Message

From: Davis, Eva [Davis.Eva@epa.gov]
Sent: 10/12/2016 4:57:51 PM
To: Wayne Miller [Miller.Wayne@azdeq.gov]; d'Almeida, Carolyn K. [dAlmeida.Carolyn@epa.gov]
CC: steve [steve@uxopro.com]
Subject: RE: 2016-10-3 - WAFB - ADEQ - UXO Comments and Figures - AMEC Field Variance Memo No 4 - Characterization - FVM dated Sept 29 2016 - ST012 SEE to EBR

Wayne –

I sent to Carolyn yesterday my comments on the characterization field variance. In that, I request additional wells or the change in location of proposed borings/wells, that I believe are largely in agreement with what you are requesting in the figures, if I'm understanding your figures correctly.

Eva

From: Wayne Miller [mailto:Miller.Wayne@azdeq.gov]
Sent: Monday, October 03, 2016 4:45 PM
To: d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; Davis, Eva <Davis.Eva@epa.gov>
Cc: steve <steve@uxopro.com>
Subject: 2016-10-3 - WAFB - ADEQ - UXO Comments and Figures - AMEC Field Variance Memo No 4 - Characterization - FVM dated Sept 29 2016 - ST012 SEE to EBR

Carolyn - For EPA input.

For ADEQ, UXO Pro evaluated Field Variance Memo #4 – Additional Site Characterization, Williams AFB Site ST012, (dated Sept 29, 2016).

The following comments were developed:

Attachment 2 Evaluation of Additional Concerns Identified During August BCT Meeting:

- Item 1 - Document should include most recent data if available. Using May 2016 information may be misleading when referring to wells CZ12 and CZ14 limited LNAPL. The most recent data submitted to the Agencies is nearly 2 months old (Weekly Progress Report for the week ending August 19, 2016). CZ12 and CZ14 *limited LNAPL* is based on May 2016 information.
- Item 1 - Please clarify well locations with regard to flow gradient. Historical CZ/UWBZ groundwater elevation contours show a northeasterly flow direction. Proposed borings SB17 and SB18, and well CZ24 would not be downgradient of the CZ/UWBZ plume.
- Item 2 - States well CZ23 will only be completed if samples collected from wells CZ07 and CZ08 indicate concentrations above MCLs. If concentrations are slightly above MCLs, the need for the well will be discussed with the AF and regulators.
    - Well CZ09 should be sampled, as it is downgradient of wells CZ12 and CZ14.
    - ADEQ agrees that well CZ23 could be contingent upon wells' CZ07, CZ08, and CZ09 sample results. But only after Agencies and stakeholders discuss findings and agree upon *contingency status and action levels to install well.*
    - Well CZ09 should be added to the EBR monitoring program, as it is downgradient of proposed injection wells CZ12 and CZ14.
- Item 3 - A minimum of one additional UWBZ well is required downgradient of wells UWBZ09 and UWBZ12. LNAPL reported in well UWBZ09 (a former steam injection well) is problematic. Well UWBZ09 is

located in an area that was originally outside the LNAPL extent. Additionally, proposed well CZ23 is a Cobble Zone well that should not be used to bound the UWBZ LNAPL extent.

- Item 4 - Boring SB18 should be completed as an LSZ well, regardless of soil sample results, to monitor potential LNAPL migration.
- Item 5 - Please ensure sampling protocol is followed for all wells. As an example, according to the preliminary data table dated August 24, 2016, the dissolved constituents sampling depth in well LSZ47 was 160-ft. However, the screened interval of the well is listed elsewhere as 210 - 230-ft. According to the current *ST012 Groundwater Monitoring Work Plan*, the sampling pump should be placed 5-ft. below the top of the screen if the screen is submerged. (Reference for well LSZ47, proposed to be re-sampled because previous analytical results contradicted the field result of a positive dye test).

- Not specifically identified items – An additional LSZ characterization boring is required directly upgradient of well W30 to investigate current conditions and determine the need for an additional monitoring well. The August 2016 BCT Slide 26 discusses LNAPL evaluation in the well W30 area and concludes that LNAPL is bounded by borings SB01 and SB02. However, borings SB01 and SB02 were drilled more than 20 years ago and the results may not represent current post-SEE conditions. Additionally, well W18 had benzene concentrations as high as 6,000 ppb after being drilled.

Attachment 3 Proposed Soil Boring and Monitoring Well Locations

- Proposed well LSZ54 should be moved farther south to be directly downgradient of W36, in accordance with historical groundwater flow direction maps that show an easterly flow direction in the LSZ.

Please feel free to include these comments and the map figures (attached) in responses being sent to USAF/AMEC. I was not intending to formalize these as I believed this to be an information exchange between ADEQ and EPA. But EPA may use any and all if EPA is relaying comments, concerns, and input to USAF/AMEC.

Thanks.

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