



April 27, 2016

Karel Detterman
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

RECEIVED

By Alameda County Environmental Health 7:47 am, Jun 07, 2017

Re: **Site Conceptual Model (SCM) and Data Gap Workplan**

7701 Bancroft Avenue
Oakland, California 94605
Fuel Leak Case No. RO0003115
Global ID T10000004796

Dear Ms. Detterman:

On behalf of Bancroft and 77th, LLC, Pangea Environmental Services, Inc. (Pangea) has prepared this *Site Conceptual Model (SCM) and Data Gap Workplan* (Workplan) for evaluating site conditions with respect to criteria of the State Water Resources Control Board's *Low-Threat Closure Policy*. This Workplan was requested in your January 5, 2016 letter to identify data gaps and propose site assessment.

If you have any questions or comments, please call me at (510) 435-8664 or email at briddell@pangeaenv.com.

Sincerely,

Pangea Environmental Services, Inc.

Bob Clark-Riddell, P.E.
Principal Engineer

Attachment: *Site Conceptual Model (SCM) and Data Gap Workplan*

cc: Bancroft and 77th, LLC, Attn: Ms. Victoria Vela, 12020 Garfield Avenue, South Gate CA 90280
Kee S. & Ip C. Lee, 4461 Cerritos Avenue, Cypress CA 90630
National Convenience Stores, Inc., c/o CST Brands, Inc., Attn: Mr. Gerard Sonnier, One Valero Way, Building D, Suite 200, San Antonio TX 78249 (Gerard.Sonnier@CSTbrands.com)
Ms. Carryl MacLeod, Chevron Environmental Management Co., 6101 Bollinger Canyon Road, San Ramon CA 94583 (CMacleod@chevron.com)
Bank of America NT&SA, c/o National Convenience Stores, Inc., 100 N. Tryon Street, Charlotte NC 28202
SWRCB Geotracker (electronic copy)

PANGEA Environmental Services, Inc.

1710 Franklin Street, Suite 200, Oakland, CA 94612 Telephone 510.836.3700 Facsimile 510.836.3709 www.pangeaenv.com



SITE CONCEPTUAL MODEL (SCM) AND DATA GAP WORKPLAN

**7701 Bancroft Avenue
Oakland, California 94605
Fuel Leak Case No. RO0003115
Global ID T10000004796**

April 27, 2016

Prepared for:

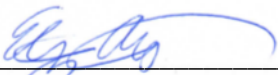
Bancroft and 77th, LLC
Attn: Victoria Vela
6500 Flotilla St.
Los Angeles, CA 90040

Prepared by:


Pangea Environmental Services, Inc.
1710 Franklin Street, Suite 200
Oakland, California 94612

Written by:





Elizabeth Avery
Project Geologist



Bob Clark-Riddell, P.E.
Principal Engineer

PANGEA Environmental Services, Inc.

INTRODUCTION

On behalf of Bancroft and 77th, LLC, Pangea Environmental Services, Inc. (Pangea) has prepared this *Site Conceptual Model (SCM) and Data Gap Workplan* (Workplan) for evaluating site conditions with respect to criteria of the State Water Resources Control Board's *Low-Threat Closure Policy*. This Workplan was requested in your January 5, 2016 letter (Appendix B) to identify data gaps and propose site assessment.

SITE BACKGROUND

The site is a vacant lot located in a residential neighborhood with an adjacent liquor store (Figure 1). According to reviewed documentation, the subject site was occupied by a Wilshire Oil Company (Gulf) gasoline service station from the 1962 to 1969 (Appendix A) and a Stop N Go convenience store from 1974 to approximately the mid 1980's. No records were apparently found regarding the installation, operation, or removal of the underground storage tanks (USTs), although building department records indicate the demolition of the site building 1997, leaving the lot vacant since that time.

A *Limited Phase II Soil and Groundwater Investigation Letter Report* dated April 16, 2012 was prepared on behalf of Union Bank by Geologica Inc. A geophysical survey was conducted and seven direct-push soil borings were drilled onsite for evaluation of the presence of historic USTs and residual petroleum hydrocarbon in soil and/or groundwater at the site. While the geophysical survey did not identify USTs, the survey identified an anomaly in the northern corner of the property presumed as the former UST location and identified suspected reinforced concrete pad (potential dispenser location). Hydrocarbon impact detected in soil and groundwater indicates that an unauthorized release from the underground storage tanks (USTs) had occurred at the site. Concentrations of up to 110 milligrams per kilogram (mg/kg) total petroleum hydrocarbons (TPH) as gasoline (TPHG), 1,500 mg/kg TPH as diesel (TPHD), 4,500 mg/kg TPH as motor oil (TPHmo), and 0.019 mg/kg ethylbenzene were documented in soil samples. Concentrations of up to 150 micrograms per liter (ug/l) TPHD and 370 ug/l TPHmo were documented in grab groundwater samples. The TPH impact in soil was found at 4 ft and 14 ft below grade surface (bgs) at the site. The TPH impact in grab groundwater was found in boring GP-1 and GP-2 located near the apparent former UST location. Groundwater was first encountered at depths of 13 to 18 ft bgs, and static was estimated between 12 and 14 ft bgs. Soil was relatively low permeability clayey soil.

The release was referred to the Alameda County Environmental Health - Local Oversight Program (ACEH-LOP), the lead agency for oversight of investigation and cleanup of petroleum hydrocarbon releases in Alameda County. ACEH-LOP subsequently listed the subject case on our data base of fuel leak sites. The February 10, 2014 letter from ACEH-LOP requested a *Data Gap Investigation Work Plan* supported by a Site Conceptual Model (SCM) to guide further site corrective action.

To facilitate evaluation of shallow soil gas conditions, on July 7, 2014, Pangea coordinated installation of three soil gas probes (SG-1 through SG-3). Shallow soil gas sampling was performed to evaluate potential human health impacts during future site use. All hydrocarbon and VOC concentrations detected in *soil gas* during this investigation were below applicable ESLs and LTCP criteria. The oxygen concentrations in soil gas represent a 'bioattenuation zone' that provides biodegradation of residual hydrocarbon vapors based on LTCP criteria. Results are reported in the *Soil Gas Sampling Report* dated December 18, 2015.

SITE CONCEPTUAL MODEL AND DATA GAP ASSESSMENT

Pangea prepared a site conceptual model (SCM) and data gap evaluation using the tabular format requested by your agency (Table 4). The SCM is a representation of site conditions based on available data, and summarizes important site issues and provides a guide for future assessment and/or remediation. As shown on Table 4, the data gaps for the site data involve onsite assessment of potential presence of free product and waste oil, fill material quality, and secondary source, and offsite plume delineation. A Conceptual Site Model Chart and Exposure Pathway Analysis (Figure 4) was prepared to illustrate incomplete and complete exposure pathways for this site. Historic soil, groundwater, and soil gas data are shown on Tables 1, 2, and 3, respectively.

PROPOSED INVESTIGATION

The objective of the proposed investigation is to further assess the source area and to delineate the extent of the groundwater plume and evaluate the potential for surface water impact. The proposed scope of work to accomplish the investigation objectives is detailed below. The proposed sampling locations are shown on Figures 2 and 3.

Task 1 - Pre-Field Activities

Prior to initiating field activities, Pangea will conduct the following tasks:

- Obtain permits from Alameda County Public Works (ACPWA) and City of Oakland as necessary;
- Pre-mark the boring locations with white paint, notify Underground Service Alert (USA) of the drilling and sampling activities at least 48 hours before work begins, and conduct private line locating as merited;
- Prepare a site-specific health and safety plan to educate personnel and minimize their exposure to potential hazards related to site activities; and
- Coordinate with drilling and laboratory subcontractors and other involved parties.

Task 2 – Source Area Assessment

For assessment of potential presence of free product and waste oil at the site, fill material quality, and secondary source, Pangea proposes to advance three soil borings in the source area. The proposed boring locations are shown on Figures 2 and 3. Soil borings will be advanced to first encountered groundwater, anticipated between 13 and 18 ft bgs. Soil samples will be collected from between 0 and 5 ft bgs, between 5 and 10 ft bgs, and between 10 and 15 ft bgs. A grab groundwater sample will be collected from each boring. All field activities will be conducted in general accordance with the Standard Operating Procedures (SOPs) provided in Appendix C.

Pangea will conduct site investigation using a direct-push sampling rig. All borings will first be hand augered to five feet to avoid damaging subsurface utilities. The direct-push sampling rig will be equipped with a hydraulic hammer and steel drive rods to advance the borings to the proposed total depth. With hydraulic-push drilling, continuous soil collection is conducted using acetate liners and samples are typically collected on four foot intervals. Soil samples will be obtained by cutting 6-inch subsections, trimming the excess soil from the ends, and capping the ends with Teflon® tape and plastic caps. Additional soil samples may be collected at lithologic changes. The soil will be classified according to the Unified Soil Classification System (USCS) and screened for field indications of petroleum hydrocarbons using visual and olfactory observations.

Grab groundwater samples will be collected from each sampling point using a temporary PVC casing and a disposable bailer, tubing with check valve, or a peristaltic pump. Completed borings will be tremie-grouted from the bottom of the hole to the surface.

All site investigation activities will be performed under the supervision of a California Registered Civil Professional Engineer (P.E.). Additional assessment procedures are presented in our Standard Operating Procedures (Appendix C).

Select soil samples and grab groundwater samples will be analyzed for the following:

- Total petroleum hydrocarbons as gasoline (TPHg), diesel (TPHd), and motor oil (TPHmo) by EPA Method 8015 with silica gel cleanup;
- Benzene, toluene, ethylbenzene, xylenes (BTEX);
- Naphthalene and fuel oxygenates by EPA Method 8260; and
- PAHs by EPA Method 8270.

Fill material within the former UST cavity will be analyzed for the following:

- VOCs by EPA Method 8021 or 8260;
- Semi-VOCs by EPA Method 8270C;
- PCBs by EPA Method 8082 or 8080A;
- Heavy metals including lead by EPA Method 6010B and 7471A; and
- Asbestos by OSHA Method ID-191.

Task 3 – Plume Delineation

For additional plume delineation, Pangea proposes to advance three soil borings between the source area and Arroyo Viejo Creek, as shown on Figures 2 and 3. Soil samples will be collected from between 0 and 5 ft bgs and between 5 and 10 ft bgs. A grab groundwater sample will be collected from first encountered water in each boring. All field activities will be conducted in general accordance with the Standard Operating Procedures (SOPs) provided in Appendix C.

Pangea will conduct site investigation using a direct-push sampling rig. All borings will first be hand augered to five feet to avoid damaging subsurface utilities. The direct-push sampling rig will be equipped with a hydraulic hammer and steel drive rods to advance the borings to the proposed total depth. Soil borings will be advanced to first encountered groundwater, which is anticipated to be present between 13 and 18 ft bgs. Grab groundwater samples will be collected from each sampling point using a temporary PVC casing and a disposable bailer, tubing with check valve, or a peristaltic pump. Completed borings will be tremie-grouted from the bottom of the hole to the surface.

All site investigation activities will be performed under the supervision of a California Registered Civil Professional Engineer (P.E.). Additional assessment procedures are presented in our Standard Operating Procedures (Appendix C).

Select soil samples and grab groundwater samples will be analyzed for the following:

- Total petroleum hydrocarbons as gasoline (TPHg), diesel (TPHd), and motor oil (TPHmo) by EPA Method 8015 with silica gel cleanup;
- Benzene, toluene, ethylbenzene, xylenes (BTEX);
- Naphthalene and fuel oxygenates by EPA Method 8260; and
- PAHs by EPA Method 8270.

Task 4 – Waste Management and Disposal

Soil cuttings and other investigation-derived waste will be stored onsite in Department of Transportation (DOT)-approved 55-gallon drums. The drums and their contents will be held onsite pending laboratory analytical results. Upon receipt of the analytical reports, the waste will be transported to an appropriate disposal/recycling facility.

Task 5 – Report Preparation

Upon completion of assessment activities, Pangea will prepare a technical report. The report will describe the investigation activities, present tabulated analytical data, and offer conclusions and recommendations.

ATTACHMENTS

Figure 1 – Site Map

Figure 2 – TPHmo in Soil and Proposed Soil Boring Locations

Figure 3 – TPHmo in Groundwater and Proposed Soil Boring Locations

Figure 4 – Conceptual Site Model Chart and Exposure Pathway Analysis

Table 1 – Soil Analytical Data

Table 2 – Groundwater Analytical Data

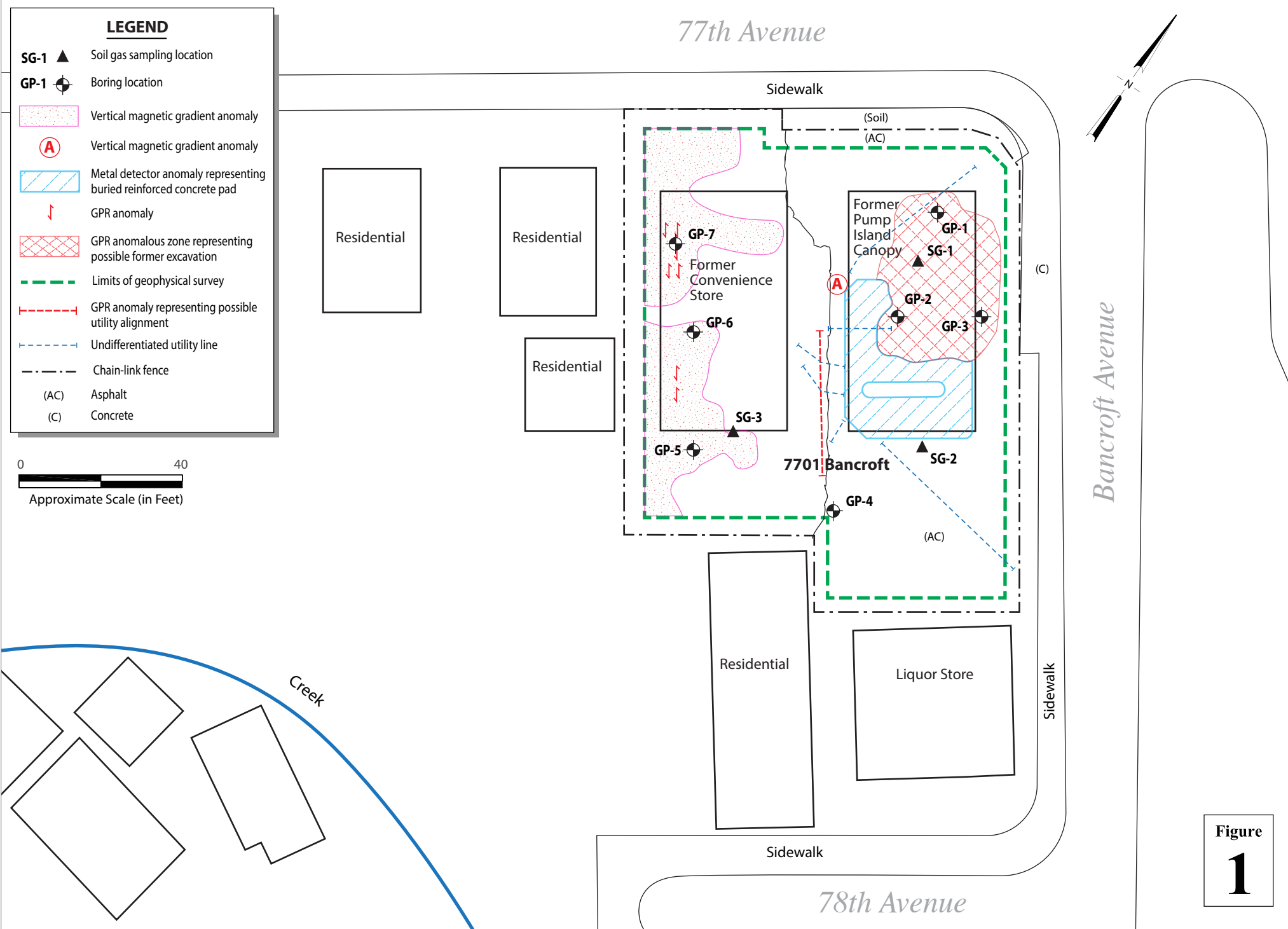
Table 3 – Soil Gas Analytical Data

Table 4 – Site Conceptual Model and Data Gap Evaluation

Appendix A – Historical Aerial Photograph

Appendix B – Regulatory Correspondence

Appendix C – Standard Operating Procedures



7701 Bancroft
Oakland, California



Figure
1

Site Map

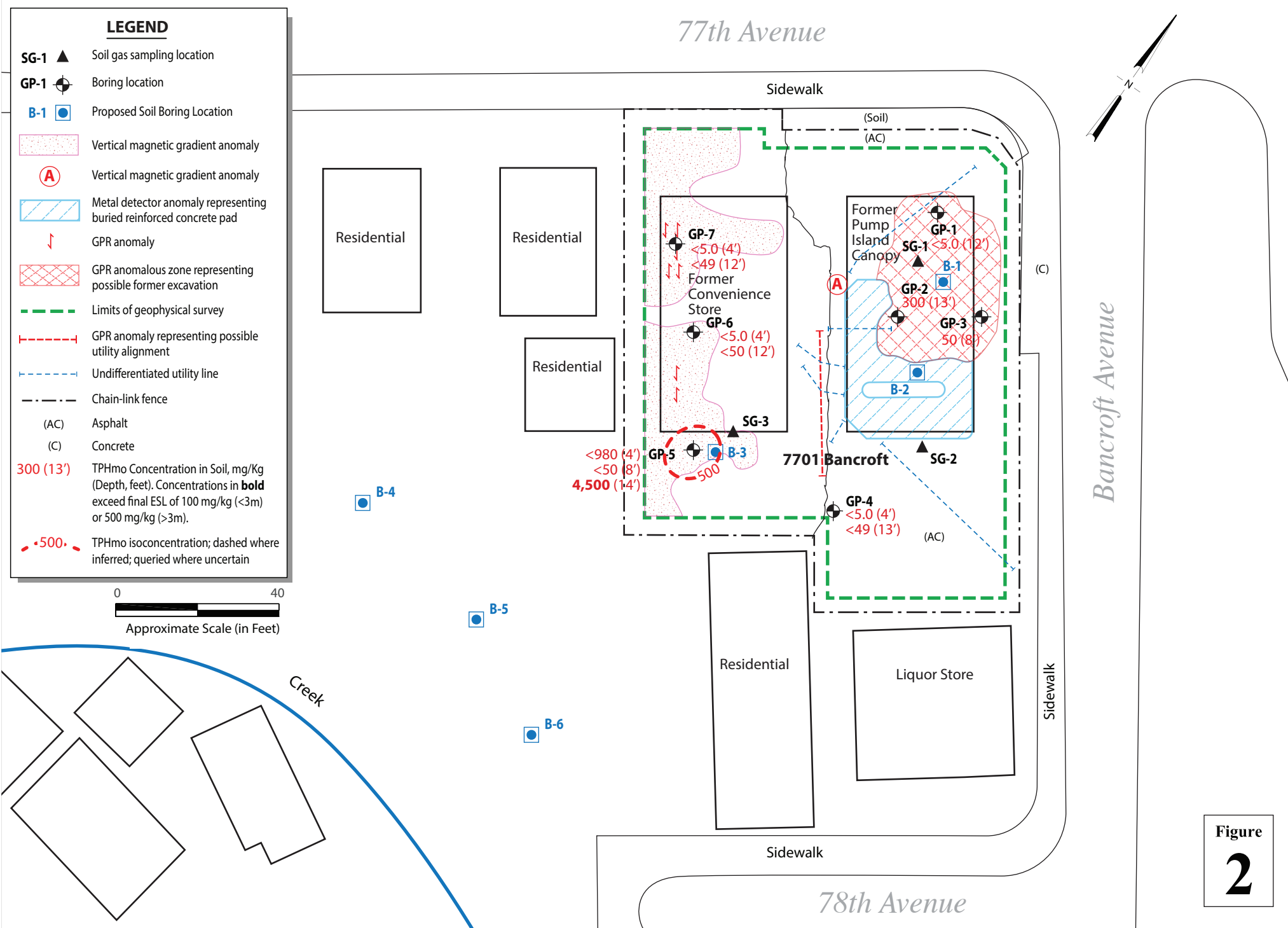
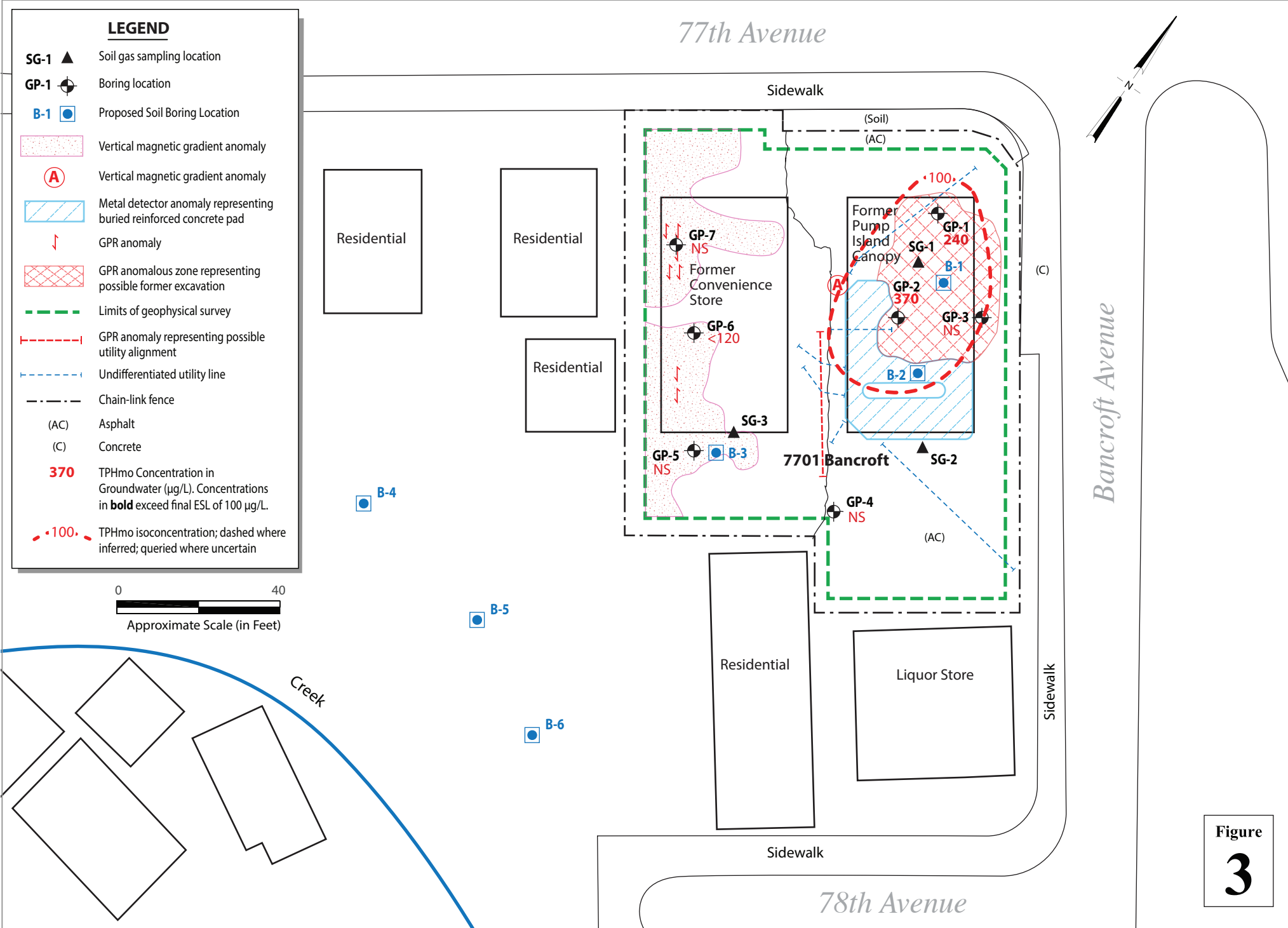


Figure
2

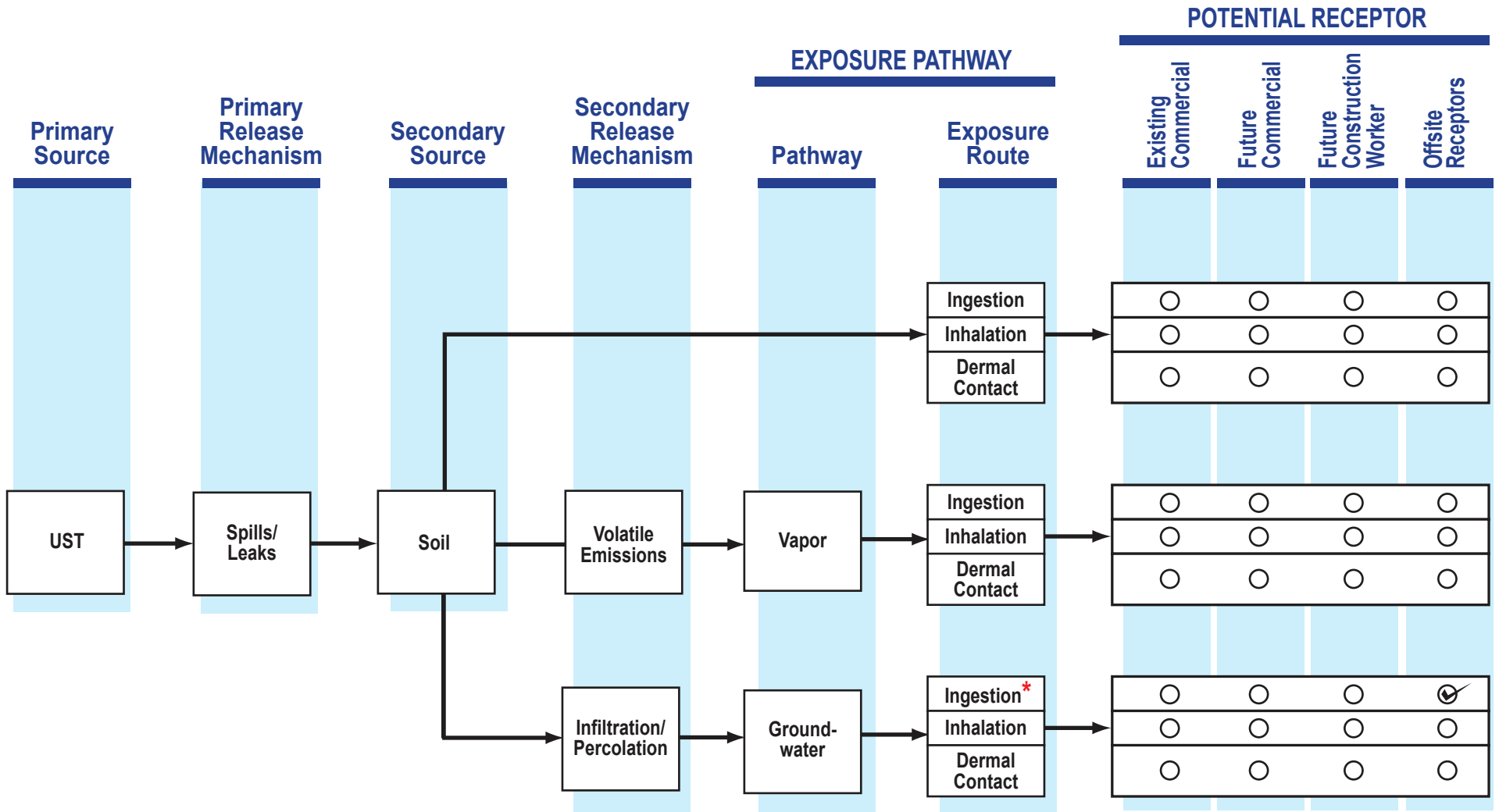


7701 Bancroft
Oakland, California



TPHmo in Groundwater and
Proposed Soil Boring Locations

Figure
3



- Incomplete exposure pathway
- ☑ Complete exposure pathway
- * Pending future assessment of potential waste oil impact

Figure
3

Table 1
Limited Phase II Soil and Groundwater Investigation
7701 Bancroft Avenue, Oakland, CA

Summary of Soil Sampling Data

Method	Analyte	Units	Method Reporting Limit	GP-1	GP-2	GP-3	GP-4		GP-5			GP-6		GP-7	SFB RWQCB Table B Residential ESLs (< 3m) ¹	SFB RWQCB Table B Commercial/Industrial ESLs (<3 m) ¹	SFB RWQCB Table D Residential ESLs (>3 m) ²	SFB RWQCB Table D Commercial/Industrial ESLs (>3 m) ²	
Sample Depth, ft below ground surface				12'	13'	8'	4'	13'	4'	8'	14'	4'	12'	4'	12'				
Date Sampled				1/10/2012	1/10/2012	1/10/2012	1/10/2012	1/10/2012	1/10/2012	1/10/2012	1/10/2012	1/10/2012	1/10/2012	1/10/2012	1/10/2012				

Petroleum Hydrocarbons

8260B	Gasoline Range (C5-C12)	mg/kg	0.23-24	ND	ND	ND	ND	ND	ND	ND	110	ND	ND	ND	ND	100	180	180	180
8015B	Diesel Range (C10-C28)	mg/kg	.98-50	8	140	ND	ND	ND	300	1.1	1,500	3.3	ND	ND	ND	100	180	180	180
8015B	Motor Oil Range (C24-C36)	mg/kg	49-2500	ND	300	ND	ND	ND	980	ND	4,500	ND	ND	ND	ND	370	2,500	5,000	5,000

Volatile Organic Compounds

8260B	Benzene	mg/kg	0.0045-0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12	0.27	2.0	2.0
	Ethylbenzene	mg/kg	0.0045-0.005	ND	ND	ND	ND	ND	ND	ND	0.019	ND	ND	ND	ND	2.3	4.7	4.7	4.7
	Toluene	mg/kg	0.0045-0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.3	9.3	9.3	9.3
	Xylene, Total ⁶	mg/kg	0.0089-0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	11	11	11
	Methyl tert-butyl ether	mg/kg	0.0045-0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-
	TBA	mg/kg	0.0089-0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-
	DIPE	mg/kg	0.0045-0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-
	TAME	mg/kg	0.0045-0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-
Ethyl t-butyl ether	mg/kg	0.0045-0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	

Notes:

- 1) Environmental Screening Levels (ESLs) for shallow Soils (<3m bgs) / Groundwater IS NOT Current or Potential Source of Drinking Water
- 2) Environmental Screening Levels (ESLs) for Deep Soils (>3m bgs) / Groundwater IS NOT Current or Potential Source of Drinking Water
- 3) ND = Not detected above method reporting limit.
- 4) - = Not analyzed or not established.
- 5) Compounds detected in at least one environmental sample, complete list of analytes in Appendix A, Laboratory Testing Reports.
- 6) Value for total xylenes.
- 7) **83** Sample result exceeding Table B or D screening criteria.

Table 2
Limited Phase II Soil and Groundwater Investigation
7701 Bancroft Avenue, Oakland, CA

Summary of Grab Groundwater Sampling Data

				GP-1	GP-2	GP-6	
Method	Analyte	Units	Method Reporting Limit				
<i>Date Sampled</i>				1/10/2012	1/10/2012	1/10/2012	SFB RWQCB Table B ESLs¹

Petroleum Hydrocarbons

8260B	Gasoline Range (C5-C12)	ug/L	50	ND	ND	ND	210
8015B	Diesel Range (C10-C28)	ug/L	58-62	91	150	ND	210
8015B	Motor Oil Range (C24-C36)	ug/L	120	240	370	ND	210

Volatile Organic Compounds

8260B	Benzene	ug/L	0.5	ND	ND	ND	46
	Ethylbenzene	ug/L	0.5	ND	ND	ND	43
	Toluene	ug/L	0.5	ND	ND	ND	130
	Xylene, Total ⁵	ug/L	1	ND	ND	ND	100.0
	Methyl tert-butyl ether	ug/L	0.5	ND	ND	ND	1,800
	TBA	ug/L	4	ND	ND	ND	-
	DIPE	ug/L	0.5	ND	ND	ND	-
	TAME	ug/L	0.5	ND	ND	ND	-
	Ethyl t-butyl ether	ug/L	0.5	ND	ND	ND	-

Notes:

- 1) Environmental Screening Levels (ESLs) for shallow Soils (<3m bgs) / Groundwater IS NOT Current or Potential Source of Drinking Water
- 2) ND = Not detected above method reporting limit.
- 3) - = Not analyzed or not established.
- 4) Compounds detected in at least one environmental sample, complete list of analytes in Appendix C, Laboratory Testing Reports.
- 5) Value for total xylenes.
- 6) 83 Sample result exceeding Table B screening criteria.

Pangea

Table 3. Soil Gas Analytical Data - 7701 Bancroft Avenue, Oakland, California

Boring/ Sample ID	Date Sampled	Depth (ft-ft bgs)	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	Oxygen	Notes
			← $\mu\text{g}/\text{m}^3$ →							%	
Residential ESL for shallow soil gas:			50,000	42	160,000	490	52,000	4,700	36	--	
Commercial ESL for shallow soil gas:			50,000	420	1,300,000	4,900	220,000	47,000	360	--	
LTCP Commercial Criteria (With Bioattenuation Zone)			--	280,000	--	3,600,000	--	--	310,000	--	
LTCP Commercial Criteria (No Bioattenuation Zone)			--	280	--	3,600	--	--	310	--	
SG-1	7/7/2014	4-5	<25,000	<250	<250	<250	<250	<250	<250	5.0	
SG-2	7/7/2014	4-5	<25,000	<250	<250	<250	<250	<250	<250	4.5	
SG-3	7/7/2014	4-5	<25,000	<250	<250	<250	<250	<250	<250	5.5	

Abbreviations:

TPH(g) by EPA method 8015 Cm

VOCs by EPA method 8260 B

Oxygen by ASTM D 1946-90

SG-1 = Soil Gas Sample

$\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter of air results calculated by laboratory from parts per billion results using normal temperature and pressure (NPT).

ft - ft bgs = Depth interval below ground surface (bgs) in feet.

< n = Chemical not present at a concentration in excess of detection limit shown.

--- = Not analyzed

MRL = Method reporting limit.

ESL = Environmental Screening Level for Shallow Soil Gas with Residential and Commercial/Industrial Land Use, for samples less than five feet below a building foundation or ESL established by the SFBRWQCB, Interim Final - November 2007 (revised December 2013).

LTCP = Low Threat Closure Policy established by the State Water Resources Control Board and adopted May 1, 2012. Soil Gas Criteria.

Bold = Concentrations above ESLs for Residential and/or Commercial Land Use for shallow soil gas (SG samples).

Table 4 - SITE CONCEPTUAL MODEL AND DATA GAP EVALUATION

The following table presents the site conceptual model (SCM) and data gap evaluation in tabular format. This table summarizes the risk summary for petroleum hydrocarbon impact (TPHd and TPHmo) at this site, providing detailed media-specific numerical concentration goals and a numerical assessment of progress in achieving those goals. Since hydrocarbons are the primary risk driver, assessment of the hydrocarbon goals alone provides a valid assessment of human health risks at the site.

Site Address:	7701 Bancroft Avenue	ACEH Case No.		RO0003115
City:	Oakland	Regulator:		Karel Detterman
SCM Element/ Sub-Element	Description	Data Gap No. and Description	Proposed Investigation	Rationale
Site Description				
Land Use and Site History	<p>The Subject property is located at 7701 Bancroft Avenue in Oakland, CA. The 11,250 sq-ft vacant subject property lot is located on the southwest corner of Bancroft Avenue and 77th Avenue in a residential area of Oakland. The subject property consists of an undeveloped vacant lot with half of the lot being asphalt paved and the other half covered by a grass lawn. The property is surrounded by a locked chain-link fence and is identified by Assessor Block Number 040-3388-004-04.</p> <p>Based on available information, including historic Sanborn maps and aerial photographs, the subject property was occupied by residential dwellings from at least 1925 till the early 1960's. Building department records indicated a building permit for the Wilshire Oil Company (Gulf) service station in 1962. The service station operated until approximately 1969, when the service station was demolished. The property was then vacant until approximately 1974, when a Stop N Go convenience store was constructed. In approximately 1976, the Stop N Go Market installed pump islands and started operating as a convenience store with gasoline service at the site until approximately the mid 1980's. A database search of regulatory agency lists identified three historic gasoline USTs for the site in the 1970s – 1980s, though information regarding the USTs is very limited. City Directory listings indicated that a K & B Market was present in 1991 and 1992, though it doesn't appear that this was also a gas station. Building department records indicated that the subject site commercial</p>	None	NA	NA

	building was vacant at the time it was demolished around 1997. The site has been a vacant lot since 1997. No information regarding the USTs was available at the City of Oakland Fire Department or Alameda County Department of Environmental Health.			
Nearby Sites	The subject property is located in a residential area of Oakland, CA.	None	NA	NA
Building Characteristics	On September 13, 2011, Geologica performed a site reconnaissance of the subject property and adjacent areas. The subject property consists of an undeveloped vacant lot. Half of the lot was asphalt paved and the other half was covered by a grass lawn The property was surrounded by a chain link fence.	None	NA	NA
Geology and Hydrogeology				
Regional	The subject area is located in the Coast Range Physiographic Province, characterized by northwest to southeast trending valleys and ridges. The region is located between the Pacific Ocean to the west and the great valley to the east. Geologic formations in the San Francisco Bay Region range in age from Jurassic to Recent Holocene. The San Francisco Bay region is located in a broad depression in the Franciscan Bedrock resulting from an east-west expansion between the San Andreas and Hayward fault systems. Unconsolidated sediments in the East Bay Plain vary in thickness, with some areas up to 1,000 feet thick. From oldest to youngest, the unconsolidated sediments are: the Santa Clara Formation; Alameda Formation; Temescal Formation; and Artificial Fill. Vicinity geology consists of undifferentiated Quaternary surficial deposits, possibly Temescal Formation. Soils in the vicinity are part of the Urban land and Tierra soil component and consist of fine grained silty clay loam to depths of five (5) feet below ground surface (ft bgs). Underlying the silty clay loam are clayey sands located to depths of approximately 20-25 ft bgs. These soils are considered to be well drained with very slow infiltration rates.	None	NA	NA
Local Geology	The property is located at an approximate site elevation of 53 feet above mean sea level (msl) and the general topographic gradient is southwest toward San Francisco Bay. The nearest	None.	NA	NA

	<p>mapped surface water is Arroyo Viejo Creek, located to the southwest of the property.</p> <p>Based on information from nearby sites, soils in the vicinity were expected to consist of fine grained silty clay and clayey sands located to depths of approximately 20-25 ft bgs. These soils were expected to have generally low permeability</p>			
Local Hydrogeology	<p>There was no site specific groundwater information for the subject property; however, nearby sites with groundwater data 1/4-mile away indicated that groundwater in the area was estimated to be approximately 8 to 15 feet bgs and the groundwater flow direction consistent with the direction of surface topography, which is southwest.</p>	None.	NA	NA
Surface Water	<p>According to the Environmental Data Resources (EDR) Geocheck report, the property is located at an approximate site elevation of 53 feet above mean sea level (msl) and the general topographic gradient is southwest toward San Francisco Bay. The nearest mapped surface water is Arroyo Viejo Creek, located approximately 100 feet to the southwest of the subject property.</p>	None	NA	NA
Contaminant Source and Release Information				
Source/ Release Information	<p>The geophysical survey performed by Geologica in 2012 confirmed that no USTs are currently present at the site. The depth of fill in the former UST area (12 - 13 ft bgs) suggests that the USTs were over-excavated and some volume of soil was removed at the time of UST excavation. There were no records in the building department, fire department, and county environmental health department files for the installation or removal of the gasoline USTs. Based on the historic information available, it is likely that the USTs were removed in the mid-1980s. After this time, record-keeping regarding UST removals were generally maintained. However, it is possible that removal could have occurred at the time of building demolition in the mid-1990s. In any case, it is likely that the USTs have been gone for at least 15 years and probably as much as 25 years.</p>	<p>ACEH Data Gap 1 – Uncertainty of presence and location of a waste oil tank (WOT).</p> <p>ACEH Data Gap 2 – No analytical samples were collected to document the environmental quality or nature of the fill material</p>	<p>Advance boring B-2 where waste oil tank may have been.</p> <p>Advance boring B-1 to assess fill material.</p>	<p>Boring B-3 will assess soil and groundwater at likely location of waste oil tank, if one was present at site.</p> <p>Boring B-1 will assess fill material per DTSC Clean Imported Fill</p>

				Material Advisory.
Chemicals of Concern	<p>The primary chemical of concern (COC) at the site is TPH as diesel and motor oil. No significant evidence of volatile constituents was observed. Available records suggest that the USTs on site contained gasoline; in our experience, given the age of the gasoline dispensing operation, the observed TPH as diesel and motor oil concentrations may represent what was initially mostly in the gasoline range, but that has weathered to TPH concentrations mostly in the diesel/motor oil range.</p> <p>The analytical results of the limited soil and groundwater investigation at the property indicated generally low level, sporadic residual concentrations of TPH as diesel and motor oil in soil beneath the site. Slightly elevated concentrations of TPH as diesel and motor oil were noted in one area: an area near the southwest corner of the property. However, these detections appear to be localized and deeper than would be a direct contact concern.</p> <p>With regard to groundwater, a continuous, static water table was not observed; four of the seven holes were dry. Low permeability soil conditions appear to have resulted in the presence of only intermittent shallow groundwater. Where present, groundwater was observed within discontinuous sand stringers. Concentrations of TPH as diesel and motor oil in groundwater were localized to the area of the former UST excavation only.</p>	ACEH Data Gap 3 – Insufficient data and analysis has been presented to assess the presence of free product at the site.	Grab groundwater sampling and soil logging at boring locations B-1 through B-5.	During continuous direct push logging, grab groundwater sampling and soil logging will allow Pangea to look for SPH evidence.
Scope	Subsurface assessment was performed in 2012 by Geologica. The assessment included soil sampling from seven borings advanced to 16 to 30 ft bgs, and groundwater sampling from approximately 13 ft to 18 ft depth within the three borings. The results were presented in the Phase II Investigation dated April 16, 2012 (Geologica, 2012).	None	NA	NA
Soil	Soil sampling data are tabulated in Table 1.	None	NA	NA
Groundwater	Groundwater sampling data are tabulated in Table 2.	None	NA	NA
Risk Pathways				

<p>Prior Risk Evaluation</p>	<p>The geophysical survey performed in November 2011 confirmed that no USTs are currently present at the site. These USTs were apparently removed 15 – 25 years ago. Thus, there is no threat of a future release or continuing source.</p> <p>Low permeability soil conditions have resulted in the presence of only intermittent shallow groundwater. Groundwater in the area is not used for water supply; no water supply wells were identified in a well database search within ½-mile of the property.</p> <p>Detected hydrocarbon concentrations reflect an older release that has significantly degraded over time; it is expected that residual concentrations will continue to degrade over time. The ESL exceedances noted in this study were sporadic and limited in extent; elevated concentrations of constituents down-gradient is not anticipated. In addition, no significant volatile constituents were detected in soil or groundwater. Thus, the testing results indicate a low potential for impacts to human health and the environment under an unrestricted land use.</p>	<p>None</p>	<p>NA</p>	<p>NA</p>
<p>Risk Pathway Summary</p>	<p>Based on the characterization data provided under the Contaminant Source and Release Information SCM Elements above, the following risk pathway IS considered to be potentially complete for the Site (Figure 3):</p> <p>Groundwater:</p> <ul style="list-style-type: none"> • Ingestion through offsite receptors <p>Concentrations of TPHd and TPHmo in groundwater are below applicable ESLs for the site, though impact to offsite receptors is pending future assessment of potential waste oil impact.</p> <p>Based on the characterization data provided under the Contaminant Source and Release Information SCM Elements above, the following risk pathways are NOT considered to be potentially complete for the Site:</p> <p>Soil:</p> <ul style="list-style-type: none"> • Vapor intrusion to indoor air 	<p>ACEH Data Gap 5* – Secondary source in the source area.</p> <p>ACEH Data Gap 6 – Insufficient data and analysis has been presented to support the remaining requisite characteristics of plume direction, plume length, distance to the nearest water well supply, and stability.</p> <p>ACEH Data Gap 8 – Soil or groundwater samples were not analyzed for naphthalene or PAHs.</p>	<p>3 borings in the source area.</p> <p>2 borings between the property and the creek.</p> <p>Soil and groundwater from the proposed borings will be analyzed for naphthalene and PAHs.</p>	<p>Borings in the source area will provide soil and groundwater data for this area.</p> <p>Borings between the property and the creek will provide plume delineation.</p>

	<ul style="list-style-type: none"> • Migration of contaminants to groundwater through leaching and vapor flow. • Direct exposure to construction workers or to potential future residents and biota. • Gross contamination concerns (primarily odors) <p>Direct exposure for other human receptors or biota is not considered a concern for the current land use (commercial) because soil contamination is below applicable dermal and human health ESLs (ESL Table A-2).</p> <p>Groundwater:</p> <ul style="list-style-type: none"> • Vapor intrusion to indoor air • Ingestion of groundwater impacting wells, sumps or basements at nearby properties • Impacts to aquatic biota in surface water bodies <p>The potential risk pathways identified above are addressed in the CSM Sub-Elements below.</p>			
Soil	<p>As shown on Table 1, the analytical results of the limited soil and groundwater investigation at the property indicated generally low level, sporadic residual concentrations of TPH as diesel and motor oil in soil beneath the site. Slightly elevated concentrations of TPH as diesel and motor oil were noted in one area: an area near the southwest corner of the property. However, these detections appear to be localized and deeper than would be a direct contact concern.</p> <p>The vapor intrusion pathway is discussed below under the soil gas and indoor air SCM sub-elements.</p>	None	NA	NA
Groundwater	<p>With regard to groundwater, a continuous, static water table was not observed; four of the seven holes were dry. Low permeability soil conditions appear to have resulted in the presence of only intermittent shallow groundwater. Where present, groundwater was observed within discontinuous sand stringers. Concentrations of TPH as diesel and motor oil in groundwater were localized to the area of the former UST excavation only.</p>		NA	NA

	The nearest mapped surface water is Arroyo Viejo Creek, located approximately 100 feet to the southwest of the subject property.			
Subslab and Soil Vapor	All hydrocarbon and VOC concentrations detected in soil gas during the investigation on July 7, 2014, were below applicable ESLs and LTCP criteria. The oxygen concentrations in soil gas represent a ‘bioattenuation zone’ that provides biodegradation of residual hydrocarbon vapors based on LTCP criteria. Soil gas sampling data are tabulated in Table 3.	ACEH Data Gap 7 – Vapor intrusion to indoor air to neighboring residents has not been assessed. Additionally, intended future use of the property has not been disclosed.	Borings will evaluate VOC impact onsite and near residences. Pangea can sample soil gas later if VOCs are found in soil and groundwater.	Soil gas sampling described in the <i>Soil Gas Sampling Report</i> dated December 18, 2015 did not find VOC impact.
Indoor Air			NA	NA

*Numbering here skips Data Gap #4. ACEH letter identified Data Gap 4 as Site Conceptual Model needed.

APPENDIX A

Historical Aerial Photograph



Building

Suspected Former USTs

Canopy

INQUIRY #: 3158557.5

YEAR: 1965

|—————| = 333'



APPENDIX B

Regulatory Correspondence



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

NOTICE TO COMPLY

January 5, 2016

Bancroft and 77th, LLC
Attention: Ms. Victoria Vela
6500 Flotilla Avenue
Los Angeles, CA 90040
(Sent via e-mail to: v.vela@pwslaundry.com)

Ms. Carryl MacLeod
Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583-2324
(Sent via e-mail to: CMacleod@chevron.com)

Bancroft Associates, LLC
Attention: Mr. Justin Smith
Address Unknown

Justin E. Smith and William C. Randall
Address Unknown

Cathleen Maynard Trust
Address Unknown

Earl L. & Marjorie E. Lupton, Jr. Trust
Address Unknown

Kee S. & Ip C. Lee
4461 Cerritos Avenue
Cypress, CA 90630-4217

Bank of America NT&SA
c/o National Convenience Stores, Inc.
100 N. Tryon Street
Charlotte, North Carolina, 28202

National Convenience Stores Inc.
c/o CST Brands, Inc.
Attention: Mr. Gerard Sonnier
One Valero Way Building D, Suite 200
San Antonio, Texas 78249
(Sent via e-mail to: Gerard.Sonnier@cstbrands.com)

Subject: Notice to Comply Letter for Fuel Leak Case No. RO0003115 and GeoTracker Global ID
T1000004796, Stop N Go Gas Station, 7701 Bancroft Avenue, Oakland, CA 94605

Dear Ladies and Gentlemen:

A review of the case file for the above-referenced site indicates that your case is currently not in compliance with Alameda County Environmental Health's (ACEH's) February 10, 2014 Directive Letter or May 1, 2014 Extension Request Approval Letter. ACEH understands that time has been required to involve the new owners as Responsible Parties (RPs), including the sale of the property to a new RP and the new RP's interest in commercial redevelopment of the property. To identify the next steps on the path to case closure, ACEH requests that all RPs work collectively to return this case into compliance with ACEH's Directive Letters. This includes claiming the site in the State Water Resources Control Board (SWRCB's) Geotracker data base and submittal of the Site Conceptual Model and Data Gap Work Plan.

Implementation of site characterization and/or cleanup at this site is crucial to be protective of human health and the environment and to move this case towards closure evaluation. Please note that as Responsible Parties, you are required by California Code of Regulations, Title 23, Division 3, Chapter 16, Article 11, §2720 through §2728 to characterize the site and implement corrective action.

In order to regain compliance, please submit to ACEH's ftp site and to Geotracker the documents requested in the Revised Technical Report Request section below. Failure to submit the documents by the due dates specified below may result in an issuance of a Notice of Violation and possible enforcement action by the District Attorney and/or ineligibility for reimbursement of corrective action costs incurred at the site from the Underground Storage Tank Clean-up Fund. Furthermore, ACEH may recommend removal of this site from the Underground Storage Tank Cleanup Fund. Pursuant to Chapter 6.7, California Health and Safety code, civil penalties up to \$10,000 for each UST for each day of violation may be imposed. Once removed from the Clean-up Fund, the costs associated with site characterization/site cleanup work that is required will not be reimbursed. Please note that civil penalties for non-compliance are assessed from the extended due date (July 31, 2014).

REVISED TECHNICAL REPORT REQUEST

Please upload technical reports to the ACEH ftp site (Attention: Karel Detterman), and to the State Water Resources Control Board's Geotracker website, according to Attachment 1 and the following specified file naming convention and schedule:

- **January 29, 2016 ~~July 31, 2014~~** – Claim site in Geotracker
- **February 29, 2016 ~~July 31, 2014~~** – Site Conceptual Model (SCM) and Data Gap Work Plan
File to be named: RO3115_SCM_WP_R_yyyy-mm-dd

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Thank you for your cooperation. Should you have any questions or concerns regarding your case, please send me an e-mail message at karel.detterman@acgov.org or call me at (510) 567-6708. Online case files are available for review at the following website: <http://www.acgov.org/aceh/lop/ust.htm>

Sincerely,

Karel Detterman, P.G.
Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations
Electronic Report Upload (ftp) Instructions

cc: Bob Clark-Riddell, Pangea Environmental, Inc. (sent via e-mail to: briddell@pangeaenv.com)
Dilan Roe (sent via electronic mail to: dilan.roe@acgov.org)
Karel Detterman, ACEH, (sent via electronic mail to karel.detterman@acgov.org)
Case Electronic File, GeoTracker

APPENDIX C

Standard Operating Procedures

STANDARD FIELD PROCEDURES FOR SOIL BORINGS

This document describes Pangea Environmental Services' standard field methods for drilling and sampling soil borings. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality, and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist, scientist or engineer working under the supervision of a California Registered Engineer, California Registered Geologist (RG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e. sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or product saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e. cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or hydraulic-push technologies. At least one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples are collected near the water table and at lithologic changes. With hollow-stem drilling, samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments beyond the bottom of the borehole. With hydraulic-push drilling, samples are typically collected using acetate liners. The vertical location of each soil sample is determined by measuring the distance from the middle of the soil sample tube to the end of the drive rod used to advance the split barrel sampler or the acetate tube. All sample depths use the ground surface immediately adjacent to the boring as a datum. The horizontal location of each boring is measured in the field from an onsite permanent reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Storage, Handling and Transport

Sampling tubes or cut acetate liners chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

Soil samples collected during drilling will be analyzed in the field for ionizable organic compounds using a photo-ionization detector (PID) with a 10.2 eV lamp. The screening procedure will involve placing an undisturbed soil sample in a sealed container (either a zip-lock bag, glass jar, or a capped soil tube). The container will be set aside, preferably in the sun or warm location. After approximately fifteen minutes, the head space within the container will be tested for total organic vapor, measured in parts per million on a volume to volume basis (ppmv) by the PID. The PID instrument will be calibrated prior to boring using hexane or isobutylene. PID measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Water Sampling

Water samples collected from borings are either collected from the open borehole, from within screened PVC inserted into the borehole, or from a driven Hydropunch-type sampler. Groundwater is typically extracted using a bailer, check valve and/or a peristaltic pump. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory.

Pangea often performs electrical conductivity (EC) logging and/or continuous coring to identify potential water-bearing zones. Hydropunch-type sampling is then performed to provide discrete-depth grab groundwater sampling within potential water-bearing zones for vertical contaminant delineation. Hydropunch-type sampling typically involves driving a cylindrical sheath of hardened steel with an expendable drive point to the desired depth within undisturbed soil. The sheath is retracted to expose a stainless steel or PVC screen that is sealed inside the sheath with Neoprene O-rings to prevent infiltration of formation fluids until the desired depth is attained. The groundwater is extracted using tubing inserted down the center of the rods into the screened sampler.

Duplicates and Blanks

Blind duplicate water samples are usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory QA/QC blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite on top of and covered by plastic sheeting. At least four individual soil samples are collected from the stockpiles for later compositing at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Ground water removed during sampling and/or rinsate generated during decontamination procedures are stored onsite in sealed 55 gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Disposal of the water is based on the analytic results for the well samples. The water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.