

Jones Road Ground Water Plume Superfund Site Update

May 2020

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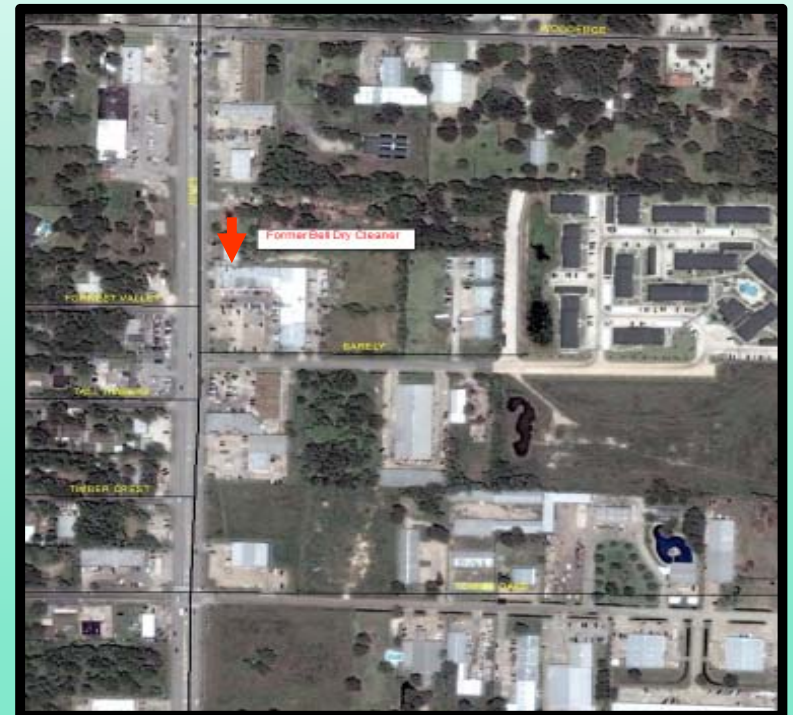
Site Update

- Response actions taken at the Site with regards to
 - Soil
 - Indoor Air
 - Groundwater
- Results from sampling conducted in January and February 2020

Jones Road Ground Water Plume Superfund Site Cypress (Harris County), TX



Former Bell Dry Cleaners at Intersection of Jones Road and Barely Lane



Jones Road Ground Water Plume Superfund Site Source of Contamination

- Former Bell Dry Cleaners
- Operated between 1988-2002

Affected Media

- Soil
- Indoor Air
- Groundwater

Impacted Zones

- Shallow Soil
- Shallow water bearing zone
- Deep unsaturated zone
- Deep water bearing zone

Conceptual Site Model

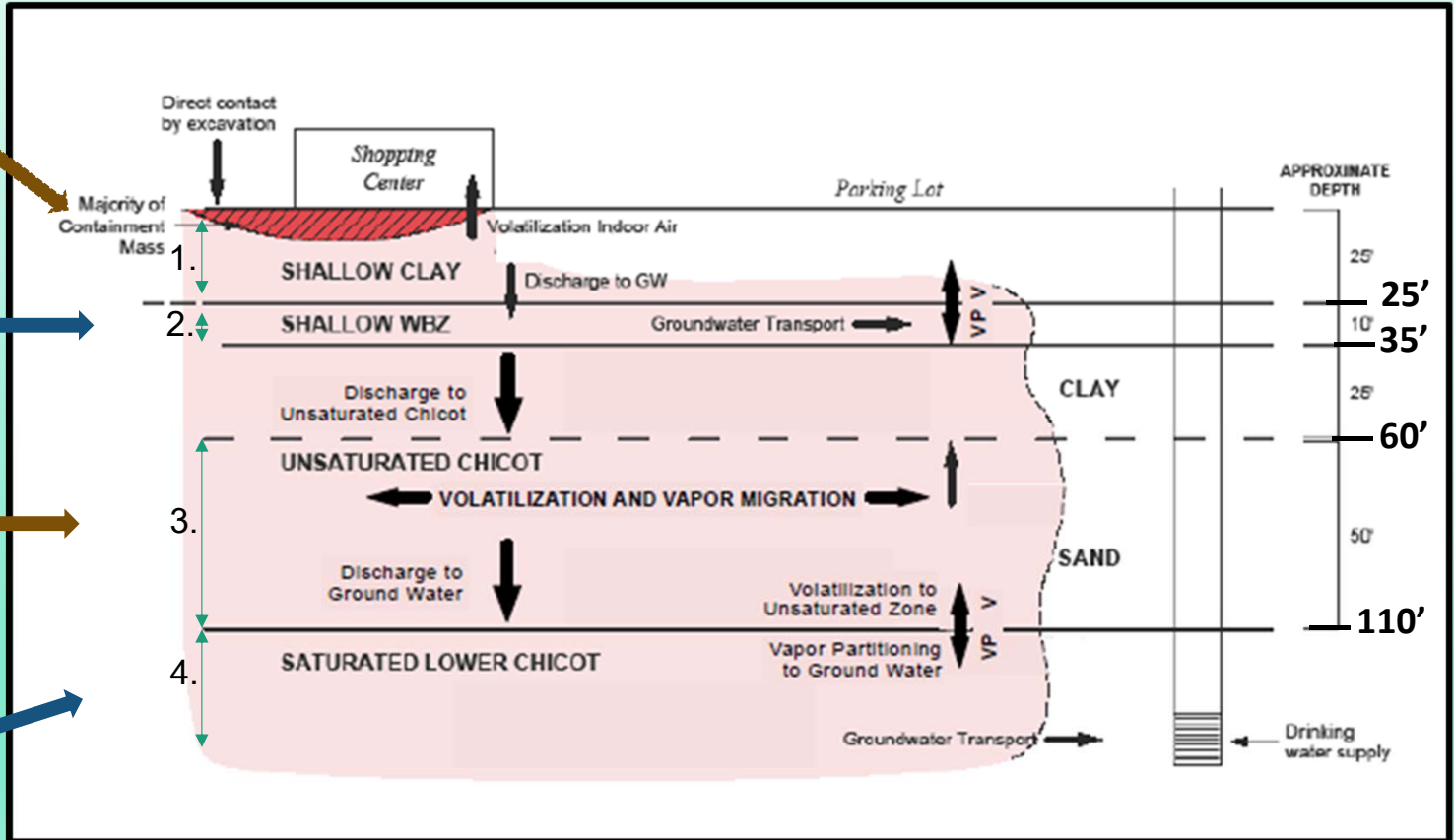
Impacted Zones

1. Source: Shallow Soil (ongoing SVE)

2. Source: Shallow Water-Bearing Zone (completed)

3. Source: Deep Unsaturated Zone (ongoing SVE)

4. Deep Water Bearing Zone (future GW remedy)



Year	Response Actions Taken at the Site by EPA	Zones Addressed
2008	144 Service connections completed to White Oak Bend Municipal Utility District (MUD)	-
2010	Record of Decision (ROD) issued	1, 2, and 4
2012	Deep Soil Vapor Extraction (SVE) wells installed	3
2013	Pilot tests conducted for Deep Zone	3
2014	Optimization study for selected remedy	1,2,3, and 4
2015	Shallow Water Bearing Zone (WBZ) monitoring wells installed	2

1. **Source: Shallow Soil (ongoing SVE Treatment)**
2. **Source: Shallow Water-Bearing Zone (completed)**
3. **Source: Deep Unsaturated Zone (ongoing SVE treatment)**
4. **Deep Water Bearing Zone (future GW remedy)**

Year	Response Actions Taken at the Site by EPA	Zones Addressed
2016	In-situ bioremediation of Shallow WBZ	2
2016	Shallow SVE wells installed and pilot tests conducted	1
2016	Continuous-Multichannel Tubing (CMT) wells installed	4
2017	ROD Amendment #1 issued	1 and 3
2018	In-site bioremediation hot spot treatment of Shallow WBZ	2
2019	Shallow and Deep SVE System installed and operational	1 and 3

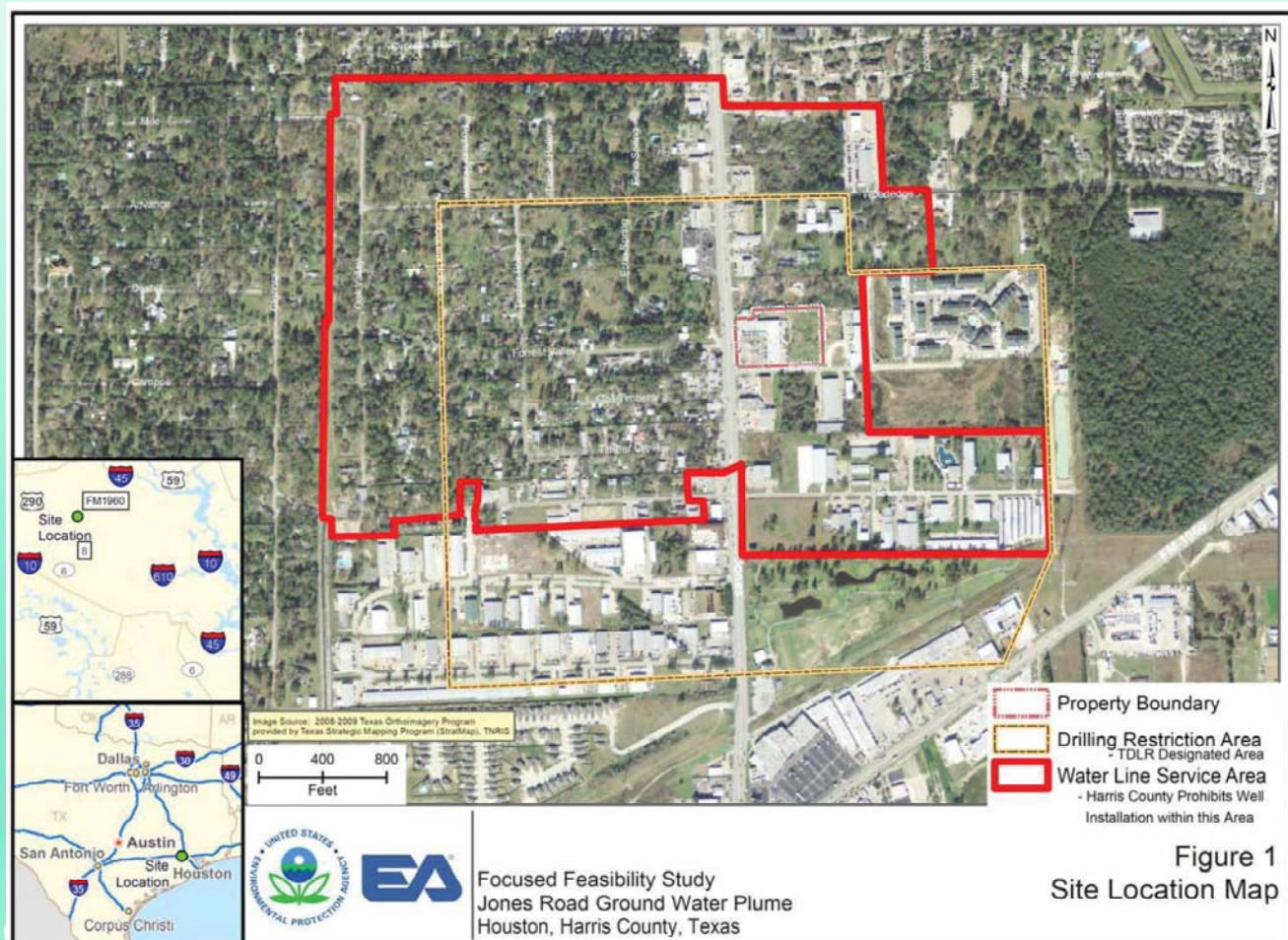
1. **Source: Shallow Soil (ongoing SVE Treatment)**
2. **Source: Shallow Water-Bearing Zone (completed)**
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Shallow Water Bearing Zone (2) Injection Locations Jan 2016 and Mar 2018



Figure 14
Product Injection Locations

2008 - Water Line Connection 144 Connections by EPA in 2008



Jones Road Ground Water Plume Superfund Site
Record of Decision Amendment #1

September 2017

Shallow Water Bearing Zone (2) Pre-Injection and Post Injection Results – PCE

Injection
Jan-Feb 2016

Hot-Spot Injection
Mar 2018

Wells	Dec 2015 µg/L	Apr 2016 µg/L	Sep 2016 µg/L	Feb 2017 µg/L	Sep 2017 µg/L	May 2018 µg/L	Nov 2018 µg/L	Jun 2019 µg/L	Jan 2020 µg/L
MW-01	14,500	61	2 U	1 U	1 U	1 U	3	1 U	1U
MW-02	599	13	2 U	1 U	1 U	2	508	228	47.8
MW-03	12.7	2	29	12	1	3	3	19	8.2
MW-06	3,890	9	2 U	1 U	1 U	1 U	1 U	1 U	1U
MW-20	5,550	4,140	475	135	228	7	21	1 U	5,700
MW-22	7,510	639	2 U	1 U	1 U	1 U	11	1 U	2.8

Vapor Mitigation System – Installed May 2018





Outside



Inside

Air Sampling Results – Before and After VMS Installation

Location		TCE ($\mu\text{g}/\text{m}^3$) (also known as Trichloroethylene)					PCE ($\mu\text{g}/\text{m}^3$) (also known as Tetrachloroethylene or Perchloroethylene)				
8-hr Industrial Noncancer Indoor Air Screening Level		8.8 $\mu\text{g}/\text{m}^3$ VMS Installed May 18 					180 $\mu\text{g}/\text{m}^3$ VMS Installed May 18 				
Sampling Dates		May 2017	Jun 2018	Nov 2018	Jun 2019	Jan 2020	May 2017	Jun 2018	Nov 2018	Jun 2019	Jan 2020
Back-ground	Parking Lot	0.8 B	0.8 U	0.5 U	0.5 U	0.28	4.21 B	1 U	1	3	0.27
	Parking Lot	0.5 U	1 U	0.5 U	0.5 U	0.15U	1.02 B	1 U	1	2	<0.1 J
Shop-ping Center	Suite 1	26	7	4	2	<0.1 J	269	110	51	19	1.3
	Suite 1	16	6	5	2	<0.1 J	144	90	57	19	1.4
	Suite 2	19	7	0.5	0.5 U	<0.1 J	208	109	5	3	2.5
	Suite 2	17	6	0.5 U	0.5 U	<0.1 J	161	94	5	2	4.6
	Suite 3	2	0.7 U	0.5 U	0.5 U	<0.1 J	31.3	8	3	2	3.6
	Suite 3	3	2	0.5 U	0.5 U	<0.1 J	49.1	19	3	2	3.0

Note: B: Blank Related J: Estimated Value U: Undetected

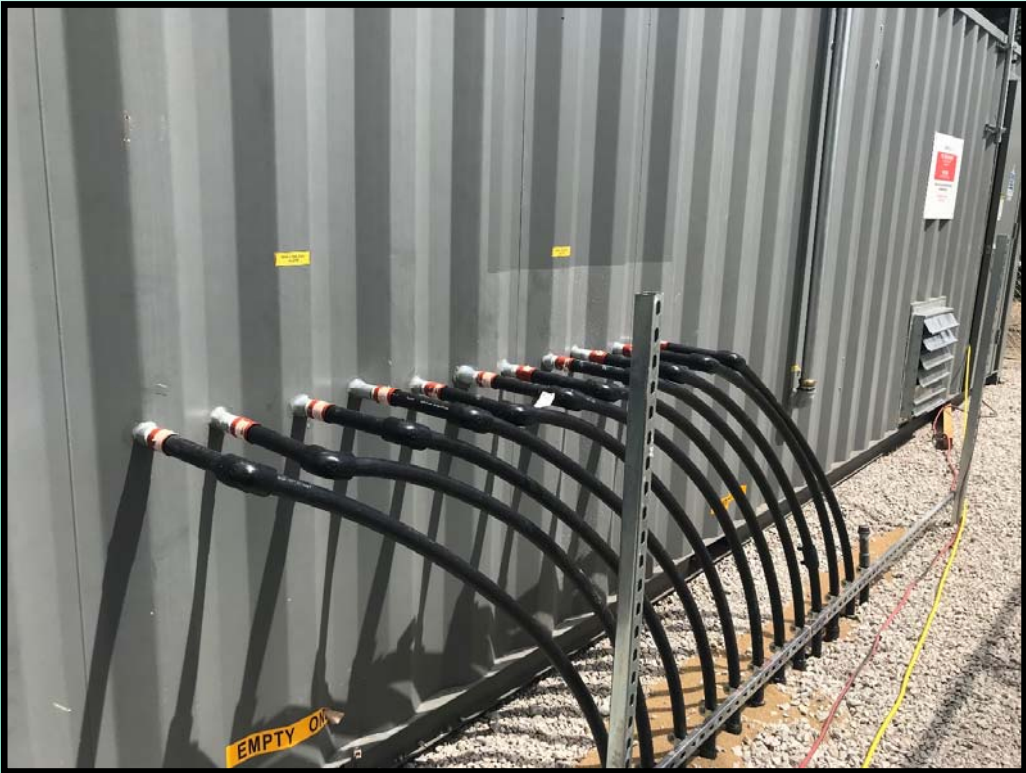
SVE System – Started Operations July 2019





Deep SVE Inlets

Shallow SVE Inlets



Groundwater Sampling Results

Zones 2 and 4

January-February 2020

Contaminants of Concern

- Tetrachloroethene (PCE)
 - Trichloroethene (TCE)
- cis- and trans Dichloroethene (DCE)
 - Vinyl Chloride (VC)

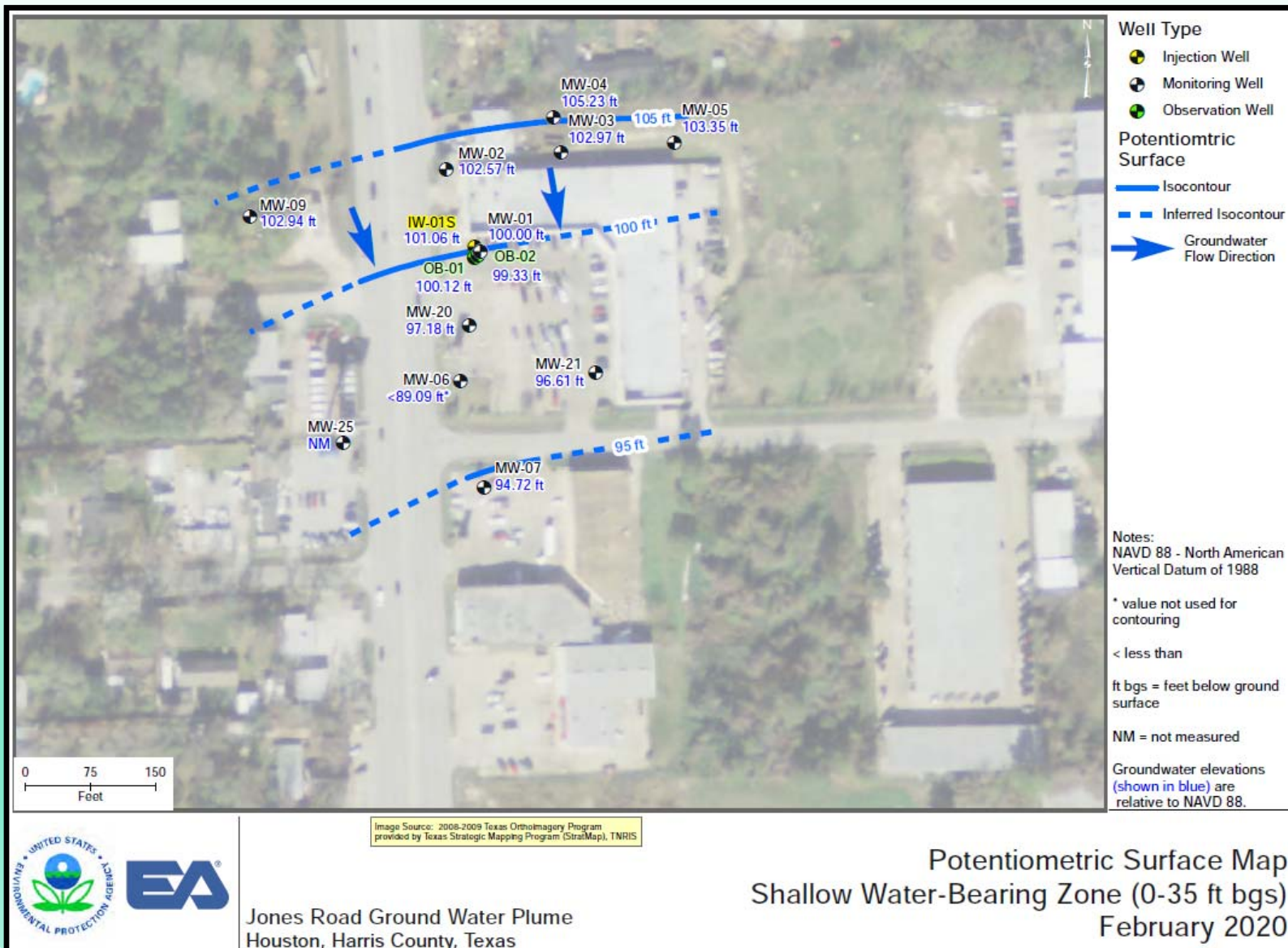
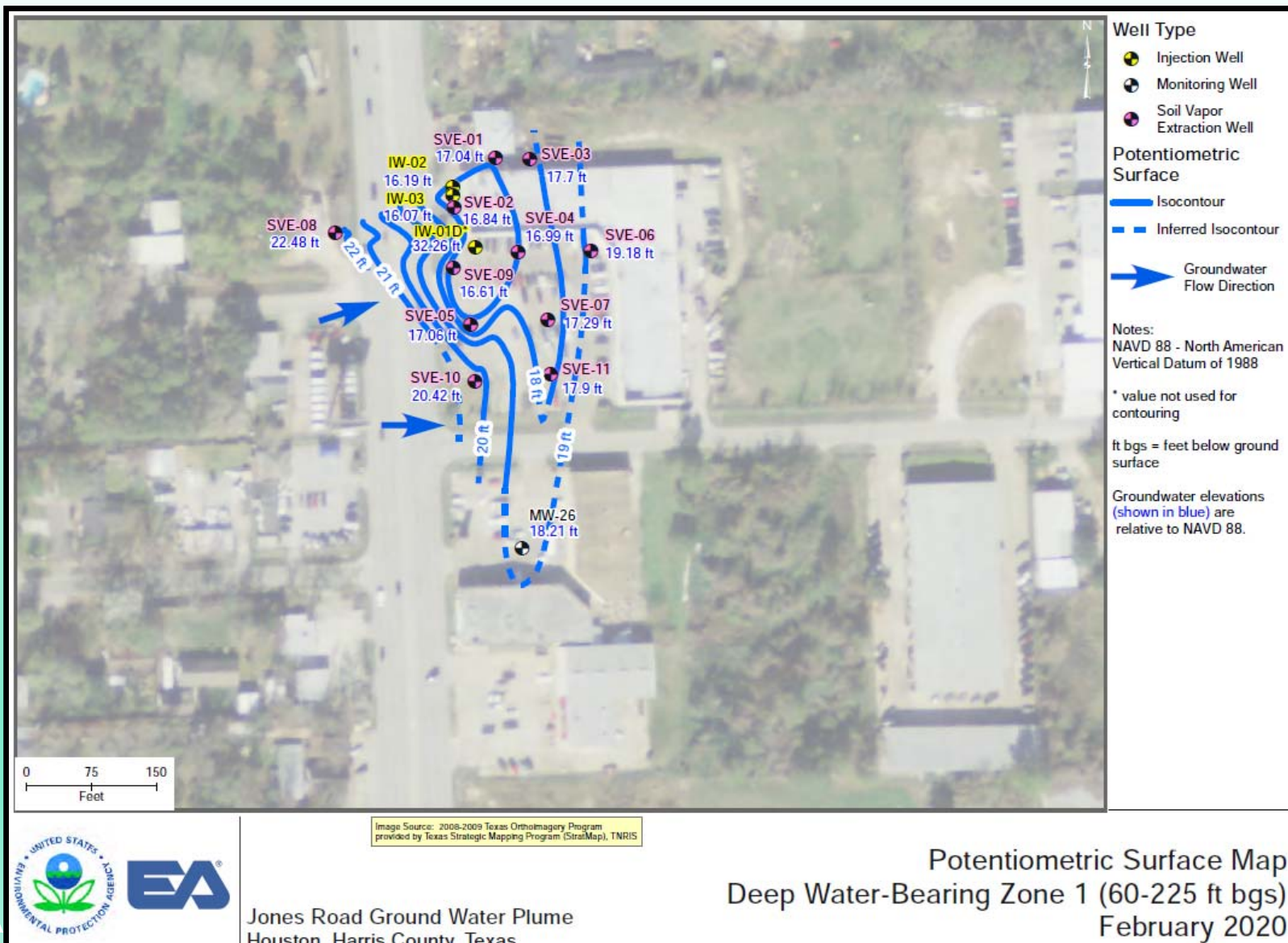


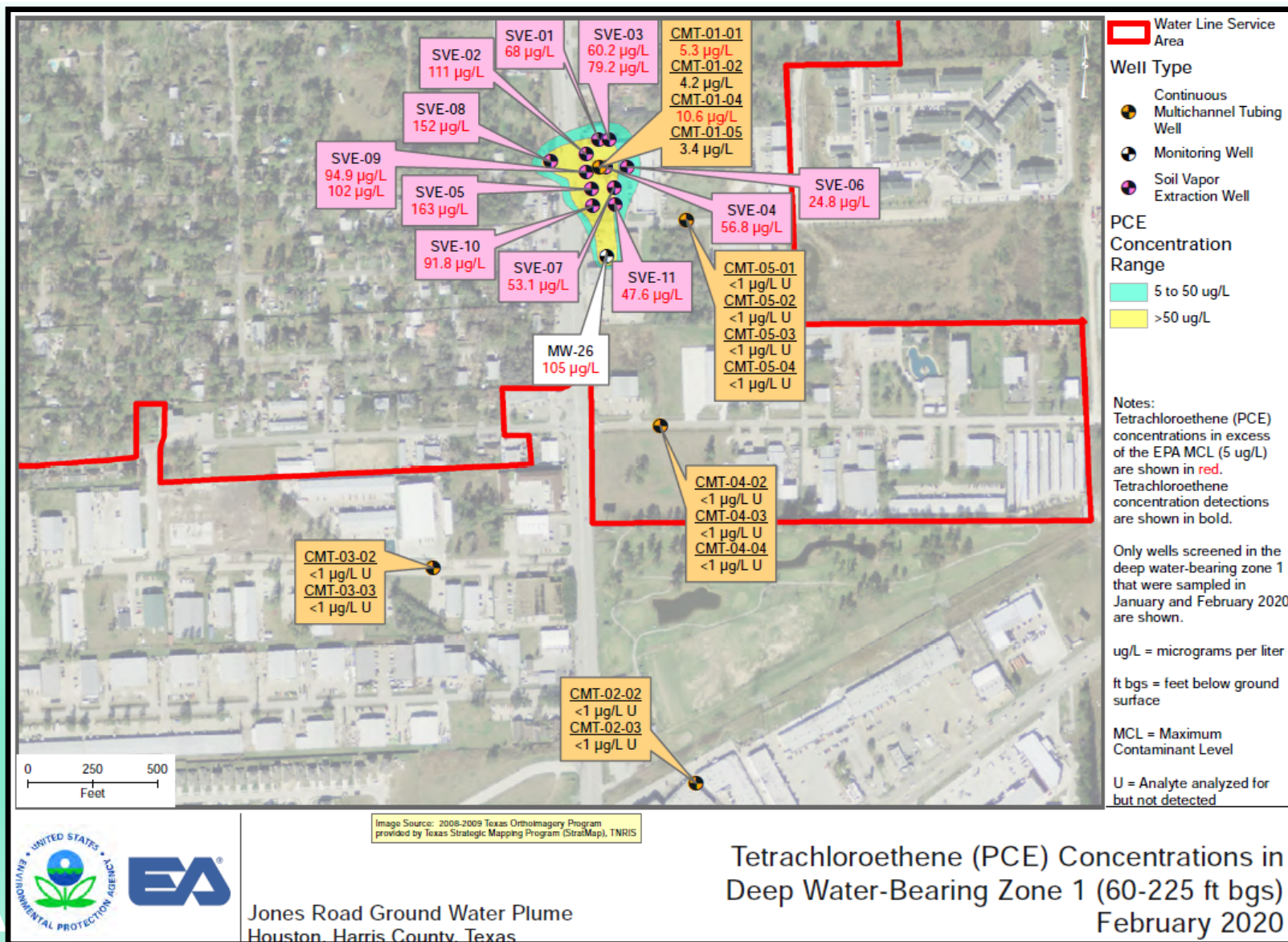


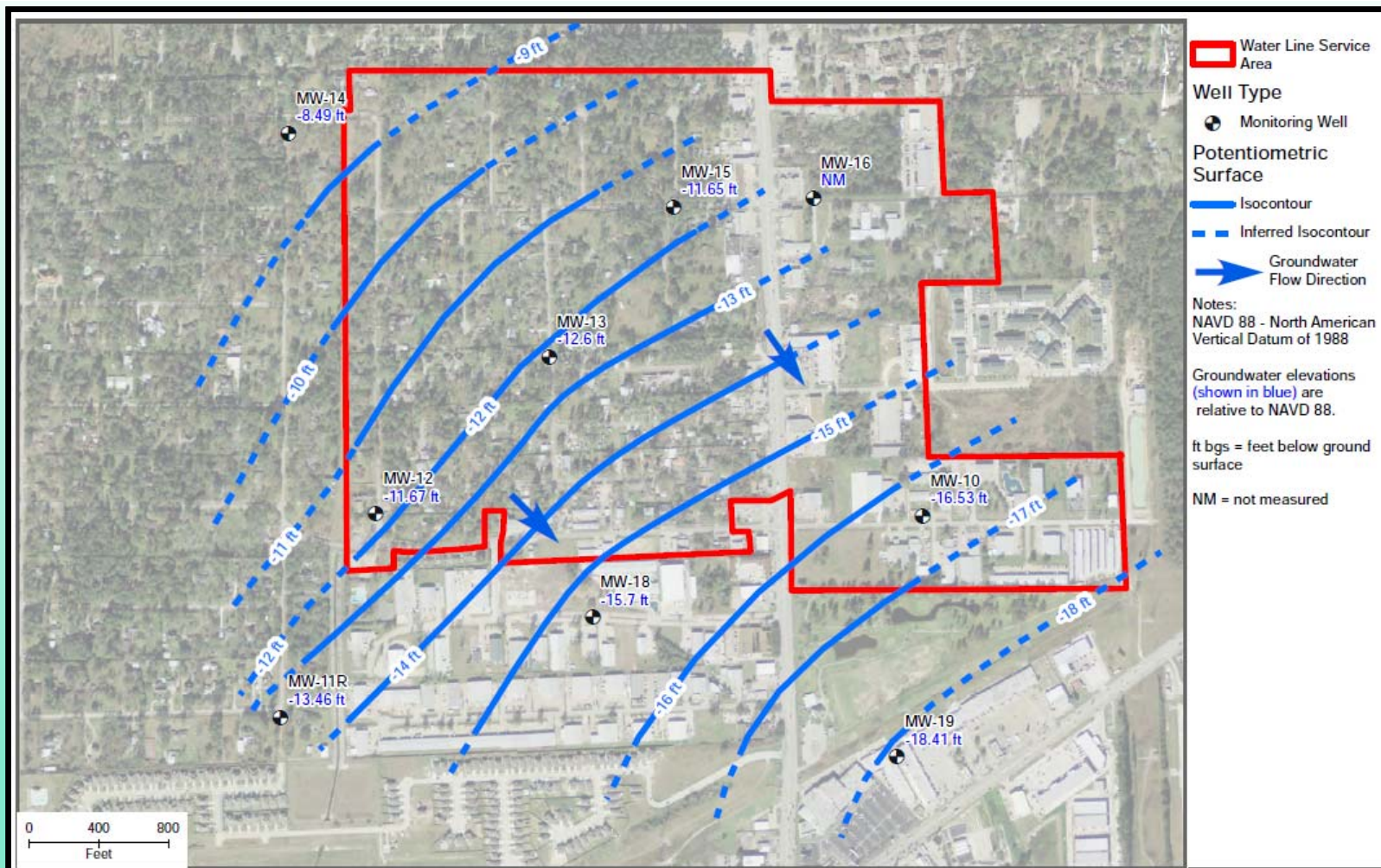
Image Source: 2009-2009 Texas Orthoregistry Program
 provided by Texas Strategic Mapping Program (StratMap), TNRIS

Tetrachloroethene (PCE) Concentrations in the Shallow Water-Bearing Zone (0-35 ft bgs) February 2020

Jones Road Ground Water Plume
 Houston, Harris County, Texas



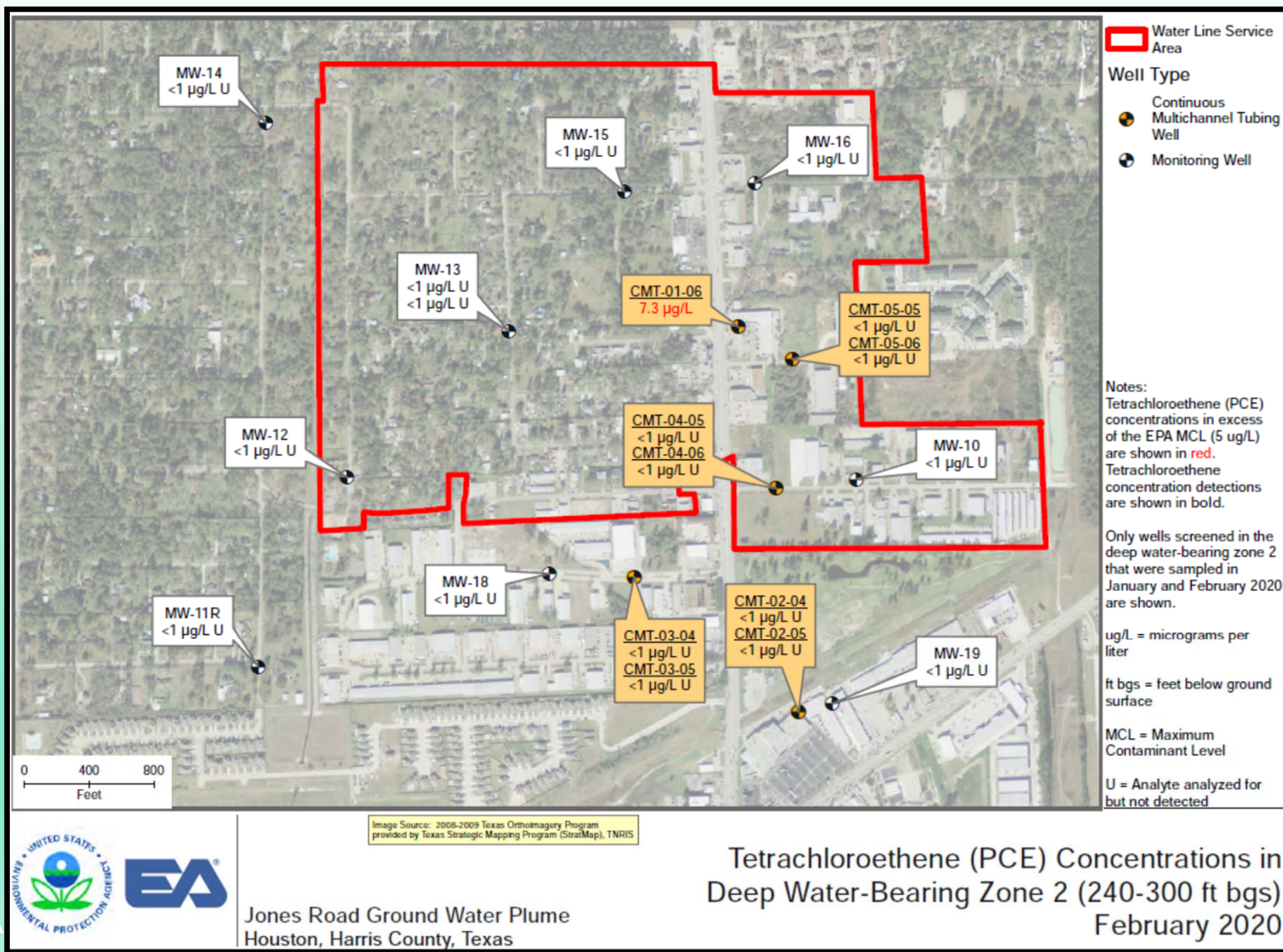


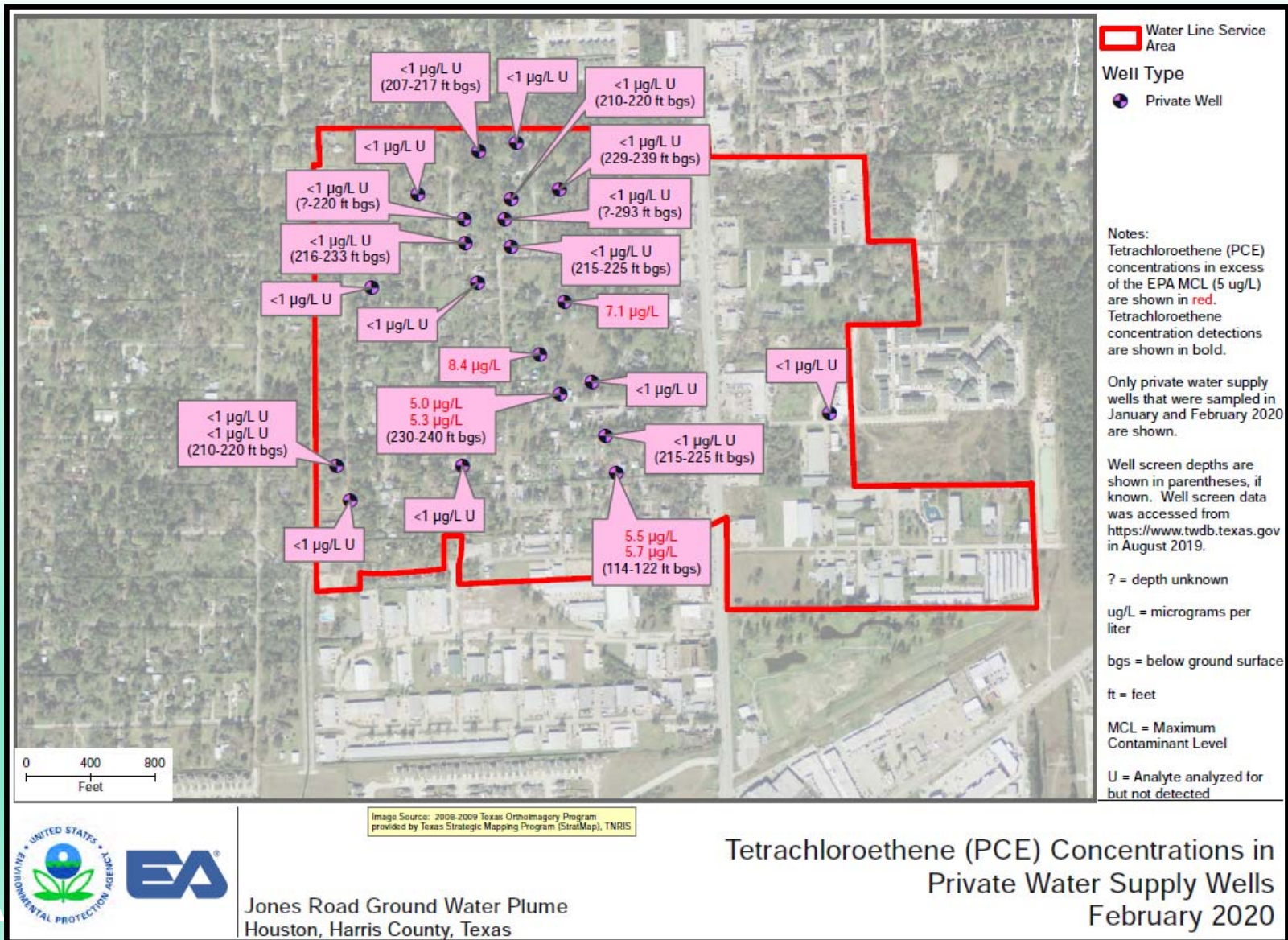


Jones Road Ground Water Plume
Houston, Harris County, Texas

Image Source: 2008-2009 Texas Orthoregistry Program
provided by Texas Strategic Mapping Program (StratMap), TNRIS

Potentiometric Surface Map
Deep Water-Bearing Zone 2 (240-300 ft bgs)
February 2020





Deep Groundwater (Zone 4) – Next Steps

- Sample monitoring wells, SVE wells, CMT wells, and private wells in June 2020
- Coordinate waterline connections with the White Oak Bend
- Continue to monitor groundwater plume to ensure the plume concentrations are reducing
- Determine what additional remedial actions needed for groundwater plume

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