



DEPARTMENT OF THE ARMY
Headquarters, U.S. Army Garrison Fort Monmouth
Fort Monmouth, New Jersey 07703-5000



REPLY TO
ATTENTION OF

03 JUN 1994

Directorate of Public Works

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
ATTN: Ian Curtis
CN 028
Trenton, NJ 08625-0028

Re: U.S. Army Fort Monmouth,
Site Investigation Report (December 1993) -
Suspected Hazardous Waste Sites

NJDEPE Correspondence (Dated April 20, 1994),
Remedial Investigation Workplan,
Fort Monmouth (Main Post and Charles Wood), NJ

Dear Mr. Curtis:

The Directorate of Public Works (hereafter "The DPW") is in receipt of your letter dated April 20, 1994. The referenced letter formally approves the DPW's work plan for investigating suspected hazardous sites which may exist on Fort Monmouth properties. The letter also contained a number of comments that the NJDEPE wished to have incorporated into the work plan. Listed below is a item by item response to those comments. All DPW responses will be incorporated into the work plan as stated in this letter.

GENERAL COMMENTS

1. Comment: There is a tremendous amount of information in this document and although the document is readable, it is extremely hard to track those sites which are in need of additional information and those sites which Fort Monmouth has determined to be within compliance of the NJDEPE's criteria. The revised document should contain a brief chart or summary of proposed samples. This chart could also contain a note on suspected contaminants, sampling parameters, type and depth of sample.

Response: Future documents will be formatted as requested to include such columns as Action Levels, Sample Depth, Sample Results, Sample Type, etc.

2. Comment: The Evans Area: In a recent conversation with Mr. Joseph Fallon of your staff, I have been informed that the Evans Area investigation will be completely taken over by the BRAC site investigation which is being conducted by Earth Technologies Inc. under Army, EPA and DEPE oversight, under the Base Realignment and Closure program. Due to this, no comments are provided in this letter regarding the Evans Area investigations (see comment letter on the Earth Technologies submission dated March 4, 1994). These sections will be removed from the Weston Report.

Response: The investigation of the Evans site has been taken over by the BRAC process and will be managed under a separate program. Earth Technologies Inc. is currently under contract to the Army Environmental Center for conducting all investigative work at the Evans site. All sections of the report that refer to the Evans site will be removed from the current work plan.

3. Comment: Certification: In accordance with section 1.5 of the Tech Regs, all submissions must be certified using the applicable clause with all necessary signatures. This requirement will be necessary for all submissions, including the revisions to this document.

Response: A certificate for the document "Investigation of Suspected Hazardous Waste Sites at Fort Monmouth, New Jersey" is attached to this letter. Future submittals will be certified as required by the Tech Regulations for Site Remediation (Tech Regs) to state that the information submitted is accurate.

4. Comment: Sampling and Analysis: All samples must be taken and handled in accordance with the May 1992 DEPE Field Sampling Procedures Manual in order to be acceptable to the DEPE.

Response: All sampling will be conducted in accordance with the May 1992 NJDEPE's Field Sampling Procedures Manual.

5. Comment: Quality Assurance/Quality Control: While the DEPE does not require an exact number of samples to be QA/QC'd, we do require information to be provided which would clearly indicate that enough QA/QC has been performed to verify the precision and accuracy of the subject information. Specific sections of the Tech. Reg's require that environmental samples be verified, these sections include 1.2, 3.10 (particularly subsections 3 and 4 et seq.), and Appendix A (as indicated in Section 7.3 of the report). The DEPE will require an appropriate number of samples to be verified by an approved source. The approval of the QA/QC person shall be requested by Fort Monmouth and granted by the DEPE in writing.

Response: Ten percent of the sample results will be verified by an independent laboratory. The verification will consist of a review of the analytical data package to ensure that the

requirements of the Tech Regs are met. The independent laboratory that performs the verification will be a NJDEPE certified laboratory as described in the Tech Regs and a participant in good standing in the USEPA CLP for applicable methods. The NJDEPE shall be informed of the verifying laboratory by Fort Monmouth in writing and approval shall be obtained from the NJDEPE before field work will proceed.

6. Comment: Soil Cleanup Criteria: All soil samples shall be compared to the February 3, 1994 New Jersey Soil Cleanup Guidance Criteria or subsequent versions of those criteria. These are Criteria, not Standards as stated on page 4-84, and throughout the Weston report.

Response: As requested, all analytical results for soil samples will be compared to the New Jersey Soil Cleanup Guidance Criteria. The word Criteria will be used instead of Standard in future submissions.

7. Comment: Maps and Figures: The maps and figures should all contain azimuth and labels for areas and media of interest. This includes groundwater flow, surface water flow and wetlands areas. Several of the maps do not include this information, and while under most circumstances it can be determined, it should be provided to save time and assure accuracy.

Response: It is agreed that maps in future submissions will be marked as requested. The flow directions will be marked on all applicable maps and figures.

8. Comment: Tables: For future submissions it is requested that all tables include a list of contaminants sampled for and in corresponding columns, the following information should be provided. Method/sampling detection limit, detected concentration, appropriate state required criteria, appropriate federal criteria, Practical Quantitation Limit, and depth of sample.

Response: It is agreed that tables in future submissions will be formatted as requested.

9. Comment: Additional Area(s) of Concern: Based on the information provided in the report, the DEPE is concerned that there is potential for environmental contamination resulting from the disposal of contaminated sludges produced by the sewage treatment plants. It is of particular concern that the Charles Wood golf course is contaminated through the use of contaminant laden sludge. Some written discussion of this must be presented. This may result in additional samples being taken throughout the areas of sludge placement to assure protection of human health and environment.

Response: A phased approach will be conducted for the investigation of the application of sludge to the golf course. The current plan is to take soil samples at the sludge staging area (see Section 4.2.10 of the Investigation). Based on the results of the soil sampling, additional sampling of the golf course may be necessary. This phased approach is reasonable because the sludge staging area would be expected to have been impacted the most by sludge because large amounts of sludge was placed there over many years prior to application on the golf course. In addition, it is not known exactly where sludge was placed on the golf course. Because extensive industrial activities have not been conducted on Fort Monmouth, the sludge is not expected to contain significant amounts of heavy metals. Therefore, a phased sampling approach should be acceptable.

10. Comment: Marine and Shellfish studies: In accordance with a request from the DEPE's Division of Science and Research, Bureau of Marine Water Classification and Analysis, I am requesting that the surface waters, and sediment sampling proposed be biased to determine what, if any, impact the historical operations at Fort Monmouth have had on the marine life and shellfish beds of the area. Depending on the evaluation of the information provided, the DEPE may require additional study and delineation to evaluate pollutant loads in the water, sediment and shellfish (clams, oysters and mussels) tissue. Mr. William Eisele of that Bureau may be contacted for further information on the topic. Mr. Eisele's telephone is (609) 748-2000.

Response: It is believed that Fort Monmouth has had minimal impact on the marine life and shellfish beds in the area as was discussed during the meeting of 3 May with NJDEPE. Fort Monmouth's Main Post has not discharged to the streams since the wastewater treatment plants were shut down in 1975. Prior to that, the treatment plants treated primarily sanitary wastewater, not industrial. However, if the proposed sampling indicates that Fort Monmouth has contributed to surface water or sediment contamination, the need for additional sampling to evaluate the impact on marine life and shell fish beds will be considered.

SPECIFIC COMMENTS:

1) Comment: Landfill 2 (M-2): It is stated that there is contamination of the surface water body in excess of the New Jersey Surface Water Criteria for several compounds. Among these were Coliform, Chloride, Cyanide, pH, TDS, TSS, Turbidly and Lead. Page 4-12 states that a sample will be collected from just upstream of where Route 35 crosses the Mill Brook. Does Route 35 have any discharge of runoff water to the Mill Brook? If so, this could effect the accuracy of the results.

Response: The location for sampling Mill Brook at Route 35 was selected to provide background information about Mill Brook before it flows onto the Main Post. The upstream side of Route 35 was proposed to reduce the effect of tidal backflow on the background results. Prior to sampling, the runoff pattern from Route 35 will be checked.

2) Comment: Table 4-2: Cyanide is extremely high in the previous sampling, future sampling should be biased to finding the source of the Cyanide.

Response: The validity of the high cyanide concentrations are suspicious because all the highest cyanide concentrations are from samples that were taken on one day, January 29, 1987. The historical high cyanide concentration for all four monitoring wells and ten surface water sampling locations occurred on that date. Since these locations are on three different streams, as well as groundwater, these results probably indicate a problem with sampling or laboratory analysis. Excluding samples taken on January 29, 1987, the highest cyanide concentration was 37 mg/L. All surface water locations will be resampled as identified in the work plan.

3) Comment: Page 4-18: Section 4.1.4.4; it is stated that "...one of these locations is most likely downgradient of Landfill 4 and upgradient of Landfill 5." The term "most likely" should be explained as it is ambiguous. The DEPE suggests that it should be defined whether the well will be downgradient or not. A downgradient sample is necessary.

Response: Groundwater flow direction is unknown and is probable tidally influenced. Following well installation, an evaluation of water level elevations and flow directions will be made. Downgradient can be determined as additional information is evaluated and additional wells may be necessary.

4) Comment: Page 4-35: Section 4.2, 10.2: It is stated that "The facility frequently inventories the tanks with a stick to determine if the contents are leaking." This is not an approved method of leak detection. Alternate, valid methods of leak detection are necessary.

Response: These underground storage tanks are scheduled to be removed by 1995. In addition, eight of the nine tanks contain heavy heating oil, which does not migrate into groundwater readily. Therefore, since Fort Monmouth is currently in compliance with applicable regulations, no change will be made to the tanks before they are removed. The stick was not used to determine leakage rate but only to gage the available volume in the tank. The stick method to determine leak rate is not used.

5) Comment: Page 4-46: Section 4.1.15.3 & 4: The DEPE recommends the removal of the paint chips regardless of their containing lead.

Response: Visible paint chips will be removed from the soil.

6) Comment: Page 4-47: Section 4.1.16.3: Groundwater monitoring well placement strategy should be provided as no reasoning for why wells are to be placed where they are proposed is provided.

Response: The location of PW-22 is assumed to be downgradient of the M-16 area based on its proximity to Oceanport Creek. Typical well placement strategy is one well upgradient and two wells downgradient of known source areas. If sampling results from M-16 indicate potential impact to groundwater, additional wells may be necessary to better define groundwater flow direction and the influence of tides in the groundwater elevations.

7) Comment: Page 4-56: Section 4.1.19.4: Samples of sludges must be taken as well as underlying "original surface" for the parameters listed. The sludge is considered the surface soil and unless some form of institutional control is put in place to prevent contact with contaminated soils, the residential soil criteria applies to all soils.

Response: Because the sludge bed had a concrete floor which was removed, contaminated soil, if it exists, would be from leakage of sludge through cracks in the concrete to the ground underneath the concrete floor. The existing soil surface layer is not believed to be sludge but is presumed to be fill. If the original surface is identified in the soil borings, the soil above the surface will be visually inspected to determine if it may be sludge. If so, a sample of that material will be taken.

8) Comment: Page 4-59: Section 4.1.20.4: It is our determination that since the sampling will likely not occur at this site until late summer/fall, the "attempted" sampling will most likely, not be successful due to the excessive underbrush and vegetation. Sediment sampling must be conducted in this area. If a sample cannot be coordinated to the former sanitary treatment plant outfall, several samples will have to be taken to determine the potential for sediment contamination.

Response: A sample will be collected from this area. The location of the outfall has been determined by WESTON during one of the subsequent site visits.

9) Comment: Page 4-77: Section 4.2.3.4: The paragraph states that "if any evidence of surface soil staining is found, surface soil samples will be collected...". The DEPE will require that this statement be expanded to read "if any evidence of surface soil staining or subsurface disposal is found, soil samples will be collected..." (i.e., adding subsurface disposal, and requiring more than just surface soils sampling).

Response: It is agreed that subsurface investigations will be conducted if evidence of subsurface disposal is found. Fort Monmouth can use a back-hoe to confirm subsurface disposal as the need arises.

10) Comment: Page 4-81: Section 4.1.5.4: Composite sampling is not acceptable, except as necessary for waste classification (7:26E-3.4c). All sampling protocol must be acceptable to the DEPE. (Please see the DEPE's Field Sampling Procedures Manual dated May 1992 for acceptable sampling procedures). The DEPE does allow a type of "averaging" as set forth in the Tech Regs and associated guidance for groundwater (7:26E-3.7e(2) and soil (7-26D-3.3) samples. (Although 7:26D has not been repropose, certain sections are still applied with some modification as guidance with DEPE approval.)

Response: One sample will be taken from the soil beneath the sand. It will not be a composite.

11) Comment: Page 4-84: Section 4.2.7.2: It is stated that the paved Area B has a drain that empties into a ditch in the woods. No sampling for this outfall was proposed in the subsequent sections. Please provide reasoning for this deletion of a sampling point. This area may be required to be sampled, depending upon the DEPE's acceptance of the discussion provided.

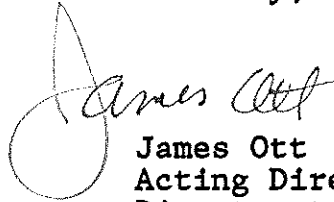
Response: An additional sample will be collected from the ditch.

12) Comment: Page 4-84: Section 4.2.7.3: See general comment above. Limits for chlordane, and any site specific contaminant where a cleanup criteria does not exist, must be derived in accordance with the risk-based procedures set forth in the Tech Regs, and the Groundwater Quality Standards.

Response: Risk-based procedures will be used to derive cleanup limits for those compounds that are present in significant concentrations and for which cleanup criteria do not exist.

Attached to this letter is a copy of the certification clause as required by Tech Regs. If you should require any additional information or help at this time, please contact Mr. Joseph Fallon. He can be reached at the following telephone number: (908)532-6223.

Sincerely,

A handwritten signature in cursive script that reads "James Ott". The signature is written in dark ink and is positioned to the left of the typed name.

James Ott
Acting Director
Directorate of Public Works

