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NJDEP REVIEW OF SITE INVE

State of New Jersey  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF HAZARDOUS WASTE MANAGEMENT

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MAY 18 1990

Captain Walter M. Migrala Jr.  
Commanding Officer  
Naval Weapons Station Earle  
Colts Neck, NJ 07722-5000

Dear Captain Migrala:

Re: Review of Site Investigation Work Plan for  
Task II Sites at NWS Earle

The New Jersey Department of Environmental Protection (NJDEP) has reviewed the above referenced document. A copy of the comments from this review is attached. Please keep in mind that the review is geared toward obtaining quality data that will be useful in determining future actions at these sites.

Also, I am aware of two sites at your facility which are undergoing closure in accordance with the Resource Conservation and Recovery Act (RCRA). Please be advised that additional sampling and/or parameters may be required at these 2 sites to fulfill the requirements of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), more commonly referenced to as Superfund. Further details regarding these two sites as well as the rest of the enclosed comments can be discussed at our next TRC meeting.

If you have any questions please call me at (609) 633-1455.

Sincerely,

Robert Hayton, Case Manager  
Bureau of Federal Case Management

RH:mcs

c: W/Attachments  
Paul Ingrisano, USEPA  
Adrian Townsel, NORDIVAVFAC



Captain Walter M. Migrala Jr.  
Review of Site Investigation Work Plan for  
Task II Sites at NWS Earle  
Page 2

bc: Ken Pentrone, DHSM, BEERA  
Linda Welkom, DWR, BGWPA

NJDEP Review  
of  
Site Investigation Work Plan  
Task II Sites  
Earle NWS

General Comments

1. Two of the remaining eighteen Areas of Environmental Concern (hence designated Task II sites) were excluded from the Site Investigation (SI) Work Plan because they are RCRA regulated sites currently undergoing a RCRA investigation. These two sites, the Demilitarization Furnace (site 18) and the Baghouse and Cyclone Dust Storage Area (site 21), must be addressed within the scope of this investigation.
2. The SI Work Plan must include a base map identifying the location of each of the eighteen Task II sites. A similar map was provided in the Phase III RI Work Plan for Task I sites.
3. The Documents submitted for the SI of the Task II sites failed to include a Health and Safety Plan (HASP) or a Quality Assurance Project Plan. Until these documents are received and reviewed by NJDEP, all comments on the Work Plan are subject to revisions.
4. The individual site maps provided in the SI are often illegible and difficult to comprehend. At a minimum, the layouts should better identify the site location. In those cases of contiguous or neighboring sites (namely Sites 6-17 and 24-25), one map should be provided, detailing the relationship between the sites and the surrounding features. Also many times the disposal areas are not depicted on maps, the maps are of poor quality and the proposed sample points (soil borings, sediment samples, monitor wells) are not included. The development of scaled site maps for most, if not all, of the Task II sites should be a part of the activity matrix for the SI.
5. Due to a recent change in Divisional policy at NJDEP, trip blanks are no longer required with soil/sediment sampling events. Trip blanks are still required with groundwater and surface water samples. Please make the appropriate changes in the summary tables and text of the document.
6. Several times throughout the document the consultant interchanges the words "sediment" and "soils". Sediments refer to that medium (soils) which are associated with or taken from any surface water environment. It appears that the consultant uses sediments to refer to any surface soils samples. The distinction must be made between when sediment samples will be taken versus surface soil samples. If this requires a change to analytical parameter/sample tables then they must also be revised.

## Specific Comments

1. Active Production Wells: Figure 2-2, Page 2-4

Figure 2-2 lists the active production wells in the area of Naval Weapons Station Earle. Well number 28 is reported as a base well, yet it is found several miles from the base. This issue needs to be clarified.

2. Contaminants of Concern: Section 4.1, Page 4-1

References are made in this section of the subject document to, "applicable action levels" and to, "contaminants having a significant impact on human health or the environment at the levels detected." To date no ARAR's, cleanup criteria or risk assessments have been provided to substantiate these references. The consultant should provide the references upon which the above decisions were based.

3. Summary of Lab Soil Analyses: Table 5-1, Page 5-3

The summary table must clearly define the column "QA/QC Analyses." A differentiation must be provided between trip blanks, field blanks, duplicate samples, etc.

4. Summary of Groundwater Analyses: Table 5-2, Page 5-4

The summary table lists the parameters for groundwater analyses as "target compound list analytes." Define this statement and distinguish between TCL organics and TAL inorganics.

5. Exploratory Drilling and Monitor Well and Piezometer Installation: Section 5.2.4.3, Page 5-7:

- a. The proposed well point design provides for only limited coverage of the aquifer potentially impacted by past disposal activities. The well screen lengths should be, at a minimum, 10 feet. This will allow for optimal screen placement across the water table and still provide several feet for saturated zone monitoring.
- b. Provide the appropriate wording for the abbreviation, "TPZ". Does this refer to a temporary piezometer?
- c. All wells shall be installed in accordance with NJDEP monitor well installation specifications.
- d. Obtain all well drilling permits pursuant to N.J.S.A. 58:4A-14.

6. Ground Water Sampling: Section 5.2.4.4, Page 5-7:

A single round of ground-water sampling is proposed for the NWSE sites. A single round of sampling while providing a point-in-time

assessment of the ground water quality will not be adequate for a comprehensive evaluation. An additional round of ground water sampling is required.

The table referenced (Table 5-2) is not complete. It is not acceptable to state that the analytical parameter will be the, "target compound list analytes", rather the distinction must be made between the Target Compound List (TCL) organics and the Target Analyte List (TAL) inorganics.

7. Site 1: Ordnance Demilitarization Site, Page 5-10

b. Possible contaminants associated with the ordnance materials disposed of at Site 1 are nitrate and nitrite. It is believed that 90% of the material burned at this site was nitrocellulose with black powder added as an ignition aid during the burning. It is also possible that other explosive compounds may have been decommissioned here. Analytical testing on the soils is proposed for nitrate and nitrite and explosives. The individual explosives to be analyzed for must be detailed in the analyte list.

b. Due to the shallow water table beneath this disposal site the quality of the ground-water must be evaluated. Monitor wells need to be installed. Analytical parameters, at a minimum, must include TCL organics, TAL inorganics, nitrate and nitrite, and the expanded explosives list. Also, please provide more detail on the grid system (Placement of grid, distance between the nodes or borings, etc.)

8. Landfill/Disposal Area: Sites 6 and 17, Page 5-10

a. A statement within the first paragraph suggests that limited shipboard waste has been placed in the landfill since no ships were homeported at the base during the lifetime of the landfill. While this may be true, the Work Plan asserts that numerous ships docked at NWS Earle throughout this period in order to take on munitions. Remove the statement or supply additional justification.

b. Weston appears to suggest that information obtained by the Bureau of Planning and Assessment (NJDEP) during a site inspection in May 1987 is flawed. Significant HNu and OVA readings were detected by the Bureau at this and other sites around the base. Yet, when the NJDEP inspection detected low or background levels of volatiles, the Plan uses that information as justification for no further action. NJDEP considers the screening data generated by the Bureau of Planning and Assessment as valid, and will act upon it as such.

- c. Twenty soil borings (with split-spoon samples) will be completed at the sites in order to estimate waste boundaries by visual inspection. A percentage of the samples must be analyzed for TCL and TAL contaminants to characterize the landfill contents. Also, sediment and surface water samples may be appropriate to investigate discharges to the adjacent marsh.
  - d. It was reported at the TRC meeting held on October 18, 1989 that leachate was discovered discharging from the base of site 17. The Work Plan fails to report this observation or address the leachate through environmental sampling. Clarify this situation.
  - e. It is believed that this landfill site was a tidal marsh before waste disposal began. Materials buried at this location were typically dumped over the edge of an embankment and covered. Wastes included boxes, crates packing materials, treated lumber (pentachlorophenol impregnated), cans, drums, paint and solvent wastes. Transformers and oil filters could also have been discarded at the site. Monitor wells must be installed to evaluate the impacts of these past disposal practices on the ground water and environment/ecosystems of this area.
  - f. The monitor wells to be installed must be in accordance with NJDEP monitor well installation specifications. The use of a posthole digger to install the wells does not conform to these specifications. The NJDEP will evaluate the proposed locations for these monitor wells and present recommendations if modified installation technique if required. In addition, pending a field inspection of the site, well screen lengths and construction details will be revised by the NJDEP. The current well screen length is unacceptable.
  - g. Analytical parameters for the ground water must include, but not be limited to, the following analytes: TCL organics, TAL inorganics, and PCBs.
  - h. In addition to the proposed investigations, the possibility of oily bilge/sludge disposal in the landfill must be addressed. This type of disposal action is a distinct possibility since this is a waterfront area with an active home port for the fleet.
9. Site 9: Landfill Southeast of "P" Barricades, Page 5-17
- a. Reportedly, disposal of dunnage lumber along with other unknown types of wastes took place at this site. It has not been established whether the lumber was treated or untreated but, it is known that ignition sources such as spent oils were used during the "burning off" process. Therefore, it recommended that soil borings be installed in and around the landfill area to evaluate the impact of these disposal practices. Pending evaluation of the

analytical results of the soil sampling, recommendations will be presented by the department regarding a ground water investigation. The small brook which is located within 200 feet of the site must be investigated as a possible receptor for contaminated ground water which may be discharging from the site.

- b. Analytical parameters for the soils should include, at a minimum, the following: TCL organics and TAL inorganics.

10. Site 12: Battery Acid Spill Site, Waterfront Area, page 5-19

- a. The Identification of Possible Site Contaminants section must be revised to address the possibility of metals contamination associated with the acid disposal actions. The report assumes that the acid spilled would simply be neutralized by the saline environment of the marsh and that no other problems exist as a result of these disposal actions. These conclusions are inaccurate.
- b. The Plan of Action section proposes sediment sampling adjacent to the asphalt pad and a storm drain proximate to the site. Additional consideration must be given to the fact that disposal action may have taken place prior to the asphalt pad being installed and therefore residual contamination may exist beneath it. Shallow soil borings are recommended instead of a surface sediment sample adjacent to the pad. Sediment samples will be required in the storm drain, at the in flow and at the outflow of this drain if it discharges to the marsh/wetlands adjacent to the site.
- c. The proposed analytical parameters for the soil samples is for total lead only. The soils must be analyzed for, at a minimum, TAL inorganics.
- d. Pending review of the soils data and an additional site inspection by the NJDEP, recommendations will be provided concerning the ground water investigation.

11. Site 13: Defense Property Disposal Office Storage Yard, Page 5-21

- a. On April 10, 1990, representatives from the NJDEP and NWSE inspected Site 13. At that time several sinkholes were noted on the rear portion of the property. Reportedly, PCB containing transformers were stored at this site prior to being shipped out. But, during the April 10 inspection it was observed that this area also appeared to have been used as an equipment and debris landfill. Considerable fill has been applied to the area which has increased the natural relief by several feet. A small brook/water filled ditch was observed adjacent to the disposal site and the map presented on figure 5-8 does not show this feature.

b. Based on these findings the following recommendations apply:

- The reason for the sinkholes must be investigated. Soil borings/test pits are recommended to accomplish this task. Subsequent soil sampling is required.
- Surface water and sediment samples should be secured from the ditch adjacent to the site.
- Analytical parameters should indicate TCL organics and TAL inorganics.
- Pending evaluation of the test pits and soil boring data recommendations will be provided concerning the ground-water investigation.

12. Site 14: Defense Disposal Office Warehouse, Page 5-23

A mercury spill occurred in 1970 and was cleaned up by vacuuming. Information on the spill and the subsequent cleanup must be provided to NJDEP for review. If no documentation is available on the event, sampling may be necessary to verify proper removal of the mercury from the warehouse.

13. Site 15: Sludge Disposal Site Near Waterfront South Gate, Page 5-23

- a. The proposed action for this site is to investigate aerial photographs and records to establish the existence of this site. After verifying the location and validating its existence, soil borings and monitor wells must be installed to investigate the impact of the oily bilge sludge disposal practice on this site.
- b. Analytical parameters at a minimum, should include base neutrals/acid extractable plus 15, TAL inorganics and petroleum hydrocarbons (PHC's).

14. Site 16: Fuel Line Connecting Building C-20 and C-50, Page 5-25

- a. Existing inventory records must be re-evaluated to determine the quantity of product lost. The possibility exists that the line was leaking prior to the initial discovery. This would be a greater impact than reported and discrepancies in the inventory control sheets for the fuel system must be investigated. Reportedly, the line was found to be in generally poor condition when it was excavated.
- b. ECRA cleanup levels should be changed to NJDEP Soil Action levels.
- c. Soil borings must be installed with samples taken to the water table. Pending evaluation of the inventory control sheets and the results of the soils investigation, recommendations on the ground

water investigation will be provided. Analytical parameters should include base neutrals +10 and petroleum hydrocarbons.

15. Site 23: Paint Chip Disposal Area Adjacent to Building D-5, Page 5-28

- a. The proposed analytical parameters for the soil samples are volatile organics and metals (Pb, Zn, Cu, Cr). The volatile organics should be the TCL volatile organics plus 10. The soil samples must also be analyzed for xylenes, naphthalene and associated naphthenates.

16. Sites 24 & 25: Closed Pistol Ranges, Page 5-30

WESTON proposes that the results from the Site 24 investigation will apply to both sites. Due to the potential for varying site and soil conditions, Site 25 must be investigated independently of Site 24, although the activities outlined are appropriate for both sites.

Since activities at the two sites both involved pistol range practice, clarify the difference in possible site contaminants at the two sites (as stated in the Work Plan).

Site 25 is titled in the Work Plan as "Closed Pistol Range--Treated Rail Ties." Explain that portion dealing with the rail ties and why the site investigation does not address this environmental threat.

17. Site 27: Projectiles Refurbishing Area, Page 5-32

- a. The Work Plan fails to adequately identify the location of, or provide the justification for, the two proposed soil samples. This information must be supplied in the Plan.
- b. The Plan proposes volatile organic-(VO) analysis from soil collected from surface samples. Due to the potential for volatilization, surface samples collected for VO analysis is unacceptable. A subsurface interval (18-24") must be utilized for VO samples.
- c. Soil sample parameters are proposed to include VOCs, selected metals and EPTOX metals. EPTOX is utilized for waste classification purposes only, and is not acceptable to NJDEP for characterizing site contaminants. Instead, a more appropriate list of parameters designed to characterize the site would be TCL volatile organics and TAL inorganics.
- d. During a May 1987 site inspection conducted by the Bureau of Planning Assessment (NJDEP), a pipe was discovered protruding from a hill behind the building. Provisions must be included in the Work Plan to determine the origin and purpose of this pipe. Based on this information, sampling may be necessary to establish any environmental impact from possible discharges.

18. Site 28: Waste Oil Tank, Page 5-37

According to WESTON, a state-approved RCRA closure was conducted at this site around 1986. Information on the closure must be provided to NJDEP for review. Further field investigative activities may be necessary if the closure does not achieve NJDEP requirements.

19. Site 29: PCB Spill Site, Page 5-37

A PCB Spill from a vandalized transformer was remediated in 1977 by soil excavation and off-site disposal. Information on the spill remediation, including post-excavation sample results, must be provided to NJDEP for review. Further field investigative activities may be necessary if the remediation does not achieve NJDEP requirements.

RH:mcs