Crysler, Ruby

From: Wight, Brian <brian.wight@aecom.com>
Sent: Tuesday, August 29, 2017 2:25 PM
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Cc: Jacqueline Grunau [KDHE]; Le, Quang V CIV USARMY CENWO (US); Bergantzel, Vanessa
Subject: McConnell AFB PBR: 1,4-Dioxane GW Sampling WP RTC
Attachments: DIOXANE_DFT_ON BASE GW SAMP WP_USEPA RTC.docx

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All,

URS responses to EPA's comments on the Base Wide Draft 1,4-Dioxane Groundwater Sampling WP are attached for your review and approval. These RTC will be discussed during tomorrow's meeting.

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TECHNICAL REVIEW COMMENTS
McConnell AFB PBR
W9128F-13-C-022
1,4-Dioxane
Draft 1,4-Dioxane Groundwater Sampling Work Plan (MAFB Sites)
McConnell Air Force Base, Wichita, Kansas
Date of Comments: 15 August 2017

Name: Ruby Crysler	**Phone Number: 913-551-7409**
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General Comments:

None.

Specific Comments:

Item	Section	Page	Para	Comment	A, D, E, or NFD	Response
1.	2.1	2-1	2	The second paragraph states that monitoring wells were selected from within the contamination source areas and from the downgradient edges or beyond the groundwater plumes. New information is changing the conceptual model for how 1,4-dioxane behaves following its release into the environment. Current research is finding the 1,4-dioxane plumes are less likely to migrate beyond monitoring well networks designed for defining chlorinated solvent extent. For this reason, changes are proposed to the wells selected for monitoring. See subsequent comments. Also, the paragraph incorrectly states that all but one of the selected sites is undergoing remediation. No remediation efforts are being undertaken at sites LF033, OW045, or SS544 at this time. The section should be corrected.	A	Since there is no history of 1,1,1-trichloroethane (the chlorinated solvent typically associated with 1,4-dioxane contamination) being detected at any of these sites and most of them have history of other chlorinated solvents, the historical or current source well (or highest concentration of chlorinated solvent well) was selected as the well to most likely have 1,4-dioxane detections. The downgradient wells were selected to test (in most cases) the furthest available downgradient point to determine the possible extent of migration in groundwater. The paragraph will be edited to read, "*Of the sites selected for sampling, 12 are currently being remediated and 1 no longer has chlorinated solvent contamination above regulatory screening values, thus sample locations are based on historical interpretations of source and down gradient areas for those sites.*"
2.	2.5	2-2	1	The section indicates that a bladder pump may be used at sites where sample depth is too deep for a peristaltic pump. Equipment blanks should be collected if bladder pumps are used. Sample frequency for these blanks is described in the *Base-Wise Quality Assurance Project Plan.*	A	Equipment blanks for the bladder pump will be collected following the *Base Wide UFP-QAPP*. This will be added to the text.

A = agree D = disagree E = explanation NFD = needs further discussion

Item	Section	Page	Para	Comment	A, D, E, or NFD	Response
3.	2	Table 2-1	NA	As previously commented, changes are proposed to the list of wells provided in this table. • Site FT006: Replace FT06-MW7R with FT06-MW14R. Well FT06-MW7R is located at the downgradient boundary of the monitoring well network, and 1,4-dioxane may not be detected here. FT06-MW14R appears to contain residual TCE contamination and is not too far from the perceived source area well. • Site FT007: Replace FT07-MW15 with FT07-MW14R or FT07-MW18. Well FT07-MW15 is somewhat downgradient of both the original TCE plume and the current cis-1,2-dichloroethene plume. 1,4-dioxane may not be detected here. The proposed wells are located at the downgradient edges of the cis-1,2-DCE plume, but concentrations are still significantly elevated at these locations. • Site ID636: Replace ID636-MW04 with ID636-MW05. Contaminant concentrations have always been below screening levels in ID636-MW04. Well ID636-MW05 is presumably the source area well. • Site LF011: Replace LF11-MW13R with LF11-MW14R. Well LF11-MW14R is a source area well. • Site LF034: Replace LF34-MW11 with LF34-MW23. Well LF34-MW11 is at the downgradient edge of the site where groundwater contamination has never been detected. Well LF34-MW23 is located in the source area for the historical vinyl chloride detections. • Site OT547: Replace OT547-MW59 with OT547-MW52. Well OT547-MW59 is located at the downgradient boundary of the monitoring well network, and 1,4-dioxane may not be detected here. Well OT547-MW52 is located at the source area of the southern plume. • Site OW041: Replace OW41-MW07 with OW41-MW04 or OW41-MW06. Well OW41-MW07 is located at the downgradient boundary of the monitoring well network and the well has historically been non-detect for contaminants. • Site OW545: Replace OW545-MW5R with OW545-MW14. Well OW545-MW14 is a source area well for the southern plume. • Site OW633: Replace OW633-MW27 with OW633-MW16 or OW633-MW22. Well OW633-MW27 is located at the downgradient edge of a portion of the TCE plume. 1,4-dioxane may not be detected here. Wells OW633-MW16 and OW633-MW22 are located at the edges of the more concentrated portions of the TCE plume. • Site SS014: Replace SS14-MW07 with SS14-MW3AR. Well SS14-MW3AR is located at the former tetrachloroethylene source area.	E	See response to comment 1. Most of the McConnell AFB chlorinated solvent plumes are relatively small, many of the suggested changes are moving the down gradient well back to within the source area, where a well has already been selected. FT006 – MW7R has historically detected chlorinated solvent contamination, despite being on the downgradient border. MW14R is approximately 50 feet updgradient. FT007 – MW14R and MW18 are both within the same historical plume footprint as MW7R. ID636 – MW04 has historically detected chlorinated solvent contamination, despite being on the downgradient border. LF011 – MW14R is already selected as the source well. LF034 – The entire site has little history of chlorinated solvents. MW15R has the most history of VC contamination. OT547 – MW32 has been added to the list for sampling per KDHE comments. MW59 has historically detected chlorinated solvent contamination. OW041 – Suggested well MW04 is less than 50 feet from MW01 (source well) and MW07 is near the historical edge of the plume and less than 100 feet from suggested well MW06. OW545: The entire site has little history of contaminated solvents. MW14 is less than 100 feet from suggested well MW14. OW633: MW27 has historically detected chlorinated solvent contamination, despite being on the down gradient border. SS014: Suggested well MW3AR is less than 75 feet from source well MW8. MW7 also historically has had chlorinated solvent contamination.
4	2	Figures 2-1 through 2-15	NA	Current plume configurations and outlines showing the original plume configurations for trichloroethylene should be shown on the maps. This information provides more context and transparency for wells selected for sampling.	A	References to historical documentation will be added to the document. The following text will be added to **Section 2.1**, "*Historical interpretations of plume configurations, prior to any current/recent remediation (within last 3 years), are available in previously published site-specific documents. The document references are provided in Table 2-1 and the reference section at the end of this work plan.*"
5	3.1	3-1	1,2	The section presents values for a "low limit of detection (DL)" of 0.16 micrograms per liter and a "limit of detection" of 0.5 micrograms per liter. Please explain the difference between the two terms and explain which one will be used for this sampling event. As acknowledged in the second paragraph, 1,4-dioxane has an EPA tap water Regional Screening Level of 0.46 micrograms per liter. The detection limit used for this sampling must be low enough to detect the presence of 1,4-dioxane at or below its tap water RSL.	A	The below information will be added to **Section 3.1**, as defined by the Department of Quality Systems Manual: **Detection Limit (DL):** The smallest analyte concentration that can be demonstrated to be different from zero or a blank concentration with 99% confidence. At the DL, the false positive rate (Type I error) is 1%. A DL may be used as the **lowest concentration for reliably reporting a detection of a specific analyte in a specific matrix with a specific method with 99% confidence**. **Limits of Detection (LOD) (Clarification):** The smallest concentration of a substance that must be present in a sample in order to be detected at the DL with 99% confidence. At the LOD, the false negative rate (Type II error) is 1%. A LOD may be used as the **lowest concentration for reliably reporting a non-detect of a specific analyte in a specific matrix with a specific method at 99% confidence.**
	END					

A = agree D = disagree E = explanation NFD = needs further discussion