

SITE MANAGEMENT TEAM MONTHLY CALL SUMMARY
FORMER DEFENSE DEPOT MEMPHIS, TENNESSEE
13 FEBRUARY 2024
11:00 EST

Army, Base Realignment and Closure Division (DAIN-ISE): Jay Foster

CALIBRE BEC: Bill Millar

U.S. EPA, Region 4 RPM: Fernando Martinez Torres; Support: Kevin Koporec (absent), Ben Bentkowski

TDEC Division of Remediation, RPM: Jamie Woods

USACE, Mobile: Chase Carter (absent), Melissa Shirley

Koman Government Solutions: Larry Pannell

TechLaw: Mac McRae

HDR EOC: Clayton Mokri, Tom Holmes, Ragu Arora, Nancy Jepsen

GENERAL

Mr. Martinez Torres said that plans were still being finalized for the EPA Division Director's and Regional Administrator's visit to Memphis. He said he would convey information as soon as he could. Mr. Foster, Mr. Millar, and Mr. Woods acknowledged the difficulties inherent in arranging meetings and expressed their willingness to support Mr. Martinez Torres as best possible.

MAIN INSTALLATION (MI)

No current remedial action at the MI.

Focused Feasibility Study (FFS)/Revised Proposed Plan (RPP)

Army submitted responses to comments (RTCs) with a redline-strikeout (RLSO) version of the text on 9 February.

Human Health & Ecological Risk Assessment (HHERA) Review Sampling

Army submitted RTCs and RLSO text to EPA on 6 February. Additional sampling is planned.

Vapor Intrusion (VI) Study

Mr. Mokri presented the sampling results from the vapor monitoring point (VMP) installation and sampling conducted in November 2023. He said four passive vapor samples were collected, and 49 VMPs as well as 3 sub-slab sample ports were installed and sampled. Indoor air and sub-slab sampling are scheduled for later in February. Via Webex screen sharing, Mr. Mokri presented figures from the Phase 2 Vapor Sampling Data Report.

Mr. Martinez Torres asked about having additional wells to substantiate the assurance that there are no issues with the Memphis Aquifer. Mr. Holmes responded it would be best to postpone discussing the wells until the Long-Term Monitoring (LTM) discussion later in the meeting. Mr. Millar added that the LTM report will be submitted this week with new data for EPA to evaluate.

Mr. Mokri stated that Figure 1, Sewer Line PV [passive vapor] Sample Locations, CVOC [chlorinated volatile organic compound] Results showed passive sewer line samples from August 2023. He said that there were some exceedances at the southern edge of the MI, near the golf course; therefore, additional samples were collected in November 2023 to confirm initial

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results. Trichloroethene (TCE) was above the commercial vapor intrusion screening level (VISL). Mr. Mokri pointed out that concentrations near the boundary were higher than samples further inside the MI, which might indicate an offsite source. The SL concentrations may have some connection with TCE concentrations in nearby well MW-270.

Mr. Mokri shared Figure 2, TTA-1 PV Sample Locations, CVOC Results which showed TCE exceeded commercial VISL in PV-143 and PV-144 located in the northern portion of Building 972. TCE concentrations decreased with distance to the north.

Figure 3, Site-Wide VMP Sample Locations, CVOC Results showed VMPs installed in areas with elevated CVOC concentrations in groundwater; these were nested VMPs with four screen intervals: A level was screened in loess at approximately 5 feet below grade, B level was screened in the fine-grained upper fluvial deposits, C level was screened in the coarse-grained lower fluvial deposits, and D level was screened approximately 10 feet above water table. Mr. Mokri stated that in the shallow level, there was only one TCE exceedance and, in general, CVOC concentrations were greatest in the deepest samples. He said this suggests that the source of CVOC in soil vapor is volatilization from groundwater.

Mr. Mokri shared Figure 4, TTA-1 VMP Sample Locations, CVOC Results, which showed VISL exceedances at each location except VMP-101A, located west of Building 1089. He noted that TTA-1N concentrations were generally consistent with depth. Beneath Building 972, at VMP-103A/B/C and sub-slab (SS) location SS-101, the CVOC concentration gradient decreased from shallow to deep, which might indicate the CVOCs in soil vapor are due to soil contamination. Greatest concentrations were detected in VMP-113B/C. Concentrations in VMP-113A/D were lower suggesting a soil source of CVOCs in this area. A soil sample was collected and CVOCs were detected above remediation goals (RGs) protective of leaching to groundwater.

He shared Figure 5, TTA-2 VMP Sample Locations, CVOC Results and noted there were exceedances in most locations.

Mr. Mokri said the next step is to install additional sub-slab ports and conduct indoor air sampling. He said the scope is to conduct indoor/outdoor air sampling at 14 locations and install 17 sub-slab ports. Buildings selected for indoor air sampling are 260, 265, and 972. He said these buildings were selected due to a 7-inch slab foundation, occupancy and proximity to elevated CVOC concentrations in soil vapor.

Building 260 is occupied by one person. Building 265 is used by HDR for equipment storage and an office; the southern portion of Building 265 is vacant, though Colliers is trying to find tenants. Building 972 is divided into sections used for offices, a fabrication shop and auto/equipment maintenance. Mr. Mokri said a 2018 inspection of Building 972 identified aerosol can parts cleaner containing TCE, which might be a background source of TCE in the building. Chemicals such as paints, thinners, fuels and solvents are also stored/used in Building 260.

To reduce the potential for background contamination of indoor air samples, the following mitigation measures are planned. In accordance with the Sampling and Analysis Plan, a pre-sampling inventory will be conducted 1 week before the indoor air sampling using a parts per billion (ppb) photoionization detector (PID) to identify background sources of volatile organic

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compounds (VOCs). If identified, the VOC sources will be relocated outside and away from the buildings if possible. Mr. Mokri said that VOC sources at Building 265 could be moved outside for the sampling but relocating VOC sources at Buildings 260 and 972 would likely be too disruptive to the buildings' normal operations.

CVOC ratios detected in the sub-slab samples and indoor air samples, which should be generally consistent, will also be used to evaluate potential contribution from background sources. cis-1,2-dichloroethene (cDCE) generally does not have an industrial use and can be used to evaluate whether VI is occurring.

Data loggers will be installed at some locations to measure the pressure differential between indoor air and sub slab, as a line of evidence to evaluate whether VI is occurring. If a pressure gradient from indoor air to the sub slab is measured, this would generally indicate that VI is not occurring.

He said follow-up samples would be taken six months later to confirm initial results.

Mr. Martinez Torres asked if the Risk Assessment would incorporate all this information. Mr. Mokri answered that yes, after the follow up sampling, a report would be prepared that evaluates VI risk and mitigation as needed. Mr. Martinez Torres asked if the Risk Assessment would include indoor personal protective equipment (PPE) that workers in these buildings should wear. Ms. Shirley said the analysis of how to address the risk would be covered in a feasibility study. Mr. Millar added that a remedy would more likely be building ventilation than individuals using respirators.

Mr. Bentkowski stated he ran the VISL calculations on the SS-102 results of tetrachloroethene (PCE) of 2,000 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and TCE of 11,000 $\mu\text{g}/\text{m}^3$. He said the calculations have a cumulative risk in excess of 10^{-4} and a hazard index of 38. He said this exceeds Removal Management Level (RML), and the need to verify indoor air concentration is ramped up considerably. He said if women of child-bearing age work in this space, the risk assessors say an exposure duration of 3 weeks is sufficient to cause fetal heart development problems. Mr. Bentkowski offered to arrange for risk assessors to speak more formally about this, but said that immediate action is warranted.

He said that open-air shops are less of a concern than enclosed offices. Mr. Holmes asked if the sample was collected in the office area or the shop area. Mr. Mokri responded that the sample was in the shop area. Mr. Bentkowski asked if they were on the same air-conditioning system. Mr. Mokri responded that the shop area does not have air-conditioning, but instead keeps the roll-up doors open and uses large industrial gable fans for ventilation. He said it is a metal-walled building and likely has a high air exchange rate.

Mr. Bentkowski said he wishes to communicate a strong sense of urgency. He said he would discuss the vapor results with EPA emergency response personnel regarding collecting samples from the building as soon as possible.

Mr. Martinez Torres asked if Mr. Millar could send him all the data that exceeds the removal management levels anywhere on the site. He will discuss this as soon as possible with the on-scene coordinators (OSCs) at the EPA Region 4.

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Mr. Bentkowski said that yesterday he spoke with the Division Director and Regional Administrator about DDMT. He told them that the groundwater is not really a problem. He said there are plumes that are coming onsite that are not the Army's responsibility. He told them that the small amount of PCE that is in the Memphis well on the northwest corner of the MI is on a 40-year timeframe for capture zone of the Allen Well Field. The surficial treatments being considered in the feasibility study will take care of the majority of the contamination for the groundwater. Mr. Bentkowski said this issue with the sub-slab sample is a different risk driver.

Mr. Millar said that he will contact the Army Public Health Command and send them the same data that he will send to the EPA. He asked if air sampling could be conducted at the Barnhart Crane building sooner. Mr. Mokri answered that the sampling will be conducted as soon as possible, noting that the building inspection needs to occur 1 week prior to indoor air sampling.

Mr. Foster asked if the Barnhart Crane workers wear respirators in the shop area. He also asked how long Barnhart Crane has been operating in this building. Mr. Bentkowski added that if the contamination is from Barnhart Crane rather than the Army, then it is likely an Occupational Safety and Health Administration (OSHA) concern rather than an EPA concern.

Mr. Bentkowski said that he recently learned about using a thermal imaging camera adaptor to find leaks in slab foundations. He is spreading the knowledge of this new adaptor to everyone dealing with VI issues.

Mr. Martinez Torres thanked Mr. Bentkowski. He said he would appreciate if the lead agency could provide regulators with the exceedance data today. He will share the information with the Emergency Management Branch to determine if there was immediate need for EPA involvement.

Mr. Millar agreed. He said that Barnhart Crane was established in that building by 2009.

Dunn Field West (DFW)

Remedial Action

Mr. Pannell said responses to EPA comments on the AS/SVE Year 12 Operations Report, Rev0, were provided on 6 February along with a RLSO version of the document text.

Dunn Field West

Mr. Mokri said the EPA approved the DFW VI Sampling and Analysis Plan on 2 February.

He said the 2023 land use control inspection observed damage to the perimeter fence. The repairs to the fence have been completed.

LONG TERM MONITORING (LTM)

Mr. Mokri said the 2023 Annual LTM Report, Rev0, will be submitted for regulatory review this week. Mr. Holmes said that EPA commented about the need for additional wells in the Memphis Aquifer. Mr. Holmes asked if the EPA could elaborate on what data gaps they perceive and their suggested well locations and screening depths.

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Mr. Bentkowski said that in the figures of the annual monitoring report, he noticed a depression in the potentiometric surface data in the south-central portion of the MI, around Building 489/490 or well 302. He said he looked at the cross-section and saw a confining layer around well 302 and well 311. Then he looked at the far northwest corner of the MI. He said there is a migration of PCE through the bottom of the window and into the deepest Memphis Aquifer well. He noted that it is only at 3 ppb. He said that the Division Director is concerned about contamination getting into the Memphis Aquifer. However, he told the director that 3 ppb would not be detected in a well field extraction well and that the Army is cleaning up the shallower source areas. Mr. Bentkowski said that he is not ready at this time to pinpoint locations of desired wells, but he thinks there is a lack of data density in the Building 489 area.

Mr. Holmes acknowledged that more time would be beneficial for this discussion. He stated that MW-302 is in the Intermediate Aquifer. He said water levels of the Fluvial Aquifer and the Intermediate Aquifer are very similar due to there being no clay layer between the two aquifers; is a 30-foot difference between the Intermediate Aquifer and the Memphis Aquifer in the area of MW-302, and there does not seem to be a direct connection in that area. Mr. Holmes said it would be good to have a separate discussion focused on the wells after more preparation.

OTHER ISSUES

EPA Site Visit: Mr. Mokri said he added this subject to the agenda to discuss logistics of the meeting but will defer to Mr. Martinez Torres's update of team members later today.

2023 Annual Land Use Controls Site Inspection: Army is preparing a response to the EPA review of 11 January.

2024 Site Management Plan (SMP): Army submitted RTCs, RLSO text, and schedule to EPA yesterday.

Investigative Derived Waste (IDW) Disposal Summary: Army is preparing a memo documenting the historical disposal of IDW water on Dunn Field in accordance with the TDEC agreement.

Community Information Line: Calls were received in January. The Army provided requested information to the callers and provided a summary to EPA via emails of 29 January and 5 February.

Mr. Millar concluded the meeting, stating that the Army will provide the EPA with the sub-slab sample data and will expedite indoor air sampling of the Barnhart Crane building. Mr. Bentkowski said he would be available to assist if needed.

DOCUMENT AND ACTION ITEM TRACKING FORMS

Prioritized List of Documents for Regulatory Review

Reports

None

Responses to Comments

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1. Army response to EPA review of MI FFS Report RTCs and RLSO (11/10/23) submitted 2/9/24.
2. Army response to EPA review of Off Depot AS/SVE Year 12 Annual Operations Report Rev0 (11/14/23) submitted 2/6/24.
3. Army response to EPA review (1/4/24) of the 2024 Site Management Plan, Rev0 (11/29/23) submitted 2/12/24.

Documents Requiring Army Revision or Responses to Agency Comments

1. 2023 Annual Site Inspection, Rev0 submitted to EPA and TDEC on 8/3/23. Second round of comments received from EPA on 1/11/24. TDEC approved 9/29/23.

UPCOMING FIELDWORK

Contractor	Activity	Dates
HDR	MI VI Sub-Slab and Indoor Air Sampling	ASAP
HDR	LTM	April 2–12, 2024
HDR	Well Abandonment and MW-100B Replacement	Mid-May 2024

The next meeting of the SMT will occur via Webex on Tuesday, 12 March, at 11:00 am EDT, 10:00 am CDT.