REGION 4
ATLANTA, GA 30303

October 10, 2023

Mr. James Foster
Base Realignment and Closure Division (ACSIM-ODB)
2530 Crystal Drive (Taylor Building), Room 5000
Arlington, VA 22202-3940

Subject: United States Environmental Protection Agency Approval of the Off Depot Air Sparge/Soil Vapor Extraction System Annual Operations Report, Year 11, Defense Depot Memphis, Tennessee

Dear Mr. Foster,

The United States Environmental Protection Agency (EPA/USEPA) approves the Off Depot Air Sparge/Soil Vapor Extraction (AS/SVE) System Annual Operations Report, Year 11, Defense Depot Memphis, Tennessee (DDMT), submitted by the United States Army (USARMY) in July 2023. As section 4.2 System Effectiveness noted, *"CVOC [chlorinated volatile organic compound] concentrations in groundwater, as provided in LTM [Long Term Monitoring] reports, are considered the most useful measure of AS/SVE remedy effectiveness. The AS/SVE system was installed to intercept the majority of the Off Depot CVOC plume and to reduce individual CVOC concentrations below 50 µg/L. Operations are to continue until the up-gradient concentrations from the Dunn Field plume do not exceed 50 µg/L for individual CVOCs."* Similarly, the EPA would like to reiterate their position about recent exceedances noted in the most recent LMT as a result.

In regions where exceedances are reported, the following questions should be addressed with more data as an essential factor:[1]

- Will remediation goals be met now that the AS/SVE has been shut down, based on cleanup levels and lines of evidence?
- Could residual contamination cause groundwater or indoor air goals to be exceeded?
- Could residual contamination necessitate the installation and operation of additional engineering or institutional measures?

Primarily, the EPA reminds the Lead Agency that whenever a well exceeds Maximum Containment Levels (MCLs), the Lead Agency must notify the EPA, who will reevaluate the number of monitoring efforts to determine the acceptable sample frequency.

[1] ENGINEERING ISSUE_SOIL VAPOR EXTRACTION.PDF

Generally, regular SVE shutdowns to examine rebound are recommended to provide the data needed to determine how successfully remedial actions to reduce absolute vapor concentrations or mass fluxes are working. Following an "initial" decay in extracted concentration, a preliminary rebound tests are also recommended generally to provide a baseline for future comparisons as well as a source zone indicator. **It is anticipated that fewer instances of local rebound concentrations exceeding applicable cleanup criteria will occur over time.** Moreover, rebound testing will assist in locating areas where persistently high Volatile Organic Compounds levels necessitate further research for possible augmentation or locally aggressive treatment with an alternative technology (such as chemical oxidation, electrical resistance heating, etc).

Finally, additional rebound test results could be used to estimate whether the system closure may present a risk to potential receptors using transport and exposure models. As a result, as previously proposed, the sampling frequency for individual wells where MCLs (or regulated thresholds) have been exceeded is recommended to be increased to semiannual (happening twice a year) until 8 consecutive samplings indicate concentrations below the threshold to ensure site conditions and current and future risk (if any) posed to human health and the environment be properly assess.

The USEPA commends the USARMY for its efforts on further investigating the DDMT environmental conditions. If you have any questions about this letter, please contact me via email at martinez-torres.fernando@epa.gov or at 404-695- 4991.

Sincerely,

FERNANDO MARTINEZ-TORRES

Digitally signed by FERNANDO MARTINEZ-TORRES
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