SITE MANAGEMENT TEAM MONTHLY CALL SUMMARY
FORMER DEFENSE DEPOT MEMPHIS, TENNESSEE
14 JULY 2020
10:30 EDT

LOCATION: Conference Call

ATTENDEES:

Army, Base Realignment and Closure Division (DAIM-ODB) – Jay Foster

CALIBRE BEC – Joan Hutton

USACE, Mobile – Bob Beacham, Laura Roebuck; Melissa Shirley (absent)

TDEC Division of Remediation, DDMT Project Manager – Jamie Woods

U.S. EPA, Region 4, DDMT Project Manager – Diedre Lloyd (absent)

HDR EOC – Tom Holmes

Trinity – Todd Calhoun

GENERAL

MAIN INSTALLATION

Remedial Action - No current remedial action

Supplemental Remedial Investigation (SRI)/Focused Feasibility Study (FFS)

Mr. Holmes stated that the final report for the SRI is in internal review.

Risk Assessment

Mr. Holmes said that HDR is continuing to review the data and is making progress on the Sampling Plan.

Vapor Intrusion (VI) Indoor Air Sampling Study

Mr. Holmes stated that HDR has responded to the request for proposal (RFP) for modifications to implement VI activities per discussions at the February 2020 meeting at EPA's office in Atlanta.

Additional SRI

Mr. Holmes said that the revised Groundwater Modeling Conceptual Site Model technical memorandum, which had been approved by TDEC and commented on by the EPA and the U.S. Geological Survey (USGS), was submitted to EPA in early July. The memo was revised to incorporate the recent SRI and long-term monitoring (LTM) results through 2019; responses to EPA's comments were also revised to reflect the halt in further modeling.

Mr. Holmes said the draft Soil Vapor Extraction (SVE) pilot test report was submitted for internal review at the end of June.

Feasibility Study

Mr. Holmes stated the environmental engineer is reviewing the draft SVE pilot test report. When HDR completes the Rev 0 SRI report, a schedule will be developed for completion of this task.

DUNN FIELD

Remedial Action

Status of Air Sparge (AS)/SVE Operations

Mr. Calhoun stated that the system is operating this month. Repairs were made last week, including replacement of 90 air regulators. Damaged well pads were replaced, and miscellaneous air leaks were fixed. Air lines were purged of water and the condensate tank was cleaned out. Well pads AS 3, 55, and 57 were severely damaged and could not be repaired last week; Mr. Calhoun will schedule those for repair during installation of the additional AS wells. The AS system manifold was closed for approximately 27 hours during the repairs.

After replacement of the flow regulators, it was noticed that solenoids 1, 4, and 6 were not opening. Those solenoids will also be replaced when the new AS wells are installed. Mr. Holmes stated replacement solenoids were purchased a few years ago and there may be some remaining; he will check with Ms. Cooper. Mr. Calhoun offered to send a picture of the solenoid for easier identification.

Mr. Calhoun stated the Year 9 Quarter 4 effluent monitoring and vapor sampling was completed last week.

AS/SVE Reporting

Mr. Calhoun stated that responses to EPA's comments on the Year 8 Annual Operations Report have been submitted. EPA also still has the Year 9 Semiannual Operations Report for review, although comments are not required.

AS Well Installation Access

Mr. Calhoun said the right-of-entry agreement is signed and USACE Mobile is working on the task order modification. Fieldwork is expected to take place in late September or October. Ms. Roebuck stated she expects the modification to be awarded in the next two weeks but will check with contracting.

OFFSITE INVESTIGATION

Offsite Investigation

Mr. Holmes discussed recent sampling results for the Offsite Investigation (OSI) and referenced the attached figure submitted with the meeting agenda, *Offsite Investigation Well Locations*. Mr. Holmes noted the new OSI wells and the adjacent text boxes with groundwater analytical results for 1,1-dichloroethene (DCE), trichloroethene (TCE), and tetrachloroethene (PCE); May 2020 results for LTM wells are also shown.

Mr. Holmes stated that the two wells closest to the Wabash Avenue site, MW-320 and MW-321, which are in the backyard of residences, had no results above detection limits. This indicates the well planned for installation on the Wabash Avenue site, for which access could not be obtained, was probably not necessary since it would have been upgradient of these two wells.

Mr. Holmes noted the highest concentration of DCE, at 19 micrograms per liter (µg/L), was reported in MW-327 on the Cintas site; the presence of DCE is the main differentiator for the Dunn Field (DF) North plume. The high concentration at MW-327 indicates the Cintas site, or a location further upgradient, may be the source of DCE in groundwater.

Mr. Holmes stated that MW-319 on a residential property southeast of the Cintas site had TCE at 11 µg/L, which is higher than downgradient wells MW-129 and MW-130. He also noted that concentrations in MW-130, which are generally the highest in the DF North plume, were all below maximum contaminant levels (MCLs) in the May 2020 sample. Mr. Holmes pointed out that the highest TCE concentration in the most recent samples was 50.9 µg/L at MW-322, located on Hayes Rd south of MW-130. The results at MW-130 and MW-322 were unexpected, and those wells and CS-07, located east of MW-322, are being re-sampled to confirm results.

Mr. Woods asked if MW-130 and MW-322 were screened at the same interval. Mr. Holmes answered that they were. MW-322 was screened at 60 to 70 feet below ground surface and should be close to the top of clay. Mr. Holmes also noted that analytical results for several LTM wells were lower this time, which may be related to higher water levels in the wells.

Mr. Holmes said HDR will complete the draft well installation and sampling report once results for this week's samples are received and validated.

MW-87 Area Investigation

Mr. Holmes provided a brief summary of the MW-87 Area investigation to date, noting that Phase 3 installation and sampling of vapor monitoring points (VMPs) was being completed this week. A figure, *Sample Locations*, showing locations of the soil borings drilled in Phases 1 and 2, the grab groundwater samples collected in Phase 1, and the planned

Phase 3 VMP locations is attached. The goal of the investigation is to identify the source of increased concentrations of chloroform (CF) and TCE in groundwater at MW-87.

Phase 1, which was completed in May with a report submitted in early June, involved collecting soil samples from 10 borings (SB-1 to SB-10) around MW-87. Soil samples, collected from the soil borings did not have reported concentrations of TCE or CF. However, borings SB-06 and SB-07 had relatively high concentrations of 1,1,2,2-tetrachloroethane (TeCA), which with TCE was historically the main contaminant in soil and groundwater on Dunn Field. Mr. Holmes stated that further investigation of the TeCA soil contamination, which is outside the scope of the current investigation, should be considered.

Grab groundwater samples were collected at SB-02, northwest of MW-87 on the western boundary of Dunn Field, and SB-10, southeast of MW-87; groundwater flow on Dunn Field is to the west. The TCE and CF concentrations were compared to previous results at MW-87; concentrations were higher at SB-10 (CF at 110 µg/L and TCE at 11 µg/L); and lower at SB-02 (CF at 11 µg/L and TCE at 1 µg/L).

Consequently, the six additional borings (SB-11 to SB-16) drilled for Phase 2 were to the east, further upgradient and closer to a 2008 remedial action area. Mr. Holmes stated that neither CF, TCE, nor other CVOCs were detected in the borings, but that a ‘solvent’ odor was noted at SB-11.

Mr. Holmes explained that Phase 3 includes installation of 10 VMPs; five shallow VMPs at a depth of approximately 5 feet to be used for risk assessment, and five VMPs in sand at a depth of 25-30 feet to be used for delineation of CF and TCE in the vadose zone. The VMPs were installed last week and are being sampled today (14 July).

Mr. Holmes noted that LTM samples were collected at MW-87 and MW-06 in May; the analytical results were significantly different from previous results. The attached tables, *Historical CVOC Results*, *MW-06 Recent* and *MW-87 Recent*, were provided with the agenda. The May 2020 sample from MW-06 had a 71.5 µg/L concentration of TeCA as well as concentrations of 1,1,2-trichloroethane, CF and TCE above the respective target concentration (TC) or MCL. The May 2020 sample from MW-87 had greatly reduced concentrations of CF and TCE, which were below the TC or MCL for the first time in several years. Mr. Holmes said these two wells were re-sampled over the weekend, and the samples were delivered to the laboratory today.

Mr. Holmes said that the final phase of the MW-87 Area was installation of monitoring wells; two downgradient wells offsite west of Dunn Field and an upgradient well on Dunn Field. However, access for the offsite wells has not been granted.

Ms. Hutton asked Mr. Holmes to discuss the debris that was found in the vegetated area near MW-06. Mr. Holmes said that the top few feet of some borings contained debris, such

as glass vials; one or two apparent soil piles were observed in the wooded area between SB-6 and SB-10.

Mr. Woods asked if the debris was in the treatment area for 2008 thermal SVE (in situ thermal desorption). Mr. Holmes answered that it was near the southern limit of one of the thermal SVE areas, as shown on the attached figure. It is also near the excavation for crushed drums containing tar material, possibly from re-coating buildings on the MI, initially observed during boring for well SVE-F.

Mr. Woods noted land use restrictions could be an alternative to further remedial action. He has recently begun oversight of a site which contains solvents and buried debris in soil and could be included on the National Priority List (NPL). The responsible party has chosen to implement land use restrictions to address the contamination, instead of large-scale excavation or SVE system installation.

Mr. Holmes said results for vapor samples and re-sampled LTM wells will be received next week. Following review and validation of the results, a draft Phase 3 report with recommended well locations will be completed and submitted for internal review.

Ms. Hutton asked if, based on the results as of today, a removal action for soil is warranted. Mr. Holmes stated the groundwater concentrations at MW-06 could result from the observed soil contamination, although it seems odd that it appeared so soon after the soil samples were collected. If the TeCA concentration in MW-06 is confirmed, then further soil investigation is likely to show a removal action is warranted.

LONG TERM MONITORING (LTM)

Mr. Holmes stated that TDEC approved the 2019 LTM Annual Report in early June, and comments from EPA are still expected.

The May 2020 LTM sampling report is still being worked on. Several wells on the MI (nested wells MW-317 and MW-318, and MW-197B) were not sampled during the May 2020 LTM event; samples from those wells were collected over the weekend. Once the analytical results are received and validated, the May 2020 LTM report will be completed.

OTHER ISSUES

Mr. Holmes stated that the annual Land Use Control (LUC) Site Inspection began last week. The report will be submitted in early August for internal review.

Mr. Holmes stated that there was one call on the Community Information Line from a Glory Circle resident checking on the work schedule. Ms. Cooper was in contact with the residents while OSI well installation and sampling was being performed. Mr. Holmes stated there were no complaints or issues from the residents regarding the work.

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Ms. Hutton reviewed the submittal schedule which had been updated as of 2 July and noted that the number of documents requiring review was not a significant issue.

Mr. Foster expressed appreciation for all the hard work from the team. He believes the path forward is becoming clearer. Ms. Hutton expressed appreciation to Mr. Calhoun for the extensive repairs on the AS/SVE system.

Upcoming Fieldwork

Contractor	Activity	Dates
HDR	MW-87 Area well installation	TBD - Aug-Sep
Trinity	AS/SVE monitoring, AS well installation and repair of AS points 3, 55 and 57.	TBD – Sep-Oct
HDR	1st Quarter sampling of OSI and TDEC wells and semiannual LTM sampling	TBD - October

Prioritized List of Documents for Regulatory Review

1. 2020 Site Management Plan, Rev0 (submitted 21 January 2020). EPA comments received 11 May 2020. Responses submitted 18 June.
2. Off Depot AS/SVE Annual Operations Report, Year 8 (submitted 15 November 2019). Draft responses to EPA comments received 14 May 2020. Responses submitted 26 June.
3. 2019 LTM Annual Report (submitted 23 March 2020).
4. Groundwater Modeling Conceptual Site Model Technical Memorandum, Revision 0, March 2018. Revised responses to EPA comments on Revision 0 and Groundwater Modeling CSM TM, Revision 1 submitted to EPA 2 July 2020.
5. Off Depot AS/SVE Year 9 Semiannual Operations Report (submitted 24 April 2020). Review not required.

Documents Requiring Army Revision or Responses to Agency Comments

1. Comments from EPA (March 2019) and TDEC (October 2018) on the 2018 Community Involvement Plan, Revision 0, June 2018. (HDR to provide responses to EPA and TDEC comments)

Next Meeting

The next call will be Tuesday, 11 August at 10:30 AM EDT, 9:30 AM CDT, and 8:30 AM MDT. The dial-in number will be 800-207-9558, with access code 2049034#.

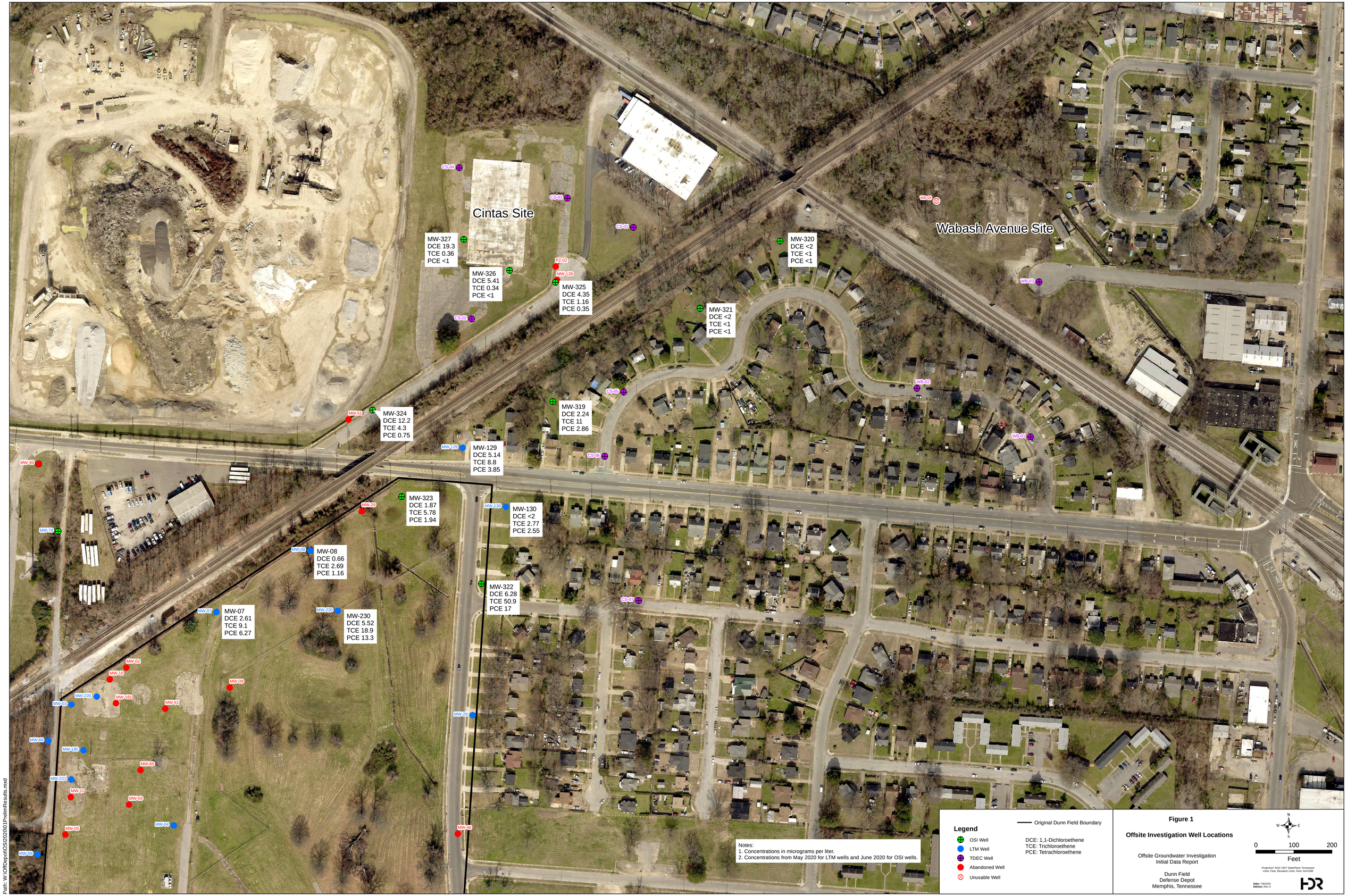
Cintas Site
Wabash Avenue Site
MW-327
DCE 19.3
TCE 0.36
PCE <1
MW-326
DCE 5.41
TCE 0.34
PCE <1
MW-325
DCE 4.35
TCE 1.16
PCE 0.35
MW-320
DCE <2
TCE <1
PCE <1
MW-321
DCE <2
TCE <1
PCE <1
MW-324
DCE 12.2
TCE 4.3
PCE 0.75
MW-319
DCE 2.24
TCE 11
PCE 2.86
MW-129
DCE 5.14
TCE 8.8
PCE 3.85
MW-323
DCE 1.87
TCE 5.78
PCE 1.94
MW-130
DCE <2
TCE 2.77
PCE 2.55
MW-08
DCE 0.66
TCE 2.69
PCE 1.16
MW-322
DCE 6.28
TCE 50.9
PCE 17
MW-07
DCE 2.61
TCE 9.1
PCE 6.27
MW-230
DCE 5.52
TCE 18.9
PCE 13.3
CS-01
CS-02
CS-03
CS-04
CS-05
CS-06
CS-07
PZ-02
MW-128
MW-51
MW-129
MW-30
MW-29
MW-70
MW-08
MW-130
MW-322
MW-07
MW-230
MW-02
MW-10
MW-09
MW-03
MW-220
MW-181
MW-61
MW-28
MW-68
MW-180
MW-60
MW-221
MW-11
MW-59
MW-05
MW-04
MW-46
MW-69
WB-04
WB-03
WB-02
WB-01
Notes:
1. Concentrations in micrograms per liter.
2. Concentrations from May 2020 for LTM wells and June 2020 for OSI wells.
Legend
OSI Well
LTM Well
TDEC Well
Abandoned Well
Unusable Well
Original Dunn Field Boundary
DCE: 1,1-Dichloroethene
TCE: Trichloroethene
PCE: Tetrachloroethene
Figure 1
Offsite Investigation Well Locations
Offsite Groundwater Investigation
Initial Data Report
Dunn Field
Defense Depot
Memphis, Tennessee
N
W
E
S
0
100
200
Feet
Projection: NAD 1927 StatePlane Tennessee
Units: Feet, Elevation Units: Feet, NAVD88
Date: 7/6/2020
Edition: Rev 0
Path: W:\Off\Depot\OSI\2020\01\Prelim\Results.mxd

Figure 1

Sample Locations

MW-87 Area Investigation
Phase 2 Data Report

Defense Depot
Memphis, Tennessee

MW-176
SB-03
SB-04
SB-05
SB-02/GW-02
SB-01
MW-87
SB-06
SB-10/GW-10
VMP-87-10S
VMP-87-10D
SB-09
SB-08
VMP-87-07S
SB-07
VMP-87-07D
SB-12
SB-14
VMP-87-14S
SB-15
VMP-87-15D
VMP-87-11S
SB-11
SB-13
MW-175
VMP-87-13D
MW-06
SB-16
VP-07A
VP-07B
SVE-F-W
SVE-F
VMP-87-17D
VMP-87-17S
VP-08A
SVE-F-E
VP-08B
MW-187
237
233

Legend

- Proposed Shallow VMP
- Proposed Deep VMP
- Phase 2 Soil Borings
- Phase 1 Soil Borings
- Fluvial Well, Background
- Fluvial Well, DF West
- Groundwater Grab Sample
- Abandoned Wells
- SVE
- VMP
- Potentiometric surface of the Fluvial Aquifer
- Original Dunn Field Boundary
- Loess Excavation Areas
- In Situ Thermal Desorption Treatment Areas
- Fluvial SVE Well
  60-foot radius of influence

N
W E
S

0 25 50
Feet

Projection: NAD 1927 StatePlane Tennessee
Units: Feet, Elevation Units: Feet, NAVD88

Date: 6/25/2020
Edition: Rev 0

Path: W:\MW87\01_Phase 2 Sample Locations.mxd

HISTORICAL CVOC RESULTS
MW-87 AREA INVESTIGATION
Defense Depot Memphis, Tennessee

MW-06 Recent

Primary CVOCs	Well ID Sample	MCL	TC	MW-06 4/12/2013	MW-06 4/25/2014	MW-06 4/10/2015	MW-06 4/25/2016	MW-06 4/22/2017	MW-06 10/6/2017	MW-06 4/7/2018	MW-06 10/5/2018	MW-06 4/6/2019	MW-06 10/13/2019	MW-06 5/19/2020
1,1,2,2-Tetrachloroethane	µg/L	-	2.2	<0.5	0.201 J	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.19	**71.5**
1,1,2-Trichloroethane	µg/L	5	1.9	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.375 J	**8.29 J**
1,1-Dichloroethene	µg/L	7	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2
Carbon tetrachloride	µg/L	5	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	80	12	2.21	4.2	11	7.39	15.3	8.03	7.16	7.1	7.19	9.92	**34.9**
cis-1,2-Dichloroethene	µg/L	70	35	<1	0.983 J	12.8	3.15 J	3.4	2.08	1.7	1.45	1.28	1.52	4.76
Tetrachloroethene	µg/L	5	2.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	5	0.707 J	0.929 J	2.59	1.02	0.876 J	0.375 J	0.468 J	0.299 J	0.34 J	0.891 J	**8.09**
Vinyl chloride	µg/L	2	-	<1	<1	<1	<1	<1 U	<1	<1	<1	<1	<1	<1

NOTES:
--: not analyzed
ug/L: micrograms per liter
LOQ: limit of quantitation
MCL: maximum contaminant level
TC: target concentration
ND: Not Detected, LOQ unavailable

HISTORICAL CVOC RESULTS
MW-87 AREA INVESTIGATION
Defense Depot Memphis, Tennessee

MW-87 Recent

Primary CVOCs	Well ID Sample	MCL	TC	MW-87 4/12/2013	MW-87 4/25/2014	MW-87 4/11/2015	MW-87 4/24/2016	MW-87 4/22/2017	MW-87 4/7/2018	MW-87 10/5/2018	MW-87 4/6/2019	MW-87 10/13/2019	MW-87 5/19/2020
1,1,2,2-Tetrachloroethane	µg/L	-	2.2	<0.5	<0.5	0.904	1.91	1.18	**4**	**3.75**	0.589	<0.5 J	<0.8
1,1,2-Trichloroethane	µg/L	5	1.9	<1	<1	0.578 J	1.19	1.55	**4.33**	**6.4**	1.73	<1 J	<1
1,1-Dichloroethene	µg/L	7	7	<1	<1	<1	<1	<1	<1	<1	<1	<1 J	<2
Carbon tetrachloride	µg/L	5	3	<1	<1	<1	<1	<1	<1	<1	<1	<1 J	<1
Chloroform	µg/L	80	12	0.254 J	**19.3**	**63.1**	**59.8**	**100**	**97.9**	**125**	**93.4**	**66.6 J**	5.32
cis-1,2-Dichloroethene	µg/L	70	35	0.32 J	2.01	8.82	5.81	7.57	8.28	11.8	6.67	4.14 J	<1
Tetrachloroethene	µg/L	5	2.5	<1	0.273 J	0.358 J	0.421 J	0.463 J	0.325 J	0.274 J	<1	0.323 J	0.25 J
trans-1,2-Dichloroethene	µg/L	100	50	<1	<1	<1	<1	0.293 J	<1	0.365 J	<1	<1 J	<1
Trichloroethene	µg/L	5	5	<1	2.74	4.16	**7.04**	**7.32**	**7.2**	**11.9**	**8.79**	**5.88 J**	0.72
Vinyl chloride	µg/L	2	-	<1	<1	<1	<1	<1	<1	<1	<1	<1 J	<1

NOTES:
--: not analyzed
ug/L: micrograms per liter
LOQ: limit of quantitation
MCL: maximum contaminant level
TC: target concentration
ND: Not Detected, LOQ unavailable