

Draft Site 21 Remedial Investigation Report St. Juliens Creek Annex

VDEQ Comments

General comment:

1. *Soil*

According to Figure 2-4 only six soil samples have been taken across the site, and only three of those samples were analyzed for PCBs/pesticides. Of the three samples analyzed for PCBs, one indicated a possible PCB issue, at 11SS01 Aroclor-1260 = 6.1 mg/kg. Additionally, no confirmation samples were taken following soil removal at Site 9. While soil was ruled out as a media of concern for sites previously determined to require no further action (sites 9/14, 10, 11, 12, 13, 18), it appears that soil contamination and human health risk from soil across Site 21 have not been fully assessed. Please address these concerns.

Technical comments:

2. *Tables 2-3, 5-4 & 5-5 – Method detection limits*

As noted in the tables referenced above there are many instances where the method detection limit exceeds the MCL for a constituent. Therefore, the possibility of actual detects of these constituents above MCLs cannot be ruled out and must be taken into account throughout the document. The DEQ recognizes the use of, “One-half of the sample quantitation limit...for cases where no detectable contaminant concentrations were found in a sample, but the contaminant was detected in other samples collected from the same medium” (*page 7-2, fourth bullet*) as a means to complete a risk assessment without discounting the importance of these data points. However, the uncertainties associated with this assumption were not carried through the entire document (figures, data summaries, investigation results) and were not discussed in the uncertainties section of the risk assessment. Please address these concerns.

3. *Figures 5-4 & 5-5 – Clarification of data included in figures*

When comparing the data from Tables 5-4 and 5-5 to Figures 5-3, 5-4, and 5-5 there is no apparent method to how data was selected for inclusion on the figures. In some cases, maximum values over several monitoring events were used – in other cases, the most recent values were used, and in still other cases, values were omitted altogether. Additionally, isoconcentration lines are not accurate in some areas on the figures. Please explain which data were incorporated into the figures and correct inconsistencies.

4. *TCE concentrations at MW01S and 21GW02*

According to Tables 2-3 and 5-4, the concentration of TCE at 21GW02 (sampled in 1996) was 2,400 ug/L; at MW01S (sampled in 2005) TCE was detected at 1.3 ug/L. Since these sampling points are collocated (per Figure 2-4) the substantial difference in concentrations is troubling. Please discuss possible explanations for why this discrepancy exists.

Text comments (please correct):

5. *Page 5-3, second full paragraph and Page 9-1, second paragraph* – COPCs that when analyzed produced non-detect concentrations where detection limits exceed MCLs should be accounted for in these two paragraphs.
6. *Page 6-3, last paragraph, second sentence* – This sentence is incorrect, cis-1,2-DCE at MW16S is 460 ug/L, at DW102 (collocated with MW12S) cis-1,2-DCE was detected at 3,500 ug/L and at MW15S cis-1,2-DCE is 2,600 ug/L.
7. *Page 6-3, last paragraph, fifth sentence* – This sentence may not be correct, the detection limit for VC at MW07S has been as high as 2,500 ug/L, at MW15S is 2,000 ug/L, at MW16S is 670 ug/L, at TW107 is 500 ug/L. Therefore, the highest concentrations of VC could be found at any one of these sampling locations.
8. *Page 6-3, last paragraph, last sentence* – This sentence is incorrect, MW16S is located to the southeast and concentrations of VC have not been detected at this well (detection limit is 670 ug/L). Also, MW13S is located to the southwest.
9. *Page 9-1, section 9.1, Nature and Extent of Contamination* – Soil contamination is not included in this section and should be added as a separate subsection (i.e. section 9.1.4).
10. *Page 9-1, fifth paragraph* – The end of the second sentence of this paragraph reads, "...it has not been positively determined whether DNAPL is present." However, on page 6-5, the last sentence of the fourth paragraph reads, "The depth-specific CVOC concentrations were 2 to 7 times higher (than concentrations from the entire screened interval), indicating that CVOC concentrations at the base of the aquifer at MW15S and MW16S may also be higher and further support the conclusion that DNAPL is likely present." For TCE, the indicator for potential DNAPL is a concentration of 11,000 ug/L in groundwater. Please change the sentence to be consistent with the available data to indicate that DNAPL is likely present.
11. *Page 9-1, fifth paragraph, last sentence* – The first portion of this sentence states, "CVOC concentrations in soil are not indicative of DNAPL..." However, soil contamination across the site has not been adequately assessed (see comment #1). Data limitations should be considered throughout the document.
12. *Page 9-4, section 9.5.1* – Update section based on resolution of Site 21 Vapor Intrusion Work Plan comments, i.e. there is a potential risk identified from vapor intrusion into Buildings 1556 and 47 in addition to Building 54; the FS should include further evaluation of potential vapor intrusion pathways in Buildings 1556 and 47 in addition to Building 54.
13. *Page 9-4, section 9.5.1, first paragraph, last sentence* – The Draft Navy Policy on Evaluating the Vapor Intrusion Pathway has not been made available to VDEQ for reference. Additionally, the EPA 2002 Vapor Intrusion Guidance should be considered when evaluating risk from vapor intrusion at Site 21.
14. *Page 9-5, section 9.5.2* – Since arsenic in deep groundwater has historically exceeded the MCL, monitoring of this constituent may be necessary.