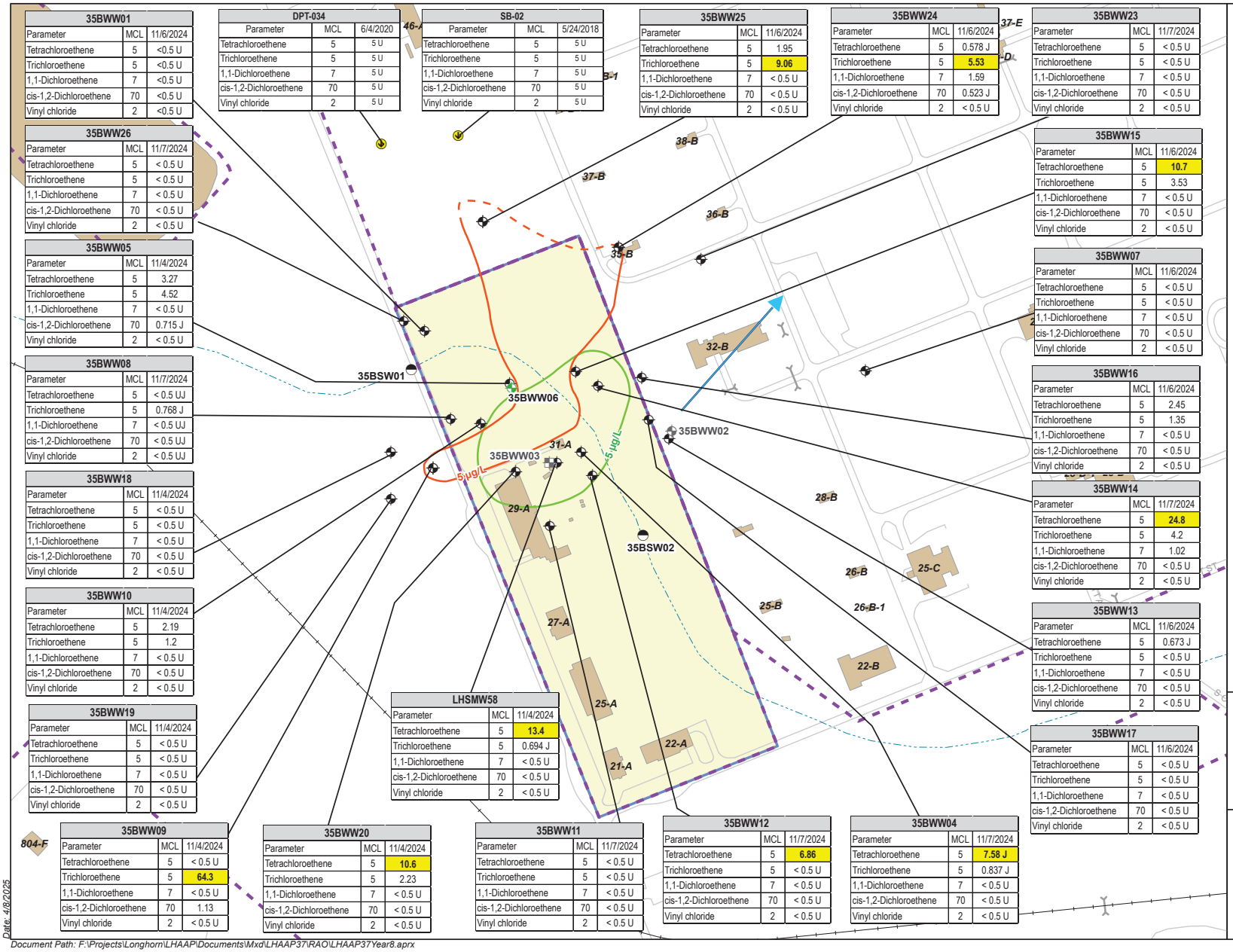

35BWW01		
Parameter	MCL	11/6/2024
Tetrachloroethene	5	<0.5 U
Trichloroethene	5	<0.5 U
1,1-Dichloroethene	7	<0.5 U
cis-1,2-Dichloroethene	70	<0.5 U
Vinyl chloride	2	<0.5 U

DPT-034		
Parameter	MCL	6/4/2020
Tetrachloroethene	5	5 U
Trichloroethene	5	5 U
1,1-Dichloroethene	7	5 U
cis-1,2-Dichloroethene	70	5 U
Vinyl chloride	2	5 U

SB-02		
Parameter	MCL	5/24/2018
Tetrachloroethene	5	5 U
Trichloroethene	5	5 U
1,1-Dichloroethene	7	5 U
cis-1,2-Dichloroethene	70	5 U
Vinyl chloride	2	5 U

35BWW25		
Parameter	MCL	11/6/2024
Tetrachloroethene	5	1.95
Trichloroethene	5	9.06
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW24		
Parameter	MCL	11/6/2024
Tetrachloroethene	5	0.578 J
Trichloroethene	5	5.53
1,1-Dichloroethene	7	1.59
cis-1,2-Dichloroethene	70	0.523 J
Vinyl chloride	2	< 0.5 U

35BWW23		
Parameter	MCL	11/7/2024
Tetrachloroethene	5	< 0.5 U
Trichloroethene	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW26		
Parameter	MCL	11/7/2024
Tetrachloroethene	5	< 0.5 U
Trichloroethene	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW15		
Parameter	MCL	11/6/2024
Tetrachloroethene	5	10.7
Trichloroethene	5	3.53
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW05		
Parameter	MCL	11/4/2024
Tetrachloroethene	5	3.27
Trichloroethene	5	4.52
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	0.715 J
Vinyl chloride	2	< 0.5 U

35BWW07		
Parameter	MCL	11/6/2024
Tetrachloroethene	5	< 0.5 U
Trichloroethene	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW08		
Parameter	MCL	11/7/2024
Tetrachloroethene	5	< 0.5 UJ
Trichloroethene	5	0.768 J
1,1-Dichloroethene	7	< 0.5 UJ
cis-1,2-Dichloroethene	70	< 0.5 UJ
Vinyl chloride	2	< 0.5 UJ

35BWW16		
Parameter	MCL	11/6/2024
Tetrachloroethene	5	2.45
Trichloroethene	5	1.35
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW18		
Parameter	MCL	11/4/2024
Tetrachloroethene	5	< 0.5 U
Trichloroethene	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW14		
Parameter	MCL	11/7/2024
Tetrachloroethene	5	24.8
Trichloroethene	5	4.2
1,1-Dichloroethene	7	1.02
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW10		
Parameter	MCL	11/4/2024
Tetrachloroethene	5	2.19
Trichloroethene	5	1.2
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW13		
Parameter	MCL	11/6/2024
Tetrachloroethene	5	0.673 J
Trichloroethene	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW19		
Parameter	MCL	11/4/2024
Tetrachloroethene	5	< 0.5 U
Trichloroethene	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

LHSMW58		
Parameter	MCL	11/4/2024
Tetrachloroethene	5	13.4
Trichloroethene	5	0.694 J
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW17		
Parameter	MCL	11/6/2024
Tetrachloroethene	5	< 0.5 U
Trichloroethene	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW09		
Parameter	MCL	11/4/2024
Tetrachloroethene	5	< 0.5 U
Trichloroethene	5	64.3
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	1.13
Vinyl chloride	2	< 0.5 U

35BWW20		
Parameter	MCL	11/4/2024
Tetrachloroethene	5	10.6
Trichloroethene	5	2.23
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW11		
Parameter	MCL	11/7/2024
Tetrachloroethene	5	< 0.5 U
Trichloroethene	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW12		
Parameter	MCL	11/7/2024
Tetrachloroethene	5	6.86
Trichloroethene	5	< 0.5 U
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

35BWW04		
Parameter	MCL	11/7/2024
Tetrachloroethene	5	7.58 J
Trichloroethene	5	0.837 J
1,1-Dichloroethene	7	< 0.5 U
cis-1,2-Dichloroethene	70	< 0.5 U
Vinyl chloride	2	< 0.5 U

- Shallow Zone Monitoring Well
- Shallow Zone Monitoring Well - Not Sampled
- Lower Shallow Zone Monitoring Well - Not Sampled
- Intermediate Zone Monitoring Well - Not Sampled
- Surface Water Location
- 2018/2020 LHAAP-47 DPT Location
- Groundwater Flow Direction
- Tetrachloroethene Contour
- Trichloroethene Contour (*Dashed where inferred*)
- Former Railroad Location
- Land Use Control Boundary
- Goose Prairie Creek
- Roads
- Buildings
- LHAAP-35B(37) Site Boundary

Note:
1. RA-O = Remedial Action Operations
2. MCL = Maximum Contaminant Level
3. J = estimated level
4. U = below detection limit
5. < = Less than
6. DPT = Direct Push Technology
7. Yellow highlighted concentrations exceed MCL.
8. Source of the LHAAP-47 groundwater data: <ITA>HDR, Inc. 2021. Final LHAAP-47 Post Screening Investigation Addendum No. 2 Report, LHAAP-47, Plant 3 Area, Solid Rocket Motor Fuel Production, Longhorn Army Ammunition Plant, Karnack, Texas. February.</ITA>

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U.S. ARMY CORP OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

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Figure 2-4
Groundwater Results
November 2024
2024 Annual RA-O Report
LHAAP-35B(37)
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 4/8/2025

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP37\RAO\LHAAP37Year8.aprx