



State of New Jersey
Department of Environmental Protection and Energy

Division of Responsible Party Site Remediation

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Mr. Jerry Hoover, Project Manager
Northern Division
Naval Facilities Engineering Command
Building 77L, U.S. Naval Base
Philadelphia, PA 19112-5094

11 DEC 1991

Dear Mr. Hoover:

Re: Naval Weapons Station Earle (NWSE)
Colts Neck Township, Monmouth County
Site Investigation (SI) Work Plan

The Department of Environmental Protection and Energy (DEPE) has reviewed the above referenced document. The DEPE's comments are as follow.

1. Section 5-1, p. 5-1

The second paragraph on this page should be omitted. The intent of the paragraph is unclear. Paragraph one on this page adequately explains the purpose/objective of the SI.

2. Figure 5-1, p. 5-2

The accuracy of this table must be reevaluated. Test pit sampling and aerial photo review activities were conducted for Site 8, but the figure does not indicate so.

3. Table 5-1, p. 5-3

a. Site 1 must include TAL metals as soil analytes.

b. Site 9 specifies the Soil Analytes to include "...TAL metals, arsenic..." Arsenic is a TAL metal. This same phrase appears in the footnote "b" for Site 8.

c. Site 23 soil analytes must also include Cadmium (Cd).

d. Sites 24 and 25 soil analytes must also include Chromium (Cr) and Cadmium (Cd).

e. Site 27 must include cadmium (Cd) to the selected metals list for the 6 soil samples in the disposal areas.

4. Table 5-2, p. 5-6

All sites which specify selected metal analytes must include Cadmium (Cd) in the list of selected metals.

5. Section 5.2.1 Planning Documents, p. 5-7

The plan must provide further discussion regarding the applicability of the RI QAPP and HASP for this SI effort. This discussion should emphasize the similar character, sizes, potential contaminants, etc. between the RI and SI sites. The discussion must show that the hazard scenarios do not change.

6. Section 5.2.4.3, p. 5-9

Monitor wells at the NWSE will be installed according to the NJDEPE Monitor Well Installation Specifications (attached). Furthermore, Morie Sand must be used instead of Ottawa sand. The sand pack will be overlain with 1 -2 feet of bentonite pellets. If these pellets are installed above the water table they will be installed in 6-inch lifts with an appropriate hydration interval per lift allowed.

7. Section 5.2.4.4, p.5-9

In addition to the criteria to be noted in the field logs during the test pit investigations, any changes in lithology and HNu or OVA readings taken must be included.

8. Section 5.2.4.5, p. 5-10

It is proposed that one round of ground water samples be conducted at the SI sites. The DEPE requires a minimum of two rounds of ground water sampling.

9. Table 5-3, p. 5-11

Conventional Landfill Parameters must be added to the Analyte lists for ground water samples to be collected from the landfill sites (including Site 17).

10. Section 5.4, Site 6, p. 5-17

It is proposed that three monitor wells be installed at Site 6. Due to the size of Site 6, DEPE requires that four monitor wells be installed at the locations shown on Figure 1.

11. Figure 5-3, p. 5-18

It should be noted here that specific sample collection

points for sediments and surface water samples at Sites 6 and 17 will be determined in the field in consultation with regulatory (EPA, DEPE, NOAA) representatives. The second surface water location for Site 6 is not clear on this figure.

12. Figure 5-5, p. 5-20

This figure is unacceptable. Further detail as to the exact location of the site must be provided.

13. Section 5.10, p. 5-28

The need to install monitor wells at this site will be determined by the results of soil sampling at the site. However, due to the nature of activities that occurred at this site, it is required that a ground water sample be taken. The use of a hydropunch may be considered for the collection of this sample.

14. Section 5.11, p. 5-28

A. The status of the underground storage tank (UST) associated with the fuel lines and leaks reported at this site must be provided in the SI Work Plan.

B. Also, from the figure provided by the contractor the exact location of the USTs and fuel lines and associated leaks could not be determined. This data must be detailed on a revised map.

15. Section 5.13, p. 5-31

Due to the reported use of xylene, naphthalene and naphthenates at this site, the DEPE requires a minimum of one ground water sample. A hydropunch may be used to collect this sample.

16. Section 5.16, p. 5-36

The map provided for Site 27 is unacceptable. A revised map, more clearly marking the site, must be created.

17. Sites 9, 12, 13, 14, 15, 16

The SI Work Plan for these sites proposes only soil sampling. If soil contamination is found at levels that may pose a threat to ground water, the Navy will be required to perform a ground water investigation.

18. The DEPE must be notified a minimum two weeks prior to any field work such that the DEPE can arrange to provide field oversight.

Please address these comments in a revised SI Work Plan. If you have any questions feel free to call me at (609) 633-1455, or we can discuss these comments at our next TRC meeting.

Sincerely yours,



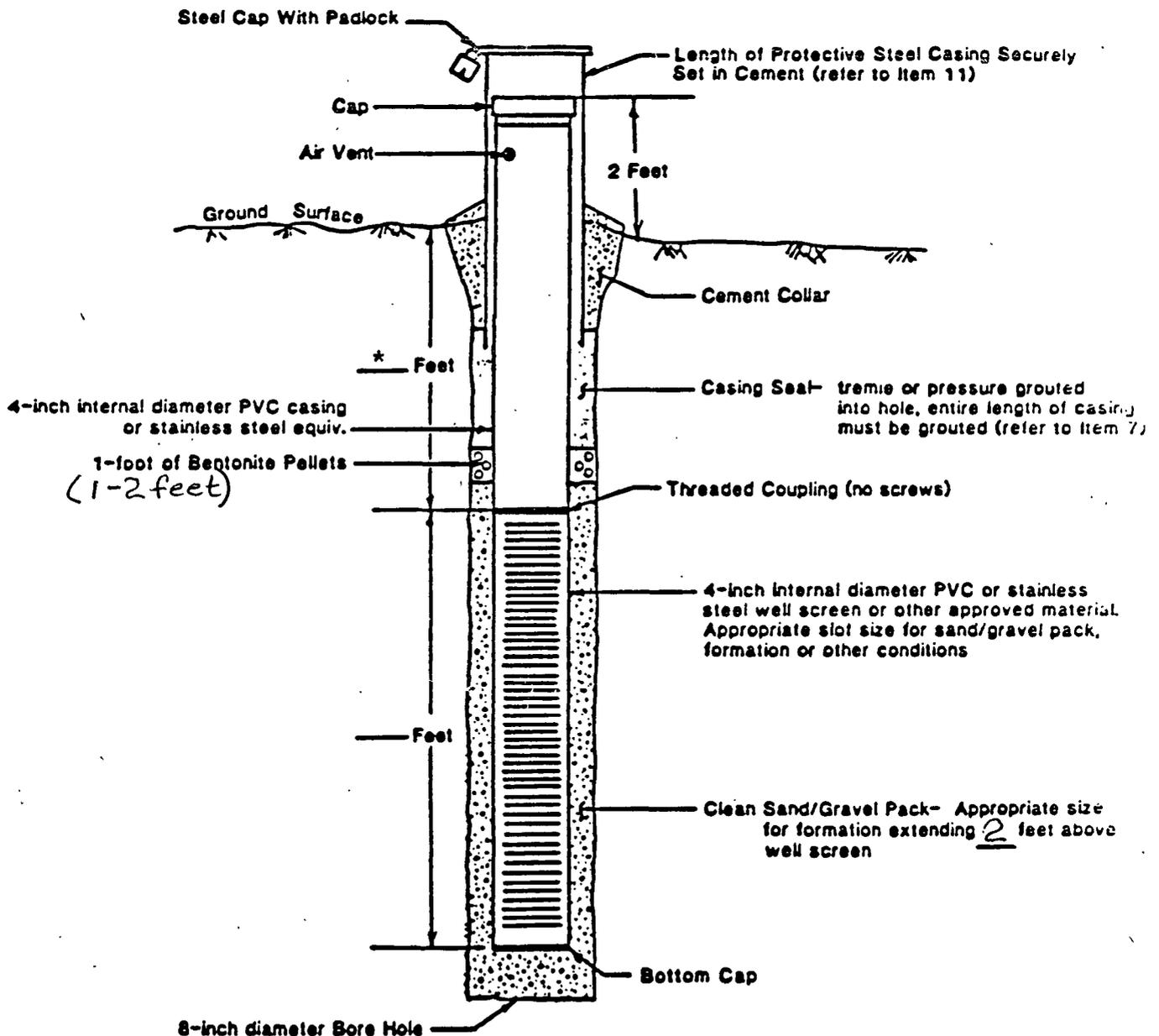
Joseph Freudenberg, Case Manager
Bureau of Federal Case Management

- c. Paul Ingrisano, EPA
Ken Petrone, BEERA/DPFSR
Linda Welkom, BGWPA/DPFSR

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
 MONITORING WELL SPECIFICATIONS AND REQUIREMENTS
 FOR UNCONSOLIDATED FORMATIONS

Attachment 1

SITE NAME: Naval Weapons Station, Earle
 LOCATION: Colts Neck, Monmouth County
 DATE: 12/91



NOT TO SCALE

* Top of screen should be set three feet above water table unless noted otherwise in the additional requirements (Paragraph 13).

1. The ~~permittee~~^{facility} shall provide the Department a minimum of two weeks notification prior to the installation of any monitor wells required.
2. A valid New Jersey well permit is required prior to the installation of any well. The well permit number must be permanently affixed to each monitoring well.
3. Satisfactory monitoring wells are defined in N.J.A.C. 7:14A-6.13 of the New Jersey Pollutant Discharge Elimination System (NJPDDES) regulations and shall be subject to Departmental approval. If monitoring wells do not meet these standards, they must be replaced with new wells meeting Departmental standards.
4. The borehole diameter must be four inches greater than the casing diameter.
5. Acceptable grouting materials are:
 - Neat Cement: Six gallons of water per 94 pound bag of cement.
 - Granular Bentonite: One gallon of water per 1.5 pounds of bentonite.
 - Cement-Bentonite: Ten gallons of water per eight pounds of bentonite, water-mixed with a 94 pound bag of cement.
 - Cement-Bentonite: Eight gallons of water to five pounds of cement dry-mixed with a 94 pound bag of cement.
 - Non-expandable Cement: 7.5 gallons of water per 1/2 teaspoon of aluminum hydroxide, mixed with four pounds of bentonite and a 94 pound bag of cement.
 - Non-expandable Cement: 7.5 gallons of water per 1/2 teaspoon of aluminum hydroxide, mixed with a 94 pound bag of cement (Type I or Type II).
6. Potable water must be used for mixing grouting materials and drilling fluids.
7. Only threaded joints are acceptable as couplings.
8. The driller must, for each well, maintain an accurate written log of all materials encountered, record construction details, and record the depths of water bearing zones. This information must be submitted to the Bureau of Water Allocation as required by N.J.S.A. 58:4A-1 et seq.
9. A length of protective steel casing with a locking cap must be securely set in cement around the well casing. Flush mounted monitoring wells are acceptable provided they have

manholes, locking caps, and seals to prevent leakage of surface water into the well.

10. The top of each inner well casing (cap off) must be surveyed to the nearest 0.01 foot by a New Jersey licensed surveyor. The survey point must be marked on each well, and the elevation must be permanently affixed.
11. Monitoring wells must be developed to a turbidity-free discharge, or, if not possible, for at least one hour. The method of development must be stated on the well certification form (See Paragraph 12).
12. Monitoring Well Certification Forms A and B shall be completed for each monitoring well required by this permit. These forms must be submitted within 30 days of the Effective Date of Permit or within 30 days after installation. A copy of Forms A and B shall be completed and properly signed for each well. The forms shall be submitted to the Department (Attention: Well Certifications).
13. Additional Requirements (if checked):

Split Spoon Samples (X) Continuous

Borehole Geophysical Logs () _____

Dedicated Bailer (Sampler) in Well () _____

Top of Screen set below water table () _____

Other () _____

INSPECTION REQUIREMENTS

- I. The owner or operator shall inspect each monitor well on a monthly basis for structural integrity and/or damage. The permittee shall maintain a complete inspection record indicating dates of inspection, inspector's name, and conditions observed. These records shall be made available to the Department upon request. Failure to maintain or submit records upon request shall be a violation of the ground water monitoring requirements.
- II. If the monitor wells are damaged or are otherwise rendered inadequate for their intended purpose, the Department shall be notified within five (5) days in writing indicating:
 - (a) Which wells were damaged or rendered inadequate for

their intended use;

- (b) The cause and extent of damage or the reason for the inadequacy;
- (c) If the sampling schedule as required in this ~~permit~~ ^{INVESTIGATION} will be violated or if the results of the sampling may reasonably become misleading;
- (d) The date that the wells will again be operational;
- (e) The next date that the well will be sampled.

Damaged wells must be replaced or repaired within thirty (30) days after the damage is discovered. Replacement wells must be installed within a 10 foot radius of the existing well. If sampling requirements were not met because of damage to the wells, the replacement wells must be sampled between the fourteenth day and the thirtieth day after they have been installed. A replacement well must meet the construction requirements established by the Department. Inadequate or damaged wells must be properly sealed pursuant to N.J.S.A. 58:4A-4.1. Instructions regarding sealing may be obtained by contacting the Bureau of Water Allocation at (609) 984-6831. Failure to follow these procedures is a violation of the ground water monitoring requirements.

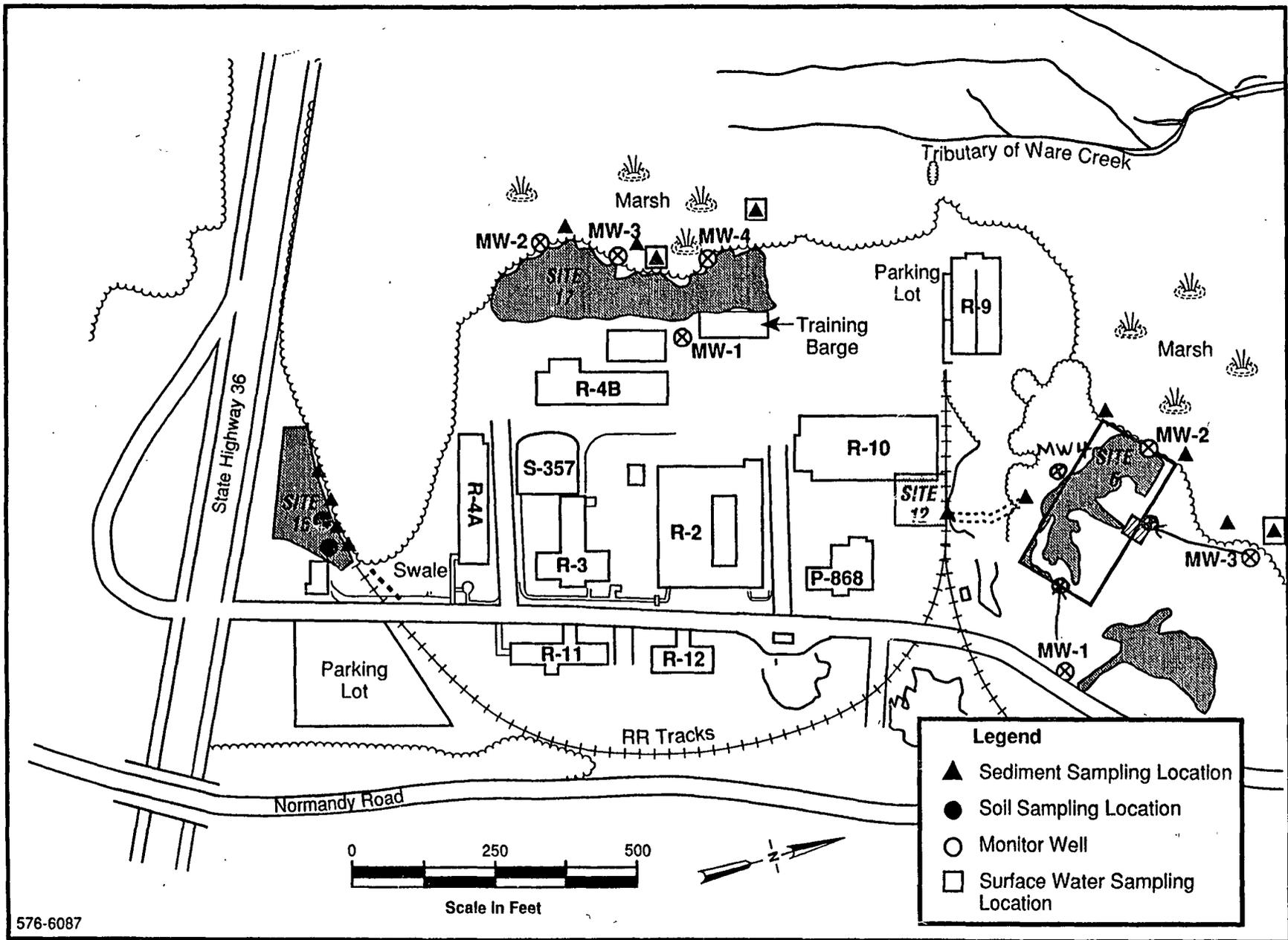


FIGURE 1: AERIAL PHOTOGRAPH ANALYSIS SHOWING SURFICIAL CHARACTERISTICS OF SITES 6, 12, 15, AND 17, NWS EARLE, COLTS NECK, NJ