

**State of North Carolina  
Department of Environment  
and Natural Resources  
Wilmington Regional Office  
Division of Waste Management  
UST Section**



**Michael F. Easley, Governor  
William G. Ross Jr., Secretary  
Dexter R. Matthews, Director**

May 29, 2008

Commanding Officer  
Attn: I&E/EMD/EQB, Dr. Johanna Arnold-  
UST Program Mgr., Bldg. 12  
PSC Box 20004  
MCB Camp Lejeune, NC 28542-0004

Subject: Review of Annual Monitoring  
Report  
USMC Camp Lejeune Bldg. 820  
Brewster Boulevard  
Camp Lejeune, Onslow County  
Incident No. 23135  
Risk: Intermediate

Dear Dr. Arnold:

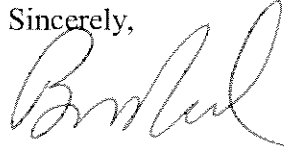
Thank you for submitting the subject report to this office on May 27, 2008. The UST Section has reviewed this report and offers the following comments:

- Was the air sparging system indeed turned-off one week before sampling? The sampler noted the following condition on MW-10: "extremely bubbling could not sample."
- On Page 6-1 it was proposed that the air sparging system will be on when the soil vapor extraction system is on. It was also proposed to only operate the soil vapor system when the water level in MW-5 was lower than 8 feet. Does this mean that the air sparging system would be off when the soil vapor system is off?
- There is a recommendation in the report to discontinue sampling some deep monitoring wells. The Division suggests that all deep wells continue to be sampled, with the possible exception of MW-23, which may be discontinued at this time.

- The proposal for the shallow well sampling deletions from the monitoring program is fine with the exception of MW-12.
- The Base needs to consider whether they want to treat about one-third of the MTBE plume, which is presently under natural attenuation.

Please provide a response to this letter by July 29, 2008. If you have any questions concerning this letter, please contact me at (910) 796-7400.

Sincerely,



Bruce Reed  
Hydrogeologist II

Cc: WiRO-UST

s:\bruce\arnold820.may

Marine Corps Base Camp Lejeune  
EMD Document Routing Slip

Open  Closed

Info

709

Correspondence ID Number

6/22  
Due Date

Tickler #

Review

Tickler Closed

Action

Outgoing

Routing

Incoming

Signature

FROM: DIRECTOR

TO: EQB

RETURN:

COPY:

SUBJECT: REVIEW OF ANNUAL MONITORING REPORT BLDG 820

COMMENTS:

*Brynn / Johnson - please provide response  
by July 22 - Thx.  
ST*

ROUTING: Originator: J LEDFORD Initials: JCL Date: 6/17/2008

1. J TOWNSON Initials: *Just* Date: 6/17/08

2. Initials: Date:

3. Initials: Date:

Hard Copy Location: Bldg 12 Room: 241 Date filed: Filed by:

Official Electronic Copy Location Date filed: Filed by:

LINK TO OFFICIAL:

\*\*\* TO CREATE A LINK, CREATE A SHORTCUT FOR YOUR DOCUMENT IN THE SAME DIRECTORY. RIGHT-CLICK ON THE SHORT CUT GO TO THE PROPERTIES AND COPY THE TARGET BY PRESSING CTRL+C. THEN GO TO THIS LINK AND PASTE WITH CTRL+V

Working Electronic Copy Location Date filed: Filed by:

LINK TO WORKING:

**RECEIVED**

JUN 17 2008

EQB  
ENVIRONMENTAL  
MANAGEMENT

*Johnson - original  
6/17/08*

Special Mailing Instructions:

Date Mailed: Mailed By: Scanned

Mail Tracking Info:  Regular  Certified  FedEx #:

RECEIVED

JUN 17 2008

ENVIRONMENTAL  
MANAGEMENT

**State of North Carolina  
Department of Environment  
and Natural Resources  
Wilmington Regional Office  
Division of Waste Management  
UST Section**



**Michael F. Easley, Governor  
William G. Ross Jr., Secretary  
Dexter R. Matthews, Director**

July 11, 2006

Commanding Officer  
Attn: I&E/EMD/EQB (Mr. Andrew Smith, Bldg. 12)  
PSC Box 20004  
MCB Camp Lejeune, NC 28542-0004

Subject: Review of Report Entitled  
"2005 Annual Monitoring Report  
Building 820"  
Stone Street  
Camp Lejeune, Onslow County  
Incident No. 23135  
Risk Ranking: I 95R

Dear Mr. Smith:

Thank you for submitting the subject report to the Division on June 30, 2006. The recommendations in the report are satisfactory. However, the monitoring wells constructed at the site in 2006 must be added to the monitoring program. The Base may also want to consider adding PW-1 to the monitoring program since it contained concentrations over state standards. The sampling sheets indicated the following: MW-3 needs a cap; MW-6 is producing sand; and the purge volume needs to be stated on all sampling sheets. Please take action to resolve these matters. Also, please submit the Appendix A information, as it was not present in the report. The Division looks forward to receiving the modeling information by August 9, 2006.

If you have any questions concerning this letter, please contact me at (910) 796-7400.

Sincerely,

Bruce Reed  
Hydrogeologist II

cc: WiRO-UST

s:\bruce\smith820-05.mon

State of North Carolina  
Department of Environment  
and Natural Resources  
Wilmington Regional Office  
Division of Waste Management  
UST Section



Michael F. Easley, Governor  
William G. Ross Jr., Secretary  
Dexter R. Matthews, Director

April 12, 2006

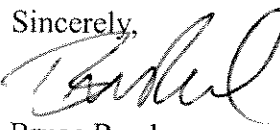
Commanding General  
Attn: I&E/EMD/EQB (Mr. Andrew Smith, Bldg. 12)  
PSC Box 20004  
MCB Camp Lejeune, NC 28542-0004

Subject: Review of Report Entitled  
"Remedial Action Optimization and  
Revised Corrective Action Plan  
Addendum"  
Building 820, Stone Street  
Camp Lejeune, Onslow County  
Incident No. 23135, Risk: 195R

Dear Mr. Smith:

Thank you for submitting the subject report to the Division on March 27, 2006. Most of the recommendations in the report are satisfactory. However, the Division suggests that some contaminant transport modeling be performed as soon as possible to assess whether the contaminant plume will pose a risk to any receptors. Two years of natural attenuation parameter monitoring is too lengthy a time to assess whether natural attenuation will be the recommended course of action for the deep contamination at this site. Please notify the Division in writing by May 12, 2006, when the results of the modeling can be submitted.

Also, PW-1 should be re-sampled and the results submitted to my attention before final approval of the request to abandon this well is granted. If you have any questions concerning this letter, please contact me at (910) 796-7426.

Sincerely,  
  
Bruce Reed  
Hydrogeologist II

cc: WiRO-UST

s:\bruce\smith820rao.apr

State of North Carolina  
Department of Environment  
and Natural Resources  
Wilmington Regional Office  
Division of Waste Management  
UST Section



Michael F. Easley, Governor  
William G. Ross Jr., Secretary  
Dexter R. Matthews, Director

June 24, 2005

Commanding General  
Attn: I&E/EMD/EQB (Mr. Andrew Smith, Bldg. 12)  
PSC Box 20004  
MCB Camp Lejeune, NC 28542-0004

Subject: Review of Report Entitled  
"Soil Contamination Report"  
Building 820  
Stone Street  
Camp Lejeune, Onslow County  
Incident No. 23135  
Risk Ranking: 195R

Dear Mr. Smith:

Thank you for submitting the subject report to the Division on June 16, 2005. The recommendations in the report are satisfactory. However, the additional groundwater assessment needs to assess the vertical and horizontal extent of the contaminant plume (15A NCAC 2L .0115(g)). The submittal deadline for the additional assessment report is December 31, 2005. Also, please notify the Division in writing when supply well 623 has been shutdown. This action was recommended in the report submitted on March 17, 2004.

*Division Notified of well 623 shut down in letter dated July 15, 2005* *STJ*  
If you have any questions concerning this letter, please contact me at (910) 796-7426.

*Well was shut down and locked out  
on 14 July 2005* *STJ*

Sincerely,

Bruce Reed  
Hydrogeologist II

cc: WiRO-UST

s:\bruce\smith820.scr

**State of North Carolina  
Department of Environment  
and Natural Resources  
Wilmington Regional Office  
Division of Waste Management  
UST Section**

*schedule shut down well  
623  
shut down above  
portion  
install 2<sup>nd</sup> wells  
soil samples + SRE*



**Michael F. Easley, Governor  
William G. Ross Jr., Secretary  
Dexter R. Matthews, Director**

March 23, 2004

Mr. Thomas Burton  
Attention: Director, I & E/EMD/EQB  
Marine Corps Base  
PSC Box 20004  
Camp Lejeune, NC 28542-0004

**Subject: Review of Optimization Report  
USMC-Camp Lejeune, Bldg. 820  
Incident No. 23135  
Intermediate Risk Classification**

Dear Mr. Burton:

Thank you for submitting the subject report to the Division on March 17, 2004. The Division has reviewed the report and offers the following comments:

- The recommendations in the report are acceptable at this time, except as noted below. The Division recommends sampling monitoring wells MW-3, MW-6, and PW-1, as it appears that groundwater from these wells has not been analyzed recently. Please do not abandon PW-1 until the Division has had a chance to review the resampling data from PW-1, and can further review this particular recommendation.
- ✓ The report referenced that soil cleanup would be to residential maximum soil contaminant concentrations (mscc's). Since this incident site is currently ranked as intermediate risk classification, pursuant to 15A NCAC 2L .0115(i)(4), soil cleanup must be to the lowest of soil-to-groundwater or residential maximum soil contaminant concentrations. The Division has assigned the site a residential land use classification due to the proximity of a playground, as referenced in Appendix E of the report.
- ✓ The report referenced that the current applicable remedial requirements for this site are the Risk Based Corrective Action for Petroleum USTs per 15A NCAC 2L .0106. The correct section for these activities is 15A NCAC 2L .0115.
- Additional soil samples and/or screening may be needed while collecting the soil samples referenced on Page 12.

*3 to 6 in schedule  
semi-ann for soil  
1<sup>st</sup> year  
will sample PW1  
semi-annual too along  
w/ above (same parameters).*

*1 Such as ???*

*Will take follow up samples as needed based on cleanup results.*

State of North Carolina  
Department of Environment  
and Natural Resources  
Wilmington Regional Office  
Division of Waste Management  
UST Section

Michael F. Easley, Governor  
William G. Ross Jr., Secretary  
Dexter R. Matthews, Director



March 10, 2004

Mr. Thomas Burton  
Attention: Director, I & E/EMD/EQB  
PSC Box 20004  
Camp Lejeune, NC 28542-0004

Subject: Review of 2003 Annual Monitoring  
Report  
USMC-Camp Lejeune, Bldg. 820  
Incident No. 23135  
Intermediate Risk Classification

Dear Mr. Burton:

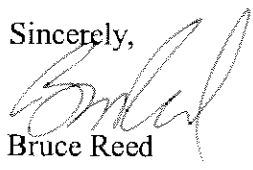
Thank you for submitting the subject report to the Division on March 5, 2004. The Division has reviewed the report and offers the following comments:

The recommendations in the report are acceptable at this time. Since naphthalene was the only compound recently detected by the EPA Method 610 analysis, you may be able to get the laboratory to report this compound under EPA Method 602.

Per discussion with Ms. Nikki Hall yesterday, it was learned that the water supply well figure received at the October Partnering Meeting was not correct. The Division understands that the actual water supply well locations within 1,500 feet of the site are actually as illustrated on Figure 2.1 in the monitoring report. It was also learned that the action items approved in the meeting have not been completed. Pursuant to the Base's August 25, 2003 letter, the Division expects any system modifications to be complete by June 2004.

The Division understands that an Optimization Report is forthcoming. If you have any questions concerning this letter, please call me at (910) 395-3900.

Sincerely,

  
Bruce Reed  
Hydrogeologist II

cc: WIRO-UST

s:\bruce\burton8202003mar



UNITED STATES MARINE CORPS  
MARINE CORPS BASE  
PSC Box 20004  
Camp Lejeune, North Carolina 28542-0004

READ FILE

01081

In reply refer to:  
6287  
BEMD

AUG 25 2003

Mr. Bruce Reed  
North Carolina Department of Environment  
and Natural Resources  
Division of Waste Management  
Underground Storage Tank Section  
127 Cardinal Drive  
Wilmington, North Carolina 28405-3845

Dear Mr. Reed:

This letter is in response to your request dated July 29, 2003 for Marine Corps Base, Camp Lejeune (MCBCL) to provide its plan of action to address deep Methyl Tert-Butyl Ether (MTBE) contamination at Underground Storage Tank (UST) Site 820. As you know, MCBCL is having Catlin Engineers and Scientists perform an optimization study at each active remediation site. Our goal in performing this study is to ensure we are meeting Corrective Action Plan requirements, as well as, recommend modifications to optimize and potentially reduce costs for each system. This study, currently underway, includes UST Site 820.

Review of UST Site 820 sampling data indicates that we have not fully delineated the deep contaminant plume. In order to make viable recommendations on how best to address MTBE levels at depth, we will install additional wells to better define the contaminant boundary. Once delineation is complete, we will first utilize the existing system to address contamination by adding deep sparge points, if deemed appropriate. Secondly, Catlin Engineers and Scientists may recommend supplemental technologies to capture, treat, and/or contain the MTBE.

As stated, the optimization study is underway. Delineation and recommendation implementation efforts will be funded once fiscal year 2004 funds are received in December 2003. It is our estimate that any system modification would be completed by June 2004.

If you would like more information, please contact Ms. Nikki Hall, Environmental Quality Branch, Environmental Management Division, Installations and Environment Department, at (910) 451-9610.

Sincerely,

SCOTT A. BREWER, PE  
Director, Environmental Management  
By direction of  
the Commanding General

6287  
BEMD

Copy to:  
NAVFACENGCOM (Mr. John Conway Code EV32JC)  
Catlin (Mr. Michael E. Mason)  
Shaw (Mr. Ron Kenyon)