

## CITY OF HOUSTON



## PUBLIC WORKS AND ENGINEERING PLANNING & DEVELOPMENT DIVISION

Pursuant to City of Houston Ordinance 2007-959, Phase Engineering, Inc. files this application seeking a Municipal Setting Designation (MSD) for the 1.38 acre property west of downtown, at 2806-2818 Hullsmith Drive, Houston, TX, 77063. A partial legal description of the subject site is "60,000 SQUARE FEET of land being out of Reserve A, Block 1 of TWELVE OAKS ESTATES, the plat of which is filed of record under Film Code No. 591274 of the HARRIS County Map Records". Previously, the site was a retail strip center with two automotive repair facilities; the property now consists of cleared, vacant land.

The subject site is surrounded by retail, commercial, single-and multi family residential properties. The property fronts Hullsmith Drive and is bound on the east by Molina's Cantina, Thompson's Pool Supply and Public Storage. Single- and multi family residential property are located to the south, and a Private Mini Storage facility is located west of the subject site. A retail strip center, dry cleaner and automotive shop are located to the north of the property, on the north side of Westheimer.

Environmental investigations of the property at 2806-2818 Hullsmith, have identified Chemicals of Concern (COCs) in the groundwater and soil. Two groundwater bearing zones have been identified at a depth of 15 and 38 feet below ground surface. Local groundwater flow beneath the site is generally south-southeast. Five COC in groundwater have been identified with Protective Concentration Levels (PCLs) above residential level, including cis, 1,2, Dichloroethelene at a maximum level of 1.016 mg/L, Trichloroethene at a maximum level of 1.2 mg/L, Tetrachloroethene as a maximum level of 1.5 mg/L and Vinyl Chloride at a maximum level of 0.0466 mg/L. Each of these compounds is water soluble, have migrated through the groundwater bearing zone and have been stratigraphically trapped. No soils have been affected in excess of residential PCLs. The contaminated groundwater plume is stable; the source of the plume is Tom's Cleaners (VCAP #1497) which is the adjacent property across Westheimer Road.

There are no state-registered water wells located within one-half mile of the property based on the TWDB Groundwater and Submitted Driller's Report Databases for Harris County. Since the groundwater plume is relatively shallow and stable, water wells beyond 0.5 mile should not be affected by contamination at 2806-2818 Hullsmith.

There are no municipalities within a ½ mile radius of the property other than the City of Houston. Within a five mile radius, there are nine other municipalities including the cities of Bellaire, Bunker Hill, Hedwig Village, Hilshire Village, Hunters Creek Village, Piney Point Village, Southside Place, Spring Valley and West University Place. Within a five-mile radius of the property, 923 property owners have been identified from the Harris County Appraisal District records for notification.

Phase Engineering, Inc. is seeking a Municipal Setting Designation (MSD) for this property, to restrict access to groundwater to protect the public against exposure to contaminated groundwater. The City of Houston operates the public drinking water supply system that meets state requirements, and supplies or is capable of supplying drinking water to the MSD property and all properties within one-half mile of the MSD property. The applicant's current plan for the site, is to obtain closure for the groundwater issues by obtaining the MSD with the City of Houston and TCEQ.

## **Appendix B**

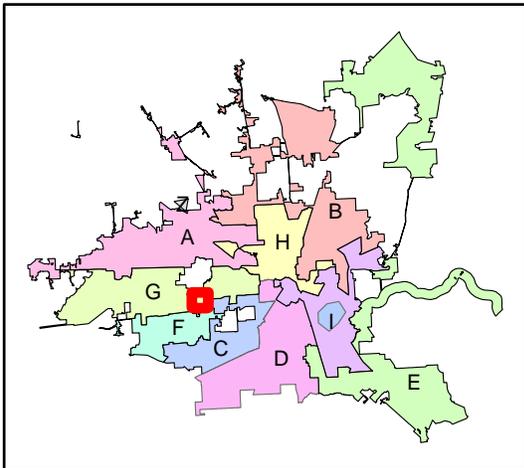
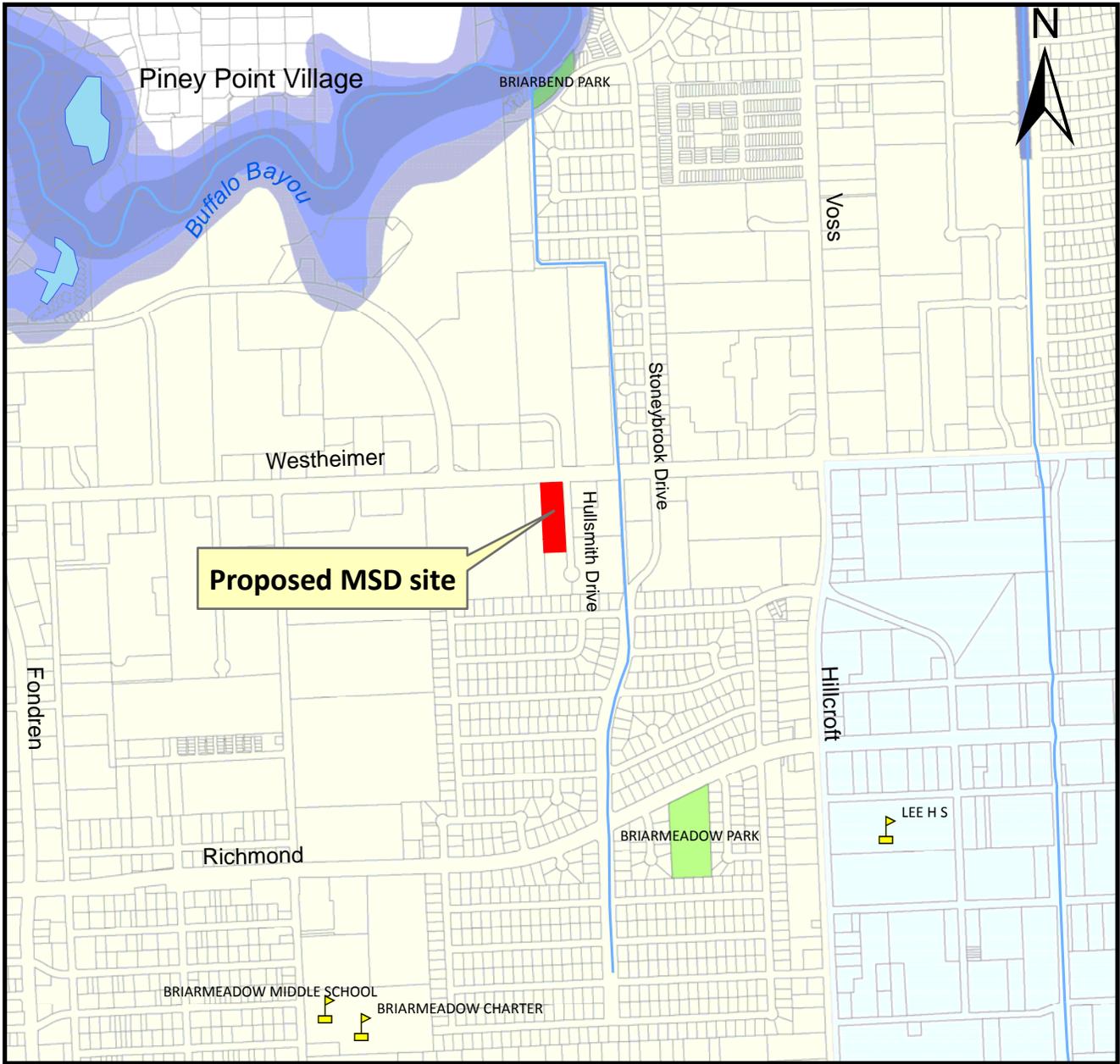
### **(TCEQ MSD Reference No, 1, 2, and 4)**

*A site map showing:*

- a. The location of the designated property.*
- b. The topography of the designated property as indicated on publically available sources, which must note the watershed and whether the designated property is located in a floodplain or floodway, as those terms are defined in Chapter 19 of the Code.*
- c. The detected area of groundwater contamination.*
- d. The location of all soil sampling locations and all groundwater monitoring wells.*
- e. Groundwater gradients, to the extent known, and the direction of groundwater flow.*
- f. The ingestion protective concentration level exceedence zone for each contaminant of concern, to the extent known.*

#### Attached Figures

- Figure 1: Location Map
- Figure 2: Topographic Map Showing Flood Zones
- Figure 3: Trichloroethene Isoconcentration Map
- Figure 4: Tetrachloroethene Isoconcentration Map
- Figure 5: cis 1, 2, Dichloroethene Isoconcentration Map
- Figure 6: Vinyl Chloride Isoconcentration Map
- Figure 7: Deeper Groundwater Trichloroethene Map
- Figure 8: Deeper Groundwater Tetrachloroethene Isoconcentration Map
- Figure 9: Affected Property Map
- Figure 10: Groundwater Gauging Data – VCP ID NO. 1829
- Figure 11: Shallow Groundwater Gradient Map
- Figure 12: Deeper Groundwater Gradient Map
- Figure 13: Cross Section A
- Figure 14: Cross Section B



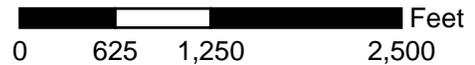
City of Houston Showing Council Districts and Map Location

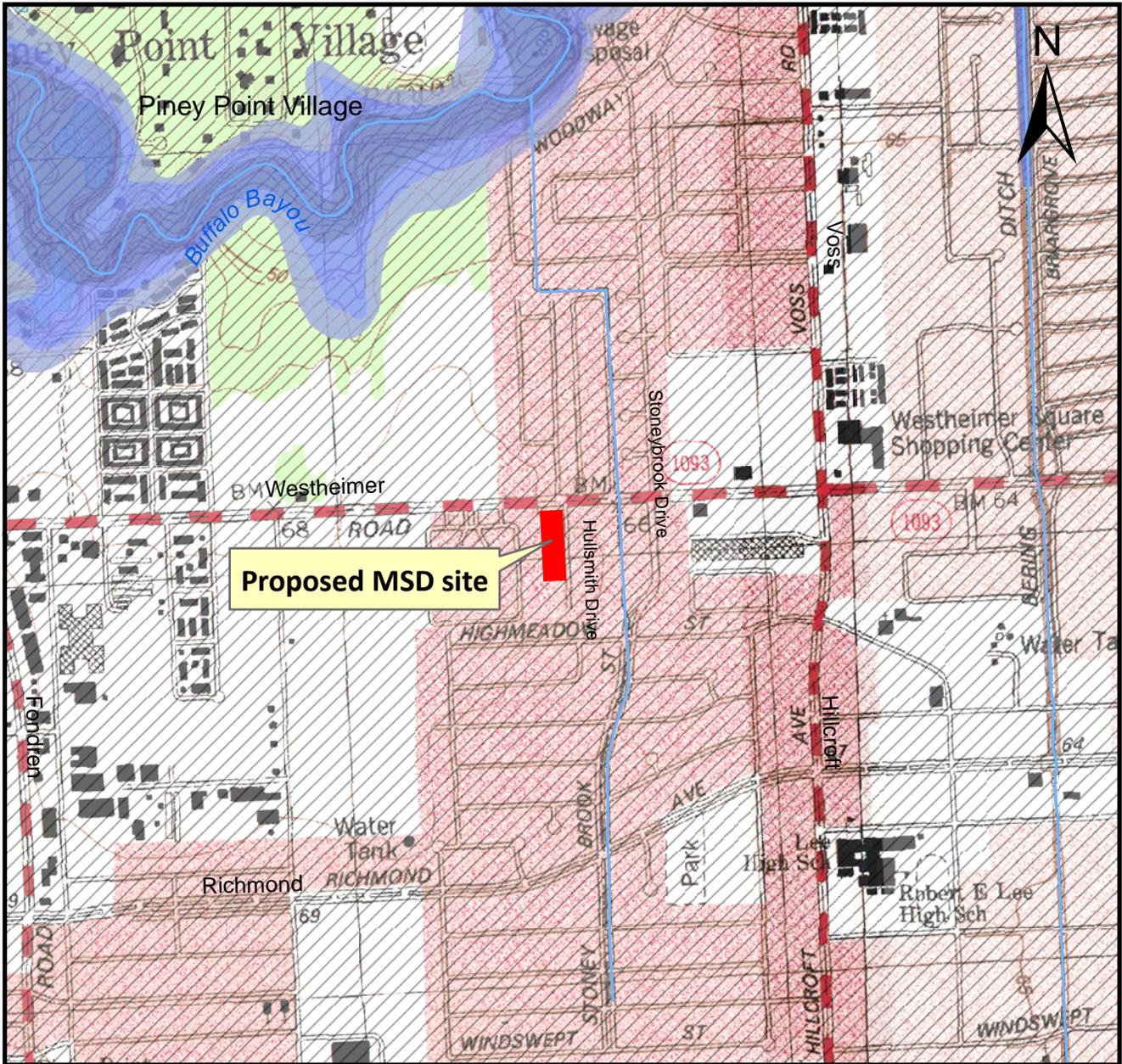
**Municipal Settings  
Designation Application**

**2806 - 2818 Hullsmith Drive  
Houston, Tx 77063**

**Location Map**

1 inch equals 1,250 feet





**Legend**

-  Channels, Creeks and Streams
-  Buffalo Bayou Watershed
-  FW (Flood Way)
-  Zone A (100-yr Flood, No Base Elevation Determined)
-  Zone X500 (500-year Flood Plain)
-  Zone X (Outside 500-yr Flood Plain)

USGS 7.5 ' topographic series:  
 Alief, Tex, 1982, and Bellaire, Tex, 1982

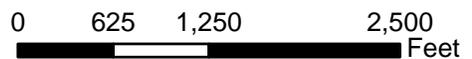
Note: Site located in Bufflo Bayou Watershed  
 Site is not located in a 100-or 500-year flood plain

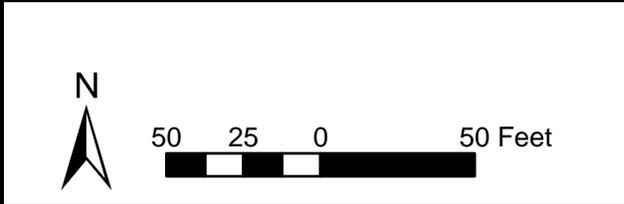
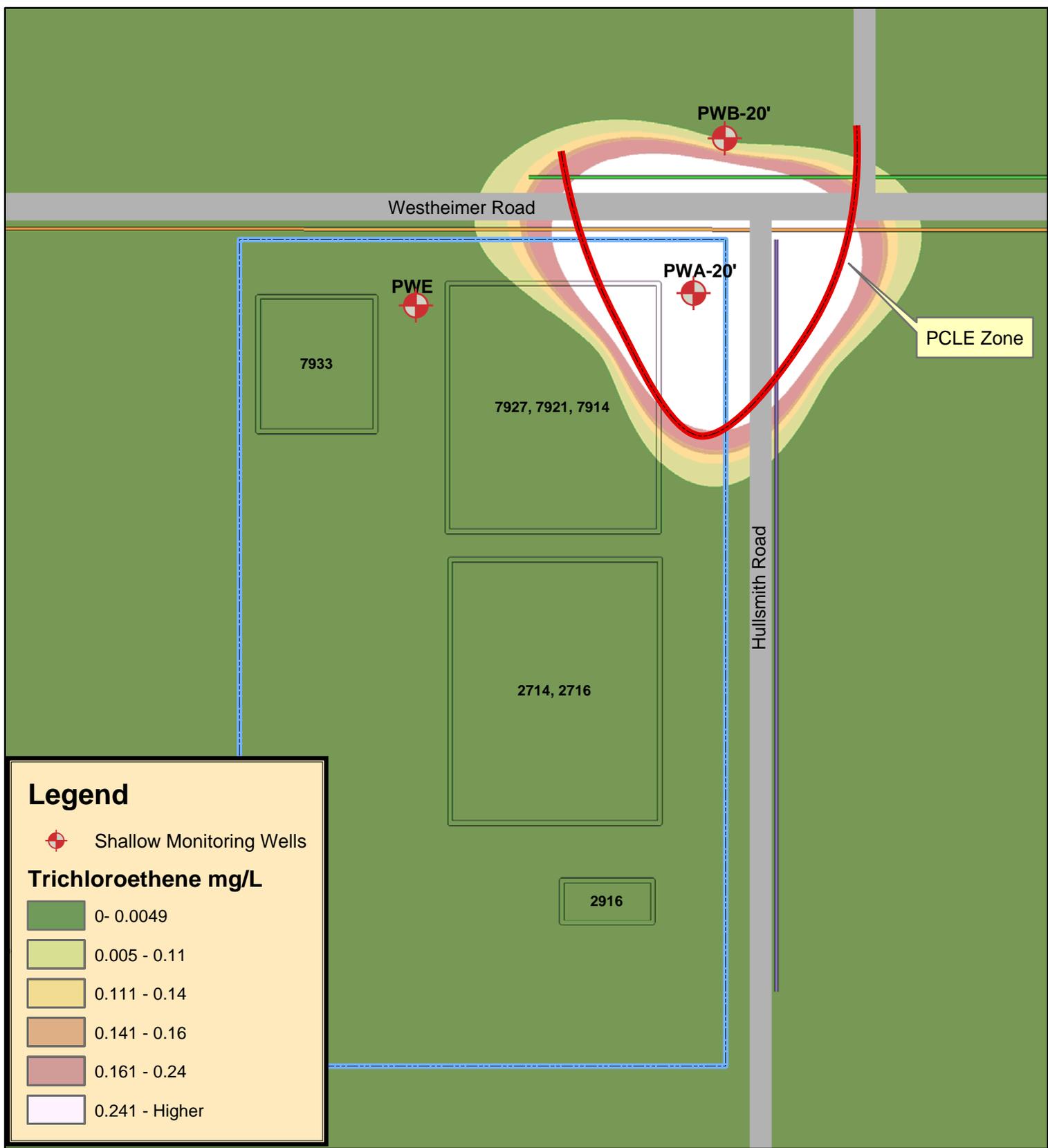
**Municipal Settings  
 Designation Application**

**2806 - 2818 Hullsmith Drive  
 Houston, Tx 77063**

**Topographic Map  
 Showing Flood Zones**

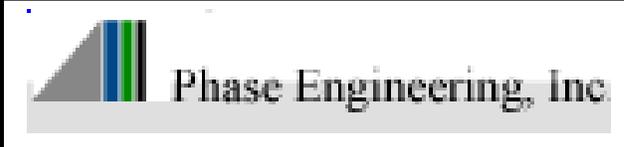
1 inch equals 1,250 feet



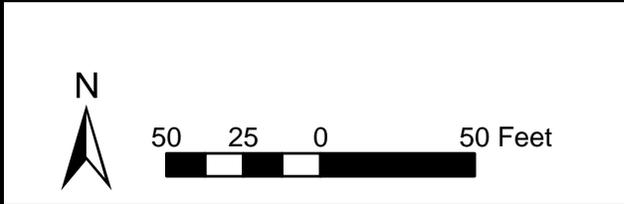
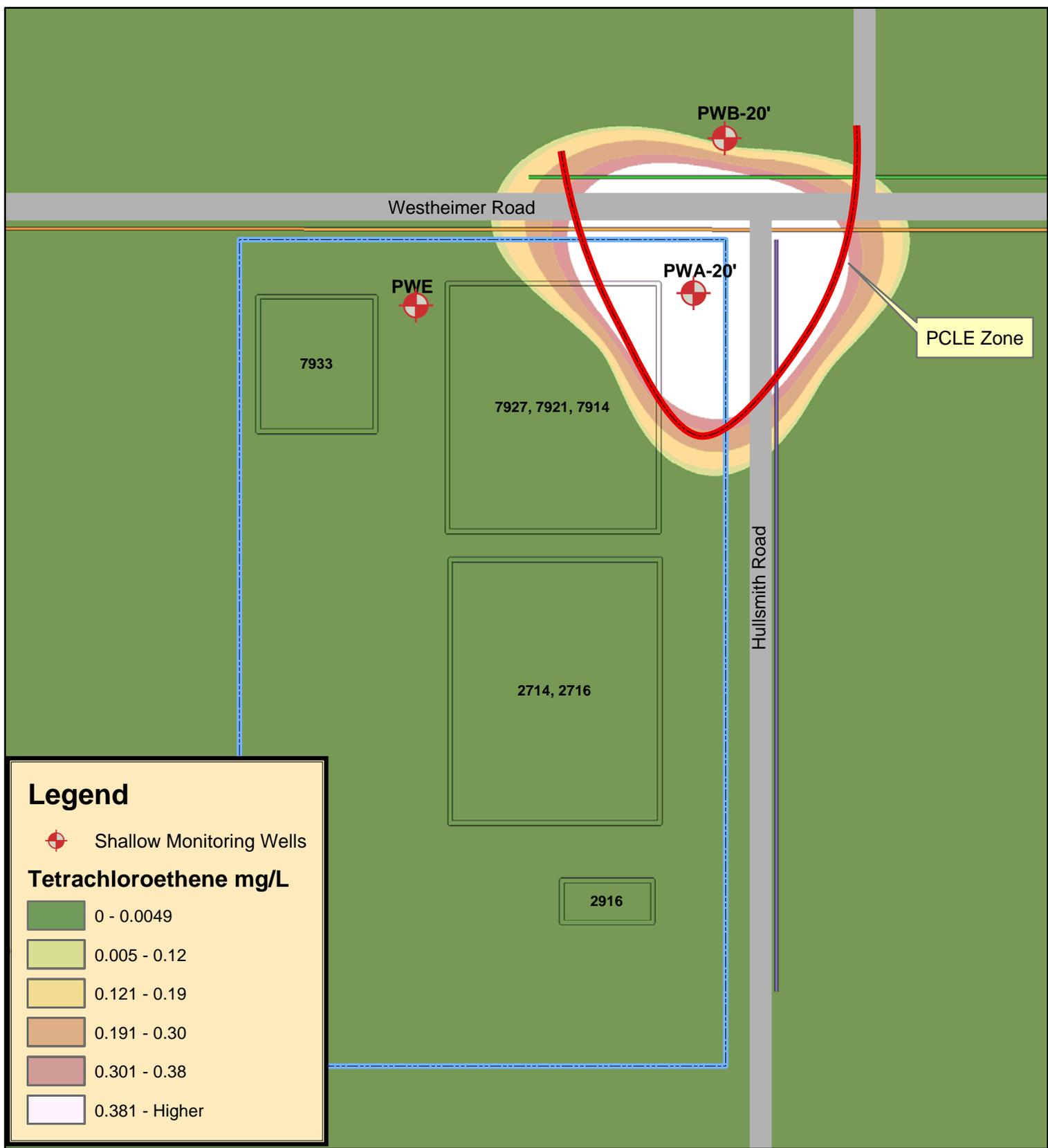


Drawn By: Ross Doctoroff, P.G.

7900 Block (odd) Westheimer  
Houston, Harris County, Texas 77063  
VCP#1829



**Trichloroethene  
Isoconcentration Map**

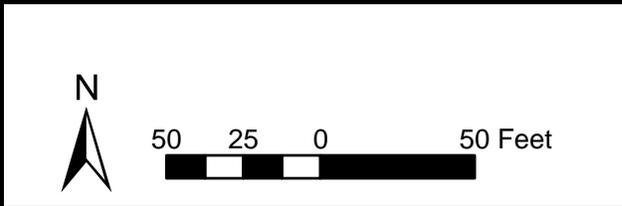
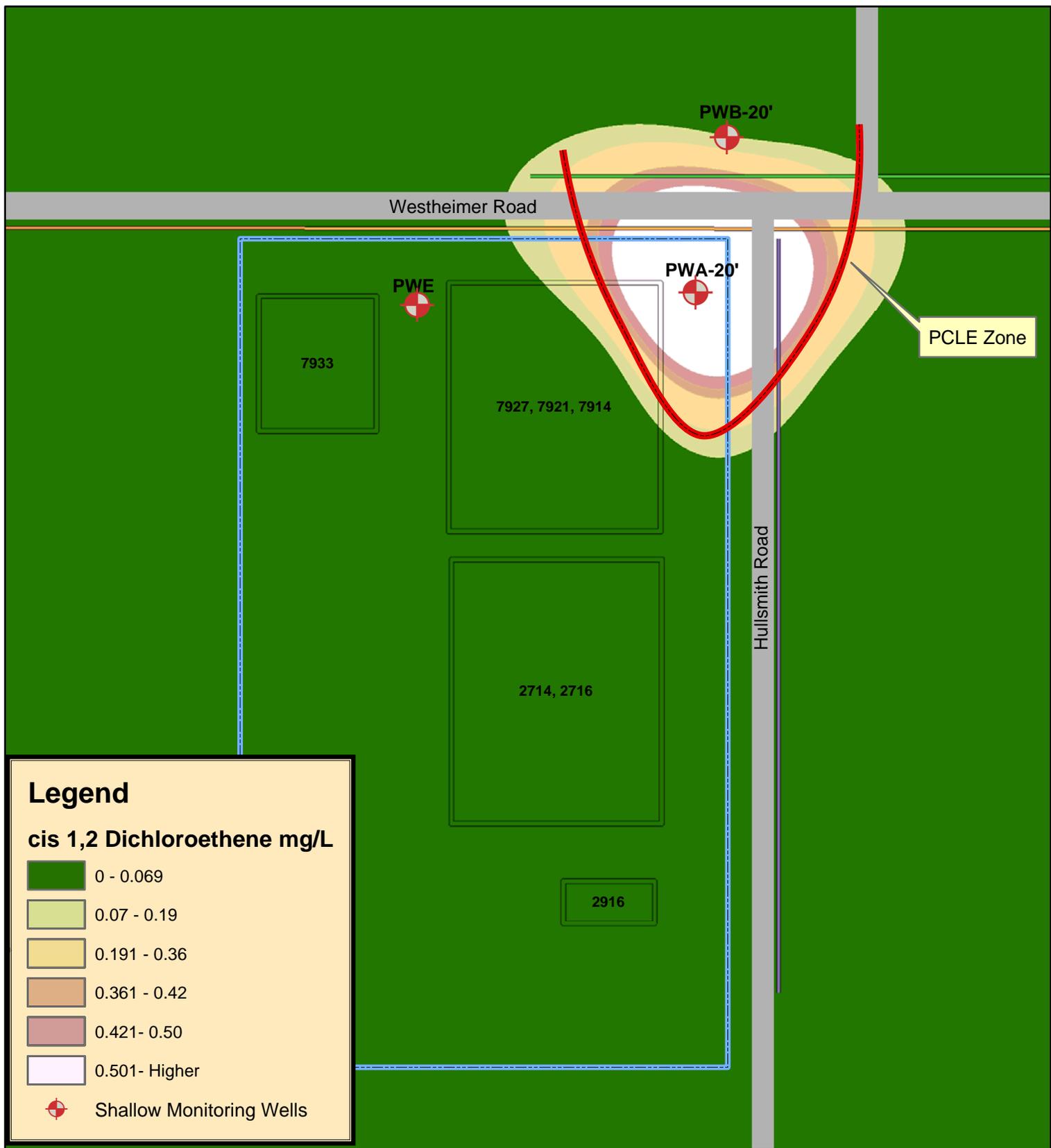


Drawn By: Ross Doctoroff, P.G.

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VCP#1829



**Tetrachloroethene  
Isoconcentration Map**

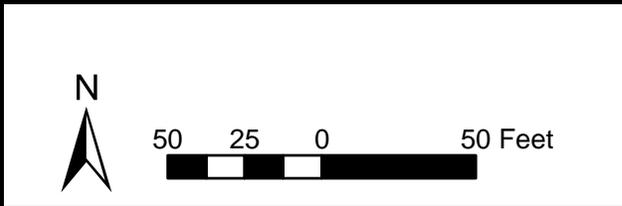
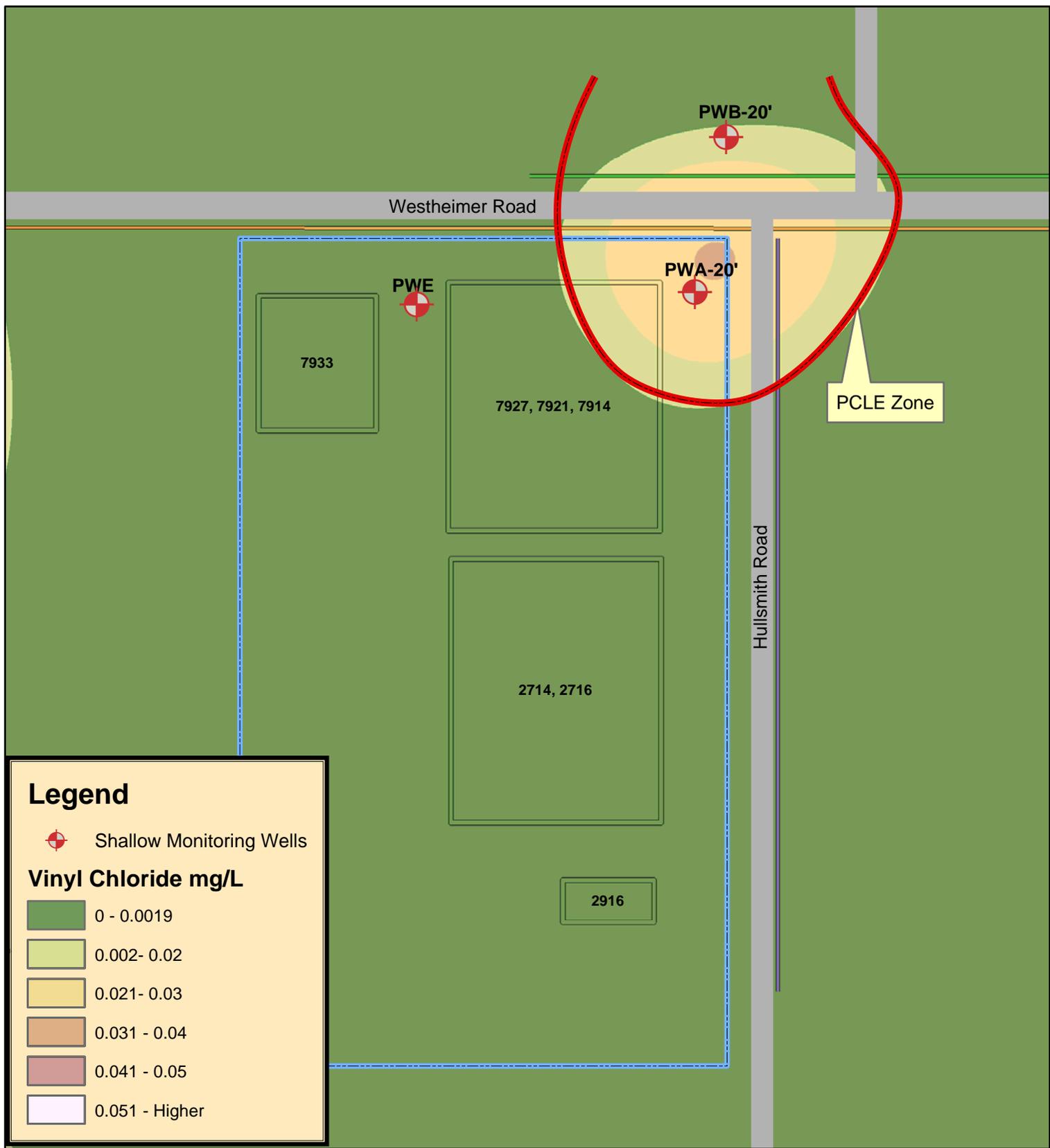


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VCP#1829



**cis 1,2 Dichloroethene  
Isoconcentration Map**

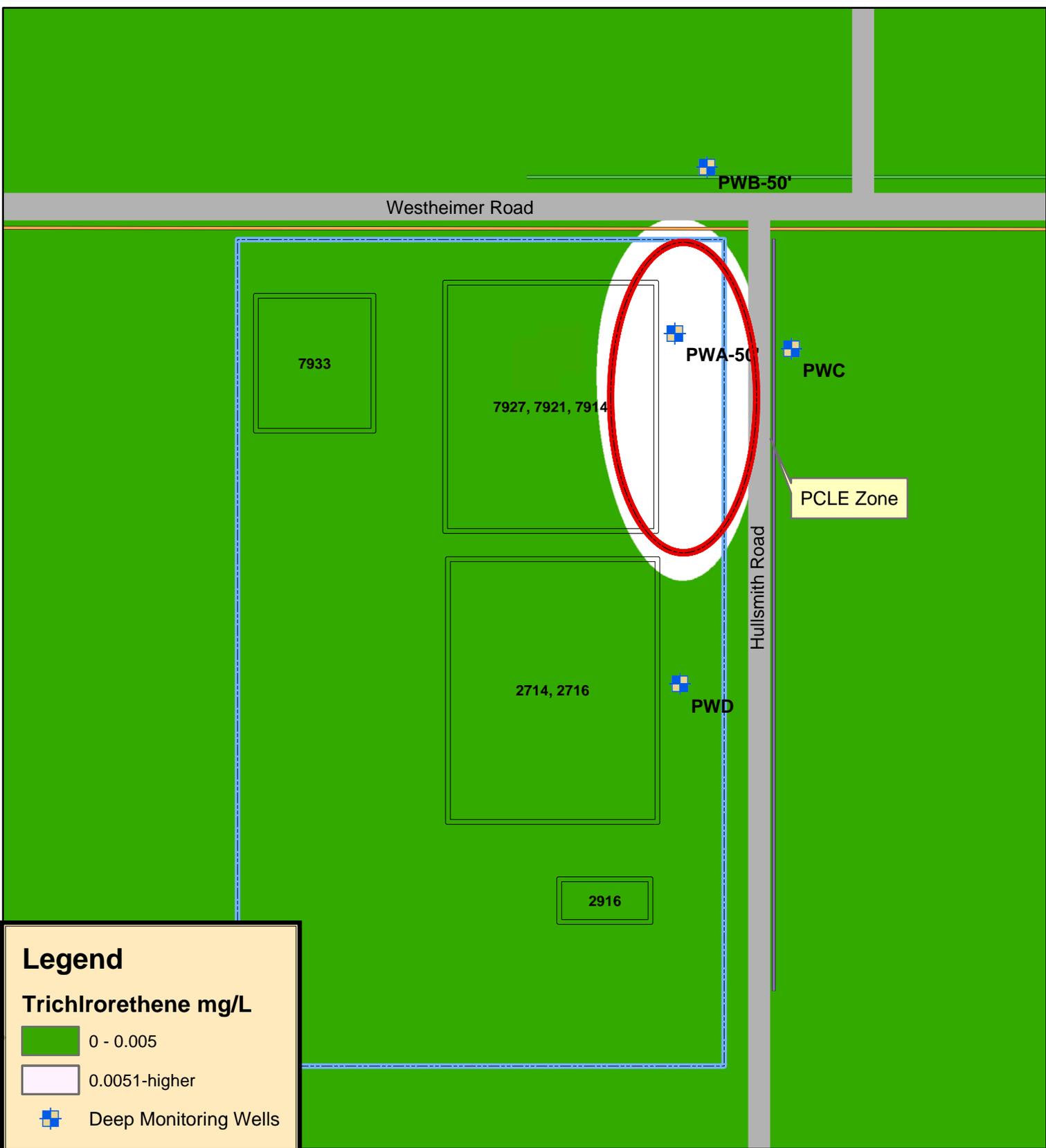


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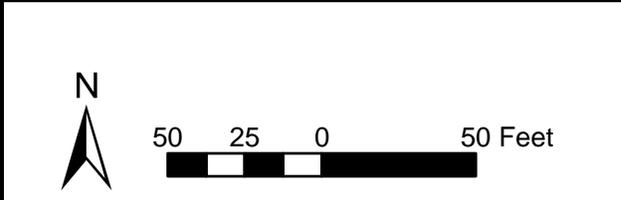
**Vinyl Chloride  
Isoconcentration Map**



**Legend**

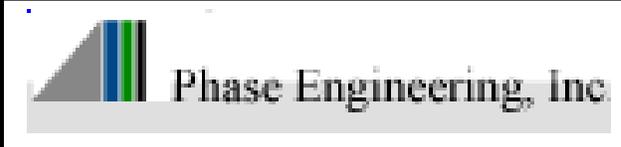
**Trichloroethene mg/L**

- 0 - 0.005
- 0.0051-higher
- Deep Monitoring Wells

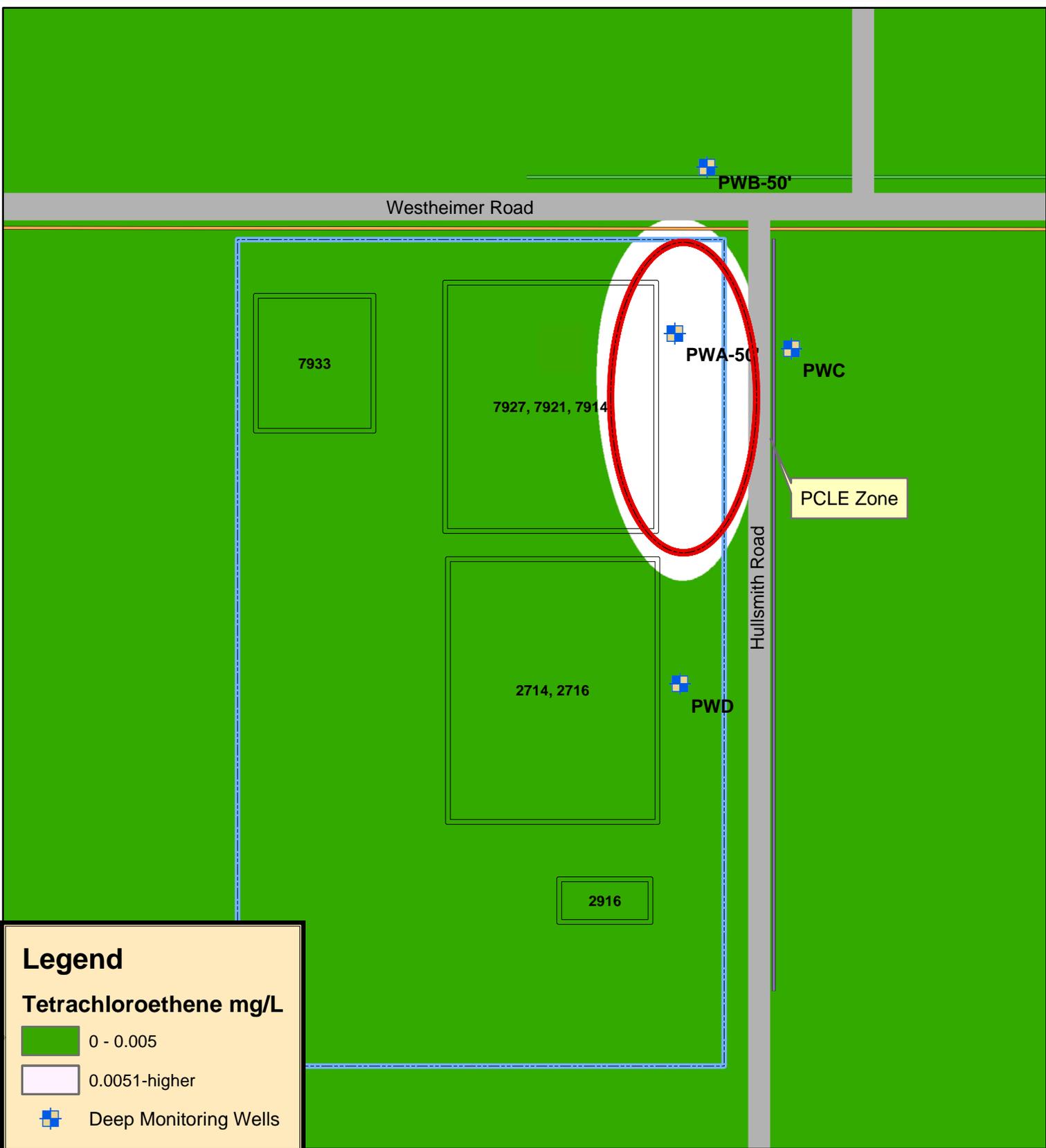


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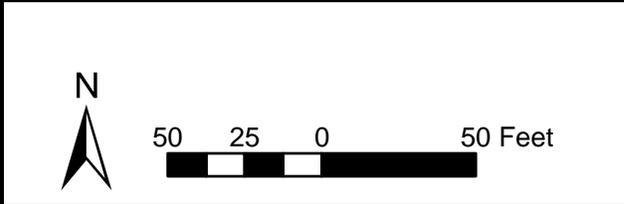
**Deeper Groundwater  
Trichloroethene  
Isoconcentration Map**



**Legend**

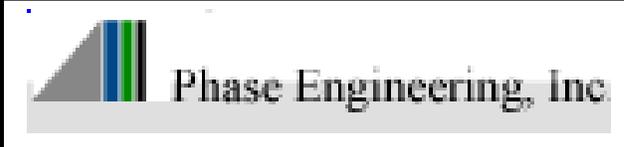
**Tetrachloroethene mg/L**

- 0 - 0.005
- 0.0051-higer
- Deep Monitoring Wells

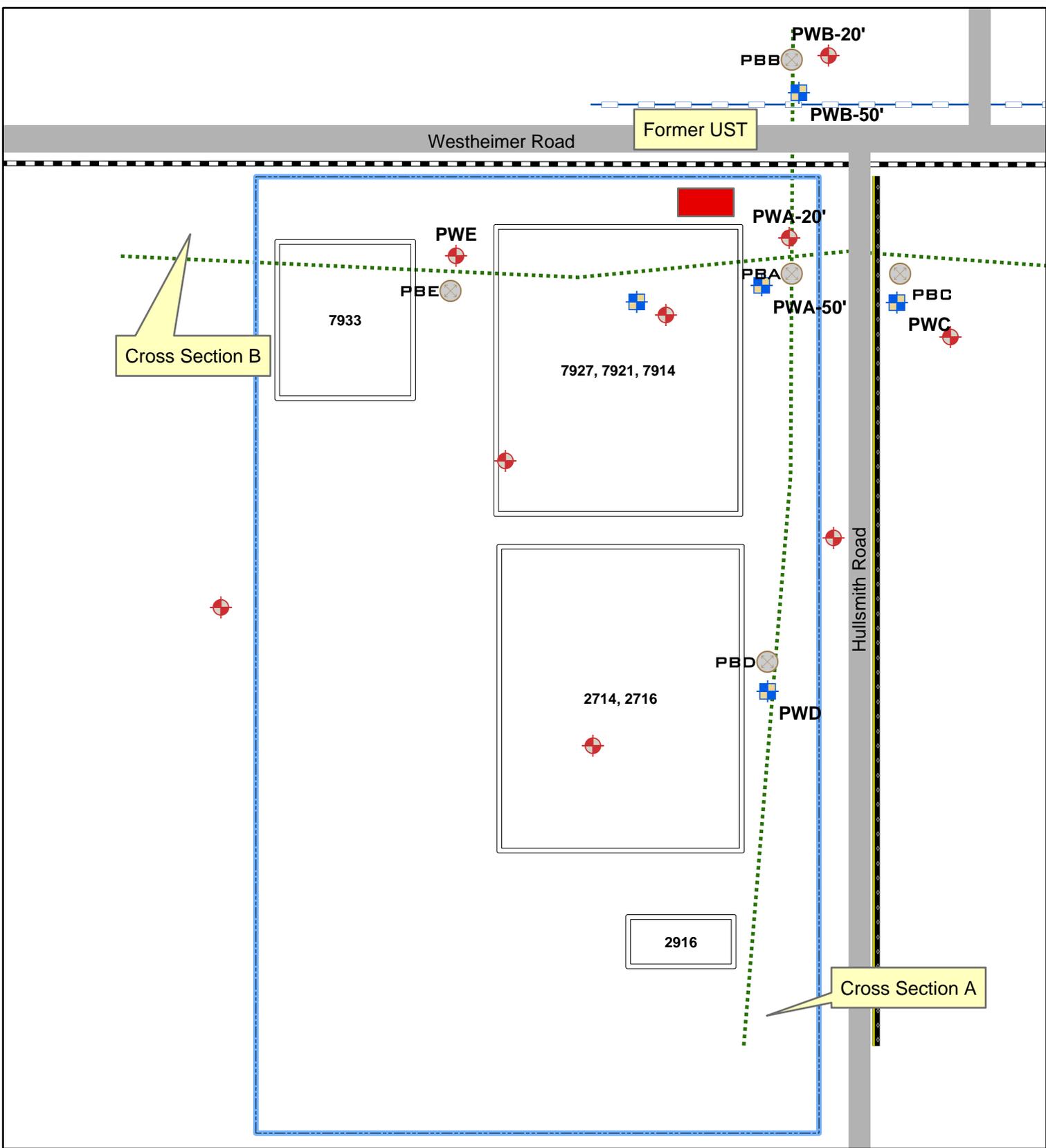


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VCP#1829



**Deeper Groundwater  
Tetrachloroethene  
Isoconcentration Map**



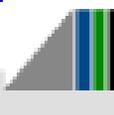
**Legend**

- Soil Borings
- Shallow Monitoring Wells
- Deep Monitoring Wells
- Utility Type**
- Drainage Ditch
- Wastewater Line
- Water Line
- Buildings
- Cross Sections



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7900 Block (odd) Westheimer  
Houston, Harris County, Texas 77063  
VCP#1829



Phase Engineering, Inc

**Affected Property Map**

## Groundwater Gauging Data VCP ID No. 1829

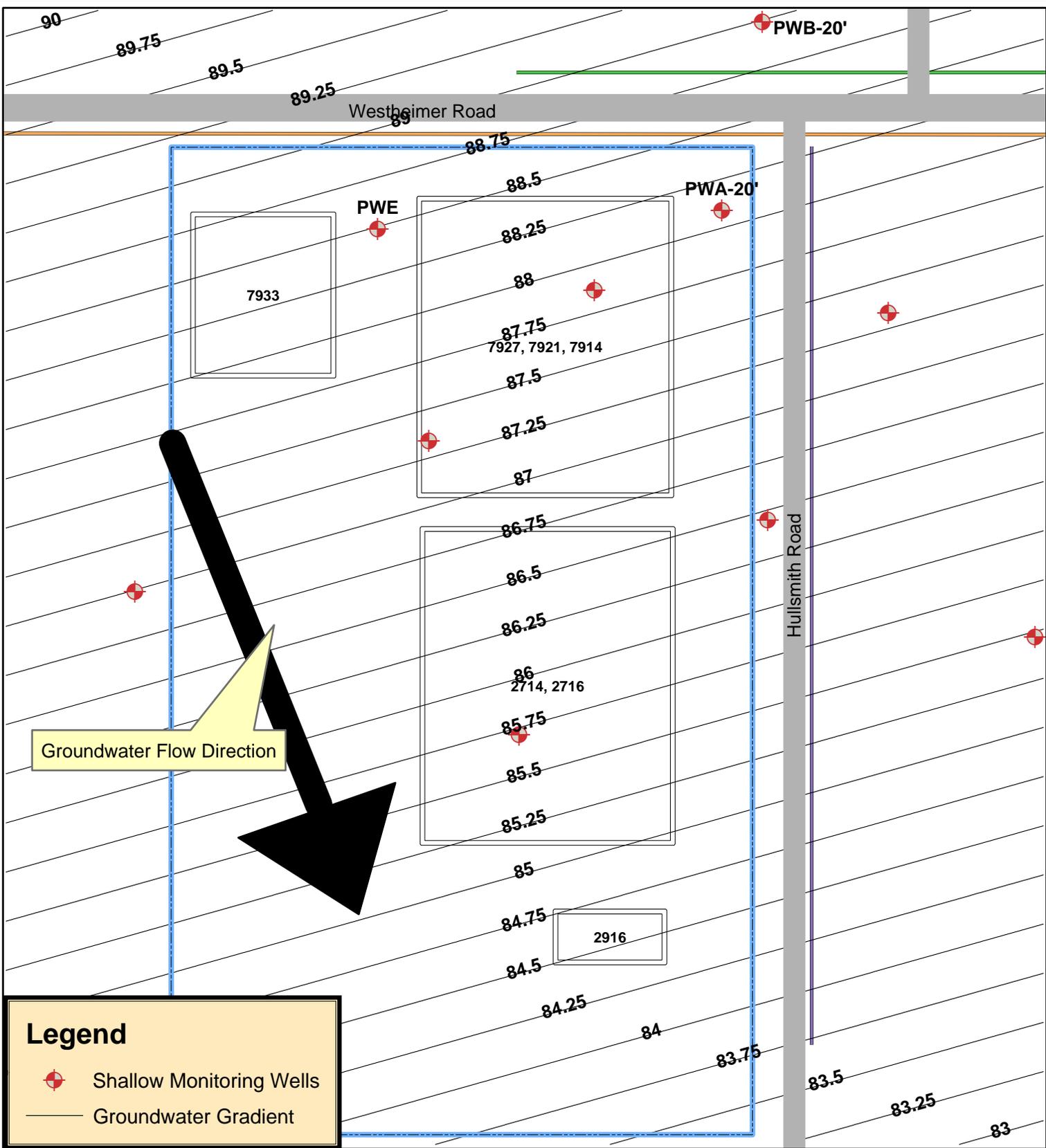
**Shallow Groundwater Table**

Monitoring Well	Sampling Date	Casing Elevation (feet)	Depth to Groundwater (feet)	Adjusted Groundwater Elevation	NAPL Thickness	Screened Interval (feet)
PWA-20'	3/29/2006	100.3	12.6	88.09	0.0	10-20
PWB-20'	3/29/2006	99.29	11.7	88.99	0.0	10-20
PWE	3/29/2006	100.06	12.2	88.49	0.0	10-20

**Deeper Groundwater Table**

Monitoring Well	Sampling Date	Casing Elevation (feet)	Depth to Groundwater (feet)	Adjusted Groundwater Elevation	NAPL Thickness	Screened Interval (feet)
PWA-50'	3/29/2006	99.46	18.2	82.49	0.0	30-45
PWB-50'	3/29/2006	99.30	17.5	83.19	0.0	30-45
PWC	3/29/2006	100.69	19.1	81.59	0.0	25-45
PWD	3/29/2006	100.0	18.3	82.39	0.0	20-45

All elevations are to the top of the center of the surface manhole cover. The elevations are approximate and based off of a relative 100.0' benchmark set on the PWD manhole cover.



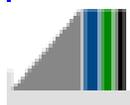
**Legend**

-  Shallow Monitoring Wells
-  Groundwater Gradient



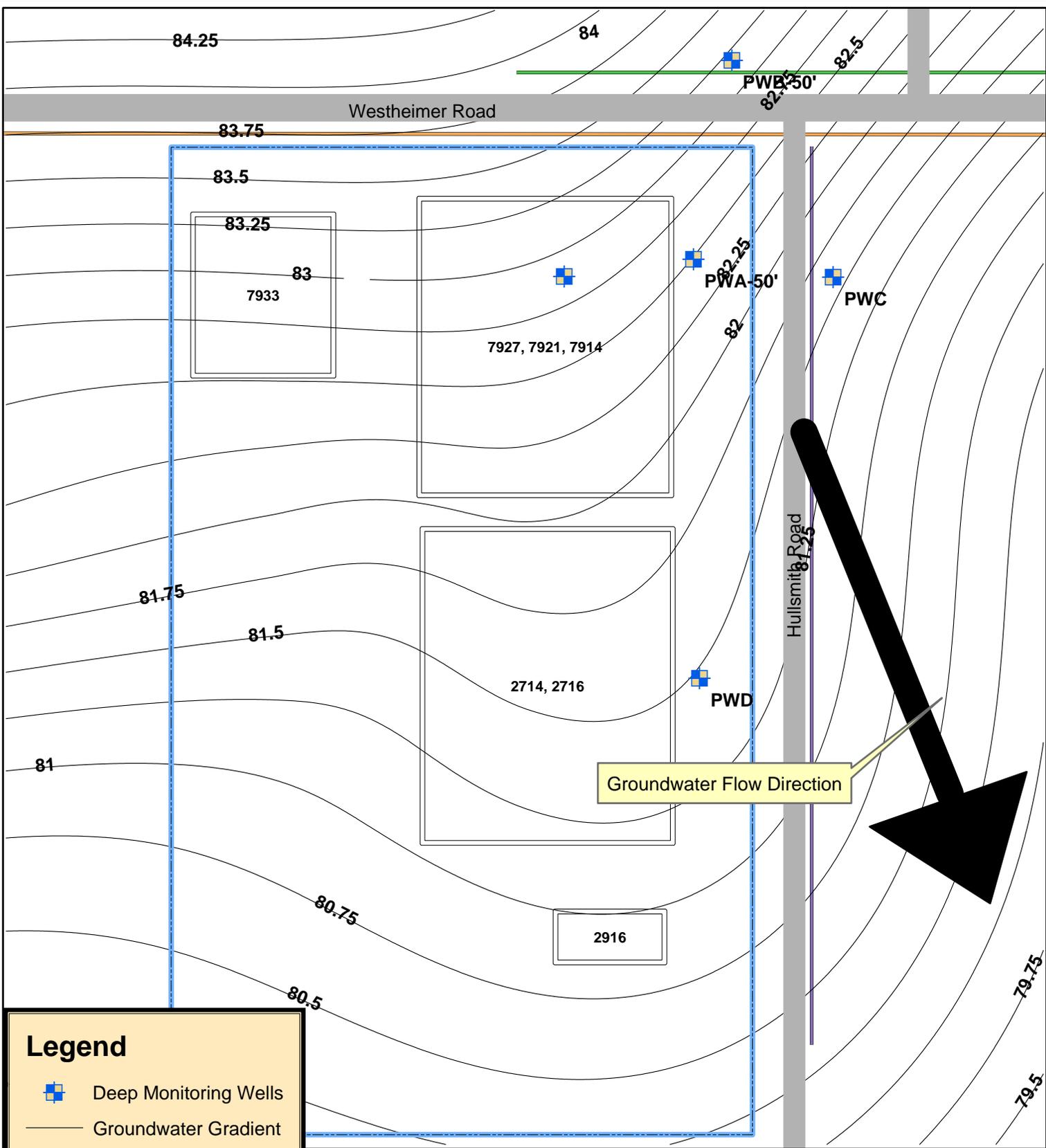
Drawn By: Ross Doctoroff, P.G.

7900 Block (odd) Westheimer  
Houston, Harris County, Texas 77063  
VCP#1829



Phase Engineering, Inc

**Shallow Groundwater Gradient Map**



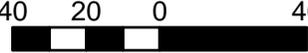
**Legend**

-  Deep Monitoring Wells
-  Groundwater Gradient

N

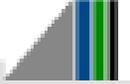


40   20   0   40 Feet



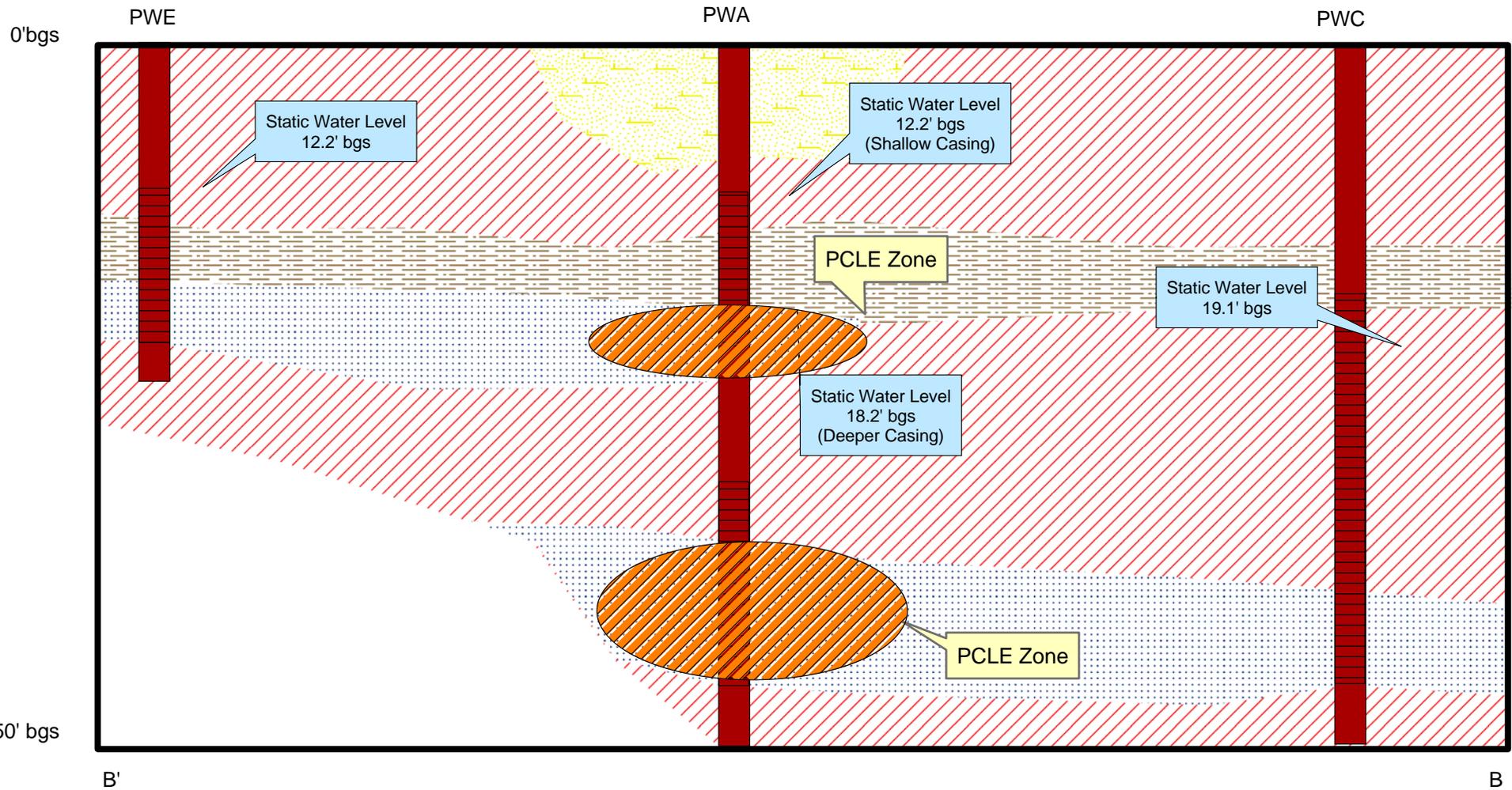
Drawn By: Ross Doctoroff, P.G.

7900 Block (odd) Westheimer  
Houston, Harris County, Texas 77063  
VCP#1829



Phase Engineering, Inc

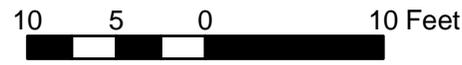
## Deeper Groundwater Gradient Map



**Legend**

Type

- Clay
- Clayey Sand
- Sandy Clay
- Saturated Sand



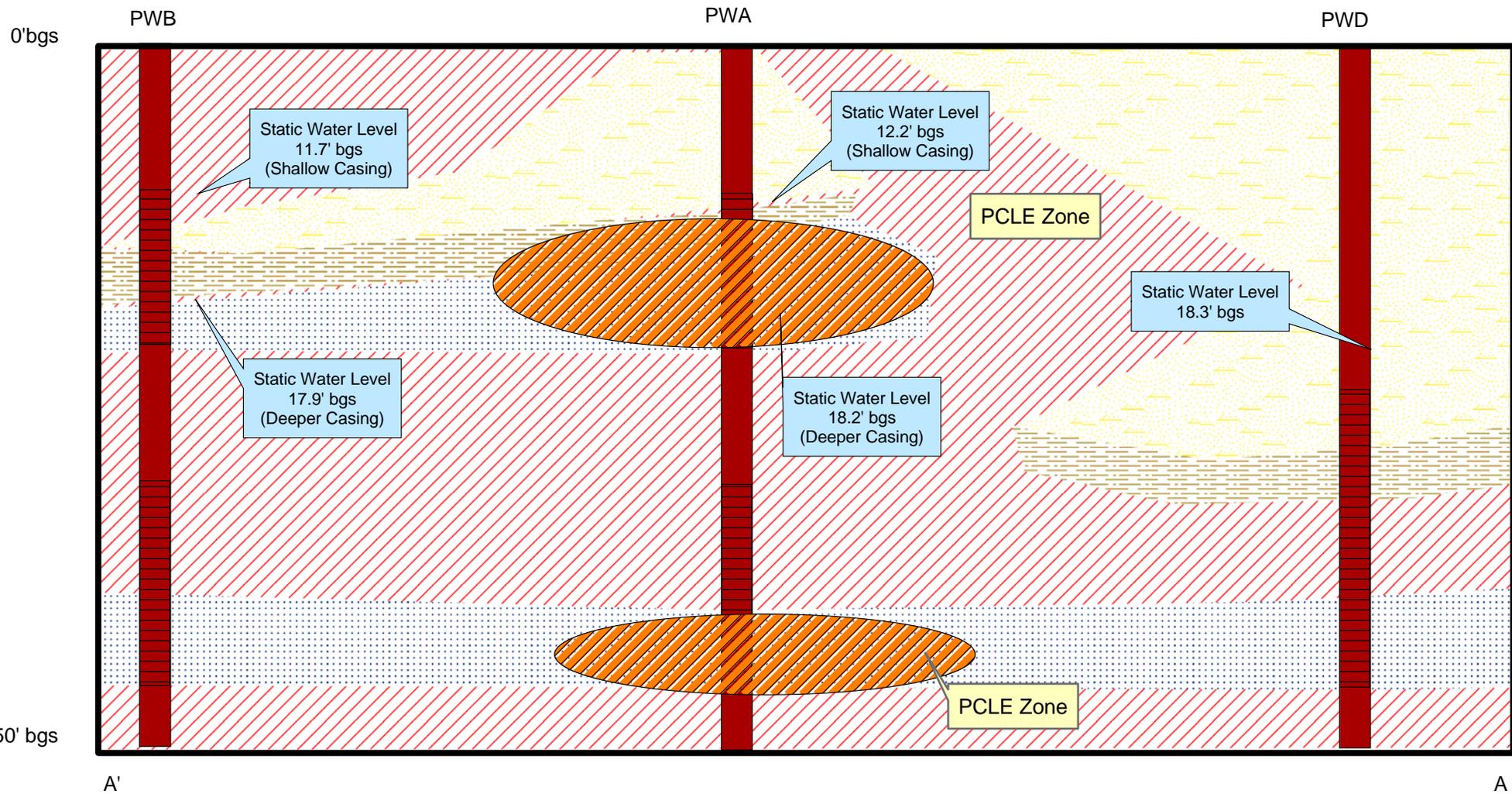
West

Drawn By: Ross Doctoroff, P.G.

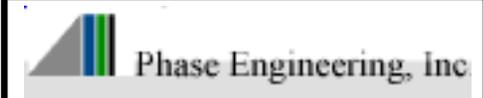
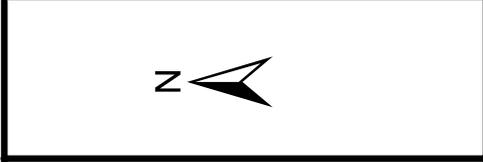
7900 Block (odd) Westheimer  
Houston, Harris County, Texas 77063  
VCP#1829

Phase Engineering, Inc

**Cross Section B**



Legend	
<b>Soil Type</b>	
	Clayey Sand
	Sandy Clay
	Saturated Sand
	Clay



Drawn By: Ross Doctoroff, P.G.  
 7900 Block (odd) Westheimer  
 Houston, Harris County, Texas 77063  
 VCP#1829

**Cross Section A**

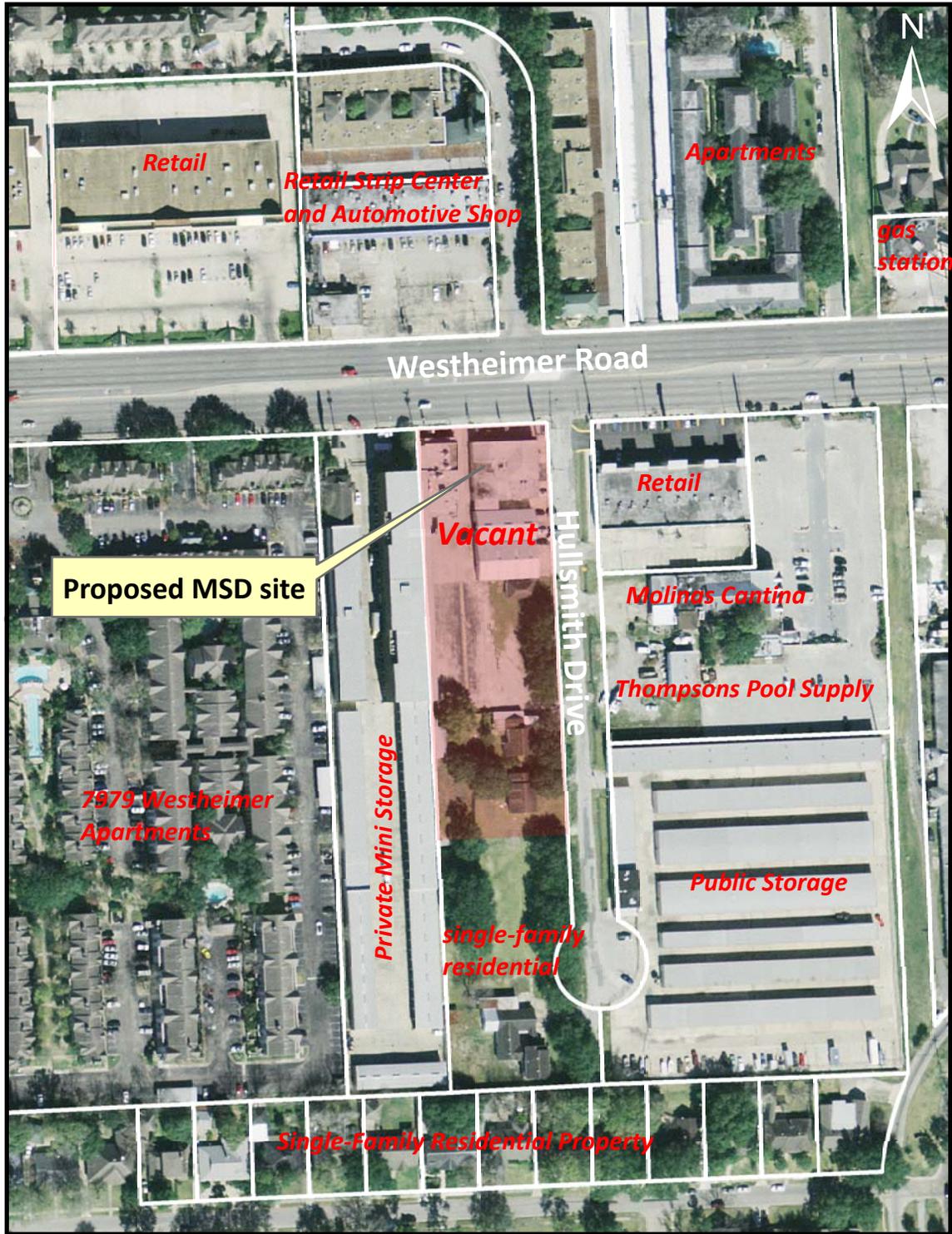
## **Appendix C**

*A description of the current use, and, to the extent known, the anticipated uses, of the designated property and properties within 500 feet of the boundary of the designated property.*

An image of the affected property and adjacent properties is presented in this appendix (Site Plan Map). The affected property is currently 1.38 acres of cleared undeveloped land located on the 2806-2818 block of Hullsmith - also identified as the 7900 block (odd) of Westheimer Drive. Previously the affected property was a retail strip center with two automotive repair facilities. The current owner of the property, according to Harris County Appraisal District tax records, is RealBlue Investments LLC.

The subject site fronts Hullsmith Drive bound by a retail strip center, Molina's Cantina, Thompson's Pool Supply and a Public Storage facility to the east. A retail strip center and automotive shop are located to the north, single family residential property is located to the south and Private Mini Storage facility is located to the west of the subject site. The current uses of properties within 500 feet of the affected property include retail, commercial, single-and multi-family residential properties.

The future use of the subject property and surrounding property will most likely be retail/commercial, light industrial and mixed residential. The anticipated future use of the affected property is retail/commercial.



Municipal Settings Designation Application  
 2806 - 2818 Hullsmith Drive  
 Houston, Tx 77063

Base: MrSid image with HCAD; subject property highlighted in red. Structures on the image have been removed; lot is now vacant.

**Site Plan Map**  
**Current Use of Properties Within 500 feet**  
**of the Proposed MSD Site**



## **Appendix D**

### **(TCEQ MSD Reference No. 5)**

*For each contaminant of concern within the ingestion protective concentration level exceedence zone, to the extent known, provide the following:*

- a. A description of the ingestion protective concentration level exceedence zone and the non-ingestion protective concentration level exceedence zone, including a specification of the horizontal area and the minimum and maximum depth below ground surface.*
- b. The level of contamination, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units.*
- c. Its basic geochemical properties (e.g., whether the contaminant of concern migrates with groundwater, floats or is soluble in water).*

Based on the environmental investigations of the affected property, the following have been identified:

- a. The PCLE zone extends laterally from the north adjacent property across Westheimer Road to the affected property and the affected zone extends vertically to approximately 50 feet below ground surface.
- b. The chemicals of concern that exhibit exceedences include cis, 1,2, dichloroethelene at a maximum level of 1.016 mg/L, trichloroethene at a maximum level of 1.2 mg/L, tetrachloroethene as a maximum level of 1.5 mg/L and vinyl chloride at a maximum level of 0.0466 mg/L. The Texas Commission on Environmental Quality (TCEQ) PCL levels are 0.07 mg/L for cis, 1,2 dichloroethene, 0.005 for tetrachloroethene, 0.005 mg/L for trichloroethene and 0.002 for vinyl chloride.
- c. Each of these compounds is water soluble and tends to migrate vertically through the groundwater bearing zone. These compounds generally settle on the upper confining aquitard and migrate laterally along the aquitard slope.

## **Appendix E**

### **(TCEQ MSD Reference No. 5)**

*For each contaminant of concern within the designated groundwater, to the extent known:*

- a. A description of the ingestion protective concentration level exceedence zone and the non-ingestion protective concentration level exceedence zone, including a specification of the horizontal area and the minimum and maximum depth below ground surface.*
- b. The level of contamination, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units.*
- c. Its basic geochemical properties (e.g., whether the contaminant of concern migrates with groundwater, floats or is soluble in water).*

A description of each COC (contaminant of concern) in the groundwater defined by a PCLE zone at the designated site, along with the basic geochemical properties is also presented in Appendix D. A tabular listing of the maximum concentration for each groundwater COC is provided in Appendix F.

- a. The PCLE zone extends laterally from the north adjacent property across Westheimer Road to the affected property and the affected zone extends vertically to approximately 50 feet below ground surface.
- b. The chemicals of concern that exhibit exceedences include cis, 1,2, dichloroethelene at a maximum level of 1.016 mg/L, trichloroethene at a maximum level of 1.2 mg/L, tetrachloroethene as a maximum level of 1.5 mg/L and vinyl chloride at a maximum level of 0.0466 mg/L. The Texas Commission on Environmental Quality (TCEQ) PCL levels are 0.07 mg/L for cis, 1,2 dichloroethene, 0.005 for tetrachloroethene, 0.005 mg/L for trichloroethene and 0.002 for vinyl chloride.
- c. Each of these compounds is water soluble and tends to migrate vertically through the groundwater bearing zone. These compounds generally settle on the upper confining aquitard and migrate laterally along the aquitard slope.

## **Appendix F** **(TCEQ MSD Reference No. 5)**

*A table displaying the following information for each contaminant of concern, to the extent known:*

- a. The maximum concentration level for soil and groundwater, the ingestion protective \ concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units.*
- b. The critical protective concentration level without the municipal setting designation, highlighting any exceedences.*

The maximum concentration of each chemical of concern are shown in the Groundwater Laboratory Results Summary Tables for March 2006, February 2007, May 2007 and the Surface Soil Laboratory Results Summary Tables; the levels of concern are highlighted in yellow.

**Groundwater Laboratory Results Summary Tables**  
**7900 (odd) Block Westheimer, Houston, Harris County, Texas VCP #1829**

**March 2006**

**Volatile Organic Compounds**

GROUNDWATER LABORATORY RESULTS

Chemical of Concern	TCEQ Tier 1 Level GW <sub>Inq</sub> mg/L	PWA-20' mg/L	PWA-50' mg/L	PWB-20' mg/L	PWB-50' mg/L	PWC mg/L	PWD mg/L	PWE mg/L	PWF mg/L	PWG mg/L	PWA-120' mg/L
1,1,2 Trichloroethane	0.005	0.00228	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	NA	NA	NA
1,1 Dichloroethene	0.007	0.00296	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	NA	NA	NA
1,2 Dichlorobenzene	0.6	0.00911	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	NA	NA	NA
1,3 Dichlorobenzene	0.73	0.0018	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	NA	NA	NA
1,4 Dichlorobenzene	0.075	0.00188	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	NA	NA	NA
Benzene	0.005	0.00095	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	NA	NA	NA
cis 1,2 Dichloroethene	0.07	1.016	0.00204	0.0809	BSQL	BSQL	BSQL	BSQL	NA	NA	NA
MTBE	0.24	0.0676	BSQL	BSQL	BSQL	BSQL	0.00858	BSQL	NA	NA	NA
Tetrachloroethene	0.005	1.5	0.0157	0.00263	0.00115	BSQL	BSQL	BSQL	NA	NA	NA
trans 1,2 Dichloroethene	0.01	0.0105	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	NA	NA	NA
Trichloroethene	0.005	1.2	0.00664	0.0121	BSQL	BSQL	BSQL	BSQL	NA	NA	NA
Vinyl Chloride	0.002	0.0466	BSQL	0.0109	BSQL	BSQL	BSQL	BSQL	NA	NA	NA

**RCRA 8 Metals**

GROUNDWATER LABORATORY RESULTS

Chemical of Concern	TCEQ Tier 1 Level GW <sub>Inq</sub> mg/L	PWA-20' mg/L	PWA-50' mg/L	PWB-20' mg/L	PWB-50' mg/L	PWC mg/L	PWD mg/L	PWE mg/L	PWF mg/L	PWG mg/L	PWA-120' mg/L
Barium	2.0	0.950	0.175	0.305	0.956	4.110	0.095	0.166	NA	NA	NA

**SVOCs**

GROUNDWATER LABORATORY RESULTS

Chemical of Concern	TCEQ Tier 1 Level GW <sub>Inq</sub> mg/L	PWA-20' mg/L	PWA-50' mg/L	PWB-20' mg/L	PWB-50' mg/L	PWC mg/L	PWD mg/L	PWE mg/L	PWF mg/L	PWG mg/L	PWA-120' mg/L
ALL SVOC's	Various	All SVOCs below Sample Quantitation Limits									

**Total Dissolved Solids**

GROUNDWATER LABORATORY RESULTS

Chemical of Concern	TCEQ Tier 1 Level GW <sub>Inq</sub> mg/L	PWD mg/L
TDS	NA	904

**Groundwater Laboratory Results Summary Tables**  
**7900 (odd) Block Westheimer, Houston, Harris County, Texas VCP #1829**  
**February 2007**

**Volatile Organic Compounds**

GROUNDWATER LABORATORY RESULTS

Chemical of Concern	TCEQ Tier 1 Level <sup>GW</sup> GW <sub>Inq</sub> mg/L	PWA-20' mg/L	PWA-50' mg/L	PWB-20' mg/L	PWB-50' mg/L	PWC mg/L	PWD mg/L	PWE mg/L	PWF mg/L	PWG mg/L	PWA-120' mg/L
1,1,2 Trichloroethane	0.005	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL
1,1 Dichloroethene	0.007	0.00391	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL
1,2 Dichlorobenzene	0.6	0.00564	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL
1,3 Dichlorobenzene	0.73	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL
1,4 Dichlorobenzene	0.075	0.00131	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL
Benzene	0.005	0.0011	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL
Chlorobenzene	0.1	0.0065	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL
cis 1,2 Dichloroethene	0.07	0.721	0.00233	0.0713	BSQL	BSQL	BSQL	BSQL	0.00302	BSQL	BSQL
MTBE	0.24	0.0211	BSQL	BSQL	BSQL	0.0115	0.014	BSQL	BSQL	0.00108	BSQL
Tetrachloroethene	0.005	0.691	0.0253	0.0157	BSQL	BSQL	BSQL	BSQL	0.0586	BSQL	0.00177
trans 1,2 Dichloroethene	0.01	0.0165	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL
Trichloroethene	0.005	0.776	0.00463	0.0109	BSQL	BSQL	BSQL	BSQL	0.00487	BSQL	BSQL
Vinyl Chloride	0.002	0.115	BSQL	0.00437	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL
2 Butanone	14.665	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	0.0154
Chloroform	0.244	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL	0.00131

**RCRA 8 Metals**

GROUNDWATER LABORATORY RESULTS

Chemical of Concern	TCEQ Tier 1 Level <sup>GW</sup> GW <sub>Inq</sub> mg/L	PWA-20' mg/L	PWA-50' mg/L	PWB-20' mg/L	PWB-50' mg/L	PWC mg/L	PWD mg/L	PWE mg/L	PWF mg/L	PWG mg/L	PWA-120' mg/L
Barium	2.0	NA	NA	NA	NA	NA	NA	NA	0.243	0.172	0.665

**SVOCs**

GROUNDWATER LABORATORY RESULTS

Chemical of Concern	TCEQ Tier 1 Level <sup>GW</sup> GW <sub>Inq</sub> mg/L	PWA-20' mg/L	PWA-50' mg/L	PWB-20' mg/L	PWB-50' mg/L	PWC mg/L	PWD mg/L	PWE mg/L	PWF mg/L	PWG mg/L	PWA-120' mg/L
ALL SVOC's	Various	All SVOCs below Sample Quantitation Limits									



**Surface Soil Laboratory Results Summary Tables**  
**7900 (odd) Block Westheimer, Houston, Harris County, Texas VCP #1829**

**Volatile Organic Compounds**

SURFACE SOIL LABORATORY RESULTS

Chemical of Concern	TCEQ Tier 1 Level Level <sup>GW</sup> Soil <sub>lnq</sub> mg/Kg	PBA-2' mg/Kg	PBB-2' mg/Kg	PBC-2' mg/Kg	PBD-2' mg/Kg	PBE-2' mg/Kg	PBA-2' (120' well) mg/Kg	PBF-2' mg/Kg	PBG-2' mg/Kg
1,2,4 Trimethylbenzene	48.52	BSQL	BSQL	0.03290	BSQL	BSQL	BSQL	BSQL	BSQL
1,3,5 Trimethylbenzene	53.20	BSQL	BSQL	0.01290	BSQL	BSQL	BSQL	BSQL	BSQL
MTBE	0.62	BSQL	BSQL	BSQL	0.00655	BSQL	BSQL	BSQL	BSQL

BSQL (Below Sample Quantitation Limits)

**RCRA 8 Metals**

SURFACE SOIL LABORATORY RESULTS

Chemical of Concern	TCEQ Tier 1 Level Level <sup>GW</sup> Soil <sub>lnq</sub> mg/Kg / Texas Specific Background	PBA-2' mg/Kg	PBB-2' mg/Kg	PBC-2' mg/Kg	PBD-2' mg/Kg	PBE-2' mg/Kg	PBA-2' (120' well) mg/Kg	PBF-2' mg/Kg	PBG-2' mg/Kg
Barium	443 / 300	85.1	62.5	106	155	227	72.1	80.5	174
Chromium	28.13 / 30	8.33	5.55	6.33	17.6	16.2	6.31	2.80	11.3
Lead	3.0 / 15.0	7.56	1.77	13.7	16.10	16.6	3.05	6.25	3.85

**SVOCs**

SURFACE SOIL LABORATORY RESULTS

Chemical of Concern	TCEQ Tier 1 Level Level <sup>GW</sup> Soil <sub>lnq</sub> mg/Kg	PBA-2' mg/Kg	PBB-2' mg/Kg	PBC-2' mg/Kg	PBD-2' mg/Kg	PBE-2' mg/Kg	PBA-2' (120' well) mg/Kg	PBF-2' mg/Kg	PBG-2' mg/Kg
ALL SVOC's	Various	All SVOCs below Sample Quantitation Limits							

# Sub-Surface Soil Laboratory Results Summary Tables

7900 (odd) Block Westheimer, Houston, Harris County, Texas VCP #1829

## VOCs

SUB-SURFACE SOIL LABORATORY RESULTS												
Chemical of Concern	TCEQ Tier 1 Level <sup>GW</sup> Soil <sub>Ina</sub> mg/Kg	PBA-15' mg/Kg	PBA-22' mg/Kg	PBB-15' mg/Kg	PBB-20' mg/Kg	PBC-15' mg/Kg	PBD-15' mg/Kg	PBE-15' mg/Kg	PBF-15' mg/Kg	PBF-50' mg/Kg	PBG-15' mg/Kg	PBG-50' mg/Kg
cis 1,2 Dichloroethene	0.24	0.0559	BSQL									
Vinyl Chloride	0.02	0.00686	BSQL									
MTBE	0.62	BSQL	BSQL	BSQL	BSQL	0.00655	BSQL	BSQL	BSQL	BSQL	BSQL	BSQL

## RCRA 8 Metals

SUB-SURFACE SOIL LABORATORY RESULTS												
Chemical of Concern	TCEQ Tier 1 Level <sup>GW</sup> Soil <sub>Ina</sub> mg/Kg / Texas Specific Background	PBA-15' mg/Kg	PBA-22' mg/Kg	PBB-15' mg/Kg	PBB-20' mg/Kg	PBC-15' mg/Kg	PBD-15' mg/Kg	PBE-15' mg/Kg	PBF-15' mg/Kg	PBF-50' mg/Kg	PBG-15' mg/Kg	PBG-50' mg/Kg
Barium	443 / 300	22.9	23.9	23.7	14.2	44	50.5	72.5	47.2	12.9	37.8	25.2
Chromium	28.13 / 30	3.55	6.25	3.25	6.65	7.66	9.85	11.1	2.01	1.5	0.801	1.05
Lead	3.0 / 15.0	4.12	3.99	3.99	5.35	3.95	7.35	6.55	1.75	0.350	1.70	1.25

## SVOCs

SUB-SURFACE SOIL LABORATORY RESULTS												
Chemical of Concern	TCEQ Tier 1 Level <sup>GW</sup> Soil <sub>Ina</sub> mg/Kg	PBA-15' mg/Kg	PBA-22' mg/Kg	PBB-15' mg/Kg	PBB-20' mg/Kg	PBC-15' mg/Kg	PBD-15' mg/Kg	PBE-15' mg/Kg	PBF-15' mg/Kg	PBF-50' mg/Kg	PBG-15' mg/Kg	PBG-50' mg/Kg
ALL SVOC's	Various	All SVOCs below Sample Quantitation Limits										

## pH

SURFACE SOIL LABORATORY RESULTS		
Chemical of Concern	TCEQ Tier 1 Level <sup>Tot</sup> Soil <sub>Comb</sub> mg/Kg	PBE-15' mg/Kg
pH	NA	7.67

## **Appendix G**

*A statement as to whether the plume of contamination is stable, expanding, or contracting, with the basis for that statement. If this information is not known, a statement of why the information is not known should be attached.*

The plume appears to be stable based on three groundwater monitoring events (March 2006, February 2007 and May 2007). Two ground-water bearing zones have been identified (see cross-sections A and B) at a depth of 15 and 38 feet below ground surface. The upper zone is laterally confined and the sandy unit pinches out to the south and east. The deeper zone appears to be more laterally continuous. Vertical and lateral confining layers surrounding both saturated zones prevent further shallow aquifer contaminant migration, therefore off-site migration, other than from contaminants migrating from the north adjacent property across Westheimer, are not possible. Vertical migration beyond the second groundwater-bearing zone has been proven not to exist. The third groundwater-bearing zone is not affected. Approximately 70 feet of stiff, impermeable clay lies between the second and third groundwater bearing zones. The lateral extent of the plume has been identified as PWD and no further contaminate migration has occurred in a north-south direction; PWC and PWE indicates no contaminate concentrations; therefore the east-west directions have been delineated.