State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

OCT 17 1994

Mr. James Ott
SELFM-EH-EV
Department of the Army
Headquarters CECOM Fort Monmouth
Fort Monmouth, NJ 077703-5000

Dear Mr. Ott:

Re: UST Site Investigation Reports
Fort Monmouth Army Base
Tinton Falls, Monmouth County

The NJDEP has reviewed the Underground Storage Tank (UST) site investigation reports for the following USTs:

UST Facility No.	UST No.	Building No.	Tank Product
DOCUMENT #1			
00192486	27	3021	5000 gal. No. 2 Fuel Oil
DOCUMENT #2			
0090010	60	108	5000 gal. Leaded Gasoline
0090010	61	108	5000 gal. Leaded Gasoline
0090010	62	108	5000 gal. Leaded Gasoline
0090010	63	108	5000 gal. Diesel Fuel Oil
0090010	64	108	5000 gal. Kerosine
DOCUMENT #3			
0090010	5	T-65	1000 gal. No. 2 Fuel Oil
DOCUMENT #4			
NA	NA	814	1500 gal. No. 2 Fuel Oil
DOCUMENT #5			
0081533	160	1076	15000 gal. No. 2 Fuel Oil
0081533	161	1076	15000 gal. No. 2 Fuel Oil
DOCUMENT #6			
0081533	191	750	15000 gal. Gasoline
0081533	192	750	15000 gal. Diesel Fuel Oil

General Comments:

In several of the investigation reports, it is apparent that ground water monitor wells were installed *before* the tanks were removed. This practice is inconsistent with DEP policy. While installing monitor wells prior to removal, or prior to obtaining evidence that tanks are leaking is not a violation of any requirements, it is however, not a cost/time saving method of UST investigation.

In regard to soil samples, no discernment was made between those soil samples taken for No. 2 Fuel Oil tanks and those taken for Leaded Gasoline. Samples taken for No. 2 Fuel Oil should be first screened using a TPHC analysis and followed up by additional analysis as necessary. This was not consistently performed (or was not reported in the Reports) as required by DEP requirements/policy. Future soil sampling should be conducted in accordance with the *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E et seq., specifically Table 2-3).

Additionally, it is not acceptable that nearly every sample taken (ground water and soil) had Methylene Chloride interference allegedly from either laboratory or field contamination. Future samples may be rendered unusable should they be consistently contaminated with Methylene Chloride.

All drawings and figures should be placed in immediate procession to referencing text unless there is some more logical reason for placing them in specific portions of the document (i.e., placing all of the Tables/Figures in one section). All drawings should be clearly marked and include all information which is useful in tracking where and at what depths samples were taken and how the sampling relates to site specific details. Such details shall include ground water depth and contour information, footings, subsurface structures, USTs, and any other important landmarks.

Clear and concise statements must be made regarding potential impacts due to the contamination (i.e., the likelihood that production wells may be impacted), why contamination should be monitored versus remediated (or vice-versa). Such statements should be short, simple and to the point. They must be included in the text and conclusions.

In regard to future submittals, "response actions" should be grouped together in single submissions according to the type of action which will be necessary. Response actions can include: No further action, monitoring, remediation, or further investigation necessary.
A single document which details facility information can be submitted leaving only site specific information for the site reports specific to the area of concern. A single map would suffice, specifically one which color codes similar response actions.

Future reports must be clarified to provide a table with the following information:

Sample No./ Depth	Sample	Analysis	Analytical Method Used	MDL/LDL	COC	Result	DEP & EPA Standard/ Criteria	Exceeds Standard/ Criteria Yes/No	
ID No.	Date	Date		ppm/ppb		ppm/ppb	ppm/ppb	DEP	MCL

All future submittals by Fort Monmouth should be made in this format along with a concise drawing of where the sample is located in relation to major landmarks, the depth of ground water, and ground water flow. Further, future submittals must (continue to) be consistent with the Tech Regs in sampling protocol and methodology.

Specific Comments

DOCUMENT #1

1. The NJDEP concurs with the recommendations made for UST No. 27. Samples and screening methods must be performed in accordance with Table 2-3 of the Tech. Regs.

DOCUMENT #2

2. This document is unacceptable as submitted. There are an insufficient number of soil samples, most of which appear not to have been screened appropriately. For instance, only 8 volatile organic substances appear to have been sampled for, the requirement is 10. Methyl-tertiary-butyl-ether (MTBE) and tertiary-butyl alcohol (TBA) were also not sampled for as required when investigating gasoline containing USTs. Both of these compounds must be sampled for in subsequent submittals, specifically those which are taken to assess potential contamination resulting from gasoline USTs.

Impact to ground water soil cleanup criteria are not to be used as the sole criteria even though the soils may impact ground water. In accordance with NJDEP guidelines/policy, the direct contact soil cleanup criteria applies throughout the soil column. The report must be resubmitted to determine which contaminants exceed the direct contact soil cleanup criteria and impact to ground water criteria. One such set of compounds were Xylenes, which were found to be in excess of the direct contact soil criteria, but were not specified as excessive.

Ground water appears to contain significant amounts of contaminants, particularly when considering that the ground water results obtained were not taken from monitoring wells which are down gradient of the sources. The conclusions of the report recommend that ground water samples be taken for a period of one year averaging the first quarter results with results from previous sampling. This is not an acceptable method of ground water investigation. Samples should be represented as they currently exist. The proposed sampling plan, wells to be sampled, required sampling parameters, and schedule must be proposed by Fort Monmouth in writing and approved by the NJDEP prior to implementation.

DOCUMENT #3

This document is unacceptable as submitted. There is no documentation of the soil investigation, only a statement that 10 tons of soils were removed and no further action should be taken. Such statements/recommendations should be technically based and must be supported by appropriate post-excavation soils sampling results.

Until such time as this information is provided, the NJDEP will not accept the no further action recommendation.

DOCUMENT #4

The NJDEP accepts the proposed investigation, however, it is unclear why the site investigation report was submitted prior to obtaining post-excavation soil samples. The NJDEP recommends that the soil samples should be screened as required by the Tech Regs (Table 2-3), and upon verification of soil contamination, ground water samples should be taken.

DOCUMENT #5

This report is unacceptable as submitted. The report has several inconsistencies which must be clarified before the NJDEP approves the documents.

The Tech Regs require that soils associated with No. 2 Fuel Oil tanks should be first screened for using a TPHC analysis. These results were provided, however, the Tech Regs further require that for 25% of those samples which exceed 1,000 mg/kg should be further sampled for volatile organics plus 10 peaks (VO + 10). This was not performed (or at least not reported).

Page 3-1 states that only two samples exceeded the 1,000 mg/kg sampling requirement for TPHC's, however, page 3-2 states that 14/17 samples did not exceed the requirement (i.e., 3 samples did exceed the requirement). This should be clarified.

Ground water monitoring wells were not necessary at this site based on the soil results. However, wells were installed prior to the tanks being pulled. This is inconsistent with the Tech Regs. Additionally, according to the ground water contour lines provided in Figure 2-3, the wells were placed, at best, side gradient of the UST field. Ground water samples therefore are not indicative of this UST field, but rather another source. With the significant Benzene contamination in the monitor wells sampled, the NJDEP recommends that the source of this contamination be revealed and discussed in subsequent submissions. (This can be addressed in the site-wide investigation currently being conducted at Fort Monmouth).

DOCUMENT #6

This document is not acceptable as submitted. In order for the NJDEP to agree to the submittal, the following must be complied with:

Tertiary-butyl alcohol (TBA) was not sampled for as required by the Tech Regs, and additionally, the report only references 6 volatile organic compounds analyzed for versus the required 10. This information must be provided prior to the NJDEPs approval of the no further action recommendation.

Page ES-1 of the document references "NJDEP(E) subsurface cleanup criteria (revision dated 3 February 1994)", the NJDEP no longer breaks down the soil cleanup criteria

into surface and subsurface (see referenced document). As stated earlier in this letter, the **direct contact soils** criteria is to be applied throughout the soil column.

Nothing in this letter shall release Fort Monmouth from complying with the Technical Requirements for Site Remediation in their entirety. The documents submitted may be modified by supplying the necessary documentation in a letter (unless significant additional investigation is necessary).

If you should have any questions or require additional information, please do not hesitate to contact me at (609) 633-1455.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Federal Case Management

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