

**LANGAN**

# MIPC Chelsea Facility Tank 708

Technical Presentation  
Response Action Program  
PADEP Order-12/23/2025

February 4, 2026



# Agenda

- Gasoline Release Basics
- Current Extent of Gasoline
- Off-Site Drinking Water Well Sampling
- Interim Remedial Response
- Progress to Date
- Summary of Findings & Path Forward

# Site Plan



Tank 700

Tank 708

Tank 701

Tank 709

Tank 702

Approx. 1,000'

Tank 710

Tank 703

Initial Discovery

Tank 711

Tank 704

Bethel Township  
Upper Chichester  
Township

Aston Township  
Upper Chichester  
Township

Aston Township  
Bethel Township

Chichester Ave

Cherry Tree Rd

# Gasoline Release Basics

# KEY CONCEPTS - Petroleum Release & Subsurface Behavior

## Gasoline or LNAPL – “Light Non-Aqueous Phase Liquid”

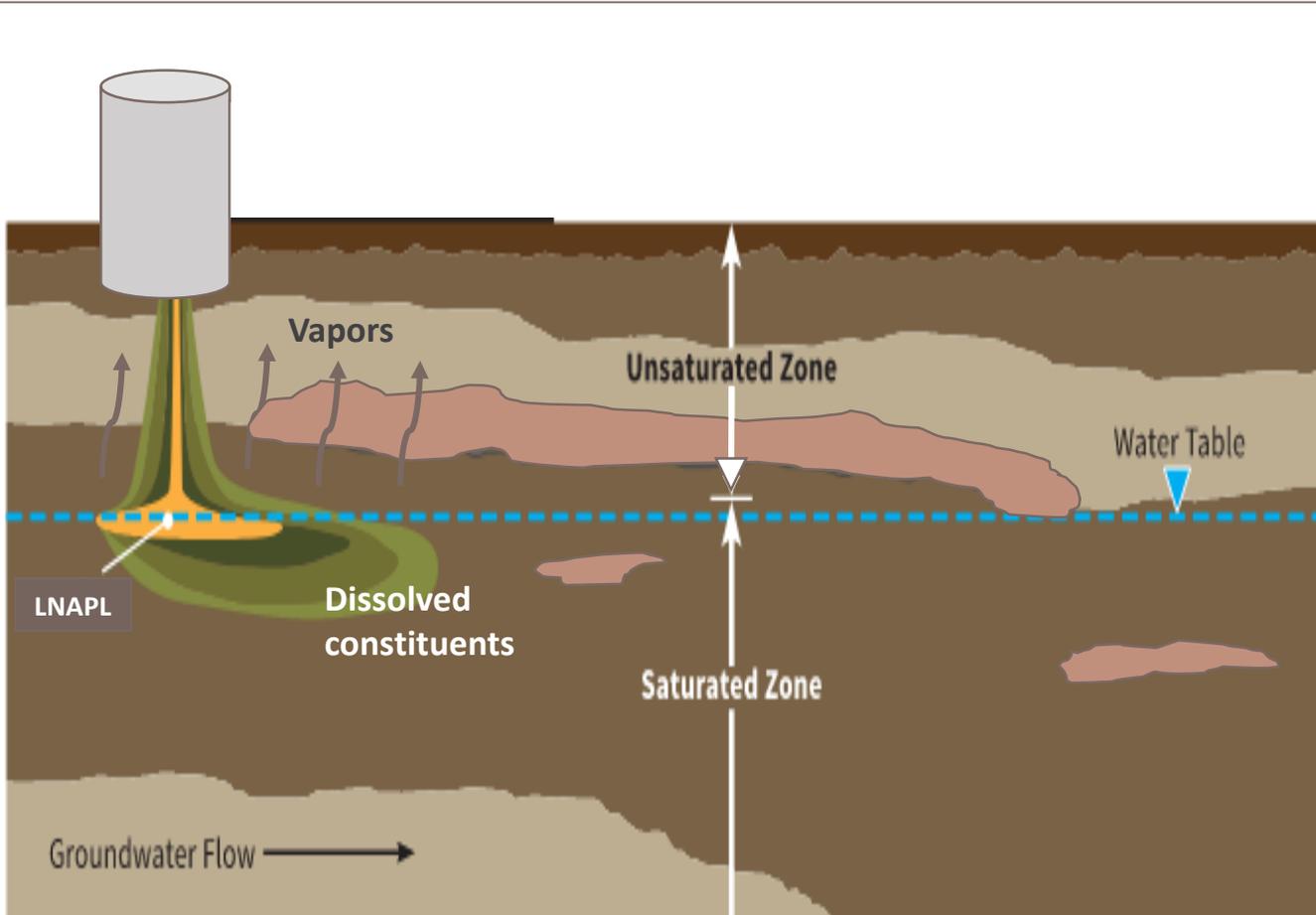
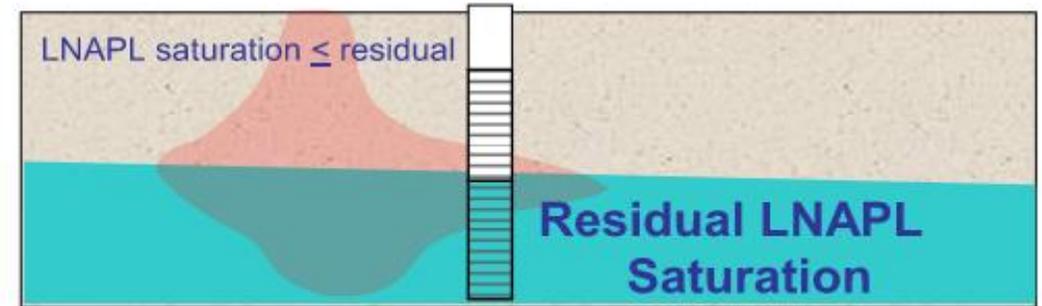
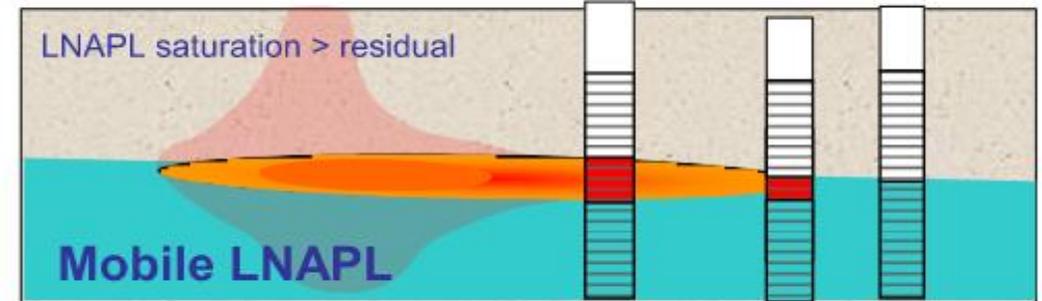
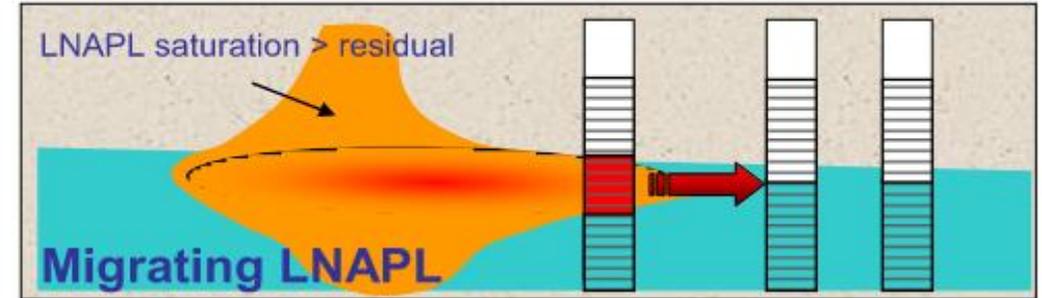


Image courtesy of Shell/Lorax Animated Information System



ITRC – Evaluating LNAPL Remedial Technologies for Achieving Project Goals

# Monitoring Wells

**Purpose:** Measure groundwater and for gasoline floating on the groundwater and dissolved in the groundwater

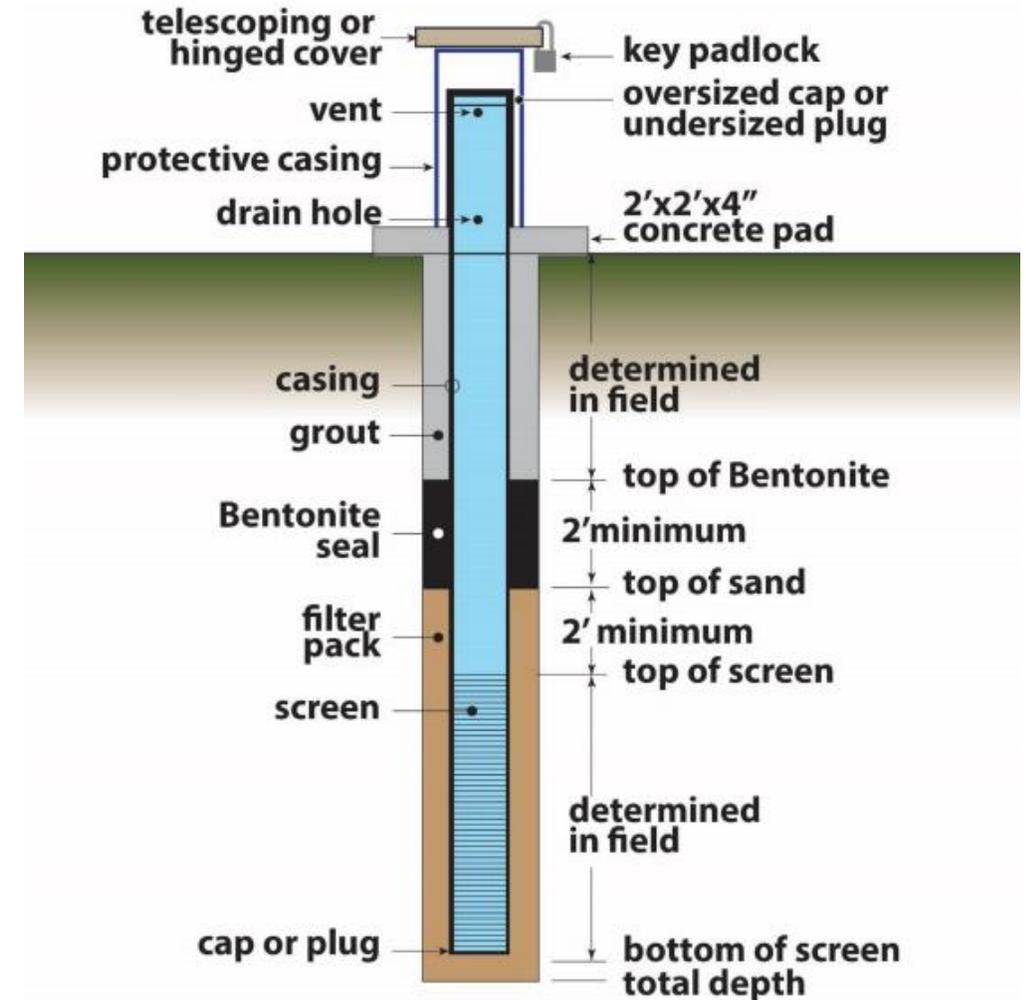
## Measurements:

- Groundwater elevation & flow direction
- Dissolved petroleum indicators
- Presence/absence of gasoline (also called free product or Light Non-Aqueous Phase Liquids-LNAPL)

## Installation principles:

- Screen set in target zone
- Filter pack around screen
- Seals to prevent vertical short-circuiting
- Protected surface completion

Figure A-2: Recommended Construction of a Single-Screened Well



# Gasoline Recoverability

Gasoline is lighter than water so it “floats” on water

Transmissivity Testing- Measures how easily floating gasoline can flow through soil/rock and be removed from the ground, representing the speed of movement and the viability of recovery

Well	Screening LNAPL Tn (ft <sup>2</sup> /day)	Recovery speed (“how fast can you get it out?”)	Subsurface movement (“how fast is it going underground?”)
MW-1	0.15–0.35 (best ~0.2)	Moderate mobility	Not a “fast-moving river.” Movement in soil/rock is heterogeneity-controlled and generally much slower than water flow.
MW-1A	0.05–0.20 (best ~0.1)	Lower mobility / slower rebound..	Slower local mobility and migration is rate-limited by material variability (fines, weathered bedrock structure) and capillary effects.
MW-9	0.12–0.35 (best ~0.2)	Moderate mobility.	Localized movement exists, but not “rapid sweeping.” Indicates connectivity to the well at the local scale; the broader subsurface rate depends on preferential pathways and will be evaluated with monitoring.

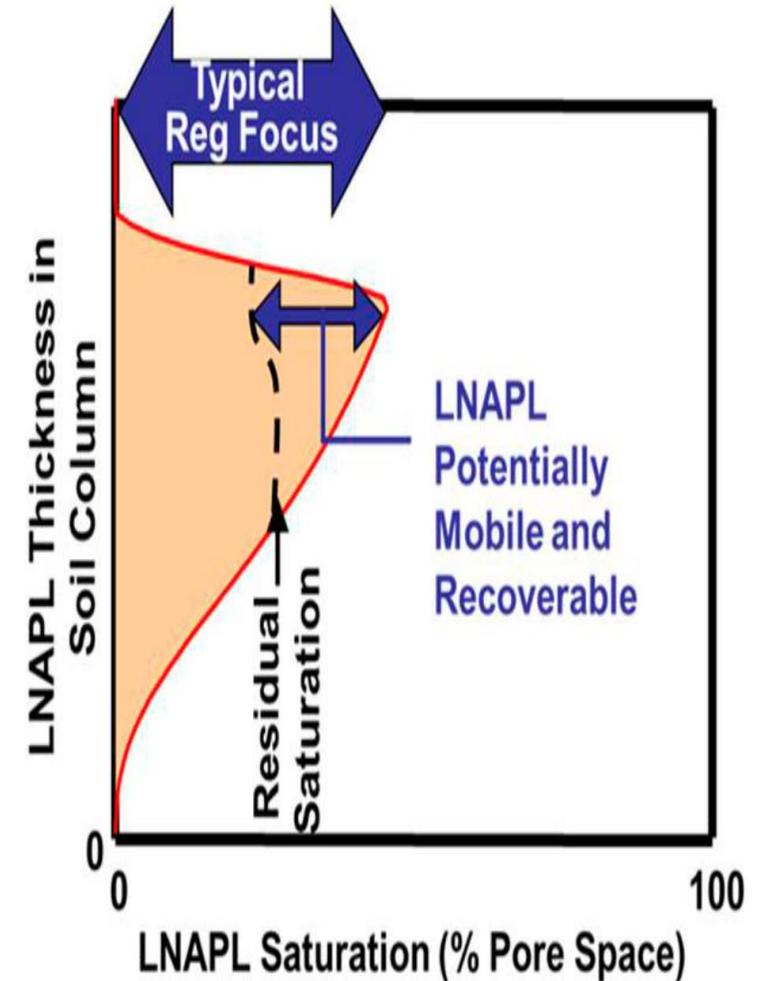


Figure 3-10. LNAPL mobility is the additional consideration due to exceeding residual saturation (courtesy of S. Garg 2017).

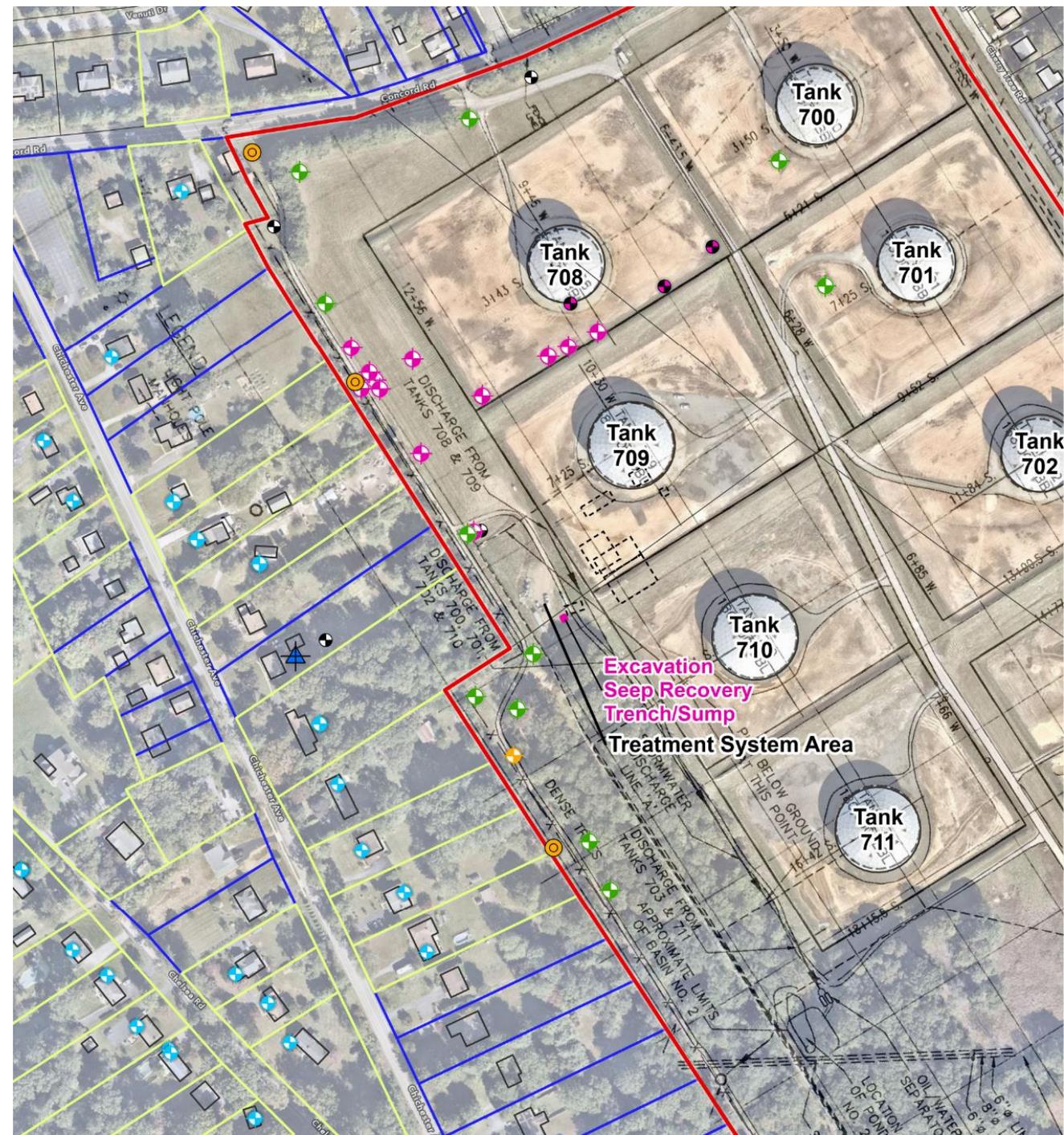
# Current Extent of Gasoline

# Extent of Gasoline

## Monitoring Wells (green & orange)

**Purpose: Measure groundwater and confirm gasoline boundaries**

- Groundwater elevation & flow direction
- Dissolved petroleum indicators
- Presence/absence of Gasoline
- Four drill rigs onsite

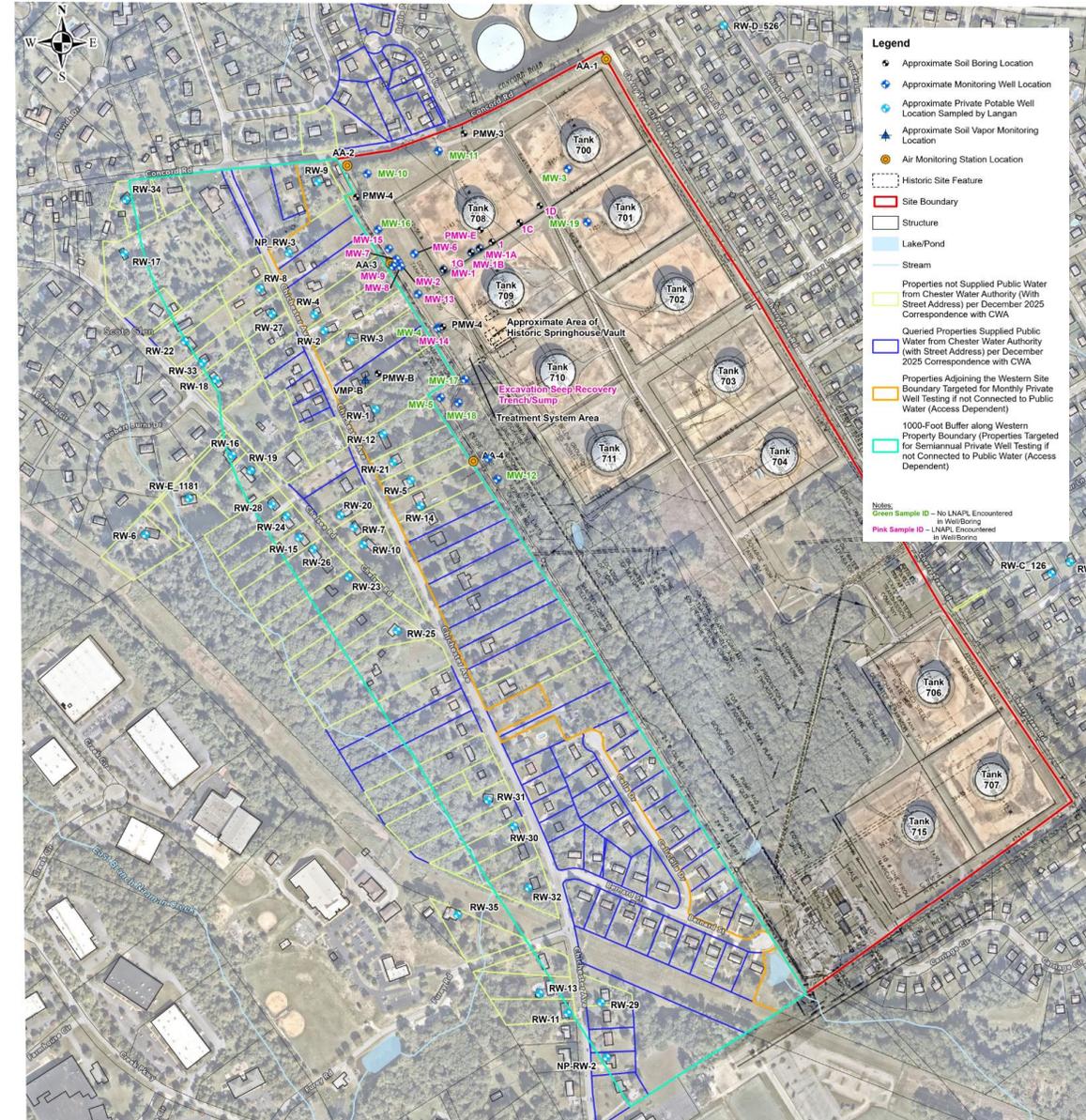


# Offsite Drinking Water Well Sampling

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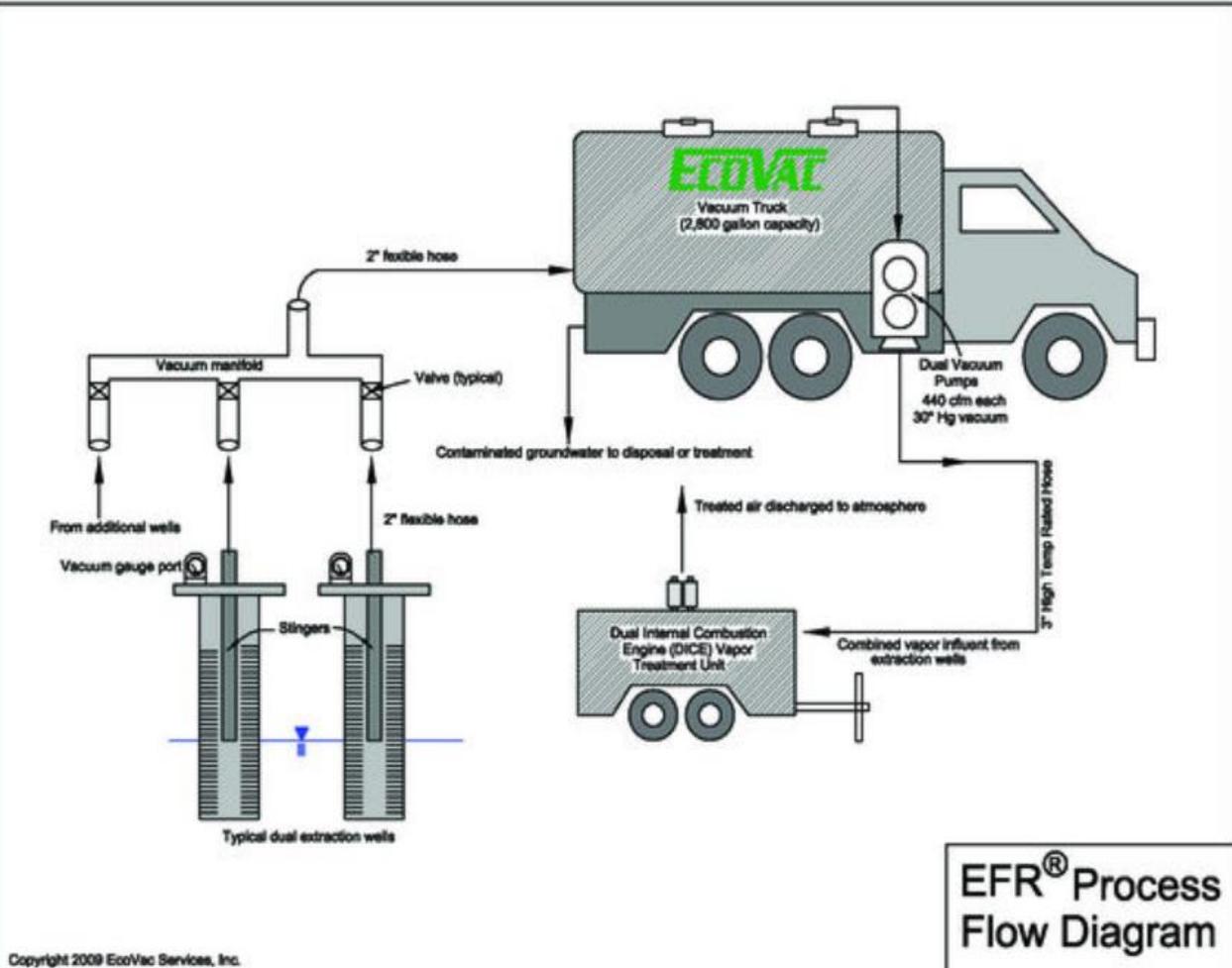
## By the Numbers:

- Area of Interest: 1,000 feet from western site boundary (teal boundary)
- # Developed Properties Not Connected to Public Water (CWA) within Area of Interest = **49**
  - Yellow border parcels
- # Private Wells within Area of Interest Sampled = **35**
  - + an additional 5 potable wells outside area of interest
  - + an additional 3 non-potable wells within area of interest (unused/irrigation)
  - Total Wells Sampled = 43
- # Wells with Exceedances of State or Federal Drinking Water Standards = **0**
- # Wells with non-detect petroleum VOC results = **41**
- # Wells with low-level detection of 1 or more VOC = **2**



# Interim Remedial Response

# Vacuum Enhance Fluids Recovery – Current Process



# Vacuum Enhance Fluids Recovery



# Interim Remedial Actions-Field Work

## Typical Activities

- Drill rig operating within a controlled work zone
- Well materials and protective surface completions
- Water/product handling in contained staging area, and use of vacuum truck
- Field screening instruments (vapor/odor checks)
- Trucks for materials and offsite disposal

## Controls that protect neighbors

- Ongoing air monitoring at source
- Fenceline air monitoring
- Secondary containment for fluids
  - Covered/controlled containers for recovered product
- Odor response protocol (stop/adjust)
- Dust/noise/traffic management
- Documented waste profiling and disposal
- Daily field oversight and reporting



# Gasoline Recovery: Temporary Wastewater Treatment Unit (WTU)

## Water Seep Treatment System

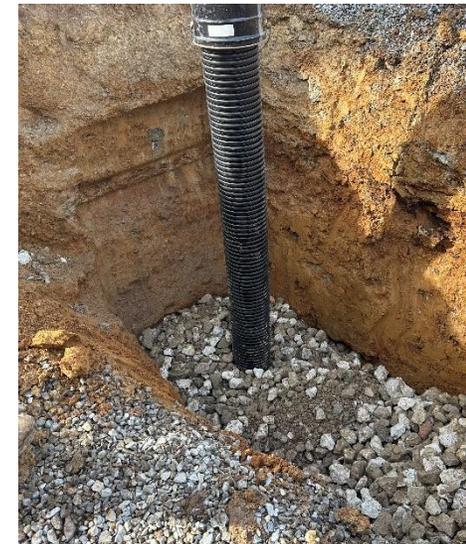
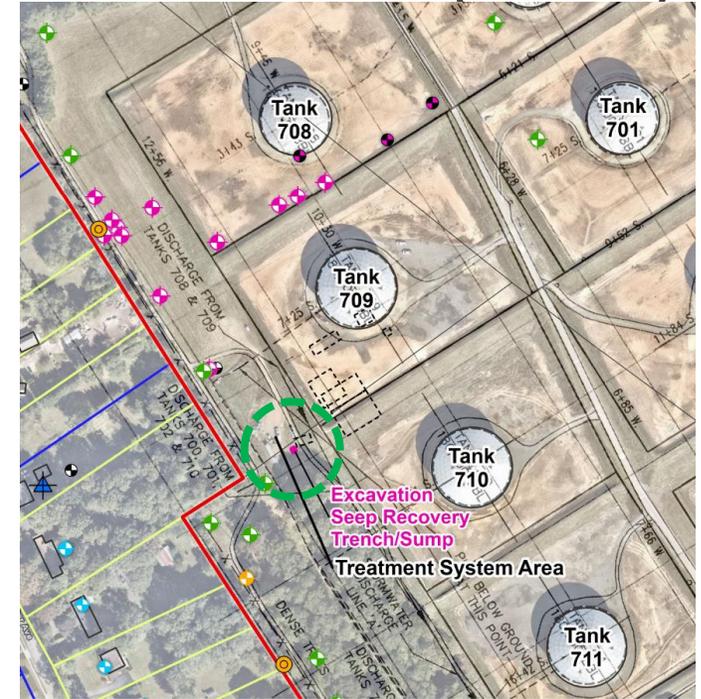
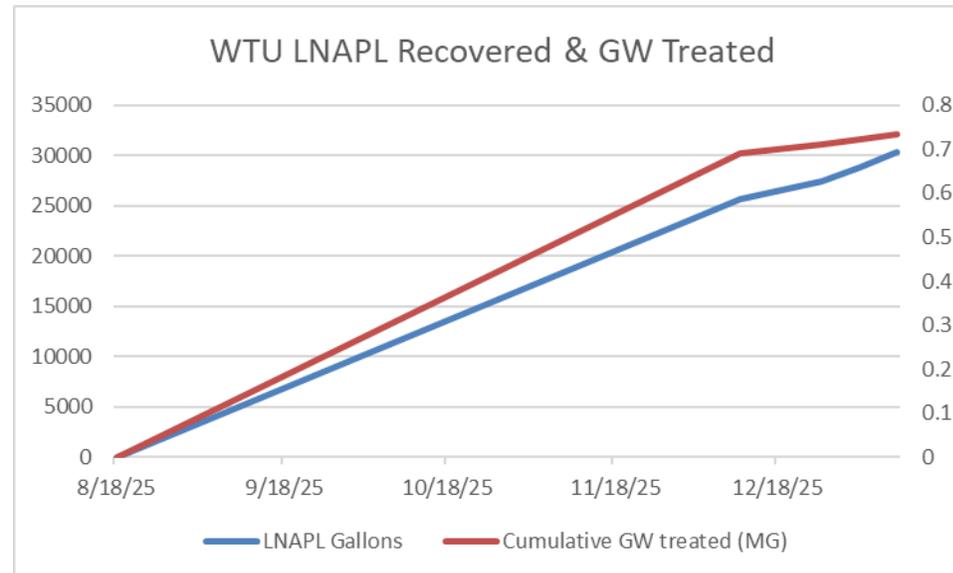
- Pumps
- Sedimentation Tanks
- Carbon Canisters

## Measurements (over time)

- Percent gasoline/ GW
- Recovery volumes & rate
- Operational uptime and treatment throughput

## Operation and Reporting

- Sample effluent per PADEP Permit
- Adjust equipment settings and rates
- Communicate progress to PADEP



Recovery is adaptive: measure → recover → evaluate → adjust

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TECHNICAL EXCELLENCE | PRACTICAL EXPERIENCE | CLIENT RESPONSIVENESS

# Focused Gasoline Recovery

## Plain-language summary

Focused removal of gasoline reduces the mass that can feed vapors and dissolved groundwater impacts. Recovery is evaluated by trends over time—not a single measurement. In-well gasoline assessment and pilot testing commenced on 12/8/2025, via Vacuum Enhanced Fluid Recovery (VEFR), and will continue as wells are installed

### Metrics:

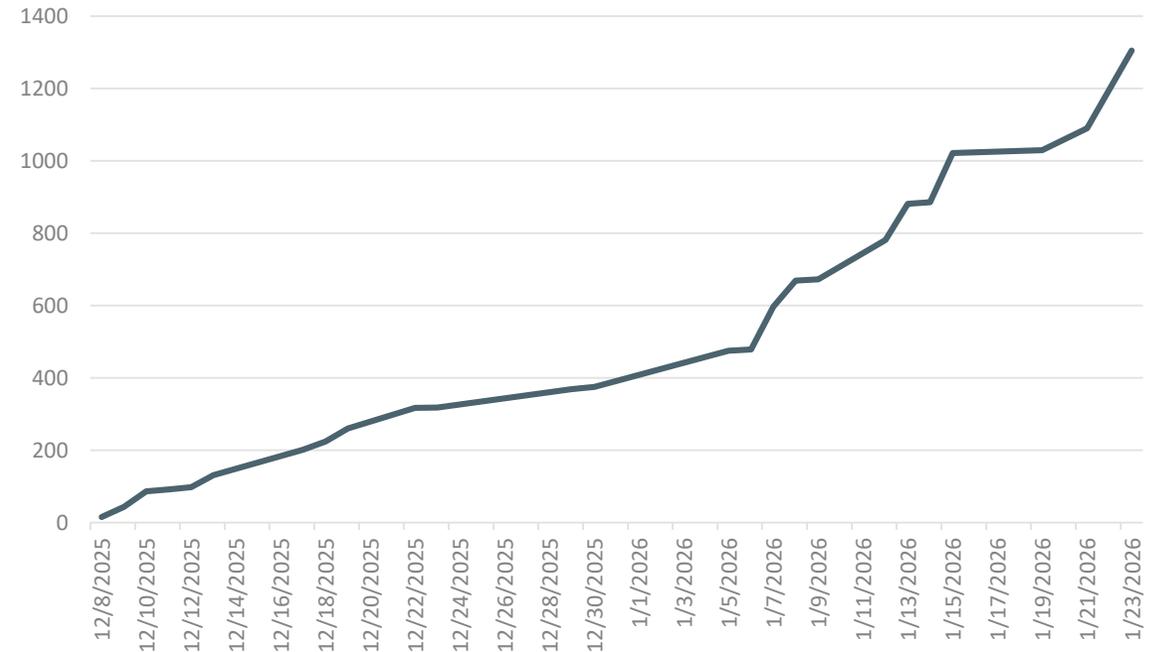
- Apparent gasoline thickness (and how it rebounds)
- Recovery volumes and rate of decline
- Gasoline occurrence across the well network
- Groundwater indicators downgradient
- Individual well performance/ extraction rates
- Operational uptime and treatment throughput

### Remediation Actions:

- Confirm where mobile gasoline exists (extraction and transmissivity (Tn) testing)
- Prioritize wells with highest recovery potential
- Adjust equipment settings and rates
- Decide when to shift from “bulk removal” to “polishing”

Recovery is adaptive: measure → recover → evaluate → adjust

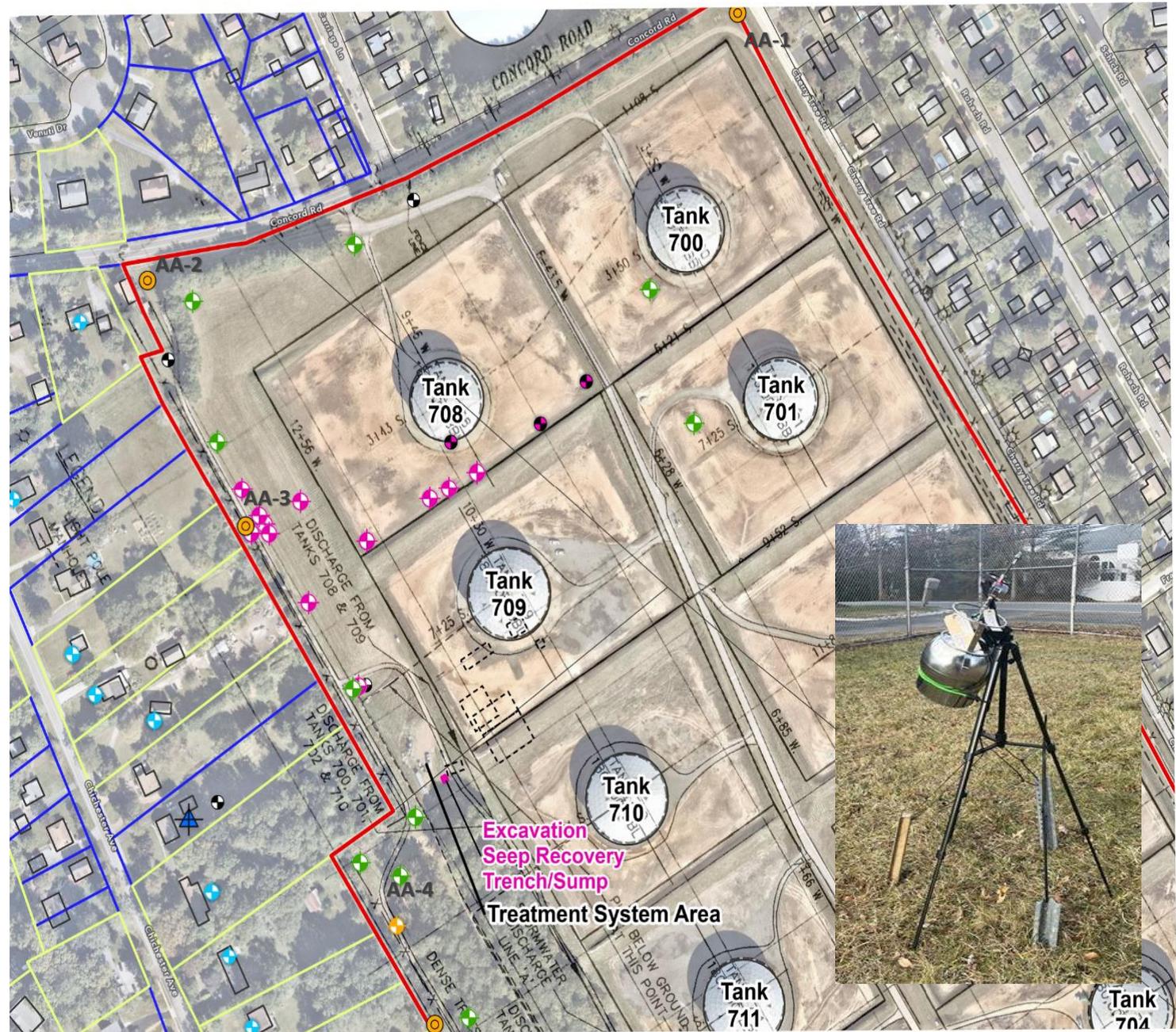
Total Cumulative Gasoline Recovered (gallons)



# Fenceline Air Monitoring

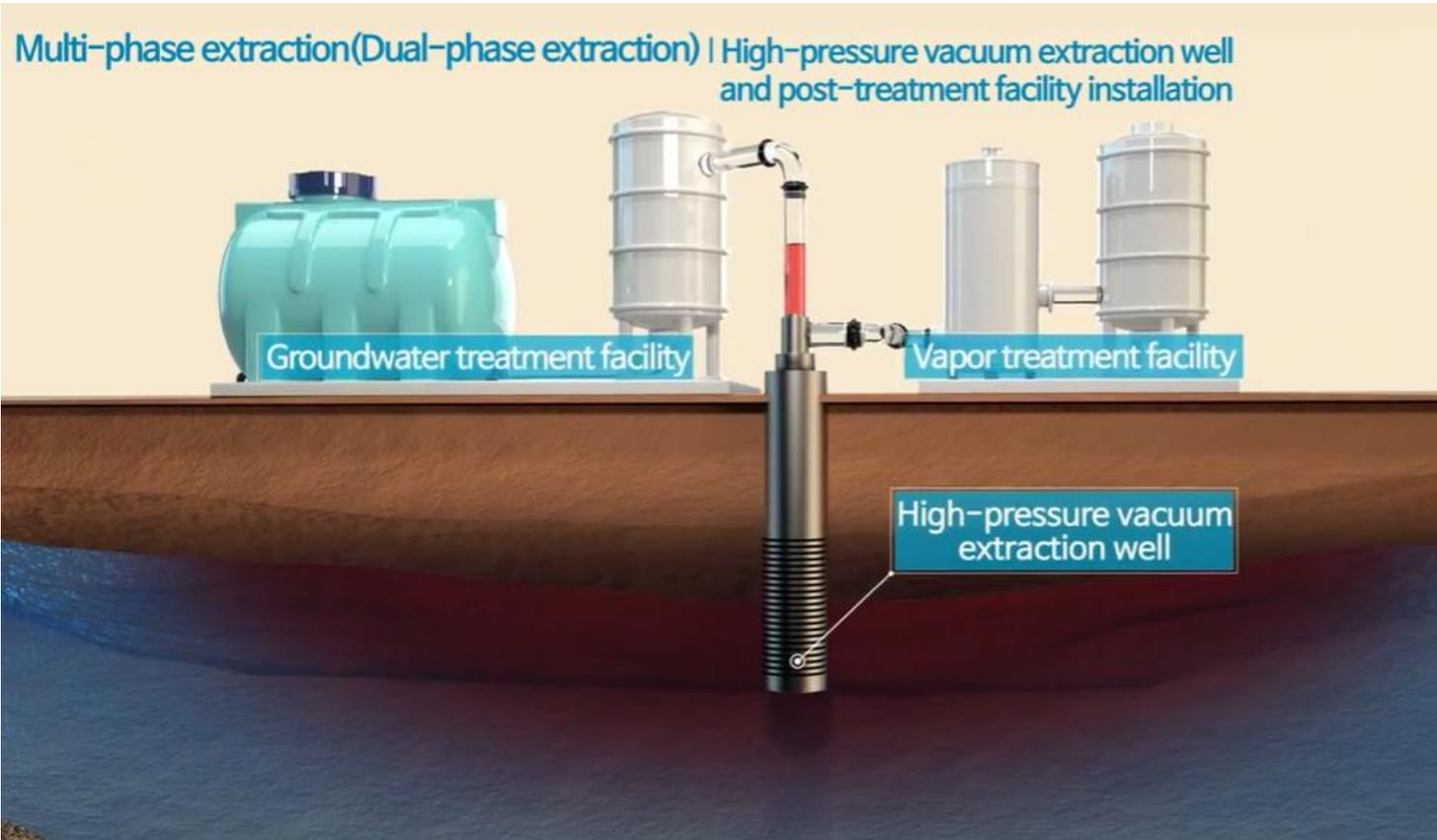
# Fenceline Air Monitoring

- Continuous perimeter air monitoring began 12/30/2025
- 4 Air monitoring stations (orange circles)
- 24-hour air samples collected in Summa canisters that are analyzed by a lab using EPA Method TO-15

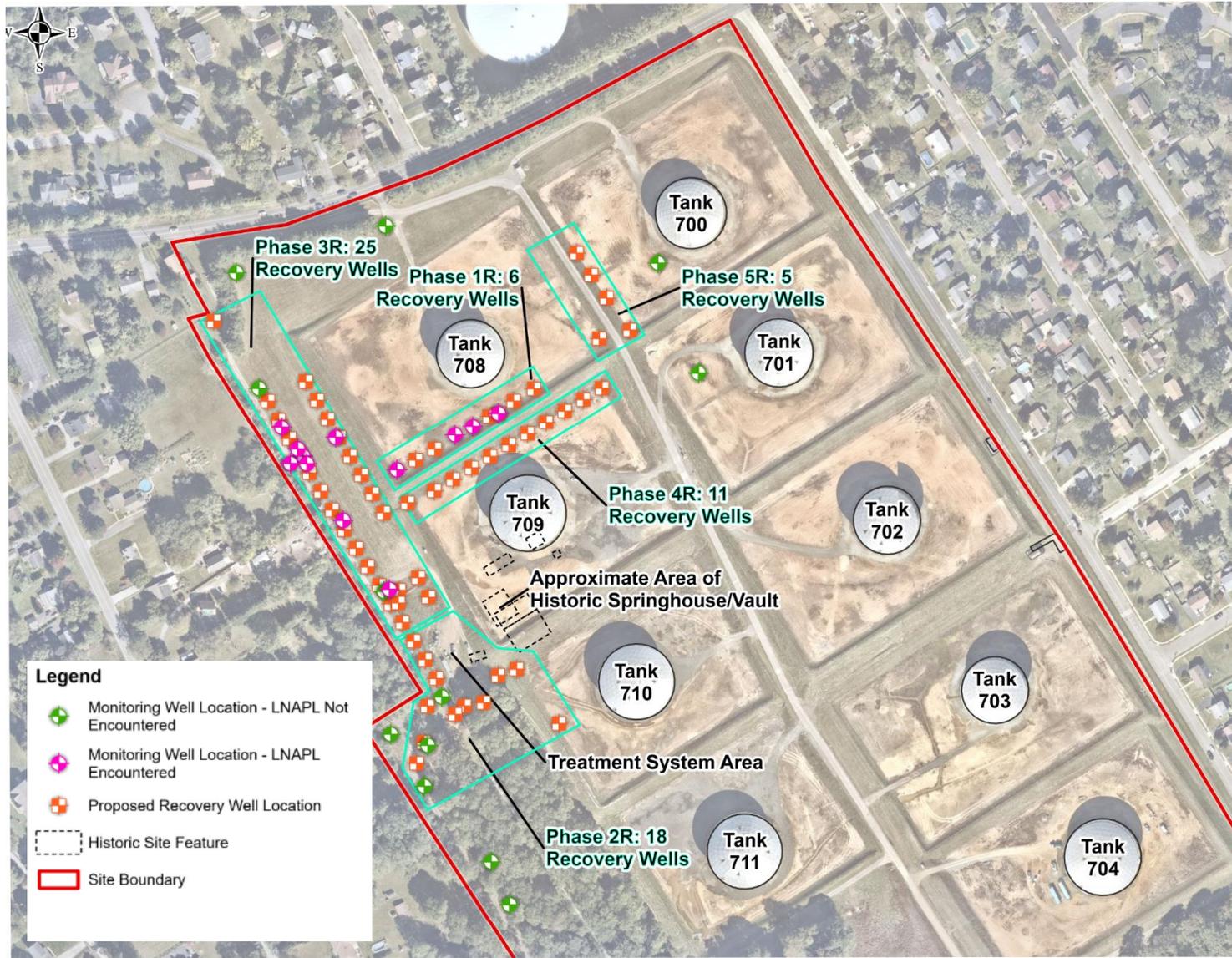


# Remediation System Installation

# LNAPL- Multi-Phase Extraction (MPE) Remediation System



# Remediation Recovery Wells



**Purpose:** Remove gasoline, and extract groundwater

**Remediation System Purpose:**

- Skimming/pumping targets gasoline
- Operates under controlled, monitored conditions
- Effective removal of gasoline mass
- Enhances bioremediation of gasoline
- Enhances volatilization of gasoline

**Installation and Operation:**

- Screen interval designed for gasoline zone
- Materials selected for petroleum service
- Secure wellhead and secondary containment at equipment

# Progress to Date

# Interim Response Activities & Accomplishments to Date

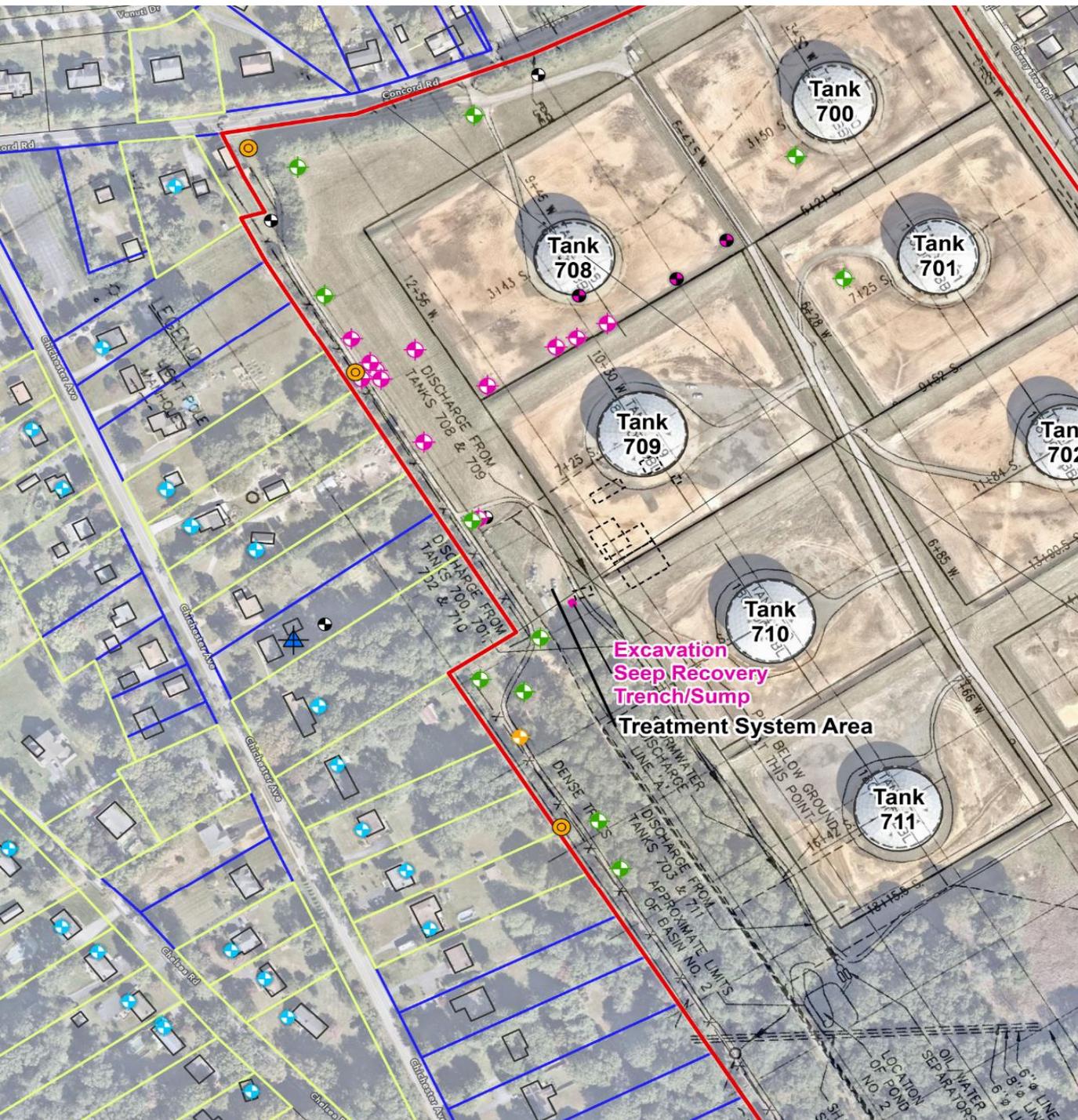
- **Off-Site Activities**

- Research state and local public records and identified public water users and private drinking water well users.
- Outreach to over 155 private property owners and issuance of well surveys and requests for permission to sample properties with private drinking water wells.
- Collected & analyzed 43 samples from private water wells identified.
- Initiated re-sampling of private water wells that have been sampled.
- Requested access to off-Site properties to expand investigation activities.

# Interim Response Activities & Accomplishments to Date

- **On-Site Activities**
- Monitoring Wells for Delineation of Impacts & Gasoline Product Recovery  
Well Installations & Operations
- Expanded & Enhanced Gasoline Product Recovery Efforts
- Fenceline Perimeter Air Monitoring and Daily Data Evaluation
- Subsurface Characterization of Key Aspects to Inform Conceptual & Detailed Understanding of the Release Site Area
- Obtain Data Critical to Design Remedial Actions to Achieve Clean-up

# Activities & Progress to Date



## Legend

- Approximate Soil Boring Location
- Proposed Monitoring Well Location
- Approximate Monitoring Well Location
- Approximate Private Potable Well Location Sampled by Langan
- Approximate Soil Vapor Monitoring Location
- Air Monitoring Station Location
- Historic Site Feature
- ▭ Site Boundary
- ▭ Structure
- ▭ Parcel Boundary

## Notes:

- Green Sample ID – No LNAPL Encountered in Well/Boring
- Pink Sample ID – LNAPL Encountered in Well/Boring

## Off-Site Status

- 49 private drinking water wells w/in 1,000 ft west
- Permission given & 43 private drinking water wells sampled
- Bottled water provisions have been offered and are provided to those who request it
- All test results to date indicate no concerns
- Re-sampling of those wells is scheduled and ongoing
- Access requests made to 9 property owners west/adjacent to release area with 1 granted to date

## On-Site Status

- 25 wells installed on-site w/additional 5+ soil borings drilled
- 11 wells have observed LNAPL
- Vacuum Enhanced Fluids recovery (VEFR) in individual & multiple wells since week 1 December
- Water Treatment Unit collecting/treating LNAPL/water since September 2025, now w/enhanced LNAPL recovery via added collection sump
- Multiple drill rigs deployed to accelerate investigation and cleanup efforts

# Summary of Findings & Path Forward

- MPIC initiated gasoline recovery in September 2025 and has been aggressively conducting gasoline recovery since December 2025.
- All ongoing activities are being conducted under a PADEP Order dated December 23, 2025.
- The extent of gasoline is contained to the north, south, east and partially to the west.
- Fenceline perimeter air monitoring continues with comparison to screening levels.
- Vapor intrusion sampling has not measured impacts above screening levels.
- MIPC will continue to conduct Interim Remedial Actions to remove gasoline using VEFR and supporting methods.
- Design/construction of fixed remediation systems will achieve site cleanup under the Pennsylvania Land Recycling (Act 2) program.

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# BREAKOUT SESSION

February 4, 2026

