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LETTER AND THE U S EPA REGION III COMMENTS ON THE DRAFT FEASIBILITY STUDY FOR SITE 43 THE TOLUENE DISPOSAL AREA NSWC INDIAN HEAD MD
06/25/2015
U S EPA REGION III PHILADELPHIA PA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
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Date: June 25, 2015

Joseph Rail
NAVFAC Washington
Washington Navy Yard, Building 212
1314 Harwood Street, SE
Washington Navy Yard, DC 20374-5018

Re: Indian Head Naval Surface Warfare Center, Indian Head, MD
Site 43 – Toluene Disposal Area
*Draft Feasibility Study*

Dear Mr. Rail:

The U.S. Environmental Protection Agency (EPA) has reviewed the U.S. Navy's (Navy's) March 2015 draft *Feasibility Study* (FS) for Site 43, the Toluene Disposal Area, located at the Indian Head Naval Surface Warfare Center NPL site. Based upon that review, EPA offers the following comments:

1. General Comment - Remediation of the small contaminant plume of chlorinated VOCs around building 1041 is not addressed in this FS.

2. General Comment - The remediation of elevated cobalt in groundwater is not readily addressed by any of the proposed remedial alternatives. As stated in the FS, the presented remedial option (biologicaly induced sulfate reduction of sulfate to sulfide to react with cobalt to form cobalt sulfide) would only be implemented at areas of cobalt concentrations greater than 400 ug/L, which currently aren't known to exist at the site (Figure 2-5). How will the cobalt concentrations above the PRG at the site be remediated?

3. Introduction – 4th paragraph – The draft FS states that unknown amounts of solvents were disposed of on the ground. The last sentence in the paragraph contradicts the previous statement by saying that 15-20 gallons of solvent were disposed of per week over 2 years.

4. Section 1.1 – Regulatory Background – The statement at the top of page 1-2, that the Navy is the lead federal agency for CERCLA response activities, should be clarified to state that the Navy is the lead agency at NSFIH.

5. Section 2.3 – Geology – last sentence of the first paragraph, page 2-4, states that the sedimentary units of the Atlantic Coastal Plain dip away from the continental shelf. This is not a true statement. The Atlantic Coastal Plain and the continental shelf are made from the same stratigraphic units with the only difference being that one is emergent, and one is submergent.

6. Section 2.6.1 – Surface Soil – The first sentence of the paragraph leaves out the detection of cobalt when listing metals detected in surface soil. Additionally, the inclusion of acetone as a VOC detected in surface soil is not supported by Table 2.1. The last two sentences should be combined in some way to clarify that the last sentence is in reference to cobalt (if it is indeed).

7. Section 2.6.2 – Subsurface Soil – The first sentence leaves out the detection of cobalt when listing metals detected in subsurface soil. Additionally Table 2.1 does not support the statement that cyanide, acetone, and toluene all slightly exceeded background values. Cyanide is the only analyte that agrees with the statement. It appears that toluene did not exceed the background value for subsurface soil listed in Table 2.1 based upon the maximum detect listed, and acetone's highest detection listed in Table 2.1 is 4,660 mg/L and the background is 1,800 ug/L. This does not appear to be a slight exceedance.

   Sentences three and four in this first paragraph contradict each other concerning the detection of cyanide in subsurface soil.

   Last paragraph states that Section 2.9 presents a VI building assessment. It should read Section 2.10.

8. Section 2.9 Summary of Ecological Risk Assessment should be revised to incorporate the information contained in the last response to comments (RTCs) from BTAG on the ERA contained in the Remedial Investigation. The current summary does not provide as complete of a summary of the ERA as is provided in the RTCs.

9. Section 2.10 – VI Building Evaluation – Please include the indoor air concentrations for VC in buildings 716 and 720.

   The inclusion of sub-slab vapor sampling should also be considered when conducting sampling to evaluate the VI pathway, if allowable.

10. Section 3.4.2, Groundwater – The statement, "achieving these PRGs would allow for Site groundwater to be returned to beneficial use under CERCLA," may not be accurate. The risk-based PRGs for cis-1,2-DCE, TCE, and vinyl chloride are lower than the MCL-based PRG, so an unacceptable level of risk may still exist at the MCL. A performance-based groundwater remedy may be more appropriate, or at least considered during development of the ROD.

11. Section 3.4.3 – Soil Vapor – The first sentence in this section states that the VI pathway is incomplete for current land use and that soil/indoor air vapor is not a medium of concern. However, in Section 2.10 additional sampling was recommended for buildings 715, 717, and 721. The need for additional sampling would indicate that the VI pathway has not been investigated to the extent that may be needed to make the statement that the VI pathway is incomplete.

12. Section 3.4.3, Soil Vapor – This section, as well as conclusions in Appendix A, recognizes that there could be potential unacceptable risks if building/land use changes or new buildings are constructed and recommends that LUCs to address potential VI issues be a component of the preferred remedy. However, Section 4 and 5, as well as other relevant parts of document (such as Table 4-2), do not specifically address VI LUCs. Recommend discussion of VI prevention LUCs in Sections 4 and 5.

13. Section 3.5 - PRG attainment should provide additional information to support that the proposed PRGs are protective of ecological receptors exposed to soil, sediment, and groundwater/surface water. See Comment # 8.

14. Table 3-4 – Recommend proposed PRG for TCE in soil of 300 µg/kg. See comment # 27 for rationale.

15. Table 3-5 – The proposed PRGs for groundwater contaminants are appropriate; however, unacceptable risk may still be present at MCLs (risk-based PRGs are less than the MCL-based PRGs for cis-1,2-DCE, TCE, and vinyl chloride.

16. Table 3.5 – PRGs for Site Groundwater – The PRG for cobalt has been proposed to equal the NSFIH background level for cobalt in groundwater. The background level is 39.6 ug/L (Table A-8, 95% UTL) while the PRG is listed at 40 ug/L.

17. Section 5.2.3.2 and Section 5.2.3.1 – The volumes of excavated contaminated soil does not match between these two sections. Section 5.2.3.1 states 3,000 CY of soil will be excavated, of which 1,800 CY of soil containing 32 pounds of chlorinated VOCs will be disposed of off-site. Section 5.2.3.2 states that 3,000 CY of soil contaminated with 32 pounds of chlorinated VOCs will be removed through excavation. This implies that all 3,000 CY will be disposed of off-site.

18. Section 5.2.4 – A proposed monitoring schedule is not included in this section (quarterly/semi-annual/annual?). The proposed frequency for monitoring attenuation should be included.

19. Section 5.2.4.1 – This section assumes a monitoring well network of 35 wells. Monitoring wells MW01 through MW30, and 4 piezometers located along the Potomac River. This adds up to only 34 wells. Is the correct number 34 wells, or is a monitoring point missing in the listing of the monitoring well network?

20. Section 5.2.7.2 – It is mentioned in the implementability discussion that the induced anaerobic conditions caused by the biobarrier may cause iron to go into solution. Would any other metals also be cause for concern?

    It is stated that any increase in metals will attenuate prior to entering the Potomac River, and that monitoring will be conducted to ensure this. Please provide supporting evidence (peer-reviewed literature) for this conclusion. What would be done if sampling indicated the opposite?

21. Figure 2-3 – Monitoring well concentrations of chlorinated VOCs presented in this figure do not match those used in later figures presenting remedial alternatives.

22. Figure 5-1A, 5-2A – These figures do not label what the concentrations presented represent. Assumed to be total chlorinated VOCs?

23. Appendix A – The conclusion to conduct indoor air sampling at buildings 715, 717, and 721 is appropriate and supported.

24. Appendix A, Table 2 – recommend evaluating Buildings 739 and 1579 using data from MW30 and 26 and TW57, which, although slightly further from the buildings than TW52, better represent the ground water conditions surrounding the 739 and 1579.

25. Appendix A, Standard Calculation Sheet, Vapor Intrusion Analysis, Page 3 of 4 – Why was analysis of Building 715 not included? According to Table 2, Building 715 presents unacceptable risks (HQ=3.2), as calculated by VISL, and a Standard Calculation Sheet for Bldg. 715 should be provided.

26. Appendix A, Standard Calculation Sheet, Vapor Intrusion Analysis, Page 3 of 4 – Please provide supporting parameters or reference for site-specific attenuation factor.

27. Appendix B, Standard Calculation Sheet, Determination of groundwater concentrations without diffusion Site 43 – Recommend a KOC of 61 L/kg (from January 2015 RSL table) for trichloroethylene. This modification results in calculated TCE concentrations in groundwater (8000 µg/L) that are more similar to the measured maximum concentration in groundwater (9,060 µg/L) than the results using the KOC of 130 L/kg. This results in potential ground water cleanup levels for soil of 3, 30, and 300 µg/kg (compared with 6.4, 64, and 640 µg/kg) and a proposed PRG of 300 ug/kg for VOC-contaminated soils to reduce continuing migration of TCE to groundwater.

If you have any questions, please feel free to call me at (215) 814-3357,

Sincerely,

Robert Thomson, P.E., REM
Office of Federal Facility Remediation (3HS11)

Cc: Curtis DeTore (MDE - Baltimore)
Travis Wray (NSWC-IH)