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U S NAVY RESPONSES TO U S EPA REGION III AND VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY COMMENTS ON THE DRAFT FINAL RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION PHASE II WORK PLAN

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DATE: March 8, 1994

SUBJECT: Response to State and EPA Comments on the Draft Final RFI Phase II Work Plan

The purpose of this memorandum is to respond to EPA and state comments on the RFI Phase II draft final work plan and highlight changes to the overall program to facilitate the review of the final work plan. Each comment has been typed verbatim, followed by our general response. The final work plan shows maps of proposed sampling locations and incorporates the specific changes and clarifications mentioned below.

State Comments

General Comments

1. *The report states, ''Sampling will also be from the top of the screened zone.'' Does this statement infer that the groundwater samples which will be analyzed for metals will be collected from the top of the water table (i.e., Site 15—monitoring wells will be analyzed for PAHs, VOCs, and total and dissolved metals)?*

   The EPA required the Navy to sample from the top of the screens. At Site 15 this will be near or at the water table because the screens will be set as high as possible to intercept fuels.

2. *The report states, ''. . . the corrosive, reactive and ignitable hazard of the soils will not be tested on the assumption that the soils are inert. Evidence to the contrary in the field will be cause for reevaluation and possible testing.'' What evidence would cause the soils to be reevaluated based on field observations?*

   The evidence will be visual signs of ignition, corrosion, or reaction during the field work.

3. *The report states, ''. . . NAS Oceana and LANTDIV will review Navy records for these sites to confirm that the discharge*

wastes and the soils, if they are contaminated by these wastes, should not be considered a listed hazardous waste.'' These records should also be reviewed to determine if any by-product produced by degradation would result in a hazardous waste.

The Navy will test for toxicity characteristics and observe reactive, corrosive, and ignitable characteristics but determining whether a hazardous waste was produced by a ''listed'' activity involves a historical records search. This will be conducted by the Navy.

Site-Specific Comments

Site 2D—Line Shack 125 Disposal Area

1. *The soils at the project site should be delineated to determine the extent of contamination and to verify the presence or absence of free product.*

   It is anticipated that the six-location soil sampling program given in Chapter 3 of the work plan will be sufficient to determine the extent of contamination.

2. *The existing wells should be sampled during the Phase II Investigation to determine if any contaminants are present (i.e., odor or sheen) and analyzed based on field observations.*

   Sampling of existing wells is included in the final work plan.

3. *TAL metal analysis should be included in the investigation of Site 2D.*

   Because chlorinated VOCs are the contaminants of concern at Site 2D and no PAHs or BNAs were detected during the January 1993 sampling, no metals samples are proposed. Metals would be an issue at these wells if PAH and BNA results had indicated waste oil contamination. Because the results do not suggest that waste oils are present, metals sampling seems unwarranted.

4. *Any surface water present in the shallow wetlands depression described on page 2-1 should be sampled due to the potential for transport of contaminants.*

   It is not clear whether the depression is low enough to receive groundwater so the potential for transport of contaminants is uncertain. Rather than sample during this phase of study, the Navy proposes surveying the elevation of the depression, then sampling during the next phase for 8240 VOCs if the area is found to be low enough to receive

groundwater. Specifically, the depression will be sampled if the elevation of the bottom is lower than 0.5 feet above the groundwater level in well 2D-MW1.

Site 2E—Line Shack 109 Disposal Area

5. *Aquifer characteristics should be determined for this site. Aquifer characteristics include conductivity, transmissivity, hydraulic gradient, and flow velocity/direction.*

   The Navy will perform slug tests on three wells at Site 2D and three wells at Site 2E to determine aquifer characteristics.

6. *A complete description of the vertical and lateral extent of contamination is needed.*

   A complete description of contamination as determined from RFI Phase I and Phase II sampling will be included in the RFI Phase II report.

   Dissolved phase: *In order to delineate the extent of the groundwater contamination, the consultant should consider placing at least two additional wells in the areas to the northeast and northwest of the free product area. The existing wells should be sampled along with the new wells. This is important since total petroleum hydrocarbon (TPH) was not analyzed during the January 1993 sampling event. Also, samples from monitoring wells 2E-MW2 and 2E-MW3 were not analyzed for semivolatiles.*

   Existing wells 2E-MW2 and 2E-MW3 are northwest and northeast of the free product area. More wells will be added northwest of 2E-MW1 in response to field observations. Four samples were collected northeast of 2E-MW1 in 1993 and 12 augered borings were added to this area in February 1994. On the basis of these results, the Navy believes the limit of fuel contamination has been characterized.

   Sampling of the existing wells is not proposed. Well 2E-MW1 contains free product, therefore, resampling it would not be useful or alter any decision about the site. Wells 2E-MW2 and 2E-MW3 were analyzed for PAHs in January 1993. PAHs include essentially all of the important base-neutral semivolatile compounds included in BNAs. Lists of compounds included in PAHs and BNAs are included in Chapter 3 of the RFI report. Resampling of 2E-MW2 and 2E-MW3 is not proposed because results in 1990 and 1993 were similar, no VOCs were detected in these wells in 1990 or 1993, and no PAHs were detected in 1993. On the basis of these results, contamination by TPH would not be suspected.

   Adsorbed phase: *According to the report, soil borings will*

assist with the characterization of the free product plume. In addition, soil boring placement and sample depths should be a consideration for determining the vertical and lateral extent of soil contamination.

The locations will consider both data needs.

Will three soil samples located on the outer fringe of the contaminant plume determine the radial extent of contamination? Also, will these soil samples verify the existence of more than one plume?

There were 10 borings with analysis during previous investigations. During this investigation, the three borings with analysis will be collected after 15 to 20 additional borings without quantitative analyses are completed; therefore, a total of approximately 30 borings will have been advanced at Site 2E by the end of the Phase II RFI. The radial extent of contamination should be characterized well in most areas.

Based on the high concentration of contaminants in the soil near well 2E-MW2 and the presence of free product in well 2E-MW1, a possibility exists that there may be two sources. Will both sources be identified during this investigation?

The Navy believes there are two sources. One is the runoff of oily wastes from the line shack into the grassy area long and outside the fenceline. The other is the free product fuel. The Navy is trying to identify both sources during this investigation.

7. *Plume migration direction and rate should be determined for free product and dissolved phases at each site.*

   The Navy will perform three slug tests at Site 2E and three at Site 2D to obtain aquifer parameters to assist in determining the direction and rate of plume migration.

8. *The risk assessment should be updated to reflect current site assessment information. A site characterization checklist for reference when updating this section is attached.*

   The risk assessment will be updated in the Phase II RFI report.

9. *TAL metal analysis should be included in the investigation of Site 2E.*

   TAL metals analysis has been added to the new wells at Site 2E.

Site 15—Abandoned Tank Farm

10. *Aquifer characteristics should also be determined for this site. Aquifer characteristics include conductivity, transmissivity, hydraulic gradient, and flow velocity/ direction.*

    Slug tests will be performed on four wells at Site 15 to determine aquifer characteristics.

11. *A complete description of the vertical and lateral extent of contamination is needed.*

    This will be in the Phase II report. The previous results are described and depicted in text and figures in the RFI Phase I report.

    Dissolved phase: *Groundwater analysis should include TPH.*

    TPH was added to Site 15 groundwater samples.

    Adsorbed phase: *Soil sampling to include analysis of TPH is needed to determine lateral and vertical extent of soil contamination.*

    The Navy has added six soil borings with onsite analysis of VOCs and offsite analysis of VOCs (three), PAHs (six), and TPH (six).

    Will the groundwater probes be useful in determining the extent of free product if present?

    Yes.

12. *Plume migration direction and rate should be determined for free product and dissolved phases at each site.*

    The rate of groundwater flow will be estimated from site data. This analysis can then be used to estimate the direction and rate of the dissolved phase transport. Free product movement is difficult to predict but generally is slower than groundwater.

13. *The risk assessment should be updated to reflect current site assessment information. A site characterization checklist for reference when updating this section is attached.*

    The risk assessment for Site 15 will be updated in the RFI Phase II report.

14. *Free product recovery and reporting will be required if measurable quantities are detected at Site 15.*

The Navy will respond as required.

15. *TAL metal analysis should be included in the investigation on Site 2E.*

    See comment 9 above.

16. *Migration of contaminants into surrounding surface water should be considered based on the potential for transport of contaminants into surface water bodies.*

    Site 15 is a low area that appears to receive runoff. There is a ditch at the site but it seems to drain to the low point of the site rather than to offsite surface water bodies. We are not aware of any offsite flow from Site 15.

Site 25—Inert Landfill

17. *Gene Siudyla, DEQ–Water, stated in his January 16, 1979, report that much of the inert landfill had already been filled, but that he anticipated no groundwater problem since the pit was to be filled with inert demolition debris only. Several inspection reports (June 6, 1980; November 2, 1981; and September 30, 1982) conducted by Harold Winer, DEQ–Waste, noted large quantities of wood waste, cardboard and some paper going into the water. In a conversation with Mr. Siudyla on January 10, 1994, he stated he later visited the site (in the 1980s) and the water in the borrow pit by the landfill was turbulent.*

    The existence of some historical nuisance dumping at Site 25 was mentioned in the Site 25 site history section.

18. *Three downgradient wells and one upgradient well should be installed around the landfill to determine the source of metals and pesticide contamination. The report suggests the source of pesticides may be from the adjacent agricultural fields; however, the source of the contamination should be confirmed. If the inert landfill is determined to be the source, groundwater samples should be collected and analyzed based on the Phase I and Phase II monitoring program of the Virginia Solid Waste Management Regulations.*

    The pond at Site 25 probably receives groundwater from all surrounding areas, so all surface water sampling reflects groundwater discharge conditions. Because the concrete debris abuts against the pond, it is not possible to install three wells downgradient of the landfill area without putting the wells in the pond.

Additional Field Activities or Changes
Proposed by the Navy

The soil sampling program at Site 2D was changed from split-spoon sampling with a drill rig and offsite analysis to Geoprobe® sampling with interactive mobile laboratory analysis of all samples. This change allows the Navy to reposition and add samples on the basis of field results to improve soil characterization. Collection of two soil splits for offsite confirmatory analysis is proposed.

Groundwater sampling will be done either with a Grunfos Redi-Flo 2® or a positive displacement bladder pump. The potential use of the bladder pump was added to allow flexibility in the selection of sampling equipment. If the Redi-Flow 2® is used, each decontamination fluid will be circulated through the pump for 5 minutes to ensure adequate decontamination between wells.

On the basis of comments on the other two work plans, all borings will be grouted to the surface.

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