

Let's protect our earth



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NWS EARLE
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ER-RI-5
03/04/90
NJDEP COMMENTS ON RI PROG

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Lance R. Miller, Acting Director
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408
Fax # (609) 633-1454

MAR 04 1990

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

Dear Captain Migrala:

Re: IRP Phase III RI/FS Work Plan
Quality Assurance Project Plan
Health and Safety Plan

The New Jersey Department of Environmental Protection (NJDEP) has reviewed the above referenced documents. A copy of the comments from this review is attached. As you can see the comments are quite extensive, indicating numerous deficiencies. These comments were made in an effort to help the Navy develop a work plan for a study that will generate quality data to be used in determining the nature and extent of the threat, posed by the release or potential release of hazardous substances and to evaluate proposed remedies. The ultimate goal is to select a remedial alternative which mitigates threats to and provides protection of public health, welfare, and the environment.

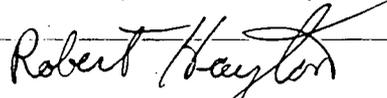
As you may know, most if not all of the sites at Earle NWS are considered Solid Waste Management Units (SWMU's) under the Resource Conservation and Recovery Act (RCRA) and as such are subject to Subtitle C Corrective Action requirements.

Please be advised that the attached comments must be satisfactorily addressed before NJDEP can approve this workplan.

Captain Walter M. Migrala Jr.
Naval Weapons Station Earle
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I look forward to working with you on this project. 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: Paul Ingrisano, USEPA, w/Attachment
Adrian Townsel, NORDIVNAVFAC, w/Attachment

Captain Walter M. Migrala Jr.
Naval Weapons Station Earle
Page 3

bc: Linda Welkom, BGWPA, DWR, w/Attachment
John Boyer, BEERA, DHWM, w/Attachment

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
 MONITOR WELL SPECIFICATIONS FOR
 CONFINED UNCONSOLIDATED AQUIFERS

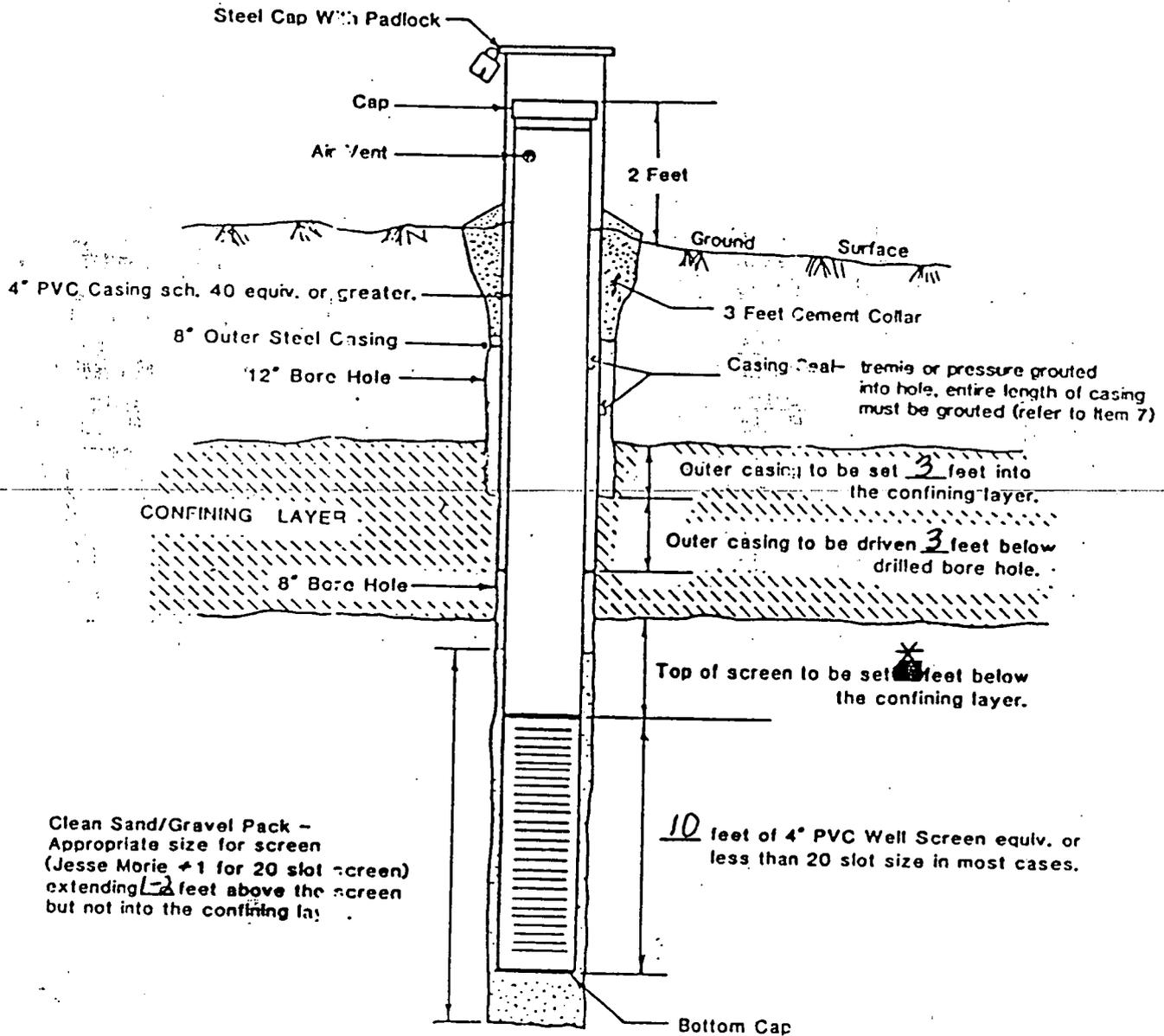
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SITE NAME: Naval Weapons Station Earle

LOCATION: Colts Neck - Monmouth Co.

DATE: 2/90

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* Field Determined

NOT TO SCALE

Attachment 1

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MONITORING WELL REQUIREMENTS FOR CONFINED UNCONSOLIDATED AQUIFERS
Revised 12/87

1. Notification to the NJDEP is required two (2) weeks prior to drilling.
2. State well permits are required for each monitor well constructed by the driller. Report "use of well" on permit application as ground water monitoring. Permit number must be permanently affixed to each monitoring well. NOTE: Well driller must be licensed in the State of New Jersey.
3. All boreholes must be a minimum of four (4) inches greater in diameter than the immediate casing it surrounds.
4. Wells must be gravel packed unless noted otherwise in the Additional Requirements and under no circumstance is the gravel pack to penetrate a confining layer.
5. Casing sealant, drilling fluids and cement must be mixed with potable water.
6. The borehole for the out steel casing is to be drilled and the casing driven, grouted and allowed to set prior to drilling through any confining layer.
7. Acceptable grouting materials are:
 - Neat Cement - 6 gallons of water per 94 pound bag of cement.
 - Granular Bentonite - 1 gallon of water per 1.5 pounds of bentonite.
 - Cement-Bentonite - 8 gallons of water to 5 pounds of bentonite dry mixed per 94 pound bag of cement.
 - Cement-Bentonite - 10 gallons of water per 8 pounds of bentonite water-mixed with a 94 bag of cement.
 - Non-expandable cement - 7.5 gallons of water per 1/2 teaspoon of aluminum hydroxide mixed with 4 pounds of bentonite and 94 pounds of cement.
 - Non-expandable cement - 7 gallons of water per 1/2 teaspoon of aluminum hydroxide mixed with 94 pounds of cement (Type I or Type II).
8. The grout for the inner PVC cased well must extend to the ground surface.
9. The cement collar should be installed one (1) hour after the inner casing seal has been emplaced and not while the outer casing seal is setting.
10. All wells must be developed to yield a turbid-free discharge.
11. The driller must maintain an accurate written log of all materials encountered in each hole, record all construction details for each well, the static water levels, and any tidal fluctuations (when applicable). This information must be submitted to the Office of Water Allocation as required by N.J.G.S.A. 53:4A.
12. If organic compounds are to be sampled for, only threaded or press joints (no glue joints) are acceptable.
13. Locking caps must be provided to secure each well.
14. The top of the inner PVC casing (excluding cap) must be surveyed to the nearest hundredth foot (0.01) by a licensed surveyor. The inner casing must be permanently marked at the point surveyed. The well should be numbered clearly on

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the outer casing. A detailed site map with the well location and casing elevation must be submitted to Bureau of Federal Case Mgt - Robert Hayton.

Additional Requirements (if checked):

Split Spoon Samples (✓) Continuous to bottom of borehole for deep well.

Dedicated Bailer (Sampler) in Well(s) () _____

Threaded or Press Joints (✓) No glue joints.

Five (5) Foot Casing Tailpiece Below Screen () _____

Centralizers on Screen () _____

Borehole Geophysical Log(s) () _____

Other () _____

Notice is Hereby Given of the Following:

Review by the Department of well locations and depths is limited solely to review for compliance with the law and Department rules.

The Department does not review well locations or depths to ascertain the presence of, nor the potential for, damage to any pipeline, cable, or other structures.

The permittee (applicant) is solely responsible for the safety and adequacy of the design and construction of monitoring well(s) required by the Department.

The permittee (applicant) is solely responsible for any harm or damage to person or property which results from the construction or maintenance of any well; this provision is not intended to relieve third parties of any liabilities or responsibilities which are legally theirs.

General Comments

1. Analytical parameters for all samples must be expanded to include Target Compound List (TCL) and Target Analyte List (TAL), compounds at a minimum.
2. ~~All analysis must undergo Tier 1 QA/QC data review. 100% of the analyses must be validated.~~
3. Geophysical surveys should be completed at each landfill site in order to delineate the landfill boundaries prior to drilling any wells.
4. NJDEP requests a copy of the technical reports at the end of each period.
5. All soil boring logs and monitor well logs should have OVA and HnU readings incorporated in them at the appropriate locations.
6. All sampling must be done according to NJDEP Field Sampling Manual.
7. Well construction details must be submitted for all previously installed wells.
8. Table 4-8, page 4-34:

The NJDEP Soil Action Levels identified in this Table have a few numerical errors. The Soil Action Level for barium is 400 ppm, while the number for lead should be 250-1000 ppm. A Soil Action Level has not been established for cyanide. In addition, the footnote at the bottom of the Table should read:

"Action levels are reference numbers used to identify presence of contamination. Specific cleanup objectives are developed on a case-by-case basis."

The ground water cleanup criteria which will be used in remediation of the NWSE site are the New Jersey Ground Water Quality Criteria for aquifers classified as GW-2. Class GW-2 ground water has a natural total dissolved solids (TDS) concentration of 500 mg/l or less and the designated uses are potable, industrial, or agricultural water supply, after conventional water treatment, where necessary. Therefore, to protect the designated use as a potable water supply, the New Jersey Drinking Water Standards (MCLs), and the appropriate corresponding Federal Drinking Water Standards also apply as cleanup criteria. In addition, chemical-specific Applicable or Relevant and Appropriate Requirements (ARARs) will be developed for those contaminants that currently have no promulgated MCLs but, have been identified as contaminants in the ground water beneath the NWSE facility.

9. NJDEP requires discrete Soil Samples be taken at all soil sample locations, no compositing is allowed. The suggested soil sampling

interval for defining vertical contamination is: 1) 0-2 feet; 2) midway between the seasonal high water table elevation and 2 feet below ground surface, and; 3) 2 feet above the seasonal high water table elevation.

10. The following cite must be included in paragraph 2 page 4-35 of the subject document: ~~the New Jersey Ground Water Quality Standards as codified in N.J.A.C. 7:9, subchapter 6.~~

11. Division Order No. 64 is no longer in effect and reference to this order must be removed from Section 4.5.3.3, page 4-37. The following cite must be substituted, New Jersey Ground Water Quality Standards as codified in N.J.A.C. 7:9, subchapter 6.

12. With reference to Surface Geophysical Surveys on page 5-8 one of the limitations of using magnetometers is the problem of "cultural interference" from man-made structures that are constructed of ferrous materials. When these features (i.e., power lines, metal fences, steel reinforced concrete) cannot be avoided, the locations should be noted in a field notebook and on the site map.

Provision also should be made for monitoring and/or correcting for diurnal variations.

13. If liquid flow and depth is minimal and sediment is easy to reach, a trowel or scoop may be used to collect the sediment samples. However, where the water above the sediment collection point is either flowing or greater than four inches in depth, a corer or other device that eliminates sample washing must be used to collect the sample in an attempt of minimize washing the sediment as it is retrieved. Please clarify this on page 5-12.

14. Due to the difficulty in field decontaminating monitoring well bailers, it is suggested that each well to be sampled have a dedicated, laboratory cleaned bailer.

15. All soil borings must be installed by a New Jersey licensed well driller who will have all appropriate permits prior to starting any drilling activities.

Any soil boring not used for the installation of a piezometer must be tremie grouted upon completion.

16. Section 5.2.5.3, Exploratory Drilling and Additional Monitor Well Installation, page 5-9:

a. The title of this section should be changed to Exploratory Drilling and Additional Monitor Well Installations.

b. The water table monitor wells will be constructed using a well screen that is 15-feet in length.

- c. All monitor wells will be appropriately marked with a permanent identifying number (e.g., the New Jersey well permit number and the corresponding site monitor well number).
- d. Any monitor well which penetrates a significant confining unit MUST be double cased through the confining unit.
- e. The deep boring and monitor well to be installed into the Englishtown aquifer must be continuously split-spoon sampled to the bottom of the borehole. Samples will be stratigraphically logged to verify the formations. As stated above, the monitor well must be double cased to prevent any potential for downward migration of contamination via the borehole to the Englishtown Aquifer.
- f. Synoptic ground water levels will be taken upon completion of all proposed monitor wells and piezometers. These will be used to prepare ground water contour maps for the sites. The monitor wells and piezometers must be allowed to equilibrate with the aquifer after installation and development and prior to taking water level measurements.

17. Section 5.2.5.4, Piezometric Analysis, page 5-11:

The NJDEP must be notified prior to the removal of any of the piezometers. It may be necessary to continue monitoring these points longer than the timeframe stated in this section of the subject document.

18. Section 5.2.5.5, Ground Water Sampling, page 5-11:

- a. Ground water quality samples will not be taken within 14 calendar days of installation and development.
- b. All ground water quality samples will be taken in accordance with the NJDEP Sampling Manual (February, 1988).
- c. Random selection of ground water samples for submission for analysis for organic constituents, Target Analyte List (TAL) metals and nonmetals will not be acceptable. All monitor wells will be sampled for the full list of analytes, which will be determined by the NJDEP in conjunction with representatives of NWSE.

Site Specific Recommendations on the Phase III Work Plan

The recommendations listed immediately below are applicable and relevant to all the sites discussed in the subject document. These changes must be incorporated into each site specific section of the subject document.

1. Site Specific Tables, Detailing the Analytical Results for Ground Water Samples Previously Collected:

The regulatory limits stated for base neutral/acid compounds (microgram/liter), volatile organic compounds (micrograms/liter), and petroleum hydrocarbons (ng/l) must be changed from 100, 10, and 1 respectively to compound-specific.

2. Site Specific Table, Detailing Summaries of Analytical Requirements for Surface Water and Ground Water Analyses:

The representation of two matrices (surface water and ground water), onto one table is not recommended. It is very difficult to determine exactly which samples will be analyzed for what parameters (e.g., Table 5-3). Therefore, it is recommended that a table for each medium (surface water and ground water) be generated. The surface water and ground water tables to be generated should follow the same general format as the current "analyses" table. The use of this format will make it easier to identify samples and their respective analytical parameters.

3. Soil Borings

The soil samples to be collected from the proposed soil borings must be taken from discrete intervals and not form a composite sample of the borehole.

4. Site Specific Tables, Summary of Analytical Requirements for Proposed Surface Water and Ground Water Analyses:

All monitor wells (existing and proposed) must be sampled for the target analyte list to be determined by the NJDEP. Random applications of sampling requirements will not provide sufficient data upon which to base a sound interpretation of contaminant migration within the ground water beneath the facility.

5. Site Specific Figures

The key/table provided with each site specific map should include the ground water level data for each monitor well. Ground water contours and flow direction(s) should also be included on each map.

6. Ground Water Sampling

All references to ground water sampling procedures and protocols must be modified to reflect the appropriate changes to the Quality Assurance Project Plan (QAPP). The details and specific changes will be presented in subsequent sections of this memorandum.

Individual/Site Specific Scope of Work

Section 5.3. Site 2 Scope of Work, page 5-13:

1. Section 5.3.1.3 Soil Borings, page 5-17:

Justification must be provided for the terminating depth of soil borings approximately 5 feet below the ground water table.

2. The following compound list must be added to the parameter list for all samples at Site 2:

2,4,6 - Trinitrotoluene
2,4 - Dinitrotoluene
2,6 - Dinitrotoluene
Tetryl
1,3,5 - Trinitrobenzene
1,3 - Dinitrobenzene
Nitrocellulose

3. Section 5.3.1.5 Piezometers, page 5-17:

The text presented in this section of the subject document and Figure 5-1 do not correspond. The text states, "Temporary piezometers will be installed in soil borings to confirm ground water flow direction," yet the Figure 5-1 shows only one soil boring/monitor well combination. This discrepancy must be investigated and modified as needed.

4. Table 5-8, Summary of Analytical Requirements, page 5-19:

One of the parameters listed in this, and other Tables in the Work Plan is "nonmetals (TAL)." Specifically define this parameter.

Section 5.4, Site 3, Scope of Work, page 5-21:

1. Since discussions are included in this section concerning the construction of proposed monitor wells, the approximate depth to water and the length of screen to be used for each monitor well should also be listed.

2. Figure 5-2, Site 3 - Landfill Southwest of "F" Group Monitor well Locations, page 5-22:

1. From the map presented in this figure, it is difficult to determine the exact boundaries of the site. Effort must be undertaken to better delineate the exact site boundaries.

2. An additional monitor well should be added at a location southwest of monitor well 3-1. Elevated levels of total organic halogens (28.0 ppb) were detected in MW 3-1 and currently no monitor wells exist downgradient or side-gradient of this location.
3. A significant effort must be made to delineate the extent of the landfill prior to monitoring well installation. Well locations should be just outside the landfill boundry. Monitor well should not be placed through fill material.

Section 5.5, Site 4 Scope of Work, page 5-24:

1. Figure 5-3, Site 4 - Landfill West of "D" Group Monitor Well and Sampling Locations, page 5-27:
 - a. From the map depicted in this figure the exact boundaries of the landfill cannot be determined. Efforts must be made to delineate these boundaries.
 - b. The trench burning area which historically existed at the landfill must be shown on the figure to assist in determining the most appropriate sampling locations.
 - c. Reportedly, the spring which exists on-site is a perennial spring. Samples from both the water and sediment from the spring outfall should be taken, since the spring is allegedly downgradient of landfilling activities.

2. Section 5.5.1.3, Monitor Wells, page 5-28:

This section of the subject report states, "The ground water flow direction determined during the confirmation study does not agree with the expected flow direction for the area." Efforts must be made to explain this anomaly. In addition, the direction of the expected ground water flow should be stated.

3. Table 5-13, Summary of Analytical Requirements for Soil Analyses, page 5-29:

The analytical parameters for the soil samples must be expanded to include the recommendations presented by the NJDEP. The target list as presented is inadequate.

4. Table 5-14, Summary of Analytical Requirements for Surface Water and Ground Water Analytes, page 5-30:

The list of analytes must be expanded to incorporate the parameters previously recommended by the NJDEP.

5. Figure 5-3, Site 4, page 5-27

During a site investigation July 18, 1988, stunted tree growth with little or no grassy vegetation was observed in sections of this site. Areas of stressed vegetation must be delineated on the site map.

The location of the trench burning must be identified on the site map.

Section 5.5.6, Site 5 Scope of Work, page 5-28:

1. Section 5.6.1.2, Soil Sampling, page 5-31:

This section of the subject report states, "Soil borings are not proposed for this site. However, subsurface soil samples will be collected during the drilling program for the monitor well installations. Soil samples will be collected at 2- to 5- foot intervals." This sampling interval must be justified and explained.

2. Figure 5-4, Site 5, Landfill West of Army Barricades, page 5-33:

a. From the figure provided, it is difficult to determine the disposal limits of the landfill. Efforts must be made to better delineate these boundaries.

b. At a minimum, two piezometers should be installed to evaluate the intermittent stream depicted on the figure. This stream may be a migration pathway for contamination and may require additional investigation and sampling.

3. Soil Sampling, Site 5, page 5-31:

"The collected soil samples will be . . . screened for levels of contamination." Describe in greater detail the process of screening the soil samples.

Section 5.7, Site 7 Scope of Work, page 5-34:

1. Section 5.7.1, Overview of Field Investigation, page 5-34:

a. The deep monitor well which is proposed to be installed in the Englishtown Aquifer must be double cased to prevent downward migration of contamination. It is likely that a confining clay unit will be encountered within the lower Kirkwood. The proposed deep well will penetrate this potential confining unit, thus opening a conduit to the lower aquifers. While the proposed monitor well is located upgradient of Site 7 activities, it is hydraulically downgradient from the regional ground water flow regime for

the lower aquifer systems. Therefore, if potential contamination violates the borehole annulus then it would have a direct pathway to the lower aquifers which are being used as potable drinking sources.

- b. The in-ground steel tanks located in the northeast section of the site must be removed and appropriate post-excitation samples taken.
- c. The conceptual "Draft Plan of Action" submitted by WESTON in March 1989 included an investigation of the scrap metal pile on the south side of Site 7. These samples must be included in the current Work Plan unless adequate justification can be provided.
- d. Delete the sentence "the parameters for analyses of the soil samples are listed in Table 5-2." This is incorrect. OK

2. Figure 5-5, Site 7, Landfill South of "P" Barricades, page 5-37:

- a. The deep regional flow must be clearly marked on the subject figure. In addition, the ground water flow direction arrow presently on the figure should be modified to indicate that this is indicative of the shallow ground water flow regime for the site.
- b. The scrap metal disposal area depicted on the figure should be further investigated to determine if additional sampling and/or remediation, is required.
- c. The approximate location/direction and distance to the brook should be included on the figure.
- d. Piezometer(s) should be installed in the area depicted as small pines in order to evaluate the ground water flow regime in the approximate center of the disposal area.

3. Section 5.7.1.1, Storage Tank Investigation, page 5-38:

The underground storage tanks which historically existed on-site must be removed. Post-excitation sampling must be conducted to evaluate any residual contamination subsequent to the removal action. All underground storage tanks at NWS must be registered with NJDEP, Bureau of Underground Storage Tanks.

4. Section 5.7.1.4, Monitor Wells, page 5-38:

Refer to number 5-1 above for recommendations concerning the deep monitor well to be installed into the Englishtown Aquifer.

5. Table 5-18, Summary of Analytical Requirements for Soil and Sediment Analyses, page 5-39:

This table must be revised to incorporate the previous recommendations for additional sampling parameters made by the NJDEP.

6. Section 57.7.1.7, Surface Water Sampling, page 5-40:

- a. This section of the subject document discusses that, "West of Site 7 is an unnamed brook that is a tributary to Compton Creek. Ground water flows west of this site toward this brook." The approximate location with respect to the site should be depicted on the site-specific figure.
- b. Please explain what "seepage points" are along the bank of the brook.
- c. Sediment samples must be taken at each point where surface water samples are to be taken.

Section 5.8 site 10 Scope of Work, page 5-40:

1. Figure 5-6, Site 10 - Scrap Metal Landfill Monitor Well and Sampling Location, page 5-45:

- a. An additional piezometer should be installed approximately in the middle of the site to confirm ground water flow direction. Approximate disposal locations should also be better delineated.
- b. Please see Comment No. 2 for site 2 for added parameter list.

Section 5.9 Site 11 Scope of Work, page 5-44:

1. Section 5.9.1.3, Monitor Wells, page 5-50:

In addition, to the monitor well proposed north of existing monitor well 11-3 a monitor well should be installed to the east and hydraulically downgradient of existing monitor well 11-3. Total organic halogens have been identified in MW 11-3 at 169 ppb, (July 1986). Monitor well 11-1 also has documented levels of 202 ppb. This monitor well is also reportedly upgradient of site activities yet, contamination has been documented to exist. Additional investigation is needed to delineate the exact boundaries of disposal and associated contamination.

2. Identify on the site map the unlined pits in relation to the soil borings.

3. Soil samples collected for volatile organic analyses must be taken from the 2-4 foot interval.

8. Section 5.10 Site 19 Scope of Work, page 5-53:

1. Section 5.10.1.2, Soil Sampling, page 5-59:

- a. Previous soil sampling events have documented high levels of Target Analyte List (TAL) metals which are the result of past disposal and discharge practices. To assist in delineation of this metal contamination problem, the consultant should investigate the use of x-ray fluorescence. This scanning technique has been effectively used on other CERCLA sites to delineate metals contamination in soil.
- b. The site map must depict the suspected flow path of wash water (containing paint chips and paint sludge) from Building S-34. Include on the map all piping, drainage swales, lagoon and eventual discharge points to the Mingamahone Brook.
- c. Identify the stream on the site map and establish the flow direction.
- d. The Work plan proposes to terminate soil borings at the ground water table. The next sentence (pages 5-59) states that soil samples will be collected down to "five feet below the ground water table." As noted in Comment No. 3, unless proper scientific rationale can be provided, soil samples should terminate at the ground water table. Regardless of the outcome, this above-mentioned contradiction must be corrected.
- e. Soil samples are proposed to be collected from the surface to the ground water table, with two samples undergoing laboratory analysis. Furnish the basis by which these two samples will be selected.
- f. Additional soil samples must be proposed near 19A and 19B, to further delineate the cadmium contamination in this area.
- g. Due to the recent change in Divisional policy at NJDEP, trip blanks are no longer required with soil/sediment sampling events. Trip blanks are still required with ground water and surface water samples. Make the appropriate changes to summary Table 5-31.

2. Section 5.10.1.3, Monitor Wells, page 5-59:

The highest levels of soil contamination has been documented to exist in the drainage swale and culvert area just south of the explosion barricade on-site. Reportedly wash water from site

operations was discharged to this swale area via underground piping. Currently there are small pines growing in this drainage area. Therefore, to assist in investigation of past discharges and disposal practices a water-table-monitor well should be installed in the drainage swale area.

Section 5.11 Site 20 Scope of Work, page 5-68:

1. The EP TOX analyses conducted on soil samples from site 20 are appropriate for disposal purposes. But, they are not acceptable for evaluation of potential contamination associated with past disposal practice. Additional soil samples may be required to fully evaluate residual contamination from this site. Additional investigations may be required depending on the results of the proposed soil sampling.
2. During a May 1987 site inspection conducted by the Bureau of Planning and Assessment (NJDEP), significant readings (greater than 1,000 ppm on the OVA and greater than 2,000 ppm on the HNu) were detected in the drainage area. As presented in the Work Plan, no sampling is proposed for this area. Soil samples must be collected and analyzed for TCL+30 and TAL inorganics to delineate this contamination.
3. The site map fails to provide a scale reference to assist in determining distance. Please rectify this situation.

10. Section 5.12, Site 22 Scope of Work, page 5-65:

- a. Table 5-34, Analytical Results for Soil Samples Collected in March 1986:
Refer to Comment No. 9 above.

11. Section 5.13, Site 26 Scope of Work, page 5-69:

- a. Figure 5-11, Site 26 - Explosive "D" Washout Area:
 1. The ground water flow direction must be provided on the revised figure.
 2. See Comment No. 2 for site 2 for added parameter list.

Recommendations on the Phase III - Quality Assurance Project Plan:

The following recommendations are listed in the same order as they appear in the subject document.

1. Table 1-3, NJDEP Guidelines for Evaluating Possible ECRA Cleanup Requirements, page 1-15:

This table as submitted is inaccurate and must be revised to incorporate the following changes.

- a. As described in this section of the subject document, ECRA cleanup criteria presented are not applicable for ground water. The ground water cleanup criteria which will be used in remediation of the NWSE site are the New Jersey Ground Water Quality Criteria for aquifers classified as GW-2. Class GW-2 ground water has a natural TDS of 500 mg/l or less and the designated uses are for potable, industrial, or agricultural water supply, after conventional water treatment, where necessary. Therefore, to protect the designated use as a potable water supply the New Jersey Drinking Water Standards (MCLs), and the appropriate corresponding Federal Drinking Water Standards also apply as cleanup criteria. In addition, chemical-specific Applicable or Relevant and Appropriate Requirements (ARARs) will be developed for those contaminants that currently have no promulgated MCLs but, have been identified as contaminants in the ground water beneath the NWSE facility.
- b. Two guidance documents listed in the QAPP, Guidance on Remedial Investigations Under CERCLA and Guidance on Feasibility Studies Under CERCLA, have been revised and consolidated. The new document is Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (EPA/540/G-89/004). Guidance provided in the newer document must be followed.
- c. In addition, the NJDEP document, Field Sampling Procedures Manual (February 1988) should be included in this list.
- d. The QAPP states that 10% of the data will be audited by the laboratory QA Coordinator. This is unacceptable. The coordinator's employer is not identified. Assuming that the employer is WESTON, this is a conflict-of-interest. WESTON will be collecting the samples, WESTON Laboratories will be analyzing the samples, and WESTON personnel will be validating the data.
- e. NJDEP requires that 100% of the data be validated by an independent validator using procedures outlined in the documents below:
 1. Quality Assurance Data Validation of Analytical Deliverables - TCL Organics (Low/Medium Level Analyses) - June 1989;
 2. Quality Assurance Data Validation of Analytical Deliverables - TAL Inorganics - June 1989; and,

3. Data Validation Report Format for Analytical Deliverable TCL Organics (Low/Medium Level Analyses) and TAL Inorganics - June 1989).
 - f. As noted in Comment No. 14, Trip Blanks are no longer required for soil/sediment sampling events. Modify this section of the QAPP.
-

2. Section 2, Methods Protocols, page 2-1:

a. Subsection 2.2, Tank Inspection, page 2-2:

As previously recommended the underground storage tanks will be removed and the excavation post-ex sampled.

b. Subsection 2.3.1, Test Borings, page 2-3:

1. The modified design for the split-spoon samplers proposed in paragraph 2 of this section is unacceptable. The California modified type (i.e., capable of accommodating 2-inch OD brass tubing) is not warranted on this drilling operation. Standard split-spoon samplers without the brass tubing are acceptable.

2. Obtain drilling permits for all soil borings pursuant to N.J.A.C. 58:4A-14.

3. Install soil borings under direct supervision of a New Jersey licensed well driller and a qualified geologist.

4. Decontaminate soil boring and sampling equipment between individual samples and borings according to the approved decontamination plan.

5. Permanently seal all soil borings (those not used for monitor well installations) using a certified well sealer, within 12 hours of completion of each boring.

3. Section 2.4, Monitor Well Installation and Testing, page 2-4:

A double-cased monitor well construction diagram must be included in this section of the subject document. This diagram is needed since the deep monitor well to be installed into the Englishtown Aquifer must be double cased to prevent contamination migration via the borehole (see Attachment 1).

4. Section 2.5, Water Level Data Collection, page 2-10:

A permanent water level measurement mark shall be etched onto the well casing to allow for accurate, reproducible water level measurements over time.

Synoptic-water-level measurements must not be taken prior to allowing the monitor well to equilibrate with the aquifer. The equilibration period will start after the monitor well is completed and has been developed.

5. Section 2.6, Sample Collection, page 2-10:

a. Subsection 2.6.1, Ground Water Samples, page 2-10:

Ground water samples must not be collected within 14 calendar days of installation and development of the wells.

b. Subsection 2.6.4.4, Water and Soil Sampling Equipment Decontamination, page 2-16:

The following will be followed for decontamination.

- All field sampling equipment shall be laboratory cleaned, wrapped and dedicated to a particular sampling point, unless written permission for field cleaning is obtained from the Department prior to the collection of any samples.
- Field cleaning of well casing, well screening and drilling equipment shall consist of a manual scrubbing to remove foreign material and steam cleaning inside and out until all traces of oil and grease are removed; these materials shall then be stored in such a manner to preserve it in this pristine condition.
- Decontamination protocols for split-spoon samplers, pumps, etc. are as follows:
 1. Non-phosphate detergent
 2. Tap water rinse
 3. Distilled/deionized water rinse
 4. 10% Nitric acid rinse*
 5. Distilled/deionized water rinse*
 6. Acetone (pesticide grade) rinse
 7. Total air dry or nitrogen blow out
 8. Distilled/deionized water rinse

* Only if sample is to be analyzed for metals

6. Coordination with the US Navy, page 2-19:

The Health and Safety Plan and the Quality Assurance Project Plan identify different persons as the Station Point of Contact (POC) for this project. Clarify.

7. Appendix B, Analytical Methods, Parameters

The first Table in Appendix B incorrectly identifies the Target Compound List as including metals. Metals and cyanide are referred to as the Target Analyte List (TAL).

HEALTH AND SAFETY PLAN

1. Figure 1, Site Locations, page v:

The site location map must identify the main gate at the Naval Facility.

2. Secondary Emergency Contacts, page vi:

Update the list of secondary emergency contacts to include the new Project Manager (WESTON) and Engineer in Charge (US Navy).

3. WESTON and Subcontractors, page 3:

Field Safety Officers (FSO) are required to maintain contact with the Site Health and Safety Coordinator (SHSC). Since no two-way communication devices are permitted on NWS Earle property (as stated on page 21), identify the form of communication to be utilized between the FSO and the SHSC.