



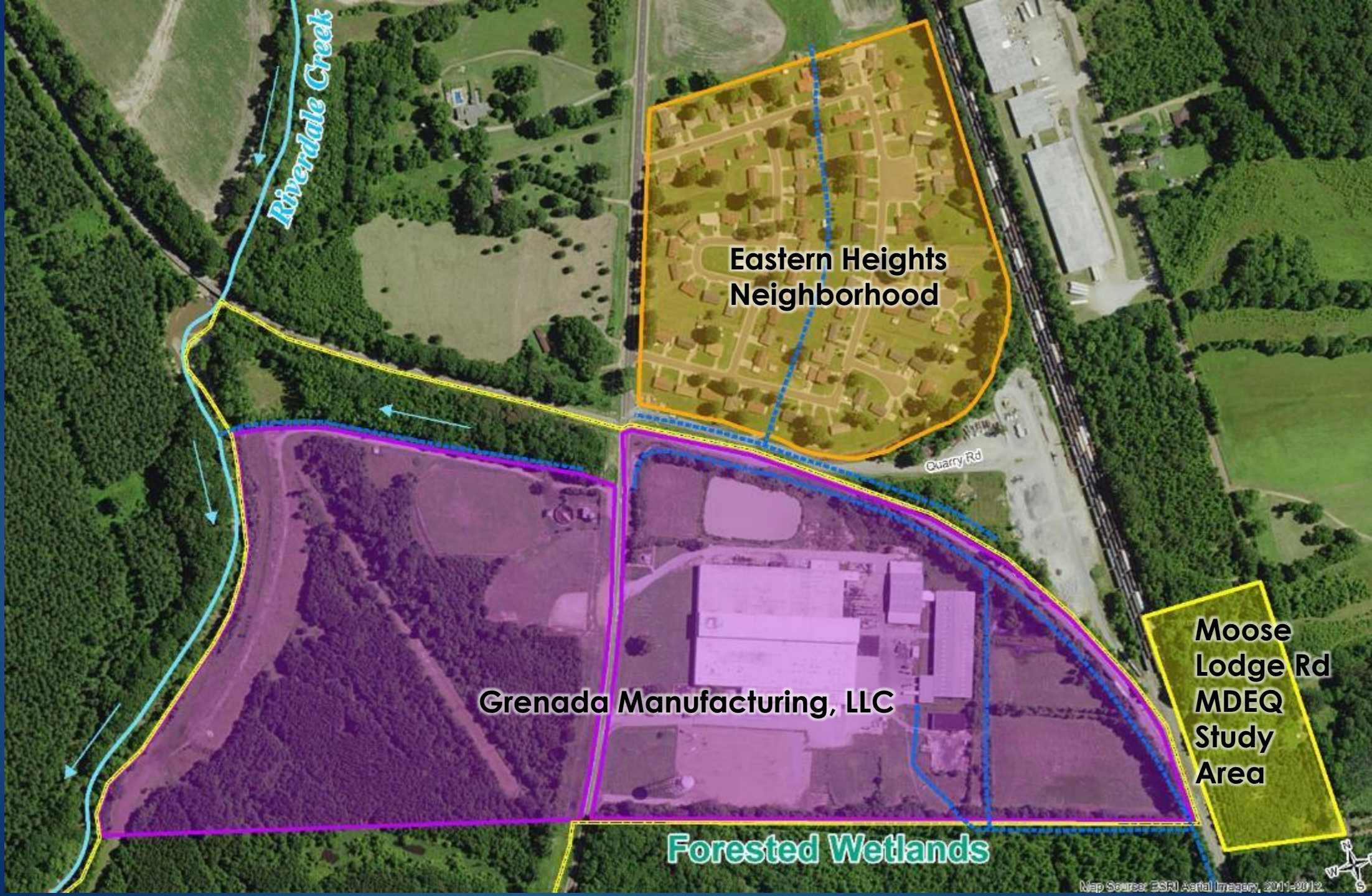
Grenada Manufacturing, LLC Grenada, Mississippi

JANUARY 2017 UPDATE

U.S. ENVIRONMENTAL PROTECTION AGENCY – REGION 4
RESOURCE CONSERVATION AND RESTORATION DIVISION
JANUARY 31, 2017

This Presentation Will Cover:

- What EPA is doing in Grenada
- Sampling and results inside the Facility and actions taken
- Health information for workers
- Sampling and results in Eastern Heights
- Next Steps
- External Partners and Technical Support
- Q&A



Riverview Creek

**Eastern Heights
Neighborhood**

Quarry Rd

Grenada Manufacturing, LLC

Forested Wetlands

**Moose
Lodge Rd
MDEQ
Study
Area**

Map Source: ESRI Aerial Imagery, 2011-2012

What EPA is doing in Grenada

- Overseeing cleanup of the former Grenada Manufacturing, LLC facility
 - Former wheel cover manufacturer (1961 – 2008)
 - Current operator, Ice Industries, is a metal stamping facility
 - Grenada Manufacturing, LLC, the permittee, is bankrupt
 - Meritor conducts environmental work
 - Textron provides financial assurance
 - LLC, City of Grenada, Grenada County all own portions of land

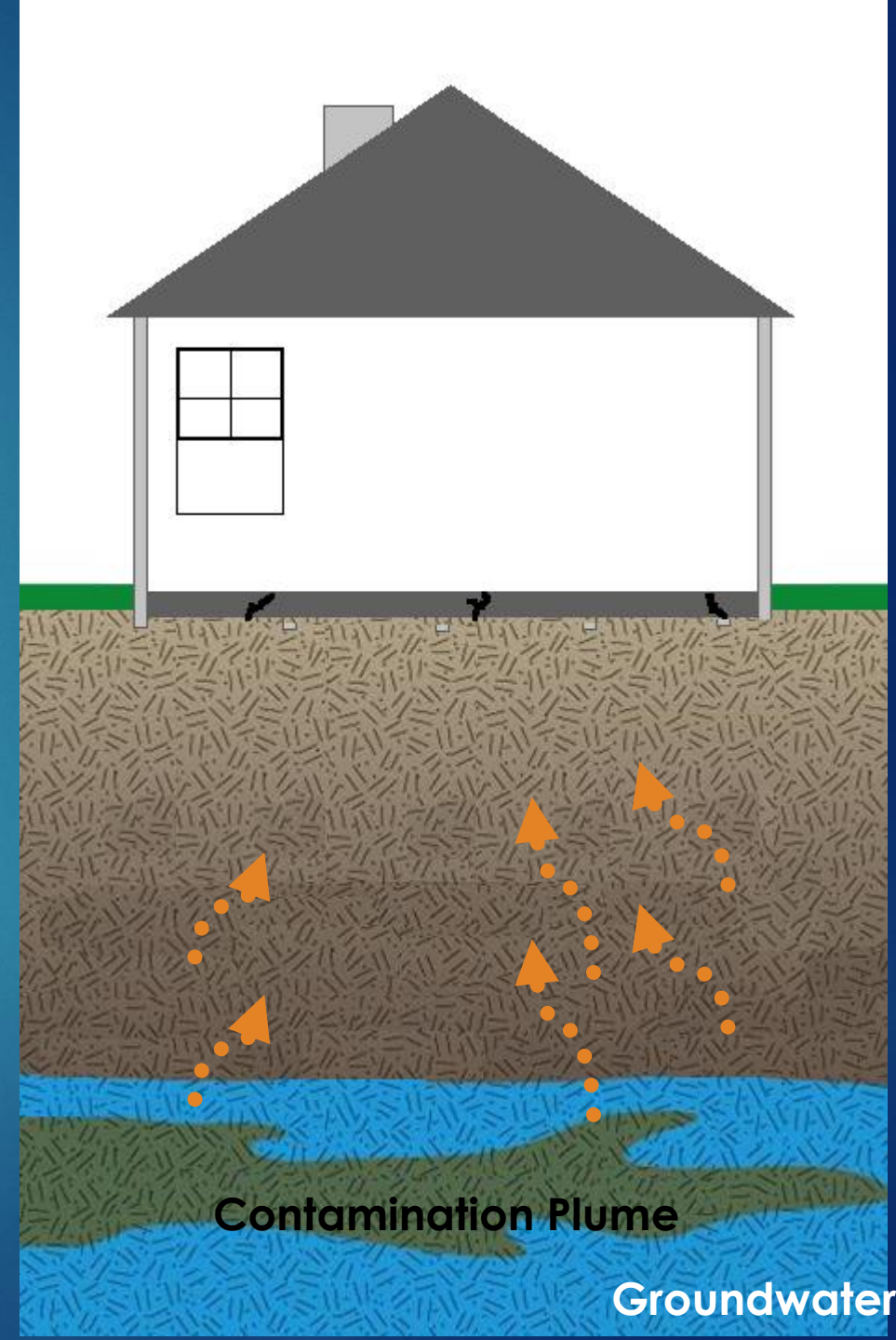
What EPA is doing in Grenada

- Primarily concerned about TCE contamination
 - TCE is a non-flammable, colorless liquid used as a solvent for cleaning metal parts
 - It is a common groundwater contaminant and can remain a long time
 - TCE evaporates from surface water and is commonly found as a vapor in air
 - Health effects of TCE depend upon the pathway, amount, and time length of exposure to the chemical

Vapor Intrusion

Can depend on:

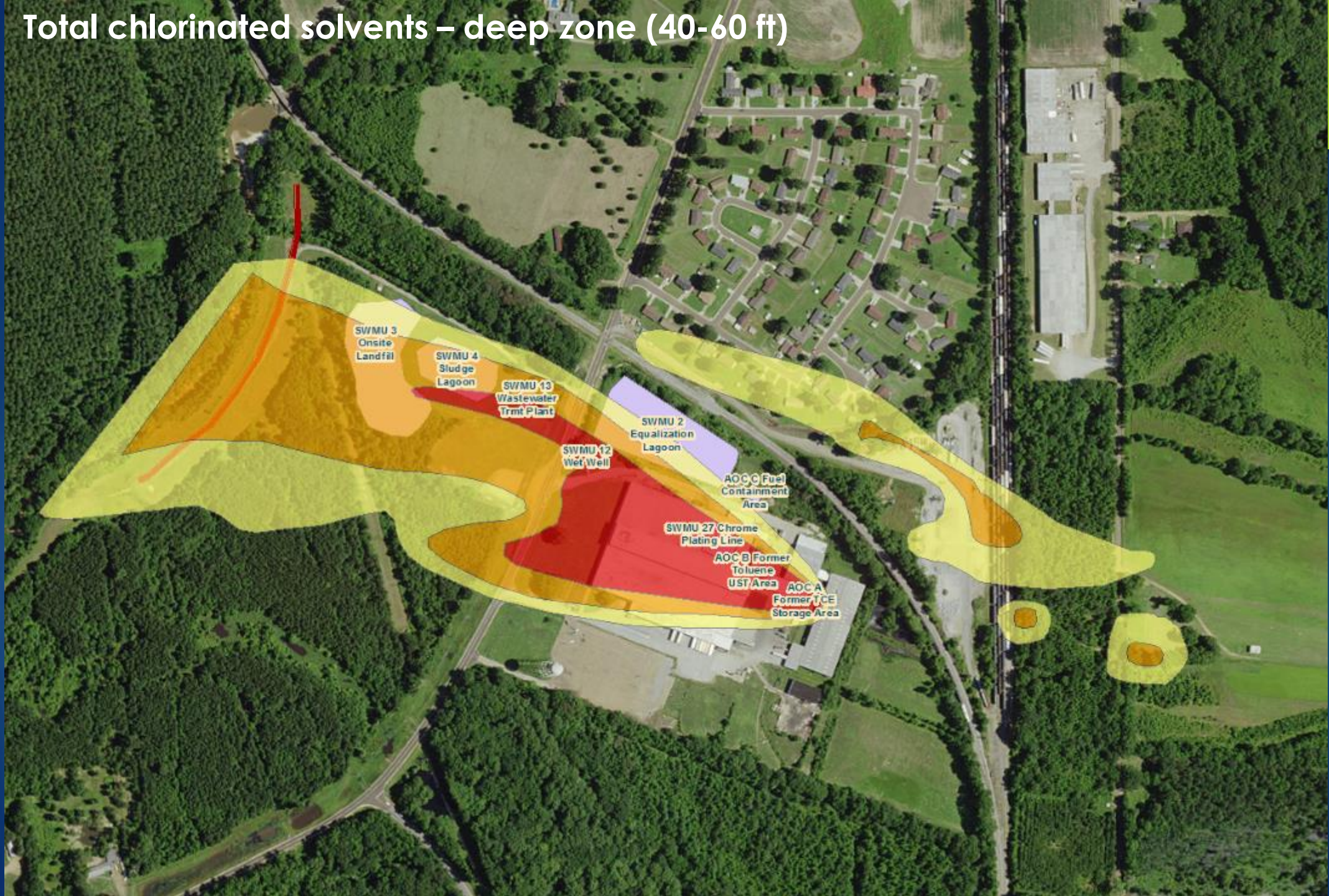
- Contaminant and concentrations
- Depth to groundwater
- Soil type
- Type of foundation/Integrity
- Air temperature
- Barometric pressure



What EPA is doing in Grenada

- Sampling for TCE contamination in the neighborhood
 - Results indicate no immediate threat to public health
- Sampling for TCE contamination inside the Facility
 - Workers notified of elevated TCE concentrations
 - Immediate actions taken at the Facility to reduce worker exposure

Total chlorinated solvents – deep zone (40-60 ft)



Facility Sampling

- EPA oversaw the sampling performed by the Facility's contractor (Meritor) during the week of October 24, 2016
- On January 3, 2017 EPA received results showing elevated levels of TCE in the Facility's indoor air and areas beneath the concrete foundation



Facility Results

- TCE exceeded the screening level in all indoor air samples
- 5 of 6 sub-slab air samples exceeded the screening level for TCE
- 5 of 11 indoor air samples exceeded EPA's action level for sensitive populations
- One indoor air sample exceeded EPA's action level for non-sensitive populations



Immediate Actions at the Facility

- EPA directed Facility to notify employees
- EPA directed Facility to increase ventilation to reduce indoor air concentrations of TCE
- EPA oversaw a second round of sampling during the week of January 16, 2017
 - Real-time air monitoring indicates the indoor air levels were lowered based on the interim actions taken

Facility Next Steps

- Intermediate measures to address the sub-slab TCE concentrations are being evaluated
- EPA is also working with Facility on long-term measures to treat and eliminate TCE in groundwater (the source)

Health Information for Workers

- If you believe you have been exposed to TCE related to the Facility, consult your doctor
- ATSDR has TCE information available for doctors in Mississippi that explain how it affects your health
- Doctors can contact
 - Mississippi Poison Control Center: (601) 984-5577 or (800) 222-1222
 - Bruce Brackin, MSDH: (601) 576-7725
 - Leann Bing, ATSDR: (404) 562-1784

Neighborhood Sampling

- ▶ September 2015 Residential indoor/outdoor/sub-slab air and groundwater
- ▶ January 2016 Outdoor air
- ▶ March 2016 Residential indoor/outdoor/sub-slab air
- ▶ April 2016 Soil, sediment and groundwater
- ▶ May 2016 Residential indoor/outdoor/sub-slab air
- ▶ September 2016 Residential indoor/outdoor/sub-slab air
- ▶ November 2016 Residential indoor/outdoor/sub-slab air

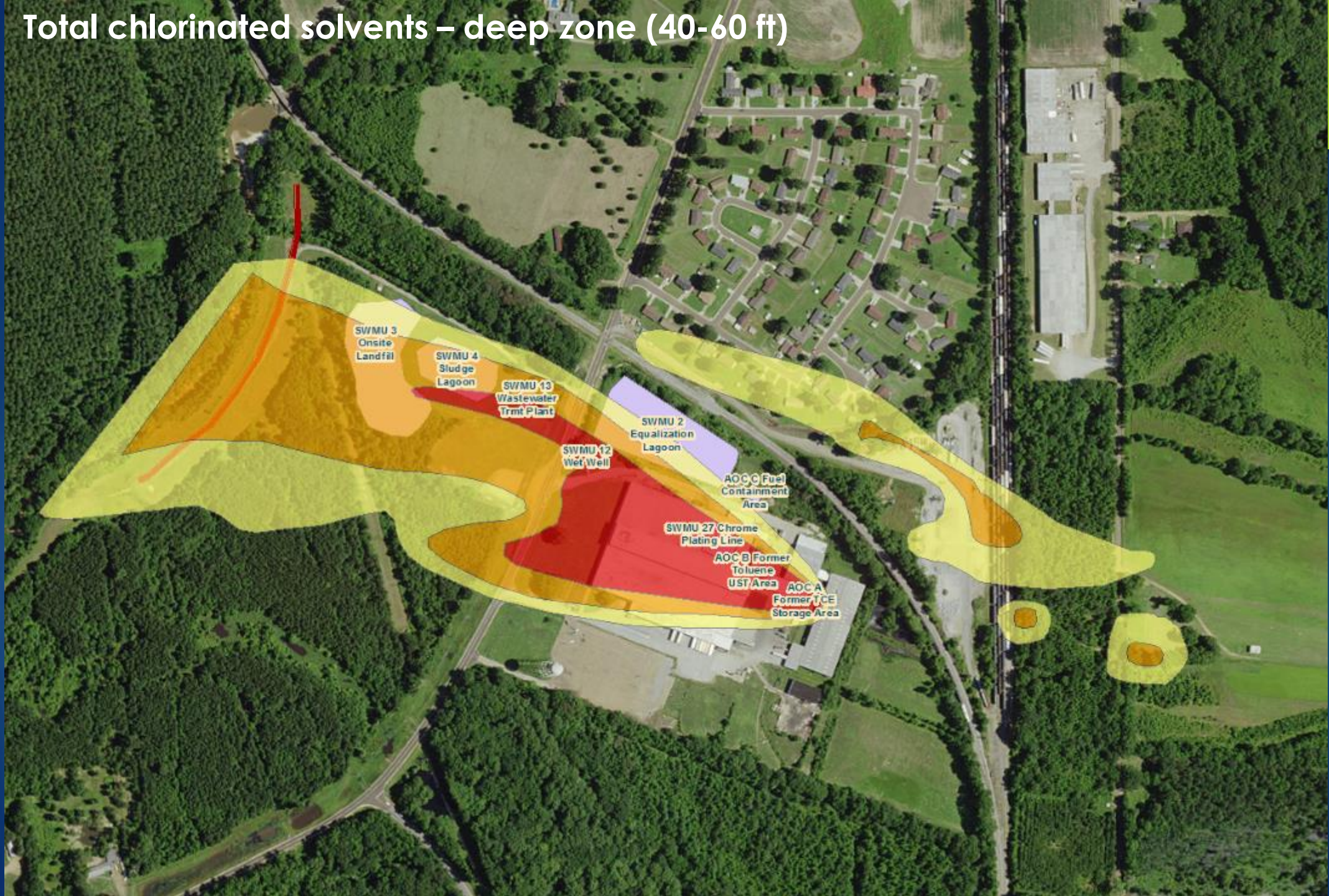


Neighborhood Results

- Groundwater contaminated with TCE underlies the southern portion of the neighborhood
- No one is exposed to the groundwater because it is not a source for drinking water
- EPA did not encounter evidence of buried waste material in any of the 18 soil borings in the neighborhood



Total chlorinated solvents – deep zone (40-60 ft)

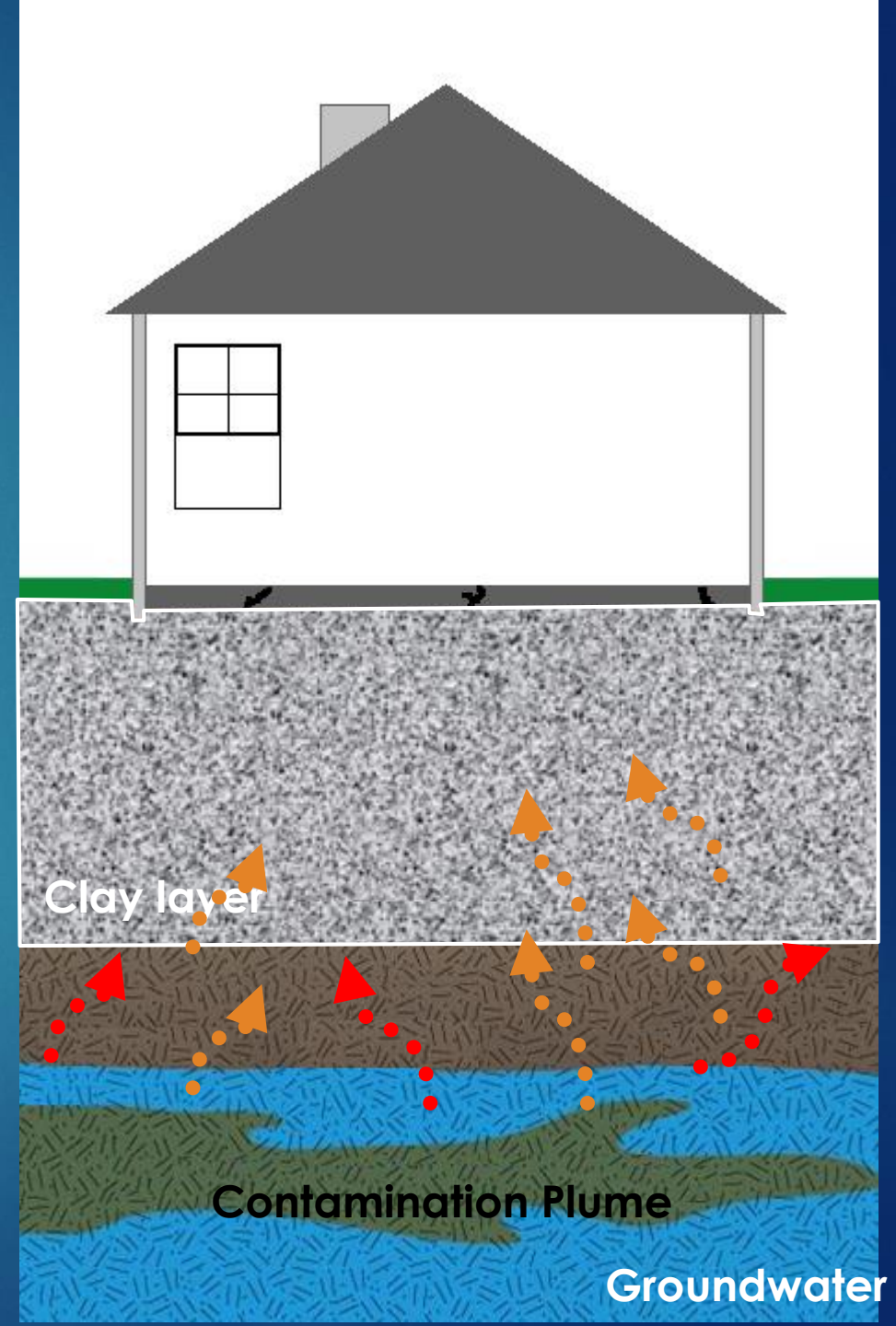


Neighborhood Results

- TCE detected in homes and outdoor air in warmer months
- With one exception, TCE has not been detected in residential sub-slab air
- Based on this, we believe that TCE is not likely entering homes from a below-ground source (e.g. groundwater), but rather through exchange with outdoor air
- Multiple sampling events have not identified the exact source or sources of TCE in outdoor air
- More sampling is planned to identify the source

Neighborhood Results

- An 8'-12' silty clay layer underlies the neighborhood
- We believe this silty clay is preventing TCE vapors from coming up into homes



Is Relocation Being Considered?

- ▶ EPA has determined there is no immediate threat to public health and is not considering relocation of any Eastern Heights residents
- ▶ Relocation decisions guided by National Superfund Permanent Relocation Interim Policy (July 8, 1999) and applies only in cases where:
 - Structures must be destroyed because they interfere with a cleanup
 - Structures cannot be decontaminated to protective levels
 - Response options require unreasonable use restrictions
 - A temporary relocation would last more than one year
- ▶ None of these conditions exist in Eastern Heights

Playground Results

- Surface soil at the playground was sampled in areas where children were most likely to come into contact
 - like beneath the swings and at the bottom of the slide
- No TCE or TCE-related chemicals were detected in the soil at the playground
- No elevated metals or organics were detected



Next Steps

- Additional ambient air sampling in neighborhood
- Continued work on Permeable Reactive Barrier and TCE source areas at the Grenada Stamping facility
- Intermediate and long-term actions to address indoor air in facility
- Address groundwater contamination beneath the Eastern Heights neighborhood



External Partners and Technical Support

- ▶ Agency for Toxic Substances and Disease Registry (ATSDR)
- ▶ Mississippi State Department of Health
- ▶ MDEQ
- ▶ EPA Environmental Response Team
- ▶ EPA Office of Research and Development (Oklahoma)
- ▶ OSHA

For More Information

All Fact Sheets, reports and analytical data are available on our website:

www.epa.gov/grenadacleanup



The screenshot shows the EPA website header with the logo and navigation links: Environmental Topics, Laws & Regulations, and About EPA. A search bar is on the right. The main heading is 'Grenada Manufacturing, LLC, Facility Cleanup and Environmental Study in Grenada, MS'. Below it, a paragraph describes an environmental study in Eastern Heights, Grenada, MS, to evaluate potential contamination from the former Grenada Manufacturing, LLC facility. A quote states: 'Based on results received to date, EPA has determined that there is no immediate threat to public health in the Eastern Heights neighborhood due to trichloroethene (TCE)'. The page is divided into two columns: 'EPA Response' and 'Fact Sheets and Presentations'. The 'EPA Response' column lists links to documents about the cleanup in Eastern Heights, Grenada, MS, including sampling results and facility information. The 'Fact Sheets and Presentations' column lists links to health questions, tap water information, air study fact sheets, and sampling activities fact sheets. On the right side, there are two boxes: 'Questions about Grenada Manufacturing Cleanup' with contact information for Brian Holtzclaw (Community Engagement Coordinator) and Brian Bastek (Technical Project Manager), and 'Press Inquiries' with contact information for Davina Marraccini.

EPA Response

- [What EPA is doing in Eastern Heights, Grenada, MS](#)
- [What the Grenada Manufacturing, LLC, Facility is doing in Grenada, MS](#)
- [Sampling Results in the Eastern Heights Neighborhood, Grenada, MS](#)
- [Sampling Results at the Grenada Manufacturing, LLC Facility](#)

Fact Sheets and Presentations

- [ATSDR Answers to Health Questions](#)
- [Information About Your Tap Water](#)
- [January 2017 Air Study at Grenada Stamping Fact Sheet](#)
- [September 2016 Grenada Manufacturing, LLC, Fall 2016 EPA Sampling Activities Fact Sheet](#)
- [August 28, 2016 EPA Presentation on April-May](#)

Questions about Grenada Manufacturing Cleanup:

Community Engagement Coordinator:
[Brian Holtzclaw](#)
holtzclaw.brian@epa.gov
404-821-0637

Technical Project Manager:
[Brian Bastek](#)
bastek.brian@epa.gov
404-562-8511

Press Inquiries:

[Davina Marraccini](#)
marraccini.davina@epa.gov
404-562-8293

Press Release: