

Filed to UR 1/11/2001

Nikki

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

James B. Hunt, Jr., Governor
Bill Holman, Secretary



For Astrai-
Pulley
NCDENR

N 1/4

January 3, 2001

Ms. Nikki Hall
United States Marine Corps
PSC Box 20004
Camp Lejeune, NC 28542-0004

Subject: Notice of No Further Action
15A NCAC 2L .0115(h)
USMC-Camp Lejeune, Bldg. PT-37
Parachute Tower Road
Camp Lejeune, Onslow County
Incident No. 20864
Low Risk Classification

Dear Ms. Hall:

On December 28, 2000, the Division of Waste Management (DWM) Wilmington Regional Office received a Soil Assessment Report and Request For "No Further Action" Status for the above-referenced site. A review of the report shows that soil contamination does not exceed the soil-to-groundwater maximum soil contaminant concentrations established in 15A NCAC 2L .0115(m). A review of the Limited Site Assessment Report also shows that contaminated groundwater does not exceed gross contamination levels that were established in 15A NCAC 2L .0115(g).

Based on information provided to date, the DWM determines that no further action is required for this incident. This determination is conditional pending completion of the public notice specified below. Once proper public notice has been given, this determination will apply unless the DWM later determines that the discharge or release poses an unacceptable risk or a potentially unacceptable risk to human health or the environment.

Please be advised that because contaminated groundwater has not been restored to the level of the standard or interim standard established in 15A NCAC 2L .0202, groundwater within the area of contamination or within the area where contamination is expected to migrate, **is not suitable** for use as a water supply.

Pursuant to 15A NCAC 2L .0115(e), the USMC has a continuing obligation to notify the DWM of any changes that the USMC knows of or should know of, that might affect the level of risk assigned to the discharge or release. Such changes include, but are not limited to, changes in zoning of real property, use of real property or the use of groundwater that has been contaminated or is expected to be contaminated by the discharge or release, if such change could cause the DWM to reclassify the risk. Please note that this responsibility not only pertains to changes involving the property on which the release occurred, but to changes involving the surrounding properties as well.

Please be advised that the USMC, must comply with the public notice requirements of 15A NCAC 2L .0115(k) as specified below. **If public notice is not provided as required, this no further action determination will be deemed invalid.** Within 30 days of receipt of this no further action notice, the USMC must provide a copy of this notice to the following persons:

- local health director;
- chief administrative officer (i.e., Mayor, Chairman of the County Commissioners, County Manager, City Manager or other official of equal or similar position) of each political jurisdiction in which the contamination occurs;
- all property owners and occupants within or contiguous to the area containing contamination; and
- all property owners and occupants within or contiguous to the area where the contamination is expected to migrate.

Copies of this no further action notice must be sent to the persons listed above by certified mail. If it is impractical to provide notice by certified mail to the occupants of apartment buildings, condominiums, office buildings, etc., the USMC may post a copy of this notice in a prominent place where the occupants are most likely to see it.

Within **60 days** of receiving this no further action notice, the USMC must provide the DWM Wilmington Regional Office with proof of receipt of the copy of the notice or of refusal by the addressee to accept delivery of the copy of the notice. If a copy of the notice is posted, the USMC must provide the DWM with a description of the manner in which the notice was posted.

Ms. Nikki Hall
January 3, 2001
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Interested parties may examine the Soil Assessment Report and Request For "No Further Action" Status by contacting Ms. Nikki Hall at (910) 451-9610. In addition, the DWM Wilmington Regional Office has the Soil Assessment Report and Request For "No Further Action" along with other site information on file and available for public review. Interested parties may arrange to review this information by contacting the regional office as listed below. In addition, comments on the Soil Assessment Report and Request For "No Further Action" may be submitted to the regional office.

Bruce Reed
NCDENR Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, N C 28405
(910) 395-3900

Please be advised that the USMC must close any monitoring wells or injection wells used to investigate or remediate this incident in accordance with 15A NCAC 2C .0113 and .0214, respectively. For guidance on closure of infiltration galleries, please contact the Wilmington Regional Office.

Should the USMC have any questions concerning this notice, please contact Bruce Reed at (910) 395-3900.

Sincerely,



David R. Holsinger
Regional Supervisor

DRH/BAR

Attachment: Well Abandonment Form

cc: Ruth Strauss
WiRO-UST

s:\ust\bruce\hall37.nfa

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

James B. Hunt, Jr., Governor
Bill Holman, Secretary



November 16, 1999

CERTIFIED MAIL Z 495 992 323
RETURN RECEIPT REQUESTED

Ms. Nikki Hall
Marine Corps Base
PSC Box 20004
Camp Lejeune, NC 28542-0004

RE: Notice of Regulatory Requirements
15A NCAC 2L .0115(d)
USMC-Camp Lejeune, Bldg. PT-37
Camp Lejeune, Onslow County
Incident No. Pending
Low Risk Classification

Dear Ms. Hall:

Information received by this office on June 16, 1999, confirms a release or discharge from a petroleum underground storage tank (UST) system at the above-referenced site. Records indicate that you are the owner and/or operator of this UST system. This letter is a standard notice explaining the actions you must take as a result of the release or discharge in accordance with North Carolina statutes and rules. The UST Section of the Division of Waste Management administers the state's rules for USTs and the required response for petroleum releases. Those rules are located in Title 15A, Subchapter 2L and Title 15A, Subchapter 2N of the North Carolina Administrative Code (NCAC).

The risk-based rule for petroleum USTs, 15A NCAC 2L .0115(d), states that the department shall classify the risk of each known discharge or release from the UST system. A review of the Limited Site Assessment Report that you have provided to this office on October 27, 1999, indicates that:

- (1) Based on a review of site-specific information, limited assessment or interim corrective action, the discharge or release poses no significant risk to human health or the environment.

Based on the conditions above, the discharge or release at the subject site has been classified as "low risk." In addition, the land use at the site has been classified as industrial/commercial. Please note that 15A NCAC 2L .0115(e) requires you to notify the Department of any changes that might affect the risk or land use classifications that have been assigned.

Ms. Nikki Hall
November 16, 1999
Page 2

Based on the determination that the risk posed by the discharge or release at the subject site is low, you must comply with the soil assessment and cleanup requirements of 15A NCAC 2L .0115(i). To achieve compliance with this rule, please submit a Soil Assessment Report documenting the vertical and horizontal extent of soil contamination. If soil contamination is present at concentrations exceeding the applicable cleanup levels, the Soil Assessment Report must contain a plan and schedule for soil remediation. The Soil Assessment Report must be received by this office within **90 days** of the date of receipt of this notice. A responsible party who submits a Soil Assessment Report that proposes to remediate or leave in-place soil contamination exceeding the residential or soil-to-groundwater maximum contaminant concentrations established in 15A NCAC 2L .0115(m), whichever are lower, must provide public notice as specified in 15A NCAC 2L.0115(j).

Once soil contamination is remediated, you are required to submit a Soil Cleanup Report with Site Closure Request. This report shall demonstrate that soil contamination was remediated to the industrial/commercial maximum soil contaminant concentrations established in 15A NCAC .0115(m). A time frame for submittal of a Soil Cleanup Report with Site Closure Request must be specified in the plan and schedule for soil remediation contained in the Soil Assessment Report.

Please refer to the January 1998 *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater, Volume II* ("the Guidelines") for further information on assessment, cleanup, public notification and reporting requirements. The Guidelines are available on the Internet at <http://gw.ehnr.state.nc.us> or may be purchased from the UST Section for a fee of \$7.00. To purchase a copy of the Guidelines, please send a check made payable to DENR to:

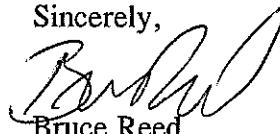
DENR/DWM/UST Section
1637 Mail Service Center
Raleigh, NC 27626-0616

Your prompt attention to the items described herein is required. Failure to comply with the state's rules in the manner and time specified, may result in the assessment of civil penalties and /or the use of other enforcement mechanisms available to the state. Each day that a violation continues may be considered a separate violation.

Also note that performing assessment and cleanup work that is not required under 15A NCAC 2L.0115 is not reimbursable from the Commercial or Noncommercial Leaking Petroleum Underground Storage Tank Cleanup Funds.

If you have any questions regarding the actions that must be taken or the rules mentioned in this letter, please contact me at the letterhead address and/or at 910-395-3900. If you have any questions regarding trust fund eligibility or reimbursement, please contact the UST Section at (919) 733-8486.

Sincerely,



Bruce Reed
Hydrogeologist II

BR

cc: Rob Krebbs, Onslow County Health Dept., WiRO-UST
s:\ust\bruce\hall37.nov

State of North Carolina
Department of
and Natural Resources
Wilmington Region
Division of Waste
UST Section

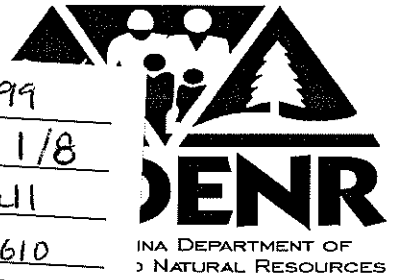
James B. Hunt,
Bill Holman, Secretary

OPTIONAL FORM 99 (7-90) FYI 18 Nov 99

FAX TRANSMITTAL # of pages 1/8

To Lori Reuther	From Nikki Hall
Dept./Agency LANTRDIV	Phone # 910.451.9610
Fax # 802624804	Fax # .5997

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION



rather soil
assessment addition...

November 16, 1999

Ms. Nikki Hall
Marine Corps Base
PSC Box 20004
Camp Lejeune, NC 28542-0004

Subject: Review of Site Documentation
USMC-Camp Lejeune-Bldg. PT-37
Incident No. Pending
Camp Lejeune, Onslow County

Dear Ms. Hall:

Thank you for providing site documentation to this office on June 16, 1999. After further review of this report, the UST Section needs the following information to consider closure of this UST incident:

1. This site has been determined to be low-risk. Separate correspondence has very recently been sent to you concerning the need for a complete soil assessment. It is important that the transfer line be located and properly assessed during this study since it was not performed during tank closure.

The Raleigh Central Office has recently revised the home-heating oil brochure. I have enclosed a copy for your records. Also enclosed are the recently revised Tables 4 and 7 from the Guidelines document. Thank you for your continued cooperation in conjunction with this site. If you have any questions concerning this letter, please contact me at (910) 395-3900.

Sincerely,

Bruce Reed
Hydrogeologist II

Enclosures

BR

cc: WiRO-UST

Trying again...

s:\ust\bruce\hall37ln.nov

Phase I LSA submitted
to state 10/20/1999
(along w/ 5688)

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



James B. Hunt, Jr., Governor
Wayne McDevitt, Secretary

March 26, 1999

CERTIFIED MAIL P 455 445 860
RETURN RECEIPT REQUESTED

Ms. Nikki Hall
Commanding General
(Attn AC/S EMD/IRD)
Marine Corps Base
PSC Box 2004
Camp Lejeune, NC 28542-0004

**SUBJECT: Notice of Regulatory Requirements
15A NCAC 2L .0115(c)
Risk-Based Assessment and Corrective Action For
Petroleum Underground Storage Tanks
USMC-Camp Lejeune, PT-37
Camp Lejeune, Onslow County
Incident #pending**

Dear Ms. Hall:

Information received by this office on March 15, 1999, confirms a release or discharge from a petroleum underground storage tank (UST) system at the above referenced site. Records indicate that the United States Marine Corps is the owner of this UST tank system. This letter is a standard notice explaining the actions you must take as a result of the release or discharge in accordance with North Carolina statutes and rules. The UST Section of the Division of Waste Management administers the state's rules for USTs and the required response for petroleum releases. Those rules are located in Title 15A, Subchapter 2L and Title 15A, Subchapter 2N of the North Carolina Administrative Code (NCAC).

As a responsible party, you are required to comply with the release response and corrective action requirements of 15A NCAC 2L .0115(c), which include the requirements established in 15A NCAC 2N. Listed is a general description of actions you must take to comply with State rules. For a detailed description of your requirements please refer to the enclosed rules and the January 1998 *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater, Volume II* ("the Guidelines"). The Guidelines are available on the Internet at <http://gw.ehnr.state.nc.us> or may be purchased from the UST

Section for a fee of \$7.00. To purchase a copy of the Guidelines, please send a check made payable to DENR to:

DENR/DWM/UST Section
P.O. Box 29616
Raleigh, NC 27626-0616

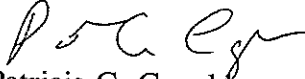
Required Actions:

- 1) If you have not already done so, you must take immediate action to prevent any further release of the regulated substance into the environment and to identify and mitigate any fire, explosion and vapor hazards; remove any free product; and comply with the requirements of Rules .0601 through .0604 and .0701 through .0703 and .0705 of Subchapter 2N;
- 2) Incorporate the requirements of 15A NCAC 2N .0704 into the report to be submitted in accordance with 15A NCAC 2L .0115 (c)(3) or (c)(4), whichever is applicable (see Item #3 below). This shall constitute compliance with the reporting requirements of 15A NCAC 2N .0704(b);
- 3) If you can demonstrate that no soil remains in the unsaturated zone in the sidewalls and at the base of the UST system excavation with contaminant levels exceeding either the "soil-to-groundwater" or the residential maximum soil contaminant concentrations (See Guidelines), whichever are lower, then submit a Soil Contamination Report in accordance with 15A NCAC 2L.0115(c)(3). Upon approval of this report, the Department will issue a notice indicating that no further action related to this incident is required; or,
- 4) If the requirements of 15A NCAC .0115(c)(3) cannot be met as described in Item #3 above, submit a Limited Site Assessment (LSA) Report in accordance with 15A NCAC 2L .0115(c)(4), containing information needed by the Department to classify the level of risk to human health and the environment posed by the discharge or release. Based on a review of the information submitted in the LSA, the Department will classify the risk of the discharge or release as high, intermediate or low. At that time, the Department will also classify the land use of the site as either residential or industrial/commercial. You will be notified of the risk and land use classifications once review of your LSA Report is completed.

USMC-Camp Lejeune, PT-37
March 26, 1999
Page Three

If you believe that any of the information requested above has already been submitted or, if you have any questions regarding the actions that must be taken or the rules mentioned in this letter, please contact me at the Wilmington Regional office at the letterhead address or at (910) 395-3900 (extension 236).

Sincerely,


Patricia C. Coughlan
Regional Supervisor, UST Section

Enclosures: 15A NCAC 2L .0115

cc: Bill Reid - Central Office
WiRO

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the variance as well as any property owners adjacent to the site covered by the variance.

(d) Upon receipt of the application, the Director will review it for completeness and request additional information if necessary. When the application is complete, the Director shall give public notice of the application and schedule the matter for a public hearing in accordance with G.S. 143-215.4(b) and the procedures set out in Paragraph (e) of this Rule.

(e) Notice of Public Hearing:

(1) Notice of public hearing on any variance application shall be circulated in the geographical areas of the proposed variance by the Director at least 30 days prior to the date of the hearing:

- (A) by publishing the notice one time in a newspaper having general circulation in said county;
- (B) by mailing to the North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Health and appropriate local health agency;
- (C) by mailing to any other federal, state or local agency upon request;
- (D) by mailing to the local governmental unit or units having jurisdiction over the geographic area covered by the variance;
- (E) by mailing to any property owner within the proposed area of the variance, as well as any property owners adjacent to the site covered by the variance; and
- (F) by mailing to any person or group upon request.

(2) The contents of public notice of any hearing shall include at least the following:

- (A) name, address, and phone number of agency holding the public hearing;
- (B) name and address of each applicant whose application will be considered at the meeting;
- (C) brief summary of the variance request;
- (D) geographic description of a proposed area for which a variance is requested;
- (E) brief description of activities or operations which have or will result in the discharge of contaminants to the groundwaters described in the variance application;
- (F) a brief reference to the public notice issued for each variance application;
- (G) information regarding the time and location for the hearing;
- (H) the purpose of the hearing;
- (I) address and phone number of premises at which interested persons may obtain further information, request a copy of each application, and inspect and copy forms and related documents; and
- (J) a brief description of the nature of the hearing including the rules and procedures to be followed. The notice shall also state that additional information is on file with the Director and may be inspected at any time during normal working hours. Copies of the information on file will be made available upon request and payment of cost or reproduction.

(f) All comments received within 30 days following the date of the public hearing shall be made part of the application file and shall be considered by the Commission prior to taking final action on the application.

(g) In determining whether to grant a variance, the Commission shall consider whether the applicant has complied with any Special Order, or Special Order by Consent issued under G.S. 143-215.2.

(h) If the Commission's final decision is unacceptable, the applicant may file a petition for a contested case in accordance with Chapter 150B of the General Statutes. If the petition is not filed within 60 days, the decision on the variance shall be final and binding.

individual site; and

- (6) accomplish these goals in a cost-efficient manner to assure the best use of the limited resources available to address groundwater pollution within the State.

(b) This Rule applies to any discharge or release from a "commercial underground storage tank" or a "noncommercial underground storage tank," as those terms are defined in G.S. 143-215.94A, which is reported on or after the effective date of this Rule. This Rule shall apply to any discharge or release from a "commercial underground storage tank" or a "noncommercial underground storage tank," as those terms are defined in G.S. 143-215.94A which is reported before the effective date of this Rule as provided in Paragraph (r) of this Rule. The requirements of this Rule shall apply to the owner and operator of the underground storage tank from which the discharge or release occurred, a landowner seeking reimbursement from the Commercial Leaking Underground Storage Tank Fund or the Noncommercial Leaking Underground Storage Tank Fund under G.S. 143-215.94E, and any other person responsible for the assessment or cleanup of a discharge or release from an underground storage tank, including any person who has conducted or controlled an activity which results in the discharge or release of petroleum or petroleum products as defined in G.S. 143-215.94A(10) to the groundwaters of the State, or in proximity thereto; these persons shall be collectively referred to for purposes of this Rule as the "responsible party." This Rule shall be applied in a manner consistent with the rules found in 15A NCAC 2N in order to assure that the State's requirements regarding assessment and cleanup from underground storage tanks are no less stringent than Federal requirements.

(c) A responsible party shall:

- (1) take immediate action to prevent any further discharge or release of petroleum from the underground storage tank; identify and mitigate any fire, explosion or vapor hazard; remove any free product; and comply with the requirements of Rules .0601 through .0604 and .0701 through .0703 and .0705 of Subchapter 2N;
- (2) incorporate the requirements of 15A NCAC 2N .0704 into the submittal required under Subparagraph (3) of this Paragraph or the limited site assessment report required under Subparagraph (4) of this Paragraph, whichever is applicable. Such submittals shall constitute compliance with the reporting requirements of 15A NCAC 2N .0704(b);
- (3) submit within 90 days of the discovery of the discharge or release a soil contamination report containing information sufficient to show that remaining unsaturated soil in the side walls and at the base of the excavation does not contain contaminant levels which exceed either the "soil-to-groundwater" or the residential maximum soil contaminant concentrations established by the Department pursuant to Paragraph (m) of this Rule, whichever is lower. If such showing is made, the discharge or release shall be classified as low risk by the Department;
- (4) if the required showing cannot be made under Subparagraph (3) of this Paragraph, submit within 120 days of the discovery of the discharge or release, or within such other greater time limit approved by the Department, a report containing information needed by the Department to classify the level of risk to human health and the environment posed by a discharge or release under Paragraph (d) of this Rule. Such report shall include, at a minimum:
 - (A) a location map, based on a USGS topographic map, showing the radius of 1500 feet from the source area of a confirmed release or discharge and depicting all water supply wells and, surface waters and designated wellhead protection areas as defined in 42 U.S.C. 300h-7(e) within the 1500-foot radius. For purposes of this Rule, source area means point of release or discharge from the underground storage tank

- (I) a discussion of site specific conditions or possible actions which could result in lowering the risk classification assigned to the release. Such discussion shall be based on information known or required to be obtained under this Paragraph; and
 - (J) names and current addresses of all owners and operators of the underground storage tank systems for which a discharge or release is confirmed, the owner(s) of the land upon which such systems are located, and all potentially affected real property owners. When considering a request from a responsible party for additional time to submit the report, the Division shall consider the extent to which the request for additional time is due to factors outside of the control of the responsible party, the previous history of the person submitting the report in complying with deadlines established under the Commission's rules, the technical complications associated with assessing the extent of contamination at the site or identifying potential receptors, and the necessity for immediate action to eliminate an imminent threat to public health or the environment.
- (d) The Department shall classify the risk of each known discharge or release as high, intermediate or low risk unless the discharge or release has been classified under Subparagraph (c)(3) of this Rule. For purposes of this Rule:
- (1) "High risk" means that:
 - (A) a water supply well, including one used for non-drinking purposes, has been contaminated by the release or discharge;
 - (B) a water supply well used for drinking water is located within 1000 feet of the source area of a confirmed discharge or release;
 - (C) a water supply well not used for drinking water is located within 250 feet of the source area of a confirmed discharge or release;
 - (D) the groundwater within 500 feet of the source area of a confirmed discharge or release has the potential for future use in that there is no source of water supply other than the groundwater;
 - (E) the vapors from the discharge or release pose a serious threat of explosion due to accumulation of the vapors in a confined space; or
 - (F) the discharge or release poses an imminent danger to public health, public safety, or the environment.
 - (2) "Intermediate risk" means that:
 - (A) surface water is located within 500 feet of the source area of a confirmed discharge or release and the maximum groundwater contaminant concentration exceeds the applicable surface water quality standards and criteria found in 15A NCAC 2B .0200 by a factor of 10;
 - (B) in the Coastal Plain physiographic region as designated on a map entitled "Geology of North Carolina" published by the Department in 1985, the source area of a confirmed discharge or release is located in an area in which there is recharge to an unconfined or semi-confined deeper aquifer which the Department determines is being used or may be used as a source of drinking water;
 - (C) the source area of a confirmed discharge or release is within a designated wellhead protection area, as defined in 42 U.S.C. 300h-7(e);
 - (D) the levels of groundwater contamination for any contaminant except ethylene dibromide, benzene and alkane and aromatic carbon fraction classes exceed 50 percent of the solubility of the contaminant at 25 degrees Celsius or 1,000 times the groundwater standard or interim standard established in 15A NCAC 2L .0202,

standard set out in 40 CFR 141. Additionally, if a corrective action plan or groundwater monitoring plan is required under this Paragraph, the responsible party shall demonstrate that the groundwater cleanup levels are sufficient to prevent a violation of:

- (1) the rules contained in 15A NCAC 2B;
- (2) the standards contained in 15A NCAC 2L .0202 in a deep aquifer as described in Part (d)(2)(B) of this rule; and
- (3) the standards contained in 15A NCAC 2L .0202 at a location no closer than one year time of travel upgradient of a well within a designated wellhead protection area, based on travel time and the natural attenuation capacity of the subsurface materials or on a physical barrier to groundwater migration that exists or will be installed by the person making the request.

In any corrective action plan submitted pursuant to this Paragraph, natural attenuation shall be used to the maximum extent possible.

(h) If the risk posed by a discharge or release is determined by the Department to be a low risk, the Department shall notify the responsible party that no cleanup, no further cleanup or no further action will be required by the Department unless the Department later determines that the discharge or release poses an unacceptable risk or a potentially unacceptable risk to human health or the environment. No notification will be issued pursuant to this Paragraph, however, until the responsible party has completed soil remediation pursuant to Paragraph (i) of this Rule except as provided in Paragraph (r) of this Rule or as closely thereto as economically or technologically feasible. The issuance by the Department of a notification under this Paragraph shall not affect any private right of action by any party which may be affected by the contamination.

(i) Assessment and remediation of soil contamination shall be addressed as follows:

- (1) At the time that the Department determines the risk posed by the discharge or release, the Department shall also determine, based on site-specific information, whether the site is "residential" or "industrial/commercial." For purposes of this Rule, a site is presumed residential, but may be classified as industrial/commercial if the Department determines based on site-specific information that exposure to the soil contamination is limited in time due to the use of the site and does not involve exposure to children. For purposes of this Paragraph, "site" means both the property upon which the discharge or release has occurred and any property upon which soil has been affected by the discharge or release.
- (2) The responsible party shall submit a report to the Department assessing the vertical and horizontal extent of soil contamination.
- (3) For a discharge or release classified by the Department as low risk, the responsible party shall submit a report demonstrating that soil contamination has been remediated to either the residential or industrial/commercial maximum soil contaminant concentration established by the Department pursuant to Paragraph (m) of this Rule, whichever is applicable.
- (4) For a discharge or release classified by the Department as high or intermediate risk, the responsible party shall submit a report demonstrating that soil contamination has been remediated to the lowest of:
 - (A) the residential or industrial/commercial maximum soil contaminant concentration, whichever is applicable, that has been established by the Department pursuant to Paragraph (m) of this Rule; or
 - (B) the "soil-to-groundwater" maximum soil contaminant concentration that has been established by the Department pursuant to Paragraph (m) of this Rule.

(j) A responsible party who submits a corrective action plan which proposes natural attenuation

maximum soil contaminant concentration shall be the lowest of the concentrations derived from Equations 1 and 2.

- (A) Equation 1: Non-cancer Risk-based Residential Ingestion Concentration
Soil mg/kg = $[0.2 \times \text{oral chronic reference dose} \times \text{body weight, age 1 to 6} \times \text{averaging time noncarcinogens}] / [\text{exposure frequency} \times \text{exposure duration, age 1 to 6} \times (\text{soil ingestion rate, age 1 to 6} / 10^6 \text{ mg/kg})]$.
- (B) Equation 2: Cancer Risk-based Residential Ingestion Concentration
Soil mg/kg = $[\text{target cancer risk of } 10^{-6} \times \text{averaging time carcinogens}] / [\text{exposure frequency} \times (\text{soil ingestion factor, age adjusted} / 10^6 \text{ mg/kg}) \times \text{oral cancer slope factor}]$. The age adjusted soil ingestion factor shall be calculated by: $[(\text{exposure duration, age 1 to 6} \times \text{soil ingestion rate, age 1 to 6}) / (\text{body weight, age 1 to 6})] + [(\text{exposure duration, total} - \text{exposure duration, age 1 to 6}) \times \text{soil ingestion, adult}] / (\text{body weight, adult})]$.
- (C) The exposure factors selected in calculating the residential maximum soil contaminant concentrations shall be within the recommended ranges specified in the following references or the most recent version of these references:
- (i) EPA, 1990. Exposure Factors Handbook;
 - (ii) EPA, 1991. Risk Assessment Guidance for Superfund: Volume I Human Health Evaluation Manual (Part B, Development of Risk Based Preliminary Remediation Goals);
 - (iii) EPA Region III. Risk-based Concentration Tables (RBC Tables). Office of RCRA, Technical and Program Support Branch. Available at: <http://www.epa.gov/reg3hwmd/index.html>; and
 - (iv) EPA, 1995. Supplemental Guidance to RAGS: Region 4 Bulletins Human Health Risk Assessment, including future amendments.
- (D) The following references or the most recent version of these references, in order of preference, shall be used to obtain oral chronic reference doses and oral cancer slope factors:
- (i) EPA. Integrated Risk Information System (IRIS) Computer Database;
 - (ii) EPA. Health Effects Assessment Summary Tables (HEAST);
 - (iii) EPA Region III. Risk-based Concentration Tables (RBC Tables). Office of RCRA, Technical and Program Support Branch. Available at: <http://www.epa.gov/reg3hwmd/index.html>;
 - (iv) EPA, 1995. Supplemental Guidance to RAGS: Region 4 Bulletins Human Health Risk Assessment, including future amendments; and
 - (v) Other appropriate, published health risk assessment data, and scientifically valid peer-reviewed published toxicological data.
- (2) The following equations and references shall be used in establishing industrial/commercial maximum soil contaminant concentrations. Equation 1 shall be used for each contaminant with an EPA carcinogenic classification of A, B1, B2, C, D or E. Equation 2 shall be used for each contaminant with an EPA carcinogenic classification of A, B1, B2 or C. The maximum soil contaminant concentration shall be the lowest of the concentrations derived from Equations 1 and 2.
- (A) Equation 1: Non-cancer Risk-based Industrial/Commercial Ingestion Concentration

- (EPA/540/R95/128);
- (II) EPA, 1986. Superfund Public Health Evaluation Manual. Office of Emergency and Remedial Response (EPA/540/1-86/060);
- (III) Agency for Toxic Substances and Disease Registry, "Toxicological Profile for [*individual chemical*]." U.S. Public Health Service;
- (IV) Montgomery, J.H., 1996. Groundwater Chemicals Desk Reference. CRC Press, Inc;
- (V) Sims, R.C., J.L. Sims and S.G. Hansen, 1991. Soil Transport and Fate Database, Version 2.0. EPA Robert S. Kerr Environmental Laboratory; and
- (VI) Other appropriate, published, peer-reviewed and scientifically valid data.
- (B) Inorganic Constituents:
- Soil mg/kg = groundwater standard or interim standard x [(20 x soil-water partition coefficient for pH of 5.5) + 4 + (1.733 x 41 x Henry's Law Constant (atm.-m³/mole))].
- (i) If no groundwater standard or interim standard has been established under Rule .0202 of this Subchapter, the practical quantitation limit shall be used in lieu of a standard to calculate the soil-to-groundwater maximum contaminant concentrations.
- (ii) The following references or the most recent version of these references, in order of preference, shall be used to obtain soil-water partition coefficients and Henry's Law Constants:
- (I) EPA, 1996. Soil Screening Guidance: Technical Background Document. (EPA/540/R95/128);
- (II) Baes, C.F., III, R.D. Sharp, A.L. Sjoreen, and R.W. Shor, 1984. A Review and Analysis of Parameters for Assessing Transport of Environmentally Released Radionuclides Through Agriculture. Oak Ridge National Laboratory;
- (III) Agency for Toxic Substances and Disease Registry, "Toxicological Profile for [*individual chemical*]." U.S. Public Health Service;
- (IV) Sims, R.C., J.L. Sims and S.G. Hansen, 1991. Soil Transport and Fate Database, Version 2.0. EPA Robert S. Kerr Environmental Laboratory; and
- (V) Other appropriate, published, peer-reviewed and scientifically valid data.
- (n) Analytical procedures for soil samples required under this Rule, except as provided in Paragraph (s) of this rule, shall be as follows:
- (1) soil samples collected from a discharge or release of low boiling point fuels, including, but not limited to gasoline, aviation gasoline and gasohol, shall be analyzed for volatile organic compounds and additives using EPA Method 8260, including isopropyl ether and methyl tertiary butyl ether;
- (2) soil samples collected from a discharge or release of high boiling point fuels, including, but not limited to, kerosene, diesel, varsol, mineral spirits, naphtha, jet fuels and fuel oil no. 2, shall be analyzed for volatile organic compounds using EPA Method 8260 and semivolatile organic compounds using EPA Method 8270;
- (3) soil samples collected from a discharge or release of heavy fuels shall be analyzed for semivolatile organic compounds using EPA Method 8270;
- (4) soil samples collected from a discharge or release of used and waste oil shall be analyzed

be performed as specified in the following references or the most recent version of these references: Test Procedures for the Analysis of Pollutants under the Clean Water Act, Federal Register Vol. 49 No. 209, 40 CFR Part 136, October 26, 1984; Standard Methods for the Examination of Water and Wastewater, published jointly by American Public Health Association, American Water Works Association and Water Pollution Control Federation; Methods for Determination of Organic Compounds in Drinking Water, U.S. Environmental Protection Agency publication number EPA-600/4-79-020; or in accordance with other methods or procedures approved by the Director under 15A NCAC 2H .0805(a)(1);

- (7) other EPA-approved analytical methods may be used if the methods include the same constituents as the analytical methods specified in Subparagraphs (1), (2), (3), and (4) of this Paragraph and meet the detection limits of the analytical methods specified in Subparagraphs (1), (2), (3), and (4) of this Paragraph; and
- (8) metals and acid extractable organic compounds shall be eliminated from analyses of groundwater samples collected pursuant to this Rule, if these compounds are not detected in the groundwater sample collected from the source area monitoring well installed pursuant to Subpart (c)(4)(F)(i) of this Rule.

(p) In accordance with 15A NCAC 2H .0804, laboratories are required to obtain North Carolina Division of Water Quality laboratory certification for parameters that are required to be reported to the State in compliance with the State's surface water, groundwater and pretreatment rules.

(q) This Rule shall not relieve any person responsible for assessment or cleanup of contamination from a source other than a commercial or noncommercial underground storage tank from its obligation to assess and clean up contamination resulting from such discharge or releases.

(r) If the risk posed by the discharge or release has been classified by the Department as Class AB under 1995 (Reg. Sess., 1996) c. 648, s. 1, the discharge or release is classified as high risk under this Rule unless and until the Department reclassifies the risk posed by the discharge or release. If the risk posed by the discharge or release has been classified by the Department as Class CDE under 1995 (Reg. Sess., 1996) c. 648, s. 1, the discharge or release is classified as low risk under this Rule unless and until the Department reclassifies the risk posed by the discharge or release. The responsible party shall notify the Department of any factors that might affect the level of risk assigned to Class AB or Class CDE discharges or releases by the Department. Responsible parties for Class AB discharges or releases for which a site assessment pursuant to Rule .0106 (c) and (g) of this Section has been submitted to the Department before the effective date of this Rule, shall continue to comply with notices previously received from the Department unless and until the Department determines that application of all or part of this Rule is necessary to protect human health or the environment or may result in a more cost effective assessment and cleanup of the discharge or release. If a site assessment pursuant to Rule .0106 (c) and (g) of this Section has not been submitted to the Department for a Class AB or Class CDE discharge or release before the effective date of this Rule, the responsible party shall comply with Paragraph (c) of this Rule unless the Department has issued a closure notice for the discharge or release. For discharges or releases classified as low risk under this Paragraph and for which a site assessment pursuant to Rule .0106 (c) and (g) of this Section has been submitted to the Department prior to the effective date of this Rule, the Department may issue a notification under Paragraph (h) of this Rule if the responsible party demonstrates that soil contamination does not exceed contamination cleanup levels established (March 1997) in Paragraph (s) of this Rule.

(s) The Department may issue a notification under Paragraph (h) of this Rule for a discharge or release classified as low risk under Paragraph (r) of this Rule if a site assessment pursuant to

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

James B. Hunt, Jr., Governor
Bill Holman, Secretary

November 16, 1999

Ms. Nikki Hall
Marine Corps Base
PSC Box 20004
Camp Lejeune, NC 28542-0004

Subject: Review of Site Documentation
USMC-Camp Lejeune-Bldg. PT-37
Incident No. Pending
Camp Lejeune, Onslow County

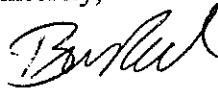
Dear Ms. Hall:

Thank you for providing site documentation to this office on June 16, 1999. After further review of this report, the UST Section needs the following information to consider closure of this UST incident:

1. This site has been determined to be low-risk. Separate correspondence has very recently been sent to you concerning the need for a complete soil assessment. It is important that the transfer line be located and properly assessed during this study since it was not performed during tank closure.

The Raleigh Central Office has recently revised the home-heating oil brochure. I have enclosed a copy for your records. Also enclosed are the recently revised Tables 4 and 7 from the Guidelines document. Thank you for your continued cooperation in conjunction with this site. If you have any questions concerning this letter, please contact me at (910) 395-3900.

Sincerely,



Bruce Reed
Hydrogeologist II

Enclosures

BR

cc: WiRO-UST

s:\ust\bruce\hall37n.nov

13 Nov 99

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To Hon Reuther	From Nikki Hall	
Dept./Agency LANDIV	Phone # 910.451.9610	
Fax # 802624804	Fax # .5997	
NSN 7540-01-317-7368	5099-101	GENERAL SERVICES ADMINISTRATION

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

Here's another soil
assessment addition...