

COMMUNITY ADVISORY GROUP UPDATE

700S 1600E PCE PLUME SUPERFUND SITE

23 OCTOBER 2025

VETERANS HEALTH ADMINISTRATION – SLC VA MEDICAL CENTER

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Pre-Decisional

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PCEPLUME.ORG



AGENDA

- **Site Overview & Progress Update**
 - Feasibility Study
 - Treatment Evaluations
 - Estimated Remedial Timeframes and Costs
 - Next Steps
- **PFAS Update**
 - Sample Results
 - Next Steps
- **040H – Vapor Mitigation Update**

INTRODUCTION

- The SLC VAMC operated a dry-cleaning machine that used tetrachloroethylene (abbreviated as PCE) in the late 1970s and early 1980s.
- During this period, dry-cleaning residuals were likely disposed of into the sanitary sewer system which leaked into the ground.
- PCE-contaminated groundwater is present beneath the VAMC property and in areas downgradient, extending to approximately 1100 East.

PCE

- PCE is a colorless liquid used for dry cleaning fabrics and degreasing metals.
- Long-term exposure to PCE can impair cognitive and motor behavioral performance; can adversely affect kidney, liver, and immune systems; likely carcinogenic to humans (bladder cancer, non-Hodgkin lymphoma, and multiple myeloma).

REMEDIAL INVESTIGATION OVERVIEW

CERCLA/SUPERFUND Process



The site **Remedial Investigation** was conducted from 2015-2022. It involved:

- collecting over 900 environmental samples to evaluate the extent of PCE, and
- evaluating the potential risks to human health.

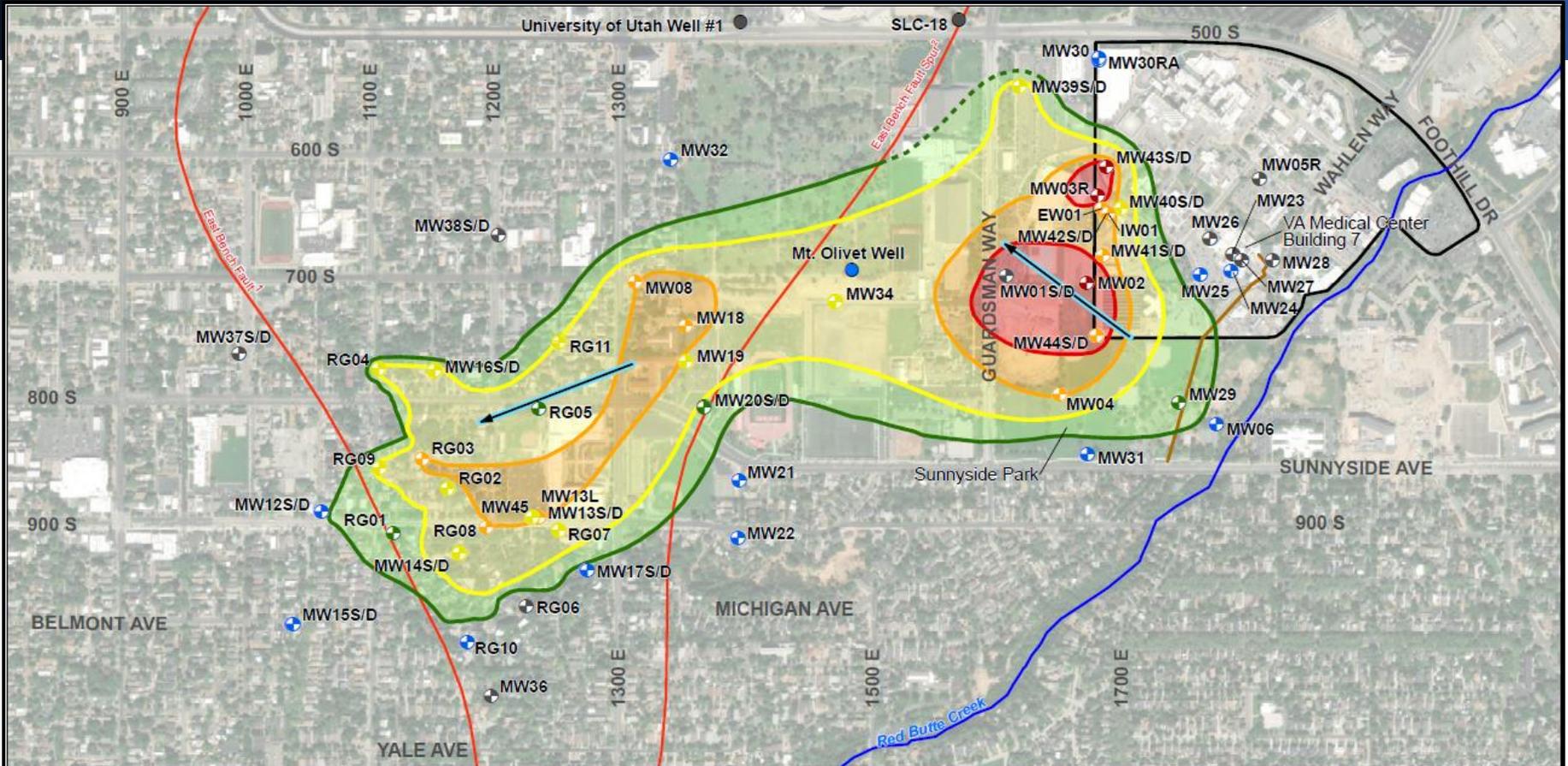
The *Remedial Investigation Report (RI)* was finalized in Sep 2022 and is available at www.PCEPlume.org in the Administrative Record under the Resources tab.

FEASIBILITY STUDY (FS)

Feasibility Study: The process of developing, screening, and evaluating remedial action (cleanup) alternatives that will effectively reduce risks to human health and the environment in a reasonable timeframe

- Study focused on groundwater treatment technologies based on the risks identified in the RI
 - Indoor Air Vapor Intrusion (*inhalation*) – vapor intrusion from soil gas or groundwater into structures
 - Groundwater ingestion – potential future use of untreated groundwater for domestic purposes

PCE PLUME MAP (2022-2024 DATA)



- Legend**
- Monitoring Well
 - Production/Irrigation Well
 - Red Butte Creek
 - Sewer Line
 - Fault Line
 - Groundwater Flow Direction
 - George E. Wahlen Veterans Affairs Medical Center Boundary

- PCE Concentration**
- = Non-detect
 - = < 5 µg/L
 - = 5 - 10 µg/L
 - = 10 - 50 µg/L
 - = 50 - 100 µg/L
 - = > 100 µg/L

- PCE Isoconcentration Contours**
- 5 µg/L
 - 10 µg/L
 - 50 µg/L
 - 100 µg/L
 - Dashed Line - Inferred Extent

Notes:

- Plume contours were developed using Leapfrog 3-dimensional visualization software to interpolate the September and October 2024 data from each sampling location. The contours represent a top-down view of the 3-dimensional extent of the plume as interpreted in the Leapfrog software.
- The color coded PCE concentration at each location is based on the September/October 2024 results.

¹ Davis, F.D. 1983. Geologic Map of the Central Wasatch Front, Utah. Utah Geological and Mineral Survey, Map 54-A - Wasatch Front Series, May.

² Personius, S.F. and Scott, W.E. 2009. Surficial Geologic Map of the Salt Lake City Segment and Parts of Adjacent Segments of the Wasatch Fault Zone, Davis, Salt Lake, and Utah Counties, Utah

PCE Concentrations in Groundwater Overview

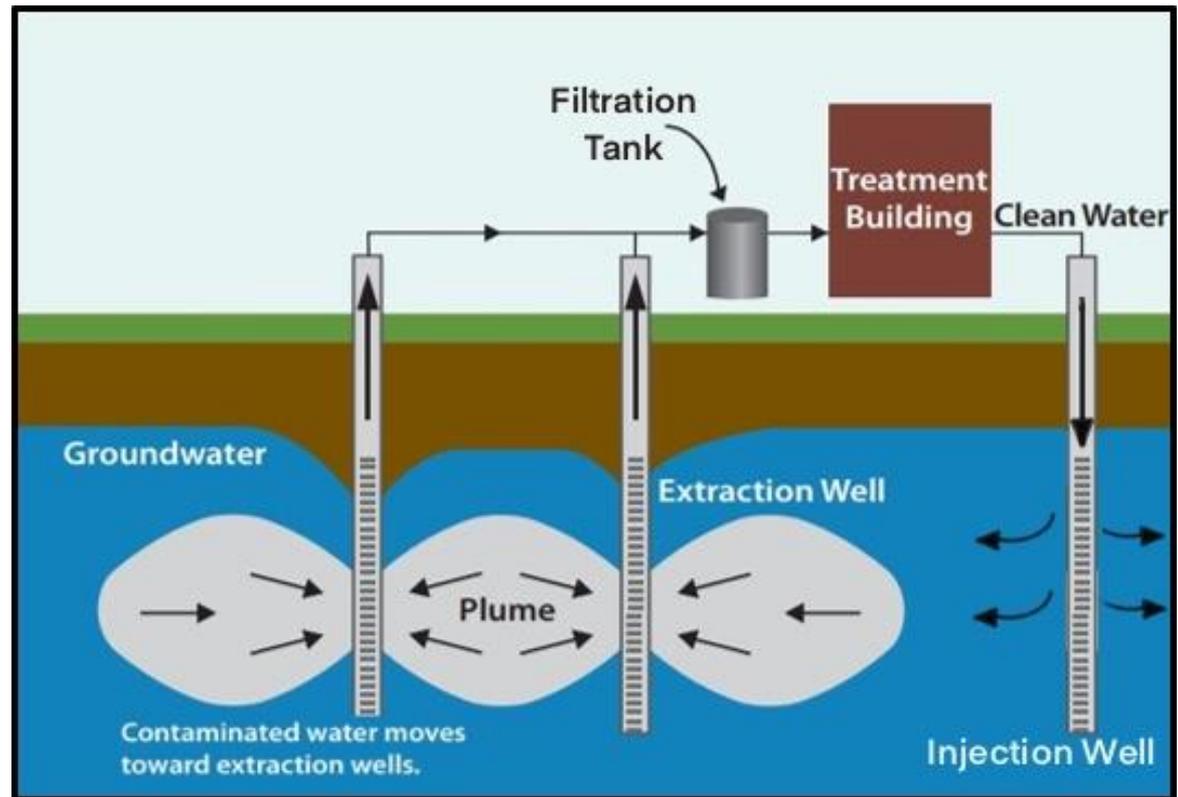
TREATMENT OPTIONS

- Groundwater Extraction and Ex Situ Treatment
- In Situ Treatment
- In Situ Treatment with Groundwater Recirculation
- Monitored Natural Attenuation



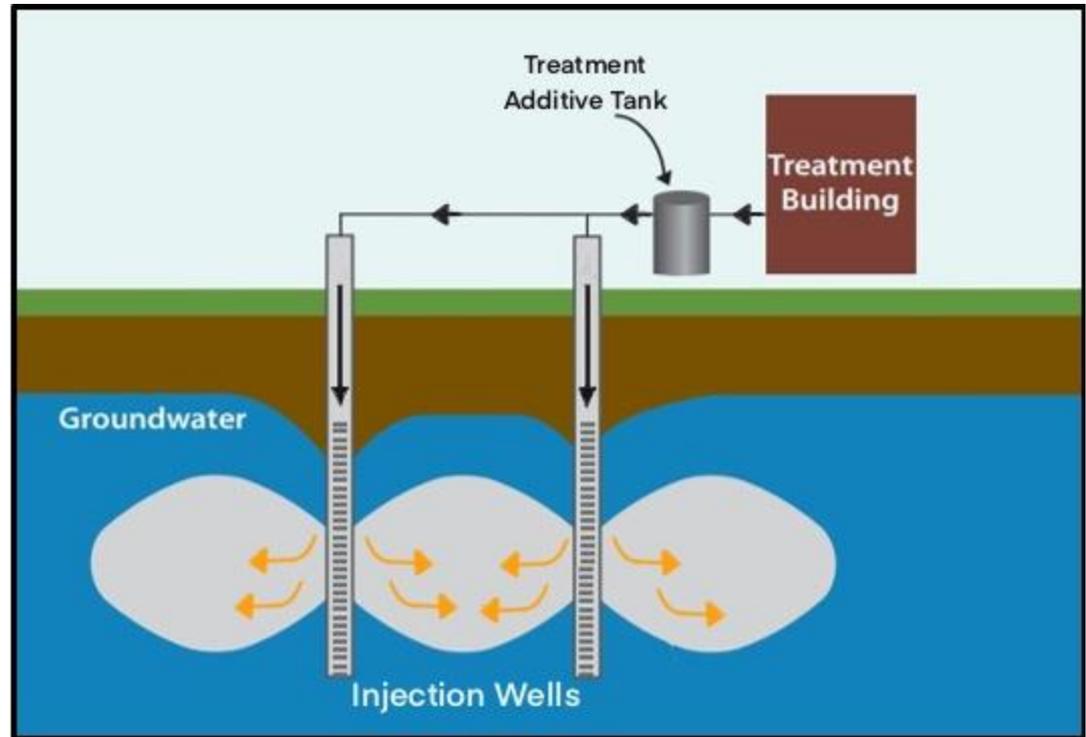
GROUNDWATER EXTRACTION WITH EX SITU TREATMENT

- Groundwater is pumped from wells to an aboveground treatment building
- Prevents contaminants from spreading by pumping water toward the wells
- Clean water is injected back into the ground



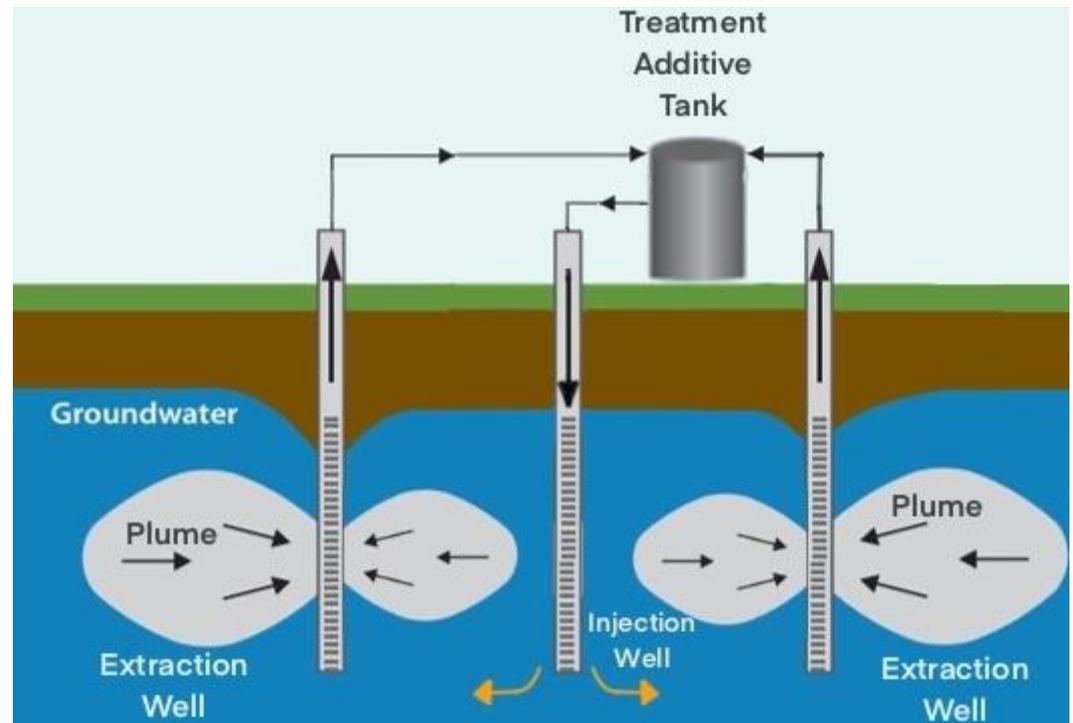
IN SITU TREATMENT

- In situ treatment is cleaning up contamination in place, without needing to move it.
- Treatment can be designed as a barrier or as a grid
- **Bioremediation:** Add amendments to stimulate microbial activity



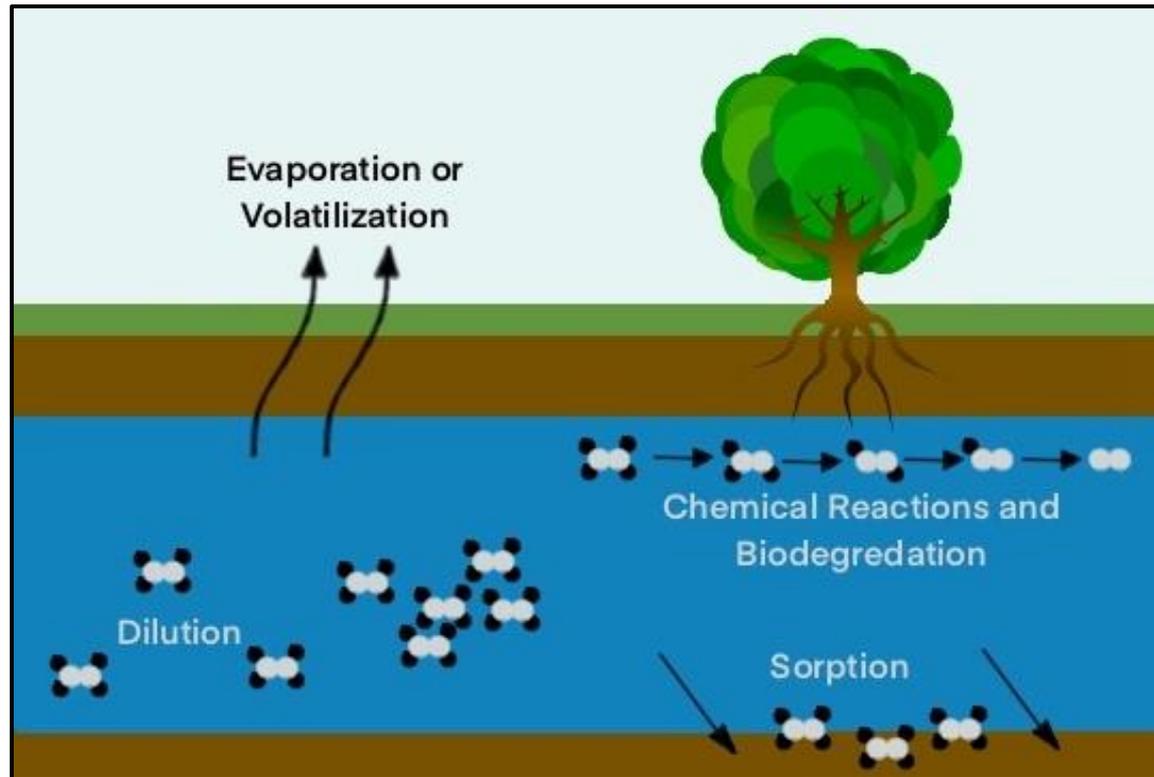
IN SITU TREATMENT WITH GROUNDWATER RECIRCULATION

- In situ treatment with the recirculation of amended groundwater to enhance degradation of contaminants
- Designed to maximize contact with additive and contaminant



MONITORED NATURAL ATTENUATION

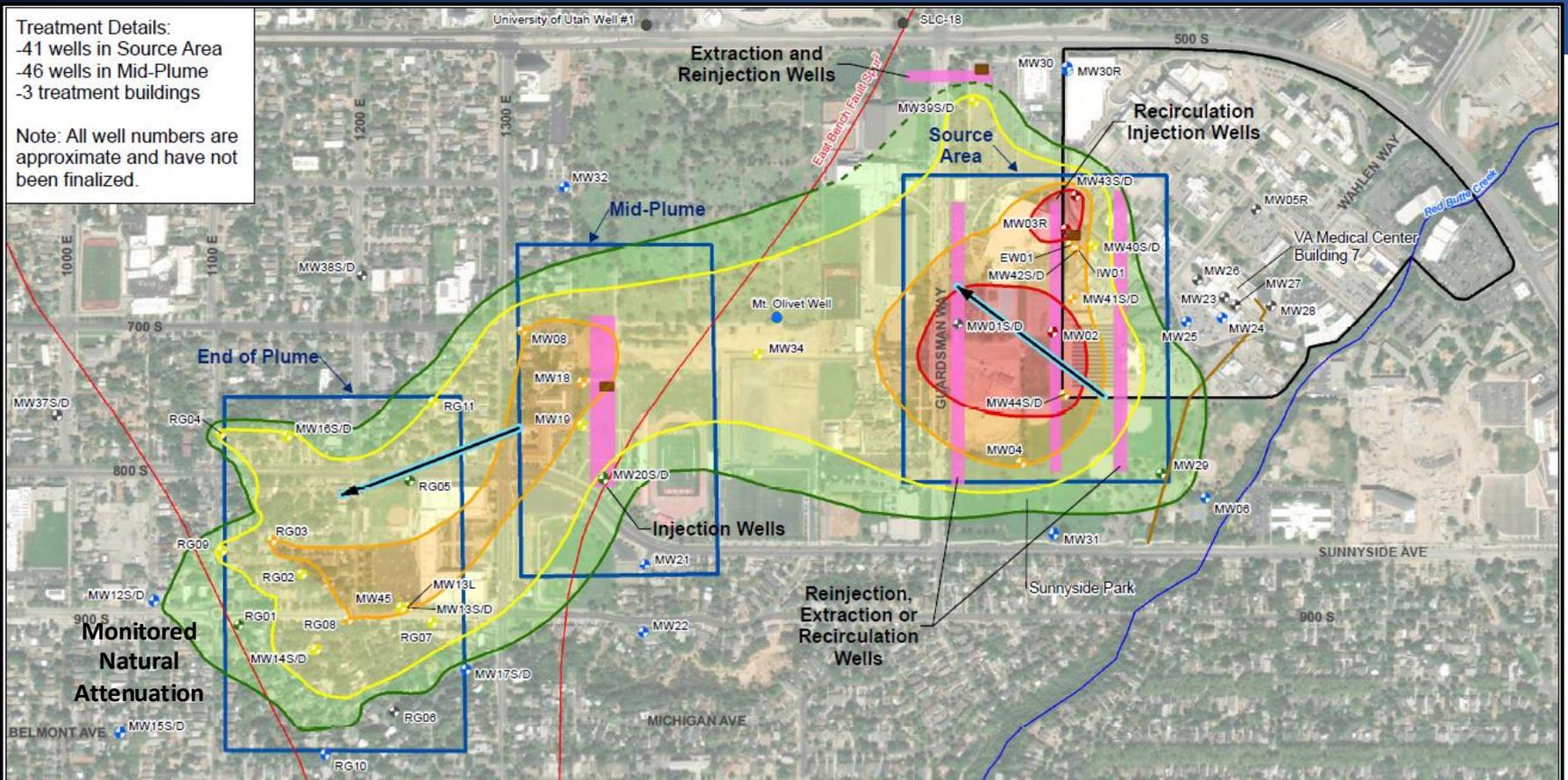
- Natural attenuation relies on natural processes to decrease or “attenuate” concentrations of contaminants in groundwater
- Processes include degradation, chemical reactions, volatilization, dilution and sorption.
- Groundwater samples are collected to confirm contaminant concentrations are decreasing



TREATMENT LOCATIONS (PINK AREAS)

Treatment Details:
 -41 wells in Source Area
 -46 wells in Mid-Plume
 -3 treatment buildings

Note: All well numbers are approximate and have not been finalized.



- Legend**
- Monitoring Well
 - Production/Irrigation Well
 - Red Butte Creek
 - Sewer Line
 - Fault Line
 - Groundwater Flow Direction
 - Conceptual Remedial Components
 - Potential Remediation Building Location

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PCE = tetrachloroethene
 µg/L = micrograms per liter

Combination Treatment Option

700 South 1600 East PCE Plume Superfund Site Salt Lake City, Utah

CDM Smith

0 250 500 Feet

Pre-Decisional

Estimated Remediation Timeframes AND COSTS

Alternative 2: Groundwater Extraction and Ex Situ Treatment of Source Area and Mid-Plume, and MNA at End-of-Plume.

Timeframe: 30 years **Cost: \$37M**

Alternative 4: Groundwater Extraction and Ex Situ Treatment of Source Area; In Situ Treatment of Mid-Plume; and MNA at End-of Plume

Timeframe: 30 years **Cost: \$36M**

Alternative 5: Recirculation of Source Area; Groundwater Extraction and Ex Situ Treatment of Mid-Plume; and MNA at the End-of Plume

Timeframe: 14 years **Cost: \$61M**

Remedy Selection

Evaluation Criteria for Selection

- Overall Protection of Human Health and the Environment
 - Compliance with Other Regulations and Requirements
 - Long-term Effectiveness and Permanence
 - Reduction of Toxicity, Mobility, or Volume
 - Short-term Effectiveness
 - Implementability
 - Cost
 - EPA and UDEQ Acceptance
 - Community Acceptance
- Threshold Criteria**
- Balancing Criteria**
- Modifying Criteria**
-
- The diagram illustrates the evaluation criteria for remedy selection, categorized into three groups. The 'Threshold Criteria' group includes 'Overall Protection of Human Health and the Environment' and 'Compliance with Other Regulations and Requirements'. The 'Balancing Criteria' group includes 'Long-term Effectiveness and Permanence', 'Reduction of Toxicity, Mobility, or Volume', 'Short-term Effectiveness', 'Implementability', and 'Cost'. The 'Modifying Criteria' group includes 'EPA and UDEQ Acceptance' and 'Community Acceptance'. Each group is indicated by a pink bracket on the right side of the list.

PCE Next Steps

Feb
2026

- **Feasibility Study Report** – address EPA/DERR comments and submit final report.

Oct
2026

- **Proposed Plan** – developed for the community to review the treatment alternatives considered and the VA's preferred approach. ***30-day Public Comment Period***

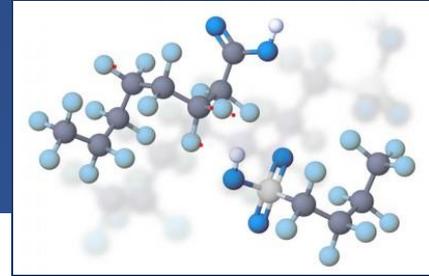
Aug
2027

- **Record of Decision** – Details the selected remedy for the site. Addresses comments received from the public on the Proposed Plan.

2028

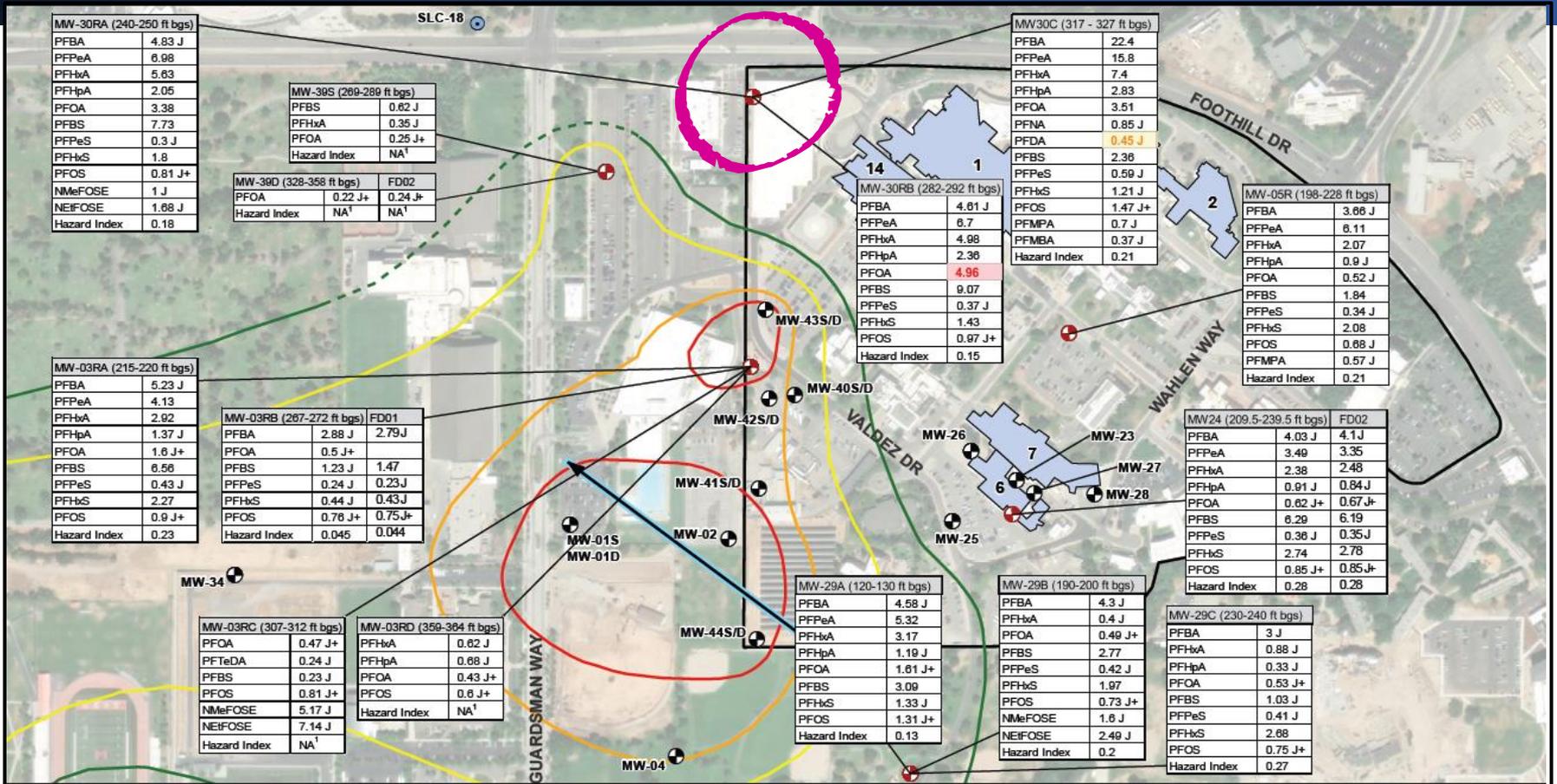
- **Design and Construction of Remedy**

PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) UPDATE



- **PFAS** – Are manufactured chemicals widely used in industry and consumer products, including healthcare equipment and devices, pharmaceuticals, cleaning products and stain- and water-resistant treated materials.
- Long-term exposure to PFAS can decrease fertility, cause developmental delays in children, increase risk of cancers (prostate, kidney, testicular), impact immune system, and cholesterol levels
- SLC VA Conducted a **Preliminary Assessment/Site Inspection (PA/SI)**
 - PA/SI – researched PFAS use at medical facility and identified 5 locations to collect groundwater samples
 - Twelve groundwater samples were collected in March 2025

PFAS RESULTS



Legend

- Monitoring Well
- PFAS Sampling Location
- Drinking Water Supply Well
- Groundwater Flow Direction
- Buildings
- George E. Wahlen Veterans Affairs Medical Center Boundary

PCE Isoconcentration Contours

- 5 µg/L
- 10 µg/L
- 50 µg/L
- 100 µg/L

Dashed Line - Inferred Extent

The MCL for PFOS and PFOA is 4.0 ng/L
 The MCL for PFHxS and PFNA is 10 ng/L
 The MCL for the Hazard Index value is 1.0
 for PFBS, PFHxS, PFNA, and HFPO-DA

Notes:

- XX - exceeds the maximum contaminant limit (MCL)
- XX - exceeds the regional screening level (RSL)
- The Hazard Index Value is a calculation that is unitless, all other values are in ng/L
- J = Result is estimated
- J+ = Result is estimated biased high
- NA = Not Applicable
- bgs = below ground surface
- PFHxA = Perfluorohexanoate
- PFHpA = Perfluorheptanoate
- PFOA = Perfluorooctanoate

- PFOS = Perfluorooctanesulfonate
- PFBA = Perfluorobutanoate
- PFPeA = Perfluoropentanoate
- PFBS = Perfluorobutanesulfonate
- PFPeS = Perfluoropentanesulfonate
- PFHxS = Perfluorohexanesulfonate
- PFNA = Perfluorononanoate
- PFDA = Perfluorodecanoate
- PFMPA = Perfluoro-3-methoxybutanoic acid
- PFMBA = Perfluoro-4-methoxybutanoic acid
- NMeFOSE = N-Methylperfluorooctanesulfonamidoethanol
- NEI FOSE = N-Ethylperfluorooctanesulfonamidoethanol

¹ HI values could not be calculated because two or more of the four analytes were not detected.



PFAS Results in Groundwater 2025

700 South 1600 East PCE Plume Salt Lake City, Utah

PFAS NEXT STEPS

- Based on sample results, no further PFAS remedial actions are recommended at this time.
- A *PFAS Site Inspection* report documenting the sampling and the decision for no further action is being developed and will be posted to the Administrative Record in December 2025.
 - The 700 S 1600 E PCE Plume Administrative Record is located at: PCEPlume.org/Resources

040H – VAPOR MITIGATION HOUSE UPDATE

- Indoor air samples indicated a remedial action was necessary at one home
- Four portable air filters were placed in the home (*temporary remedy*)
- Working with the Army Corp of Engineers to construct a permanent remedy
- Contract award planned for Nov 2025
- Construction Completed estimated by Jan 2026
- Government shutdown may impact schedule

NEXT MEETING AND QUESTIONS

Agenda items for next meeting?

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