



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

July 6, 1995

In Reply Refer To: 3HW52

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Department of the Navy
Ms. Cheryl L. Deskins, Acting Director
Environmental Division
Naval Explosive Ordnance Disposal Technology Center
Indian Head, MD 20604-5070

Attention: Mr. Shawn Jorgensen

Reference: Notice of Deficiencies
VI/RFI Work Plan
Stump Neck Annex, MD
EPA ID No. MD 417 009 0001

Dear Mr. Jorgensen:

The U.S. Environmental Protection Agency (EPA) has reviewed your Verification Investigation (VI)/RCRA Facility Investigation (RFI) Work Plan dated July 17, 1991. The Work Plan was found to be deficient in certain areas. Issues requiring additional investigation or assessment are identified in Attachment 1.

The major area of concern is that the work plan implies that a RCRA Facility Investigation (RFI) will be conducted concurrently with a Verification Investigation (VI). The objectives of the RFI differ from that of the VI. An RFI is based on the fact that a release has occurred and is designed to evaluate the scope, extent and impact of such a release. A VI, on the other hand, simply "verifies" whether a release has occurred or not. Therefore, it would be more appropriate to submit a separate work plan for each type of investigation. However, if data or observations indicate that releases at certain SWMUs have occurred, there is no need to confirm a release and EPA would encourage submittal of an RFI Work Plan in lieu of a VI Work Plan. Therefore, the comments in Attachment 1 will need to be addressed, as appropriate, in the respective VI and/or RFI Work Plans that are prepared.

The work plan is deficient for a VI in two sections. First, the Site Background Information Section must include a discussion of

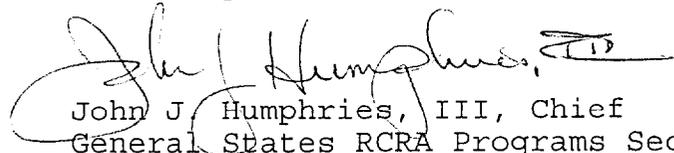
the known hydrogeologic setting and receiving waters in the area. The adequacy of the proposed monitoring well locations cannot be determined without site-specific hydrogeologic information defining ground water flow characteristics. Second, the Sampling and Analysis Section must provide specific, detailed sampling procedures and proposed locations for all samples should be clearly indicated on maps.

The objectives of an RFI cannot be satisfied based on execution of the RFI Work Plan submitted for the three SWMUs requiring an RFI. A plan to characterize the nature and extent of the contamination from these units and to identify potential receptors was not clearly presented in the work plan. If a phased investigation is proposed for the RFI, the reasons should be indicated in the text. An RFI work plan must also include a detailed environmental setting characterization, including a human exposure assessment, and an ecological assessment as required by the EPA RFI guidance documents (EPA 530/SW-89-031) dated May 1989.

Specific comments on the work plan are provided in Attachment 1. The facility must address each of the comments to overcome the deficiencies noted in the review and submit the revised VI and RFI Work Plans for approval within 30 days of receipt of this letter.

If you have any questions in this matter, please contact Mike S. Smagh of my staff at (215)597-9266.

Sincerely,



John J. Humphries, III, Chief
General States RCRA Programs Section

Enclosure

cc: Amin Yazdanian, MDE



ATTACHMENT 1
Specific Comments
VI/RFI Work Plan
Stump Neck Annex, Indian Head, MD

2.0 SITE BACKGROUND INFORMATION, Page 3

In order to evaluate the proposed characterization program, this section should also include a discussion of the area's receiving waters and hydrogeologic setting. The hydrogeology information discussed in Section 7.1 needs to be presented and discussed in Section 2.0.

2.2 Topography, Pages 4 and 5, Figures 1 and 2

The labeling of features on these maps is not consistent. For example, in Figure 1, both the Indian Head and Stump Neck Sites are labelled as the U.S. Naval Propellant Plant, but Figure 2 shows Indian Head as a Naval Ordnance Station. The text discusses the Naval Ordnance Station. This should be clarified. Additionally, the ruled pattern in Figure 1 apparently used to identify the Stump Neck Site should be defined. The stipple pattern used on Figure 2 should also be defined.

2.3 Geology, Page 6, last para.

The subcrop of the Aquia Greensand is depicted on Figure 4, not Figure 5.

Page 8, Figure 3

The Aquia Greensand unit is not identified in this figure although the text on page 6 indicates that the Aquia Greensand will range in thickness from 0 to 20 feet.

2.3.1 Columbia Formation, Page 11, Para. 1

This section incorrectly refers to the Columbia Formation as the "Columbian" Formation.

3.0 SOLID WASTE MANAGEMENT UNITS (SWMUs), Page 15

The period of operation should be provided for each SWMU, if known.

3.1 Rum Point Landfill (SWMU 1), Page 15, Para. 1

The term "inert" used to describe 55 gallon drums should be defined. Moreover, the composition of the ash disposed in this unit should be provided.

Page 16, Figure 6

The ruled pattern used to identify the Rum Point Landfill obscures the label on the xerox copy. There also appears to be a monitoring well located at the eastern edge of the site that is obscured by the pattern. Additionally, the monitoring wells indicated on the figure are wells proposed for this investigation. It would be more appropriate if a map without proposed sampling locations was included in this section, and a map with proposed sampling locations was included in Section 4.4.

3.2 Chicamuxen Creek's Edge-Dump site B (SWMU 4), Page 17

The magnetometer grid shown on figure 7 is actually related to work proposed in Section 4.4.3. It would be more appropriate if a map without the proposed work was included in this section, and a map with the proposed work was included in Section 4.4.

3.4 Range 3 Burn Point (SWMU 2), Page 20, Figure 9

The legend is not consistent with the various lines drawn on the figure. Dashed lines appear to delineate the Burnpoint and Sump Site A that are shown in the legend to be unpaved roads. In a similar manner, the contour lines and the paved roads are both represented by solid lines. Also, as previously indicated, the monitoring wells shown on this figure would be more appropriately shown on a map in Section 4.4.

3.6 Range 6 (SWMU 5)

The historic disposal of arsenic should be discussed in this section.

4.0 SAMPLING AND ANALYSIS PLAN, Page 24

Attachment A of the permit for Corrective Action specifically indicates that the sampling procedure for each environmental media and/or waste matrix must be described in "explicit detail". This should include procedures and methods for all work. In addition to the lack of detail, a number of procedures and methods that would normally be anticipated for the proposed work are not discussed. Examples of methods that need to be incorporated into the work include surface water and sediment sampling, and aquifer testing.

4.1 Field Sampling plan, Page 24, Para. 1

The text indicates that "Each of the aforementioned sites will be investigated under the VI or RFI to determine the nature and extent of contamination, if present,..." Only the RFI determines the nature and extent of contamination. The objectives of the VI are more limited and include identifying releases or suspected releases. It would be more appropriate to submit a separate work plan for each investigation.

4.1.5 Sampling Technique, Page 28

The title of this section is "Sampling Technique" but the information presented is too general to be considered a procedure. This section should provide specific details of the sampling methods and equipment.

4.1.9 Transporting and Shipping of Samples, Page 30

A more detailed description of sample shipment should be provided in the QAPP and referenced in this section.

4.2.1 Types of Drilling, Page 30

Mud Rotary is not an appropriate drilling method for this type of investigation. The use of mud will alter the pore structure in the sediment around the well intake and reduce the permeability. Only drilling methods that do not inject drilling fluids into the formation should be used.

Page 32, last Para.

The text references the sampling method noted in Section 4.1.5 (incorrectly referenced as Section 4.1.3). However, the method does not indicate how the samples will be collected.

4.2.3 Soil Sampling, Page 32, Para. 1

The text indicates that "Upon retrieval, the samples will be split into representative samples." A procedure for obtaining representative samples should be provided.

Para. 2

The text should indicate that the samples will be iced upon collection.

Page 33, Para. 1

The sample technique noted as being provided in Section 4.1.5 (incorrectly referenced as Section 4.1.6) cannot be interpreted as a detailed description of sampling procedures.

4.2.4 Monitoring Well Installation, Page 33, Item 1

Because the wells will be sampled for organics, consideration should be given to using stainless steel instead of PVC.

Item 2

The filter pack discussed in this item is also referred to as a gravel pack and a sand pack in Item 3. Figures 11 and 12, use the term "gravel pack". For consistency, a single term should be used.

Page 36, last Para.

The potential presence of ordnance should have a significant effect planning the investigation. Contingencies addressing this have not been evident in the Work Plan.

4.2.5 Well Development, Page 37

Specific conductivity, temperature, and pH should also be noted and recorded routinely during development. Development should continue until these parameters have stabilized and the water turbidity is minimal.

4.2.6 Ground Water Sampling, Page 39

The pH, temperature, and specific conductivity should also be recorded during purging. Sampling should not be initiated until these parameters stabilize.

Page 39, Para. 1

According to EPA's Region III protocols, samples to be analyzed for metals should be collected in 1-liter polyethylene bottles.

4.3 Soil-Gas Survey, Page 40

It is not clear what is being proposed in this section concerning a soil-gas survey. No information is provided on where the indicated borings will be placed and how they relate to any of the other borings that are proposed later in the text.

4.4.1 Rum Point Landfill, Page 41

Four monitoring wells are proposed for the Rum Point Landfill with one well being upgradient. No information has been previously provided that discusses groundwater flow at any location. Additionally, from Figure 6 it appears that the proposed upgradient well is located within the landfill boundary. This is not acceptable for an upgradient well.

4.4.3 Chicamuxen Creeks Edge Dump Site B, Page 41

The text indicates a magnetometer survey of the area is proposed to identify the location of the landfill. Once the location of the landfill is identified, then a monitoring plan will be proposed. While locating the landfill is necessary, the proposed work is not in compliance with the Corrective Action Permit which requires installation of four groundwater monitoring wells and analysis of samples for Appendix IX metals, volatile and semi-volatile, HMX, RDX and TNT. Prior approval from EPA must be obtained to delay the VI for this SWMU.

4.5 Decontamination Procedures, Page 44, Item 2

Full strength pesticide grade, not 10%, isopropanol should be used to decontaminate equipment when organic samples are collected, and nitric acid should be used when inorganic samples are collected.

Para. 1

The text should indicate what criteria will be used to determine if the water is contaminated or not. Also, samples must be sent to an EPA approved laboratory. (VI)

7.1 DATA REQUIREMENTS, Page 115, Para. 2

The paragraph indicates the need to collect extensive, detailed, and accurate data and refers to Section 4.0 for the methodology of data collection. However, the information in Section 4.0 does not support the theory that extensive or detailed data will be collected. The proposed scope of work is generally rather limited. A total of 13 monitoring wells are proposed at four of the sites and the text does not propose any aquifer testing. Therefore, it is unknown how extensive, detailed and accurate data can be collected pertaining to the hydrogeology of the site. The text also indicates the need for data on surface water and sediments potentially affected by the site. However, the collection of surface water and sediment samples is not proposed for any of the sites and appropriate procedures are not presented.