

Municipal Setting Designations



MSDs: Another tool for Houston

Richard Chapin
Sr. Project Manager

Jedediah Greenfield
Environmental Analyst

Municipal Setting Designations (MSDs)



Agenda

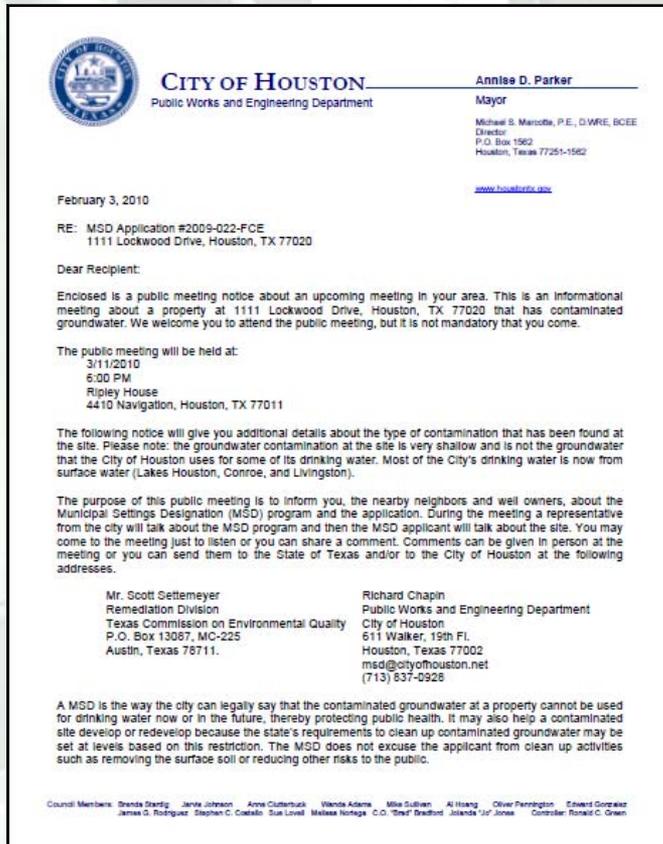
- City of Houston
 - Why we are here
 - Who the MSD impacts
 - What an MSD is
 - Why support an MSD
 - Steps in the MSD process
- MSD Applicant
 - Specific information on the site
7030 Ardmore Street
- Public comment and questions

Why Are We Here



- Inform you about an MSD application
 - Schlumberger Technology Corporation
 - MSD # 2010-027-STC
- Explain what an MSD is and what it does for the applicant, the local community, and the City
- Receive public comments

MSD Notice Letters



■ Public Notices:

- Property owners

First Class Mail

½-Mile

- Water well owners

Certified Mail

5-Miles

Who the MSD Impacts



- Unless you are the applicant:
 - An MSD **does not** affect your property
 - An MSD **does not** affect your water well
 - There are **no requirements** on you
- Drinking water supplied by the City is not affected

What an MSD is



- Voluntary deed restriction to prevent the use of contaminated groundwater
 - State program created in 2003, administered by TCEQ
 - City process created in November 2007, administered by Public Works & Engineering
- TCEQ cannot approve an MSD without the City Council's support

What an MSD is



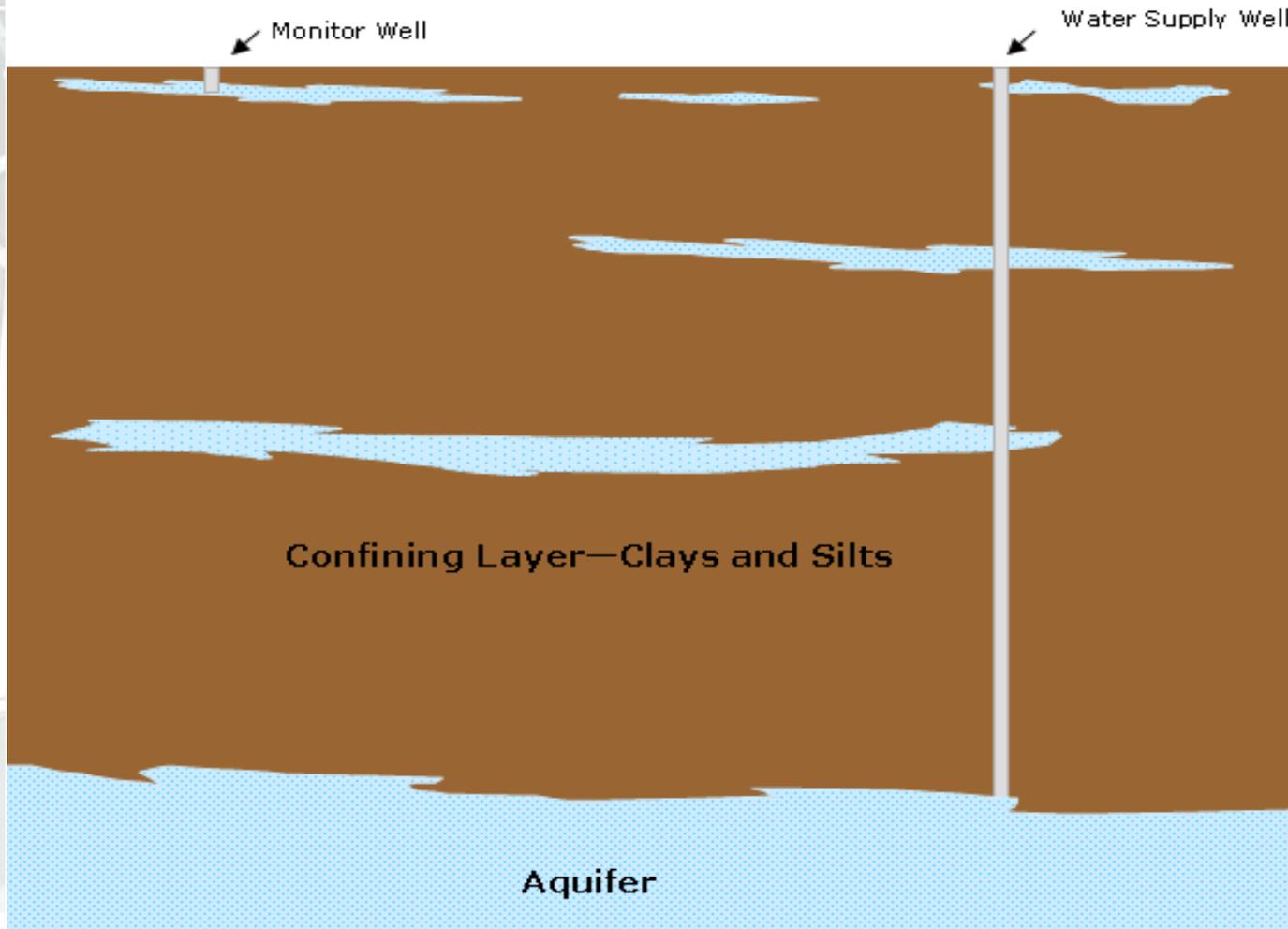
- An alternative method to address groundwater contamination
- Houston has shallow groundwater contamination scattered across the city
- This program only considers very shallow contamination (up to 200' below the surface)

City Water Supply



- Houston's drinking water comes from either deep aquifers or surface water
 - Nearest public water supply well
 - South End (Well 13)
 - 1½-miles
 - 1787 feet deep
 - Surface water supply
 - Lake Houston
 - Lake Conroe
 - Lake Livingston

Shallow Contamination



Impacted groundwater is typically between 20 and 60 feet below the surface.

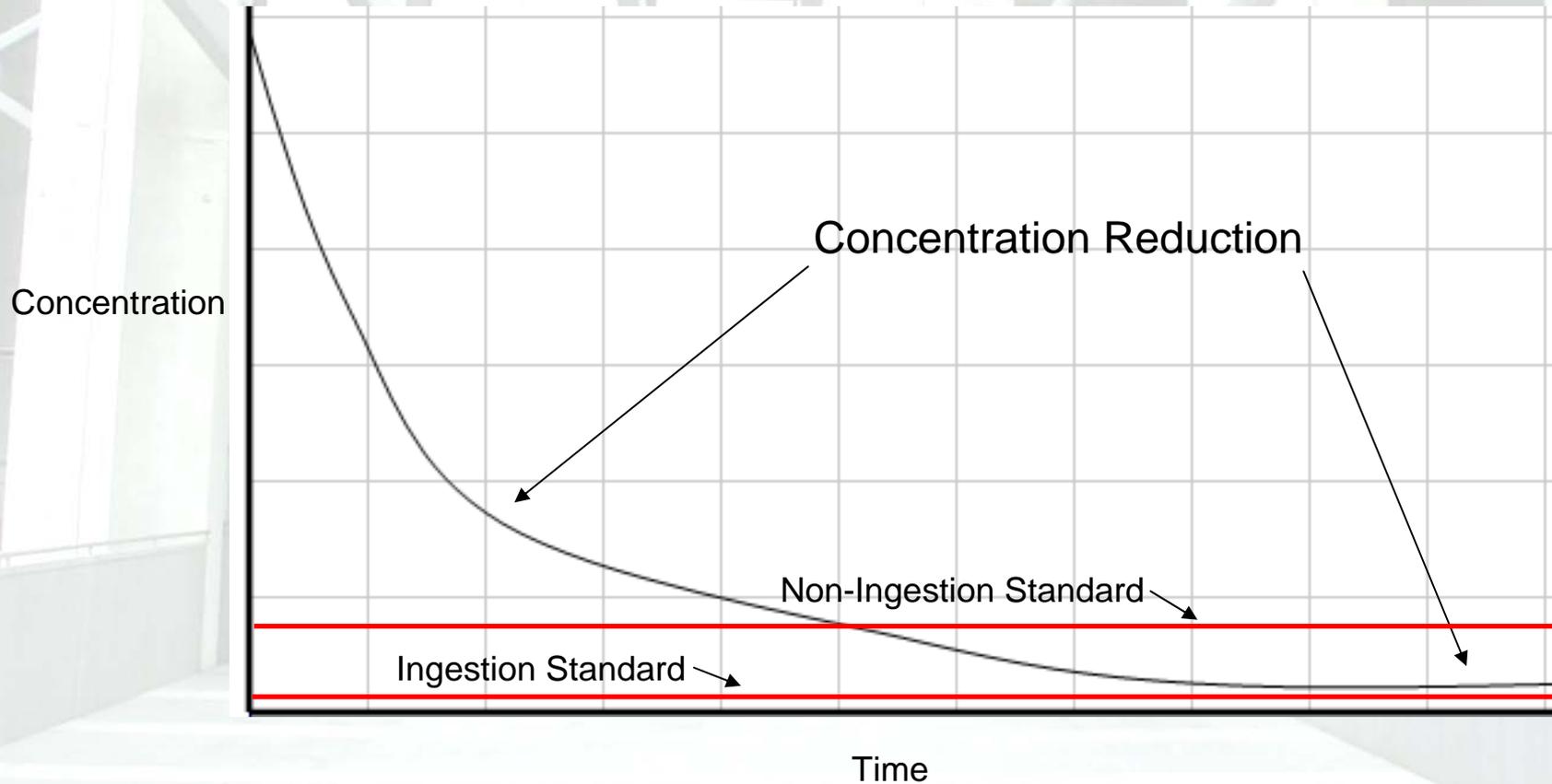
Drinking Water Supply Wells typically get water from 600 feet or deeper below the surface.

Problems of Traditional Remediation Methods



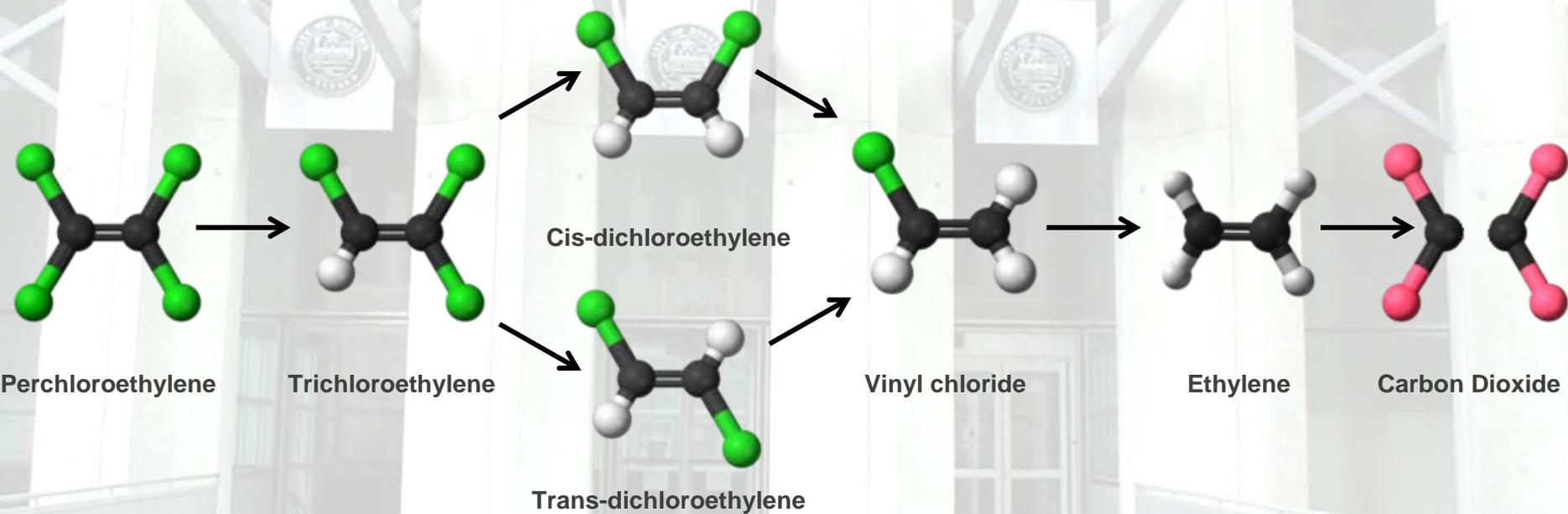
- Groundwater must be cleaned to drinking water standards even if:
 - There is no need or desire to use it, or
 - Water bearing zone is too silty, too salty, or low producing
- Groundwater remediation to drinking water standards is inefficient, costly, and can take decades

Groundwater Remediation

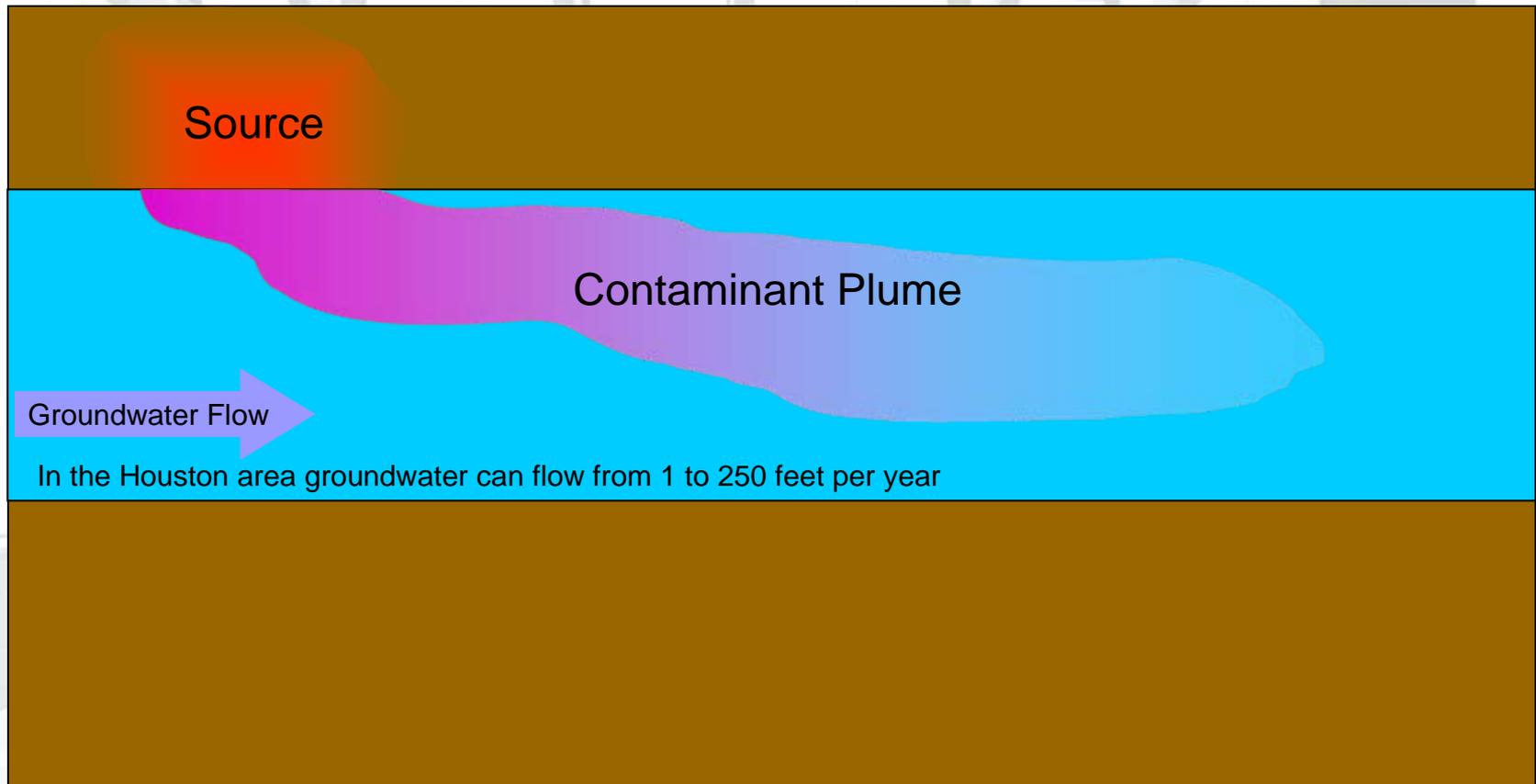


Municipal Setting Designations (MSDs)

Natural Attenuation



Contaminant Flow



Applicant's Responsibility



- An MSD does **NOT** excuse the applicant from reducing other risks to the public
- Owner must still address:
 - Non-Ingestion
 - Soil
 - Vapors
 - Runoff and other flows

City's Requirements of the Applicant:



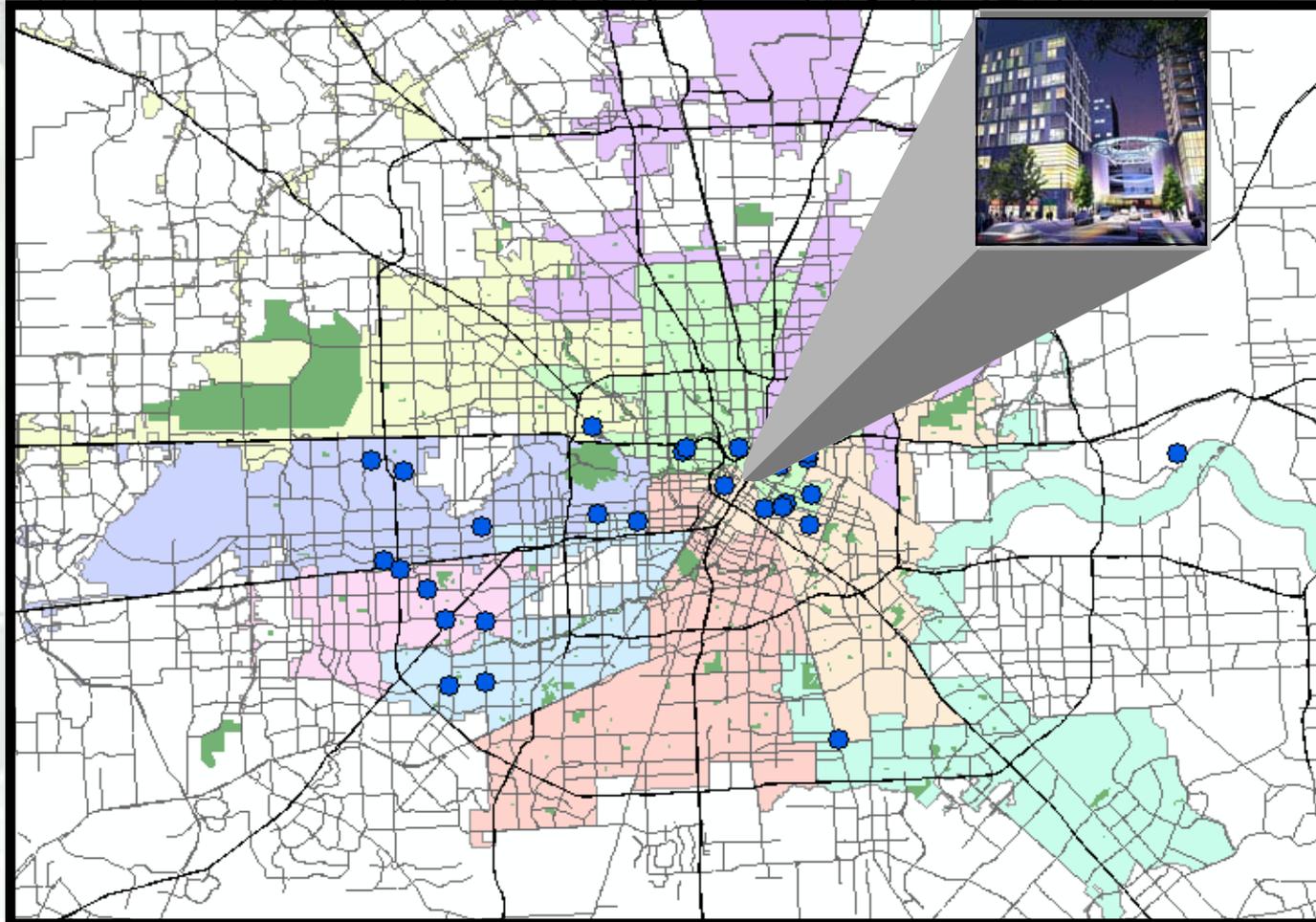
- Site must already be in a State or Federal clean up program
- Site must have been thoroughly investigated
- Data must show that the groundwater plume is stable or diminishing.
- A Professional Engineer (P.E.) or Professional Geologist (P.G.) must be willing to certify that the plume is stable or contracting.

Why Support An MSD?



- Protects the public from consumption of shallow contaminated groundwater
- Encourages clean-up of contaminated sites through participation in a State or Federal program
- Promotes redevelopment of under-utilized properties

MSD Sites in Houston



Municipal Setting Designations (MSDs)

Steps in the Process



- Based on input from this meeting and the public hearing, the City will consider supporting an MSD
- If supported, the applicant submits its application to the TCEQ
- TCEQ grants or denies the MSD
- If granted, the City files a deed restriction on the property

MSD Application



- Smith Library
reference desk
- 3624 Scott Street
Houston, TX 77004

The MSD Website



www.houstonmsd.org

The screenshot shows the City of Houston website interface. At the top, there is a navigation bar with links for Home, I Want To..., Government, Services, Residenc, Departments, Visitors, and En Engagem. Below this, the breadcrumb trail reads "Home > Planning > Municipal Settings Designation". The main content area is titled "Public Works and Engineering" and "Municipal Settings Designation". It features a "Department Links" sidebar on the left and a main text area on the right. The main text area includes a "History" section, a "General Information" section with a bulleted list of details, and a "Forms and Information" section with a bulleted list of links. At the bottom of the page, there is a footer with copyright information and a "Site Map" link.

For more information concerning the application or process of an MSD in Houston, call:

Carol Ellinger Haddock
Senior Assistant Director, PE
PW&E/Planning & Development Services Division
PH 713.837.0928
FX 713.837.0658

- o [MSD Calendar](#)
- o [MSD Completed](#)
- o [MSD in Review](#)

Municipal Setting Designations (MSDs)

The MSD Website



MSD in Review

Carol Ellinger Haddock , Assistant Director, P.E.

MSD in Review

Differential Development – 1994, Ltd. #2008-012-DD (Lantern Lane Shopping Center Site)

[Executive Summary](#)

[Full Application](#)

Hoerbiger Corp. of America Inc. and Morgan Advanced Materials and Tech. Inc. # 2009-016-Milby (Milby Street Site)

[Executive Summary](#)

[Full Application](#)

Estate of Isadore and Esther Robinson # 2009-020-GMI (Former Gulf Metals Industries Landfill Site)

[Executive Summary](#)

[Full Application](#)

[Public Meeting Notice](#)

[Public Meeting Presentation](#)

Silver Bishop Holdings, LP #2010-025-NOR (Navigation-Norwood Site)

[Executive Summary](#)

[Full Application](#)

[Public Meeting Notice](#)

[Public Meeting Presentation](#)

MSD Calendar

Carol Ellinger Haddock , Assistant Director, P.E.

Municipal Settings Designations Calendar

Information on the latest meetings, conferences, and events.

Date	Time	Event
07/14/2010	9:00 AM	Public Hearing: FPA/PinPoint Mykawa, LLC. (MSD # 2009-020-GMI) City Hall Council Chambers, 2nd Floor, 901 Bagby, Houston, TX 77002
07/20/2010	6:00 PM	Public Meeting: Schlumberger Technology Corporation (MSD #2010-027-STC) Judson Robinson Jr. Community Center, 2020 Hermann Dr., Houston, TX 77004
08/03/2010	6:00 PM	Public Meeting: Differential Development - 1994, Ltd. (MSD #2008-012-DD) Tracey Gee Community Center, 3599 Westchase Dr., Houston, TX 77042
08/04/2010	9:00 AM	Public Hearing: BAE Systems Resolutions Corporation, Inc. (MSD #2010-026-FSS) City Hall Council Chambers, 2nd Floor, 901 Bagby, Houston, TX 77002
08/24/2010	6:00 PM	Public Meeting: Board of Regents of the University of Texas System (MSD #2010-028-ACD) Judson Robinson Jr. Community Center, 2020 Hermann Dr., Houston, TX 77004

Public Hearing



- Date: To be determined (please leave your email)
- Time: TBA (10:00 AM)
- Place: City Council Chamber
- Address: 901 Bagby, Second Floor
Houston, Texas 77002

Contact Information



Richard Chapin
Senior Project Manager



&

Jedediah Greenfield
Environmental Analyst

**Public Works & Engineering
City of Houston,
611 Walker, 19th Floor
Houston, Texas 77002**



msd@houstontx.gov
(832) 395-2699

Municipal Setting Designations (MSDs)

Contact Information



Scott Settemeyer

Remediation Division

Texas Commission on Environmental Quality

P.O. Box 13087, MC-225

Austin, Texas 78711

ssetteme@tceq.state.tx.us



Schlumberger Technology Corporation Well Production and Technology Center 7030 Ardmore

Du'Bois Joseph Ferguson
Schlumberger Project Manager
281-285-3692

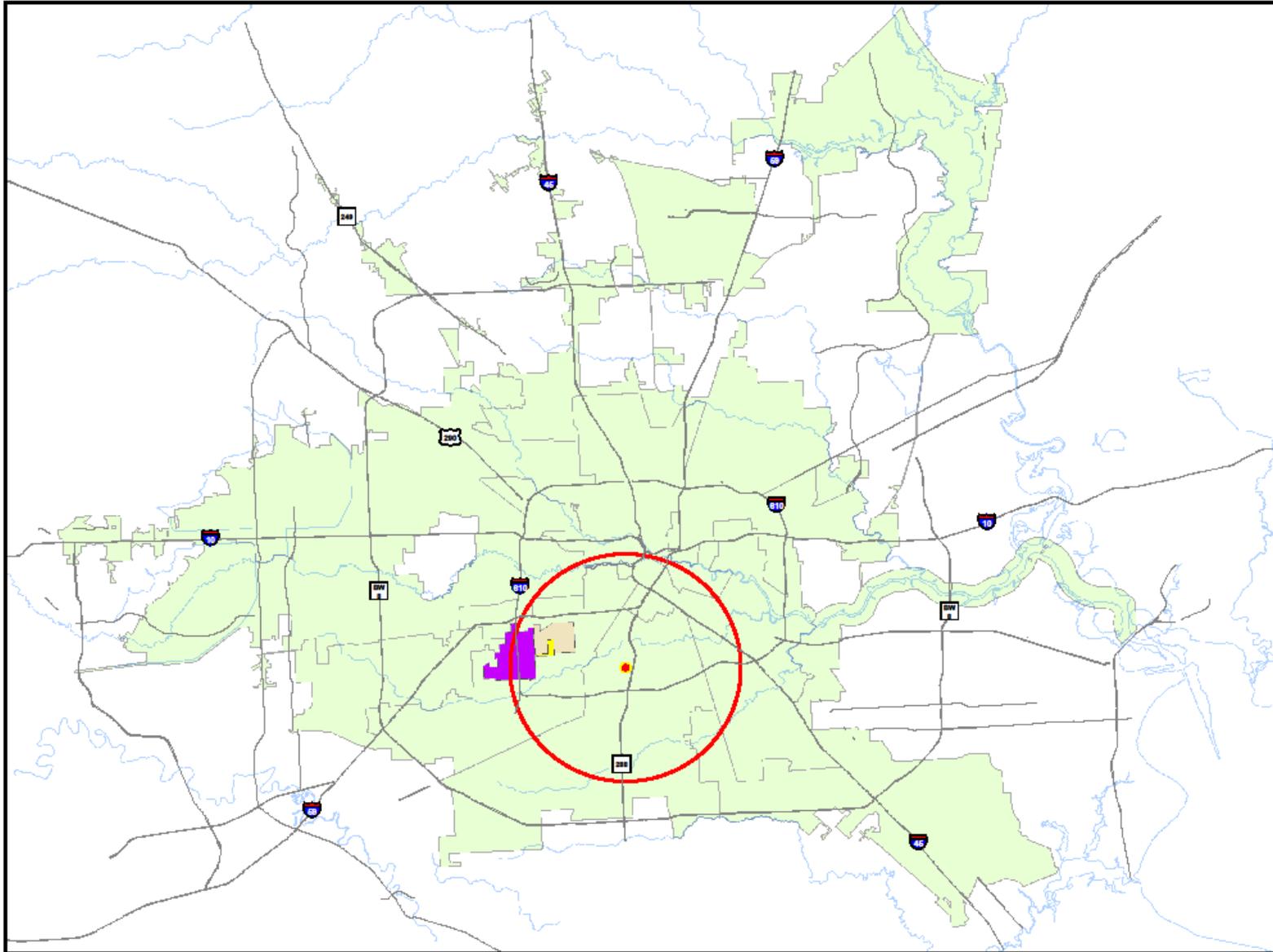
Steve Huddleson, P.G., C.P.G.
Weston Project Manager
713-985-6740

Schlumberger



Schlumberger Center

- 21.6 Acre Industrial site consisting of
 - Well Completion and Productivity Center
 - Former Architectural Woodworking Company
- Entered Voluntary Cleanup Program (TCEQ No. 1848) in 2005
- Close to Highway 288 and 7 miles south of downtown near Medical Center

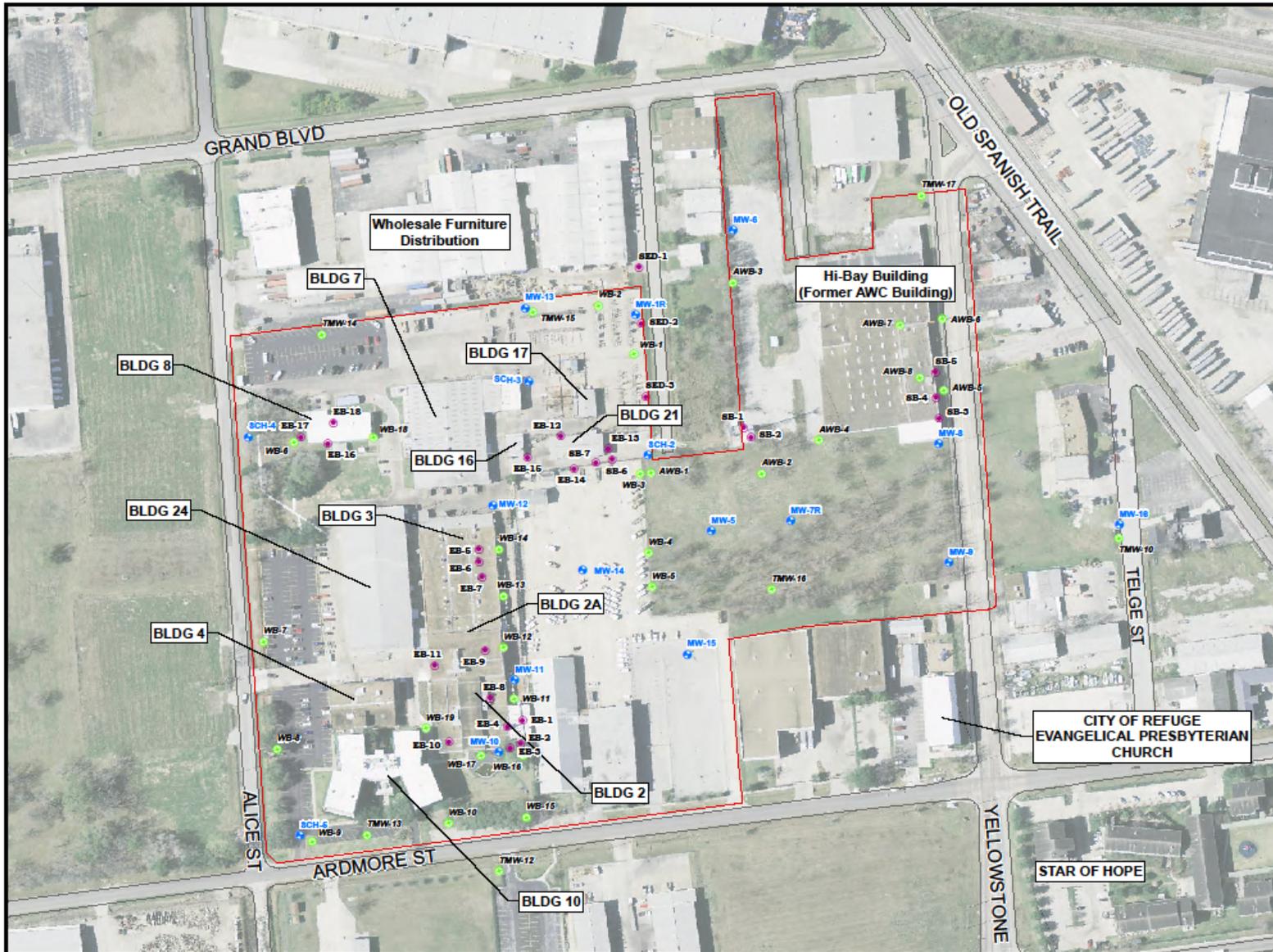


- LEGEND**
- SITE LOCATION
 - 5 MILE RADIUS
 - CITY OF BELLAIRE BOUNDARY
 - WEST UNIVERSITY PLACE BOUNDARY
 - CITY OF SOUTHSIDE PLACE BOUNDARY
 - CITY OF HOUSTON MUNICIPAL BOUNDARY
 - HYDROLOGY



ATTACHMENT 2
MUNICIPAL SETTING DESIGNATION MAP
 WITH MUNICIPAL BOUNDARY OUTLINES
 7030 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS

DATE	PROJECT NO	SCALE
JUL 2009	00834.157.090	AS SHOWN



LEGEND

- MSD BOUNDARY
- MONITORING WELL
- TEMPORARY MONITORING WELL
- GEOPROBE/SOIL BORINGS

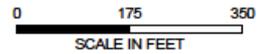


FIGURE 4
 SOIL BORING AND
 GROUNDWATER MONITORING
 WELL LOCATION MAP
 SCHLUMBERGER
 7030 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS

DATE	PROJECT NO.	SCALE
FEB 2010	1449.1.001.001.0020	1 inch = 175 feet

Why We are Seeking an MSD

- Shallow groundwater contains low-levels of historically used chlorinated solvents .
- The shallow groundwater does not pose a health risk and is not used as a water source in the area.
- Shallow groundwater would not be a suitable drinking water source.
- This has been and will continue to be an industrial land use.

Why We are Seeking an MSD (cont)

- The shallow impacts are separated from deeper groundwater zones that might be used for drinking water by several hundred feet of impervious material.
- Data indicate that the shallow groundwater impacts are stable and decreasing in concentration.
- An MSD will be used to restrict the use of the property's affected groundwater and facilitate obtaining a Certificate of Completion from the Voluntary Cleanup Program.

Site Now

- Current Property Usage
 - Research Facility
 - Design and Construction of Oilfield Tools
 - Storage of Oilfield Tools
- Facility consisting primarily of buildings and paved parking areas (80% in the Technology Center)

Historic Investigations

- Phase I and Phase II Environmental Site Assessments
- Affected Property Assessment Report (March 2008)
- Supplemental APAR January 2010

Site Conditions

- Groundwater has been impacted by Chlorinated solvents including
 - Tetrachloroethene
 - Trichloroethene *
 - Dichloroethene *
 - Vinyl Chloride *
- No impacts to surface soil found that exceed regulatory standards
- Only Subsurface Exceedance (PCE) located under Building 2A Floor

Schlumberger's Approach

- Continued Best Management Practices and implementation of Schlumberger's internal environmental standards
- Chlorinated solvents no longer in use at the facility
- Storm-water Pollution Plan in Place (TXR₀₅P8₇₅)

Investigation Activities

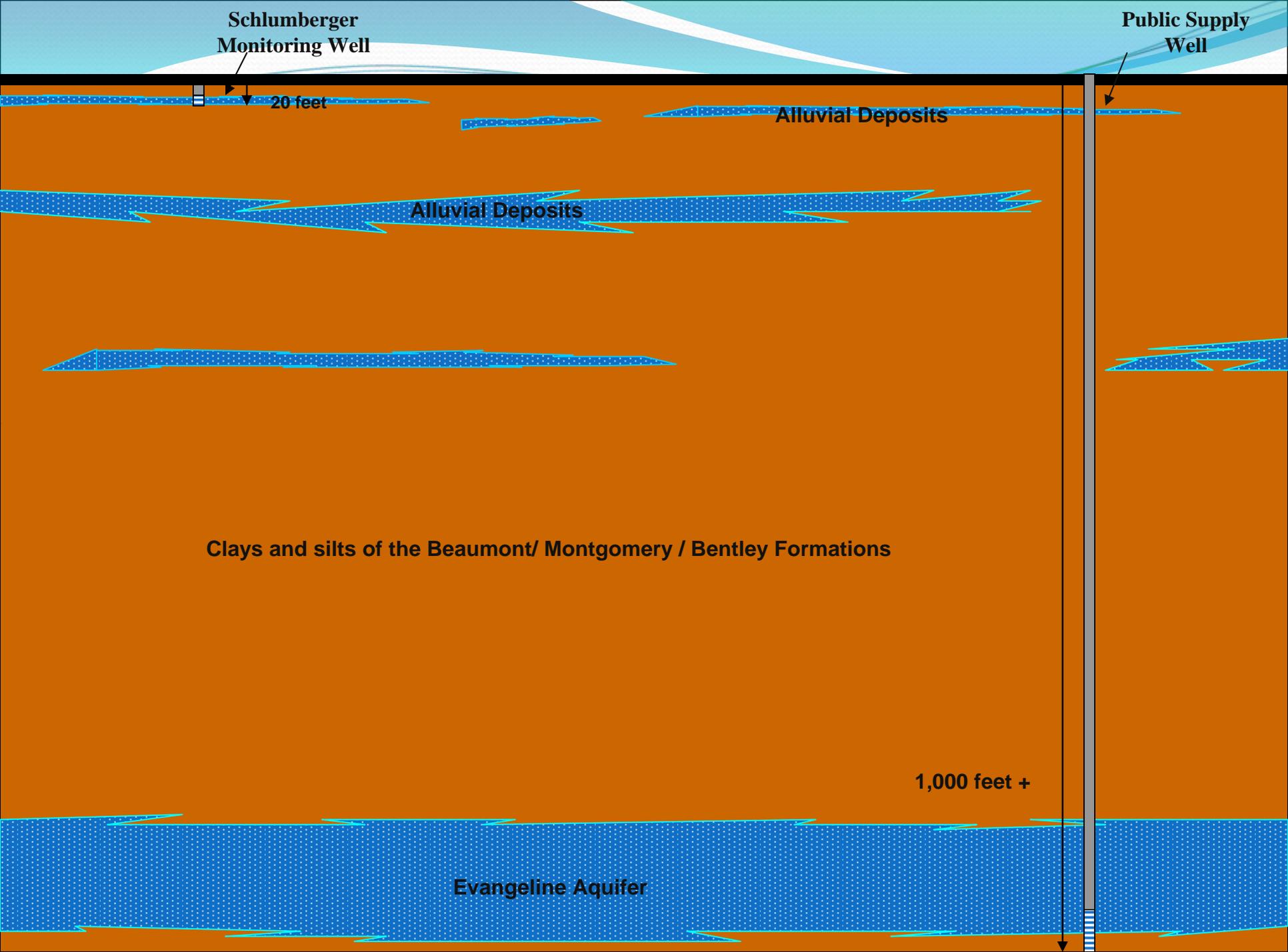
- 1993 - Phase I ESA of former WCP Property
- 2002-2003 - Phase I Phase II WCP Property
- 2004 – Site Assessments WCP Property
- 2005 – Groundwater Investigation Commences
- 2006 – Source Investigation and Groundwater Monitoring
- 2007 – Addition of Temporary Wells to assist in Conceptual Model
- 2008 – APAR submitted
- 2009 – Additional Wells Installed
- 2010 – APAR Addendum Submitted, MSD Process Begun

Soils

- The historic release locations are thought to be inside or adjacent to buildings.
- Most of the Well Completion and Technology Site is paved surface or Structures (approximately 80%)
- No Public Access to facility, secure access

Groundwater

- No Public Water Supply Wells within ½ Mile Radius
- No Surface Water within ½ mile
- Shallow groundwater varies from 12 to 23 feet bgs.
- MSD would be placed in the City's Utility database.



Schlumberger
Monitoring Well

Public Supply
Well

20 feet

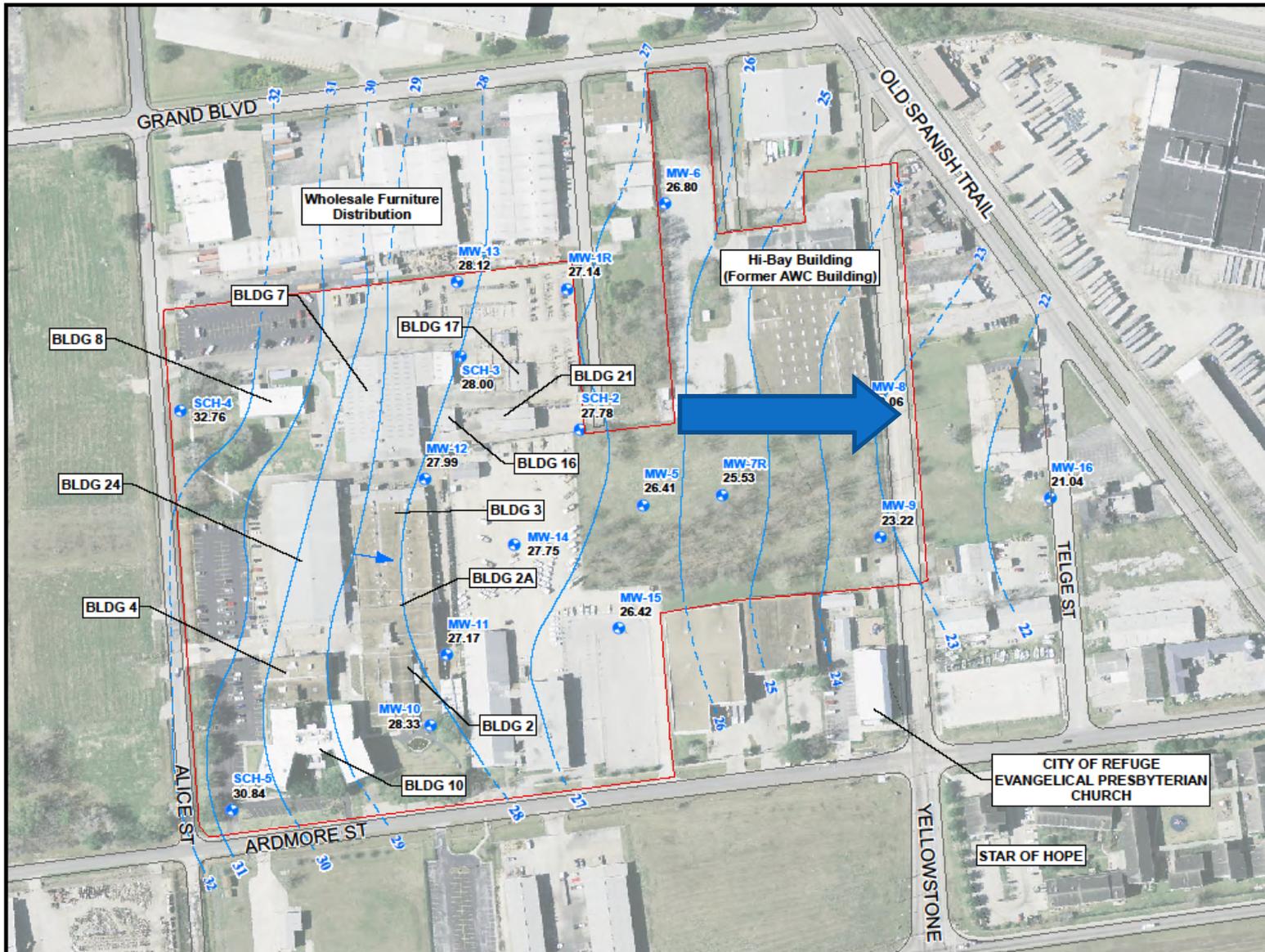
Alluvial Deposits

Alluvial Deposits

Clays and silts of the Beaumont/ Montgomery / Bentley Formations

1,000 feet +

Evangeline Aquifer



LEGEND

- MSD BOUNDARY
- + MONITORING WELLS
- DIRECTION OF GROUNDWATER FLOW
- 23.06 GROUNDWATER ELEVATION

NOTE:
7030 ARDMORE DATA
COURTESY OF TETRATECH
FROM DECEMBER 2009

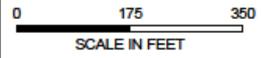
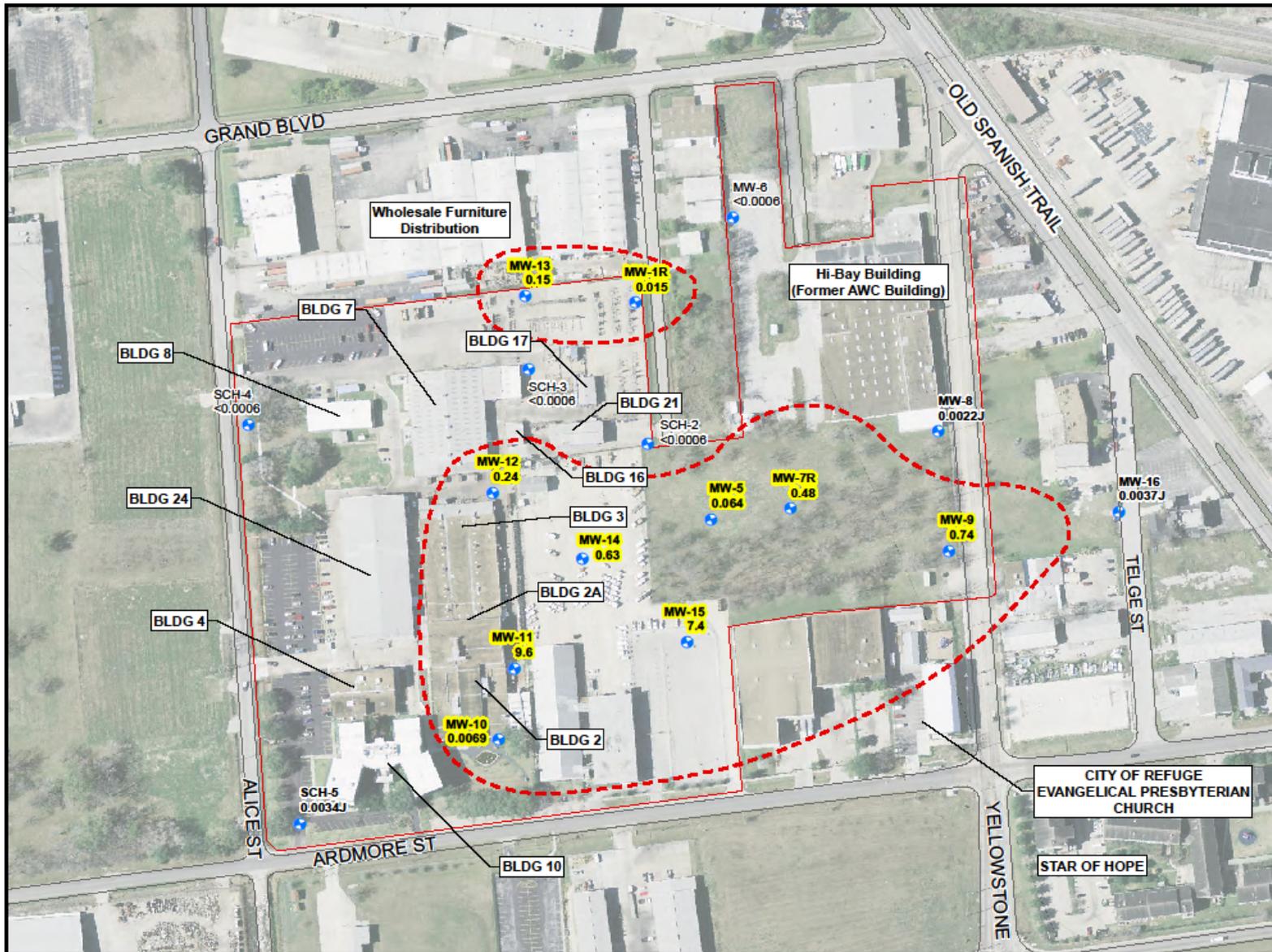


FIGURE 5
POTENTIOMETRIC SURFACE MAP
DECEMBER 2009
SCHLUMBERGER
7030 ARDMORE STREET
HOUSTON, HARRIS COUNTY, TEXAS

DATE FEB 2010	PROJECT NO 14481.001.001.0020	SCALE 1 inch = 175 feet
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- LEGEND**
- MSD BOUNDARY
 - INFERRED GROUNDWATER PROTECTIVE CONCENTRATION LEVEL EXCEEDANCE ZONE
 - MONITORING WELLS

NOTE:

- 1) 7030 ARDMORE DATA COURTESY OF TETRATECH NUS FROM DECEMBER 2008
- 2) ALL CONCENTRATIONS IN mg/L
- 3) HIGHLIGHTED CONCENTRATIONS EXCEED CRITICAL PCL
- 4) BOLD INDICATES REPORTED CONCENTRATIONS
- 5) 'J' INDICATES ESTIMATED VALUE

CRITICAL PCL:
TETRACHLOROETHYLENE (PCE) = 0.006 mg/L

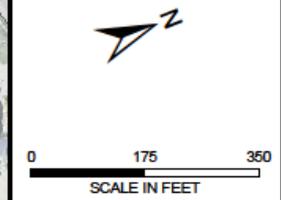
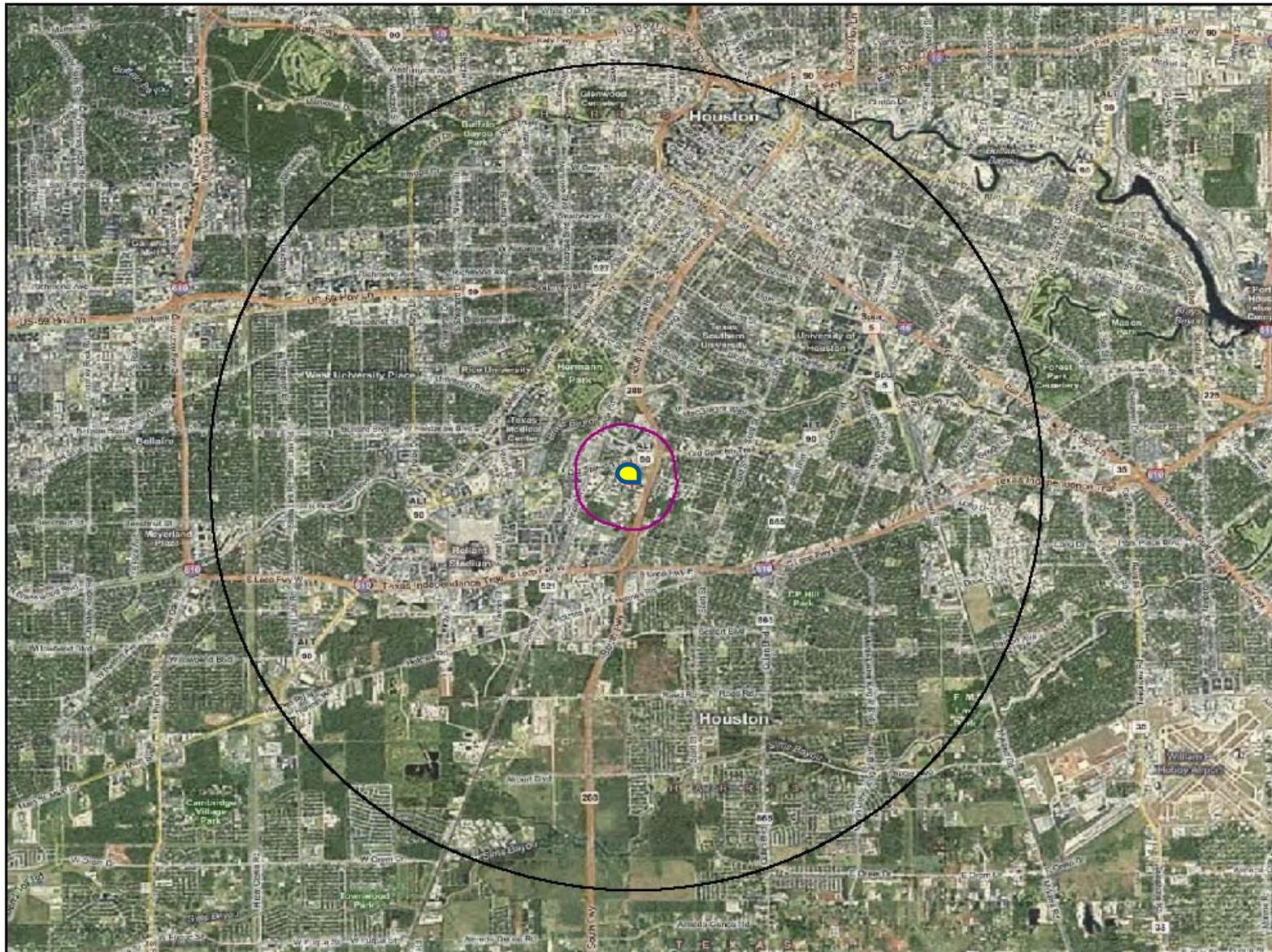


FIGURE 6
TETRACHLOROETHYLENE (PCE)
CONCENTRATION MAP
SCHLUMBERGER
7030 ARDMORE STREET
HOUSTON, HARRIS COUNTY, TEXAS

DATE FEB 2010	PROJECT NO. 14491.001.001.020	SCALE 1 inch = 175 feet
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- LEGEND**
- INFERRED GROUNDWATER PROTECTIVE CONCENTRATION LEVEL EXCEEDANCE ZONE
 - HALF MILE RADIUS
 - 5 MILE RADIUS

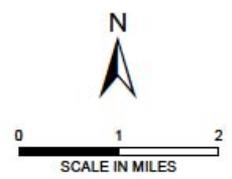


FIGURE 11
PLUME RADIUS MAP
SCHLUMBERGER
7030 ARDMORE STREET
HOUSTON, HARRIS COUNTY, TEXAS

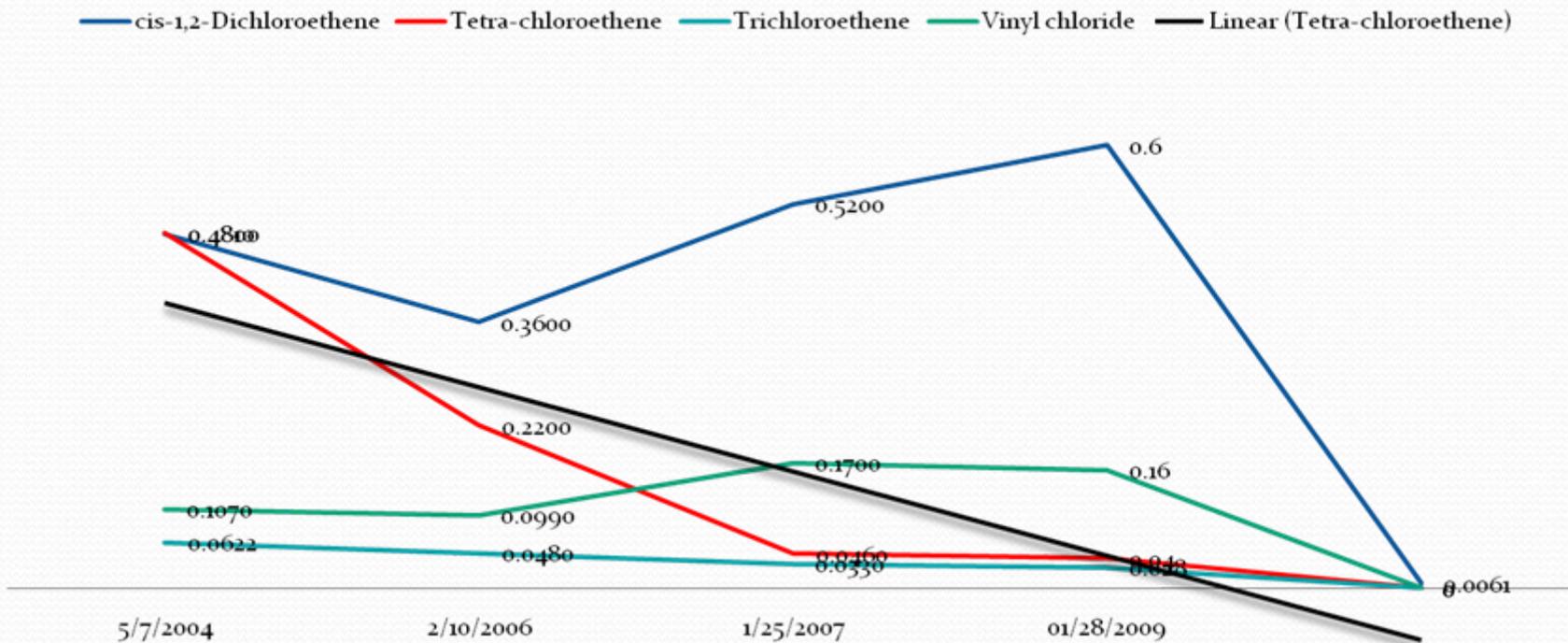
DATE	PROJECT NO	SCALE
JULY 2010	14491.001.001.0020	1 inch = 5,000 feet

Vapors

- Extensive soil Investigation to depths of approximately 35 feet.
 - 13 Boring Locations Investigated
 - Source Areas Suggested as Buildings 2, 2A, 3, 8 and 21
- Soil Gas Survey at areas of highest apparent soil concentration
 - 15 vapor sample points installed
 - Failed to detect concentrations that indicated the source area.

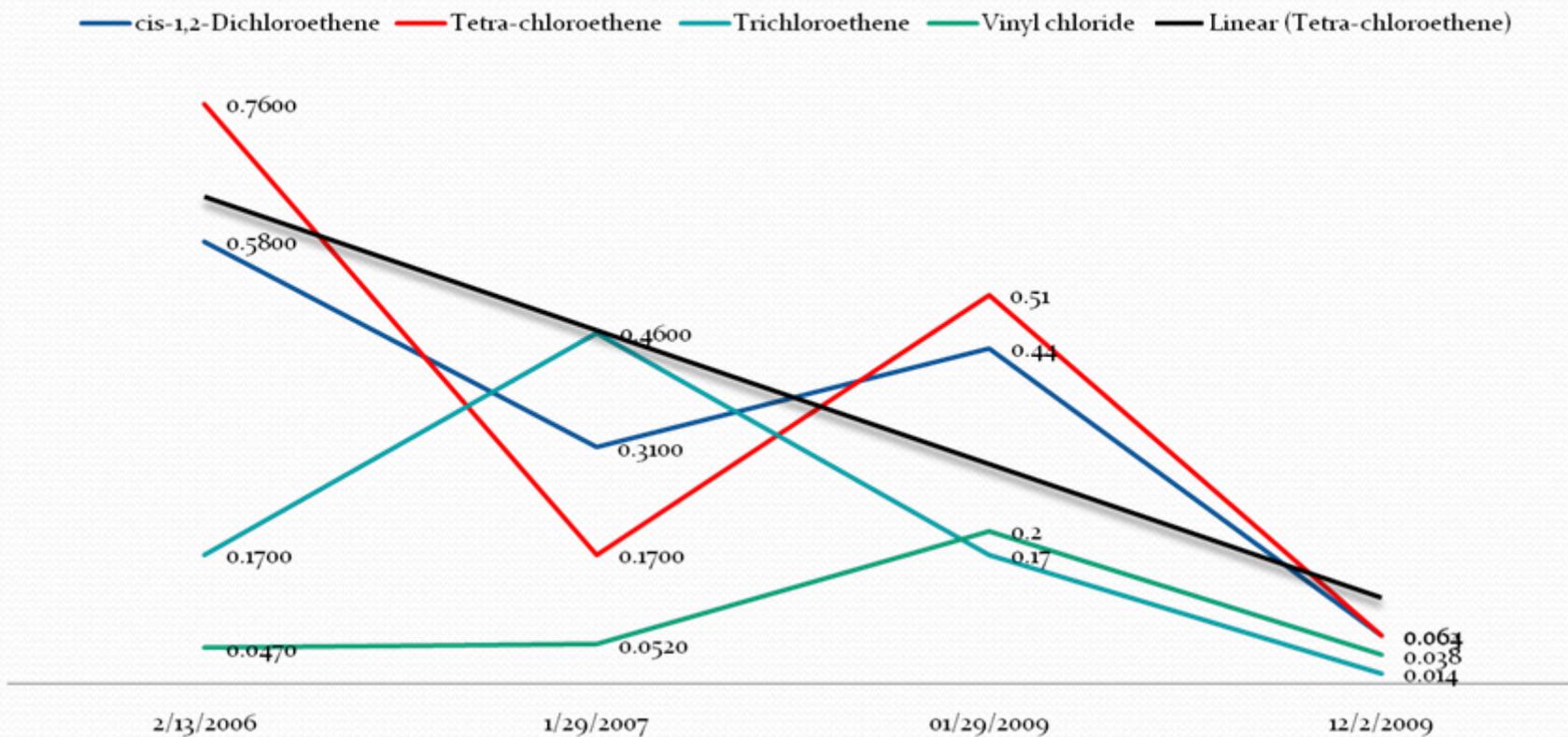
Concentration vs. Time

Monitor Well SCH-2



Concentration vs. Time

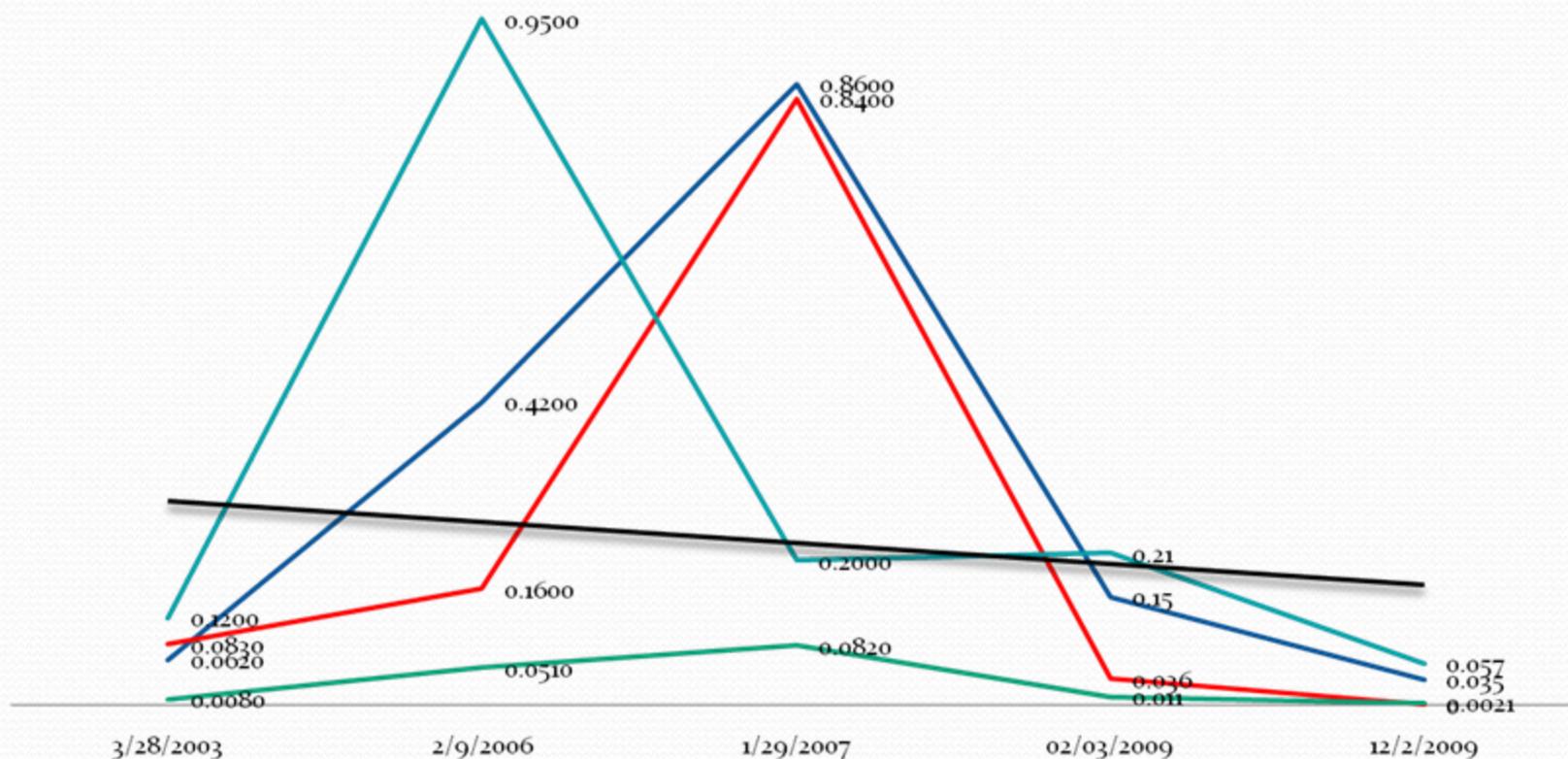
Monitor Well MW-5



Concentration vs. Time

Monitor Well MW-8

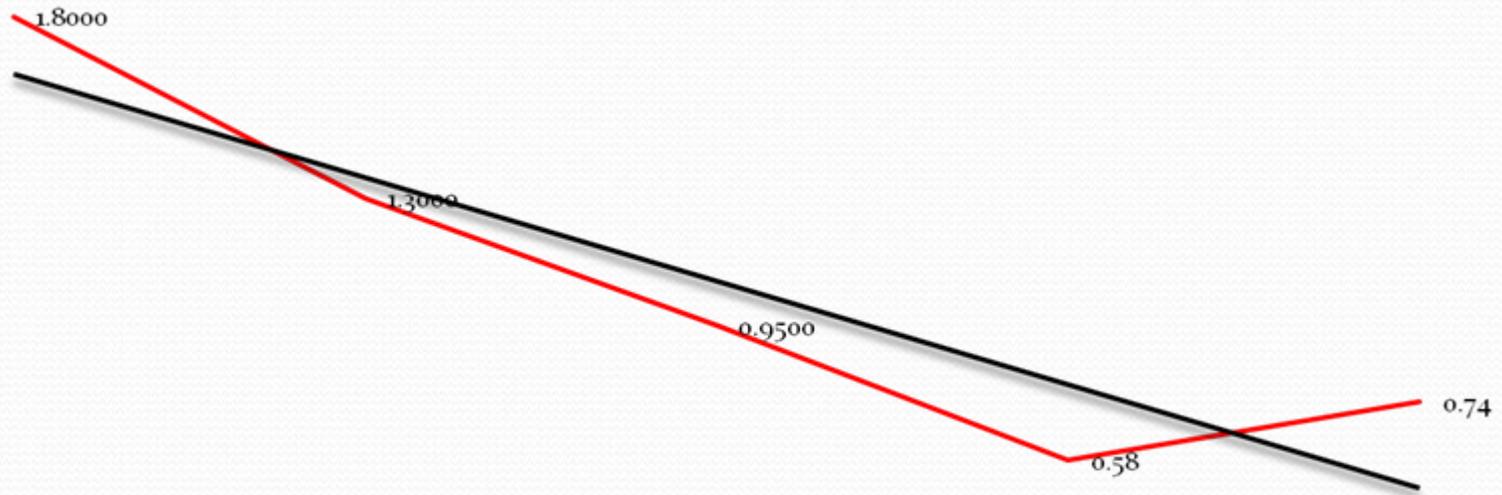
— cis-1,2-Dichloroethene — Tetra-chloroethene — Trichloroethene — Vinyl chloride — Linear (Tetra-chloroethene)



Concentration vs. Time

Monitor Well MW-9

— Tetra-chloroethene — Linear (Tetra-chloroethene)



2/4/2005

2/13/2006

1/29/2007

02/03/2009

12/2/2009

Surface Water

- Source areas of chlorinated compounds were probably inside buildings.
- High percentage of facility is paved or under buildings.
- No exposure of rainwater to impacted soil.
- Nearest surface water body is Brays Bayou, about 1-mile north.

Summary

- Site investigated and limits of impacts determined
- Plume is stable in areal extent and decreasing in concentration
- Natural attenuation of chlorinated compounds appears active
- No beneficial use of shallow groundwater
- MSD is protective of public health and the environment
- What's Next?

Timeline

