

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director



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

November 25, 2014

Cathedral Gardens Oakland L.P.
c/o Matt Steinle
EAH Housing
2169 East Francisco Blvd., Suite B
San Rafael, CA 94901
(Sent via E-mail to matt.steinle@eahhousing.org)

The Housing Authority of the City of Oakland
c/o Clint Loftman
1619 Harrison Street
Oakland, CA 94612
(Sent via E-mail to cloftman@Oakha.org)

Roman Catholic Welfare Corporation of Oakland
3014 Lakeshore Avenue
Oakland, CA 94610

Subject: Case Closure for Fuel Leak Case No. RO0003138 and GeoTracker Global ID T1000005970,
Cathedral Gardens, 638 21st Street, Oakland, CA 94612

Dear Responsible Parties:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25296.10[g]). 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>).

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

Sincerely,

Dilan Roe, P.E.
LOP and SCP Program Manager

Enclosures: 1. Remedial Action Completion Certification
2. Case Closure Summary

Responsible Parties
RO0003138
November 25, 2014
Page 2

Cc w/enc.:

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

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

Steve Carmack, P & D Environmental, 55 Santa Clara Avenue, Suite 240, Oakland, CA 94610
(Sent via E-mail to steven.carmack@pdenviro.com)

Jerry Wickham, ACEH (Sent via E-mail to: jerry.wickham@acgov.org)

GeoTracker, File

ALAMEDA COUNTY
**HEALTH CARE SERVICES
AGENCY**

ALEX BRISCOE, Agency Director



DEPARTMENT OF ENVIRONMENTAL HEALTH
OFFICE OF THE DIRECTOR
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502
(510) 567-6777
FAX (510) 337-9135

REMEDIAL ACTION COMPLETION CERTIFICATION

November 25, 2014

Cathedral Gardens Oakland L.P.
c/o Matt Steinle
EAH Housing
2169 East Francisco Blvd., Suite B
San Rafael, CA 94901

(Sent via E-mail to matt.steinle@eahhousing.org)

The Housing Authority of the City of Oakland
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3014 Lakeshore Avenue
Oakland, CA 94610

Subject: Case Closure for Fuel Leak Case No. RO0003138 and GeoTracker Global ID T10000005970, Cathedral Gardens, 638 21st Street, Oakland, CA 94612

Dear Responsible Parties:

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.

Please be aware that claims for reimbursement of corrective action costs submitted to the Underground Storage Tank Cleanup Fund more than 365 days after the date of this letter or issuance or activation of the Fund's Letter of Commitment, whichever occurs later, will not be reimbursed unless one of the following exceptions applies:

- Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or
- Submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

This notice is issued pursuant to subdivision (g) 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

UST Case Closure Summary Form

Agency Information

Date: October 16, 2014

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

Case Information

Facility Name: Cathedral Gardens		
Facility Address: 638 21 st Street, Oakland, CA 94612		
RB LUSTIS Case No.: ----	Local Case No.: ----	LOP Case No.: RO0003138
URF Filing Date: May 20, 2014	GeoTracker Global ID: T10000005970	
APN: 8-647-57	Current Land Use: Residential	
Responsible Party(s):	Address:	Phone:
Cathedral Gardens Oakland L.P. c/o Matt Steinle, EAH Housing	2169 East Francisco Blvd., Suite B, San Rafael, CA 94901	No phone number
The Housing Authority of the City of Oakland, c/o Clint Loftman	1619 Harrison Street, Oakland, CA 94612	No phone number
Roman Catholic Welfare Corporation of Oakland	3014 Lakeshore Avenue Oakland, CA 94610	No phone number

Tank Information

Tank No.	Size (gal)	Contents	Closed in-Place/ Removed/Active	Date
----	500 gallons	Heating oil	Removed	05/20/2014

Conceptual Site Model (Attachment 1, 2 pages)

Closure Criteria Met (Attachment 2, 1 page)

LTCP Groundwater Specific Criteria (Attachment 3, 1 page)

LTCP Vapor Specific Criteria (Attachment 4, 1 page)

LTCP Direct Contact and Outdoor Air Exposure Criteria (Attachment 5, 1 page)

Optional Site map(s) (Attachment 6, 5 pages)

Analytical Data (Attachment 7, 5 pages)

UST Case Closure Summary Form

Additional Information:

Site Management Requirements: This fuel leak case has been evaluated for closure consistent with the State Water Resource Control Board Low-Threat Underground Storage Tank Closure Policy (LTCP). Based on this evaluation, no site management requirements appear to be necessary.



The site is currently covered by apartment buildings. During excavation in September 2012 for an underground parking structure for the apartment buildings, a UST filled with oily water and low viscosity heating oil was discovered in the central portion of the property at a depth of approximately three feet below the pre-construction ground surface. No pipes were observed to be connected to the UST. Based on results of soil samples collected following removal of the UST, the City of Oakland Fire Department Hazmat Division did not require further action related to the UST. The area where the UST was discovered was subsequently excavated for completion of the construction of the underground parking structure.

RWQCB Notification

Notification Date: September 3, 2014

RWQCB Staff Name: Cherie McCaulou	Title: Engineering Geologist
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Local Agency Representative

Prepared by: Jerry Wickham	Title: Senior Hazardous Materials Specialist
Signature: 	Date: 11/25/2014
Approved by: Dilar Roe	Title: LOP and SCP Program Manager
Signature: 	Date: 11/25/2014

This Case Closure Summary along with the Case Closure Transmittal letter and the Remedial Action Completion Certification provides documentation of the case closure. 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. The Conceptual Site Model may not contain all available data. Additional information on the case can be viewed in the online case file. The entire case file can be viewed over the Internet on the Alameda County Environmental Health (ACEH) website (<http://www.acgov.org/aceh/lop/ust.htm>) or the State of California Water Resources Control Board GeoTracker website (<http://geotracker.waterboards.ca.gov>). Not all historic documents for the fuel leak case may be available on GeoTracker. A more complete historic case file for this site is located on the ACEH website.

ATTACHMENT 1

CATHEDRAL GARDENS (T10000005970) - [MAP THIS SITE](#) OPEN - ELIGIBLE FOR CLOSURE

638 21ST STREET
OAKLAND, CA 94612
ALAMEDA COUNTY

[ACTIVITIES REPORT](#)
[PUBLIC WEBPAGE](#)

CLEANUP OVERSIGHT AGENCIES
ALAMEDA COUNTY LOP (**LEAD**) - CASE #: RO0003138
CASEWORKER: [Jerry Wickham](#) - **SUPERVISOR:** DILAN ROE
SAN FRANCISCO BAY RWQCB (REGION 2)
CASEWORKER: [Cherie McCaulou](#) - **SUPERVISOR:** Cheryl L. Prowell

THIS PROJECT WAS LAST MODIFIED BY [JERRY WICKHAM](#) ON 10/16/2014 5:48:37 PM - [HISTORY](#)

THIS SITE HAS SUBMITTALS. CLICK [HERE](#) TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

CSM REPORT - [VIEW PUBLIC NOTICING VERSION OF THIS REPORT](#)

UST CLEANUP FUND CLAIM INFORMATION (DATA PULLED FROM SCUFIS)

CLAIM NO	PRIORITY	CLAIMANT	SITE ADDRESS	AMT REIMB TO DATE	AGE OF LOC	IMPACTED WELLS?	REVIEW NUM	REVIEWER	FIVE YEAR REVIEW INFORMATION		
									FUND RECOMMENDATION	TO OVERSIGHT DATE	TO CLAIMANT DATE

PROJECT INFORMATION (DATA PULLED FROM GEOTRACKER) - [MAP THIS SITE](#)

SITE NAME / ADDRESS	STATUS	STATUS DATE	RELEASE REPORT DATE	AGE OF CASE	CLEANUP OVERSIGHT AGENCIES
CATHEDRAL GARDENS (Global ID: T10000005970) 638 21ST STREET OAKLAND, CA 94612	Open - Eligible for Closure	9/3/2014	5/20/2014	0	ALAMEDA COUNTY LOP (LEAD) - CASE #: RO0003138 CASEWORKER: Jerry Wickham - SUPERVISOR: DILAN ROE SAN FRANCISCO BAY RWQCB (REGION 2) CASEWORKER: Cherie McCaulou - SUPERVISOR: Cheryl L. Prowell

STAFF NOTES (INTERNAL)

<NO STAFF NOTES ENTERED>

SITE HISTORY

An underground storage tank (UST) was discovered during excavation on the property near the sidewalk along 21st Street. At the time of discovery, the UST was filled with oily water and low viscosity petroleum hydrocarbons. The approximately 500-gallon UST was removed from the site on May 20, 2014. Multiple corrosion holes were observed in the middle and bottom of the UST. The soil underneath the UST exhibited a strong petroleum odor. Soil samples collected from the tank pit contained up to 1,100 parts per million (ppm) of total petroleum hydrocarbons (TPH) as diesel (TPHg) and 1,100 ppm TPH as bunker oil. A groundwater sample collected from the tank pit contained 4,600 parts per billion (ppb) of TPH as diesel and 4,700 ppb as bunker oil. Additional soil and groundwater sampling that was completed at the site in July and August 2014 indicated that the residual contamination was generally limited to the area of the former tank pit.

The site is currently under evaluation for case closure under the State Water Resources Control Board Low-Threat Underground Storage Tank Closure Policy.

RESPONSIBLE PARTIES

NAME	ORGANIZATION	ADDRESS	CITY	EMAIL
BENNY KWONG	CATHEDRAL GARDENS OAKLAND LP C/O EAH HOUSING	2169 EAST FRANCISCO BLVD, SUITE B	SAN RAFAEL	benny.kwong@eahhousing.org
CLINT LOFTMAN	HOUSING AUTHORITY OF CITY OF OAKLAND	1619 HARRISON STREET	OAKLAND	cloftman@oakha.org
NO CONTACT NAME	ROMAN CATHOLIC WELFARE CORPORATION OF OAKLAND	3014 LAKESHORE AVENUE	OAKLAND	

CLEANUP ACTION INFO

NO CLEANUP ACTIONS HAVE BEEN REPORTED

RISK INFORMATION

[VIEW LTCP CHECKLIST](#)

[VIEW PATH TO CLOSURE PLAN](#)

[VIEW CASE REVIEWS](#)

CONTAMINANTS OF CONCERN	CURRENT LAND USE	BENEFICIAL USE	DISCHARGE SOURCE	DATE REPORTED	STOP METHOD	NEARBY / IMPACTED WELLS
Heating Oil / Fuel Oil		GW - Municipal and Domestic Supply	Tank	5/20/2014	Close and Remove Tank	0

FREE PRODUCT	OTHER CONSTITUENTS	NAME OF WATER SYSTEM	LAST REGULATORY ACTIVITY	LAST ESI UPLOAD	LAST EDF UPLOAD	EXPECTED CLOSURE DATE	MOST RECENT CLOSURE REQUEST
NO	NO	EBMUD	9/3/2014	8/22/2014	8/22/2014		8/21/2014

CDPH WELLS WITHIN 1500 FEET OF THIS SITE

NONE

CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)

APN	GW BASIN NAME	WATERSHED NAME
008 064701901	Santa Clara Valley - East Bay Plain (2-9.04)	South Bay - East Bay Cities (20420)

COUNTY	PUBLIC WATER SYSTEM(S)
Alameda	EAST BAY MUD - 375 ELEVENTH STREET, OAKLAND, CA 94607

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER - [HIDE](#)

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
B10	7/21/2014		ND	ND	ND	ND	ND	ND
B11	7/21/2014		ND	ND	ND	ND	ND	ND
B16	8/4/2014		ND	ND	ND	ND	ND	ND
B17	8/4/2014		ND	ND	ND	ND	ND	ND
B6	7/22/2014		ND	ND	ND	ND	ND	ND
B7	7/21/2014		ND	ND	ND	ND	ND	ND
B8	7/21/2014		ND	ND	ND	ND	ND	ND
B9	7/22/2014		ND	ND	ND	ND	ND	ND
PIT WATER1	5/23/2014		ND	ND	ND	ND	ND	ND

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL - [HIDE](#)

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
B12	7/22/2014		ND	ND	ND	ND	ND	ND
B13	7/22/2014		ND	ND	ND	ND	ND	ND
B13A	8/5/2014		ND	ND	ND	ND	ND	ND
B14	7/22/2014		ND	ND	ND	ND	ND	ND

	<u>FIELD PT NAME</u>	<u>DATE</u>	<u>TPHg</u>	<u>BENZENE</u>	<u>TOLUENE</u>	<u>ETHYL-BENZENE</u>	<u>XYLENES</u>	<u>MTBE</u>	<u>TBA</u>
B15		7/22/2014		ND	ND	ND	ND	ND	ND
S1		5/20/2014		ND	ND	ND	ND	ND	ND
S2		5/20/2014		ND	ND	ND	ND	ND	ND
T1		5/20/2014		ND	ND	ND	ND	ND	ND
T2		5/20/2014		ND	ND	ND	ND	ND	ND

MOST RECENT GEO_WELL DATA - [HIDE](#) [VIEW ESI SUBMITTALS](#)

NO GEO_WELL DATA HAS BEEN SUBMITTED TO GEOTRACKER ESI FOR THIS SITE

LOGGED IN AS JWICKHAM

[CONTACT GEOTRACKER HELP](#)

ATTACHMENT 2

LTCP Checklist [Go]

GEOTRACKER HOME | MANAGE PROJECTS | REPORTS | SEARCH | LOGOUT

CATHEDRAL GARDENS (T1000005970) - MAP THIS SITE

OPEN - ELIGIBLE FOR CLOSURE

638 21ST STREET
OAKLAND, CA 94612
ALAMEDA COUNTY

ACTIVITIES REPORT

PUBLIC WEBPAGE

VIEW PRINTABLE CASE SUMMARY FOR THIS SITE

CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP (LEAD) - CASE #: RO0003138

CASEWORKER: Jerry Wickham - SUPERVISOR: DILAN ROE

SAN FRANCISCO BAY RWQCB (REGION 2)

CASEWORKER: Cherie McCaulou - SUPERVISOR: Cheryl L. Prowell

THIS PROJECT WAS LAST MODIFIED BY JERRY WICKHAM ON 9/3/2014 10:06:47 AM - HISTORY

THIS SITE HAS SUBMITTALS. CLICK HERE TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

CLOSURE POLICY

THIS VERSION IS FINAL AS OF 9/3/2014

CHECKLIST INITIATED ON 6/11/2014

CLOSURE POLICY HISTORY

General Criteria - The site satisfies the policy general criteria - CLEAR SECTION ANSWERS

YES

a. Is the unauthorized release located within the service area of a public water system?

Name of Water System: EBMUD

YES NO

b. The unauthorized release consists only of petroleum (info).

YES NO

c. The unauthorized ("primary") release from the UST system has been stopped.

YES NO

d. Free product has been removed to the maximum extent practicable (info).

FP Not Encountered YES NO

e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed (info).

YES NO

f. Secondary source has been removed to the extent practicable (info).

YES NO

g. Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15.

Not Required YES NO

h. Does a nuisance exist, as defined by Water Code section 13050.

YES NO

1. Media-Specific Criteria: Groundwater - The contaminant plume that exceeds water quality objectives is stable or decreasing in areal extent, and meets all of the additional characteristics of one of the five classes of sites listed below. - CLEAR SECTION ANSWERS

YES

EXEMPTION - Soil Only Case (Release has not Affected Groundwater - Info)

YES NO

Does the site meet any of the Groundwater specific criteria scenarios?

YES NO

1.1 - The contaminant plume that exceeds water quality objectives is <100 feet in length. There is no free product. The nearest existing water supply well or surface water body is >250 feet from the defined plume boundary.

YES NO

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air - The site is considered low-threat for the vapor-intrusion-to-air pathway if site-specific conditions satisfy items 2a, 2b, or 2c - CLEAR SECTION ANSWERS

YES

EXEMPTION - Active Commercial Petroleum Fueling Facility

YES NO

Does the site meet any of the Petroleum Vapor Intrusion to Indoor Air specific criteria scenarios?

YES NO

2a - Scenario 4 (example): Direct Measurement of Soil Gas Concentrations

YES

i. Soil Gas Sampling Locations - No Bioattenuation Zone:

- Beneath or adjacent to an existing building: Soil gas sample is collected at least 5 feet below the bottom of the building foundation.
- Future construction: The soil gas sample shall be collected from at least 5 feet below the ground surface (bgs).

YES NO

ii. Soil Gas Sampling Locations - with Bioattenuation Zone: The criteria in Column A in the Soil Gas Criteria table (page 5 of the Policy) apply if the following requirements for a bioattenuation zone are satisfied:

- Minimum of 5 feet of soil between the soil vapor measurement and the foundation of an existing or ground surface of future construction.
- TPH (TPHg + TPHd) is <100 mg/kg (measured in at least two depths within the 5-ft zone)
- Oxygen is >= 4% measured at the bottom of the 5-ft zone.

YES NO
YES NO
YES NO

3. Media Specific Criteria: Direct Contact and Outdoor Air Exposure - The site is considered low-threat for direct contact and outdoor air exposure if it meets 1, 2, or 3 below. - CLEAR SECTION ANSWERS

YES

EXEMPTION - The upper 10 feet of soil is free of petroleum contamination

YES NO

Does the site meet any of the Direct Contact and Outdoor Air Exposure criteria scenarios?

YES NO

3.1 - Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in the following table (LINK) for the specified depth below ground surface.

YES NO

Additional Information

This case should be kept OPEN in spite of meeting policy criteria.

YES NO

Has this LTCP Checklist been updated for FY 14/15?

YES NO

SPELL CHECK

Save Form as Partially Completed

Save Form as Complete

LOGGED IN AS JWICKHAM

CONTACT GEOTRACKER HELP

ATTACHMENT 3

**ATTACHMENT 3
LTCP GROUNDWATER SPECIFIC CRITERIA**

LTCP Groundwater Specific Scenario under which case was closed: Scenario 1

Site Data		LTCP Scenario 1 Criteria	LTCP Scenario 2 Criteria	LTCP Scenario 3 Criteria	LTCP Scenario 4 Criteria
Plume Length	<100 feet	<100 feet	<250 feet	<250 feet	<1,000 feet
Free Product	No free product	No free product	No free product	Removed to maximum extent practicable	No free product
Plume Stable or Decreasing	No plume identified	Stable or decreasing	Stable or decreasing	Stable or decreasing for minimum of 5 Years	Stable or decreasing
Distance to Nearest Water Supply Well	>1,000 feet	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Distance to Nearest Surface Water and Direction	2,500 feet crossgradient	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Property Owner Willing to Accept a Land Use Restriction?	Not applicable for groundwater specific criteria	Not applicable	Not applicable	Yes	Not applicable

GROUNDWATER CONCENTRATIONS

Constituent	Historic Site Maximum (µg/L)	Current Site Maximum (µg/L)	LTCP Scenario 1 Criteria (µg/L)	LTCP Scenario 2 Criteria (µg/L)	LTCP Scenario 3 Criteria (µg/L)	LTCP Scenario 4 Criteria (µg/L)
Benzene	<0.5	<0.5	No criteria	3,000	No criteria	1,000
MTBE	<0.5	<0.5	No criteria	1,000	No criteria	1,000

Scenario 5: If the site does not meet scenarios 1 through 4, has a determination been made that under current and reasonably expected future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame?

ATTACHMENT 4

**ATTACHMENT 4
LTCP VAPOR SPECIFIC CRITERIA**

LTCP Vapor Specific Scenario under which case was closed: Scenario 3A and Scenario 4

Active Fueling Station		Not applicable					
Site Data		LTCP Scenario 1 Criteria	LTCP Scenario 2 Criteria	LTCP Scenario 3A Criteria	LTCP Scenario 3B Criteria	LTCP Scenario 3C Criteria	LTCP Scenario 4 Criteria
Unweathered LNAPL	No LNAPL	LNAPL in groundwater	LNAPL in soil	No LNAPL	No LNAPL	No LNAPL	No criteria
Thickness of Bioattenuation Zone Beneath Foundation	7 feet	≥30 feet	≥30 feet	≥5 feet	≥10 feet	≥5 feet	≥5 feet
Total TPH in Soil in Bioattenuation Zone	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg
Maximum Current Benzene Concentration in Groundwater	<0.5 µg/L	No criteria	No criteria	<100 µg/L	≥100 and <1,000 µg/L	<1,000 µg/L	No criteria
Oxygen Data within Bioattenuation Zone	No oxygen data	No criteria	No criteria	No oxygen data or <4%	No oxygen data or <4%	≥4% at lower end of zone	≥4% at lower end of zone
Depth of soil vapor measurement beneath foundation	5 feet	No criteria	No criteria	No criteria	No criteria	No criteria	≥5 feet

SCENARIO 4 DIRECT MEASUREMENT OF SOIL VAPOR CONCENTRATIONS

Site Soil Vapor Data			No Bioattenuation Zone		Bioattenuation Zone	
Constituent	Historic Maximum (µg/m ³)	Current Maximum (µg/m ³)	Residential	Commercial	Residential	Commercial
Benzene	<7.9	<7.9	<85	<280	<85,000	<280,000
Ethylbenzene	<11	<11	<1,100	<3,600	<1,100,000	<3,600,000
Naphthalene	<2.5	<2.5	<93	<310	<93,000	<310,000

If the site does not meet scenarios 1 through 4, does a site-specific risk assessment for the vapor intrusion pathway demonstrate that human health is protected?

If the site does not meet scenarios 1 through 4, has a determination been made that petroleum vapors from soil or groundwater will have no significant risk of adversely affecting human health?

ATTACHMENT 5

**ATTACHMENT 5
LTCP DIRECT CONTACT AND OUTDOOR AIR EXPOSURE CRITERIA**

LTCP Direct Contact and Outdoor Air Exposure Specific Scenario under which case was closed: Maximum concentrations of petroleum hydrocarbons are less than or equal to those in Table 1 below

Are maximum concentrations less than those in Table 1 below? **Yes**

Constituent		Residential		Commercial/Industrial		Utility Worker
		0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 10 feet bgs (mg/kg)
Site Maximum	Benzene	----	<0.005	----	----	<0.005
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	----	<0.005	----	----	<0.005
LTCP Criteria	Ethylbenzene	≤21	≤32	≤89	≤134	≤314
Site Maximum	Naphthalene	----	<0.01	----	----	<0.01
LTCP Criteria	Naphthalene	≤9.7	≤9.7	≤45	≤45	≤219
Site Maximum	PAHs	----	----	----	----	----
LTCP Criteria	PAHs	≤0.063	NA	≤0.68	NA	≤4.5

If maximum concentrations are greater than those in Table 1, are they less than levels from a site-specific risk assessment? -----

If maximum concentrations are greater than those in Table 1, has a determination been made that the concentrations of petroleum in soil will have no significant risk of adversely affecting human health as a result of controlling exposure through the use of mitigation measures or through the use of institutional controls? -----

ATTACHMENT 6

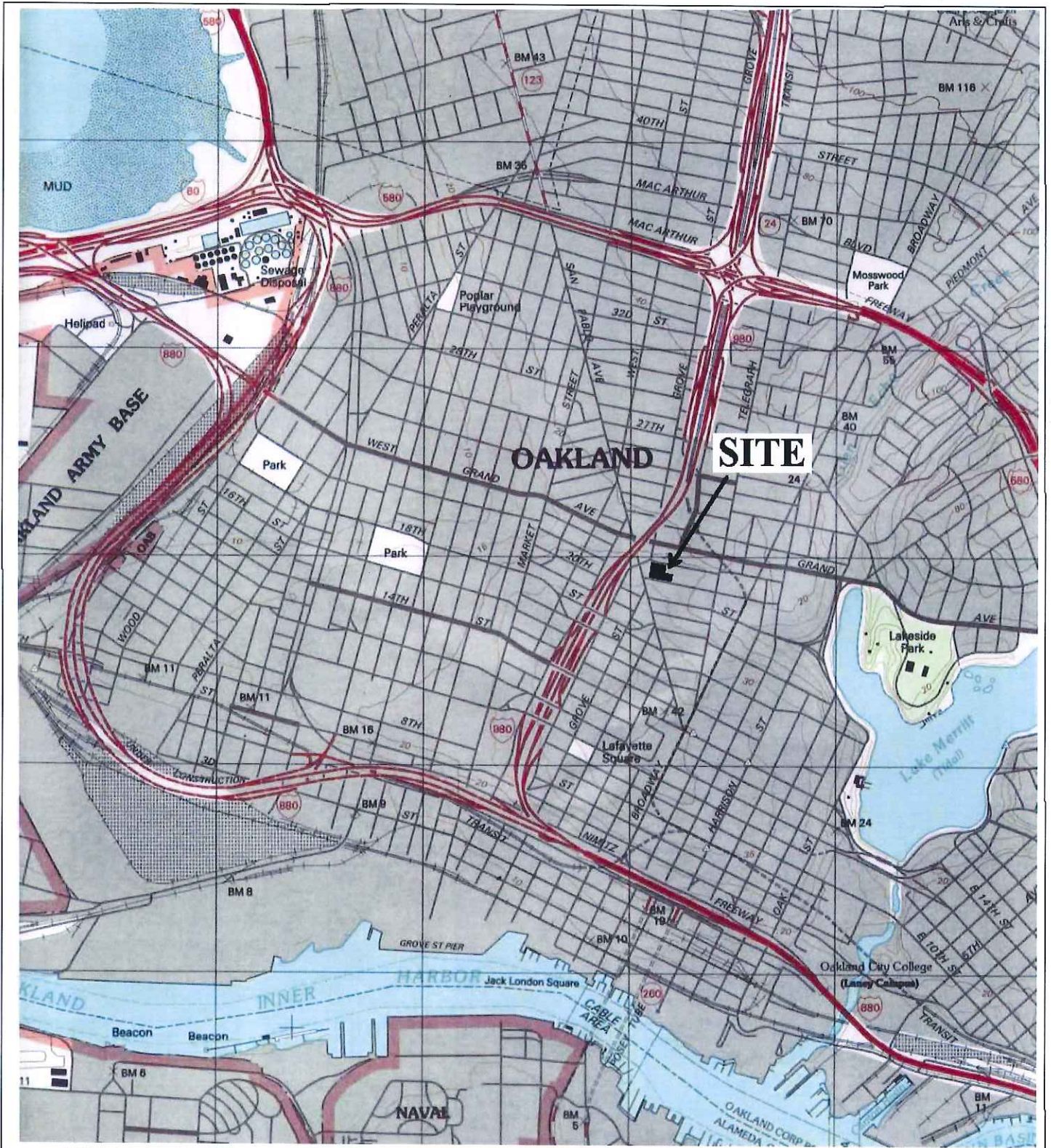


Figure 1
 Site Location Map
 Cathedral Gardens
 638 21st Street
 Oakland, California

Base Map From:
 U.S. Geological Survey
 Oakland West, California
 7.5-Minute Quadrangle
 Photorevised 1993

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

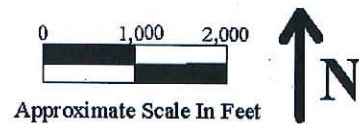




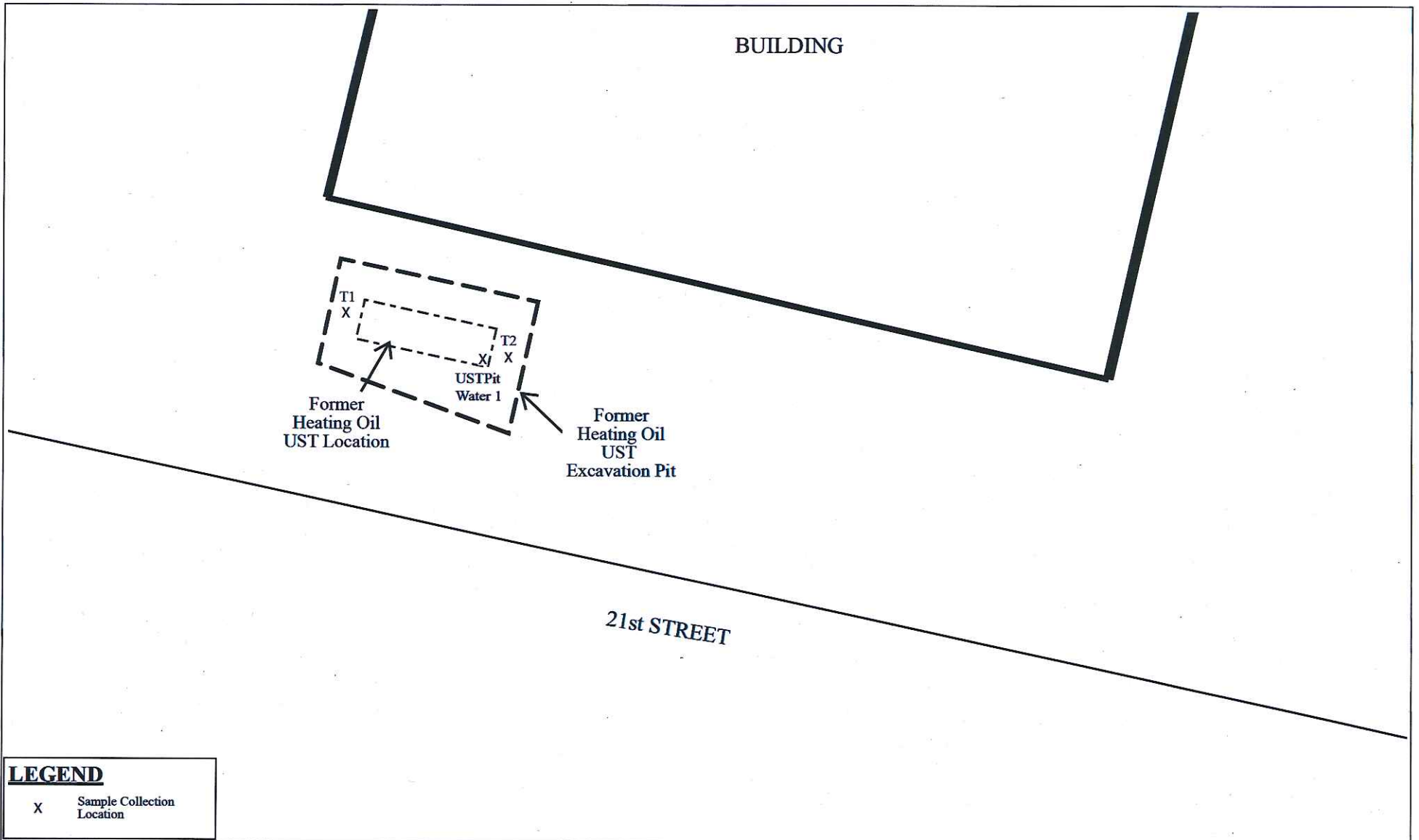
Figure 2
 Site Plan Aerial Photograph Showing Approximate UST Location
 Cathedral Gardens
 638 21st Street
 Oakland, California

Base Map From:
 Basics Environmental, Limited Phase II
 Environmental Site Sampling Report,
 dated June 27, 2011, and Google Earth, image dated
 September 2012

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

0 25 50
 Approximate Scale In Feet





LEGEND
 X Sample Collection Location

Figure 3
 Site Plan Detail Showing Former UST and Sample Collection Locations
 Cathedral Gardens
 638 21st Street
 Oakland, California

Base Map From:
 Basics Environmental, Limited Phase II
 Environmental Site Sampling Report,
 dated June 27, 2011

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

0 5 10

 Approximate Scale In Feet

N



LEGEND

B11

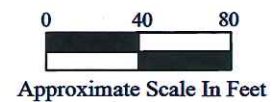
⊗ Borehole Location

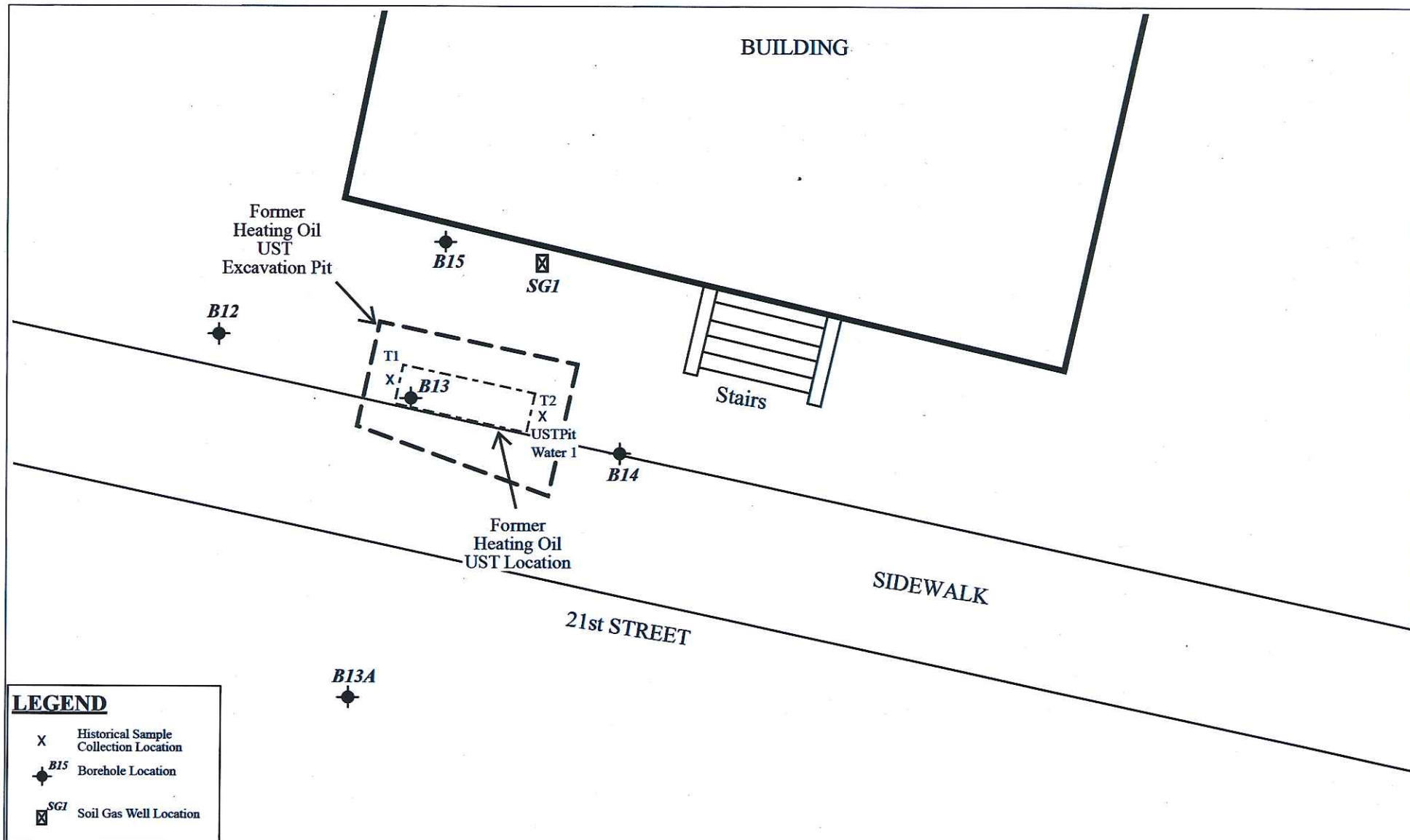
• Refusal Location

Figure 3
 Site Vicinity Aerial Photograph Showing Groundwater Grab Sample Collection Locations
 Cathedral Gardens
 638 21st Street
 Oakland, California

Base Map From:
 U.S. Geological Survey
 Oakland West, California
 7.5-Minute Quadrangle
 Photorevised 1993

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





LEGEND

- X Historical Sample Collection Location
- B15 Borehole Location
- SG1 Soil Gas Well Location

Figure 4
Site Plan Detail Showing Former UST and Sample Collection Locations
Cathedral Gardens
638 21st Street
Oakland, California

Base Map From:
 Basics Environmental, Limited Phase II
 Environmental Site Sampling Report,
 dated June 27, 2011

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

0 5 10

 Approximate Scale In Feet

ATTACHMENT 7

Table 1
Summary of Borehole Soil Sample Analytical Results

Sample ID	Sample Collection Date	Sample Collection Depth (ft bgs)	TPH-G	TPH-D	TPH-MO	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	Other VOCs by EPA Method 8260B
B12-10	7/22/2014	10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B12-15	7/22/2014	15.0	ND<1.0	1.0, b	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B12-20	7/22/2014	20.0	ND<1.0	1.3, b	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B13-10	7/22/2014	10.0	30, a	1,300	480	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	All ND, except sec-Butyl benzene = 0.11
B13-15	7/22/2014	15.0	120, a	3,100	1,300	ND<0.033	ND<0.033	ND<0.033	ND<0.033	ND<0.033	All ND, except sec-Butyl benzene = 0.39
B13-20	7/22/2014	20.0	ND<1.0	1.0, b	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B13A-10	8/5/2014	10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B13A-15	8/5/2014	15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B13A-20	8/5/2014	20.0	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B14-10	7/22/2014	10.0	ND<1.0	1.9, b,c	6.5, b,c	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B14-15	7/22/2014	15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B14-20	7/22/2014	20.0	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B15-10	7/22/2014	10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B15-15	7/22/2014	15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
B15-20	7/22/2014	20.0	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND
LTCP	Residential Residential Utility Worker						5-10' = 2.8 0-10' = 14		5-10' = 32 0-10' = 314		5-10' = Naphthalene = 9.7 0-10' = Naphthalene = 219
ESL ¹	deper res		500	110	500	0.023	0.044	2.9	3.3	2.3	sec-Butyl benzene = No Value,
ESL ²	deeper comm		770	110	1,000	0.023	0.044	2.9	3.3	2.3	sec-Butyl benzene = No Value,
<p>NOTES:</p> <p>TPH-G = Total Petroleum Hydrocarbons as Gasoline.</p> <p>TPH-D = Total Petroleum Hydrocarbons as Diesel.</p> <p>TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.</p> <p>MTBE = Methyl tertiary-butyl ether.</p> <p>VOCs = Volatile Organic Compounds.</p> <p>PCE = Tetrachloroethene.</p> <p>MEK = Methyl Ethyl Ketone (2-Butanone).</p> <p>ft bgs = feet below ground surface.</p> <p>ND = Not detected.</p> <p>a = Laboratory Note: Strongly aged gasoline or diesel range compounds are significant in the TPH-G chromatogram.</p> <p>b = Laboratory Note: Diesel range compounds are significant, no recognizable pattern.</p> <p>c = Laboratory Note: Oil range compounds are significant.</p> <p>LTCP = Low Threat Closure Policy, by State Water Resources Control Board, effective August 17, 2012, from Table 1 - Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health, Residential land use and Utility Worker.</p> <p>ESL¹ = Environmental Screening Level, by San Francisco Bay - Regional Water Quality Control Board, updated December 2013, from Table C-1 - Deep Soil Screening Levels, groundwater is a current or potential drinking water resource, Residential Land Use.</p> <p>ESL² = Environmental Screening Level, by San Francisco Bay - Regional Water Quality Control Board, updated December 2013, from Table C-2 - Deep Soil Screening Levels, groundwater is a current or potential drinking water resource, Commercial/Industrial Land Use.</p> <p>Hi-lighted depths include the interval 5.0-10.0 feet.</p> <p>Results in bold exceed their respective ESL¹ value.</p> <p>Underlined results exceed their respective ESL² value.</p> <p>Results, LTCP, and ESL values, reported in µg/L (micrograms per Liter), unless otherwise indicated.</p>											

Table 3A
Summary of Soil Gas Sample Analytical Results - TPH-G and VOCs

Sample ID	Sample Date	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	m,p-Xylenes	o-Xylenes	Naphthalene	1,1-DFA	Percent Shroud	2-Propanol	Percent Shroud
SG1	7/28/2014	ND<5,000	ND<510	ND<8.9	ND<7.9	ND<9.3	ND<11	ND<11	ND<11	ND<2.5	10,000, a	0	ND<240	0
SG1-DUP	7/28/2014	NA	ND<510	ND<8.9	ND<7.9	ND<9.3	ND<11	ND<11	ND<11	NA	14,000, a	0	NA	NA
SG1-REP	7/28/2014	ND<5,000	NA	NA	NA	NA	NA	NA	NA	ND<2.5	NA	NA	ND<240	0
LTCP														
<i>(No Bioattenuation Zone)</i>		<i>No Value</i>	<i>No Value</i>	<i>No Value</i>	85	<i>No Value</i>	1,100	<i>No Value</i>	<i>No Value</i>	93	<i>No Value</i>		<i>No Value</i>	
<i>Residential</i>														
ESL ¹		68,000	300,000	4,700	42	160,000	490	Combined = 52,000		36	<i>No Value</i>		<i>No Value</i>	
ESL ²		570,000	2,500,000	47,000	420	1,300,000	4,900	Combined = 440,000		360	<i>No Value</i>		<i>No Value</i>	
Notes:														
TPH-D = Total Petroleum Hydrocarbons as Diesel.														
TPH-G = Total Petroleum Hydrocarbons as Gasoline.														
MTBE = Methyl-tert-Butyl Ether.														
1,1-DFA = 1,1-Difluoroethane.														
ND = Not Detected.														
NA = Not Analyzed.														
a = Laboratory Note: exceeds instrument calibration range.														
LTCP = Low Threat Closure Policy, developed by State Water Resources Control Board, effective August 17, 2012, from Appendix 4 Soil Gas Criteria Direct Measurement of Soil Gas Concentration (No Bioattenuation Zone) Residential Land Use.														
ESL ¹ = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013 from Table E – Indoor Air and Soil Gas (Vapor Intrusion Concerns) Shallow Soil Gas Screening Levels for Residential Land Use.														
ESL ² = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013 from Table E – Indoor Air and Soil Gas (Vapor Intrusion Concerns) Shallow Soil Gas Screening Levels for Commercial/Industrial Land Use.														
Results and LTCP values reported in micrograms per cubic meter (µg/m ³), unless otherwise indicated.														

Table 2
Summary of Borehole Groundwater Sample Analytical Results

Sample ID	Sample Collection Date	TPH-G	TPH-D	TPH-MO	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	Other VOCs by EPA Metod 8260B
B6-W	7/22/2014	ND<50	ND<50	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	All ND
B7-W	7/21/2014	ND<50	ND<150	ND<750	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	All ND, except Chloroform = 0.82
B8-W	7/21/2014	ND<50	ND<50	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	All ND
B9-W	7/22/2014	ND<50	ND<100	ND<500	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	All ND
B10-W	7/21/2014	ND<50	ND<50	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	All ND
B11-W	7/21/2014	ND<50	230, a,b	1,300, a,b	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	All ND
B16-W	8/4/2014	ND<50	ND<50	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	All ND
B17-W	8/4/2014	ND<50	ND<50	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	All ND
LTCP Groundwater Specific Criteria	Scenario 2 Scenario 4	None None	None None	None None	1,000 1,000	3,000 1,000	None None	None None	None None	None None
ESL ¹		100	100	100	5.0	1.0	40	30	20	Chloroform = 80
ESL ²		No Value	No Value	No Value	9,900	27	95,000	310	37,000	Chloroform = 170
ESL ³		No Value	No Value	No Value	100,000	270	No Value	3,100	No Value	Chloroform = 1,700
NOTES:										
TPH-G = Total Petroleum Hydrocarbons as Gasoline.										
TPH-D = Total Petroleum Hydrocarbons as Diesel.										
MTBE = Methyl tertiary-butyl ether.										
VOCs = Volatile Organic Compounds.										
ND = Not detected.										
a = Laboratory Note: Oil range compounds are significant.										
b = Laboratory Note: Diesel range compounds are significant; no recognizable pattern.										
LTCP = Low Threat Closure Policy, by State Water Resources Control Board, effective August 17, 2012, from Groundwater Specific Criteria Scenarios 2 and 4.										
ESL ¹ = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table F-1a – Groundwater Screening Levels, groundwater is a current or potential drinking water resource.										
ESL ² = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table E-1 – Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion. Fine-Coarse Mix. Residential Land Use.										
ESL ³ = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table E-1 – Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion. Fine-Coarse Mix. Commercial/Industrial Land Use.										
Results in bold exceed their respective ESL ¹ values.										
Results, LTCP, and ESL values, reported in µg/L (micrograms per Liter), unless otherwise indicated.										

TABLE 3
SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS

Sample ID	Sample Date	TPH-G	TPH-SS	TPH-K	TPH-D	TPH-BO	TPH-MO	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other VOCs by EPA 8260B
UST Pit Water 1	5/23/2014	110, a	130, a	3,300, b	4,600, b	4,700, b	1,700, b	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	All ND, except Naphthalene = 1.0, sec-Butyl benzene = 2.7
ESL ¹		100	100	100	100	100	100	0.023	0.044	2.9	3.3	2.3	Naphthalene = 6.1, sec-Butyl benzene = No Value
ESL ²		None	None	None	None	None	None	9,900	27	95,000	310	37,000	Naphthalene = 160, sec-Butyl benzene = No Value,
NOTES													
TPH-G = Total Petroleum Hydrocarbons as Gasoline.													
TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.													
TPH-K = Total Petroleum Hydrocarbons as Kerosene.													
TPH-D = Total Petroleum Hydrocarbons as Diesel.													
TPH-BO = Total Petroleum Hydrocarbons as Bunker Oil.													
TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.													
MTBE = Methyl-tert-Butyl Ether.													
ND = Not Detected.													
a = Laboratory Analytical Note: TPH pattern that does not appear to be derived from gasoline (Stoddard solvent/ mineral spirits?).													
b = Laboratory Analytical Note: unmodified or weakly modified diesel is significant.													
ESL ¹ = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table F-1a – Groundwater Screening Levels, groundwater is a current or potential drinking water resource.													
ESL ² = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table E-1 – Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion (Fine-Coarse Mix). Residential Land Use.													
Values in bold exceed their respective ESL ¹ values.													
All results and ESLs reported in milligrams per kilogram (mg/kg) unless otherwise noted.													

TABLE 1
SUMMARY OF UST PIT BOTTOM SOIL SAMPLE LABORATORY ANALYTICAL RESULTS

Sample ID	Sample Date	Sample Depth (Feet)	TPH-G	TPH-SS	TPH-K	TPH-D	TPH-BO	TPH-MO	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other VOCs by EPA 8260B
T1-9.5	5/20/2014	9.5	24, a	51, a	570, b	790, b	810, b	290, b	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND, except n-Butyl benzene = 0.012, sec-Butyl benzene = 0.11, 4-Isopropyl toluene = 0.0064, n-Propyl benzene = 0.0066
T2-9.5	5/20/2014	9.5	21, a	47, a	970, b	1,100, b	1,100, b	470, b	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	All ND, except sec-Butyl benzene = 0.15
T2-11.5	5/20/2014	11.5	20, a	41, a	<u>790, b</u>	<u>1,100, b</u>	<u>1,100, b</u>	380, b	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND, except sec-Butyl benzene = 0.15, 4-Isopropyl toluene = 0.015
ESL ¹			100	100	100	100	100	100	0.023	0.044	2.9	3.3	2.3	n-Butyl benzene = No Value, sec-Butyl benzene = No Value, 4-Isopropyl toluene = No Value, n-Propyl benzene = No Value
ESL ²			500	500	110	110	500	500	0.023	0.044	2.9	3.3	2.3	n-Butyl benzene = No Value, sec-Butyl benzene = No Value, 4-Isopropyl toluene = No Value, n-Propyl benzene = No Value
NOTES														
TPH-G = Total Petroleum Hydrocarbons as Gasoline.														
TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.														
TPH-K = Total Petroleum Hydrocarbons as Kerosene.														
TPH-D = Total Petroleum Hydrocarbons as Diesel.														
TPH-BO = Total Petroleum Hydrocarbons as Bunker Oil.														
TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.														
MTBE = Methyl-tert-Butyl Ether.														
ND = Not Detected.														
a = Laboratory Analytical Note: strongly aged gasoline or diesel range compounds are significant in the TPH-G chromatogram.														
b = Laboratory Analytical Note: unmodified or weakly modified diesel is significant.														
of drinking water. Residential land use.														
ESL ¹ = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water. Residential land use.														
ESL ² = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table C-1 – Deep Soil Screening Levels, Groundwater is a current or potential source of drinking water. Residential land use.														
Values in bold exceed their respective ESL¹ values.														
<u>Underlined values exceed their respective ESL² values.</u>														
All results and ESLs reported in milligrams per kilogram (mg/kg) unless otherwise noted.														