization for Risk Managers and Risk Assessors" indicates that a single number used to represent the health risk to an individual or population may hamper the risk manager's ability to make an informed decision. Additionally, risk estimates should present both upper bound reasonable maximum exposure (RME) and average case, or central tendency (CT)."*

   d. *"Although the geometric mean is a convenient term for describing central tendencies of log-normal distribution, it is not considered an appropriate basis for estimating the concentration term used in exposure assessments. Unlike the arithmetic mean, the geometric mean of a set of sampling results bears no logical connection to the cumulative intake that would result from the long-term contact with site contaminants. The geometric mean may differ appreciably from, and be much lower than, the arithmetic mean."*

Recommendations:

a. *"Include a schematic of a SCM that depicts both the current and the future potentially completed exposure pathways."*

b. *"Provide quantitative risk estimates for the arithmetic or geometric mean and the upper 95 percent confidence limit of that mean."*

c. *"Do not compare data representing a geometric mean with data representing an arithmetic mean."*

Response

a. Agreed. A SCM depicting the current and future potentially completed exposure pathways will be included.

b. Agreed. Quantitative risk estimates for the arithmetic or geometric mean and the upper 95 percent confidence limit of that mean will be provided.

c. Agreed. Data representing a geometric mean will not be compared with data representing an arithmetic mean.

Comment

4. *Page 4-1, "Sampling Locations"*

Comments:

a. *"The text states on Page 3-7 that ten percent of the surface soil and soil boring samples will be submitted to an off-site laboratory for confirmatory PCB [[polychlorinated biphenyl] analysis."*

b. *"Reference (a) Section 4.6.2 states that "Although areas of concern are established purposively (e.g., with the intention of identifying contamination), the sampling locations within the areas of concern generally should not be sampled purposively if the data is to be used to provide defensible information for a risk assessment." Risk estimates calculated from sampling data collected from locations expected to have the highest concentrations almost always overestimate the risk. The text should clearly state how analytical data from "purposively selected sample locations" would be used in a human health risk assessment."*

Recommendation: *"The text should clearly state if analytical data from purposively selected sample locations will be used in a human health risk assessment to estimate human health exposure."*

Response

Text will be included in the Remedial Investigation report stating whether or not analytical data from purposively selected sample locations is used in the risk assessment.

Comment

5. Page 6-9, Section 6.4.1, "Groundwater Samples Collected from Monitoring Wells"

***Comments**:*

a. The text states on Page 6-9 "Samples collected for dissolved metals will be filtered in the field prior to being submitted for analysis."

b. We recommend using both filtered and unfiltered groundwater samples in the health risk assessment. Although the regional EPA guidance requires use of data from unfiltered sample results in the quantitative health risk assessment (HRA), if risk estimates from both filtered and unfiltered samples are developed, both values can be discussed in the HRA. The difference between the risk estimates from filtered and unfiltered sampling results can be large. Providing comparison values can therefore be very useful in demonstrating that the risk estimates from filtered groundwater samples are less conservative."

***Recommendation**: Develop risk estimates for both filtered and unfiltered groundwater samples and discuss both values in the HRA.*

Response

Groundwater samples are obtained using low flow sampling procedures. This method significantly reduces turbidity in samples (i.e., values typically < 10 NTU). Therefore, unfiltered groundwater samples do not provide additional worthwhile data.

Attachment B
Comments on Draft Final RI/FS Project Plans

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

5090.5
Ser EP4340/ 11549
18 APR 2001

From: Commanding Officer, Navy Environmental Health Center
To: Commanding Officer, Atlantic Division, Naval Facilities Engineering Command (Kirk Stevens), 1510 Gilbert Street, Norfolk, VA 23511-2699

Subj: REMEDIAL INVESTIGATION PROJECT PLANS REPORT REVIEW, OPERABLE UNIT NO. 19 (SITE 84), MARINE CORPS BASE CAMP LEJEUNE, CAMP LEJEUNE, NC

Ref: (a) Baker Environmental, Inc. Transmittal ltr of 13 Mar 01

Encl: (1) Subject Medical Review
(2) Medical/Health Comments Survey

1. Per reference (a), we have completed a review of the subject document and forward our comments to you as enclosure (1).

2. Please complete and return enclosure (2) as your comments are needed to continually improve our services to you.

3. We are available to discuss the enclosed information by telephone with you and, if you desire, with you and your contractor. If you require additional assistance, please call Mr. Kenneth Gene Astley at (757) 462-5541 or Mr. David McConaughy at (757) 462-5557. The DSN prefix is 253. The e-mail addresses are: astleyg@nehc.med.navy.mil and mcconaughyd@nehc.med.navy.mil.

P. B. GILLOOLY
By direction

Copy to: (w/o Encl (2))
CNO (N-453)
NAVFAC (ENC/KA)
BUMED (MED-24)
MCB Camp Lejeune (ACS EMD/IRP, Tom Morris)
CMC (LFL)

MEDICAL REVIEW OF
DRAFT REMEDIAL INVESTIGATION/FEASIBILITY STUDY
PROJECT PLANS SITE 84/BUILDING 45 AREA
MARINE CORP BASE CAMP LEJEUNE, NORTH CAROLINA

Ref: (a) Risk Assessment Guidance for Superfund, Vol. 1, Part A: Human Health Evaluation Manual, Dec 1989 (EPA 540/1-89/002)

General Comments:

1. The document entitled "Draft Final Remedial Investigation/Feasibility Study Project Plans Site 84/Building 45 Area Marine Corp Base Camp Lejeune, North Carolina," was provided to the Navy Environmental Health Center (NAVENVIRHLTHCEN) for review on 4 May 2000. A set of figures for this report was provided on 20 March 2001. The reports were prepared for the Atlantic Division, Naval Facilities Engineering Command by Baker Environmental, Inc. This review covers both the original draft and the set of figures.

2. The text does not indicate what sampling cycle will be used. The ideal sampling strategy incorporates a full annual sampling cycle. If this strategy cannot be accommodated in the investigation, at least two sampling events should be considered. These sampling events should take place during opposite seasonal extremes.

Review Comments and Recommendations:

1. New Figure 2-4, "Estimated Area of Concern Detected PCBs Greater Than 320 mg/kg"

Comment: The Figure 2-4 uses "ND" to indicate nondetects but does not give the actual numerical value. It is also important that the data summary tables contain the necessary information for efficient risk assessment and regulatory review.

Recommendation: The text should list the actual numerical value of nondetects or include footnotes listing the sample quantitation limits at the bottom of the sample summary figure.

2. New Figure 2-6, "Organics Detected in Groundwater"

Comment: Figure 2-6 does not include the numerical units of the sample results listed.

Recommendation: Figure 2-6 should include the numerical units of the sample results listed.

3. Pages 4-4 through 4-7, Section 4.6.1, "Human Health Evaluation Process"

Comments:

a. The report does not contain a schematic of a site conceptual model (SCM) to include both current and future potential exposure pathways applicable for this site. This would help to identify the potential residual risks remaining from migration of site-related chemicals to various media to include nearby surface waters, etc.

b. The text states on Page 4-5 that "The arithmetic or geometric mean and the upper 95 percent confidence limit of that mean will be used in the summary of potential chemical data." However, the text states on Page 4-7 that "The upper 95 percent upper confidence limits of the means will be used throughout the risk assessment."

c. An EPA Deputy Administrator memorandum dated 26 February 1992 entitled "Guidance of Risk Characterization for Risk Managers and Risk Assessors" indicates that a single number used to represent the health risk to an individual or population may hamper the risk manager's ability to make an informed decision. Additionally, risk estimates should present both the upper bound reasonable maximum exposure (RME) and average case, or central tendency (CT).

d. Although the geometric mean is a convenient term for describing central tendencies of log-normal distribution, it is not considered an appropriate basis for estimating the concentration term used in exposure assessments. Unlike the arithmetic mean, the geometric mean of a set of sampling results bears no logical connection to the cumulative intake that would result from the long-term contact with site contaminants. The geometric mean may differ appreciably from, and be much lower than, the arithmetic mean.

Recommendations:

a. Include a schematic of a SCM that depicts both the current and the future potentially completed exposure pathways.

b. Provide quantitative risk estimates for the arithmetic or geometric mean and the upper 95 percent confidence limit of that mean.

c. Do not compare data representing a geometric mean with data representing an arithmetic mean.

4. Page 4-1, "Sampling Locations"

Comments:

a. The text states on Page 3-7 that ten percent of the surface soil and soil boring samples will be submitted to an off-site laboratory for confirmatory PCB [polychlorinated biphenyl] analysis.

b. Reference (a) Section 4.6.2 states that "Although areas of concern are established purposively (e. g., with the intention of identifying contamination), the sampling locations within the areas of concern generally should not be sampled purposively if the data is to be used to provide defensible information for a risk assessment." Risk estimates calculated from sampling data collected from locations expected to have the highest concentrations almost always overestimate the risk. The text should clearly state how analytical data from "purposively selected sample locations" would be used in a human health risk assessment.

Recommendation: The text should clearly state if analytical data from purposively selected sample locations will be used in a human health risk assessment to estimate human health exposure.

5. Page 6-9, Section 6.4.1, "Groundwater Samples Collected from Monitoring Wells"

Comments:

a. The text states on Page 6-9 "Samples collected for dissolved metals will be filtered in the field prior to being submitted for analysis."

b. We recommend using both filtered and unfiltered groundwater samples in the health risk assessment. Although the regional EPA guidance requires use of data from unfiltered sample results in the quantitative health risk assessment (HRA), if risk estimates for both filtered and unfiltered samples are developed, both values can be discussed in the HRA. The difference between the risk estimates from filtered and unfiltered sampling results can be large. Providing comparison values can therefore be very useful in demonstrating that the risk estimates from filtered groundwater samples are less conservative.

Recommendation: Develop risk estimates for both filtered and unfiltered ground water samples, and discuss both values in the HRA.

From: "Stevens, Kirk (EFDLANT)" <StevensKA@efdlant.navfac.navy.mil>
To: "Rich Bonelli (E-mail)" <RBONELLI@mbakercorp.com>, "Scott Bailey (E-mail)" <sbailey2@ch2m.com>
Date: 5/1/01 8:59AM
Subject: FW: Site 84 comments

Comments on Site 84

-----Original Message-----
From: Raines GS12 Rick H [mailto:RainesRH@lejeune.usmc.mil]
Sent: Tuesday, May 01, 2001 8:42 AM
To: Kirk Stevens (E-mail)
Subject: Site 84 comments

Kirk,
I only have two comments on the Draft Final RI/FS Work Plans:
1. Work Plan Section 1.2, Page 1-2, 3rd Paragraph
This section discusses the scoping process and project meetings to discuss the proposed RI/FS and all the parties that attended. When were you all able to meet without the activity? Why weren't we invited to your meetings? If we were please include the Activity in the report..

2. Field Sampling and Analysis Plan Section 1.0, Page 1-1, 2nd Paragraph
This section still discusses sampling the surface water and sediments of Northeast Creek. This sampling has been removed from the rest of the report and references to it need to be taking out of this section.

Rick

From: "Stevens, Kirk (EFDLANT)" <StevensKA@efdlant.navfac.navy.mil>
To: "Rich Bonelli (E-mail)" <RBONELLI@mbakercorp.com>
Date: 4/25/01 2:41PM
Subject: FW: OU19 Site 84 - Final WP

Here is EPA's comments

-----Original Message-----
From: Townsend.Gena@epamail.epa.gov
[mailto:Townsend.Gena@epamail.epa.gov]
Sent: Thursday, April 12, 2001 11:18 AM
To: blackwellwc@efdlant.navfac.navy.mil; david.lown@ncmail.net; diane.rossi@ncmail.net; jdunn@theitgroup.com; rainesrh@lejeune.usmc.mil; rbonelli@mbakercorp.com; sbailey2@CH2M.com; stevenska@efdlant.navfac.navy.mil
Subject: OU19 Site 84 - Final WP

attached find the letter that accepts the doc. as final. There is one additional comment. It does not require text correction, just sample quantity awareness.

We state 10% of samples be sent off-site for confirmation. We should make sure for risk assessment purposes that the number is 10 or more. Speaking with Ted Simon more is better. This will generate a more reliable site specific risk.

(See attached file: OU19dwp.con.wpd)

Gena D. Townsend
US EPA
61 Forsyth Street, SW
Atlanta, Georgia 30303
Tel. No: (404) 562-8538
Townsend.Gena@epa.gov

From: <Townsend.Gena@epamail.epa.gov>
To: <blackwellwc@efdlant.navfac.navy.mil>, <david.lown@ncmail.net>, <diane.rossi@ncmail.net>, <jdunn@theitgroup.com>, <rainesrh@lejeune.usmc.mil>, <rbonelli@mbakercorp.com>, <sbailey2@CH2M.com>, <stevenska@efdlant.navfac.navy.mil>
Date: 4/12/01 12:24PM
Subject: OU19 Site 84 - Final WP

attached find the letter that accepts the doc. as final. There is one additional comment. It does not require text correction, just sample quantity awareness.

We state 10% of samples be sent off-site for confirmation. We should make sure for risk assessment purposes that the number is 10 or more. Speaking with Ted Simon more is better. This will generate a more reliable site specific risk.

(See attached file: OU19dwp.con.wpd)

Gena D. Townsend
US EPA
61 Forsyth Street, SW
Atlanta, Georgia 30303
Tel. No: (404) 562-8538
Townsend.Gena@epa.gov

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, S.W.
ATLANTA, GEORGIA 30303

April 11, 2001

4WD-FFB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Kirk Stevens
Department of the Navy - Atlantic Division
Naval Facilities Engineering Command
Code 1823
Norfolk, Virginia 23511-6287

SUBJ: MCB Camp Lejeune
Draft Project Plan
Operable Unit No. 19, Site 84/Building 45

Dear Mr. Stevens:

The Environmental Protection Agency (EPA) has completed its review of the above subject document and has determined that the comments have been satisfactorily addressed. The document is accepted as final. There is one additional comment to be considered. It has been traditionally stated that 10% of the collected samples will be sent to an off-site lab for confirmatory analysis. Although this is a valid statement, the number of samples sent to the off-site lab should equate to10 or more. This number is needed to effectively calculate the risk.

If there are any questions, I can be reached at (404) 562-8538.

Sincerely,

Gena D. Townsend
Senior Project Manager

cc: Dave Lown, NCDEHNR

From: David Lown <David.Lown@ncmail.net>
To: "Stevens, Kirk" <StevensKA@efdlant.navfac.navy.mil>
Date: 5/9/01 10:43AM
Subject: NC Comments OU19 RIFS Workplan

Kirk,

Attached are our Risk Assessor's (David Lilley) comments of this document. I've reviewed the document and have one comment.

Page 3-2. Section 3.1.1. Second sentence. Comment: The State and EPA regulators are part of the decision-making team.

Dave

--
****
David J. Lown, LG, PE
Department of Environment and Natural Resources
401 Oberlin Road
Raleigh, North Carolina 27605
(919) 733-2801 ext 278
David.Lown@ncmail.net
****

CC: "Rick Raines (E-mail)" <rainesrh@lejeune.usmc.mil>, "Diane Rossi (E-mail)" <Diane.Rossi@ncmail.net>, "Gena Townsend (E-mail)" <townsend.gena@epa.gov>, "Jim Dunn (E-mail)" <Jdunn@TheITGroup.com>, "Rich Bonelli (E-mail)" <rbonelli@mbakercorp.com>, Channing Blackwell <blackwellwc@efdlant.navfac.navy.mil>, Thomas Burton <BurtonTH@lejeune.usmc.mil>

May 8, 2001

To: David Lown

From: David Lilley

Re: Comments on the Draft Final Remedial Investigation/Feasibility Study Project Plans, OU19, Site 84/Building 45 Area, MCB Camp Lejeune, NC March 2001

1. Page 4-7: Please include the exposure of base personnel to groundwater.

2. Page 4-7: Please include the exposure of the future construction worker to sediment via the dermal route.

3. Page 4-12: EPA Region IV and the State of North Carolina no longer consider a frequency of detection of less than 5% to be a valid reason fo excluding COPCs.

From: "Dunn Jr, James A" <Jdunn@TheITGroup.com>
To: "Kirk Stevens (E-mail)" <StevensKA@efdlant.navfac.navy.mil>
Date: 3/23/01 12:37PM
Subject: Site 84 Plans Review

Work Plan

General:
During Partnering meetings we discussed investigative/ sampling in the Building 84 basement and drain system as a PCB source area. No sampling of this area is proposed in the plans.

We also discussed the possibility of combining the investigation with the potential remedial action thereby having equipment available to assist in sample procurement from areas around drain lines.

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What is the purpose of calculating the 95% UCL of the sampling program detections? Will the calculated values be utilized in some future decision process?

Field Sampling and Analysis Plan

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The figure does not reflect the "hexagonal grid" that is used in the referenced EPA sampling method. Note this grid type has been proven to provide a higher degree of detecting hotspots within a sampling area

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PCB analysis should be added to the IDW soil characterization as well as any Base Landfill required parameters if it is a possible disposal site.

Table 7-1
Note that immunoassay is accepted as SW-846 method 4020
Add PCBs to the IDW soil analysis
Note 5 - TCLP for disposal does not yield the TCL/ TAL analyte list, just the TCLP compounds

QAPP

General:
Check symbols in the document. Our copy has dollar signs as bullets

Table 6-2:
Note that there is a 14 day holding time for to TCLP extraction for all TCLP compounds.

CC: "Rich Bonelli (E-mail)" <rbonelli@mbakercorp.com>, "Scott Bailey (E-mail)" <sbailey2@ch2m.com>

Attachment A
Response to Comments

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Comment

"attached find the letter that accepts the doc. as final. There is one additional comment. It does not require text correction, just sample quantity awareness.

We state 10% of samples be sent off-site for confirmation. We should make sure for risk assessment purposes that the number is 10 or more. Speaking with Ted Simon more is better. This will generate a more reliable site specific risk."

Response

The number of samples sent off-site for confirmation will be increased. Language in the work plans has been changed to state that between fifteen and twenty percent of the samples will be sent off-site for confirmation.

Response to NC DENR Comments

Comment

"Page 3-2. Section 3.1.1. Second sentence. Comment: The State and EPA regulators are part of the decision-making team."

Response

The referenced section has been changed, stating that the State and EPA regulators are part of the decision-making team.

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Response

Shallow groundwater is not used as a supply source for base personnel; therefore, there is no ingestion, dermal, or inhalation pathway. The exposure scenario will include ingestion for future residents, dermal contact for future residents and future construction workers, and inhalation of volatiles while showering for future residents.

Comment

"Page 4-7: Please include the exposure of the future construction worker to sediment via the dermal route."

Response

The text has been changed to include the exposure of the future construction worker to sediment via dermal contact.

Comment

"Page 4-12: EPA Region IV and the State of North Carolina no longer consider a frequency of detection of less than 5% to be a valid reason for excluding COPCs."

Response

Agreed. This language has been deleted from the document.

Response to Camp Lejeune EMD-IR Comments

Comment

"Work Plan Section 1.2, Page 1-2, 3rd Paragraph

This section discusses the scoping process and project meetings to discuss the proposed RI/FS and all the parties that attended. When were you all able to meet without the activity? Why weren't we invited to your meetings? If we were please include the Activity in the report.."

Response

The text has been changed, making reference to the Activity's involvement. Scoping and project meetings concerning Site 84 took place during several partnering meetings at which the Activity was involved. In addition, the Activity assisted on several site visits and sampling programs.

Comment

"Field Sampling and Analysis Plan Section 1.0, Page 1-1, 2nd Paragraph.

This section still discusses sampling the surface water and sediments of Northeast Creek. This sampling has been removed from the rest of the report and references to it need to be taking out of this section."

Response

The text will be changed to reflect the fact that surface water and sediments in Northeast Creek will not be collected.

Response to IT Group Comments

Comment

General:

"During Partnering meetings we discussed investigation/sampling in the Building 84 basement and drain system as a PCB source area. No sampling of this area is proposed in the plans."

"We also discussed the possibility of combining the investigation with the potential remediation action thereby having equipment available to assist in sample procurement from areas around the drain lines."

Response

A sampling program at Building 84 was completed by Baker in August 1999. It included collecting concrete chip samples from the building and surface water samples from the basement. The concrete chip samples detected PCBs at concentrations below the residential standards. Low concentrations of SVOCs were detected in the surface water samples from the basement area.

In addition to the sampling at the building, a dye tracer study was completed to identify and locate drains running from the building to the lagoon. The tracer test confirmed drains running from inside the building, through the separator systems, and into the lagoon.

The work plan has been adjusted to include further delineation of the drain system using a backhoe to locate the location and depth of the lines.

Comment

Page 4-5, Section 4.6.1.2:

"What is the purpose of calculating the 95% UCL of the sampling program detections? Will the calculated values be utilized in some future decision process?"

Response

The 95% UCL of the arithmetic mean of a compound/analyte that is retained as a Chemical of Potential Concern (COPC) is used as the exposure point concentration in human health risk assessments calculations.

Comment

Field Sampling and Analysis Plan

Page 4-1, Section 4.2.1 and Figure 4-1:

"The Figure does not reflect the "hexagonal grid" that is used in the reference EPA sampling method. Note this grid type has been proved to provide a higher degree of detecting hotspots within a sampling area."

Response

The referenced EPA document was used as a guide in determining the spacing of the grid lines and the sampling scheme. Exact locations will depend upon access, results obtained in the field, and the sampling rationale outlined in the guidance document.

This sample method was discussed at the May 15, 2001 Partnering Meeting. Based on the recommendation made by the EPA at that meeting, this method will not be required since that guideline falls under TSCA, not CERCLA.

Comment

Page 6-12, Section 6.8.4

"PCB analysis should be added to the IDW soil characterization as well as any Base Landfill required parameters if it is a possible disposal site."

Response

PCB analyses will be added to the IDW soil characterization. At this time, there are no plans to use the Base Landfill as a possible disposal site.

Comment

Table 7-1

"Note that immunoassay is accepted as SW-846 method 4020. Add PCBs to the IDW soil analysis. Note 5 – TCLP for disposal does not yield the TCL/TAL analyte list, just the TCLP compounds."

Response

The text will be changed as suggested.

Comment

QAAP

General:

"Check symbols in the document. Our copy has dollar signs as bullets"

Response

The symbols check. There are no dollar signs as bullets.

Comment

Table 6-2:

"Note that there is a 14 day holding time for TCLP extraction for all TCLP compounds."

Response

The text has been changed as noted.

Response to NEHC Comments

Comment

General Comments:

1. *The document entitled "Draft Final Remedial Investigation/Feasibility Study Project Plans Site 84/Building 45 Area Marine Corp Base Camp Lejeune, North Carolina," was provided to the Navy Environmental Health Center (NAVENVIRHLTHCEN) for review on 4 May 2000. A set of figures for the report was provided on 20 March 2001. The reports were prepared for the Atlantic Division, Naval Facilities Engineering Command by Baker Environmental, Inc. This review covers both the original draft and the set of figures.*

2. *The text does not indicate what sampling cycle will be used. The ideal sampling strategy incorporates a full annual sampling cycle. If this strategy cannot be accommodated in the investigation, at least two sampling events should be considered. These sampling events should take place during opposite seasonal extremes.*

Response

Two rounds of groundwater samples will be obtained at Site 84. These sampling rounds will consist of samples collected from the newly installed monitoring wells and any existing wells at Site 84 that are considered appropriate following a review of existing wells and analyses. The first round of samples will be collected approximately one week following the development of the newly installed wells (estimated to be August). The second round will collected approximately three months following the first round.

Comment

Review Comments and Recommendations:

1. *New Figure 2-4, "Estimated Area of Concern Detected PCBs Greater Than 320 mg/kg"*

   Comment: *"The Figure 2-4 uses "ND" to indicate nondetects but does not give the actual numerical value. It is also important that the data summary tables contain the necessary information for efficient risk assessment and regulatory review."*

   Recommendation: *"The text should list the actual numerical value of nondetects or include footnotes listing the sample quantitation limits at the bottom of the sample summary figure."*

Response

The use of "ND" on the figure is a result of applying a field screening method to evaluate the site as opposed to fixed based laboratory results. The methods do not give exact quantitation limits, but simply yield a non-detect at values less than the standards used during the test (in most cases, less than 1 ppm). Future figures will provide more detail when using field screening methods by including footnotes on appropriate figures.

2. *New Figure 2-6, "Organics Detected in Groundwater"*

   ***Comment**: "Figure 2-6 should include the numerical units of the sample results listed."*

   ***Recommendation**: Figure 2-6 Should include the numerical units of the sample results listed.*

Response

Agreed. The figures will be revised to include the numerical units of the sample results.

Comment

3. *Pages 4-4 through 4-7, Section 4.6.1, "Human Health Evaluation Process"*

   ***Comments**:*

   a. *"The report does not contain a schematic of a site conceptual model (SCM) to include both current and future potential exposure pathways applicable for this site. This would help to identify the potential residual risks remaining from migration of site-related chemicals to various media to include nearby surface waters, etc."*

   b. *"The text states on Page 4-5 that "The arithmetic or geometric mean and the upper 95 percent confidence limit of that mean will be used in the summary of potential chemical data." However, the text states on Page 4-7 that "The upper 95 percent upper confidence limits of the means will be used throughout the risk assessment."*

   c. *"An EPA Deputy Administrator memorandum dated 26 February 1992 entitled "Guidance of Risk Characterization for Risk Managers and Risk Assessors" indicates that a single number used to represent the health risk to an individual or population may hamper the risk manager's ability to make an informed decision. Additionally, risk estimates should present both upper bound reasonable maximum exposure (RME) and average case, or central tendency (CT)."*

   d. *"Although the geometric mean is a convenient term for describing central tendencies of log-normal distribution, it is not considered an appropriate basis for estimating the concentration term used in exposure assessments. Unlike the arithmetic mean, the geometric mean of a set of sampling results bears no logical connection to the cumulative intake that would result from the long-term contact with site contaminants. The geometric mean may differ appreciably from, and be much lower than, the arithmetic mean."*

Recommendations:

a. *"Include a schematic of a SCM that depicts both the current and the future potentially completed exposure pathways."*

b. *"Provide quantitative risk estimates for the arithmetic or geometric mean and the upper 95 percent confidence limit of that mean."*

c. *"Do not compare data representing a geometric mean with data representing an arithmetic mean."*

Response

a. Agreed. A SCM depicting the current and future potentially completed exposure pathways will be included.

b. Agreed. Quantitative risk estimates for the arithmetic or geometric mean and the upper 95 percent confidence limit of that mean will be provided.

c. Agreed. Data representing a geometric mean will not be compared with data representing an arithmetic mean.

Comment

4. Page 4-1, "Sampling Locations"

Comments:

a. "The text states on Page 3-7 that ten percent of the surface soil and soil boring samples will be submitted to an off-site laboratory for confirmatory PCB [[polychlorinated biphenyl] analysis."

b. "Reference (a) Section 4.6.2 states that "Although areas of concern are established purposively (e.g., with the intention of identifying contamination), the sampling locations within the areas of concern generally should not be sampled purposively if the data is to be used to provide defensible information for a risk assessment." Risk estimates calculated from sampling data collected from locations expected to have the highest concentrations almost always overestimate the risk. The text should clearly state how analytical data from "purposively selected sample locations" would be used in a human health risk assessment."

***Recommendation**: "The text should clearly state if analytical data from purposively selected sample locations will be used in a human health risk assessment to estimate human health exposure."*

Response

Text will be included in the Remedial Investigation report stating whether or not analytical data from purposively selected sample locations is used in the risk assessment.

Comment

5. Page 6-9, Section 6.4.1, "Groundwater Samples Collected from Monitoring Wells"

Comments:

a. The text states on Page 6-9 "Samples collected for dissolved metals will be filtered in the field prior to being submitted for analysis."

b. We recommend using both filtered and unfiltered groundwater samples in the health risk assessment. Although the regional EPA guidance requires use of data from unfiltered sample results in the quantitative health risk assessment (HRA), if risk estimates from both filtered and unfiltered samples are developed, both values can be discussed in the HRA. The difference between the risk estimates from filtered and unfiltered sampling results can be large. Providing comparison values can therefore be very useful in demonstrating that the risk estimates from filtered groundwater samples are less conservative."

***Recommendation**: Develop risk estimates for both filtered and unfiltered groundwater samples and discuss both values in the HRA.*

Response

Groundwater samples are obtained using low flow sampling procedures. This method significantly reduces turbidity in samples (i.e., values typically < 10 NTU). Therefore, unfiltered groundwater samples do not provide additional worthwhile data.

Attachment B
Comments on Draft Final RI/FS Project Plans

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

5090.5
Ser EP4340/ 11549
18 APR 2001

From: Commanding Officer, Navy Environmental Health Center
To: Commanding Officer, Atlantic Division, Naval Facilities Engineering Command (Kirk Stevens), 1510 Gilbert Street, Norfolk, VA 23511-2699

Subj: REMEDIAL INVESTIGATION PROJECT PLANS REPORT REVIEW, OPERABLE UNIT NO. 19 (SITE 84), MARINE CORPS BASE CAMP LEJEUNE, CAMP LEJEUNE, NC

Ref: (a) Baker Environmental, Inc. Transmittal ltr of 13 Mar 01

Encl: (1) Subject Medical Review
(2) Medical/Health Comments Survey

1. Per reference (a), we have completed a review of the subject document and forward our comments to you as enclosure (1).

2. Please complete and return enclosure (2) as your comments are needed to continually improve our services to you.

3. We are available to discuss the enclosed information by telephone with you and, if you desire, with you and your contractor. If you require additional assistance, please call Mr. Kenneth Gene Astley at (757) 462-5541 or Mr. David McConaughy at (757) 462-5557. The DSN prefix is 253. The e-mail addresses are: astleyg@nehc.med.navy.mil and mcconaughyd@nehc.med.navy.mil.

P. B. GILLOOLY
By direction

Copy to: (w/o Encl (2))
CNO (N-453)
NAVFAC (ENC/KA)
BUMED (MED-24)
MCB Camp Lejeune (ACS EMD/IRP, Tom Morris)
CMC (LFL)

MEDICAL REVIEW OF
DRAFT REMEDIAL INVESTIGATION/FEASIBILITY STUDY
PROJECT PLANS SITE 84/BUILDING 45 AREA
MARINE CORP BASE CAMP LEJEUNE, NORTH CAROLINA

Ref: (a) Risk Assessment Guidance for Superfund, Vol. 1, Part A: Human Health Evaluation Manual, Dec 1989 (EPA 540/1-89/002)

General Comments:

1. The document entitled "Draft Final Remedial Investigation/Feasibility Study Project Plans Site 84/Building 45 Area Marine Corp Base Camp Lejeune, North Carolina," was provided to the Navy Environmental Health Center (NAVENVIRHLTHCEN) for review on 4 May 2000. A set of figures for this report was provided on 20 March 2001. The reports were prepared for the Atlantic Division, Naval Facilities Engineering Command by Baker Environmental, Inc. This review covers both the original draft and the set of figures.

2. The text does not indicate what sampling cycle will be used. The ideal sampling strategy incorporates a full annual sampling cycle. If this strategy cannot be accommodated in the investigation, at least two sampling events should be considered. These sampling events should take place during opposite seasonal extremes.

Review Comments and Recommendations:

1. New Figure 2-4, "Estimated Area of Concern Detected PCBs Greater Than 320 mg/kg"

Comment: The Figure 2-4 uses "ND" to indicate nondetects but does not give the actual numerical value. It is also important that the data summary tables contain the necessary information for efficient risk assessment and regulatory review.

Recommendation: The text should list the actual numerical value of nondetects or include footnotes listing the sample quantitation limits at the bottom of the sample summary figure.

2. New Figure 2-6, "Organics Detected in Groundwater"

Comment: Figure 2-6 does not include the numerical units of the sample results listed.

Recommendation: Figure 2-6 should include the numerical units of the sample results listed.

3. Pages 4-4 through 4-7, Section 4.6.1, "Human Health Evaluation Process"

Comments:

a. The report does not contain a schematic of a site conceptual model (SCM) to include both current and future potential exposure pathways applicable for this site. This would help to identify the potential residual risks remaining from migration of site-related chemicals to various media to include nearby surface waters, etc.

b. The text states on Page 4-5 that "The arithmetic or geometric mean and the upper 95 percent confidence limit of that mean will be used in the summary of potential chemical data." However, the text states on Page 4-7 that "The upper 95 percent upper confidence limits of the means will be used throughout the risk assessment."

c. An EPA Deputy Administrator memorandum dated 26 February 1992 entitled "Guidance of Risk Characterization for Risk Managers and Risk Assessors" indicates that a single number used to represent the health risk to an individual or population may hamper the risk manager's ability to make an informed decision. Additionally, risk estimates should present both the upper bound reasonable maximum exposure (RME) and average case, or central tendency (CT).

d. Although the geometric mean is a convenient term for describing central tendencies of log-normal distribution, it is not considered an appropriate basis for estimating the concentration term used in exposure assessments. Unlike the arithmetic mean, the geometric mean of a set of sampling results bears no logical connection to the cumulative intake that would result from the long-term contact with site contaminants. The geometric mean may differ appreciably from, and be much lower than, the arithmetic mean.

Recommendations:

a. Include a schematic of a SCM that depicts both the current and the future potentially completed exposure pathways.

b. Provide quantitative risk estimates for the arithmetic or geometric mean and the upper 95 percent confidence limit of that mean.

c. Do not compare data representing a geometric mean with data representing an arithmetic mean.

4. Page 4-1, "Sampling Locations"

Comments:

a. The text states on Page 3-7 that ten percent of the surface soil and soil boring samples will be submitted to an off-site laboratory for confirmatory PCB [polychlorinated biphenyl] analysis.

b. Reference (a) Section 4.6.2 states that "Although areas of concern are established purposively (e. g., with the intention of identifying contamination), the sampling locations within the areas of concern generally should not be sampled purposively if the data is to be used to provide defensible information for a risk assessment." Risk estimates calculated from sampling data collected from locations expected to have the highest concentrations almost always overestimate the risk. The text should clearly state how analytical data from "purposively selected sample locations" would be used in a human health risk assessment.

Recommendation: The text should clearly state if analytical data from purposively selected sample locations will be used in a human health risk assessment to estimate human health exposure.

5. Page 6-9, Section 6.4.1, "Groundwater Samples Collected from Monitoring Wells"

Comments:

a. The text states on Page 6-9 "Samples collected for dissolved metals will be filtered in the field prior to being submitted for analysis."

b. We recommend using both filtered and unfiltered groundwater samples in the health risk assessment. Although the regional EPA guidance requires use of data from unfiltered sample results in the quantitative health risk assessment (HRA), if risk estimates for both filtered and unfiltered samples are developed, both values can be discussed in the HRA. The difference between the risk estimates from filtered and unfiltered sampling results can be large. Providing comparison values can therefore be very useful in demonstrating that the risk estimates from filtered groundwater samples are less conservative.

Recommendation: Develop risk estimates for both filtered and unfiltered ground water samples, and discuss both values in the HRA.

From: "Stevens, Kirk (EFDLANT)" <StevensKA@efdlant.navfac.navy.mil>
To: "Rich Bonelli (E-mail)" <RBONELLI@mbakercorp.com>, "Scott Bailey (E-mail)" <sbailey2@ch2m.com>
Date: 5/1/01 8:59AM
Subject: FW: Site 84 comments

Comments on Site 84

-----Original Message-----
From: Raines GS12 Rick H [mailto:RainesRH@lejeune.usmc.mil]
Sent: Tuesday, May 01, 2001 8:42 AM
To: Kirk Stevens (E-mail)
Subject: Site 84 comments

Kirk,
I only have two comments on the Draft Final RI/FS Work Plans:
1. Work Plan Section 1.2, Page 1-2, 3rd Paragraph
This section discusses the scoping process and project meetings to discuss the proposed RI/FS and all the parties that attended. When were you all able to meet without the activity? Why weren't we invited to your meetings? If we were please include the Activity in the report..

2. Field Sampling and Analysis Plan Section 1.0, Page 1-1, 2nd Paragraph
This section still discusses sampling the surface water and sediments of Northeast Creek. This sampling has been removed from the rest of the report and references to it need to be taking out of this section.

Rick

From: "Stevens, Kirk (EFDLANT)" <StevensKA@efdlant.navfac.navy.mil>
To: "Rich Bonelli (E-mail)" <RBONELLI@mbakercorp.com>
Date: 4/25/01 2:41PM
Subject: FW: OU19 Site 84 - Final WP

Here is EPA's comments

-----Original Message-----
From: Townsend.Gena@epamail.epa.gov
[mailto:Townsend.Gena@epamail.epa.gov]
Sent: Thursday, April 12, 2001 11:18 AM
To: blackwellwc@efdlant.navfac.navy.mil; david.lown@ncmail.net; diane.rossi@ncmail.net; jdunn@theitgroup.com; rainesrh@lejeune.usmc.mil; rbonelli@mbakercorp.com; sbailey2@CH2M.com; stevenska@efdlant.navfac.navy.mil
Subject: OU19 Site 84 - Final WP

attached find the letter that accepts the doc. as final. There is one additional comment. It does not require text correction, just sample quantity awareness.

We state 10% of samples be sent off-site for confirmation. We should make sure for risk assessment purposes that the number is 10 or more. Speaking with Ted Simon more is better. This will generate a more reliable site specific risk.

(See attached file: OU19dwp.con.wpd)

Gena D. Townsend
US EPA
61 Forsyth Street, SW
Atlanta, Georgia 30303
Tel. No: (404) 562-8538
Townsend.Gena@epa.gov

From: <Townsend.Gena@epamail.epa.gov>
To: <blackwellwc@efdlant.navfac.navy.mil>, <david.lown@ncmail.net>, <diane.rossi@ncmail.net>, <jdunn@theitgroup.com>, <rainesrh@lejeune.usmc.mil>, <rbonelli@mbakercorp.com>, <sbailey2@CH2M.com>, <stevenska@efdlant.navfac.navy.mil>
Date: 4/12/01 12:24PM
Subject: OU19 Site 84 - Final WP

attached find the letter that accepts the doc. as final. There is one additional comment. It does not require text correction, just sample quantity awareness.

We state 10% of samples be sent off-site for confirmation. We should make sure for risk assessment purposes that the number is 10 or more. Speaking with Ted Simon more is better. This will generate a more reliable site specific risk.

(See attached file: OU19dwp.con.wpd)

Gena D. Townsend
US EPA
61 Forsyth Street, SW
Atlanta, Georgia 30303
Tel. No: (404) 562-8538
Townsend.Gena@epa.gov

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, S.W.
ATLANTA, GEORGIA 30303

April 11, 2001

4WD-FFB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Kirk Stevens
Department of the Navy - Atlantic Division
Naval Facilities Engineering Command
Code 1823
Norfolk, Virginia 23511-6287

SUBJ: MCB Camp Lejeune
Draft Project Plan
Operable Unit No. 19, Site 84/Building 45

Dear Mr. Stevens:

The Environmental Protection Agency (EPA) has completed its review of the above subject document and has determined that the comments have been satisfactorily addressed. The document is accepted as final. There is one additional comment to be considered. It has been traditionally stated that 10% of the collected samples will be sent to an off-site lab for confirmatory analysis. Although this is a valid statement, the number of samples sent to the off-site lab should equate to10 or more. This number is needed to effectively calculate the risk.

If there are any questions, I can be reached at (404) 562-8538.

Sincerely,

Gena D. Townsend
Senior Project Manager

cc: Dave Lown, NCDEHNR

From: David Lown <David.Lown@ncmail.net>
To: "Stevens, Kirk" <StevensKA@efdlant.navfac.navy.mil>
Date: 5/9/01 10:43AM
Subject: NC Comments OU19 RIFS Workplan

Kirk,

Attached are our Risk Assessor's (David Lilley) comments of this document. I've reviewed the document and have one comment.

Page 3-2. Section 3.1.1. Second sentence. Comment: The State and EPA regulators are part of the decision-making team.

Dave

--
****
David J. Lown, LG, PE
Department of Environment and Natural Resources
401 Oberlin Road
Raleigh, North Carolina 27605
(919) 733-2801 ext 278
David.Lown@ncmail.net
****

CC: "Rick Raines (E-mail)" <rainesrh@lejeune.usmc.mil>, "Diane Rossi (E-mail)" <Diane.Rossi@ncmail.net>, "Gena Townsend (E-mail)" <townsend.gena@epa.gov>, "Jim Dunn (E-mail)" <Jdunn@TheITGroup.com>, "Rich Bonelli (E-mail)" <rbonelli@mbakercorp.com>, Channing Blackwell <blackwellwc@efdlant.navfac.navy.mil>, Thomas Burton <BurtonTH@lejeune.usmc.mil>

May 8, 2001

To: David Lown

From: David Lilley

Re: Comments on the Draft Final Remedial Investigation/Feasibility Study Project Plans, OU19, Site 84/Building 45 Area, MCB Camp Lejeune, NC March 2001

1. Page 4-7: Please include the exposure of base personnel to groundwater.

2. Page 4-7: Please include the exposure of the future construction worker to sediment via the dermal route.

3. Page 4-12: EPA Region IV and the State of North Carolina no longer consider a frequency of detection of less than 5% to be a valid reason fo excluding COPCs.

From: "Dunn Jr, James A" <Jdunn@TheITGroup.com>
To: "Kirk Stevens (E-mail)" <StevensKA@efdlant.navfac.navy.mil>
Date: 3/23/01 12:37PM
Subject: Site 84 Plans Review

Work Plan

General:
During Partnering meetings we discussed investigative/ sampling in the Building 84 basement and drain system as a PCB source area. No sampling of this area is proposed in the plans.

We also discussed the possibility of combining the investigation with the potential remedial action thereby having equipment available to assist in sample procurement from areas around drain lines.

Page 4-5, Section 4.6.1.2:
What is the purpose of calculating the 95% UCL of the sampling program detections? Will the calculated values be utilized in some future decision process?

Field Sampling and Analysis Plan

Page 4-1, Section 4.2.1 and Figure 4-1:
The figure does not reflect the "hexagonal grid" that is used in the referenced EPA sampling method. Note this grid type has been proven to provide a higher degree of detecting hotspots within a sampling area

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PCB analysis should be added to the IDW soil characterization as well as any Base Landfill required parameters if it is a possible disposal site.

Table 7-1
Note that immunoassay is accepted as SW-846 method 4020
Add PCBs to the IDW soil analysis
Note 5 - TCLP for disposal does not yield the TCL/ TAL analyte list, just the TCLP compounds

QAPP

General:
Check symbols in the document. Our copy has dollar signs as bullets

Table 6-2:
Note that there is a 14 day holding time for to TCLP extraction for all TCLP compounds.

CC: "Rich Bonelli (E-mail)" <rbonelli@mbakercorp.com>, "Scott Bailey (E-mail)" <sbailey2@ch2m.com>