SITE MANAGEMENT TEAM ON-SITE MEETING SUMMARY
FORMER DEFENSE DEPOT MEMPHIS, TENNESSEE
11-12 February 2025

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

CALIBRE BEC: Bill Millar

U.S. EPA, Region 4 RPM: Fernando Martinez Torres; Support: Shannon Berg (absent), James Ferreira, Kevin Koporec

TDEC Division of Remediation, RPM: Jamie Woods

USACE, Mobile: Chase Carter, Melissa Shirley (via Teams)

TechLaw: Mac McRae (absent)

HDR: Tom Holmes, Clay Mokri, Denise Cooper, Nancy Jepsen (via Teams)

FEBRUARY 11, 2025

INTRODUCTIONS

Mr. Millar thanked everyone for attending to create a plan for moving forward with the Main Installation (MI) remedial action.

Mr. Foster acknowledged that this is a special team. He said that Base Realignment and Closure (BRAC) funding is mandated by Congress with the intended purpose to put property back in the hands of the community. As such, the funding is secure and does not compete with operations. Department of Defense (DoD) has responsibilities and won't walk away from its obligations to Memphis. He wants the team to reach consensus and move forward in returning this property to the community. This site has a long record of success. He thanked Mr. Woods for his diligence and support over the years and is grateful for Mr. Woods' insight at the local level.

SITE BACKGROUND AND COMPLETED ACTIVITIES

Mr. Holmes described DDMT's location, site history, completed cleanup activities, groundwater flow and contamination trends within the Fluvial Deposits Aquifer (FDAQ), Intermediate Aquifer (IAQ), and Memphis Aquifer (MAQ) using information and figures from the 2024 Annual Long-Term Monitoring (LTM) Report and the 2025 Site Management Plan.

Mr. Holmes said that in the 1870s the first wells dug into the MAQ were artesian. In the 1950s, Allen Well Field began pumping water from the MAQ. Now, groundwater flow in the FDAQ at Dunn Field is to the west-southwest across the property. FDAQ flow is from all directions onto the MI and there is an erosional window in north central area and sinks at MW-39 and MW-259.

Mr. Holmes described the MI pre-Record of Decision (ROD) soil removal actions: dioxin from the housing area, polychlorinated biphenyls (PCB) from the cafeteria, lead from Building 949, and removal of the PCP dip vat structure, piping and surrounding soil.

The MI ROD selected remedy was enhanced bioremediation treatment (EBT) for groundwater remediation. Initially, sodium lactate was injected into the FDAQ at injections wells in two locations: TTA-1 in the southwest corner and TTA-2 on the east side of the MI. EBT did not reduce groundwater contamination to the Safe Drinking Water Act maximum contaminant levels (MCLs) at that time. The aquifer is aerobic, which decreased the efficacy of EBT. Following EBT, Army performed a source investigation including membrane interface probe (MIP) survey and soil

sampling on the MI; only small areas on the MI with the contaminants of concern (COCs), tetrachloroethylene (PCE) and trichloroethene (TCE), were identified, and the concentrations did not warrant remedial action.

A year after the initial EBT action was finished, groundwater concentrations rebounded. Army then performed EBT in five areas where groundwater concentrations were over 100 micrograms per liter (µg/L). Concentrations in each area were reduced, but MCLs were not reached.

Between 2015 and 2019, Army performed the Supplemental Remedial Investigation (SRI) that included installing 55 monitoring wells plus 2 nested wells with 4 screens each. Five wells were installed offsite upgradient of areas with high groundwater contamination concentrations. The offsite well with the highest concentration was MW-278, with 250 to 300 µg/L of TCE upgradient of the TTA-1 plume in the southwest MI. The SRI provided a clearer view of groundwater flow on the site and the contaminant plumes.

In 2023 and 2024, Army performed a vapor intrusion (VI) study on the MI; TCE and PCE at high concentrations in soil vapor contamination were observed in the southwest corner (TTA-1S), but only TCE was observed north of that area (TTA-1N). PCE is at the highest concentrations in groundwater at TTA-1N and its absence in soil vapor supports an offsite source of groundwater contamination.

Mr. Holmes described the Dunn Field pre-ROD soil and groundwater remediation activities: chemical warfare material soil and debris removal in two locations, lead removal from the pistol range, and an interim remedial action (IRA) of groundwater pump and discharge system began in 2001 to control groundwater flow and reduce contaminant movement offsite.

Mr. Holmes then described the Dunn Field remedial actions noting TCE and 1,1,2,2-tetrachloroethane were the main COCs in groundwater. The initial selected remedy at Dunn Field included soil vapor extraction (SVE) in the shallow fine-grained soils in the loess and upper fluvial deposits (silt and sandy clay) and coarse-grained soil in the lower fluvial deposits (sand and gravel). Army performed a MIP survey and soil sampling that decreased the area of shallow fine-grained soils to be cleaned up by identifying several areas with high concentrations of the COCs. The remedy was revised to use in situ thermal desorption (ISTD) in the shallow soils.

SVE in the deeper sand and gravel was conducted from 2007 to 2012 and ISTD from May to December 2008. A slide of VOC concentrations in the IRA extracted groundwater showed relatively stable concentrations from 2001 to 2007 and a sharp decrease after start-up of the SVE system. The IRA system was shut-down in 2009 after removing 1,000 pounds of VOCs. The SVE system removed approximately 4,000 pounds of VOCs in the 5 years of operation and SVE with ISTD extracted 15,000 pounds of VOCs in 7 months of operation.

Mr. Holmes noted that COC concentrations at the Dunn Field SVE treatment areas were 10,000 to 20,000 micrograms per liter (µg/L), while the highest concentrations on the MI were 200-300 µg/L. Mr. Woods noted that the success of ISTD at DDMT has been used as a case study for sites in west Tennessee.

Mr. Foster asked if SVE is considered to have achieved its objectives and is appropriate technology to address issues at DDMT. Mr. Holmes responded that it is, where there is soil or vapor contamination from VOCs. He noted there has been no rebound in groundwater concentrations on Dunn Field where ISTD and SVE operated. The rebound at Dunn Field West is due to an area of

contaminated soil was not within the MIP survey on Dunn Field and was not identified for remediation by ISTD.

The Dunn Field groundwater remedy for remaining groundwater contamination was zero valent iron (ZVI) injection. Army performed an Early Implementation of Selected Remedy (EISR) west of Dunn Field where groundwater concentrations were 10,000 to 20,000 µg/L from contamination flowing off Dunn Field. The EISR reduced COC concentrations but did not meet the clean-up goals; the experience with injections of EBT on the MI and ZVI in the Dunn Field Off Depot area showed injections into the saturated zone doesn't always reach the contamination. The Dunn Field ROD Amendment (AROD) added that ZVI would be done only on concentrations over 1,000 µg/L due to the expense. However, that wasn't necessary due to the efficacy of the SVE and ISTD systems.

Mr. Holmes then reviewed the Dunn Field Off-Site Investigation. In the early 2000s, MW-129 and MW-130 were installed just beyond the northeast boundary (upgradient) of Dunn Field with results showing elevated chlorinated VOCs (CVOCs). A MIP study and soil sampling was conducted in the northeast corner of Dunn Field's original boundary to evaluate the possibility of residual CVOC soil contamination being the source of the groundwater contamination. The MIP results did not identify contaminated soil in this area; therefore, it was presumed that elevated CVOCs detected in MW-129 and MW-130 were from an offsite source.

Mr. Woods said TDEC performed a site assessment of Cintas, Production Specialties, and Wabash Avenue but did not identify a contaminant source. He noticed a shade-tree mechanic behind the residence with 55-gallon drums on his property, just north of Dunn Field across E. Person Ave. A few years later, the drums were gone and MW-129 and MW-130 samples showed high levels of CVOCs.

Army performed the Offsite Groundwater Investigation to determine the source of contamination migrating along the north end of Dunn Field by installing additional wells northeast of Dunn Field. The additional wells presented multiple lines of evidence that the plume originated offsite. Mr. Holmes said contamination in wells just upgradient of the site were similar to DDMT contamination; but also contained 1,1-dichloroethylene (1,1-DCE) which is not common on DDMT. If the contamination was coming from onsite, it would need to be in the MIP study area. Since the MIP study did not find contaminants and wells located several hundred feet upgradient from the site have elevated concentrations of 1,1-DCE, TCE and PCE, the source must be off-site. The plume originates from the offsite source, migrates downgradient, across the northern portion of Dunn Field and under the Memphis Light, Gas and Water (MLGW) electrical substation on E. Person. The offsite plume stops at the groundwater trough north of Dunn Field at Ragan St.

Mr. Martinez Torres asked if TDEC is doing an overall assessment of groundwater contamination sources in the Memphis area. Mr. Woods replied that TDEC's Site Assessment Division constantly looked at solvent plumes in the area, especially right now around the Allen Well Field. He said the goal is to protect the MAQ. TDEC knows there is a lot of shallow plume contamination throughout Memphis. Mr. Woods said Memphis is lucky that it has a confining layer at the base of the FDAQ.

Mr. Martinez Torres asked if TDEC assists DDMT with identifying sources for the contamination on the MI. Mr. Woods said testing was performed along Elvis Presley Boulevard, west of the MI, that returned multiple solvent sites. TDEC is currently pursuing those sites. Mr. Martinez Torres offered the EPA's help in that pursuit. Mr. Woods said further investigation that would be up to TDEC's Site Assessment Director.

Mr. Woods also reported that TDEC/Department of Health performed a cancer cluster study of the Memphis Area. The incident rate of cancer around DDMT was lower than other neighborhoods. The cancer cluster study is still in review; TDEC will provide a copy to Army once it is complete.

CURRENT ACTIVITIES

MI Focused Feasibility Study (FFS) – Revised Proposed Plan (RPP) – ROD Amendment

Mr. Millar received a letter from EPA requesting that they consider performing a non-time critical removal action to implement Alternative 3 from the FFS with concurrent groundwater modeling. He is confident that AS/SVE and SVE will take care of the contamination but unsure how quickly.

Mr. Holmes described groundwater flow and groundwater contamination levels on the MI with particular attention to the window and sinks. The clay layer at the base of the FDAQ gets very deep to the south of the sink and is a very good confining unit. However, there is no clay separating the FDAQ and the IAQ in the central area of the MI, and the two form a combined water-table aquifer in that area.

Mr. Holmes presented cross-sections of the lithology at the MI with water levels in the different aquifers. In some areas, the three aquifers have different water levels indicating they are not connected; in other areas, the FDAQ and IAQ water levels are close together, indicating a connection, and the MAQ water level is deeper. At the window, the FDAQ water level is above the clay whereas the IAQ water level runs below the clay and water levels are similar to the MAQ, indicating the aquifers are connected. Contamination moving into the window will eventually reach the MAQ.

Two wells in the northwest MI are screened in the Memphis Sand, MW-254 and MW-255. In response to a question from Mr. Martinez Torres, Mr. Holmes stated the top of the Memphis Sand is approximately 300 feet below ground surface. In October 2024 LTM samples, MW-254 had a PCE concentration of 12.2 µg/L and a TCE concentration of 11.4 µg/L and MW-255 had a PCE concentration of 5.08 µg/L and a TCE concentration of 1.11 µg/L. IAQ well MW-256, located adjacent to MW-255 and upgradient of MW-254, had PCE at 25.3 µg/L, the highest concentration of in the IAQ, and TCE at 2.95 µg/L. Mr. Holmes noted that concentrations in the MAQ wells are limited by the concentrations in upgradient IAQ and MAQ wells, and concentrations will decrease as groundwater flows.

Mr. Holmes discussed other CVOCs observed in LTM samples. PCE and TCE have always been the main contaminants at the MI. EBT reduced PCE to TCE, then cis-1,2-DCE, then vinyl chloride. Vinyl chloride and cis-1,2-DCE are present only in the EBT areas, and the lack of vinyl chloride and cis-1,2-DCE outside the EBT treatment areas indicates little natural biodegradation of PCE and TCE. Vinyl chloride is present only in areas around the EBT treatment areas and will degrade aerobically as will cis-1,2-dichloroetylene (cDCE). Carbon tetrachloride is only present in the TTA-2 area.

The FFS indicates use of SVE to remove the PCE and TCE from soil at areas with high vapor concentrations to keep contamination from migrating through the vadose zone. Air sparging with SVE (AS/SVE) will remove contamination from the groundwater by volatizing the CVOCs for removal by SVE can remove them. Mr. Holmes said SVE and AS/SVE would both reduce groundwater concentrations below the MCLs in the treatment areas, as done on Dunn Field, the Off

Depot area and the MI pilot test. The treated water in the FDAQ would then move into the IAQ and MAQ, reducing concentrations there.

Mr. Martinez Torres stated EPA believes a time critical (or non-time critical) removal action will speed up the remediation process. EPA's interest is to have at least the concept of additional lines of treatment and believes that could be handled in the FFS, depending upon the information gathered by the non-time critical action.

Mr. Martinez Torres said more monitoring is necessary. He acknowledged that the concentrations are minimal within the MAQ, but at least the FFS will have the information about the limitations of the monitoring network. He said it is very important that, when the remedy is chosen, the language says the active remedy will reduce concentrations to MCLs.

Mr. Martinez Torres said the language additionally needs to state what measure will be used to determine when the AS/SVE can be shut down. Mr. Holmes said the initial language stated the EBT will be placed at areas that have 100 µg/L or more, and the new AS/SVE system(s) would be shut down when contamination was reduced to 50 µg/L, and this is how it was done on Dunn Field. Mr. Holmes said the goal for the whole remedy is MCLs.

EPA has a problem with the one sentence, "Five years of active remediation will not reach MCLs with an additional 10 years of long-term monitoring." EPA guidance does not view monitored natural attenuation as viable. If it is known that contamination is continuously below MCLs after 5 years of the remedy, then he wants to know if there are enough wells to conduct 10 years of monitoring.

Mr. Millar asked if Mr. Martinez Torres meant reaching the MCLs in the MAQ. Mr. Martinez Torres responded that the MCLs should be reached in the upper aquifers. Mr. Millar stated that ultimately the upper aquifers will reach MCLs. Mr. Holmes said that the areas where the remedy will be conducted will reach MCLs within the first year or so. He said that offsite areas upgradient of the AS/SVE remedy will be above MCLs, but areas below will reach MCLs.

Mr. Martinez Torres said that either the language needs to certify that MCLs will be reached within a time period, or a non-time critical action needs to be implemented and wait to see when MCLs are reached. He said he believes changing the language would be easier but notes there might be concern about when MCLs can be reached especially given the offsite plume. He said EPA guidance will not allow otherwise given the MAQ is the main source of drinking water.

Mr. Woods said the plan is to treat the upgradient plume and let clean water flush contamination from downgradient aquifers. He said the only remaining alternative is to put an air sparge point in the window. He said nothing gets past the air sparge point.

Mr. Martinez Torres said the interest of the EPA is to reach MCLs in the upper aquifer. Mr. Woods questioned why DDMT was being held to that standard when other Superfund sites in Memphis are not. Mr. Martinez Torres replied that different pieces have moved within the EPA on the CERCLA side, and he encouraged Mr. Woods to have a conversation with Mr. Woolheater. Mr. Woods agreed to do so and stated that project managers need to use their scientific interpretation to solve the problem, because writing another document will not resolve the contamination.

Mr. Martinez Torres asked which of three options would be quickest:

Option 1: Follow the FFS, and work towards a signed ROD Amendment

Option 2: Interim action

Option 3: Non-time critical action

Mr. Holmes asked if the suggestion was to proceed with the remedy as described in the FFS but under a non-time critical action, with the ROD to follow. He noted that a Remedial Design (RD) would not be needed, though a design document/work plan would be necessary. He asked Mr. MartinezTorres about EPA's requirement to have a signed ROD by the end of the year, for that won't be possible with the non-time critical action.

Mr. Martinez Torres said he would recommend a conversation between his section chief, Mr. Foster, Mr. Woods and his director, Mr. Millar, and Mr. Holmes about the best path forward. He said EPA management wants the ROD signed in December.

Mr. Martinez Torres asked why the sentence cannot be changed to "MCLs will be reached within 5 years." Mr. Millar responded that the Army doesn't know that MCLs will be reached. He said the Army certainly believes the remedy will work and the goal is to reach MCLs but cannot say when the MCLs will be reached.

Mr. Woods asked if the sentence could be phrased as "the system will be designed to reach MCLs within 5 years." Mr. Martinez Torres said that if MCLs have not been reached within 5 years, but monitoring continues for 10 years, then the remedy is using natural attenuation to meet MCLs. Mr. Millar said that the AS/SVE system could be run for 15 years, but the last 10 years would be a waste of time and money.

Mr. Martinez Torres asked if different lines of AS/SVE would be implemented in the most contaminated areas, for example, the sinks and the window. Mr. Holmes responded that there would be two AS/SVE systems in place, one at each plume that is coming onsite, and a third AS/SVE system would be placed at the window. Mr. Millar said that all three systems would be implemented immediately, with additional AS/SVE systems placed in areas as needed. The additional systems might be run for only one or two years to reduce the contamination in the hot spots.

Mr. Woods said the technology is tried and true and will protect the MAQ. He would like the problem with the language to be resolved so that action can move forward. Mr. Martinez Torres said he needs language that makes it clear the MCLs will be reached before the contamination reaches the first aquifer. Mr. Millar pointed out that the contamination is already in the upper aquifer.

Mr. Martinez Torres said the AS/SVE system needs to lower the concentrations at the upper aquifer below MCLs, and there needs to be a way to monitor the downgradient contamination. Mr. Ferreira suggested removing the mention of 5 years from the document. Mr. Millar said his concern is that eventually the system would be running at an asymptotic point. Mr. Ferreira said that shut down would happen at the asymptotic point, which would be followed by monitoring to see if concentrations rebound.

Mr. Millar said offsite contamination plumes moving onto the MI are not Army's responsibility. Army is not the source of the contamination and cannot be held responsible for it. Mr. Woods said that EPA and the TDEC Site Assessment Division will have to address the offsite sources.

Mr. Holmes suggested that if EPA has specific wording that they want in the FFS, EPA could email that wording to Army. With the specific wording, Army could decide if they can meet the obligation and revise the FFS to include it.

Mr. Martinez Torres said that he has been providing comments to that end. Mr. Holmes acknowledged that EPA has been providing comments, but the comments have taken the form of general guidance. He said Army believes they are meeting the guidance and therefore is confused about what specific language would demonstrate that.

Mr. Martinez Torres asked why the Army does not think the MCLs will be reached within 5 years. Mr. Millar said the goal is to reach MCLs within 5 years, but Army cannot guarantee that MCLs will be reached within 5 years.

Mr. Martinez Torres asked that if MCLs are not reached within 5 years, what will allow downgradient concentrations to be below MCLs. Will that be dispersion and dilution, aka, natural attenuation? Mr. Millar answered that large areas will have reached MCLs, and those areas will move out. Mr. Holmes said it is not monitored natural attenuation because the site doesn't have natural carbon or anaerobic aquifer conditions. The site has only the physical attenuation factors of dispersion and dilution.

Mr. Martinez Torres asked if the Army will know whether the contamination remains below MCL. Mr. Holmes answered that there are approximately 200 wells on the MI that will monitor the concentrations.

Mr. Martinez Torres asked, with the current data, is it possible to model what will happen when the AS/SVE system starts. Mr. Ferreira asked, when the main plume is dealt with, how long will it take for clean water to get to the sink. Mr. Holmes said the FFS divided the plume into sections and gave groundwater travel time estimations for each section. He said he believes the travel time for each section is approximately 1.3 to 2.5 years. Mr. Millar said that is where the 5-year time frame came from.

Mr. Martinez Torres asked if the degradation rates were known, for example, would the Army be able to estimate the approximate time when concentrations at the upper aquifer will decrease. Mr. Ferreira suggested that the FFS needs to include mention of the long-term monitoring, to demonstrate that the plumes are mapped each year.

Mr. Martinez Torres said EPA wants assurance that the concentrations will be below MCL before it leaves the upper aquifer. Mr. Holmes said that as the AS/SVE systems on the MI boundary reduce concentrations below MCLs, it will be clearer what source areas, if any, are present. Source areas would be identified similar to what happened at Dunn Field West.

Mr. Martinez Torres asked what the time difference is between following the FFS and running a non-time critical action. Mr. Millar answered that it would take 12 months to get to a non-time critical action. Mr. Holmes said there would be the FFS, then the Revised Proposed Plan (RPP), then a remedial design, then a work plan. Mr. Millar said it might be an equivalent amount of time either way, but the current plan is fully funded whereas a non-time critical action would require USACE to establish a new contract/task order.

Mr. Martinez Torres asked if he provided language for the FFS, would Army accept the language. Mr. Millar answered that he would review the language, but yes, he expects so. Mr. Martinez Torres asked if Army would state in the FFS what the expected concentrations are once the AS/SVE

system is started. He also asked if Army could state that concentrations in the upper and lower aquifers will remain below MCLs during and after the AS/SVE treatment. Mr. Holmes responded that such language is not possible at first because the contamination is currently above MCLs. Mr. Ferreira asked if Army could state that contamination levels at the point of treatment would reach MCLs and stay below MCLs. Mr. Holmes agreed that at the point of treatment, MCLs would be reached within the first year, as seen in previous treatment areas at DDMT.

Mr. Ferreira suggested that the FFS should identify a contingency plan if treatment is not as effective as desired, whether that be adding another AS/SVE line or something more complex. He said that such language would likely reassure the EPA upper management that the treatment will be monitored, and action will be taken to be sure the goal is reached. Mr. Holmes said that Army has been working on this site for 24 years and have shown they not going to walk away from DDMT until the goal is reached.

Mr. Foster said that the language of the FFS will be revised. Mr. Martinez Torres will email suggested wording to Mr. Foster, Mr. Millar, Mr. Woods, and Mr. Holmes. Together they will reach consensus.

Mr. Ferreira asked how far the drinking water wells are from DDMT. Mr. Holmes responded that the closest wells are approximately 1 mile away. Mr. Woods said that some of the wells were shut down due to petroleum, though MLGW does not share specific well data with TDEC.

Mr. Holmes shared a table that shows the response time to the AS/SVE system at various monitoring wells at Dunn Field. MW-160 reached MCLs within 1 year of system activation; MW-243 took 4 years to reach the MCL for 1,1,2,2-tetrachloroethane (TeCA) but only 1 year to reach the TCE MCL. MW-03 reached MCLs in less than 6 months. Although MW-70 didn't reach MCLs, concentrations decreased by 50% for TeCA and 90% for TCE within 1 year. Mr. Holmes noted that concentrations at all of these wells either reached MCLs or had decreased by more than 50% within 1 year of the AS/SVE system beginning operation.

Discuss need for additional LTM wells

Mr. Holmes presented a figure prepared in response to an EPA comment on the 2023 LTM report regarding additional LTM wells in the MAQ. The figure showed groundwater elevations in the MAQ at DDMT were apparently due to extraction wells 115A and 117A in the Allen Well Field. The figure showed potential locations of wells approximately 1,000 feet downgradient from the northwest corner of the, as suggested by EPA. Security would be a concern because the well would access drinking water. Shelby County groundwater well regulations don't specify requirements for securing the well.

Mr. Woods stated that we had not received any useful information from MLGW in response to a request for water levels and contaminants at the Allen Well Field. However, he had received information from non-profit, Protect Our Aquifer, that may assist in selecting a location(s). Mr. Millar said Army would consider installation of additional wells following review of the available information and determination of a method to secure the wellhead.

Former PCP Dip Vat Area-SRS Update

Mr. Holmes discussed the update of the risk assessment performed for the MI RI in 2000. After the 2020 Human Health and Ecological Risk Assessment (HHERA) updated the risk assessment, there were a few areas of concern for chromium, arsenic, lead, dioxins, and furans. Additional sampling

was performed, and areas of concern were cleared except for dioxin and furans in the former PCP dip vat area.

Initial soil samples were collected in 2022 at eight locations in the former PCP dip vat area. Samples from surface soil (0 to 2 feet below ground surface) at four locations exceeded the non-carcinogenic industrial regional screening level (RSL) for 2,3,7,8-tetrachlorodibenzo-p-dioxin toxicity equivalent (TCDD TEQ). Sixteen samples were collected in September 2024 to delineate the area of exceedances; samples at four locations exceeded the RSL. Additional samples were collected in January 2025 and sample analysis is in progress.

Mr. Koporec said that based on the earlier data, there was no human exposure. Mr. Holmes agreed and said the risk assessment has not changed. If the contamination extent is defined, what would need to happen? Would use restrictions be adequate, does the contamination need to be covered, or does the contamination need to be dug up?

Mr. Koporec recommended first defining a realistic exposure area and to take an average of that area for exposure to the future worker. He said to look at it not as a “not to exceed approach”, but rather look at it as a valid average across the area. He said maybe there would be one or two hits above RSL, but once that is averaged in a realistic way, then it may be an acceptable risk. Mr. Koporec said that if the risk is still above 720, then covering it or digging it up can be evaluated.

Mr. Mokri said the gravel in the southern area is 4 inches thick, so there is no exposure to soil. Mr. Holmes said the report would be prepared shortly after the analytical report is received and the data validated.

MI Vapor Intrusion (VI) Study

Mr. Holmes reviewed the VI study activities: gathering information for buildings above the groundwater plumes; shallow passive vapor screening using grids for the entire MI, for the area above groundwater plumes and the areas with the highest groundwater concentrations and/or previous soil vapor samples with high concentrations; installation of vapor monitoring points with sample screens at multiple depths; and sub-slab vapor and indoor air samples. Passive vapor concentrations for PCE and TCE were elevated around the EBT treatment areas, TTA-1 and TTA-2. At TTA-1 soil vapor CVOC concentrations were above 1,000,000 µg/m^3. Based on the results from the passive and active soil vapor sampling, sub slab and indoor air samples were collected from Buildings 260, 265, and 972 in March-April and November 2024.

Mr. Holmes noted that concentrations were generally consistent for soil vapor sampling in November 2023 and November 2024 and for the sub-slab and indoor air sample events. Indoor and outdoor air analytical results showed there were no CVOCs above commercial indoor air RSLs. He stated there were detections above RSLs for acrolein, benzene and other VOCs, but those are not related to subsurface contamination and are consistent with the maintenance work currently being performed within the sampled buildings. VOCs in the subsurface will be removed by AS/SVE and SVE and there is not an issue for indoor air. Mr. Koporec agreed that the chlorinated volatiles are not surfacing.

Mr. Martinez Torres asked, given that the contamination is not related to groundwater, if an additional remedy was needed to remove the VOCs. Mr. Holmes answered that the highest vapor concentration are likely from the residual soil contamination that has contaminated the groundwater. AS/SVE and SVE will address soil and vapor contamination and prevent impact to groundwater.

Mr. Martinez Torres said that AS/SVE is a groundwater remedy. Mr. Holmes acknowledged that and added that the contamination is getting to groundwater by migrating through the soil. He said that SVE is the presumptive remedy for vapor contamination. Mr. Millar said the AS/SVE will not be used to prevent vapor intrusion, for it has already been shown there is no vapor intrusion. He said the AS/SVE will be used to prevent the contamination getting to groundwater.

Mr. Koporec said that the concern is the exposure to groundwater, i.e., worried that people will drink the groundwater. He said there is no concern for people breathing the air, as there is no exposure that way.

Mr. Martinez Torres said that language would need to be added to the FFS addressing the contamination but stating that it is not related to groundwater contamination. Mr. Holmes responded that soil contamination is related to groundwater contamination as they are both likely from the same source. Mr. Martinez Torres reiterated that AS/SVE is a groundwater remedy, and said additional language would be needed in the FFS. Mr. Holmes said that EPA could provide the suggested wording along with other edits discussed earlier.

Off Depot AS/SVE System Rebound Monitoring

The AS/SVE system was shut down in July 2023. Mr. Holmes pointed out TCE in well MW-159 was the only exceedance above the active remediation goal of 50 µg/L for individual CVOCs since approximately 2012. The concentration decreased below 50 µg/L in 2022 and has remained below. He said there's been some minor movement of the contaminants since the shutdown, but there is no spread to residential property.

Mr. Holmes said there is one more sample event for rebound monitoring in April 2025; that will be the fourth sample in two years. There is no plan to restart the AS/SVE system. Mr. Martinez Torres asked if remediation will be done at the substation area. Mr. Holmes clarified that the AS/SVE was performed south of the substation area. He added that there is no source in the substation area. The contamination was the groundwater that flowed from Dunn Field. With that groundwater clean, there is no source for continued contamination.

Mr. Martinez Torres asked if there was a plan to abandon the wells. Mr. Holmes answered that once it is clear that the AS/SVE system is no longer needed, abandonment of the AS/SVE wells would be considered. He said Army might also evaluate whether all the monitoring wells are needed, but monitoring wells are necessary until MCLs are met.

Monthly inspections of the AS/SVE compound and mowing will continue through December 2025.

Dunn Field West Investigation/Remedial Action

Mr. Holmes reviewed the DFW VI investigation. Shallow and deep pairs of vapor monitoring points were installed at two locations west of Dunn Field and one location on Dunn Field. Samples were collected in September 2024 and January 2025 at the new VMPs and two existing VMP pairs on Dunn Field; the analytical report for the January samples was in progress at the time of the meeting.

Samples from groundwater and deep VMPs had vapor intrusion screening level (VISL) exceedances. Concentrations decreased to the west away from Dunn Field. No shallow soil vapor samples had CVOCs above VISLs; one shallow VMP on Dunn Field exceeded the VISL for

benzene. Mr. Martinez Torres asked if Mr. Holmes could email a comparison of the current concentrations versus the concentrations a year ago for groundwater along Rozelle Street.

Mr. Holmes reviewed the DFW geophysical survey performed in September 2024 and soil sampling in October 2024. The geophysical survey was conducted to identify areas with metallic debris, such as the buried containers of roofing tar excavated to the west during the Dunn Field Source areas remedial action. The geophysical survey identified areas of higher electromagnetic (EM) response, but metallic debris was not observed in the soil core from borings in these areas.

Ten borings were advanced to depths up to 35 feet below ground surface with five soil samples from each boring. Samples were analyzed for VOCs, SVOCs, metals, pesticides and PCBs. Only VOCs and SVOCs were detected at concentrations above the remediation goals (RGs) from the Dunn Field ROD. Mr. Holmes pointed out sample locations with exceedances of the RGs in four areas, A1 to A4. A1 and A2 are planned for excavation to a maximum depth of 10 feet. A3 and A4 had high hits for benzo(a)pyrene at the surface and will likely need additional sampling to determine the extent of the contamination. Contaminants observed at depths below 10 feet were generally limited to VOCs.

Mr. Holmes said soil samples from the side walls and floor of the excavation would be sampled to confirm concentrations are below the RGs; the excavation would be expanded horizontally if necessary. Mr. Martinez Torres asked if the planned excavation area was smaller than earlier assumed. Mr. Holmes answered that it is smaller because of the extra definition gained from the 2024 sampling.

Excavation would remove the contaminated soil and the SVE system would remove the remaining soil contamination. Mr. Martinez Torres asked if this is an “extension” of the Dunn Field remedy in place. Mr. Holmes agreed that it was.

Once the investigation is complete, Army plans to prepare an Explanation of Significant Differences (ESD) to support soil excavation followed by SVE. This is the same remedial method used elsewhere on Dunn Field; therefore, a ROD is not necessary.

Army wants Dunn Field West property transfer to happen in near future. Path to transfer requires approved ESD, remedial action, and preparation of a new Operating Properly and Successfully document to support the Finding of Suitability to Transfer (FOST).

Long-term Monitoring

The 2024 Annual LTM report is being prepared. The next sample event will occur in April 2025.

2024 Annual Site Inspection

Army is reviewing responses to EPA comments received 1/21/25.

Community Involvement

No calls received on the Community Involvement Line since the January site management team call.

2025 Site Management Plan

Mr. Millar said he submitted the response to EPA comments on 2/11/25.

PFAS

Mr. Millar stated that Army had a kickoff call with EA about the PFAS investigation. Mr. Martinez Torres asked if EPA could participate in the next call.

Meeting ended and site tour was held.

FEBRUARY 12, 2025

Continued Discussion of MI FFS

Mr. Holmes opened the meeting by presenting specific language in question from the EPA comments on the FFS.

Mr. Martinez Torres stated that EPA is looking for a statement that the AS/SVE will reach MCLs. The FFS should include ways Army will monitor where dilution achieves MCLs instead of stating it will be achieved in five years. Mr. Martinez Torres suggested that the FFS be updated to change the treatment goal from 20 µg/L to MCLs.

The team agreed that annual operations reports will include data showing progress to MCLs and will include plans moving forward for system optimization or alternatives to achieve MCLs in lower aquifers, as needed. The FFS will be revised to reiterate that the CERCLA process includes evaluating the remedies effectiveness every five years. The five-year review utilizes performance monitoring and presents opportunities for optimization if the remedy is not achieving remedial action objectives (RAOs).

The team agreed that the FFS will keep time-line table showing anticipated time for each “flush” of contaminated groundwater moving through the AS/SVE system down to lower aquifers but will remove language about timelines in the text. Plume maps in the FFS will be updated to include October 2024 data and state that implementation of the FFS remedy will reduce VI risks.

Regarding off site sources, Army will continue to operate active remedy until onsite sources are removed and groundwater RAOs achieved. TDEC and EPA are responsible to find and deal with offsite sources of contamination moving on site. Mr. Woods indicated may take a decade before TDEC’s Site Assessment Division obtains funding, finds the source(s), and implements remedial actions. By that time, Army’s active remedy will have dealt with onsite contamination.

An approved FFS will provide the information required for the Revised Proposed Plan (RPP) and the AROD; the AROD must go through Army technical and legal review. Mr. Millar can request that review be expedited but cannot make any guarantees. Army must have EPA’s approval of FFS before preparing the RPP and performing community involvement activities. The RPP and community involvement process cannot be shortened.

Mr. Foster reiterated that non-time critical action would extend the time before remedial action implementation because it required a new contract and funding request. The current contract includes all the document milestones and is fully funded. EPA requested that the AROD be completed by the original December deadline. Army reiterated due to the delays in finalizing the FFS, that will not be possible.

Mr. Martinez Torres requested Army send EPA a letter as soon as possible stating the December deadline for ROD is not possible and stating why it is not possible. Include timeline comparing non-time critical action process vs continuing with current process and why current path is the best

option. Mr. Martinez Torres also requested TDEC send a letter to EPA management about TDEC's preference to continue on the current path vs changing to a non-time critical remedial action based on TDEC's corporate knowledge working with the team and in the spirit of cooperation.

Mr. Martinez Torres requested a conference call including TDEC and Army with EPA upper management to discuss the timeline for a non-time critical action vs continuing current path with FFS/RPP/ROD amendment, as EPA upper management believes non-time critical path quicker than current path. Mr. Woods and Mr. Foster agreed to participate.

Army will update the FFS per this discussion and draft the revised proposed plan but must have EPA acceptance to move forward with RPP and AROD. It will take approximately two weeks to revise FFS – Army will work with USACE regarding contract to produce red line strike out (RLSO) version and clean copy.

Army will send EPA the RLSO FFS and clean version. Mr. Martinez Torres will present to management with support from Mr. Ferreira and Mr. Koporec.