

**Fifth Ward/Kashmere Gardens UPRR Site
(former Houston Wood Preserving Works)**

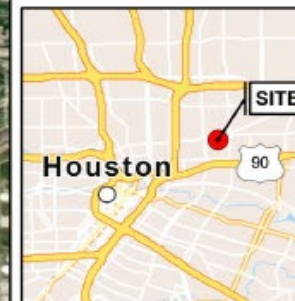
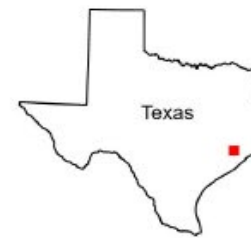
Community Meeting

March 7, 2024

AGENDA

- **Why is EPA involved?**
- **Site Update**
 - **Vapor Intrusion Investigation**
 - **Background Sampling**
 - **Access Agreements**
- **Anticipated Schedule**
- **Ongoing Community Engagement**
- **Informal Q&A**

**FIFTH WARD/KASHMERE GARDENS UPRR SITE –
FORMER CREOSOTE OPERATION AND
SURROUNDING SUPER NEIGHBORHOODS**



Kashmere Gardens

Greater
Fifth Ward

Denver Harbor
/ Port Houston



**US EPA
REGION 6**

Legend



UPRR HOUSTON WOOD PRESERVING WORKS SITE
(FORMER CREOSOTE OPERATION)



SOURCE: WORLD IMAGERY; ESRI

DATE OCTOBER 2023	PROJECT NO. 20600.012.001.1526	SCALE AS SHOWN
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Why is EPA involved?

- **Your Voice**

- Elected officials, public health agencies, community organizations

- **Community Health**

- Texas Occurrence of Cancer Assessment
- City of Houston Sampling

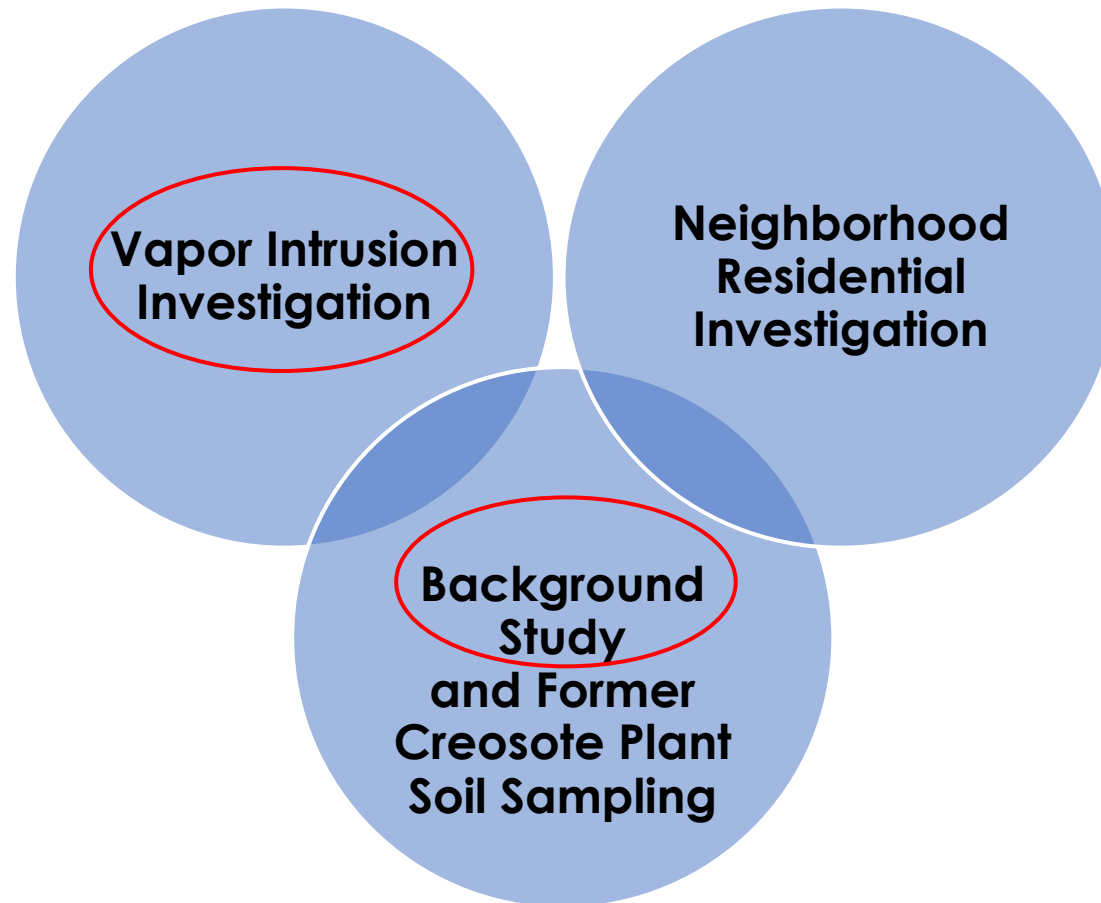
- **EPA's Commitment to this Community**

- Community Engagement
- Environmental Justice
- EPA Authority: CERCLA and RCRA

EPA's Role

- 1) Direct and oversee the investigation;
- 2) Track contamination from the former creosote operation and determine its extent in the neighborhood;
- 3) Determine if there is a risk to people's health and if cleanup is needed;
- 4) Ensure meaningful community engagement

Site Update –Main Investigation Activities



Vapor Intrusion Investigation: Update

What is vapor intrusion?



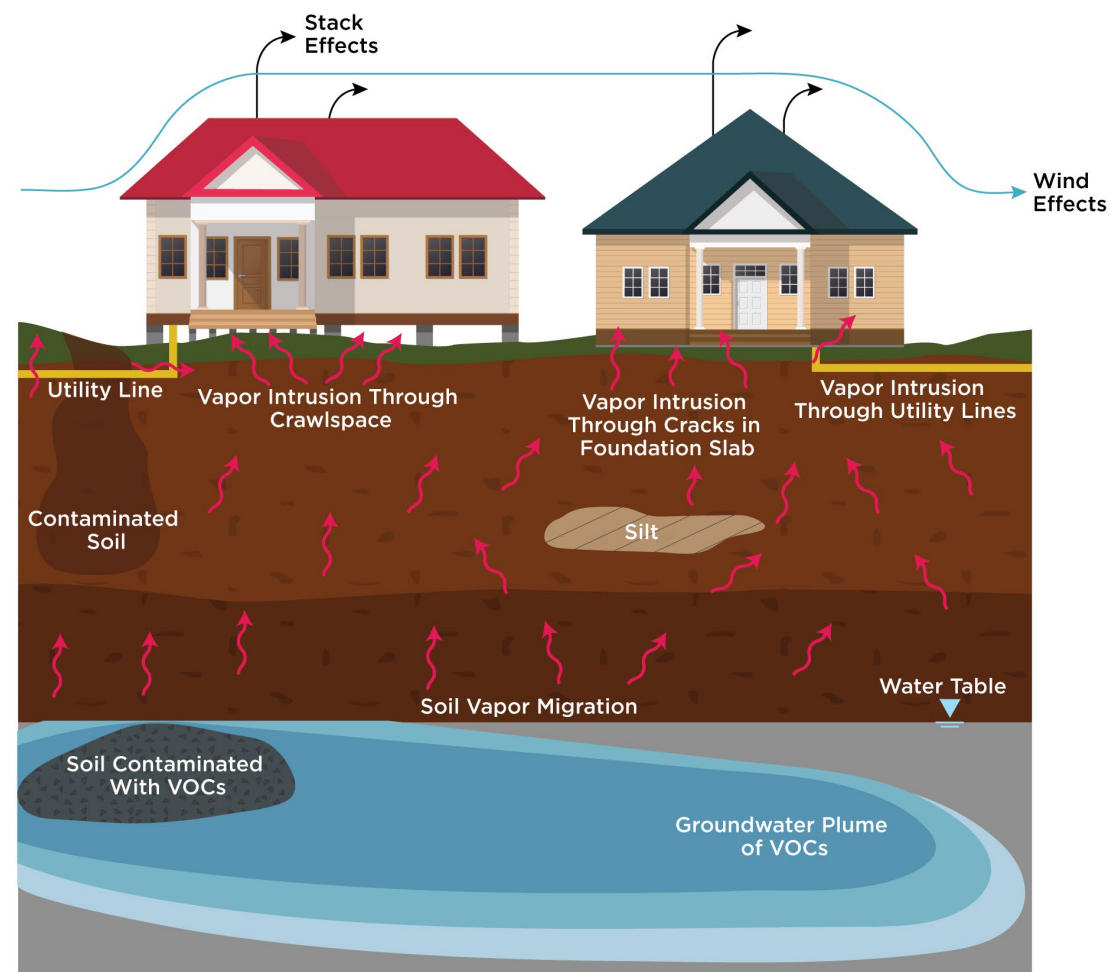
What is vapor intrusion?

Vapor intrusion (VI) occurs when volatile chemicals in soil and groundwater enter and build-up inside buildings.

Volatile chemicals are a class of chemicals that are evaporate easily and form a vapor in the air. Example: Gasoline

What is a vapor pathway?

The underground route that volatile chemicals follow to enter buildings.



What are the phases of vapor intrusion samples?



- **Phase 1 Samples (recently complete):**

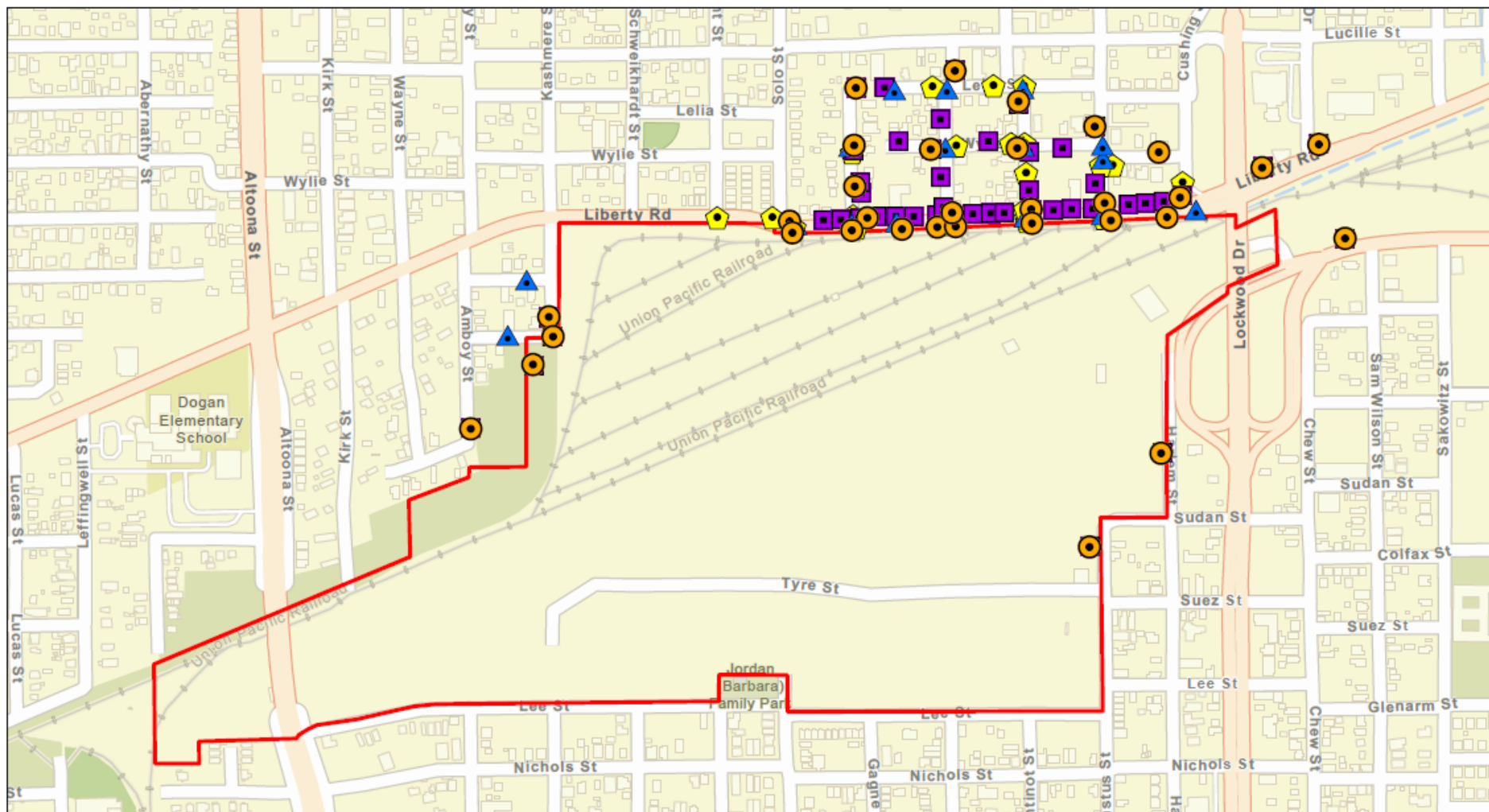
- Groundwater Samples
- Soil Gas Samples
- Sewer Samples

- **Phase 2 Samples (if needed):**

- Sub slab and/ or crawlspace

- **Phase 3 (if needed):**

- Indoor air



LEGEND

 Fifth Ward/Kashmere Gardens UPRR Site Boundary

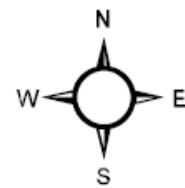
Vapor Intrusion Sampling

● Monitoring Well

▲ Sanitary Sewer

■ Soil Gas Probe

⬠ Storm Sewer



0 500 1,000

SCALE IN FEET



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FIFTH WARD/KASHMERE GARDENS UPRR SITE VI SAMPLE LOCATIONS

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How does EPA evaluate VI data?

- EPA uses **Vapor Intrusion Screening Levels (VISLs)** to evaluate volatile chemicals in groundwater, sewers and soil gas
- EPA VISLs help EPA know when further investigation might be needed
- EPA VISLs are very LOW numbers
- EPA VISLs are not cleanup levels

Example:

VI Soil Gas Sample Data

Chemical in Soil Gas	Lab Detection Limit ($\mu\text{g}/\text{m}^3$)	EPA Vapor Screening Level ($\mu\text{g}/\text{m}^3$)	Sample Results ($\mu\text{g}/\text{m}^3$)
Benzene	0.319	12	14.8
Toluene	0.377	17,400	2.48
Ethylbenzene	0.109	37	7.77
Xylene	0.109	348	79.5

Example:

VI Groundwater Sample Data

Chemical in Groundwater	Lab Detection Limit (µg/L)	EPA Vapor Screening Level (µg/L)	Sample Results (µg/L)
Benzene	0.04	1.59	6
Toluene	0.02	19,200	ND
Ethylbenzene	0.1	3.49	36
Xylene	0.19	38.5	0.28

Deciding Next Steps

- If samples DO NOT have creosote related chemicals above the EPA screening levels (VISLs), then a second round of samples will be taken during the summer at select locations.
- If samples DO have creosote related chemicals that are above the EPA screening levels (VISLs), then **EPA will determine if more sampling is needed.**

What makes Vapor Intrusion COMPLICATED?

- ▶ Outdoor air has volatile chemicals found in creosote but caused by other sources, like vehicles, industrial pollution and fuel spills. This outside air gets into houses and even the soil.
- ▶ In Houston, several of those volatile chemicals are found at *higher levels* in the outside air than the Environmental Protection Agency's (EPA's) Vapor Intrusion Screening Levels.



Vapor Intrusion Investigation – What's Next



- EPA will review and evaluate validated VI sample data
- EPA will decide if/where Phase 2 VI sampling is needed
- EPA will share vapor intrusion investigation results at a community mtg in April



Groundwater Monitoring Well Installation
Liberty Rd



Soil Gas Probe Installation – Liberty Rd



Outdoor Air Sampling – Liberty Rd.



Groundwater Monitoring Well Sampling –
Liberty St and Lavender St.



Sewer Sampling - Liberty Rd and
Wylie St./Clementine St.



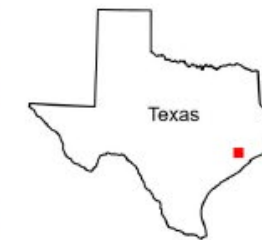
Soil Gas Sampling – Lelia St.

Background Soil Sampling

Background Soil Sampling



- Collected between Feb 28-March 8
- From 20 locations not impacted by the former creosote plant
- Background samples provide context:
 - How do samples results collected on and near the former creosote plant differ from those in the general environment?

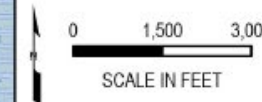
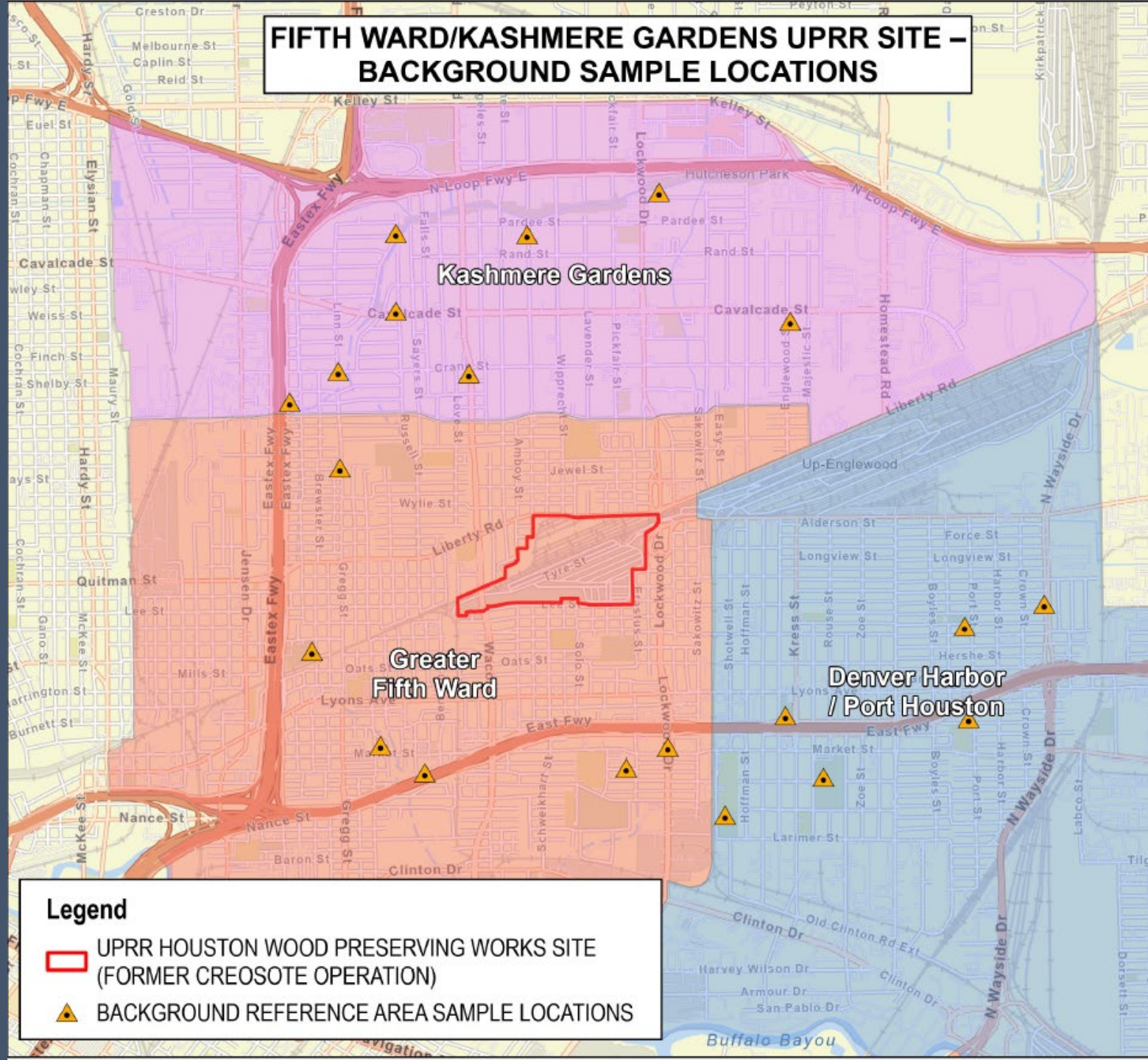
FIFTH WARD/KASHMERE GARDENS UPRR SITE – BACKGROUND SAMPLE LOCATIONS



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-  UPRR HOUSTON WOOD PRESERVING WORKS SITE (FORMER CREOSOTE OPERATION)
-  BACKGROUND REFERENCE AREA SAMPLE LOCATIONS



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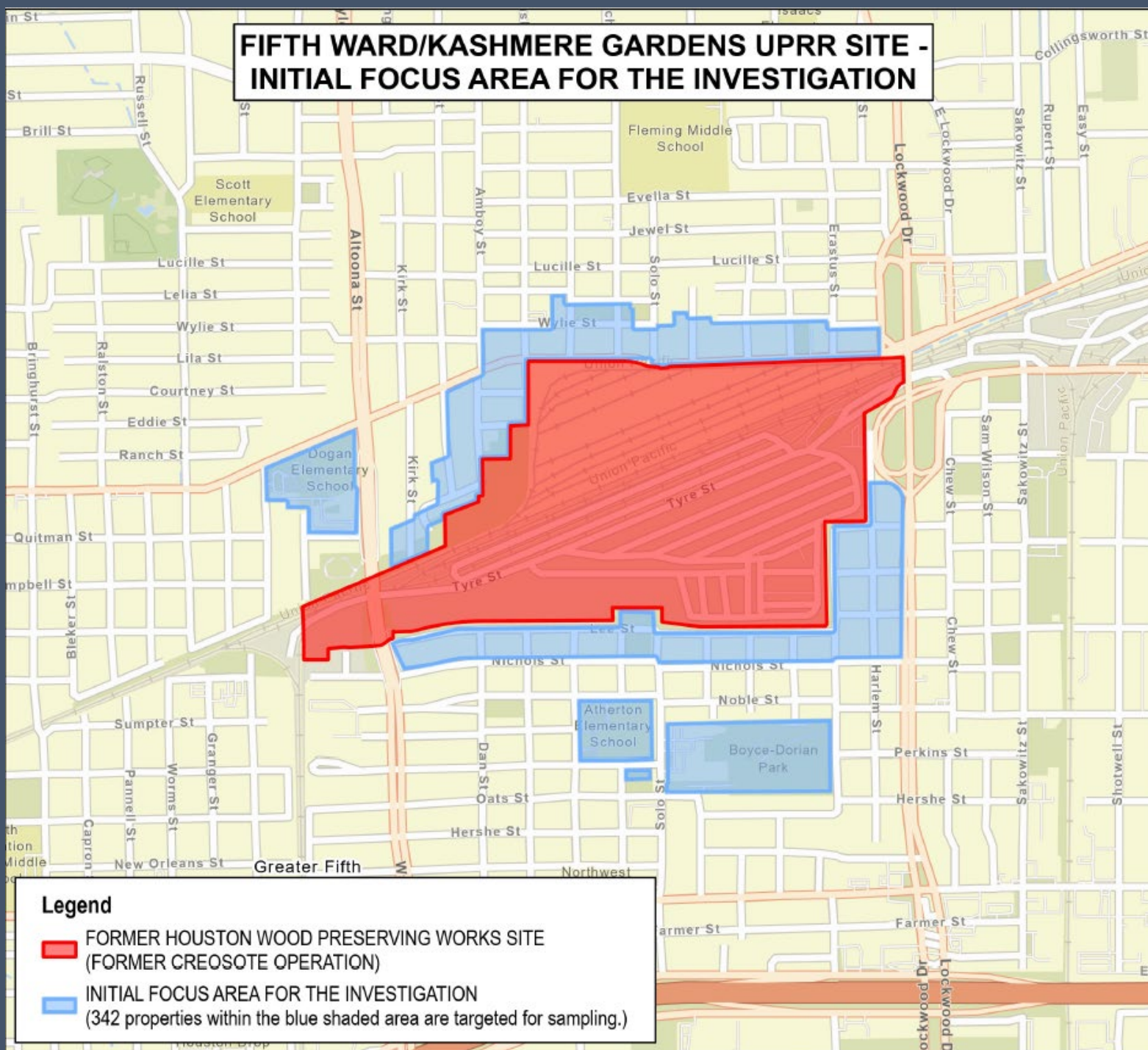
Background Soil Sampling - Nieto Park (BRA04)

Access Agreements for Private Property Sampling



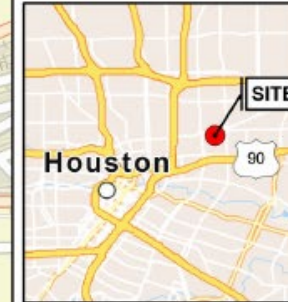
- Under EPA direction, UPRR is asking property owners to sign access agreements
- UPRR must have a signed access agreement to sample a property.
- Property owners will get sample results.

FIFTH WARD/KASHMERE GARDENS UPRR SITE - INITIAL FOCUS AREA FOR THE INVESTIGATION



Legend

- FORMER HOUSTON WOOD PRESERVING WORKS SITE (FORMER CREOSOTE OPERATION)
- INITIAL FOCUS AREA FOR THE INVESTIGATION (342 properties within the blue shaded area are targeted for sampling.)



342 properties within the blue shaded area are targeted for sampling.

For EPA verification of targeted properties, please contact:
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- Or -
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214-665-3123



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Anticipated Schedule

Timing	Activity
September 2023-Ongoing	UPRR obtains access agreements for private property sampling
Nov 2023-Aug 2024	<p>Field investigation activities and sampling. Validated results will be provide to property owners for their property when available.</p> <ul style="list-style-type: none">➤ Vapor Sampling: Nov '23-Feb '24➤ Background Sampling: Feb '24-March '24➤ Neighborhood Soil Sampling and Onsite Sampling: April '24-Aug '24
Late Summer 2024	<p>EPA uses sampling data to determine if there is a risk from HWPW site contamination</p> <p>EPA produces human health risk assessment</p> <p>UPRR produces Removal Site Evaluation report</p> <p>EPA determines if cleanup is necessary based on risk to people's health</p>

Ongoing Community Engagement

- Monthly “office hours” (EPA in the community to speak 1:1 with residents)
- Regular communication and updates via EPA's UPRR HUB Website
- Community meetings throughout the investigation

EPA Contact Information

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EPA Community Involvement Coordinator

Adam Weece

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Site updates and information can be found at:

<https://fifth-ward-kashmere-gardens-uprr-epa.hub.arcgis.com/>



Informal Q&A Session

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