

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

May 11, 2010

J.W. Silveira
J.W. Silveira Realty
499 Embarcadero
Oakland, CA 94606

Subject: Fuel Leak Case No. RO0000504 and Geotracker Global ID (T0600101898), William Wurzbach Company, 1200 20th Avenue, Oakland, CA 94606 – Case Closure

Dear Mr. Silveira:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (<http://geotracker.swrcb.ca.gov>) and the Alameda County Environmental Health website (<http://www.acgov.org/aceh/index.htm>).

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Total Petroleum Hydrocarbons as gasoline remain in soil at concentrations up to 270 ppm.
- Total Petroleum Hydrocarbons as gasoline remain in groundwater at concentrations up to 9,000 ppb.
- As described in section IV of the attached Case Closure Summary, the case was closed with Site Management Requirements that limit future land use to commercial land use only.

If you have any questions, please call Jerry Wickham at (510) 567-6791. Thank you.

Sincerely,

Donna L. Drogos, P.E.
Chief

Enclosures:

1. Remedial Action Completion Certification
2. Case Closure Summary

cc:

Leroy Griffin (w/enc)
Oakland Fire Department
250 Frank H. Ogawa Plaza, Ste. 3341
Oakland, CA 94612-2032
(Sent via E-mail to: lgriffin@oaklandnet.com)

Closure Unit (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Paul King, P&D Environmental, Inc.
55 Santa Clara Avenue, Suite 240
Oakland, CA 94610
(Sent via E-mail to: PDKing0000@aol.com)

Donna Drogos, ACEH (Sent via E-mail to: donna.drogos@acgov.org)
Jerry Wickham, ACEH (w/o enc)

Geotracker (w/enc)
File (w/orig enc)



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REMEDIAL ACTION COMPLETION CERTIFICATION

May 11, 2010

J.W. Silveira
J.W. Silveira Realty
499 Embarcadero
Oakland, CA 94606

Subject: Fuel Leak Case No. RO0000504 and Geotracker Global ID (T0600101898), William Wurzbach Company, 1200 20th Avenue, Oakland, CA 94606 – Case Closure

Dear Mr. Silveira:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25296.10 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,



Ariu Levi
Director
Alameda County Environmental Health

**CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM**

I. AGENCY INFORMATION

Date: January 29, 2010

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6791
Responsible Staff Person: Jerry Wickham	Title: Senior Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: William Wurzbach Company		
Site Facility Address: 1200 20 th Avenue, Oakland, CA 94606		
RB Case No.: 01-2066	StID: 4868	LOP Case No.: RO0000504
URF Filing Date: 7/18/1994	Geotracker ID: T0600101898	APN: 20-109-1
Responsible Parties	Addresses	Phone Numbers
J.W. Silveira	499 Embarcadero, Oakland, CA 94606	510-834-9810

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	600 gallons	Gasoline	Removed	01/19/1994
2	600 gallons	Gasoline	Removed	01/19/1994
--	---	---	---	---
---	---	---	---	---
Piping			Removed	01/19/1994

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Both tanks showed evidence of corrosion holes and the western tank had significant corrosion holes and splits along the seam.		
Site characterization complete? Yes	Date Approved By Oversight Agency: ----	
Monitoring wells installed? Yes	Number: 3	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 10.4 feet bgs	Lowest Depth: 27.5 feet bgs	Flow Direction: Southwest
Most Sensitive Current Use: Potential drinking water source.		

Summary of Production Wells in Vicinity: Two water supply or unknown wells were identified within 2,000 feet of the site. Well T2S/R3W 6P1 1901 Calcot Street is approximately 1,500 feet southeast of the site. Well records indicate the well is 345-feet deep and may be an abandoned well. Based on the cross gradient location, distance from the site, and limited extent of groundwater contamination from the site, the well is not likely to be a receptor for the site. The second well, T2S/R4W 1k, is located approximately 1,500 feet west of the site. Well T2S/R4W 1k is 727 feet deep and is apparently owned by the Port of Oakland. Based on the cross gradient location, distance from the site, and limited extent of groundwater contamination from the site, the well is not likely to be a receptor for the site.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: The Tidal Canal between Oakland and Alameda is approximately 1,500 feet southwest of the site.
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health and City of Oakland Fire Department

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	2 - 600 gallon tanks	The tanks were transported to H and H Ship Services in San Francisco, CA for disposal	01/19/1994
Piping	Not reported	The piping was transported H and H Ship Services in San Francisco, CA for disposal	01/19/1994
Free Product	---	---	---
Soil	80 cubic yards	Transported to Keller Canyon Landfill for disposal	07/05/1994
Groundwater	---	---	---

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS No information available from tank removals IONS
BEFORE AND AFTER CLEANUP

(Please see Attachments 1 through 6 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	2,300	270	23,000(1)	9,000(1)
TPH (Diesel)	Na	NA	1,900	1,900
TPH (Motor Oil)	NA	NA	NA	NA
Benzene	2.9	0.28	3,700(1)	1,200(1)
Toluene	33	0.25	560(1)	63(1)
Ethylbenzene	28	3.6	1,000(1)	130(1)
Xylenes	150	14	3,100(1)	74(1)
Lead	5.7(2)	5.7(2)	---	---
MTBE	<0.005(3)	<0.005(3)	26,000(4)	2.4(4)
Other (8240/8270)	NA	NA	20(5)	20(5)

- (1) The maximum concentration before cleanup is the maximum concentration detected historically in groundwater from MW-1; the maximum concentration after cleanup is from a groundwater sample collected from well MW-1 during the most recent groundwater monitoring event on 06/06/2007.
- (2) No metals analyzed other than lead.
- (3) MTBE <0.005 ppm; 1,2-DCA = 0.019 ppm; EDB <0.004 ppm; TBA, TAME, ETBE, and DIPE not analyzed.
- (4) MTBE <0.5 ppb; 1,2-DCA = 52 ppb; EDB <5 ppb; TBA, TAME, ETBE, and DIPE not analyzed.
- (5) Trichloroethene = 20 ppb; cis-1,2-dichloroethene = 72 ppb; naphthalene = 570 ppb; other VOCs not detected at various reporting limits.

Site History and Description of Corrective Actions:

The site is a commercial building located at the corner of Solano Way and 20th Avenue in Oakland, California. Surrounding land use is commercial and industrial. Two underground storage tanks (USTs) were removed from the sidewalk in front of 1200 20th Avenue on January 19, 1994. The tanks were oriented roughly north-south within a common excavation. Both tanks showed evidence of corrosion holes and the western tank had a split along the seam at the south end of the tank. Due to significant soil staining observed beneath the tanks, the excavation was extended to a depth of approximately 15 feet bg. The lateral extent of the excavation was limited by 20th Avenue to the north, Solano Way to the west, and a gas line and the building foundation to the south. Following overexcavation, contamination was still observed along the western sidewall of the excavation.

Three soil borings were advanced and completed as monitoring wells in February 1995. The three monitoring wells (MW-1, MW-2, and MW-3) were constructed to depths of 30, 35, and 30 feet bgs, respectively. TPHg and benzene were detected in groundwater from well MW-1, which is located immediately adjacent to the former USTs, at concentrations of 1,900 and 92 ppb, respectively.

Two additional soil borings were advanced south of the former USTs in June 1999. TPHg, BTEX, and MTBE were not detected in soil samples from the two borings. No groundwater samples were collected from the borings because groundwater was reportedly not encountered in the borings.

The three groundwater monitoring wells were monitored sporadically from February 1995 to August 2001. TPHg has been detected in groundwater from well MW-1 at concentrations ranging from 23,000 ppb in July 1998 to 1,900 ppb in June 2007.

An additional investigation consisting of soil gas sampling (SG-1), a geophysical survey, and soil borings (B-3 through B-9), was conducted in March and April 2009. Soil gas sampling was attempted at two depths (5 and 10 feet bgs) at location SG-1, which is located within an office space inside the building adjacent to the former USTs. However, it was not possible to collect soil vapor samples at either depth due to the high vacuum conditions associated with fine-grained soils in the borehole.

A resistivity survey along with continuous coring and conductivity logging in the soil borings was used to identify coarse-grained soils that appear to be within buried stream channels. The stream channels are present beneath portions of the site and appear to intersect some monitoring wells but not others. The distribution of the stream channels in relation to the monitoring wells affects the apparent hydraulic gradient observed from the monitoring wells. Historically, the calculated hydraulic gradient has been north-northeast, which is uphill and highly unlikely. Consistently lower groundwater elevations observed in well MW-2 is more likely the result of vertical gradients associated with movement of groundwater in the buried stream channels. Groundwater flow at the site more likely follows the topography and regional flow to the southwest. Soil and grab groundwater data from the soil borings indicated that the extent of contamination is limited to the vicinity of the former USTs.

In October 2009, one additional soil boring (B-10) was advanced and a subsurface soil vapor sample (SG-1) was collected. SG-1 was collected from the subsurface space immediately below the floor of an office space adjacent to the former USTs. Benzene was detected at a concentration of 9.5 micrograms per cubic meter. Based on the subsurface soil vapor sample, the hazard quotient was less than one and the cumulative excess cancer risk was estimated to be 0.18 per million.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
<p>Site Management Requirements: Case closure for this fuel leak site is granted for the current commercial land use only. If a change in land use to any residential or other conservative land use scenario occurs at this site, Alameda County Environmental Health (ACEH) must be notified as required by Government Code Section 65850.2.2. ACEH will re-evaluate the case upon receipt of approved development/construction plans.</p> <p>Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities.</p> <p>This site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination on site.</p>		
Should corrective action be reviewed if land use changes? Yes.		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 3
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

V. ADDITIONAL COMMENTS, DATA, ETC.


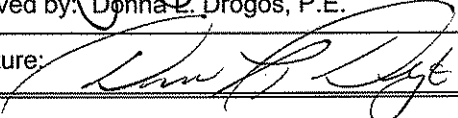
Considerations and/or Variances:

No soil or groundwater analyses for TBA, TAME, ETBE, or DIPE. Based on absence of MTBE in soil or groundwater samples, analyses for additional fuel oxygenates not warranted.

Conclusion:

Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment under the current commercial land use based upon the information available in our files to date. No further investigation or cleanup for the fuel leak case is necessary unless a change in land use to any residential or other conservative land use scenario occurs at the site. ACEH staff recommend closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Jerry Wickham	Title: Senior Hazardous Materials Specialist
Signature: 	Date: 02/25/10
Approved by: Donna L. Drogos, P.E.	Title: Chief
Signature: 	Date: 02/25/10

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
Notification Date: 02/25/2010	

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: 03/02/2010	Date of Well Decommissioning Report: 05/06/2010	
All Monitoring Wells Decommissioned: <input checked="" type="radio"/> Yes <input type="radio"/> No	Number Decommissioned: 3	Number Retained: 0
Reason Wells Retained: NA		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: <i>Jay Wissham</i>		Date: 05/11/2010

Attachments:

1. Site Vicinity Map/Area Well Survey Map (1 page)
2. Site Map (3 pp)
3. Soil and Groundwater Contour/Chemical Concentration Maps and Cross Sections (11 pp)
4. Soil and Soil Vapor Analytical Data (5 pp)
5. Groundwater Analytical Data (17 pp)
6. Boring Logs (22 pp)

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.

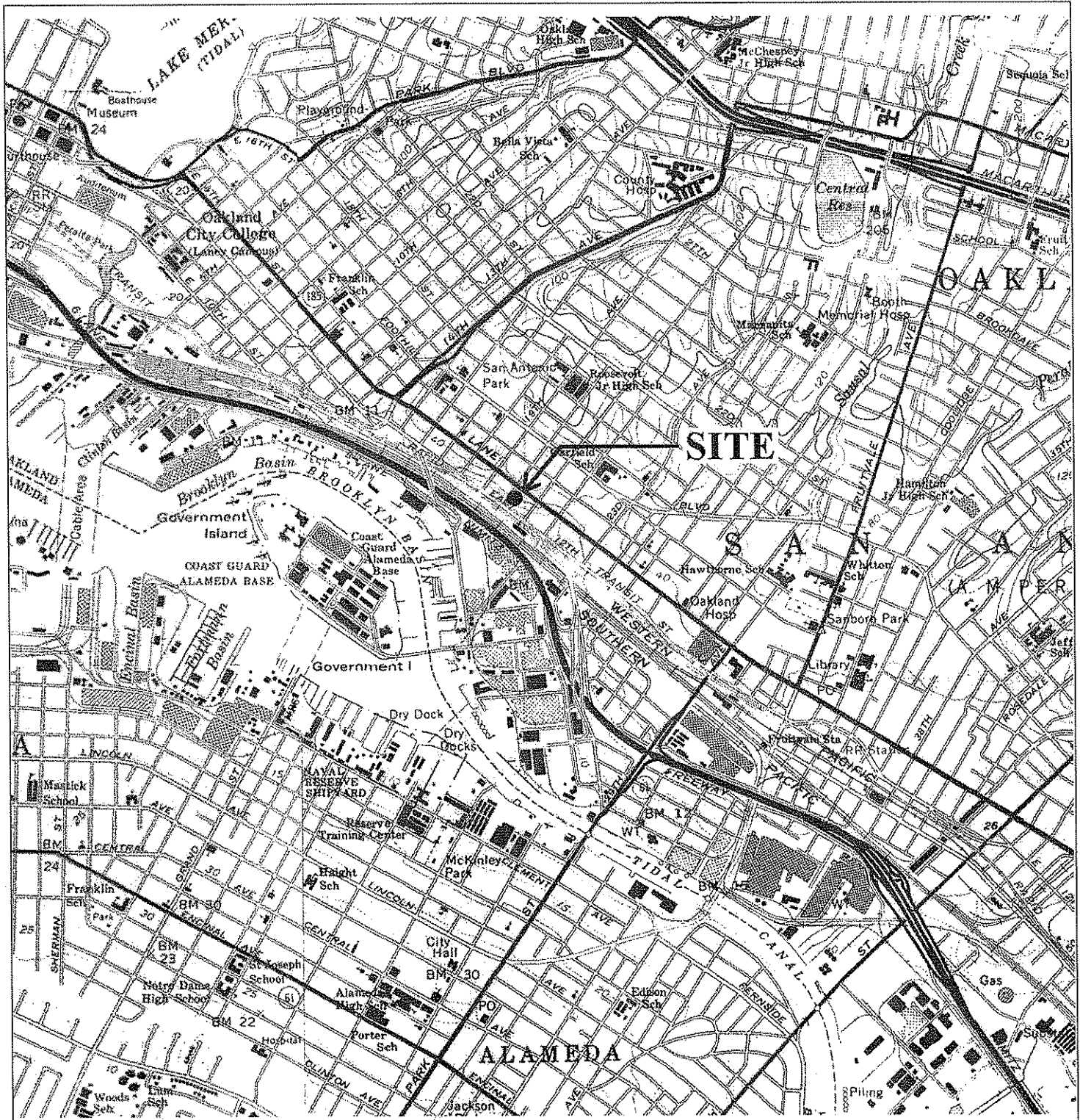
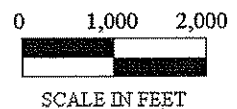


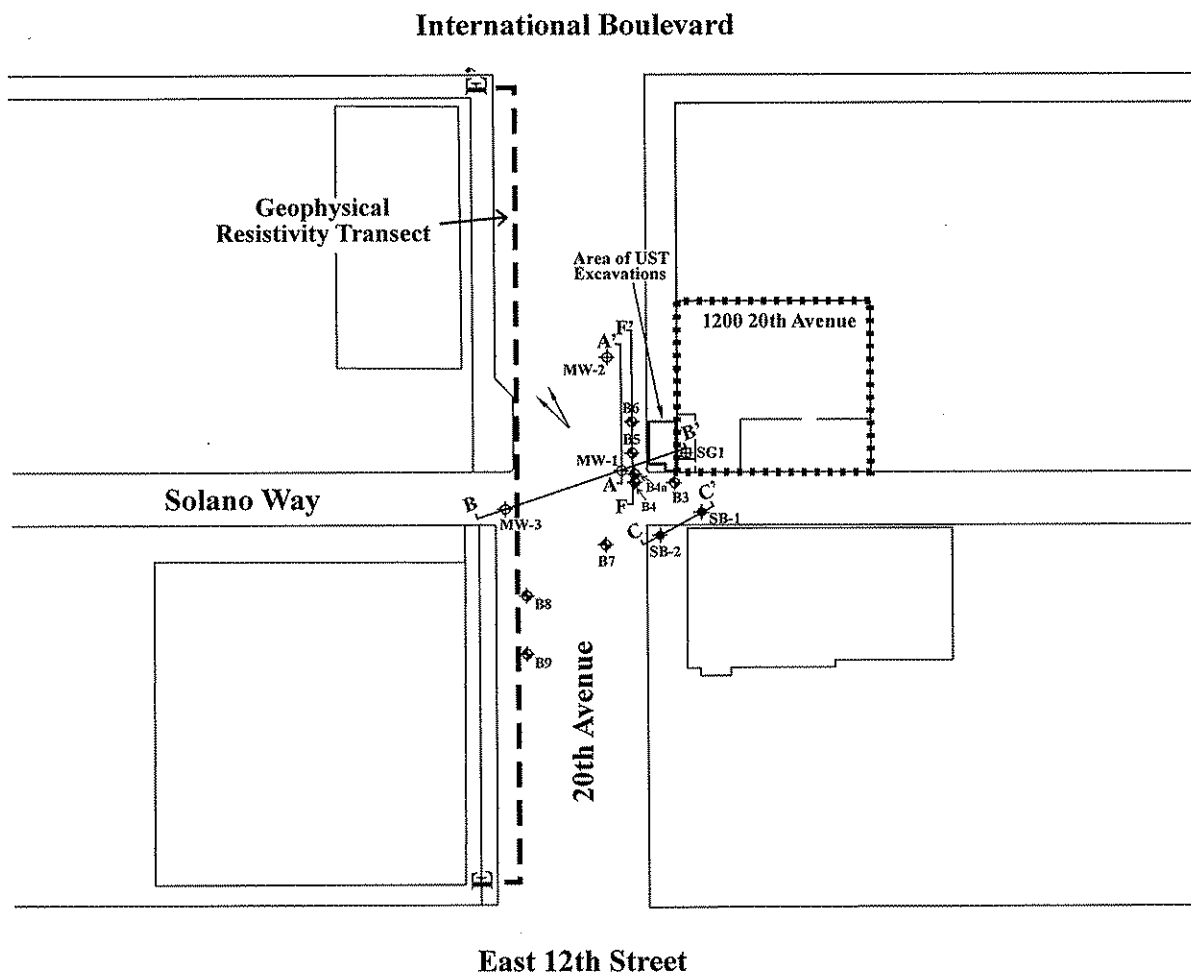
Figure 1
 Site Location Map
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California

Base Map From:
 U.S. Geological Survey
 Oakland East and
 Oakland West, California
 7.5 Minute Quadrangles
 Photorevised 1980

P&D Environmental, Inc.
 55 Santa Clara Ave., Suite 240
 Oakland, CA 94610



ATTACHMENT 1



LEGEND

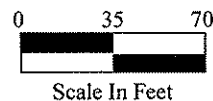
- ⊕^{MW-3} Monitoring Well
- ⬇^{SB-2} Borehole (By Others)
- ⬇^{B9} Borehole (By P&D)
- ⊕^{SG1} Soil Gas Sample Collection Location (By P&D)
- F — F' Geologic Cross Section Location
- E — E' Geophysical Transect Location
- ↔ Historical Range of Groundwater Flow Direction

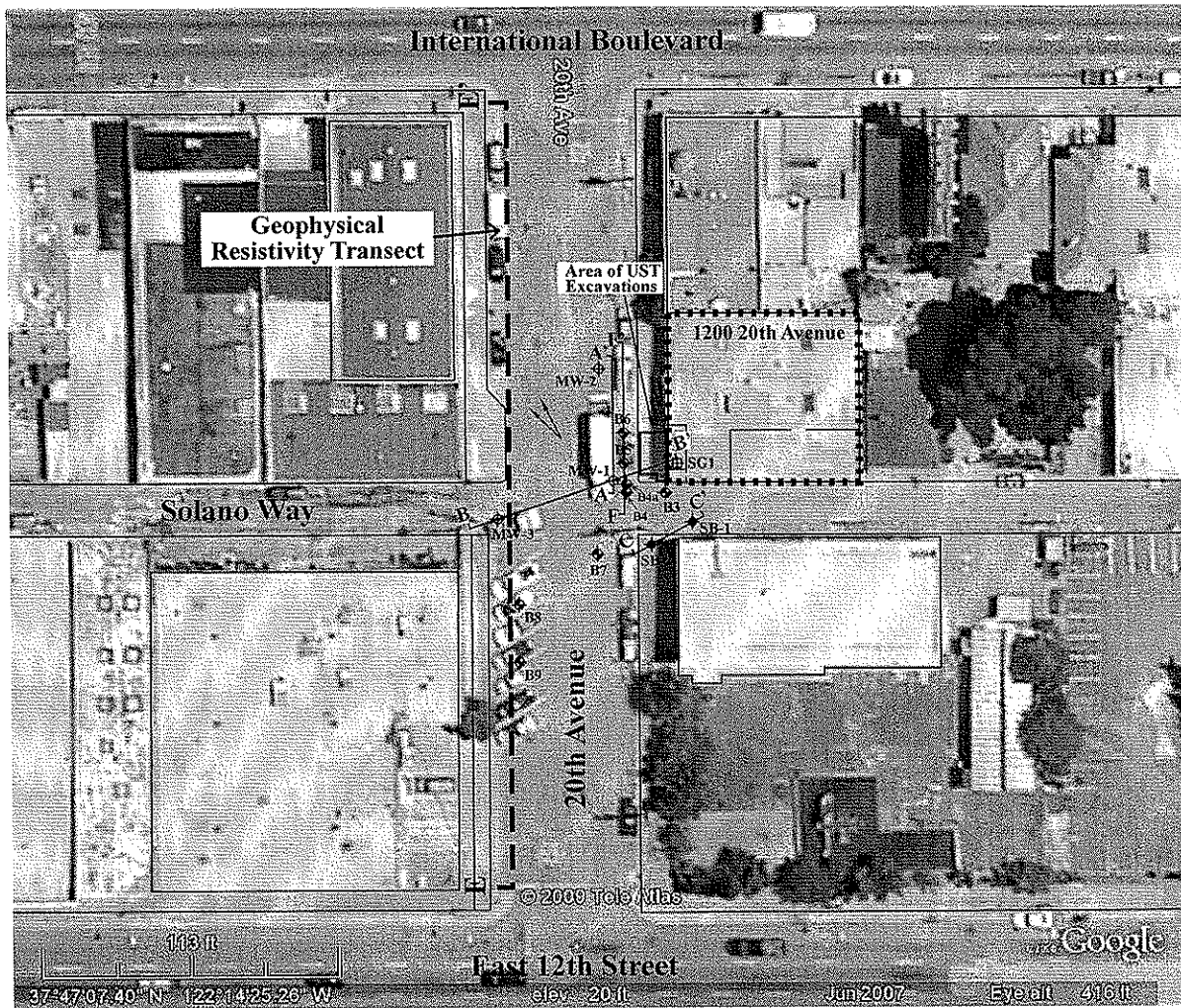
Figure 3
 Site Vicinity Map Showing Drilling Locations,
 and Locations of Cross Sections and Resistivity Transect
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map from
 Google Earth

P&D Environmental, Inc.
 55 Santa Clara Ave., Suite 240
 Oakland, CA 94610





LEGEND








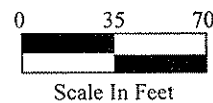
-  MW-3 Monitoring Well
-  SB-2 Borehole (By Others)
-  B8 Borehole (By P&D)
-  SG1 Soil Gas Sample Collection Location (By P&D)
-  F F' Geologic Cross Section Location
-  E E' Geophysical Transect Location
-  Historical Range of Groundwater Flow Direction

Figure 4
 Aerial Photograph of Site Vicinity Showing Drilling Locations,
 and Locations of Cross Sections and Resistivity Transect
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map from
 Google Earth

P&D Environmental, Inc.
 55 Santa Clara Ave., Suite 240
 Oakland, CA 94610



20th Avenue

Driveway

Gas Line

Curb

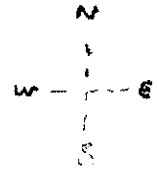
Edge of Building

#1 Former Gasoline Tank

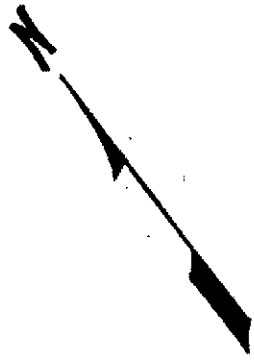
#2 Former Gasoline Tank

AREA OF LEAK

2300 g
28 ppm Benzene



Sample #s & approx. location



Solano Way



EPIGENE INTERNATIONAL	Project #94067 1200 20th Avenue, Oakland, California.
Fig. 3 SITE PLAN	

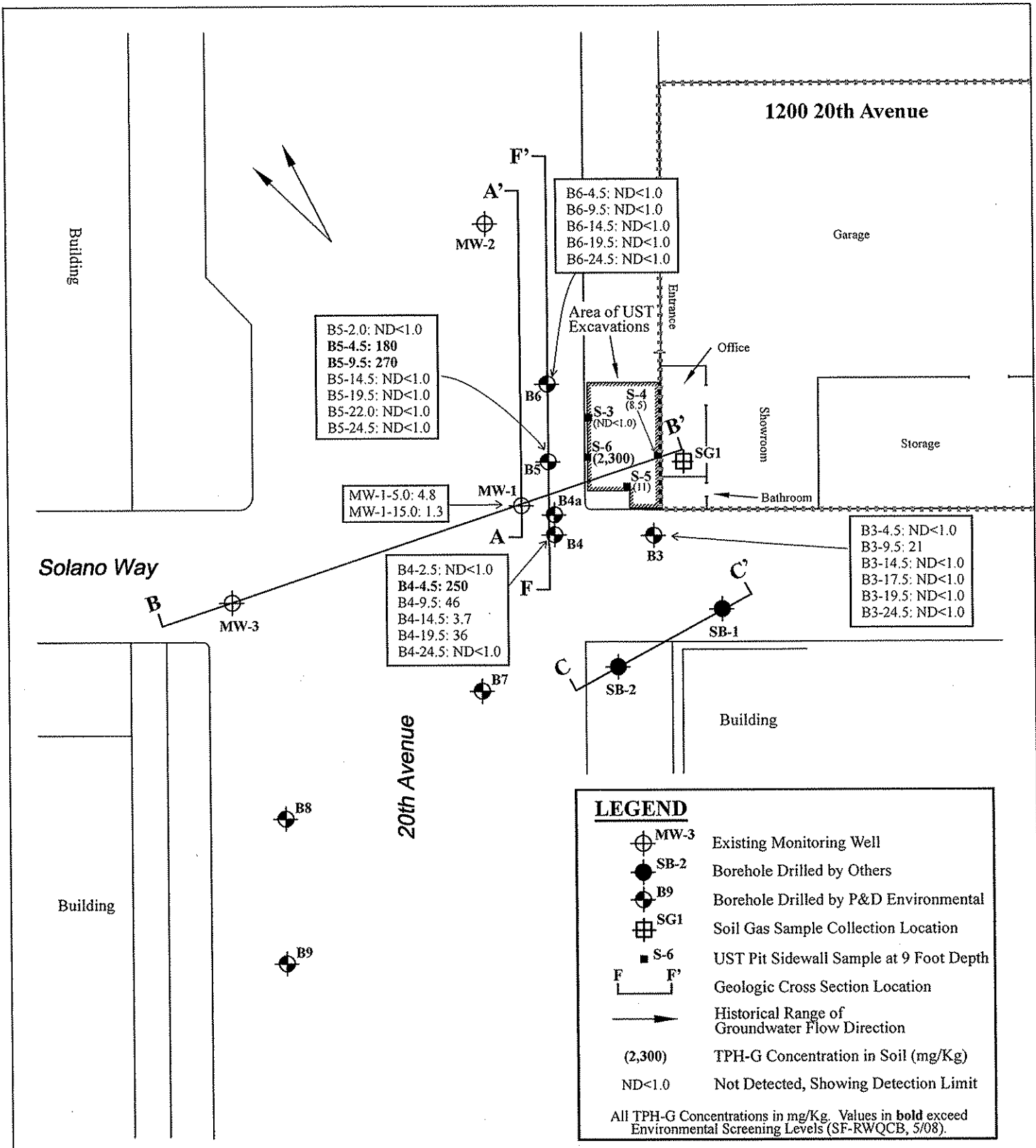


Figure 9
 Site Vicinity Map Detail Showing TPH-G in Soil
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map From:
 Tetra Tech EM Inc.
 Site Location Map

P&D Environmental, Inc.
 55 Santa Clara Avenue, Suite 240
 Oakland CA 94610



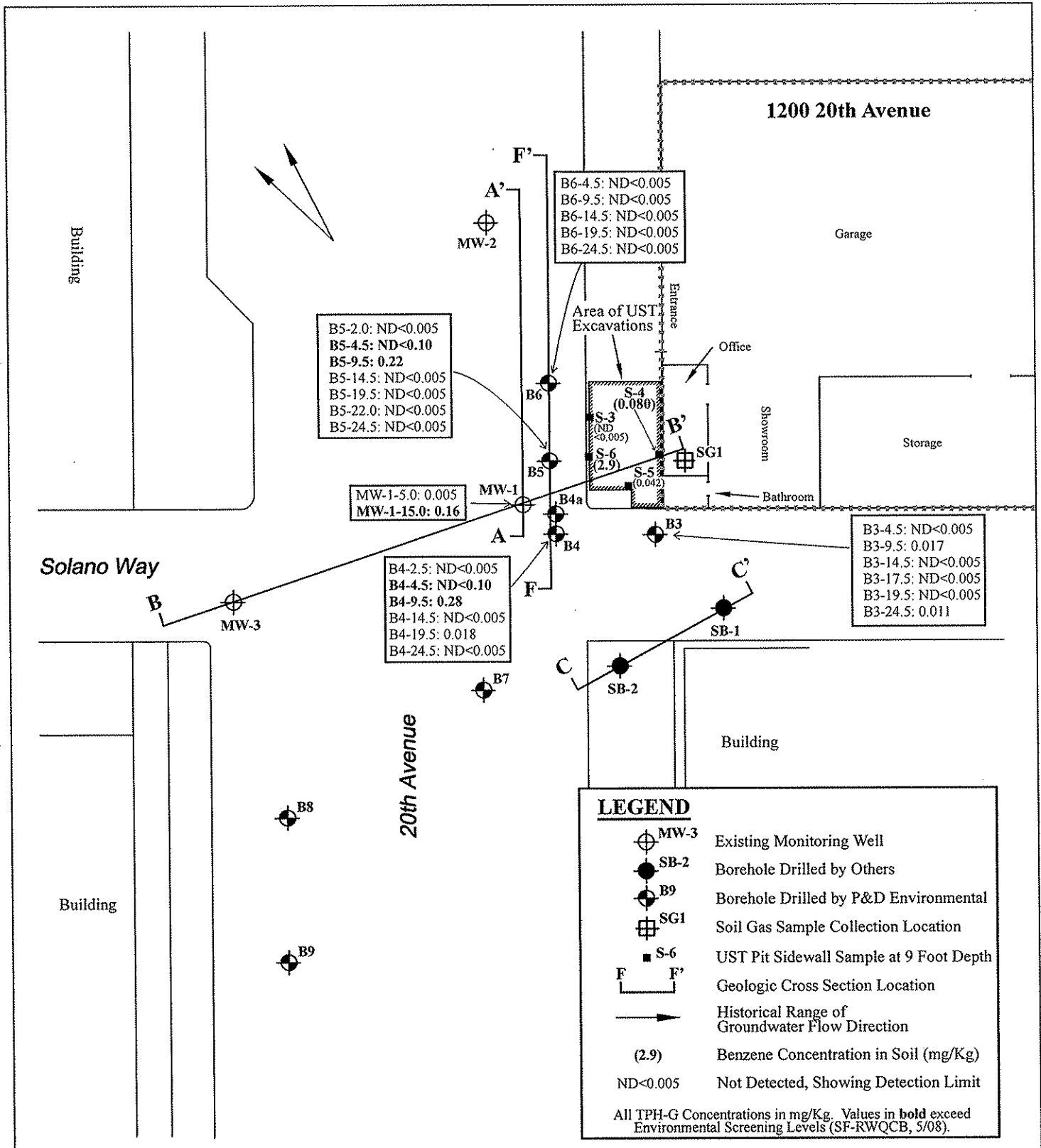


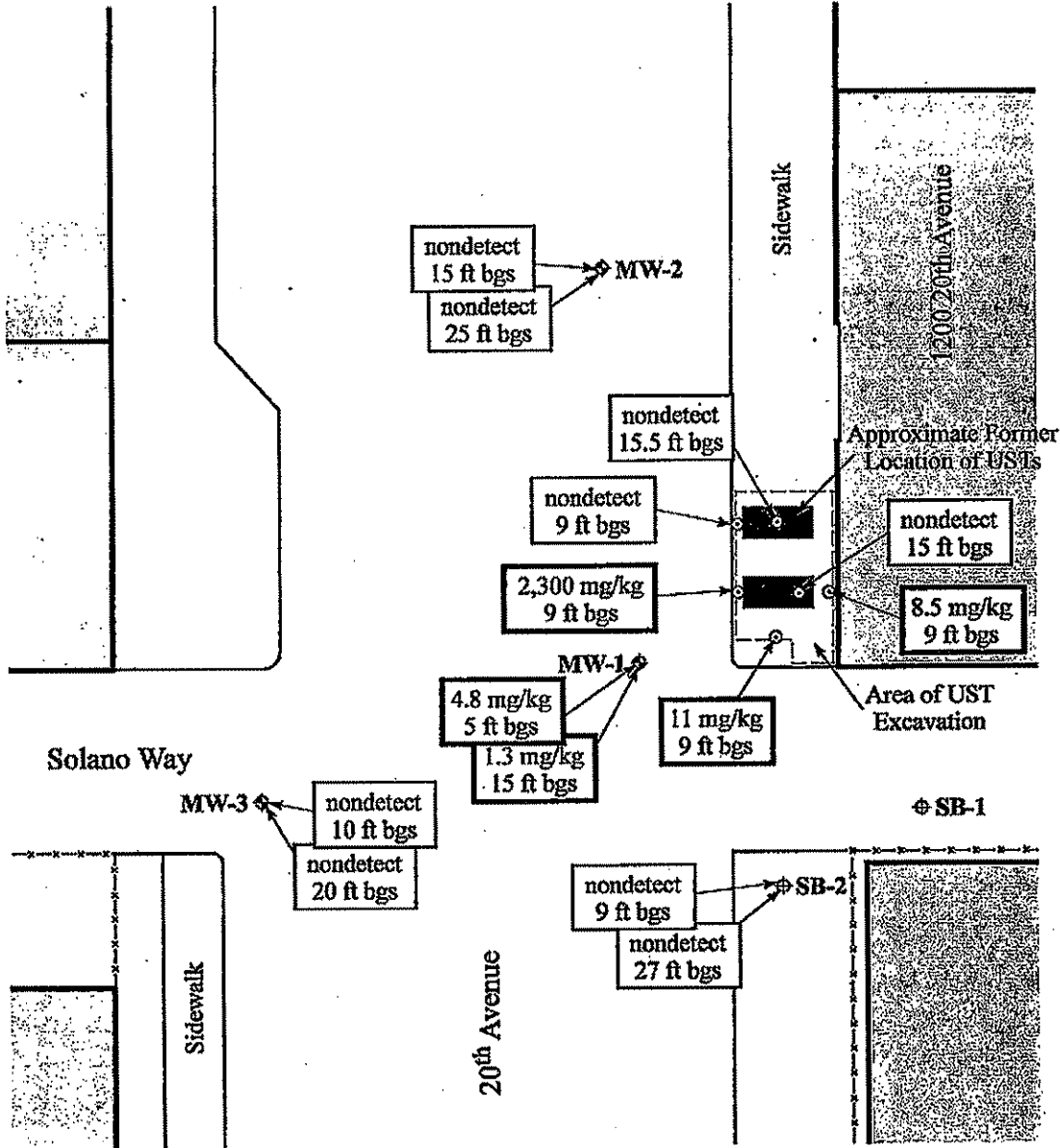
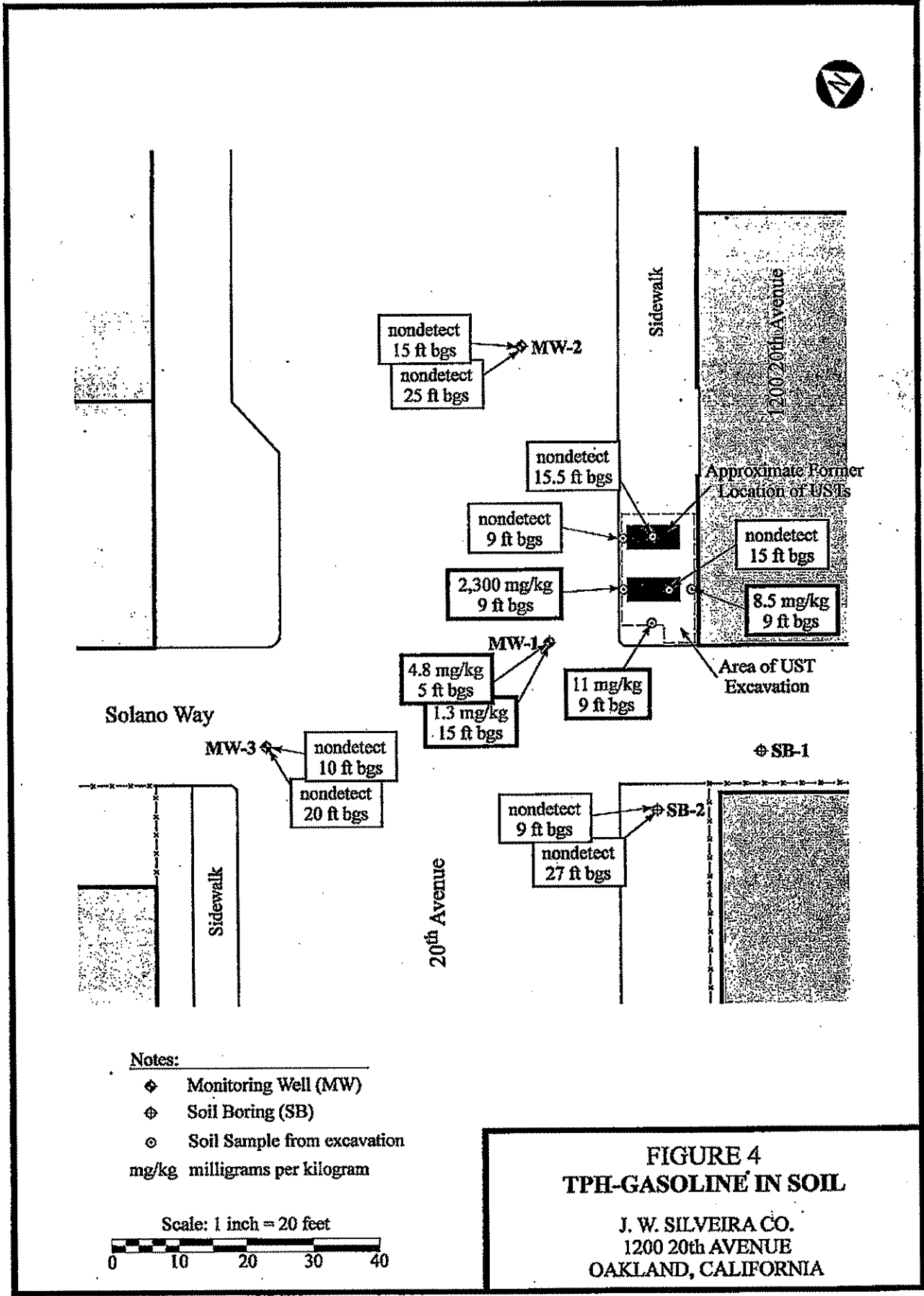
Figure 10
 Site Vicinity Map Detail Showing Benzene in Soil
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California

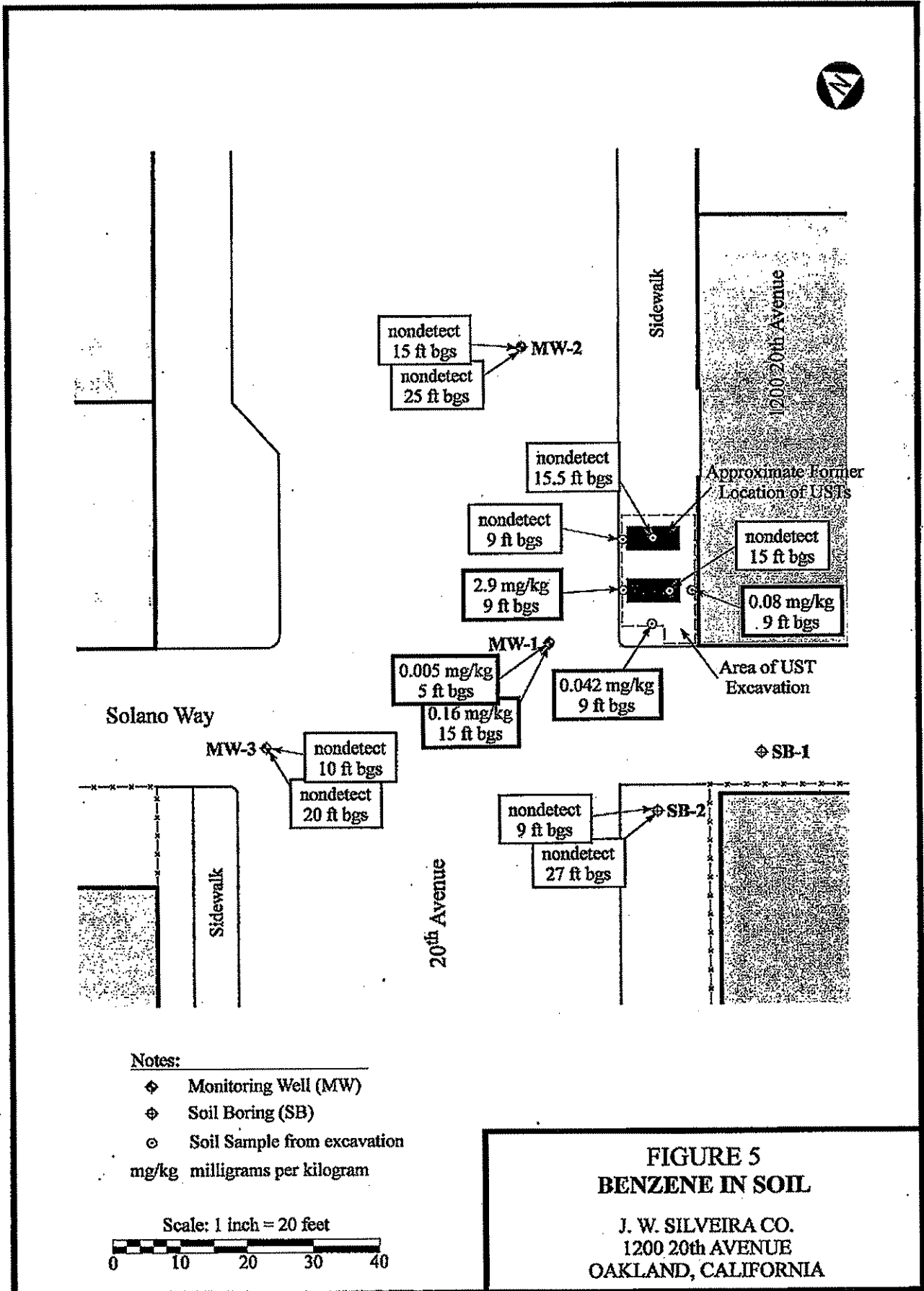


Base Map From:
 Tetra Tech EM Inc.
 Site Location Map

P&D Environmental, Inc.
 55 Santa Clara Avenue, Suite 240
 Oakland CA 94610







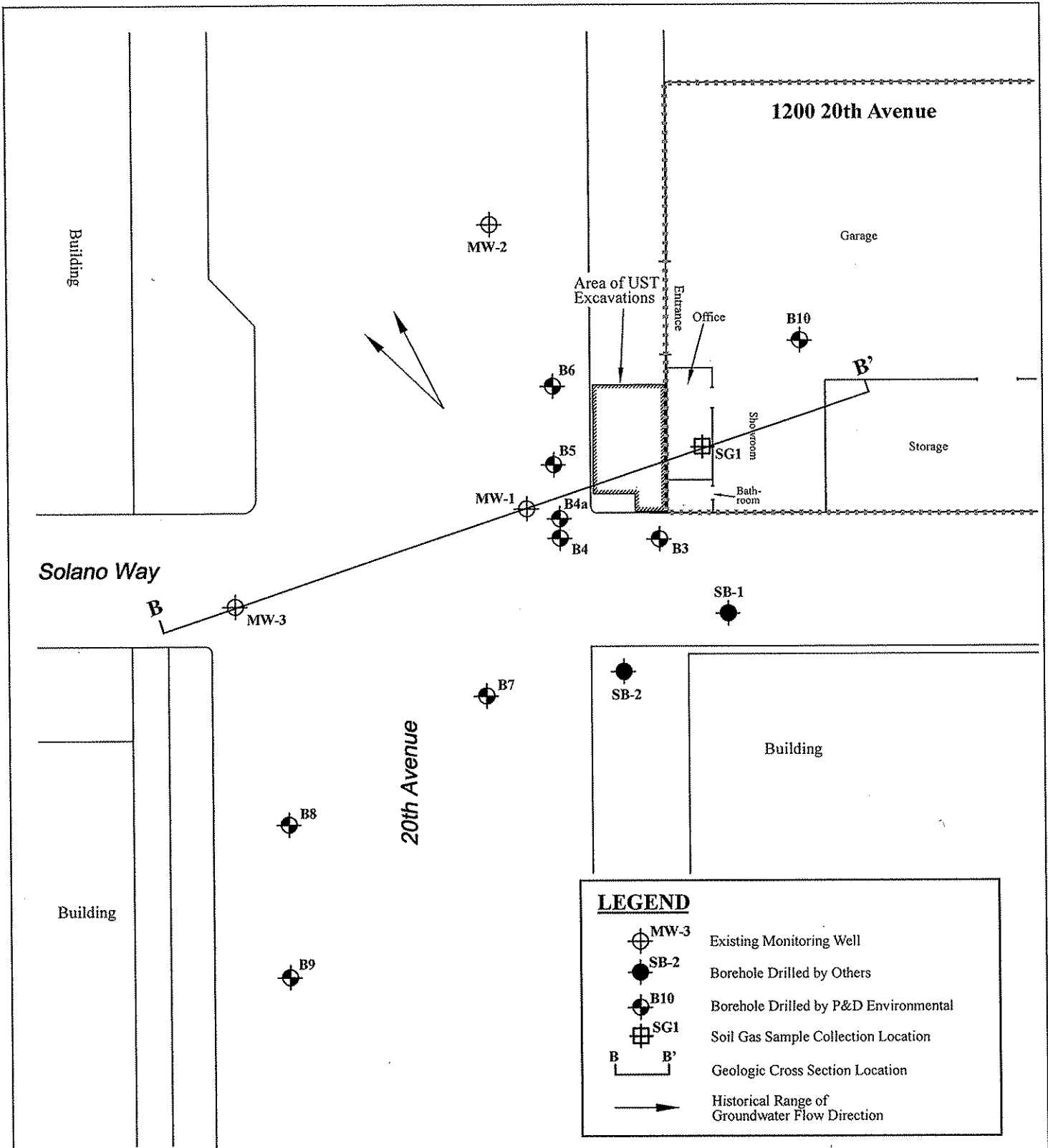
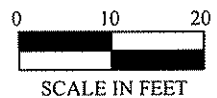


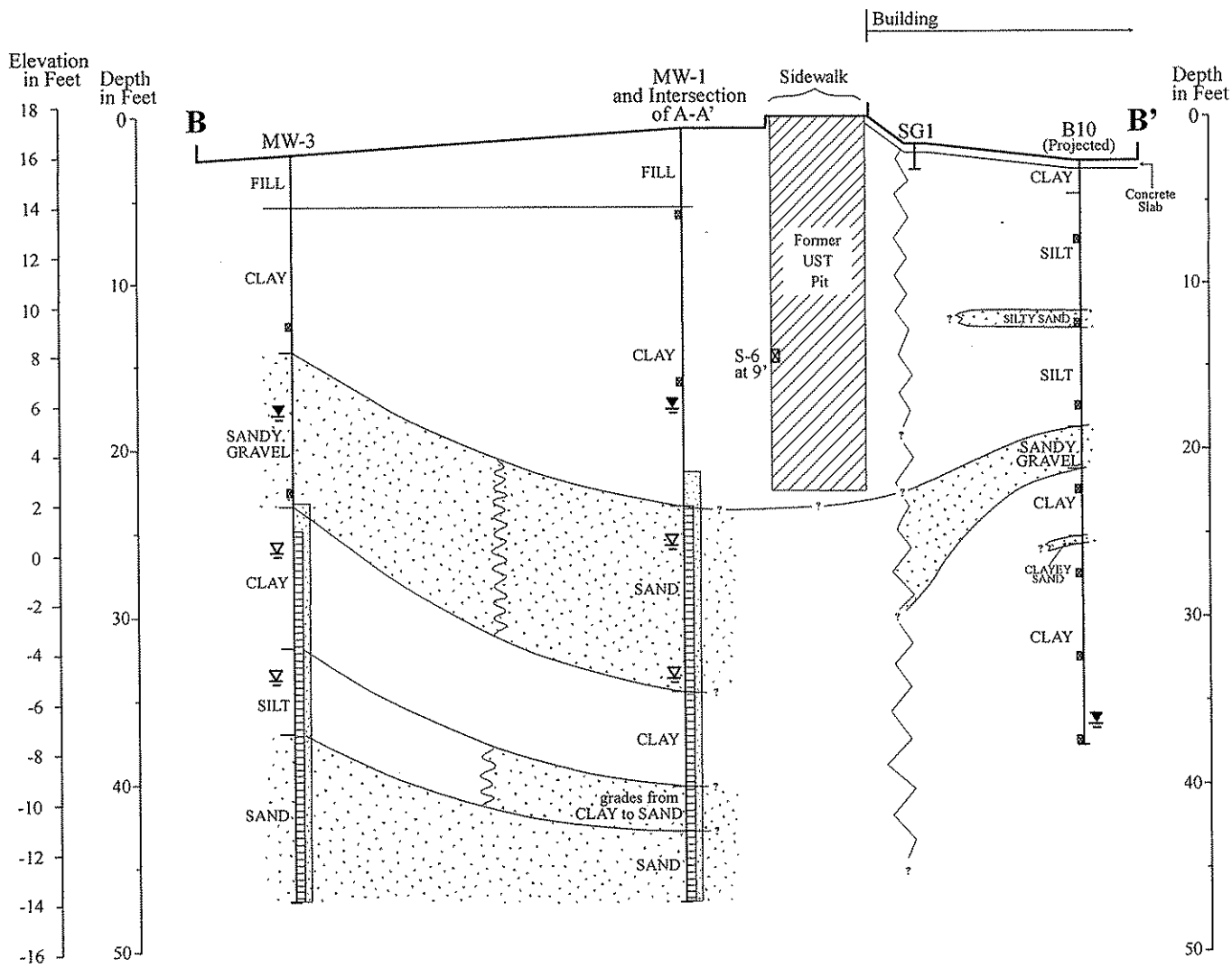
Figure 2
 Site Vicinity Map Detail Showing Sample Collection
 and Geologic Cross Section Locations
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map From:
 Tetra Tech EM Inc.
 Site Location Map

P&D Environmental, Inc.
 55 Santa Clara Avenue, Suite 240
 Oakland CA 94610





LEGEND

- Screened Interval of Well, with Sand Pack
- Soil Sample Analysis Interval
- Coarse-Grained Soils
- Former UST Pit
- Historical Range of Water Levels Prior to 2002
- Historical High Water Level After 2002

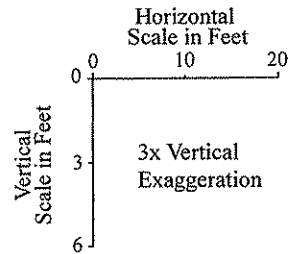
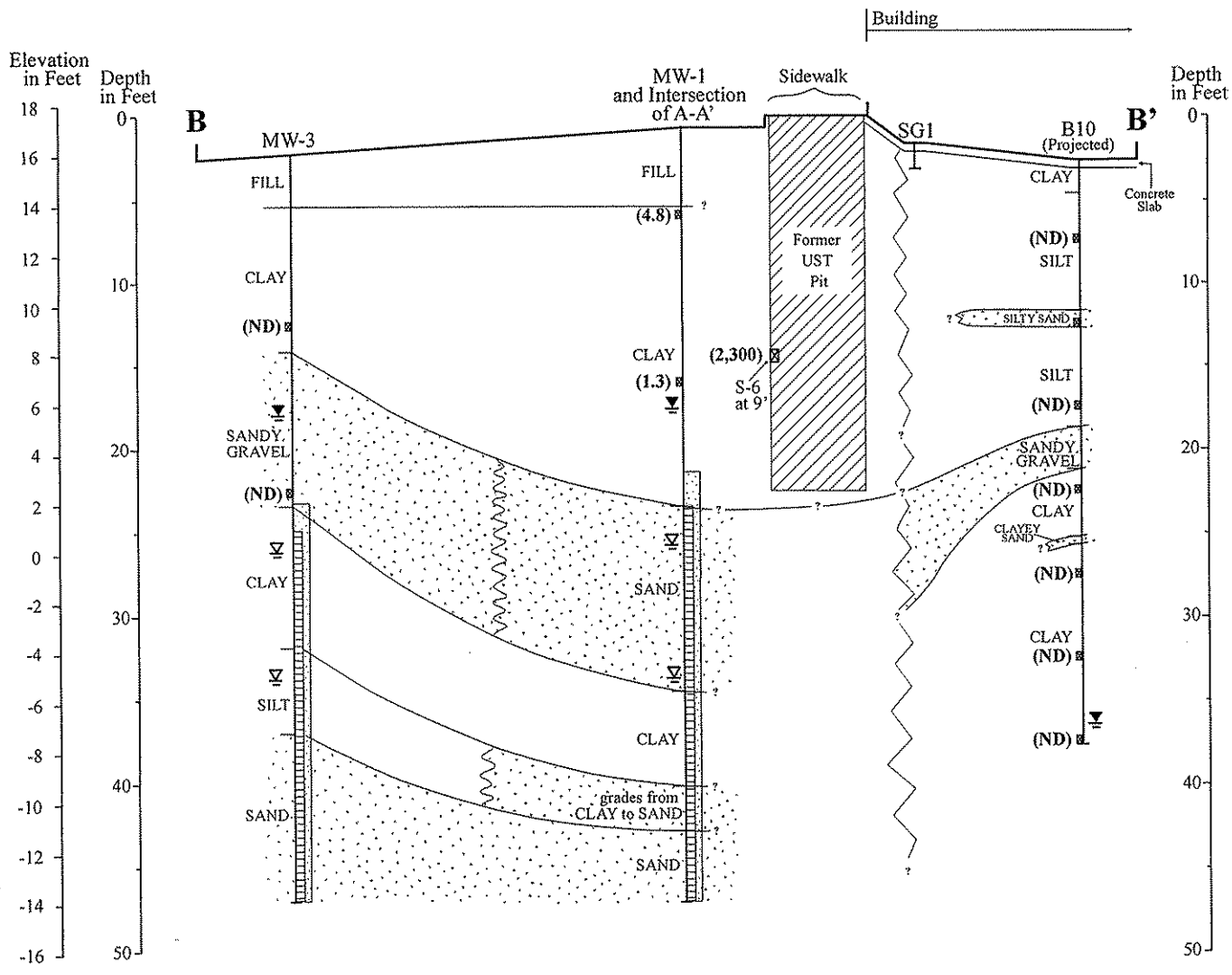


Figure 4
 Geologic Cross Section B-B'
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California

P&D Environmental, Inc.
 55 Santa Clara Ave., Suite 240
 Oakland, CA 94610



LEGEND

- (2,300) TPH-G Concentration in Soil (mg/Kg)
- ND Not Detected
- - - TPH- G Soil Isoconcentration Contour
- Screened Interval of Well, with Sand Pack
- Soil Sample Analysis Interval
- Coarse-Grained Soils
- Former UST Pit
- Historical Range of Water Levels Prior to 2002
- Historical High Water Level After 2002

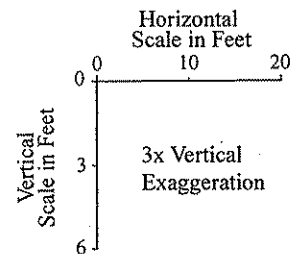
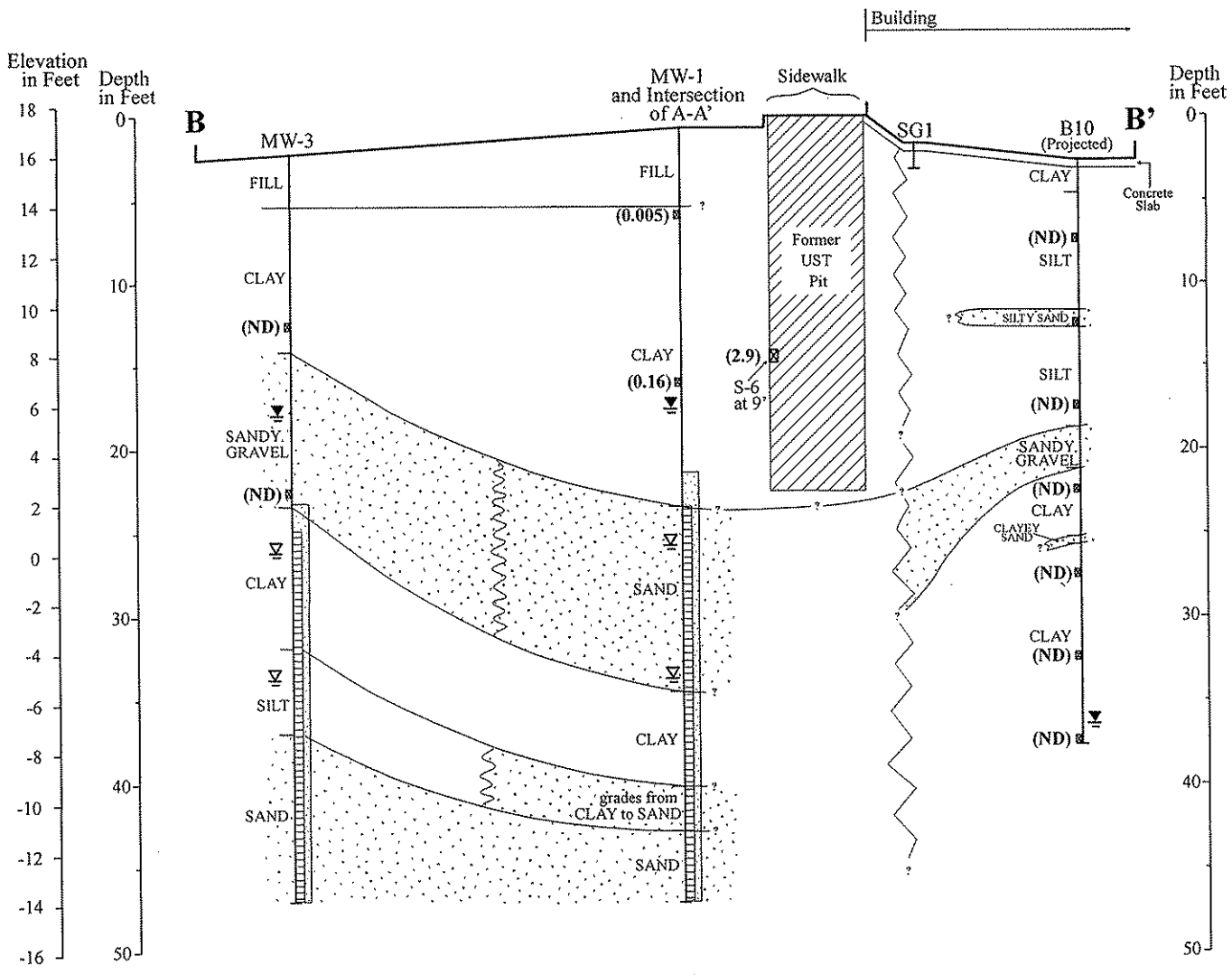


Figure 5
 Geologic Cross Section B-B' Showing TPH-G Concentrations in Soil
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California

P&D Environmental, Inc.
 55 Santa Clara Ave., Suite 240
 Oakland, CA 94610



LEGEND

- (2.9) Benzene Concentration in Soil (mg/Kg)
- ND Not Detected
- - - Benzene Soil Isoconcentration Contour
- [Screened Interval Symbol] Screened Interval of Well, with Sand Pack
- [Soil Sample Analysis Interval Symbol] Soil Sample Analysis Interval
- [Coarse-Grained Soils Symbol] Coarse-Grained Soils
- [Former UST Pit Symbol] Former UST Pit
- [Water Level Symbol] Historical Range of Water Levels Prior to 2002
- [Water Level Symbol] Historical High Water Level After 2002

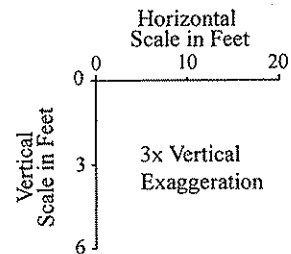


Figure 6
 Geologic Cross Section B-B' Showing Benzene Concentrations in Soil
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California

P&D Environmental, Inc.
 55 Santa Clara Ave., Suite 240
 Oakland, CA 94610

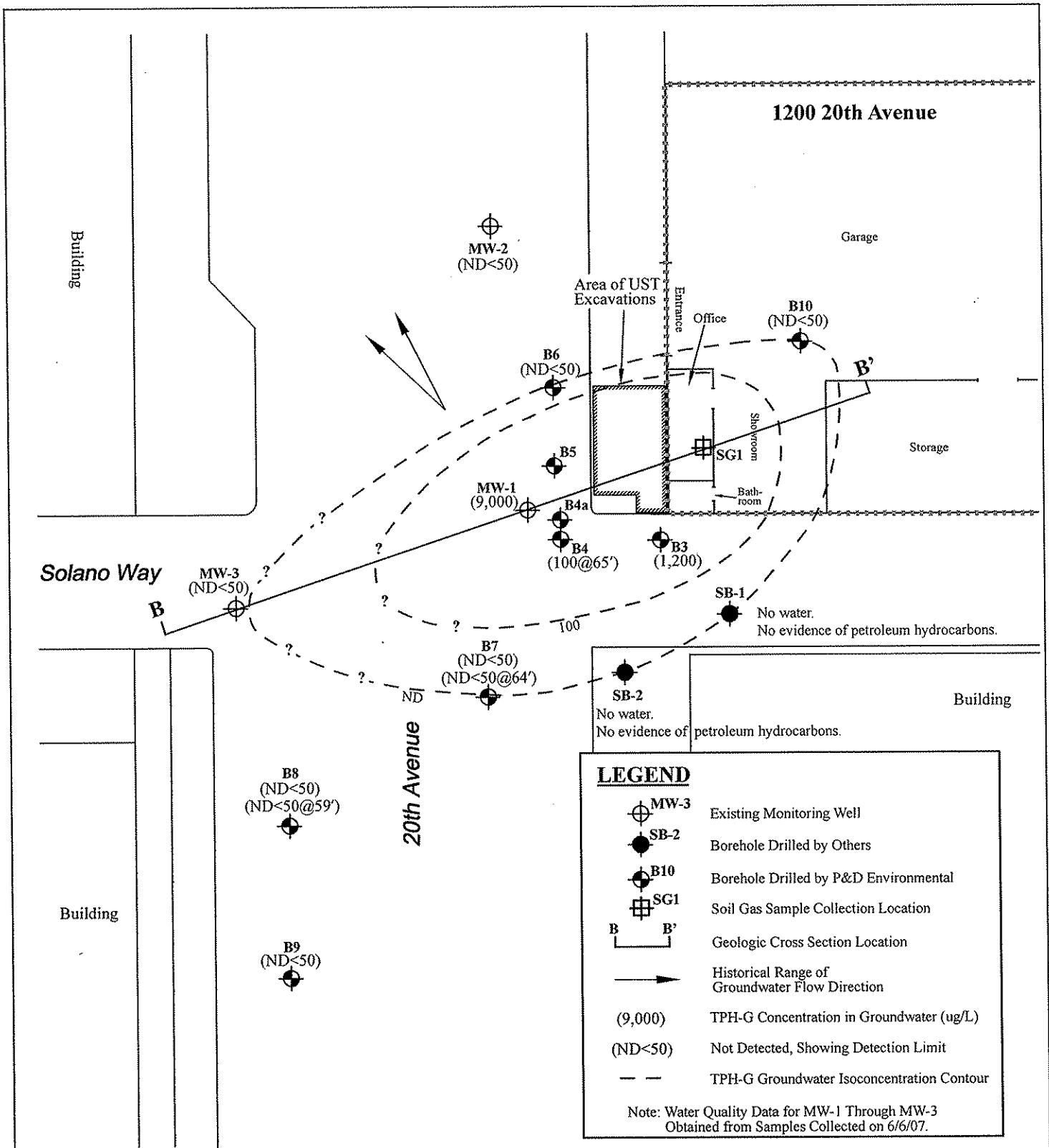
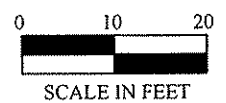


Figure 7
 Site Vicinity Map Detail Showing TPH-G Concentrations in Groundwater
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map From:
 Tetra Tech EM Inc.
 Site Location Map

P&D Environmental, Inc.
 55 Santa Clara Avenue, Suite 240
 Oakland CA 94610



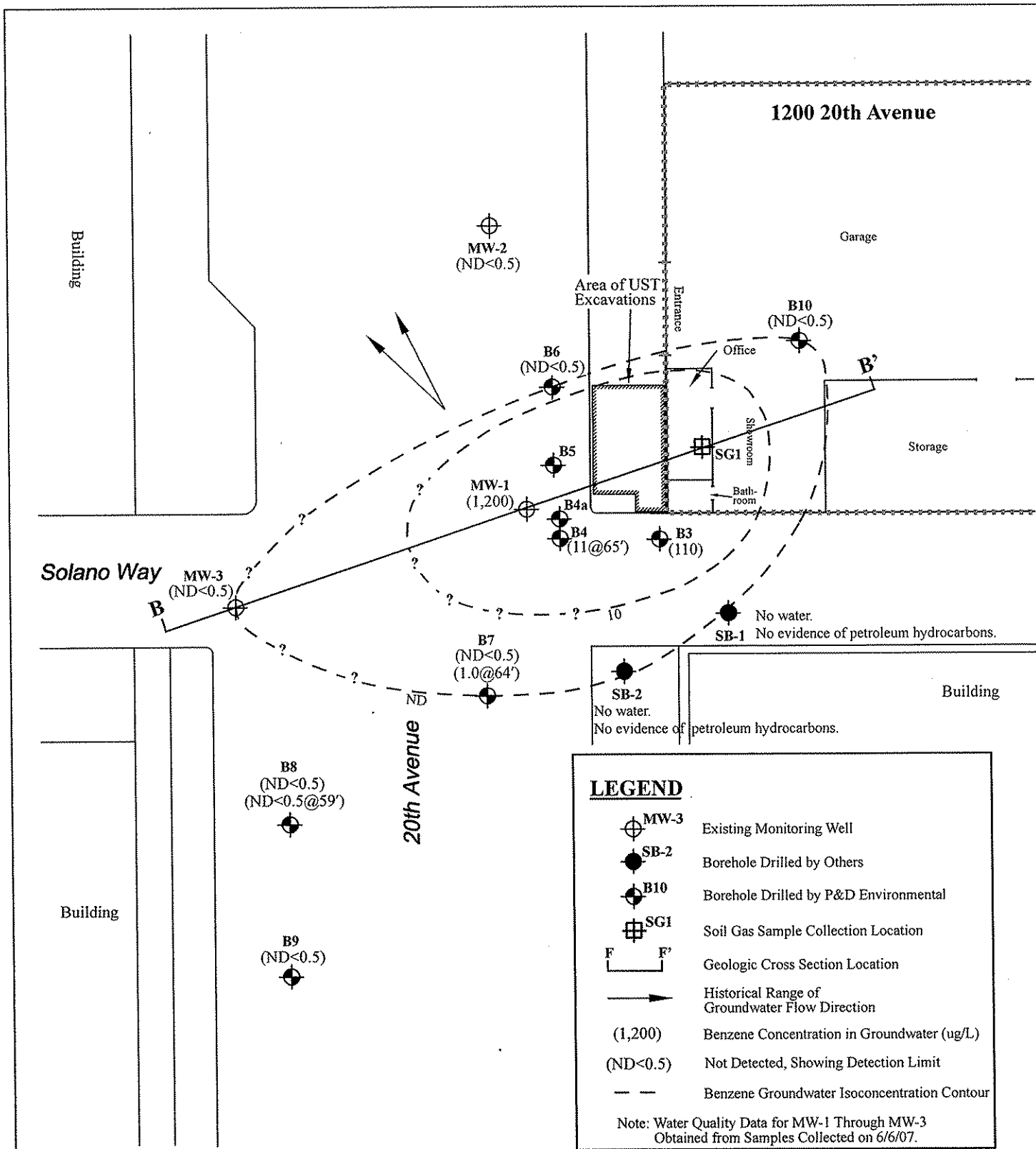


Figure 8
 Site Vicinity Map Detail Showing Benzene Concentrations in Groundwater
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map From:
 Tetra Tech EM Inc.
 Site Location Map

P&D Environmental, Inc.
 55 Santa Clara Avenue, Suite 240
 Oakland CA 94610



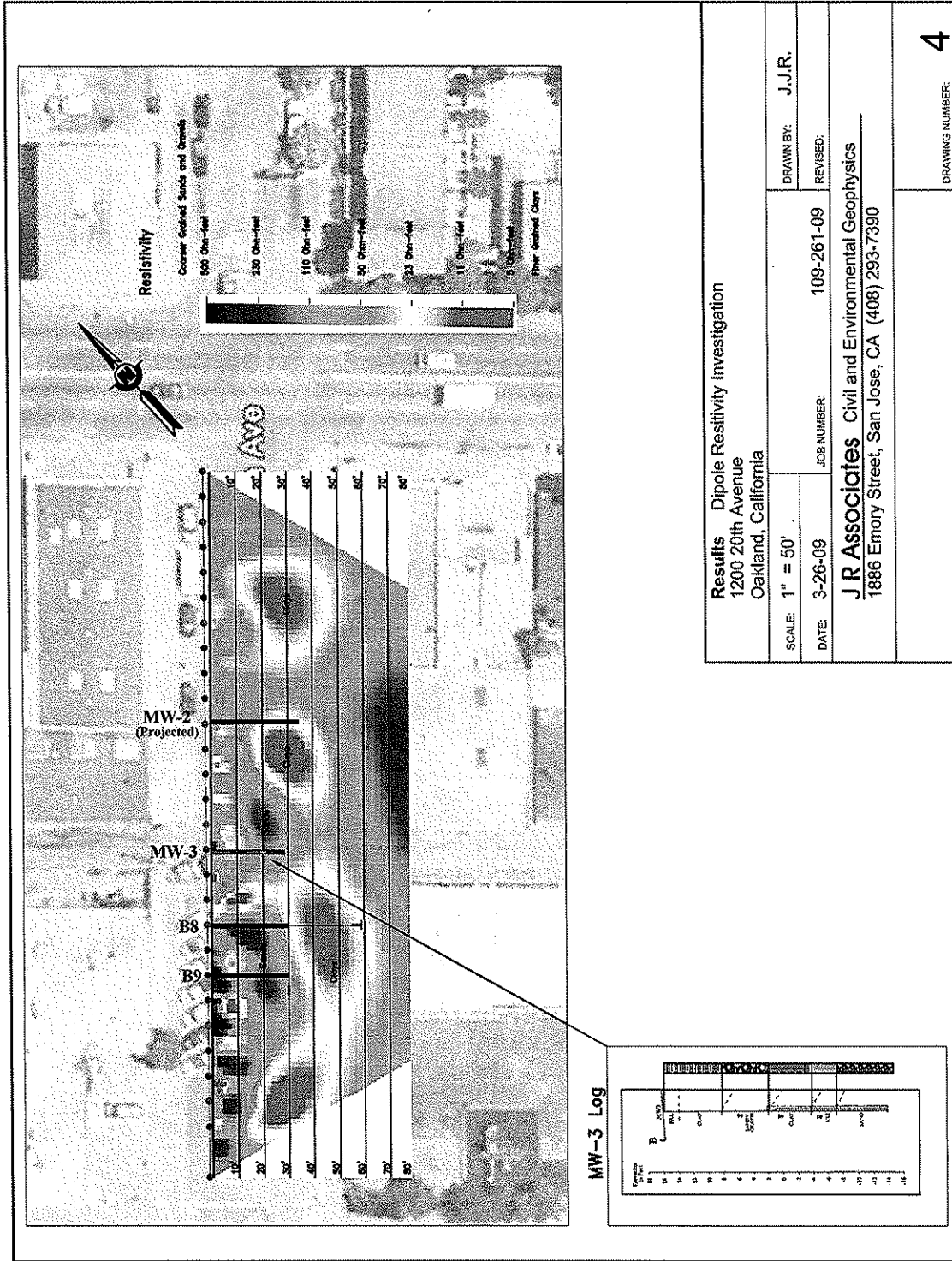


Figure 6
 Dipole Resistivity Investigation Along 20th Avenue
 William Wurzbach Company
 1200 20th Avenue
 Oakland, California



Base Map From:
 J R Associates
 Civil and Engineering Geophysics

P&D Environmental, Inc.
 55 Santa Clara Avenue, Suite 240
 Oakland CA 94610

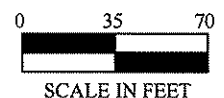


Table 1. Summary of Borehole Soil Laboratory Analytical Results

Sample ID	Sample Date	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	EDB	1,2-DCA	Total Lead
B3-4.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B3-9.5	4/6/2009	21, a,b	ND<0.005	0.017	ND<0.005	0.021	ND<0.005	ND<0.004	ND<0.004	NA
B3-14.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	5.7
B3-17.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B3-19.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	0.0077	ND<0.004	ND<0.004	NA
B3-24.5	4/6/2009	ND<1.0	ND<0.005	0.011	ND<0.005	ND<0.005	0.018	ND<0.004	ND<0.004	NA
B4-2.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B4-4.5	4/6/2009	<u>250, c,b</u>	ND<0.10	ND<0.10	ND<0.10	0.74	<u>2.3</u>	ND<0.080	ND<0.080	NA
B4-9.5	4/6/2009	46, c,b	ND<0.10	<u>0.28</u>	0.25	0.76	<u>4.1</u>	ND<0.080	ND<0.080	5.3
B4-14.5	4/6/2009	3.7	ND<0.005	ND<0.005	0.023	0.045	0.15	ND<0.004	<u>0.019</u>	NA
B4-19.5	4/6/2009	36, c,b	ND<0.010	0.018	ND<0.010	0.078	0.40	ND<0.0080	ND<0.0080	NA
B4-24.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B5-2.0	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B5-4.5	4/6/2009	<u>180, c,b</u>	ND<0.10	ND<0.10	ND<0.10	1.3	<u>6.1</u>	ND<0.080	ND<0.080	NA
B5-9.5	4/6/2009	<u>270, c,b</u>	ND<0.20	<u>0.22</u>	ND<0.20	<u>3.6</u>	<u>14</u>	ND<0.16	ND<0.16	ND<5.0
B5-14.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B5-19.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B5-22.0	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B5-24.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B6-4.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B6-9.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	5.2
B6-14.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B6-19.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
B6-24.5	4/6/2009	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.004	ND<0.004	NA
ESL ¹		83	0.023	0.044	2.9	2.3	2.3	0.00033	0.0045	200
ESL ²		83	0.023	0.044	2.9	3.3	2.3	0.00033	0.0045	750
ESL ³		83	0.023	0.044	2.9	3.3	2.3	0.00033	0.0045	750
ESL ⁴		83	0.023	0.044	2.9	3.3	2.3	0.00033	0.0045	750

Abbreviations and Notes:
 TPH-G = Total Petroleum Hydrocarbons as Gasoline
 MTBE = Methyl tertiary-butyl ether
 EDB = Ethylene Dibromide
 1,2-DCA = 1,2-Dichloroethane
 ND = Not detected.
 NA = Not Analyzed.
 a = Laboratory note: strongly aged gasoline or diesel range compounds are significant in the TPH-G chromatogram.
 b = Laboratory note: no recognizable pattern.
 c = Laboratory note: heavier gasoline range compounds are significant (aged gasoline?)

ESL¹ = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A - Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water. Residential Land Use.
 ESL² = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A - Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water. Commercial/Industrial Land Use.
 ESL³ = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table C - Deep Soil Screening Levels, Groundwater is a current or potential source of drinking water. Residential Land Use.
 ESL⁴ = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table C - Deep Soil Screening Levels, Groundwater is a current or potential source of drinking water. Commercial/Industrial Land Use.

Results in bold exceed their respective ESL values for Residential Land Use.
Underlined results exceed their respective ESL values for Commercial/Industrial Land Use.
 Results in micrograms per liter (µg/L) unless otherwise specified.

Table 1. Summary of Soil Analytical Results

Sample ID	Sample Date	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes
B10-4.5	10/5/2009	ND<1.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B10-9.5	10/5/2009	ND<1.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B10-14.5	10/5/2009	ND<1.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B10-19.5	10/5/2009	ND<1.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B10-24.5	10/5/2009	ND<1.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B10-29.5	10/5/2009	ND<1.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B10-34.5	10/5/2009	ND<1.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
<i>ESL</i> ¹		83	0.023	0.044	2.9	2.3	2.3
<i>ESL</i> ²		83	0.023	0.044	2.9	3.3	2.3
<i>ESL</i> ³		83	0.023	0.044	2.9	3.3	2.3
<i>ESL</i> ⁴		83	0.023	0.044	2.9	3.3	2.3

Abbreviations and Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline

MTBE = Methyl tertiary-butyl ether

ND = Not detected.

*ESL*¹ = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water. Residential Land Use.

*ESL*² = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water. Commercial/Industrial Land Use.

*ESL*³ = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table C – Deep Soil Screening Levels, Groundwater is a current or potential source of drinking water. Residential Land Use.

*ESL*⁴ = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table C – Deep Soil Screening Levels, Groundwater is a current or potential source of drinking water. Commercial/Industrial Land Use.

Results in micrograms per liter (µg/L) unless otherwise specified.

Table 3. Summary of Soil Gas Sample Analytical Results

Sample ID	Sample Date	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylenes	1,2-DCE	Naphthalene	2-Propanol
SG1	10/5/009	1,700	ND<4.8	9.5	42	8.5	33	12	ND<5.3	ND<28	ND<13
SG1-DUP	10/5/009	1,500	ND<4.8	9.2	45	7.5	34	12	ND<5.3	ND<28	16
SG1 Lab Duplicate		1,600	ND<4.8	10	39	8.1	32	12	ND<5.3	ND<28	ND<13
<i>ESL¹</i>		<i>10,000</i>	<i>9,400</i>	<i>84</i>	<i>63,000</i>	<i>980</i>	<i>m, p, o xylenes 21,000 combined</i>		<i>94</i>	<i>72</i>	<i>None</i>
<i>ESL²</i>		<i>29,000</i>	<i>31,000</i>	<i>280</i>	<i>180,000</i>	<i>3,300</i>	<i>m, p, o xylenes 58,000 combined</i>		<i>310</i>	<i>240</i>	<i>None</i>

Abbreviations and Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline

MTBE = Methyl tertiary-butyl ether

1,2-DCA = 1,2-Dichloroethane

2-Propanol = used as a leak detector during soil gas sample collection.

ND = Not detected.

ESL¹ = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table E – Indoor Air and Soil Gas (Vapor Intrusion Concerns), residential land use.ESL² = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table E – Indoor Air and Soil Gas (Vapor Intrusion Concerns), commercial/industrial land use.Results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) unless otherwise specified.

Analytical Laboratory Report
EPA Methods 8015 Modified / 8020

Date Sampled: 1/19/94
Date Received: 1/19/94
TPHg/BTEX Analyzed: 1/24, 25/94
TPHd Extracted: NR
TPHd Analyzed: NR
Date Reported: 1/31/94

Proj Mgr: John Alt
Client: Epigene International
Project: 94-005, 1200-20th Ave.
Matrix: Soil
Lab #: 2A005
Report #: 401030.rpt

Lab ID No.	Field ID No.	TPHg/BTEX DL Factor	Benzene	Toluene	Ethyl benzene	Xylenes - Total	TPHg	TPHd	TPHd DL Factor
01	S-1	1	ND	ND	ND	ND	ND	NR	
02	S-2	1	ND	ND	ND	ND	ND	NR	
03	S-3	1	ND	ND	ND	ND	ND	NR	
04	S-4	1	0.080	0.011	0.020	0.071	8.5	NR	
05	S-5	1	0.042	0.13	0.072	0.38	11	NR	
06	S-6	10	2.0	33	28	170	230	NR	
07	P-1, P-2 COMPOSITE	1	0.045	0.094	0.67	2.1	52	NR	
08	P-3, P-4 COMPOSITE	1	0.064	0.17	0.60	2.1	37	NR	

Detection Limits (DL)	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg	1.0 mg/kg	
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NOTES:

- NR - Analysis not requested.
- COC - Chain of custody
- ND - Analytes not detected at, or above the stated detection limit.
- TPHg - Total petroleum hydrocarbons as gasoline.
- TPHd - Total petroleum hydrocarbons as diesel #2.
- mg/kg - Milligrams per kilogram (PPM).
- ug/L - Microgram per Litre (PPB).
- DL - Detection limit.
- DF - Dilution Factor
- PQL - Practical Quantitation Limit - Multiply DL by the DF to obtain the PQL for a specific sample.

PROCEDURES:

- BTEX - This analysis was performed using EPA Method 8020, and EPA Method 5030.
- TPHg - This analysis was performed using EPA Method 8015 Mod., and EPA Method 5030.
- TPHd - This analysis was performed using EPA Method 8015 Mod. and LUFT Manual.

CERTIFICATION:

California Department of Health Services ELAP Certificate #1842
Onsite Environmental Laboratories, 5500 Boscell Common, Fremont, CA 94538 (510) 490-8571

Emma P. Pyle

Laboratory Director

1-31-94

Date

Table 2. Summary of Laboratory Analytical Results										
Well Number	Sample Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	EDB	1,2-DCA
MW1	6/6/2007	1,900, a	9,000	ND < 160	1,200	63	130	74.0	ND < 5.0	59.0
MW2	6/6/2007	ND < 50	ND < 50	ND < 5.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
MW3	6/6/2007	ND < 50	ND < 50	ND < 5.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5

Abbreviations and Notes:
 TPH-D = Total Petroleum Hydrocarbons as Diesel
 TPH-G = Total Petroleum Hydrocarbons as Gasoline
 MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8021B.
 EDB = Ethylene Dibromide analyzed by EPA Method 8260B.
 1,2-DCA = 1,2-Dichloroethane analyzed by EPA Method 8260B.
 Benzene, Toluene, Ethylbenzene and Total Xylenes analyzed by EPA Method 8021B.
 ND = Not detected.
 a = Laboratory Note: gasoline range compounds are significant.
 Results in micrograms per liter (µg/L) unless otherwise specified.

Table 2. Summary of Borehole Groundwater Laboratory Analytical Results

Sample ID	Sample Date	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	EDB	1,2-DCA
B3-W	4/8/2009	1,200	ND<2.5	110	ND<2.5	56	92	ND<2.5	11
B4W-65	4/9/2009	100	ND<0.5	11	1.5	1.3	5.3	ND<0.5	ND<0.5
B6-W	4/6/2009	ND < 50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.55	ND<0.5	ND<0.5
B7-W	4/7/2009	ND < 50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.53	ND<0.5	ND<0.5
B7W-64	4/9/2009	ND < 50	ND<0.5	1.0	0.99	ND<0.5	1.0	ND<0.5	ND<0.5
B8-W	4/9/2009	ND < 50	ND<0.5	ND<0.5	ND<0.5	1.3	3.2	ND<0.5	ND<0.5
B8W-59	4/9/2009	ND < 50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.6	ND<0.5	ND<0.5
B9-W	4/9/2009	ND < 50	ND<0.5	ND<0.5	1.0	1.6	7.1	ND<0.5	ND<0.5
<i>ESL</i>		<i>100</i>	<i>5.0</i>	<i>1.0</i>	<i>40</i>	<i>30</i>	<i>20</i>	<i>0.05</i>	<i>0.5</i>

Abbreviations and Notes:
TPH-G = Total Petroleum Hydrocarbons as Gasoline
MTBE = Methyl tertiary-butyl ether
EDB = Ethylene Dibromide
1,2-DCA = 1,2-Dichloroethane
ND = Not detected.
ESL = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water.
Results in micrograms per liter (µg/L) unless otherwise specified.

Table 2. Summary of Borehole Groundwater Analytical Results							
Sample ID	Sample Date	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes
B10-W	10/5/009	ND<1.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
<i>ESL</i>		<i>100</i>	<i>5.0</i>	<i>1.0</i>	<i>40</i>	<i>30</i>	<i>20</i>
<p>Abbreviations and Notes: TPH-G = Total Petroleum Hydrocarbons as Gasoline MTBE = Methyl tertiary-butyl ether ND = Not detected. ESL = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A – Shallow Soil Screening Levels, Results in micrograms per liter (µg/L) unless otherwise specified.</p>							

TABLE 3
FOURTH QUARTER GROUNDWATER RESULTS
VOC AND TPH COMPOUNDS IN GROUNDWATER
1200 20TH AVENUE, OAKLAND

Analyte	Monitoring Well		
	MW-1	MW-2	MW-3
VOC (ug/L)			
Benzene	500	ND	ND
Toluene	26	ND	ND
Ethylbenzene	130	ND	ND
m,p-Xylenes	130	ND	ND
o-Xylene	38	ND	ND
MTBE	ND	ND	ND
TPH (ug/L)	MW-1	MW-2	MW-3
Gasoline	3,200	ND	ND

Notes:

ug/L micrograms per Liter
 ND not detected
 TPH total petroleum hydrocarbons
 VOC volatile organic compound

MW-1 is water sample JW2-21
 MW-2 is water sample JW2-22
 MW-3 is water sample JW2-23

TABLE 4
MONITORING WELL MW-1
VOC AND TPH COMPOUNDS IN GROUNDWATER
FEBRUARY 1995 TO DECEMBER 2000
1200 20TH AVENUE, OAKLAND

Date	TPH (ug/L)	VOC (ug/L)				
	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
Feb-95	1,900	92	39	57	260	--
Jun-95	4,100	410	32	14	180	--
Oct-95	1,300	180	22	32	81	--
Feb-96	1,700	200	21	41	120	--
Jun-96	1,900	160	7	34	31	--
Sep-96	4,700	460	66	190	680	--
Jan-97	2,200	230	35	100	330	--
Jul-98	23,000	3,500	450	1,000	3,100	--
Apr-99	14,000	2,600	560	340	1,600	--
Feb-00	3,000	280	17	92	118	ND
May-00	18,000	3,700	430	770	2,440	ND
Sep-00	4,300	1,200	59	420	330	ND
Dec-00	3,200	500	26	130	130	ND

Notes:

ug/L micrograms per Liter
 -- not analyzed
 ND not detected
 TPH total petroleum hydrocarbons
 VOC volatile organic compound

TABLE 5
MONITORING WELL MW-2
VOC AND TPH COMPOUNDS IN GROUNDWATER
FEBRUARY 1995 TO DECEMBER 2000
1200 20TH AVENUE, OAKLAND

Date	TPH (ug/L)	VOC (ug/L)				
	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
Feb-95	ND	ND	ND	ND	ND	--
Jun-95	ND	1.8	ND	1.1	0.62	--
Oct-95	55	2.2	ND	1.5	ND	--
Feb-96	ND	3.3	2.7	0.99	2.4	--
Jun-96	ND	ND	0.6	ND	1.2	--
Sep-96	ND	9.3	0.57	1.3	1.9	--
Jan-97	ND	2.6	ND	ND	0.76	--
Jul-98	ND	ND	ND	ND	ND	--
Apr-99	ND	ND	ND	ND	ND	--
Feb-00	ND	ND	ND	ND	ND	ND
May-00	ND	ND	ND	ND	ND	ND
Sep-00	ND	ND	ND	ND	ND	ND
Dec-00	ND	ND	ND	ND	ND	ND

Notes:

- ug/L micrograms per Liter
- not analyzed
- ND not detected
- TPH total petroleum hydrocarbons
- VOC volatile organic compound

TABLE 6
MONITORING WELL MW-3
VOC AND TPH COMPOUNDS IN GROUNDWATER
FEBRUARY 1995 TO DECEMBER 2000
1200 20TH AVENUE, OAKLAND

Date	TPH (ug/L)	VOC (ug/L)				
	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
Feb-95	ND	ND	ND	ND	ND	--
Jun-95	160	0.6	ND	0.6	0.72	--
Oct-95	130	5.8	ND	3.2	ND	--
Feb-96	54	5.6	2.8	2.9	8.1	--
Jun-96	ND	ND	ND	ND	ND	--
Sep-96	96	12	7.1	4	6.2	--
Jan-97	ND	ND	ND	ND	ND	--
Jul-98	ND	ND	ND	ND	ND	--
Apr-99	ND	ND	ND	ND	ND	--
Feb-00	ND	ND	ND	ND	ND	ND
May-00	ND	ND	ND	ND	ND	ND
Sep-00	ND	ND	ND	ND	ND	ND
Dec-00	ND	ND	ND	ND	ND	ND

Notes:

- ug/L micrograms per Liter
- not analyzed
- ND not detected
- TPH total petroleum hydrocarbons
- VOC volatile organic compound



Volatile Organics by GC/MS

Client: Tetra Tech EMI

Analysis Method: EPA 8260

Project#: P110604

Prep Method: EPA 5030

Location: JW Silveira Props - 2301 E 12th St

Field ID: JW1-04

Sampled: 04/01/99

Lab ID: 138737-005

Received: 04/01/99

Matrix: Water

Extracted: 04/02/99

Batch#: 47202

Analyzed: 04/02/99

Units: ug/L

Diln Fac: 1

Analyte	Result	Reporting Limit
Freon 12	ND	10
Chloromethane	ND	1.0
Vinyl Chloride	ND	1.0
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	5.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	3.3	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	5.0
Chloroform	ND	0.5
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	73	0.5
Trichloroethene	6.7	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	7.0	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5



Volatile Organics by GC/MS		
Field ID: JW1-04	Sampled:	04/01/99
Lab ID: 138737-005	Received:	04/01/99
Matrix: Water	Extracted:	04/02/99
Batch#: 47202	Analyzed:	04/02/99
Units: ug/L		
Diln Fac: 1		
Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	29	0.5
m,p-Xylenes	6.3	0.5
o-Xylene	0.7	0.5
Styrene	ND	0.5
Bromoform	ND	0.5
Isopropylbenzene	41	5.0
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	45	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	12	5.0
para-Isopropyl Toluene	18	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	17	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	3.4 J	5.0
1,2,3-Trichlorobenzene	ND	5.0
Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	94	81-121
1,2-Dichloroethane-d4	96	76-127
Toluene-d8	103	90-109
Bromofluorobenzene	98	82-118

J: Estimated Value

Volatile Organics by GC/MS

 Client: Tetra Tech EMI
 Project#: P110604
 Location: JW Silveira Props

 Analysis Method: EPA 8260
 Prep Method: EPA 5030

 Field ID: JW1-05
 Lab ID: 138737-006
 Matrix: Water
 Batch#: 47224
 Units: ug/L
 Diln Fac: 8.333

 Sampled: 04/01/99
 Received: 04/01/99
 Extracted: 04/04/99
 Analyzed: 04/04/99

Analyte	Result	Reporting Limit
Freon 12	ND	83
Chloromethane	ND	8.3
Vinyl Chloride	ND	8.3
Bromomethane	ND	8.3
Chloroethane	ND	8.3
Trichlorofluoromethane	ND	42
Acetone	ND	83
Freon 113	ND	42
1,1-Dichloroethene	ND	4.2
Methylene Chloride	ND	42
Carbon Disulfide	ND	4.2
MTBE	ND	4.2
trans-1,2-Dichloroethene	ND	4.2
Vinyl Acetate	ND	83
1,1-Dichloroethane	ND	4.2
2-Butanone	ND	83
cis-1,2-Dichloroethene	ND	4.2
2,2-Dichloropropane	ND	42
Chloroform	ND	4.2
Bromochloromethane	ND	83
1,1,1-Trichloroethane	ND	4.2
1,1-Dichloropropene	ND	42
Carbon Tetrachloride	ND	4.2
1,2-Dichloroethane	ND	4.2
Benzene	1300	4.2
Trichloroethene	20	4.2
1,2-Dichloropropane	ND	4.2
Bromodichloromethane	ND	4.2
Dibromomethane	ND	42
4-Methyl-2-Pentanone	ND	83
cis-1,3-Dichloropropene	ND	4.2
Toluene	30	4.2
trans-1,3-Dichloropropene	ND	4.2
1,1,2-Trichloroethane	ND	4.2
2-Hexanone	ND	83
1,3-Dichloropropane	ND	42
Tetrachloroethene	ND	4.2
Dibromochloromethane	ND	4.2



Volatile Organics by GC/MS		
Field ID: JW1-05	Sampled:	04/01/99
Lab ID: 138737-006	Received:	04/01/99
Matrix: Water	Extracted:	04/04/99
Batch#: 47224	Analyzed:	04/04/99
Units: ug/L		
Diln Fac: 8.333		
Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	42
Chlorobenzene	ND	4.2
1,1,1,2-Tetrachloroethane	ND	42
Ethylbenzene	93	4.2
m,p-Xylenes	36	4.2
o-Xylene	ND	4.2
Styrene	ND	4.2
Bromoform	ND	4.2
Isopropylbenzene	ND	42
1,1,2,2-Tetrachloroethane	ND	4.2
1,2,3-Trichloropropane	ND	42
Propylbenzene	ND	42
Bromobenzene	ND	42
1,3,5-Trimethylbenzene	ND	42
2-Chlorotoluene	ND	42
4-Chlorotoluene	ND	42
tert-Butylbenzene	ND	42
1,2,4-Trimethylbenzene	ND	42
sec-Butylbenzene	ND	42
para-Isopropyl Toluene	ND	42
1,3-Dichlorobenzene	ND	42
1,4-Dichlorobenzene	ND	42
n-Butylbenzene	ND	42
1,2-Dichlorobenzene	ND	42
1,2-Dibromo-3-Chloropropane	ND	42
1,2,4-Trichlorobenzene	ND	42
Hexachlorobutadiene	ND	42
Naphthalene	ND	42
1,2,3-Trichlorobenzene	ND	42
Surrogate	Recovery	Recovery Limits
Dibromofluoromethane	96	81-121
1,2-Dichloroethane-d4	102	76-127
Toluene-d8	106	90-109
Bromofluorobenzene	95	82-118

Volatile Organics by GC/MS

 Client: Tetra Tech EMI
 Project#: P110604
 Location: JW Silveira Props

 Analysis Method: EPA 8260
 Prep Method: EPA 5030

 Field ID: JW1-06
 Lab ID: 138737-007
 Matrix: Water
 Batch#: 47224
 Units: ug/L
 Diln Fac: 2.5

 Sampled: 04/01/99
 Received: 04/01/99
 Extracted: 04/05/99
 Analyzed: 04/05/99

Analyte	Result	Reporting Limit
Freon 12	ND	25
Chloromethane	ND	2.5
Vinyl Chloride	ND	2.5
Bromomethane	ND	2.5
Chloroethane	ND	2.5
Trichlorofluoromethane	ND	13
Acetone	ND	25
Freon 113	ND	13
1,1-Dichloroethene	ND	1.3
Methylene Chloride	ND	13
Carbon Disulfide	ND	1.3
MTBE	ND	1.3
trans-1,2-Dichloroethene	21	1.3
Vinyl Acetate	ND	25
1,1-Dichloroethane	ND	1.3
2-Butanone	ND	25
cis-1,2-Dichloroethene	72	1.3
2,2-Dichloropropane	ND	13
Chloroform	ND	1.3
Bromochloromethane	ND	25
1,1,1-Trichloroethane	ND	1.3
1,1-Dichloropropene	ND	13
Carbon Tetrachloride	ND	1.3
1,2-Dichloroethane	ND	1.3
Benzene	280	1.3
Trichloroethene	75	1.3
1,2-Dichloropropane	ND	1.3
Bromodichloromethane	ND	1.3
Dibromomethane	ND	13
4-Methyl-2-Pentanone	ND	25
cis-1,3-Dichloropropene	ND	1.3
Toluene	4.4	1.3
trans-1,3-Dichloropropene	ND	1.3
1,1,2-Trichloroethane	ND	1.3
2-Hexanone	ND	25
1,3-Dichloropropane	ND	13
Tetrachloroethene	ND	1.3
Dibromochloromethane	ND	1.3



Volatile Organics by GC/MS

Field ID: JW1-06	Sampled: 04/01/99
Lab ID: 138737-007	Received: 04/01/99
Matrix: Water	Extracted: 04/05/99
Batch#: 47224	Analyzed: 04/05/99
Units: ug/L	
Diln Fac: 2.5	

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	13
Chlorobenzene	ND	1.3
1,1,1,2-Tetrachloroethane	ND	13
Ethylbenzene	66	1.3
m,p-Xylenes	6.4	1.3
o-Xylene	1.3	1.3
Styrene	ND	1.3
Bromoform	ND	1.3
Isopropylbenzene	17	13
1,1,1,2-Tetrachloroethane	ND	1.3
1,2,3-Trichloropropane	ND	13
Propylbenzene	15	13
Bromobenzene	ND	13
1,3,5-Trimethylbenzene	ND	13
2-Chlorotoluene	ND	13
4-Chlorotoluene	ND	13
tert-Butylbenzene	ND	13
1,2,4-Trimethylbenzene	ND	13
sec-Butylbenzene	ND	13
para-Isopropyl Toluene	ND	13
1,3-Dichlorobenzene	ND	13
1,4-Dichlorobenzene	ND	13
n-Butylbenzene	ND	13
1,2-Dichlorobenzene	ND	13
1,2-Dibromo-3-Chloropropane	ND	13
1,2,4-Trichlorobenzene	ND	13
Hexachlorobutadiene	ND	13
Naphthalene	ND	13
1,2,3-Trichlorobenzene	ND	13

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	93	81-121
1,2-Dichloroethane-d4	96	76-127
Toluene-d8	104	90-109
Bromofluorobenzene	97	82-118

Volatile Organics by GC/MS

 Client: Tetra Tech EMI
 Project#: P110604
 Location: JW Silveira Props

 Analysis Method: EPA 8260
 Prep Method: EPA 5030

 Field ID: JW1-07
 Lab ID: 138737-008
 Matrix: Water
 Batch#: 47224
 Units: ug/L
 Diln Fac: 8.333

 Sampled: 04/01/99
 Received: 04/01/99
 Extracted: 04/05/99
 Analyzed: 04/05/99

Analyte	Result	Reporting Limit
Freon 12	ND	83
Chloromethane	ND	8.3
Vinyl Chloride	ND	8.3
Bromomethane	ND	8.3
Chloroethane	ND	8.3
Trichlorofluoromethane	ND	42
Acetone	ND	83
Freon 113	ND	42
1,1-Dichloroethene	ND	4.2
Methylene Chloride	ND	42
Carbon Disulfide	ND	4.2
MTBE	ND	4.2
trans-1,2-Dichloroethene	ND	4.2
Vinyl Acetate	ND	83
1,1-Dichloroethane	ND	4.2
2-Butanone	ND	83
cis-1,2-Dichloroethene	ND	4.2
2,2-Dichloropropane	ND	42
Chloroform	ND	4.2
Bromochloromethane	ND	83
1,1,1-Trichloroethane	ND	4.2
1,1-Dichloropropene	ND	42
Carbon Tetrachloride	ND	4.2
1,2-Dichloroethane	ND	4.2
Benzene	1100	4.2
Trichloroethene	ND	4.2
1,2-Dichloropropane	ND	4.2
Bromodichloromethane	ND	4.2
Dibromomethane	ND	42
4-Methyl-2-Pentanone	ND	83
cis-1,3-Dichloropropene	ND	4.2
Toluene	100	4.2
trans-1,3-Dichloropropene	ND	4.2
1,1,2-Trichloroethane	ND	4.2
2-Hexanone	ND	83
1,3-Dichloropropane	ND	42
Tetrachloroethene	ND	4.2
Dibromochloromethane	ND	4.2



Volatile Organics by GC/MS		
Field ID: JW1-07	Sampled:	04/01/99
Lab ID: 138737-008	Received:	04/01/99
Matrix: Water	Extracted:	04/05/99
Batch#: 47224	Analyzed:	04/05/99
Units: ug/L		
Diln Fac: 8.333		
Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	42
Chlorobenzene	5.2	4.2
1,1,1,2-Tetrachloroethane	ND	42
Ethylbenzene	540	4.2
m,p-Xylenes	370	4.2
o-Xylene	38	4.2
Styrene	ND	4.2
Bromoform	ND	4.2
Isopropylbenzene	50	42
1,1,2,2-Tetrachloroethane	ND	4.2
1,2,3-Trichloropropane	ND	42
Propylbenzene	86	42
Bromobenzene	ND	42
1,3,5-Trimethylbenzene	120	42
2-Chlorotoluene	ND	42
4-Chlorotoluene	ND	42
tert-Butylbenzene	ND	42
1,2,4-Trimethylbenzene	200	42
sec-Butylbenzene	ND	42
para-Isopropyl Toluene	22 J	42
1,3-Dichlorobenzene	ND	42
1,4-Dichlorobenzene	ND	42
n-Butylbenzene	39 J	42
1,2-Dichlorobenzene	ND	42
1,2-Dibromo-3-Chloropropane	ND	42
1,2,4-Trichlorobenzene	ND	42
Hexachlorobutadiene	ND	42
Naphthalene	570	42
1,2,3-Trichlorobenzene	ND	42
Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	94	81-121
1,2-Dichloroethane-d4	101	76-127
Toluene-d8	106	90-109
Bromofluorobenzene	97	82-118

J: Estimated Value



Volatile Organics by GC/MS

Client: Tetra Tech EMI
Project#: P110604
Location: JW Silveira Props

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: JW1-08
Lab ID: 138737-009
Matrix: Water
Batch#: 47202
Units: ug/L
Diln Fac: 1

Sampled: 04/01/99
Received: 04/01/99
Extracted: 04/02/99
Analyzed: 04/02/99

Analyte	Result	Reporting Limit
---------	--------	-----------------

Freon 12	ND	10
Chloromethane	ND	1.0
Vinyl Chloride	ND	1.0
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	5.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	5.0
Chloroform	ND	0.5
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5



Volatile Organics by GC/MS		
Field ID: JW1-08	Sampled:	04/01/99
Lab ID: 138737-009	Received:	04/01/99
Matrix: Water	Extracted:	04/02/99
Batch#: 47202	Analyzed:	04/02/99
Units: ug/L		
Diln Fac: 1		
Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	0.5
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0
Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	95	81-121
1,2-Dichloroethane-d4	99	76-127
Toluene-d8	106	90-109
Bromofluorobenzene	99	82-118

WELL LOG

Project	1200 20th Avenue.	Well Number	MW-1
Location	1200 20th Ave., Oakland, California.	Diameter of Boring	8 inches
Project #	94-067	Total Depth of Boring	30 feet
Geologist	J. Alt, CEG	Date Started	February 13, 1995
Drill Company	Soils Exploration Services	Date Completed	February 13, 1995
Comments			

Depth in Feet	WELL CONSTRUCTION DETAIL	Sample #	Blow Counts	Graphic Log	DESCRIPTION	
0					asphalt	
1					Clayey sand and gravel FILL.	
2						
3						Gray silty CLAY with tan motteling, moist.
4						
5			1	8 9 12		
6						
7						
8						
9						Bluish-gray sandy CLAY, with scattered gravel, moist.
10			2	7 8 8		
11						
12						
13						
14						
15			3	8 17 25		Dark-gray SAND, scattered pebbled-size gravel. Sand is medium- to coarse-grained, moist.
16						
17						
18						
19						
20		4	14		(Sample #4: 19 1/2' - 21')	

WELL LOG

Project Name 1200 20th Avenue.

Well Number MW-1

Project Number 94-067

Page 2 of 2

Depth In Feet	WELL CONSTRUCTION DETAIL	Sample #	Blow Counts	Graphic Log	DESCRIPTION	
20	<p>2-inch dia PVC sched. 40 tubing with 0.02" slots</p> <p>#3 Lonestar sand</p> <p>Slip-on end cap</p>	4	14		Dark gray SAND (as above), scattered pebble-size gravel. Sand is medium- to coarse-grained, moist.	
21			30			
22			41			
23						
24						Grayish-tan silty CLAY with lenses of brown silty sand, grading to brown fine-grained SAND.
25		5				
26	8					
27			10			
28						
29						
30					Bottom of boring.	
31		6	6			
32			14			
33			31		Bottom of sampling.	
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						

WELL LOG

Project	1200 20th Avenue.	Well Number	MW-2
Location	1200 20th Ave., Oakland, California.	Diameter of Boring	8 inches
Project #	94-067	Total Depth of Boring	35 feet
Geologist	J. Alt, CEG	Date Started	February 13, 1995
Drill Company	Soils Exploration Services.	Date Completed	February 13, 1995
Comments			

Depth in Feet	WELL CONSTRUCTION DETAIL	Sample #	Blew Counts	Graphic Log	DESCRIPTION		
0	<p>2-inch dia Sched. 40 PVC tubing with solid walls →</p> <p>grout</p> <p>Bentonite seal</p> <p>#3 Lonestar sand</p>				asphalt		
1					Brown sand and gravel FILL.		
2						Light-brown silty CLAY, dry.	
3							
4							
5							
6			1		9 14 17		Light-brown SILT with sand, scattered pebbles, moist.
7							
8							
9							
10			2		12 17 19		Brown silty SAND with gravel to 3/4 inch in size, moist.
11							
12							
13							
14							
15							
16			3		15 17 21		As above, moist.
17							
18							
19							
20					Brown SAND with silt and scattered pebbles, moist.		

WELL LOG

Project Name 1200 20th Avenue.

Well Number MW-2

Project Number 94-067

Page 2 of 2

Depth in Feet	WELL CONSTRUCTION DETAIL	Sample #	Blow Counts	Graphic Log	DESCRIPTION
20	<p>solid wall →</p> <p>2" dia. →</p> <p>Sched. 40, PVC tubing with 0.02" slots →</p> <p>→ #3 Lonestar sand</p> <p>→ #3 Lonestar sand</p> <p>Slip-on end cap →</p>	4	10		Brown SAND (as above) with silt and scattered pebbles, moist.
21			19		
22			32		
23					
24		5	16		As above.
25			23		
26			34		
27	6	6		As above, wet. Lenses of brown silt.	
28		10			
29		9			
30	7	8		<p>← Bottom of boring →</p> <p>Brown gravelly SAND with silt, gravel to 1 1/2" in size, sub-round to sub-angular (chert, shale, SS).</p> <p>↖ Bottom of sampling ↗</p>	
31		14			
32		18			
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					

WELL LOG

Project	1200 20th Avenue.	Well Number	MW-3
Location	1200 20th Ave., Oakland, California.	Diameter of Boring	8 inches
Project #	94-067	Total Depth of Boring	30 feet
Geologist	J. Alt, CEG	Date Started	February 14, 1995
Drill Company	Soils Exploration Services.	Date Completed	February 14, 1995
Comments			

Depth in Feet	WELL CONSTRUCTION DETAIL	Sample #	Blow Counts	Graphic Log	DESCRIPTION	
0	<p>2-inch dia Sched. 40 PVC tubing with solid walls</p> <p>grout</p> <p>Bentonite seal</p> <p>#3 Lonestar sand</p> <p>Solid-wall tubing</p> <p>2-inch dia. Sched. 40 PVC tubing with 0.02" slots</p>				Asphalt	
1					Sand and gravel FILL.	
2						Light-brown silty CLAY with scattered coarse sand, moist.
3						
4						
5			1		4 7 8	
6						
7						
8						Tan sandy GRAVEL, moist
9						
10			2		12 21 24	
11						
12						
13						
14						
15			3		4 8 10	
16						
17						
18						
19						
20		4	5			

WELL LOG

Project Name 1200 20th Avenue.
 Project Number 94-067

Well Number MW-3
 Page 2 of 2

Depth In Feet	WELL CONSTRUCTION DETAIL	Sample #	Blow Counts	Graphic Log	DESCRIPTION		
20	<p>2-inch dia Sched. 40 PVC tubing with 0.02" slots</p> <p>#3 Lonestar sand</p> <p>Slip-on end cap</p>	4	5 7 4		Tan SILT with reddish-brown motteling (as above). 1"-thick lens of pebbles.		
21							
22							
23							
24							Tan SAND, fine-grained, moist.
25			5		4 11 13		
26							
27							
28							
29					As above, saturated.		
30					Bottom of boring.		
31		6	7 11 15				
32					Bottom of sampling		
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							

Tetra Tech EM Inc.
 135 MAIN STREET, SUITE 1800
 SAN FRANCISCO, CA 94105
 415-543-4880

20th AVE

MW-2

AN

BORING ID: SB-1

SITE: 1200 20th AVE

PROJECT: SILVEIRA - OAKLAND

PROJECT NO.: P1106

DATE: 6-7-99

LOGGED BY: Roy GLENW

MW-3

SB-1

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PID READING	DRIVE (INTERNAL)	INCHES RECOVERED	INCHES DRIVEN	DEPTH (ft top)
							1
							2
						40/40	3
							4
							5
						48/40	6
							7
							8
							9
						24/40	10
							11
							12
							13
						45/48	14
							15
							16
							17
						0/30	18
							19
							20

FIELD SKETCH

ASPHALT 6"
 FILL, SANDY-SILT, VERY PALE BROWN (10 YR 7/4), MOIST, SOFT.
 CL
 SILTY-CLAY, LIGHT YELLOWISH BROWN (10 YR 6/4), LOW PLASTICITY, DRY, STIFF
 CL
 CLAYEY-GRAVEL, BROWN (10 YR 4/3), FINE, SUB-ROUNDED, MEDIUM DENSE GRAVEL, WELL GRADED, DRY
 GC
 SANDY-CLAY, GRAYISH-BROWN (2.5 Y 5/2), LOW PLASTICITY, DAMP, VERY STIFF, w/15% COARSE SAND.
 CL
 CLAYEY-SAND, BROWN (10 YR 4/3), SUB-ANGULAR, COARSE GRAINED SAND, MOIST, DENSE
 SC
 CLAY, OLIVE YELLOW (2.5 Y 6/2), HIGH PLASTICITY, DAMP, VERY STIFF.
 CH
 GRAVELY-CLAY, MOTTLED BROWN (7.5 YR 5/2) & GRAY (5 Y 6/1) LOW PLASTICITY, MOIST, STIFF, w/20% FINE GRAVEL
 CL
 No Recovery
 CH
 CLAY, REDDISH BROWN (5 YR 4/4), HIGH PLASTICITY, DAMP, VERY STIFF

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PID READING	DATE INTERVAL	INCHES RECOVERED	INCHES DRIVEN	DEPTH (ft bgs)	USCS SOIL TYPE	Tetra Tech EM Inc.	
									135 MAIN STREET, SUITE 1800 SAN FRANCISCO, CA 94105 415-543-4880	
									BORING ID: SB-1	
									SITE: 1200 20 th AVENUE	
									PROJECT: SILVEIRA - OAKLAND	
							22	CH	SAME AS ABOVE: CLAY, REDDISH BROWN (5YR 4/4) HIGH PLASTICITY, DAMP, VERY STIFF.	
							23			
							24			
							25			
							26			w/15% VERY FINE GRAVEL 2-5MM
							27			
							28			
							29			NO GRAVEL PRESENT
							30			
							31			
							32			w/10% MEDIUM SAND
							33			
							34			
							35			
							36			
							37		TD = 36 ft bgs. SAMPLER REFUSAL	
							38			
							39			
							40			
							41			
							42			
							43			
							44			

Tetra Tech EM Inc.
 135 MAIN STREET, SUITE 1800
 SAN FRANCISCO, CA 94105
 415-543-4880

MW-1

RM

BORING ID: SB-2

SITE: 1200 20TH AVE

PROJECT:

SILVEIRA - OAKLAND

PROJECT NO.: P1106

DATE: 8-10-99

LOGGED BY: Roy Glenn

20TH AVE

SB-1

SB-2

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PIVOT READING	DRIVE INTERVAL INCHES RECOVERED INCHES DRIVEN	DEPTH (ft bgs)	USCS SOIL TYPE
				42/46	1	CL
					2	
					3	
					4	GC
					5	
				46/46	6	
					7	
					8	CL
JW2-05	1055			46/46	9	
					10	
					11	
					12	CL
					13	
				45/46	14	
					15	
					16	
					17	CH
				46/46	18	
					19	
					20	

FIELD SKETCH

Silty-clay, light yellowish brown (10 YR 6/4), low plasticity, dry, stiff.

CLAYEY-GRAVEL, BROWN (10 YR 4/3), MEDIUM GRAINED, SUB-ROUNDED, WELL GRADED GRAVEL, MEDIUM DENSE, DRY.

DAMP

SANDY-CLAY, OLIVE BROWN (2.5 Y 4/3), LOW PLASTICITY, DAMP, VERY STIFF, w/20% MEDIUM SAND.

GRAVELLY-CLAY, MOTTLED BROWN (7.5 YR 5/2) & GRAY (5 Y 4/1) LOW PLASTICITY, MOIST, STIFF, w/15% FINE GRAVEL 5-1mm

CLAY, DARK RED (2.5 YR 4/6), HIGH PLASTICITY, DAMP, VERY STIFF

w/10% VERY FINE GRAVEL 2-4mm

Tetra Tech EM Inc.

135 MAIN STREET, SUITE 1800
 SAN FRANCISCO, CA 94105
 415-543-4880

BORING ID: SB-2

SITE: 1200 20th AVE

PROJECT: SILVEIRA - OAKLAND

SAMPLE ID	SAMPLE TIME	SAMPLE DEPTH	PID READING	BORING INTERVAL INCHES RECOVERED INCHES DRIVEN	DEPTH (ft)	USCS SOIL TYPE	DESCRIPTION
				34/36	23	CH	SAME AS ABOVE: CLAY, DARK RED (2.5 YR 4/6) HIGH PLASTICITY, DAMP, VERY STIFF, w/10% VERY FINE GRAVEL 2-4mm
				31/36	24		
				30/36	27		
JWZ-06	1200			30/36	27	SC	CLAYEY-SAND, BROWN (2.5 YR 5/2), MEDIUM GRAINED, POORLY GRADED SAND, VERY DENSE, DAMP
				30/36	28		SANDY-CLAY, GRAYISH BROWN (2.5 Y 5/2), LOW PLASTICITY, DAMP, VERY STIFF, w/15% FINE GRAINED SAND
				21/24	30	CL	w/5% MEDIUM GRAVEL 8-12mm
				24/24	32		
				10/18	34	CL	GRAVELLY-CLAY, YELLOWISH BROWN (10 YR 5/4), LOW PLASTICITY, DAMP, VERY STIFF, w/20% FINE TO MEDIUM GRAVEL 10-14mm
				17/18	35		
					36		
					37		
					38		TD = 37.7 ft bgs. EQUIPMENT REFUSAL
					39		Dry, No GROUNDWATER ENCOUNTERED.
					40		
					41		
					42		
					43		
					44		

P&D ENVIRONMENTAL, INC.

BORING NO.: B3		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland			
BORING LOCATION: 20 feet south of eastern corner of 20th Avenue and Solano Way			ELEVATION AND DATUM: None				
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin		DATE & TIME STARTED:	DATE & TIME FINISHED:		
DRILLING EQUIPMENT: Geoprobe 6600				4/6/09 1330	4/6/09 1410		
COMPLETION DEPTH: 25.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY:		CHECKED BY:	
FIRST WATER DEPTH: Not Encountered		NO. OF SAMPLES: 6 Soil, 1 Water		MLD			
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS	
	0.0 to 0.5 ft. Asphalt and base rock.						
	0.5 to 2.0 ft. Brown silt (ML); medium stiff, moist, with orange mottling, and roots. No Petroleum Hydrocarbon (PHC) odor.	ML	No Well Constructed		0	Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.	
	2.0 to 4.0 ft. Brown sandy clay (CL); medium stiff, moist, with black mottling. No PHC odor.	CL			0	0 to 5 ft. 4.6 ft. recovery	
5	4.0 to 5.0 ft. Grayish brown silt (ML); medium stiff, dry. No PHC odor.	ML	B3-4.5		0	5 to 10 ft. 4.5 ft. recovery	
	5.0 to 6.0 ft. Brown gravelly clayey sand (SC); medium dense, dry, with angular gravel to 0.25-in. diameter. No PHC odor.	SC			0	10 to 15 ft. 4.2 ft. recovery	
	6.0 to 10.0 ft. Grayish brown silty clay (CL); stiff, moist. No PHC odor.	CL			0	15 to 20 ft. 4.6 ft. recovery	
10	10.0 to 17.0 ft. Grayish brown clayey sand (SC); medium stiff, moist, with angular gravel to 0.5-in. diameter. No PHC odor.	SC	B3-9.5		0	20 to 25 ft. 4.6 ft. recovery	
	12.0 to 15.0 ft. Soil stained bluish green; strong PHC odor.	SC			14	Water not encountered during drilling.	
15	17.0 to 25.0 ft. Orange-brown silty clay (CL); stiff, moist, with black mottling. No PHC odor.	CL	B3-14.5		109	Borehole terminated at 25.0 ft. on 4/6/09. Temporary 1-in. diam. slotted PVC casing placed in borehole. Temporary well capped with Latex glove and bentonite plug to allow for recharge. Water level measured at 15.8 ft. at 1340 on 4/8/09. Water sample B3-W collected at 1345; slight odor but no sheen on sample. Collected 5 VOA and 1 1-liter amber containers, very slow recharge.	
20	22.0 to 25.0 ft. Medium stiff.	CL	B3-17.5		0	Temporary well again capped to allow for further recharge. Water level measured at 15.1 ft. at 1000 on 4/9/09. One additional 1-liter amber container for sample B3-W collected at 1005; slight odor but no sheen on sample.	
			B3-19.5		0		
25			B3-24.5		0		
30						Borehole grouted on 4/9/09 using a tremie pipe and neat cement grout.	

P&D ENVIRONMENTAL, INC.

BORING NO.: B4		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland		
BORING LOCATION: 20th Avenue southeast side parking lane, at northeast corner with Solano Way				ELEVATION AND DATUM: None		
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin/Jeremy		DATE & TIME STARTED:	DATE & TIME FINISHED:	
DRILLING EQUIPMENT: Geoprobe 6600				4/6/09 1130	4/6/09 1300	
COMPLETION DEPTH: 25.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY:	CHECKED BY:	
FIRST WATER DEPTH: 21.0 Feet		NO. OF SAMPLES: 6 Soil		MLD		
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS
	0.0 to 0.5 ft. Concrete (3-in.) and base rock.		No Well Constructed			Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves. 0 to 5 ft. 4.5 ft. recovery 5 to 10 ft. 4.4 ft. recovery 10 to 15 ft. 4.6 ft. recovery 15 to 20 ft. 4.6 ft. recovery 20 to 25 ft. 4.2 ft. recovery Water encountered during drilling at 21.0 ft. Borehole terminated at 25.0 ft. on 4/6/09. Temporary 1-in. diameter well not placed in borehole, and no water sample collected. Borehole grouted on 4/9/09 using a tremie pipe and neat cement grout.
	0.5 to 6.0 ft. Orange-brown gravelly silty sand (SM); medium dense, dry, with angular gravel to 0.5-in. diameter. No Petroleum Hydrocarbon (PHC) odor.	X	B4-2.5		0	
	3.5 to 6.0 ft. Bluish green staining and strong PHC odor.	X	B4-4.5		101	
5	6.0 to 10.5 ft. Bluish green and brown silty clay (CL); stiff, moist. Strong PHC odor.		CL			
	9.0 to 10.5 ft. With gravel to 0.25-in. diameter.	X	B4-9.5		345	
10	10.5 to 11.0 ft. Bluish green gravelly clayey sand (SC); medium dense, moist. Strong PHC odor.		SC			
	11.0 to 13.0 ft. Olive-green silty clay (CL); stiff, moist, with bluish green staining, and orange mottling. Slight PHC odor.		CL		3	
	13.0 to 14.0 ft. Brown gravelly clayey sand (SC); medium dense, moist, with gravel to 0.25-in. diameter. Strong PHC odor.		SC		77	
15	14.0 to 21.0 ft. Brown silty clay (CL); stiff, moist, with bluish green staining, trace angular gravel to 0.25-in. diameter, and black mottling. Strong PHC odor.	X	B4-14.5		4	
			CL			
20		X	B4-19.5		8	
			▽			
	21.0 to 25.0 ft. Grayish brown gravelly silty sand (SM); loose, wet to saturated, with angular gravel to 0.5-in. diameter. Moderate PHC odor.		SM		65	
	24.0 to 25.0 ft. No PHC odor.	X	B4-24.5		3	
25					0	
30						

P&D ENVIRONMENTAL, INC.

BORING NO.: B4a		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland			
BORING LOCATION: 3 feet north of borehole B4				ELEVATION AND DATUM: None			
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin/Jeremy		DATE & TIME STARTED:	DATE & TIME FINISHED:		
DRILLING EQUIPMENT: Geoprobe 6600				4/7/09 1000	4/7/09 1430		
COMPLETION DEPTH: 70.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY:	CHECKED BY:		
FIRST WATER DEPTH: 21.0 Feet		NO. OF SAMPLES: None		MLD			
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS	
	0.0 to 0.5 ft. Concrete (3-in.) and base rock.		No Well Constructed			Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.	
5	0.5 to 5.5 ft. Orange-brown gravelly silty sand (SM); medium dense, dry, with angular gravel to 0.5-in. diameter. No Petroleum Hydrocarbon (PHC) odor.	SM			119		0 to 5 ft. 4.2 ft. recovery
	3.5 to 5.5 ft. Bluish green staining and strong PHC odor.				94		5 to 10 ft. 4.6 ft. recovery
10	5.5 to 10.5 ft. Bluish green and brown silty clay (CL); stiff, moist, with some angular gravel to 0.25-in. diameter. Strong PHC odor.	CL			25		10 to 15 ft. 4.6 ft. recovery
	10.5 to 11.0 ft. Bluish green gravelly clayey sand (SC); medium dense, moist. Strong PHC odor.	SC			77		15 to 20 ft. 4.7 ft. recovery
15	11.0 to 16.0 ft. Olive-green silty clay (CL); stiff, moist, with bluish green staining. Slight PHC odor.	CL			251		20 to 25 ft. 3.6 ft. recovery
	16.0 to 16.5 ft. Brown clayey sand (SC); medium dense, moist, with bluish green staining. Strong PHC odor.	SC			0		25 to 30 ft. 3.8 ft. recovery
20	16.5 to 19.0 ft. Brown silty sand (SM); medium dense, moist, with bluish green staining. Strong PHC odor.	SM					
	19.0 to 24.5 ft. Reddish brown gravelly clayey sand (SC); loose, moist, with bluish green staining, and angular gravel to 0.5-in. diameter. Strong PHC odor.	SC					
25	21.0 ft. Wet to saturated.						
	24.5 to 32.5 ft. Brown silty clay (CL); stiff, moist, with orange mottling. No PHC odor.	CL					
30	27.0 to 30.0 ft. With angular gravel to 0.5-in. diameter.						

P&D ENVIRONMENTAL, INC.

BORING NO.: B4a	PROJECT NO.: 0405	PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland	
BORING LOCATION: 3 feet north of borehole B4		ELEVATION AND DATUM: None	
DRILLING AGENCY: Vironex, Inc.	DRILLER: Justin/Jeremy	DATE & TIME STARTED: 4/7/09 1000	DATE & TIME FINISHED: 4/7/09 1430
DRILLING EQUIPMENT: Geoprobe 6600		LOGGED BY: MLD	CHECKED BY:
COMPLETION DEPTH: 70.0 Feet	BEDROCK DEPTH: Not Encountered		
FIRST WATER DEPTH: 21.0 Feet	NO. OF SAMPLES: None		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS	
35	24.5 to 32.5 ft. Brown silty clay (CL); stiff, moist, with orange mottling. With blue-green staining and strong PHC odor 30.0 to 32.5 ft.	CL	No Well Constructed		268	30 to 35 ft. 4.2 ft. recovery	
	32.5 to 33.5 ft. Olive-brown clayey sand (SC); medium dense, moist, with angular gravel to 0.5-in. diameter. Slight PHC odor.	SC			8		
	33.5 to 34.5 ft. Brown fine sand (SP); loose, moist. Slight PHC odor.	SP			0	35 to 40 ft. 2.8 ft. recovery	
40	34.5 to 42.0 ft. Brown silty clay (CL); stiff, moist, with black mottling. NoPHC odor.	CL					40 to 45 ft. 3.2 ft. recovery.
	42.0 to 44.5 ft. Brown fine sand (SP); loose, saturated. Slight PHC odor.	SP			30		
45	44.5 to 49.5 ft. Brown clayey sand (SC); loose, saturated, with interbeds of fine sand (SP). Slight PHC odor.	SC/SP			3		45 to 50 ft. 4.2 ft. recovery
50	49.5 to 51.5 ft. Orange-brown gravelly clayey sand (SC); dense, moist, with angular gravel to 0.5-in. diameter. Slight PHC odor.	SC					50 to 55 ft. 3.6 ft. recovery
	51.5 to 53.0 ft. Brown fine sand (SP); loose, saturated. Slight PHC odor.	SP			7		
55	53.0 to 55.0 ft. Orange-brown gravelly clayey sand (SC); dense, moist, with angular gravel to 0.5-in. diameter. No PHC odor.	SC			0		
	55.0 to 59.0 ft. Light grayish brown clayey sand (SC); loose, saturated, with interbeds of fine sand (SP). No PHC odor.	SC/SP	0		55 to 60 ft. 4.2 ft. recovery		
	59.0 to 60.0 ft. Light grayish brown sandy clay (CL); stiff, moist. No PHC odor.	CL	0				

P&D ENVIRONMENTAL, INC.

BORING NO.: B4a		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland			
BORING LOCATION: 3 feet north of borehole B4				ELEVATION AND DATUM: None			
DRILLING AGENCY: Vironex, Inc.		DRIELER: Justin/Jeremy		DATE & TIME STARTED: 4/7/09 1000		DATE & TIME FINISHED: 4/7/09 1430	
DRILLING EQUIPMENT: Geoprobe 6600				LOGGED BY: MLD		CHECKED BY:	
COMPLETION DEPTH: 70.0 Feet		BEDROCK DEPTH: Not Encountered					
FIRST WATER DEPTH: 21.0 Feet		NO. OF SAMPLES: None					
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS	
65	60.0 to 64.5 ft. Brown fine sand (SP); loose, saturated. No PHC odor.	SP	No Well Constructed		0	60 to 65 ft. 4.2 ft. recovery	
	64.5 to 65.5 ft. Grayish brown clay (CL); stiff, moist. No PHC odor.	CL		0	65 to 70 ft. 2.8 ft. recovery		
	65.5 to 67.0 ft. Brown clayey sand (SC); loose, saturated, with interbeds of fine sand (SP). No PHC odor.	SC		0			
	67.0 to 70.0 ft. Olive-green clay (CL); stiff, moist. No PHC odor.	CL		0	Water encountered during drilling at 21.0 ft.		
70					<p>Borehole terminated at 70.0 ft. on 4/7/09.</p> <p>Borehole grouted on 4/7/09 using a tremie pipe and neat cement grout.</p> <p>At a location approximately 3 ft. east of borehole B4, a soil conductivity probe was pushed to 70 ft. on 4/8/09 for electrical conductivity logging. Borehole grouted on 4/8/09 using a tremie pipe and neat cement grout.</p> <p>At a location approximately 4 ft. northeast of borehole B4, a Hydropunch was pushed to 65.0 ft. on 4/9/09. Hydropunch seal integrity was confirmed using electrical water level indicator. The Hydropunch drilling rods were then retracted to 61.0 ft. The water level in the Hydropunch rods was measured at 64.7 ft. at 1330, and at 63.5 ft. at 1340. Water sample B4W-65 collected at 1345; no odor or sheen on sample. Water level subsequently measured in Hydropunch rods at 61.8 ft. at 1529. Hydropunch borehole grouted on 4/9/09 using a tremie pipe and neat cement grout.</p>		

P&D ENVIRONMENTAL, INC.

BORING NO.: B5		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland			
BORING LOCATION: 8 feet northeast of borehole B4				ELEVATION AND DATUM: None			
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin		DATE & TIME STARTED: 4/6/09 0955		DATE & TIME FINISHED: 4/6/09 1300	
DRILLING EQUIPMENT: Geoprobe 6600				LOGGED BY: MLD		CHECKED BY:	
COMPLETION DEPTH: 25.0 Feet		BEDROCK DEPTH: Not Encountered					
FIRST WATER DEPTH: 20.0 Feet		NO. OF SAMPLES: 7 Soil					
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS	
	0.0 to 0.5 ft. Concrete (3-in.) and base rock.		No Well Constructed			Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.	
5	0.5 to 5.0 ft. Orange-brown gravelly silty sand (SM); medium dense, dry, with angular gravel to 0.5-in. diameter. No Petroleum Hydrocarbon (PHC) odor.	X SM	B5-2.0		0		
	2.5 to 5.0 ft. Soil stained bluish green; strong PHC odor.	X	B5-4.5		2	0 to 5 ft. 4.2 ft. recovery	
	5.0 to 7.0 ft. Bluish green silty clay (CL); medium stiff, moist. Strong PHC odor.	CL			47	5 to 10 ft. 4.6 ft. recovery	
	7.0 to 8.0 ft. Bluish green gravelly clayey sand (SC); medium dense, moist. Strong PHC odor.	SC			0		
10	8.0 to 9.5 ft. Bluish green silty clay (CL); medium stiff, moist. Strong PHC odor.	CL					
	9.5 to 14.5 ft. Bluish green silty sand (SM); medium dense, moist, with trace angular gravel to 0.25-in. diameter. Strong PHC odor.	X SM	B5-9.5		113	10 to 15 ft. 4.6 ft. recovery	
15	14.5 to 16.0 ft. Bluish green to orange-brown gravelly clayey sand (SC); medium dense, moist, with gravel to 0.5-in. diameter. Slight PHC odor.	X SC	B5-14.5		28	15 to 20 ft. 4.5 ft. recovery	
	16.0 to 23.0 ft. Bluish green fine sand lenses (SP), loose, moist; interbedded with gravelly sand (SW), loose, moist. Slight PHC odor.	SP/SW			26		
20	19.5 to 25.0 ft. Color change to orange-brown, with no PHC odor, and gravel to 0.5-in. diameter. 20.0 ft. Wet.	X	B5-19.5		0	20 to 25 ft. 4.6 ft. recovery	
		X	B5-22.5		0		
25	23.0 to 25.0 ft. Orange-brown gravelly clayey sand (SC); medium dense, moist, with angular gravel to 0.5-in. diameter. No PHC odor.	X SC	B5-24.5		0	Water first encountered during drilling at 20.0 ft.	
						Borehole terminated at 25.0 ft. on 4/6/09. Temporary 1-in. diameter well not placed in borehole and no water sample collected.	
30						Borehole grouted on 4/6/09 using a tremie pipe and neat cement grout.	

P&D ENVIRONMENTAL, INC.

BORING NO.: B6		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland			
BORING LOCATION: 12 feet northeast of borehole B5				ELEVATION AND DATUM: None			
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin		DATE & TIME STARTED: 4/6/09 0830		DATE & TIME FINISHED: 4/6/09 0920	
DRILLING EQUIPMENT: Geoprobe 6600				LOGGED BY: MLD		CHECKED BY:	
COMPLETION DEPTH: 25.0 Feet		BEDROCK DEPTH: Not Encountered					
FIRST WATER DEPTH: Not Encountered		NO. OF SAMPLES: 5 Soil, 1 Water					
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS	
	0.0 to 0.5 ft. Concrete (3-in.) and base rock.		No Well Constructed			Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.	
	0.5 to 4.5 ft. Orange-brown gravelly silty sand (SM); medium dense, dry, with angular gravel to 0.5-in. diameter. No Petroleum Hydrocarbon (PHC) odor.	SM			0		
5	4.5 to 5.5 ft. Brown silty clay (CL), stiff, moist; with interbeds of gravelly clayey sand (SC), medium dense, moist, with angular gravel to 0.5-in. diameter. No PHC odor.	X CL/SC	B6-4.5		0	0 to 5 ft. 4.4 ft. recovery	
	5.5 to 7.5 ft. Olive-green silty clay (CL); stiff, moist, with trace angular gravel to 0.25-in. diameter. No PHC odor.	CL			0	5 to 10 ft. 4.6 ft. recovery	
10	7.5 to 10.0 ft. Olive-green sandy clayey gravel (GC); moist, with angular gravel to 0.75-in. diameter. No PHC odor.	X GC	B6-9.5		0	10 to 15 ft. 4.5 ft. recovery	
	10.0 to 21.5 ft. Olive-green and brown clay (CL); medium stiff, moist. No PHC odor.				0		
15		X CL	B6-14.5		0	15 to 20 ft. 4.6 ft. recovery	
					0	20 to 25 ft. 4.7 ft. recovery	
20		X	B6-19.5		0	Water not encountered during drilling.	
	21.5 to 22.0 ft. Brown gravelly clayey sand (SC); loose, moist, with angular gravel to 0.25-in. diameter. No PHC odor.	SC			0	Borehole terminated at 25.0 ft. on 4/6/09. Temporary 1-in. diam. slotted PVC casing placed in borehole. Water level measured at 23.5 ft. at 0940, and at 23.0 ft. at 0950. Water sample B6-W collected at 1040; 5 VOA and 1 1-liter amber containers, very slow recharge; no odor or sheen on sample. Temporary well capped to allow for further recharge. One additional 1-liter amber container for sample B6-W collected at 1510 on 4/7/09; no odor or sheen on sample.	
	22.0 to 25.0 ft. Olive-green and brown clay silty (CL); medium stiff, moist. No PHC odor.	CL			0		
25		X	B6-24.5				
30						Borehole grouted on 4/7/09 using a tremie pipe and neat cement grout.	

P&D ENVIRONMENTAL, INC.

BORING NO.: B7		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland				
BORING LOCATION: Approximately 15 ft. west of southeast corner of 20th Avenue and Solano Way				ELEVATION AND DATUM: None				
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin/Jeremy		DATE & TIME STARTED:	DATE & TIME FINISHED:			
DRILLING EQUIPMENT: Geoprobe 6600				4/6/09 1445	4/6/09 1525			
COMPLETION DEPTH: 25.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY:	CHECKED BY:			
FIRST WATER DEPTH: Not Encountered		NO. OF SAMPLES: 2 Water		MLD				
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS		
	0.0 to 0.5 ft. Asphalt and base rock.		No Well Constructed			Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.		
5	0.5 to 7.0 ft. Grayish brown clayey silt (ML); medium stiff, moist, with orange mottling. No Petroleum Hydrocarbon (PHC) odor.	ML					0	
							0	0 to 5 ft. 4.5 ft. recovery
							0	5 to 10 ft. 4.4 ft. recovery
							0	10 to 15 ft. 4.6 ft. recovery
10	7.0 to 11.0 ft. Light gray silty clay (CL); medium stiff, moist, with black mottling. No PHC odor.	CL			0	15 to 20 ft. 4.8 ft. recovery		
					0	20 to 25 ft. 4.8 ft. recovery		
					0	Water not encountered during drilling.		
	11.0 to 14.0 ft. Orange-brown gravelly clayey sand (SC); medium dense, moist, with angular gravel to 0.5-in. diameter. No PHC odor.	SC			0	Borehole terminated at 25.0 ft. on 4/6/09. Temporary 1-in. diam. slotted PVC casing placed in borehole. Borehole dry at 1530. Temporary well capped with Latex glove and bentonite plug to allow for recharge. On 4/7/09, water level measured at 16.0 ft. at 1335. Water sample B7W collected at 1445; no odor or sheen on sample.		
15	14.0 to 25.0 ft. Light gray silty clay (CL); stiff, moist, with orange mottling. No PHC odor.	CL			0	Borehole grouted on 4/7/09 using a tremie pipe and neat cement grout.		
	16.0 to 17.5 ft. With some gravel to 0.25-in. diameter.					0		
						0		
20	21.0 to 21.3 ft. 3-in. thick interbed of gravelly sand with angular gravel to 0.5-in. diameter.				0	At a location approximately 3 ft. north of the borehole that was continuously cored to 25.0 ft., a soil conductivity probe was pushed to 70 ft. on 4/6/09 for electrical conductivity logging. Borehole grouted on 4/6/09 using a tremie pipe and neat cement grout.		
25					0	At a location approximately 4 ft. south of the borehole that was continuously cored to 25.0 ft. on 4/6/09, a Hydropunch was pushed to 64.0 ft. on 4/9/09. Hydropunch seal integrity was confirmed using electrical water level indicator. The Hydropunch drilling rods were then retracted to 60.0 ft. The water level in the Hydropunch rods was measured at 59.7 ft. at 1514, and at 56.3 ft. at 1524. Water sample B7W-64 collected at 1545; no odor or sheen on sample. Borehole grouted on 4/6/09 using a tremie pipe and neat cement grout.		
30								

P&D ENVIRONMENTAL, INC.

BORING NO.: B8		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland				
BORING LOCATION: 27 feet southwest of Solano Way on southwest side of 20th Avenue				ELEVATION AND DATUM: None				
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin/Jeremy		DATE & TIME STARTED: 4/8/09 0830		DATE & TIME FINISHED: 4/8/09 0930		
DRILLING EQUIPMENT: Geoprobe 6600				LOGGED BY: MLD		CHECKED BY:		
COMPLETION DEPTH: 30.0 Feet		BEDROCK DEPTH: Not Encountered						
FIRST WATER DEPTH: Not Encountered		NO. OF SAMPLES: 2 Water						
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS		
	0.0 to 0.5 ft. Asphalt and base rock.		No Well Constructed			Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves. 0 to 5 ft. 4.5 ft. recovery 5 to 10 ft. 4.2 ft. recovery 10 to 15 ft. 4.5 ft. recovery 15 to 20 ft. 4.0 ft. recovery 20 to 25 ft. 3.2 ft. recovery 25 to 30 ft. 4.6 ft. recovery Water not encountered during continuous core drilling. Borehole terminated at 30.0 ft. on 4/8/09. Temporary 1-in. diam. slotted PVC casing placed in borehole. Borehole dry at 1150. Temporary well capped with Latex glove and bentonite plug to allow for recharge. On 4/9/09, water level measured at 28.8 ft. at 0936, and at 28.5 ft. at 1258. Water sample B8W collected at 1300; no odor or sheen on sample. Borehole grouted on 4/9/09 using a tremie pipe and neat cement grout. At a location approximately 4 ft. west of the borehole that was continuously cored to 30 ft., a soil conductivity probe was pushed to 70 ft. on 4/8/09 for electrical conductivity logging. Borehole grouted on 4/8/09 using a tremie pipe and neat cement grout. At a location approximately 4 ft. south of the continuously cored borehole, a Hydropunch was pushed to 59.0 ft. on 4/9/09. Hydropunch seal integrity was confirmed using electrical water level indicator. The Hydropunch drilling rods were then retracted to 55.0 ft. The water level in the Hydropunch rods was measured at 55.2 ft. at 1045, and at 53.1 ft. at 1055. Water sample B8W-59 collected at 1100; no odor or sheen on sample. Borehole grouted on 4/9/09 using a tremie pipe and neat cement grout.		
	0.5 to 4.0 ft. Light grayish brown silt (ML); medium stiff, moist, with black and orange mottling. No Petroleum Hydrocarbon (PHC) odor.	ML						0
	3.5 to 4.0 ft. With angular gravel to 0.25-in. diameter.							0
5	4.0 to 5.5 ft. Orange-brown silty sand (SM); loose, moist, with abundant angular gravel to 0.25-in. diameter. No PHC odor.	SM						0
	5.5 to 8.5 ft. Light grayish brown silt (ML); medium stiff, moist, with black mottling. No PHC odor.	ML						0
10	8.5 to 11.0 ft. Orange-brown silty sand (SM); medium dense, moist, with abundant angular gravel to 0.5-in. diameter. No PHC odor.	SM						0
	11.0 to 12.0 ft. Olive-brown clay (CL); medium stiff, moist, with some angular gravel to 0.25-in. diameter. No PHC odor.	CL						0
	12.0 to 14.5 ft. Orange-brown clayey sand (SC); medium dense, moist, with some angular gravel to 0.5-in. diameter, and orange mottling. No PHC odor.	SC						0
15	14.5 to 30.0 ft. Orange-brown silty clay (CL); stiff, moist. No PHC odor.							0
20		CL						0
25	24.0 to 25.5 ft. With angular gravel to 0.25-in. diameter.				0			
	26.0 to 30.0 ft. Brown, with trace gravel to 0.25-in. diameter. No PHC odor.				0			
30								

P&D ENVIRONMENTAL, INC.

BORING NO.: B9		PROJECT NO.: 0405		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland			
BORING LOCATION: On west side of 20th Avenue 95 feet northeast of E. 12th St.				ELEVATION AND DATUM: None			
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin/Jeremy		DATE & TIME STARTED:	DATE & TIME FINISHED:		
DRILLING EQUIPMENT: Geoprobe 6600				4/9/09 0830	4/9/09 0935		
COMPLETION DEPTH: 30.0 Feet		BEDROCK DEPTH: Not Encountered		LOGGED BY:	CHECKED BY:		
FIRST WATER DEPTH: Not Encountered		NO. OF SAMPLES: 1 Water		MLD			
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS	
	0.0 to 1.0 ft. Asphalt and base rock.		No Well Constructed			Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves. 0 to 5 ft. 4.6 ft. recovery 5 to 10 ft. 4.8 ft. recovery 10 to 15 ft. 4.6 ft. recovery 15 to 20 ft. 4.4 ft. recovery 20 to 25 ft. 4.6 ft. recovery 25 to 30 ft. 4.5 ft. recovery Water not encountered during drilling. Borehole terminated at 30.0 ft. on 4/9/09. Temporary 1-in. diam. slotted PVC casing placed in borehole. Water level measured at 24.4 ft. at 1405, and at 24.2 ft. at 1415. Water sample B9W collected at 1420; soap suds on sample, but no odor or sheen. Borehole grouted on 4/9/09 using a tremie pipe and neat cement grout.	
	1.0 to 5.0 ft. Light gray silt (ML); medium stiff, moist, with trace gravel to 0.25-in. diameter, and black mottling. No Petroleum Hydrocarbon (PHC) odor.	ML			0		
5	5.0 to 10.5 ft. Light olive-gray silty clay (CL); stiff, moist, with black and orange mottling. No PHC odor.				0		
	6.5 to 8.0 ft. With angular gravel to 0.25-in. diameter.	CL			0		
10	10.5 to 11.0 ft. Orange-brown clayey sand (SC); medium dense, moist, with gravel to 0.5-in. diameter. No PHC odor.	SC			0		
	11.5 to 16.5 ft. Light olive-gray clay (CL); stiff, moist, with trace angular gravel to 0.5-in. diameter, and black mottling. No PHC odor.	CL			0		
15	16.5 to 17.0 ft. Olive-brown gravelly clayey sand (SC); medium dense, moist, with angular gravel to 0.5-in. diameter. No PHC odor.	SC			0		
	17.0 to 22.0 ft. Olive-gray clay (CL); stiff, moist, with minor angular gravel to 0.5-in. diameter. No PHC odor.	CL			0		
20	22.0 to 23.0 ft. Olive-brown gravelly clayey sand (SC); medium dense, moist, with angular gravel to 0.25-in. diameter. No PHC odor.	SC			0		
	23.0 to 26.5 ft. Olive-brown clay (CL); stiff, moist. No PHC odor.	CL			0		
25	26.5 to 27.0 ft. Olive-brown gravelly clayey sand (SC); medium dense, moist, with angular gravel to 0.25-in. diameter. No PHC odor.	SC			0		
	27.0 to 30.0 ft. Olive-brown silty clay (CL); stiff, moist. No PHC odor.	CL			0		
30							

P&D ENVIRONMENTAL, INC.

BORING NO.: B10		PROJECT NO.: 0405.R5		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland			
BORING LOCATION: Inside garage, approximately 20 ft. from garage entrance				ELEVATION AND DATUM: None			
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin		DATE & TIME STARTED: 10/5/09 0830	DATE & TIME FINISHED: 10/5/09 1000		
DRILLING EQUIPMENT: Geoprobe 6600				LOGGED BY: MLD	CHECKED BY:		
COMPLETION DEPTH: 35.0 Feet	BEDROCK DEPTH: Not Encountered		FIRST WATER DEPTH: Not Encountered				
NO. OF SAMPLES: 7 Soil, 1 Water							
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID	REMARKS	
	0.0 to 0.5 ft. Concrete (1-in.) and base rock.		No Well Constructed			Borehole continuously cored using a 5-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler lined with 4.8-foot long 1.5-inch O.D. transparent PVC sleeves.	
	0.5 to 2.0 ft. Olive-brown clay (CL); medium stiff, moist, with black mottling. No Petroleum Hydrocarbon (PHC) odor.	CL			0		
5	2.0 to 9.0 ft. Olive-brown silt (ML); medium stiff, moist, with minor coarse sand and trace angular gravel to 0.5-in. diameter, and black mottling. No PHC odor.	X ML	B10-4.5		0		0 to 5 ft. 4.6 ft. recovery
	5.0 to 6.0 ft. Increased sand content.						5 to 10 ft. 4.8 ft. recovery
10	9.0 to 10.0 ft. Orange-brown silty sand (SM); medium dense, moist, with minor angular gravel to 0.25-in. diameter. No PHC odor.	X SM	B10-9.5		0		10 to 15 ft. 4.8 ft. recovery
	10.0 to 16.0 ft. Olive-brown silt (ML); stiff, moist, with some coarse sand, and black mottling. No PHC odor.						
15		X ML	B10-14.5		0		15 to 20 ft. 4.8 ft. recovery
	16.0 to 18.5 ft. Clayey sandy gravel (GC); moist, with angular gravel to 0.5-in. diameter. No PHC odor.						
20							
	18.5 to 22.5 ft. Olive-brown silty clay (CL); stiff, moist, with some angular gravel to 0.5-in. diameter, and orange and black mottling. No PHC odor.	X CL	B10-19.5		0		20 to 25 ft. 4.6 ft. recovery
	22.5 to 23.5 ft. Brown clayey fine sand (SC); medium dense, moist. No PHC odor.						
25							
	23.5 to 35.0 ft. Olive-brown clay (CL); very stiff, moist, with black mottling. No PHC odor.	X CL	B10-24.5		0	25 to 30 ft. 4.8 ft. recovery	
30		X CL	B10-29.5		0		

(Continued on page 2.)

P&D ENVIRONMENTAL, INC.

BORING NO.: B10		PROJECT NO.: 0405.R5		PROJECT NAME: William Wurzbach Co., 1200 20th Ave., Oakland			
BORING LOCATION: Inside garage, approximately 20 ft. from garage entrance				ELEVATION AND DATUM: None			
DRILLING AGENCY: Vironex, Inc.		DRILLER: Justin		DATE & TIME STARTED: 10/5/09 0830		DATE & TIME FINISHED: 10/5/09 1000	
DRILLING EQUIPMENT: Geoprobe 6600				LOGGED BY: MLD		CHECKED BY:	
COMPLETION DEPTH: 35.0 Feet		BEDROCK DEPTH: Not Encountered					
FIRST WATER DEPTH: Not Encountered		NO. OF SAMPLES: 7 Soil, 1 Water					
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER FT.	PID	REMARKS	
35	(Continued from page 1.) 23.5 to 35.0 ft. Olive-brown clay (CL); very stiff, moist, with black mottling. No PHC odor.	CL ▼ x	No Well Constructed B10-34.5		0 0	30 to 35 ft. 4.8 ft. recovery Water not encountered during drilling.	
						Borehole terminated at 35.0 ft. on 10/5/09. Temporary 1-in. diameter slotted PVC casing placed in borehole. Borehole dry at 1000. Water level measured at 33.9 ft. at 1030, and at 33.7 ft. at 1053. Water sample B10-W collected at 1100; 3 VOA containers collected. Borehole grouted on 10/5/09 using a tremie pipe and neat cement grout.	