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JEB FORT STORY, VA
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LETTER REQUESTING SITE, RISK, AND REMEDIATION ASSESSMENTS BE PERFORMED
AT BUILDING 1081 UNDERGROUND STORAGE TANK (UST) SYSTEM FORT STORY VA
2/23/1990
COMMONWEALTH OF VIRGINIA DEPARTMENT STATE WATER CONTROL BOARD



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COMMONWEALTH of VIRGINIA

STATE WATER CONTROL BOARD
2111 Hamilton Street

Richard N. Burton
Executive Director

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Please reply to: Tidewater Regional Office
287 Pembroke Office Park
Suite 310 Pembroke No. 2
Virginia Beach, Virginia 23462-2955
(804) 552-1840

February 23, 1990

Damon Doumlele
U.S. Army Transportation CTR
Directorate of Engineering and Housing, ATZF-EHW
Fort Eustis, Va. 23604-5332

Dear Mr. Doumlele:

Reports concerning your facility at Building 1081, Fort Story, Virginia, indicate potential petroleum contamination of State waters by a leaking underground storage tank (UST) system. To assess this potential, please perform site, risk, and remediation assessments by April 9, 1990. Assessment guidelines are attached for your reference. Based on assessments, we may request a Corrective Action Plan. If free product is present on site, a Free Product Removal Report will be required by April 9, 1990, also.

A report of abatement actions and results of the "site check" required by State UST regulations should be sent to this office by March 19, 1990. A proposed plan and preliminary schedule for performing site, risk, and remediation assessments may be sent to this office prior to implementation. This preliminary review of your proposed assessment procedures is provided to ensure their adequacy (i.e., monitoring well placement, sample types and locations, etc.), in order to prevent costly resampling, remobilization of drill rigs, etc.

Please refer to Subparts V and VI of the attached State Regulations extract for information about your reporting, investigation, and cleanup responsibilities under State regulations.

If you have any questions, please call me at (804) 552-1840.

Sincerely,

David E. Borton
Geologist, Technical Services

Enclosures (Guidelines, VR 680-13-02 extract)
cc:SWCB-OWRM (PC90-1092)

2008-03-10 10:00 AM

CORRECTIVE ACTION PLAN REQUIREMENTS

SITE ASSESSMENT

1. Provide a brief account of release detection and investigation, include data on the physical/chemical properties of the contaminant and the nature and quantity of the release.

Identify contaminant, source, amount suspected/known, catastrophic or long term release, how problem was detected and investigation/remediation activities undertaken to date.

2. Provide a detailed characterization of the area, surface and subsurface.

Describe the geologic and hydrologic regimes, specifically soils, strata and aquifer and the characteristics of each (permeability, porosity, transmissivity, conductivity, etc.). In addition, delineate in text and graphically, any subsurface conduits, utility lines, etc., which may affect contaminate movement, as well as any stratigraphic conditions (i.e. fractures, solution cavities, lenses) or hydrologic operations (i.e. pumping, injection) which may modify naturally occurring subsurface conditions. Describe the current and projected land and ground water usages (commercial, private and industrial demands) and provide a general description of the population distribution (types and numbers).

3. Contamination characterization.

Delineate contamination by vertical and lateral extent and degree, addressing each phase of product: free product, dissolved product, residual contamination in the soils, and vapor phase in the unsaturated zone. Indicate in text and depict graphically the levels of contamination and extent of contamination both on site and off site (if appropriate).

RISK ASSESSMENT

1. Identify any receptors.

Identify all receptors, both human and non-human, which have already been impacted and/or which may be potentially impacted by the release.

2. Identify pathways of exposure.

Pathways of exposure will include such things as contact through ingestion of contaminated drinking water, exposure to dissolved and vapor fractions by exposure through the skin from bathing and washing, etc. These pathways of exposure should be identified for each receptor.

3. **Quantify exposure levels.**
Quantify the exposure levels at receptors and how these levels were derived (i.e. sample from tap, direct well sample, surface water sample, OVA & location, extrapolation)
4. **Evaluate existing and potential risk to receptors.**
Evaluate the risk to each receptor using the site and risk assessment data with respect to existing health-based exposure levels and environmental standards. Take into consideration the temporal aspects as well as degree (levels) of exposure.

REMEDIATION ASSESSMENT

1. **Discuss the feasibility/potential for remediation.**
Using data gathered in the site and risk assessments, discuss the potential for clean-up at the site; do site conditions permit or warrant action?
2. **Quantify and justify remediation endpoints.**
Propose endpoints for remediation activities which address free, dissolved, residual and vapor phases of contamination. Propose a time line for achieving these remediation goals.
3. **Discuss technologies which should be considered to remediate the site.**
Given the current site conditions, identify and evaluate applicable technologies which are capable of remediating the site, based on the timelines and endpoints which have been proposed. Describe each of these options and how they may be applied to this particular site. Then evaluate each (positive and negative aspects) from the standpoint of technical merit, its ability to be implemented, economical and temporal feasibilities, and immediate/future beneficial results.

CORRECTIVE ACTION PLAN

1. **Describe the preferred technology for implementation at the site and the supporting documentation for that selection.**
Having discussed all the possible applicable technologies in the Remediation Assessment, identify the technology of choice for implementation at the site and provide supporting documentation for the decision (as outlined in #3 above). Include information with respect to how the technology will achieve proposed remediation goals and timelines.

2. Describe the preferred technology as it will be applied to the site.

Description of the technology must include detailed technical project design in text as well as graphic depiction of the proposed operation. Design must address all elements of remediation operations (i.e. monitoring wells, trenches, galleries, drains, discharge/infiltration/injection/sampling point identification, water/soil/vapor treatment system description, etc.)

3. Describe any additional considerations with regard to implementation/operation of the remediation.

Identify and quantify any considerations such as soil disposal or treatment (amounts, levels), wastewater discharge (necessary permits, levels, amounts, rates), site restoration (abandonment of wells, etc.), site access concerns (due to off-site impacts), or any additional considerations which may need to be addressed as a result of the remediation (i.e. structural concerns for adjacent buildings, emissions, etc.).

4. Outline monitoring plan.

Specifically, describe how remediation progress will be monitored (sampling frequency, locations, parameters, levels, field and laboratory QAQC project plans, etc.) and outline a schedule for submittal of this monitoring data to the VWCB regional staff. In addition, explain how it will be determined that remediation endpoints or goals have been reached (levels, sampling intervals, locations, parameters).