



REMEDIAL ACTION COMPLETION CERTIFICATION

December 27, 2013

Denise Pinkston
Rockwood Christie LLC
c/o TMG Partners
100 Bush St., 26th Floor
San Francisco, CA 94104

(Sent via E-mail to: dpinkston@tmgpartners.com)

Richard and Beverly Gold Trust
Lerer Brothers Transmission
P.O. Box 117820
Burlingame, CA 94011-7820

Subject: Case Closure for Fuel Leak Case Fuel Leak Case No. RO0000057 and GeoTracker Global ID T0600191821, Lerer Brothers Transmission, 6340 Christie Avenue, Emeryville, CA 94608

Dear Ms. Pinkston & The Gold Trust:

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 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

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 (h) of Section 25299.37 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,


Ariu Levi
Director

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

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P.O. Box 117820
Burlingame, CA 94011-7820

Subject: Closure Transmittal; Fuel Leak Case No. RO0000057 and GeoTracker Global ID T0600191821, Lerer Brothers Transmission, 6340 Christie Avenue, Emeryville, CA 94608

Dear Ms. Pinkston & The Gold Trust:

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.

SITE INVESTIGATION AND CLEANUP SUMMARY

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

- Additional groundwater contamination that does not appear to be associated with the former underground storage tank (UST) which is the subject of this closure was documented in reports generated for the redevelopment of the subject site and a parcel immediately north of the subject site. A local-vicinity groundwater plume is known to exist, and appears to emanate from adjacent properties to the east and south that have existing site management requirements (Emeryville Marketplace – Envirostor Case No. 01290021). This case closure is only for the former petroleum UST at the subject site.
- Mitigation for methane vapor risks may remain as a valid concern for regulatory oversight by the City of Emeryville and DTSC due to methane vapor concentrations up to 85% in a gas sample that appear to be unrelated to the UST release.
- 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.

If you have any questions, please call Mark Detterman at (510) 567-6876. Thank you.

Sincerely,

Dilan Roe, P.E.
Program Manager

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

Ms. Pinkston and The Gold Trust
RO00000057
December 27, 2013, Page 2

cc: Robert Creps, PES Environmental, 1682 Novato Blvd, Suite 100, Novato, CA 94947
(sent via electronic mail to RCreps@pesenv.com)

William Mast, PES Environmental, 1682 Novato Blvd, Suite 100, Novato, CA 94947
(sent via electronic mail to WMast@pesenv.com)

Ms. Cherie McCaulou (w/enc.), SF- Regional Water Quality Control Board, 1515 Clay Street,
Suite 1400, Oakland, CA 94612, (sent via electronic mail to CMacaulou@waterboards.ca.gov)

Donna Drogos, (sent via electronic mail to donna.drogos@acgov.org)
Dilan Roe (Sent via electronic mail to dilan.roe@acgov.org)
Mark Detterman (sent via electronic mail to mark.detterman@acgov.org)
Electronic File, GeoTracker

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

I. AGENCY INFORMATION

Date: December 17, 2013

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6876
Responsible Staff Person: Mark Detterman	Title: Senior Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Lerer Brothers Transmission		
Site Facility Address: 6340 Christie Avenue, Emeryville, CA 94608		
RB Case No.: 21-2471	Local Case No.: STID 1247	LOP Case No.: RO0000057
URF Filing Date: 11/24/1998	Geotracker ID: T0600191821	APN: 49-1556-5
Current Land Use: Commercial with Residential Above; Below Grade Parking		
Responsible Parties	Addresses	Phone Numbers
Denise Pinkston Rockwood Christie LLC	c/o TMG Partners 100 Bush St., 26 th Floor San Francisco, CA94104	No phone number
Richard and Beverly Gold Trust Lerer Brothers Transmission	P.O. Box 117820 Burlingame, CA 94011-7820	No phone number

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
----	2,000	Gasoline	Removed	02/05/1988
Piping			Not Reported	02/05/1988

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Release from underground storage tank (UST) system.		
Site characterization complete? Yes		
Monitoring wells installed? Yes	Number: 3	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 3.86 feet bgs	Lowest Depth: 5.10 feet bgs	Flow Direction: West*
Most Sensitive Current Use: Potential drinking water source.		

* An early three well network indicated a southeast groundwater gradient; however, a temporary well network (GW-8 to GW-13) was later installed and verified groundwater flow is consistent with the regional pattern and is to the west.

Summary of Production Wells in Vicinity: One active domestic well is reported at a distance of approximately 1,775 feet to the northeast of the release location. It is considered to be upgradient. No other water supply wells were identified within 2,000 feet of the site. Based on the direction of shallow groundwater and the distance, the well is not expected to be a receptor for the site.

Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest Surface Water Name: San Francisco Bay is approximately 950 feet west of the site.
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Free Product	----	----	----
Soil	41,891 tons*	Waste Management Landfill Altamont, CA Or Clean Harbors Landfill Buttontwillow, CA	October 1, 2012 to March 8, 2013
Groundwater	1,723,570 gallons*	Construction Dewatering	October 1, 2012 to March 8, 2013

* Site wide construction excavation of entire subject parcel and adjacent parcel to north as a part of site redevelopment. Impacted soil and groundwater related to the subject UST are included in these total volumes.

LTCP GROUNDWATER SPECIFIC CRITERIA

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

Site Data		LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
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	Stable and decreasing	Stable or decreasing	Stable or decreasing	Stable or decreasing for minimum of 5 Years	Stable or decreasing
Distance to Nearest Water Supply Well	1,775 feet; upgradient	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Distance to Nearest Surface Water and Direction	950 feet, downgradient	>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 (ppb)	Current Site Maximum (ppb)	LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
Benzene	1,200	<0.5	No criteria	3,000	No criteria	1,000
MTBE	21	2.6	No criteria	1,000	No criteria	1,000
Other chemicals of specific concern						
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?				-----		

LTCP VAPOR SPECIFIC CRITERIA

LTCP Vapor Specific Scenario under which case was closed:

Case should be closed in spite of not meeting vapor intrusion criteria.*

Active Fueling Station		No; Commercial / Residential Redevelopment					
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 NAPL	No NAPL	LNAPL in groundwater	LNAPL in soil	No NAPL	No NAPL	No NAPL	No criteria
Thickness of Bioattenuation Zone Beneath Foundation	<4 feet	≥30 feet	≥30 feet	≥5 feet	≥10 feet	≥5 feet	≥5 feet
Total TPH in Bioattenuation Zone	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm
Maximum Current Benzene Concentration in Groundwater	<0.5	No criteria	No criteria	<100 ppb	≥100 and <1,000 ppb	<1,000 ppb	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	Not Applicable	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	5,500	----	<85	<280	<85,000	<280,000
Ethylbenzene	Not Reported	----	<1,100	<3,600	<1,100,000	<3,600,000
Naphthalene	Not Reported	----	<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?	No
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 as a result of controlling exposure through the use of mitigation measures or through the use of institutional controls?	No

* Existing soil vapor data has not been used in this closure. Soil vapor data was collected at a depth of 3 feet below grade surface and contained up to 5,500 µg/m³ benzene; however, soil has subsequently been excavated to a depth of 17.3 feet below surface grade (bgs) in the vicinity of the former UST and to a depth of approximately 18.5 feet bgs in the vicinity of this vapor sample (SG-4-3).

LTCP DIRECT CONTACT AND OUTDOOR AIR EXPOSURE CRITERIA

LTCP Direct Contact and Outdoor Air Exposure Specific Scenario under which case was closed:
Exemption (no petroleum hydrocarbons in upper 10 feet)*

Are maximum concentrations less than those in Table 1 below?

Yes

Constituent		Residential		Commercial/Industrial		Utility Worker
		0 to 5 feet bgs (ppm)	Volatilization to outdoor air (5 to 10 feet bgs) ppm	0 to 5 feet bgs (ppm)	Volatilization to outdoor air (5 to 10 feet bgs) ppm	0 to 10 feet bgs (ppm)
Site Maximum	Benzene	NA	NA	NA	NA	NA
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	NA	NA	NA	NA	NA
LTCP Criteria	Ethylbenzene	≤21	≤32	≤89	≤134	≤314
Site Maximum	Naphthalene	----	----	----	----	----
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?				----		

* All soil beneath the site has been removed to between 12.8 and 18.5 feet bgs.


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, closure of this site appears to be consistent with the policies established by the State Water Resources Control Board Low-Threat Underground Storage Tank Closure Policy which became effective on August 17, 2012.		
<p>Site Management Requirements:</p> <p>This fuel leak case has been evaluated for closure consistent with the State Water Resources Control Board Low-Threat Underground Storage Tank Closure Policy (LTCP). Based on this evaluation, no site management requirements appear to be necessary. However, due to larger regional concerns excavation or construction activities require planning and implementation of appropriate health and safety procedures.</p>		
Should corrective action be reviewed if land use changes? No		
Was a deed restriction or deed notification filed? No		Date Recorded: ----
Monitoring Wells Decommissioned: Yes	Number Decommissioned: 3	Number Retained: 0

V. ADDITIONAL COMMENTS AND CONCLUSION

<p>Additional Comments:</p> <p>Considerations:</p> <ul style="list-style-type: none"> Additional groundwater contamination that does not appear to be associated with the former underground storage tank (UST) which is the subject of this closure was documented in reports generated for the redevelopment of the subject site and a parcel immediately north of the subject site. A local-vicinity groundwater plume is known to exist, and appears to emanate from adjacent properties to the east and south that have existing site management requirements (Emeryville Marketplace – Envirostor Case No. 01290021). This case closure is only for the former petroleum UST at the subject site. Mitigation for methane vapor risks may remain as a valid concern for regulatory oversight by the City of Emeryville and DTSC due to methane vapor concentrations up to 85% in a gas sample that appear to be unrelated to the UST release. <p>Conclusion:</p> <p>Alameda County Environmental Health staff believe that the site meets the conditions for case closure under the State Water Resources Control Board Low-Threat Underground Storage Tank Closure Policy. Based upon the information available in our files to date, no further investigation or cleanup for the fuel leak case is necessary at this time.</p>

VI. LOCAL AGENCY REPRESENTATIVE DATA

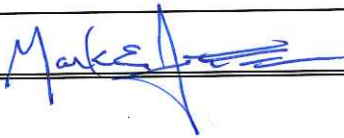
Prepared by: Mark Detterman, P.G.	Title: Senior Hazardous Materials Specialist
Signature: 	Date: 12/17/2013
Approved by: Dilan Roe	Title: LOP and SCP Program Manager
Signature: 	Date: 12/17/2013

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 AND PUBLIC NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
Regional Board Notification Date: October 25, 2013	
Public Notification Date: October 25, 2013	

VIII. MONITORING WELL DECOMMISSIONING

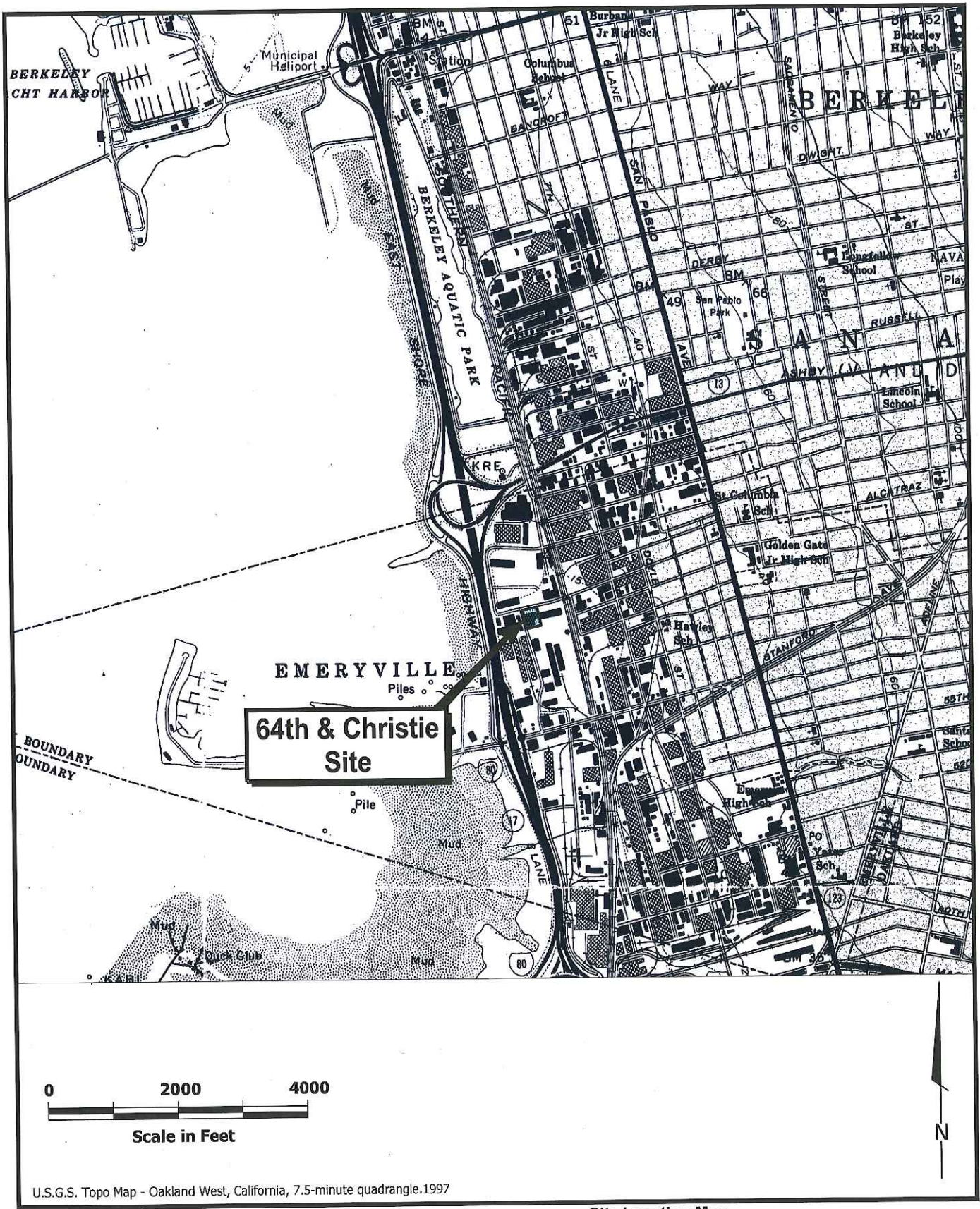
Date Requested by ACEH: Not Reported	Date of Well Decommissioning Report: May 11, 2000	
All Monitoring Wells Decommissioned: Yes	Number Decommissioned: 3	Number Retained: 0
Reason Wells Retained: NA		
ACEH Concurrence - Signature: 		Date: 12/17/2013

Attachments:

1. Site Vicinity Map and Aerial Photo (2 pp)
2. Site Plan (1 pp)
3. Groundwater Contour and Chemical Concentration Maps (10 pp)
4. Soil Analytical Data (10 pp)
5. Groundwater Analytical Data (5 pp)
6. Soil Vapor Analytical Data (1 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.

ATTACHMENT 1



U.S.G.S. Topo Map - Oakland West, California, 7.5-minute quadrangle, 1997



Site Location Map
Former UST Remedial Action Report
64th and Christie Residential Building
6340 and 6390 Christie Avenue
Emeryville, California

PLATE

1

241.082.03.009

24108203009_1

WWM

8/13

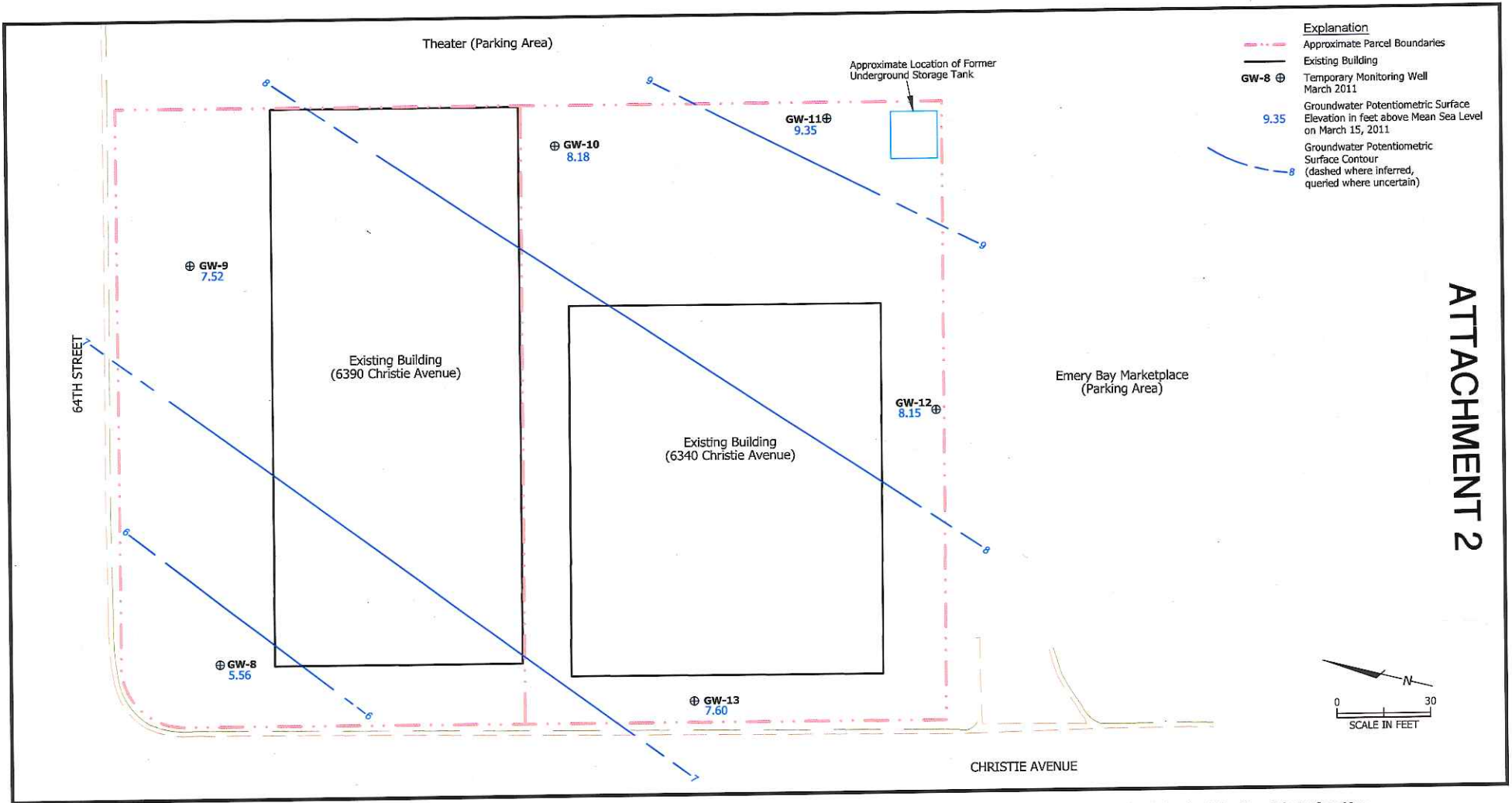
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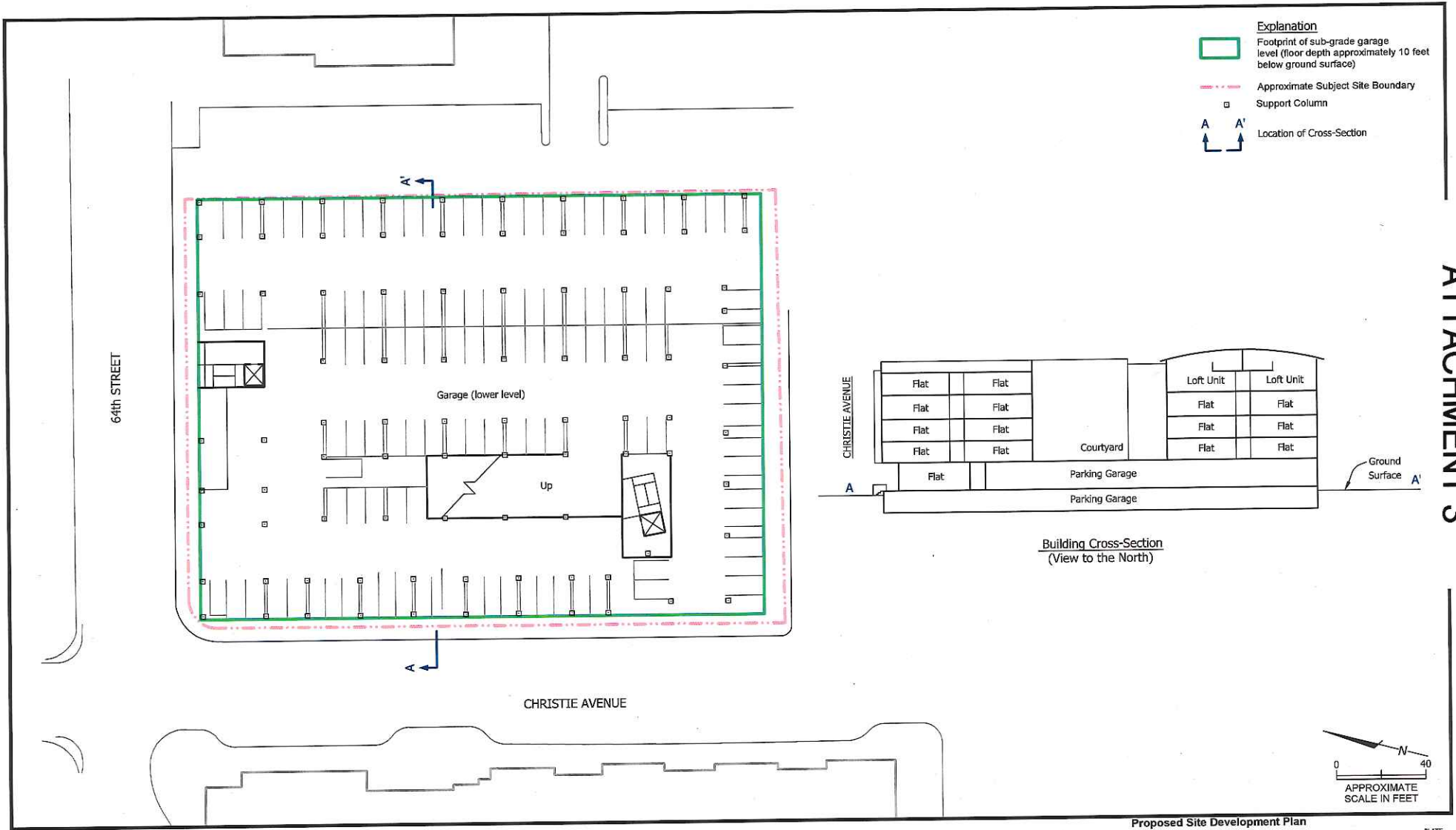
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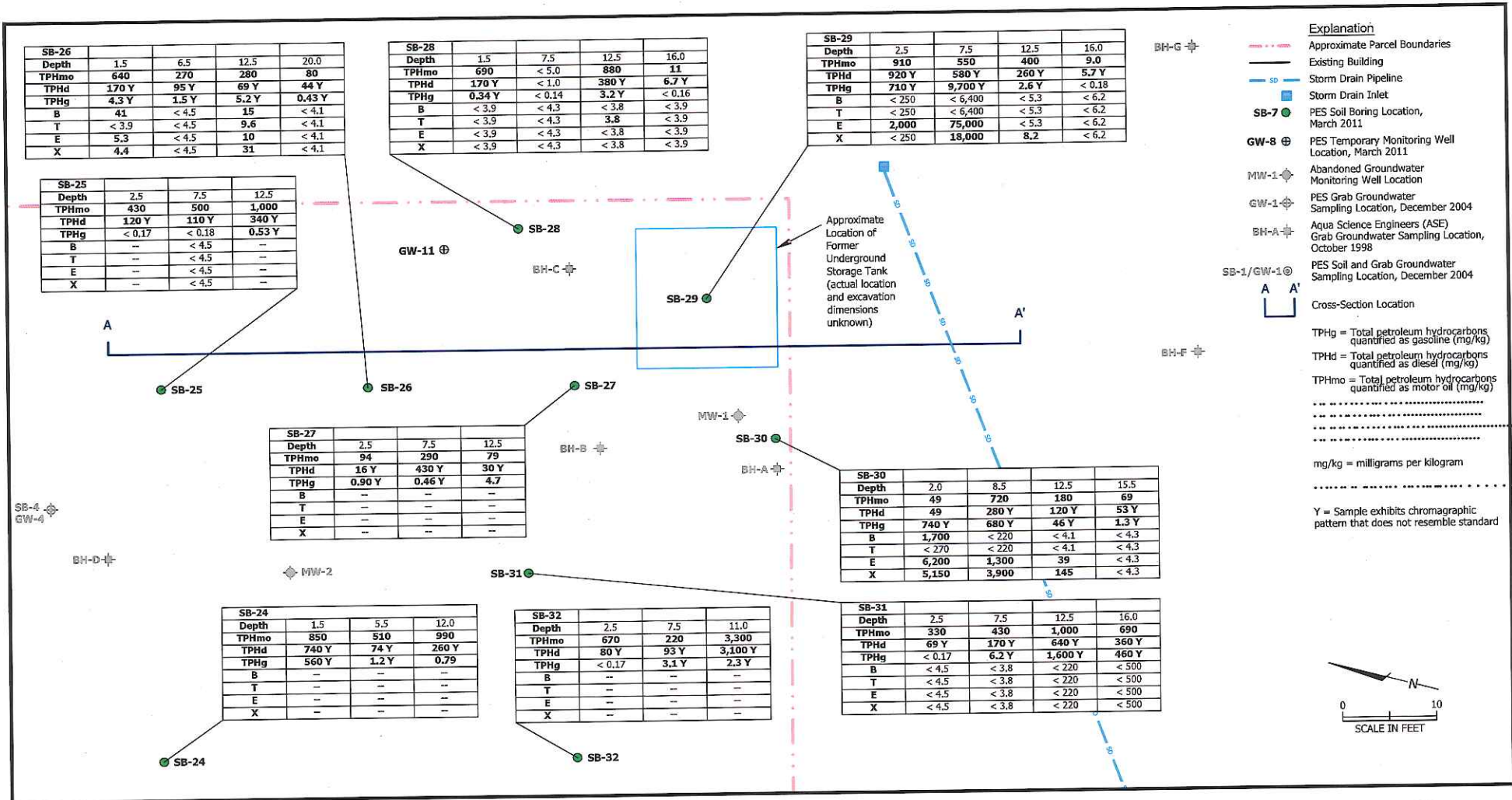
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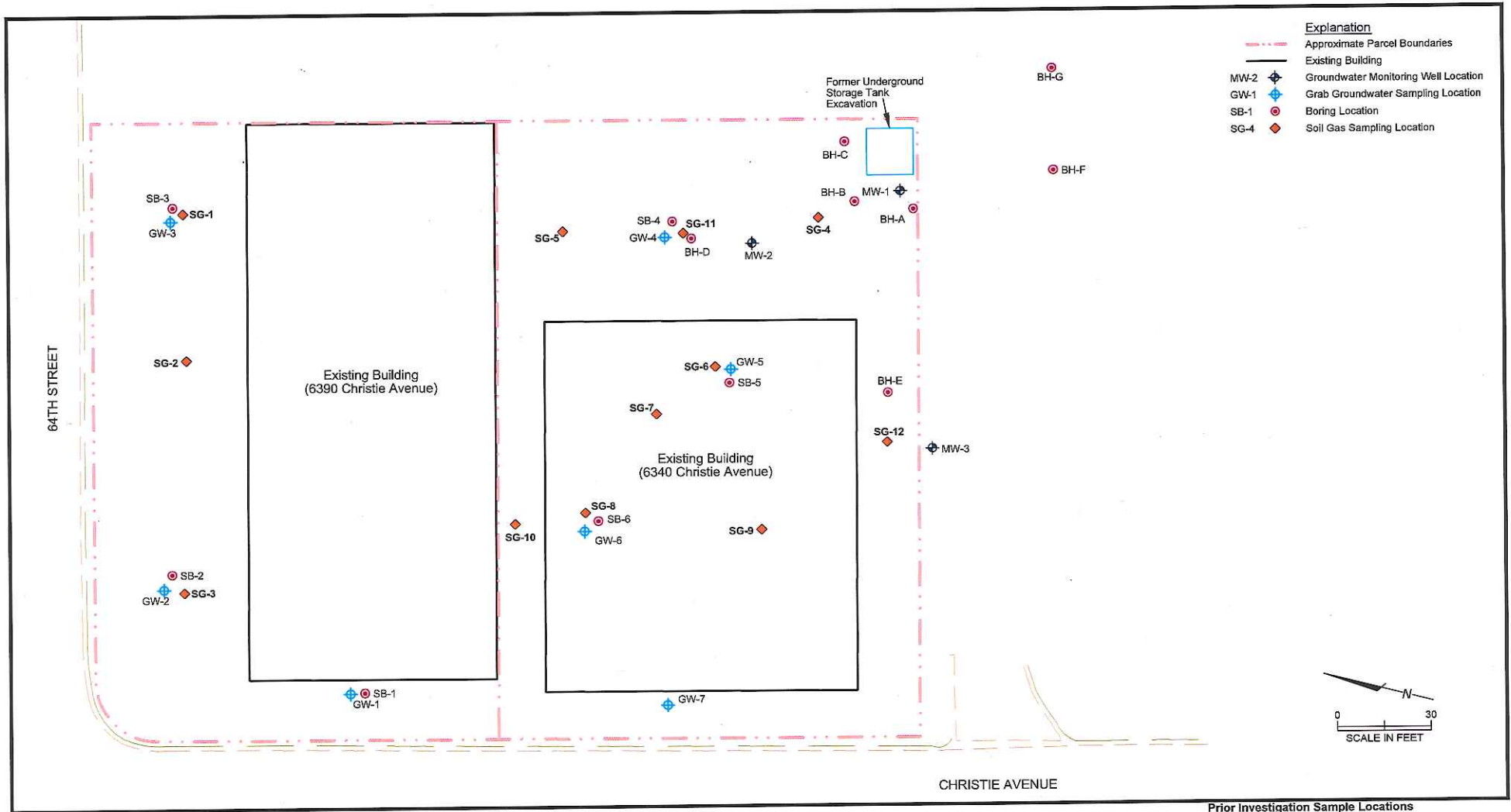
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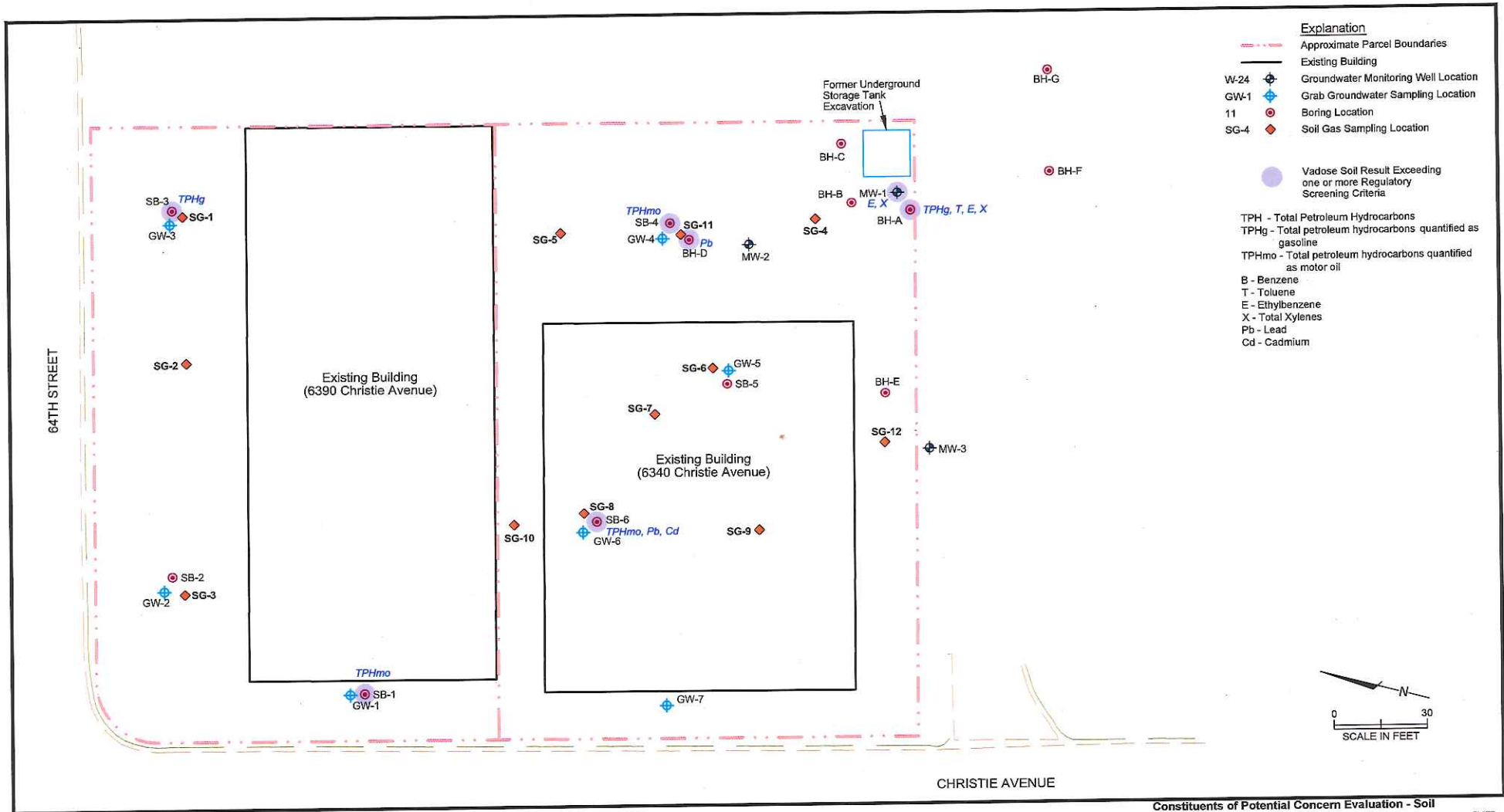


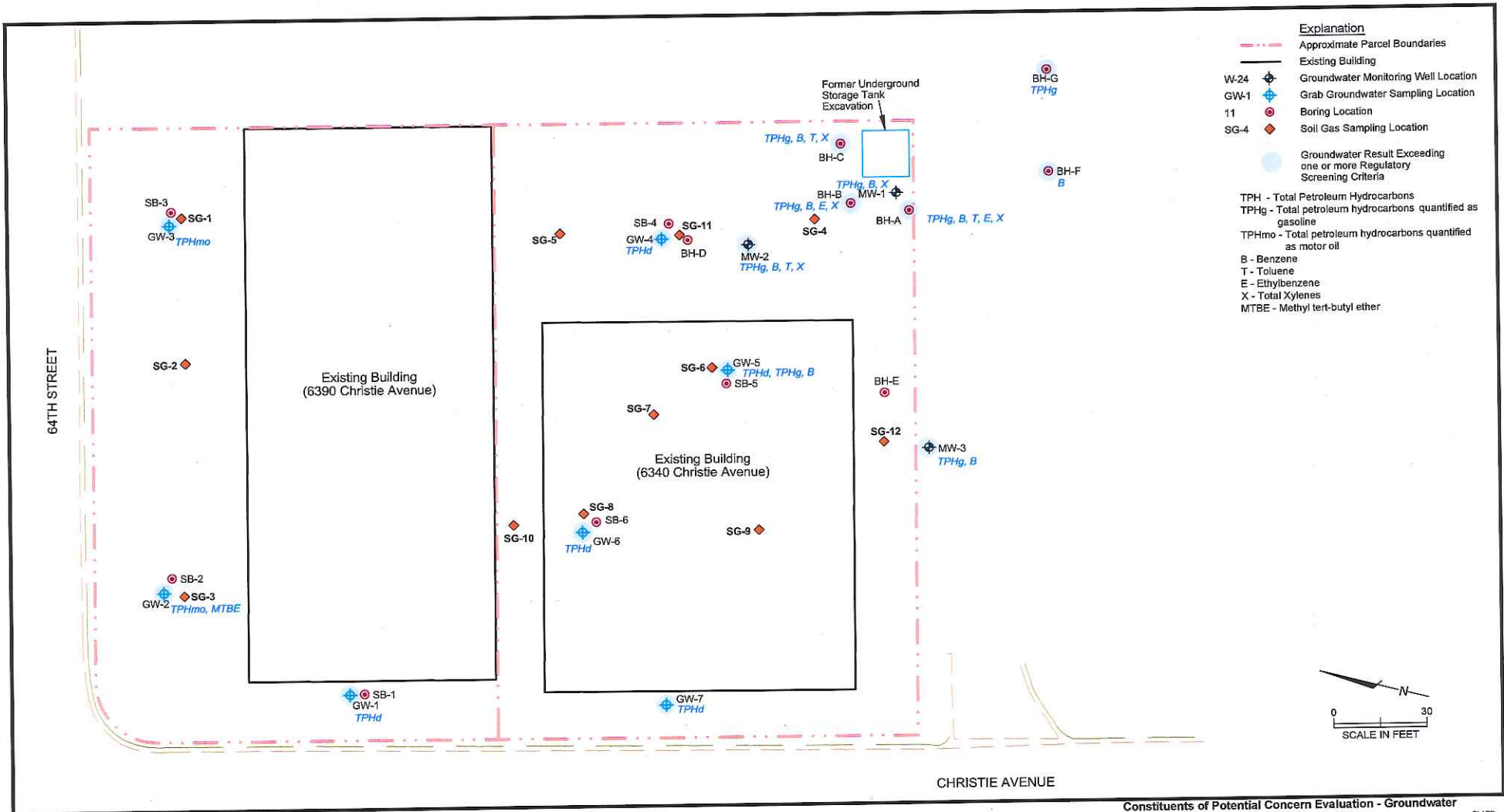
Explanation

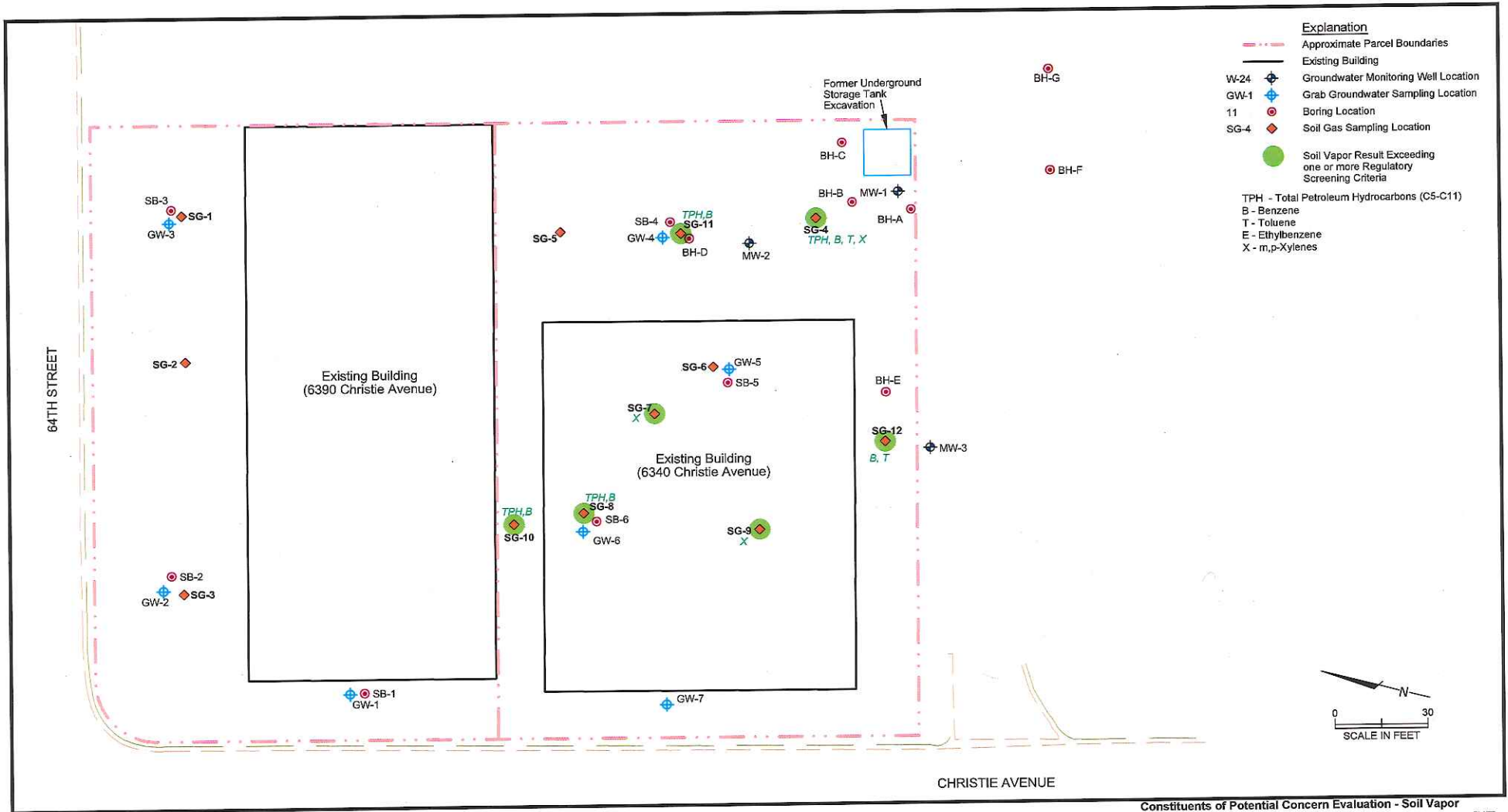
- Approximate Parcel Boundaries
- Existing Building
- MW-2 Groundwater Monitoring Well Location
- GW-1 Grab Groundwater Sampling Location
- SB-1 Boring Location
- SG-4 Soil Gas Sampling Location

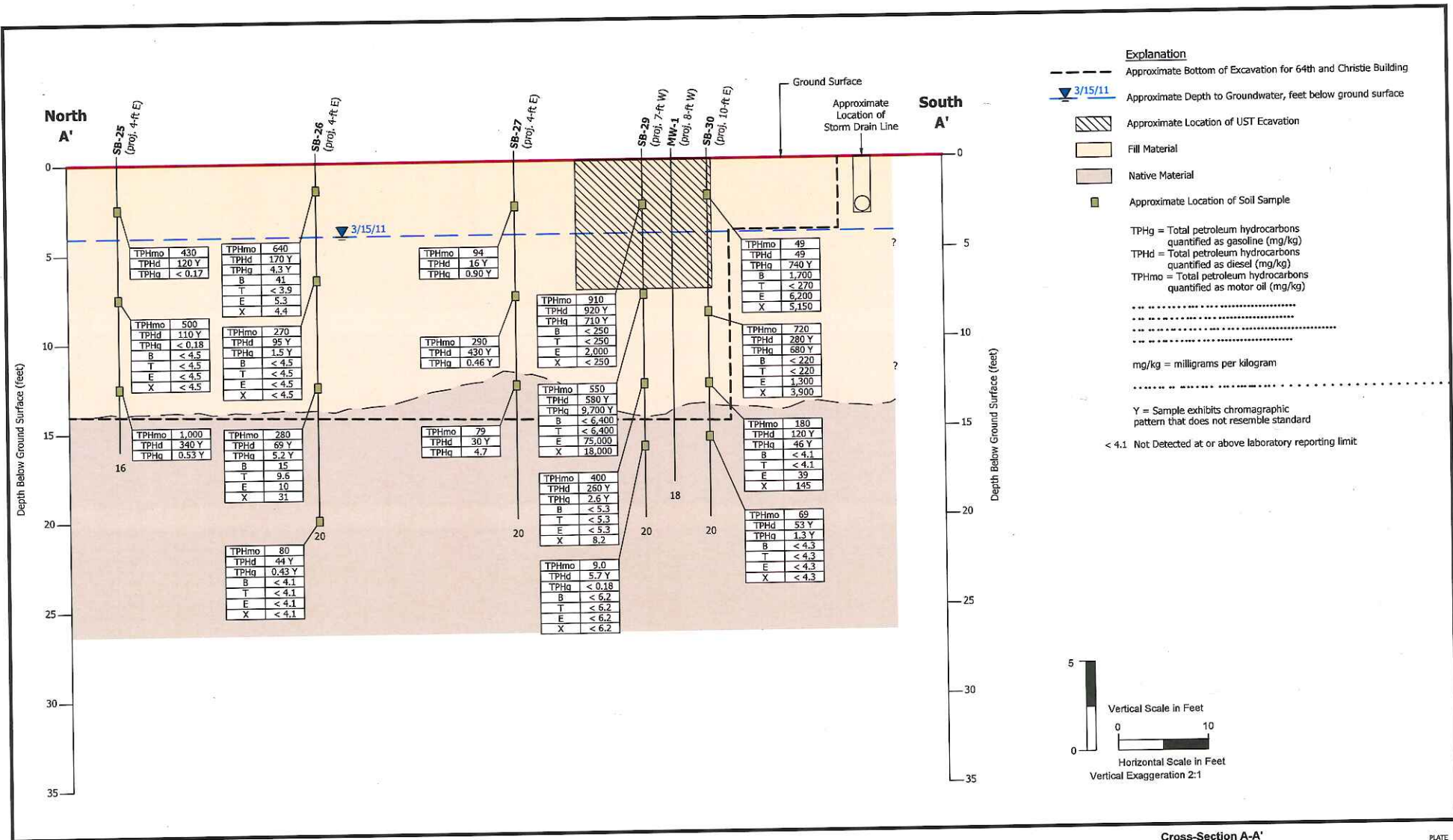
PES Environmental, Inc.
Engineering & Environmental Services

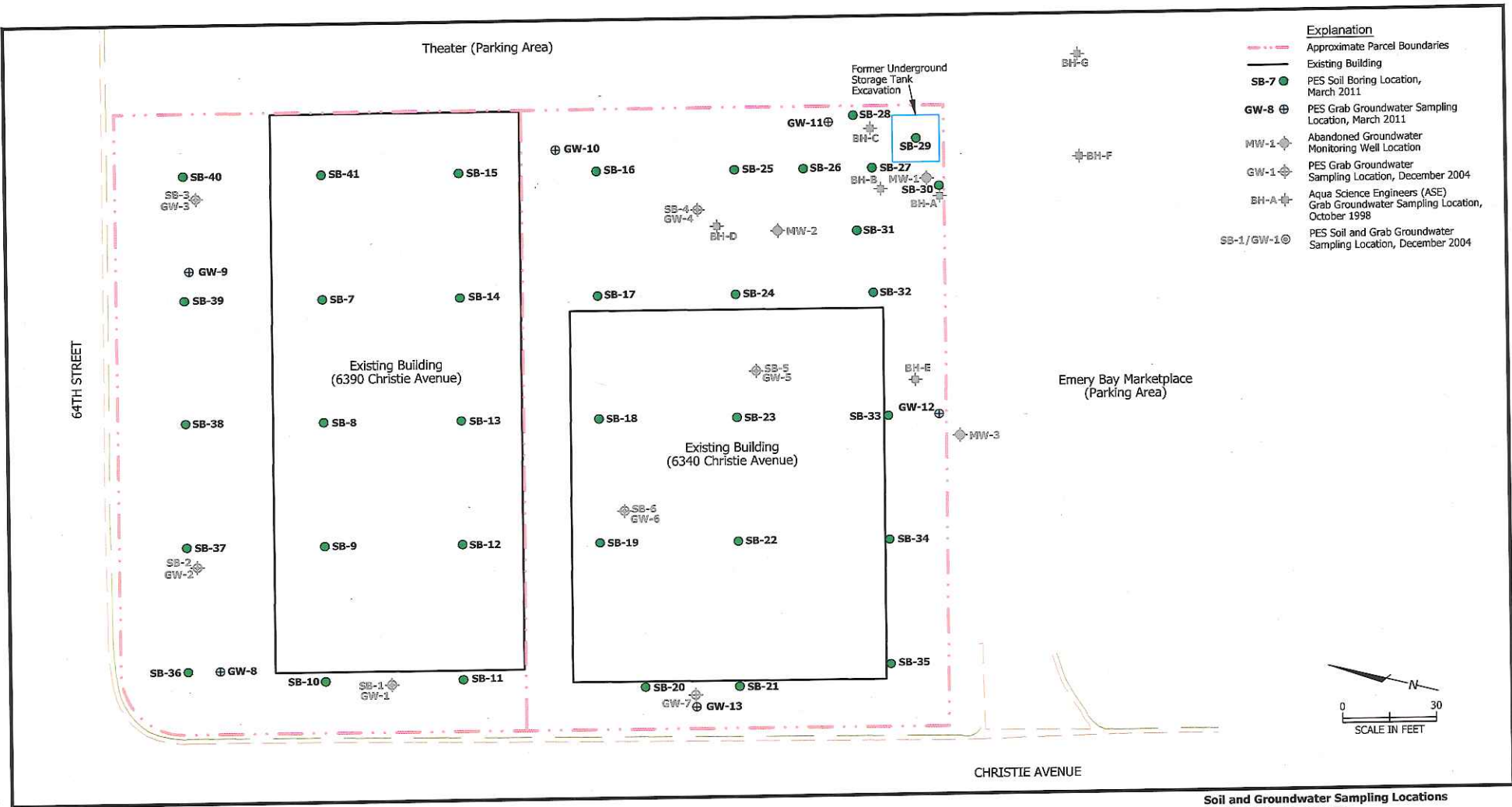
Prior Investigation Sample Locations
Remediation Work Plan
Proposed 64th and Christie Residential Building
6340 and 6390 Christie Avenue
Emeryville, California

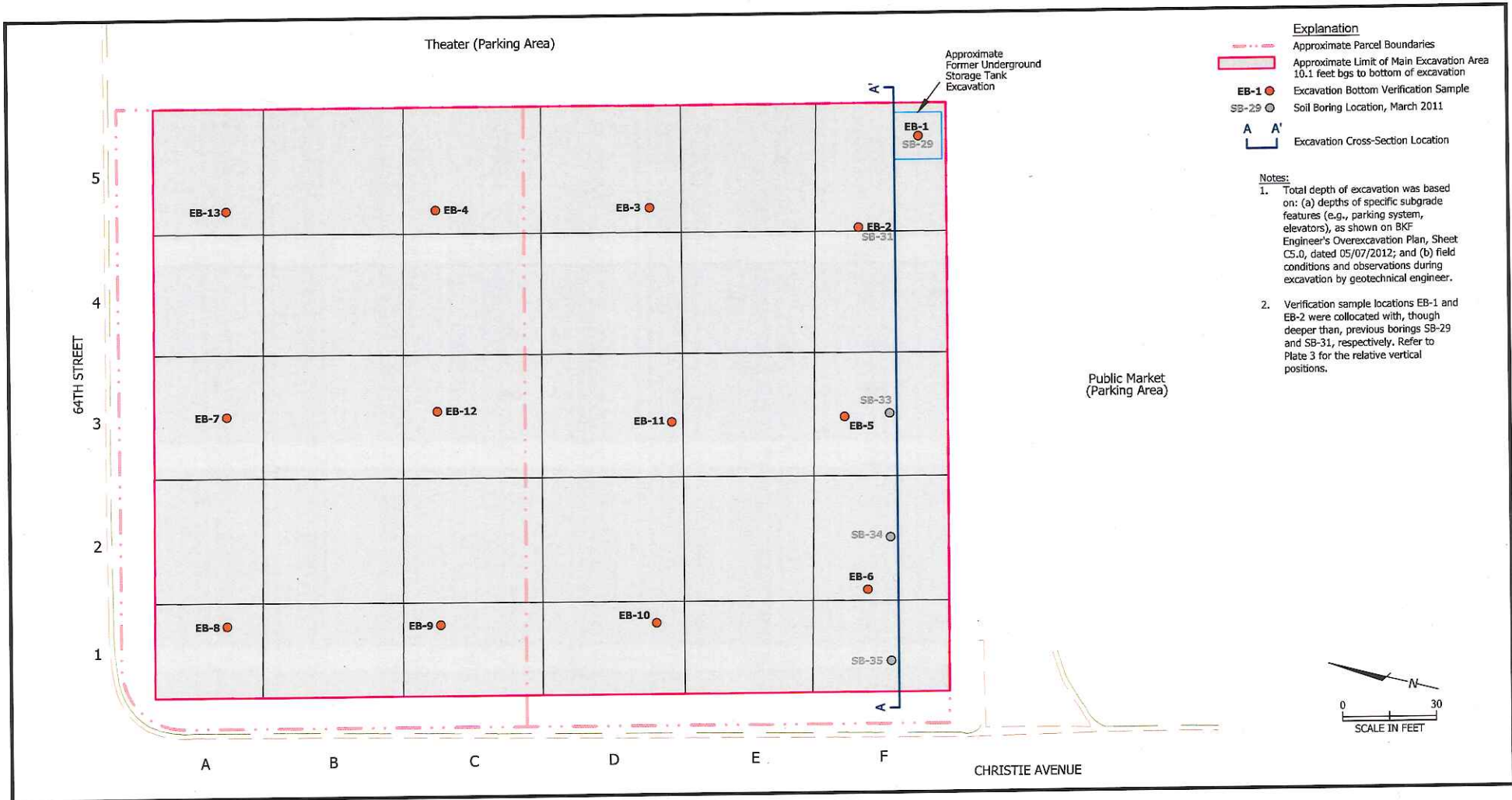






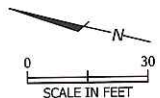






- Explanation**
- Approximate Parcel Boundaries
 - Approximate Limit of Main Excavation Area 10.1 feet bgs to bottom of excavation
 - EB-1 Excavation Bottom Verification Sample
 - SB-29 Soil Boring Location, March 2011
 - A A' Excavation Cross-Section Location

- Notes:**
1. Total depth of excavation was based on: (a) depths of specific subgrade features (e.g., parking system, elevators), as shown on BKF Engineer's Overexcavation Plan, Sheet C5.0, dated 05/07/2012; and (b) field conditions and observations during excavation by geotechnical engineer.
 2. Verification sample locations EB-1 and EB-2 were collocated with, though deeper than, previous borings SB-29 and SB-31, respectively. Refer to Plate 3 for the relative vertical positions.



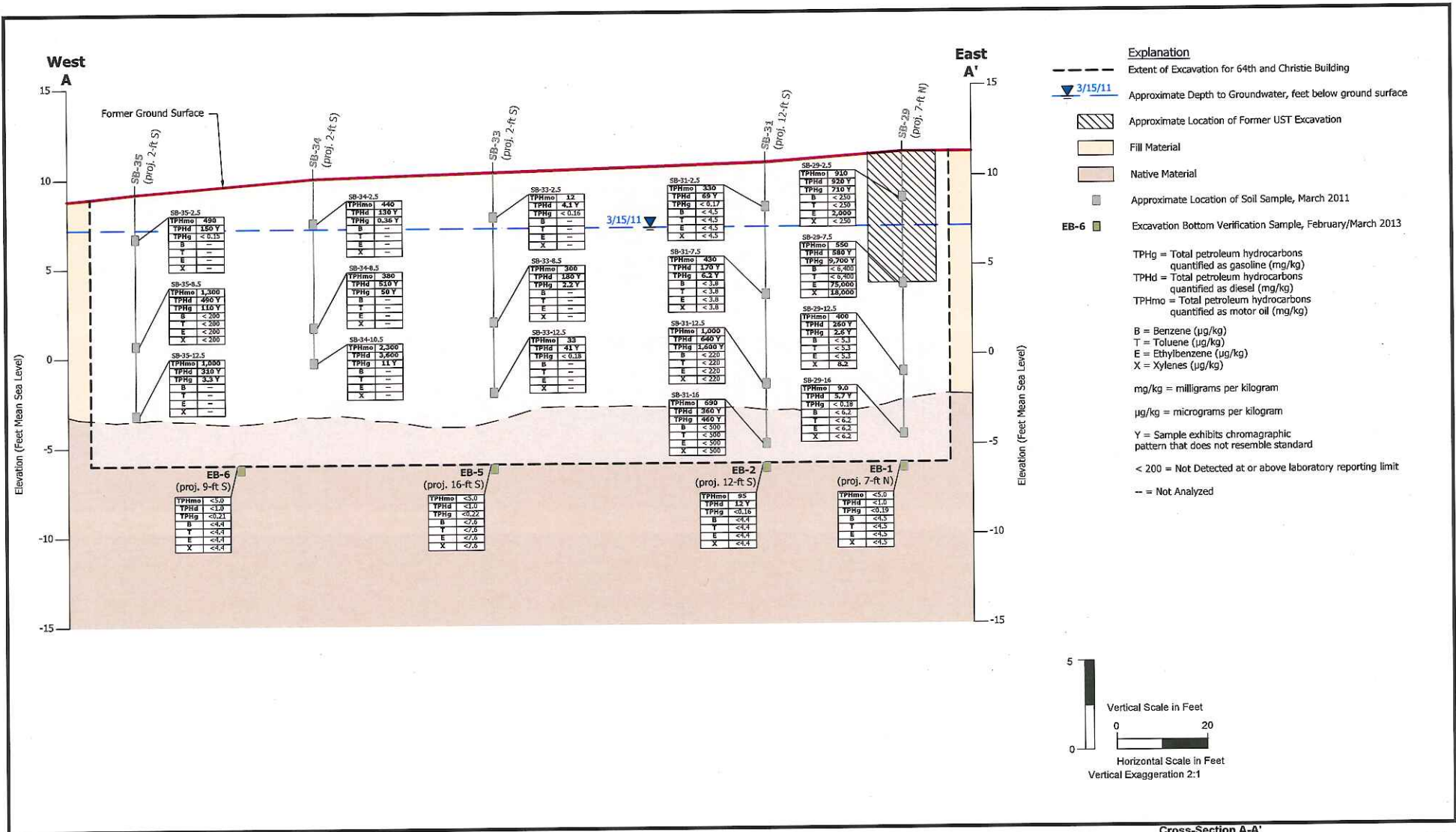


Table 1
Summary of Organic Analytical Results for Soil Samples
Proposed 64th and Christie Building
6340 and 6390 Christie Avenue
Emeryville, California

Sample Location	Sample Identification	Sample Depth (feet bgs)	Date Collected	TPHd (mg/kg)	TPHmo (mg/kg)	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	VOCs (mg/kg)	PCBs (mg/kg)
6340 Christie Avenue													
BH-A	BH-A,6'	6	10/9/98	--	--	1,400	<0.62	25	7.1	16	<6.2	--	--
BH-B	BH-B,3.5'	3.5	10/9/98	--	--	<1.0	0.009	0.0083	0.012	0.039	<0.005	--	--
BH-C	BH-C,4'	4	10/9/98	--	--	<1.0	0.011	<0.005	0.08	0.16	<0.005	--	--
BH-D	BH-D,4'	4	10/9/98	--	--	<1.0	<0.005	<0.005	<0.005	0.0087	<0.005	--	--
BH-E	BH-E,5.5'	5.5	10/9/98	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
MW-1	MW-1@4.5'	4.5	01/21/99	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--
MW-2	MW-2@4.5'	4.5	01/21/99	--	--	<1.0	<0.0050	<0.0050	0.0073	0.027	<0.005	--	--
MW-3	MW-3@4.5'	4.5	01/21/99	--	--	<1.2	<0.005	<0.005	0.0073	0.027	<0.0053	All ND	--
SB-4	SB-4,2	2	12/15/04	<6.3	3,600	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.0054	All ND	--
SB-4	SB-4,7	7	12/15/04	<2.5	22	<0.0054	<0.0054	<0.0054	<0.0054	<0.011	<0.0039	All ND	--
SB-4	SB-5,2	2	12/15/04	<2.5	<10	<0.00309	<0.0039	<0.0039	<0.0039	<0.0079	<0.0041	All ND	--
SB-5	SB-5,2	2	12/15/04	<2.5	<10	<0.0041	<0.0041	<0.0041	<0.0041	<0.0083	<0.0042	All ND	--
SB-5	SB-5,7	7	12/15/04	<2.5	13	<0.0042	<0.0042	<0.0042	<0.0042	<0.0084	<0.0042	All ND	--
SB-6	SB-6,2	2	12/15/04	<2.5	2,600	0.077	<0.0042	<0.0042	<0.0042	<0.0083	<0.0042	All ND	--
SB-6	SB-6,7	7	12/15/04	<2.5	--	--	<0.0042	<0.0042	<0.0042	<0.0083	<0.0042	All ND	All ND
SB-4	(SB-4-2)(SB-4-7)Comp	Composite	12/15/04	--	--	--	--	--	--	--	--	--	All ND
SB-5	(SB-5-2)(SB-5-7)Comp	Composite	12/15/04	--	--	--	--	--	--	--	--	--	All ND
SB-6	(SB-6-2)(SB-6-7)Comp	Composite	12/15/04	--	--	--	--	--	--	--	--	--	All ND
SB-4, -5, -6	6340 Shallow Comp	Composite	12/15/04	--	--	--	--	--	--	--	--	--	<0.1
6390 Christie Avenue													
SB-1	SB-1,2	2	12/15/04	<50	560	<0.0040	<0.0042	<0.0042	<0.0042	<0.0083	<0.0042	All ND	--
SB-1	SB-1,7	7	12/15/04	<13	140	<0.0041	<0.0041	<0.0041	<0.0041	<0.0082	<0.0041	All ND	--
SB-2	SB-2,2	2	12/15/04	<5	40	<0.0025	<0.0025	<0.0025	<0.0025	<0.0050	<0.0025	All ND	--
SB-2	SB-2,7	7	12/15/04	<2.5	47	3.0	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	All ND	--
SB-3	SB-3,2	2	12/15/04	<13	150	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	All ND	--
SB-3	SB-3,7	7	12/15/04	<25	360	110	<0.7	<0.7	<0.7	<1.4	<700	All ND	--
SB-1, -2, -3	6390 Shallow Comp	Composite	12/15/04	--	--	--	--	--	--	--	--	--	<0.1
Residential Direct-Exposure ESL ⁽¹⁾				540	1,800	540	0.12	320	2.3	150	8.4	Var	6.3
Leaching- Non-Drinking Water ESL ⁽²⁾				180	--	180	2	9.3	4.7	11	8.4	Var	6.3
Leaching Drinking Water ESL ⁽³⁾				83	--	83	0.044	2.9	3.3	2.3	0.023	Var	0.089
Residential CHHSL ⁽⁴⁾				--	--	--	--	--	--	--	--	Var	0.22
USEPA Region 9 RSL ⁽⁵⁾				--	--	--	1.1	5,000	5.4	600	43	Var	0.22

Notes:

Shaded area = Concentration exceeding one or more screening criteria.

bgs = Below ground surface.

TPHd = Total petroleum hydrocarbons (TPH) quantified as diesel (U.S. EPA Test Method 8015M).

mg/kg = Milligrams per kilogram.

TPHmo = TPH quantified as motor oil (U.S. EPA Test Method 8015M).

TPHg = TPH quantified as gasoline (U.S. EPA Test Method 8260).

MTBE = Methyl tert-butyl ether (U.S. EPA Test Method 8260).

VOCs = Volatile organic compounds (U.S. EPA Test Method 8260).

PCBs = Polychlorinated biphenyls (U.S. EPA Test Method 8082).

-- = Not analyzed or not applicable.

Shaded area indicates a concentration exceeding one or more screening criterion.

<0.62 = Not detected at or above the indicated laboratory reporting limit.

All ND indicates chemicals not detected at or above respective reporting limits.

(1) Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL); Direct Exposure for Residential Use (DERU); HQ = 1 for Non-Carcinogens (Table K-1).

(2) RWQCB Environmental Screening Level: Soil Leaching Level for Non-Drinking Water (Table G).

(3) RWQCB Environmental Screening Level: Soil Leaching Level for Drinking Water (Table G).

(4) California Environmental Protection Agency (CalEPA) Human Health Screening Level (CHHSL) for soil in a residential setting (CalEPA, 2005; Table 1).

(5) U.S. EPA Region 9 Regional Screening Levels (RSLs) for soil in a residential setting (May 2010). Lowest RSL for PCBs (Aroclor 1242, 1248, 1254, 1260) is listed.

Var indicates various screening levels for individual chemicals.

ATTACHMENT 4

Table 2
Summary of Inorganic Analytical Results for Soil Samples
Proposed 64th and Christie Building
6340 and 6390 Christie Avenue
Emeryville, California

Sample Location	Sample Identification	Sample Depth (feet bgs)	Date Collected	Cadmium (mg/kg)	Total Chromium (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
6340 Christie Avenue								
BH-A	BH-A	6	10/9/98	--	--	23	--	--
BH-B	BH-B	3.5	10/9/98	--	--	130	--	--
BH-C	BH-C	4	10/9/98	--	--	130	--	--
BH-D	BH-D	4	10/9/98	--	--	310	--	--
BH-E	BH-E	5.5	10/9/98	--	--	11	--	--
MW-1	MW-1@4.5'	4.5	01/21/99	--	--	130	--	--
MW-2	MW-2@4.5'	4.5	01/21/99	--	--	49	--	--
MW-3	MW-3@4.5'	4.5	01/21/99	--	--	72	--	--
SB-4	(SB-4-2)(SB-4-7)Comp	Composite	12/15/04	<1	41	6.1	41	62
SB-5	(SB-5-2)(SB-5-7)Comp	Composite	12/15/04	<1	38	<5	40	30
SB-6	(SB-6-2)(SB-6-7)Comp	Composite	12/15/04	2.6	55	760	56	1,800
6390 Christie Avenue								
SB-1	(SB-1-2)(SB-1-7)Comp	Composite	12/15/04	<1	49	65	47	160
SB-2	(SB-2-2)(SB-2-7)Comp	Composite	12/15/04	<1	21	<5	23	59
SB-3	(SB-3-2)(SB-3-7)Comp	Composite	12/15/04	<1	46	<5	55	27
Residential Direct-Exposure ESL ⁽¹⁾				1.7	--	260	1,500	23,000
Leaching- Non-Drinking Water ESL ⁽²⁾				--	--	--	--	--
Leaching Drinking Water ESL ⁽³⁾				--	--	--	--	--
Residential CHHSL ⁽⁴⁾				1.7	--	150	1,600	23,000
USEPA Region 9 RSL ⁽⁵⁾				70	120,000	400	1,500	23,000

Notes:

☐ = Concentration exceeding one or more screening criteria.

bgs = Below ground surface.

mg/kg = Milligrams per kilogram.

-- = Not analyzed or not applicable.

Shaded area indicates a concentration exceeding one or more screening criterium.

<1 = Not detected at or above the indicated laboratory reporting limit.

Only metals detected at or above laboratory reporting limits are listed; chromium, lead, nickel, and zinc (U.S. EPA Test Method 6010B).

(1) Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL): Direct Exposure for Residential Use (DERU); HQ = 1 for Non-Carcinogens (Table G).

(2) RWQCB Environmental Screening Level: Soil Leaching Level for Non-Drinking Water (Table G).

(3) RWQCB Environmental Screening Level: Soil Leaching Level for Drinking Water (Table G).

(4) California Environmental Protection Agency (CalEPA) Human Health Screening Level (CHHSL) for soil in a residential setting (CalEPA, 2005; Table 1).

(5) U.S. EPA Region 9 Regional Screening Levels (RSLs) for soil in a residential setting (May 2010). Assumes chromium is Cr(III).

Table 1
 Summary of Analytical Results for Soil - Petroleum Hydrocarbons, VOCs, and SVOCs
 Proposed 64th and Christie Avenue Residential Building
 6340 and 6390 Christie Avenue
 Emeryville, CA

Sample ID	Sample Depth (ft bgs)	Sample Location	Date	TPHmo (mg/Kg)	TPHd (mg/Kg)	TPHg (mg/Kg)	VOCs											SVOCs								
							Benzene (µg/Kg)	Toluene (µg/Kg)	Ethylbenzene (µg/Kg)	Xylenes (µg/Kg)	Acetone (µg/Kg)	2-Ba (µg/Kg)	n-Bb (µg/Kg)	sec-Bb (µg/Kg)	tert-Bb (µg/Kg)	Pbz (µg/Kg)	Naph (µg/Kg)	Isopb (µg/Kg)	1,2,4-TMB (µg/Kg)	1,3,5-TMB (µg/Kg)	Fluor (µg/Kg)	Naph (µg/Kg)	2-Mnaph (µg/Kg)	Phen (µg/Kg)	Pyrene (µg/Kg)	
SB-7-2.5	2.5	SB-7	3/14/2011	72	17 Y	< 0.17	< 3.9	< 3.9	< 3.9	< 3.9	< 15	< 7.7	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9	< 67	< 67	< 67	< 67	< 67
SB-7-5.0	6.0	SB-7	3/14/2011	51	11 Y	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-7-12.0	12.0	SB-7	3/14/2011	60	63 Y	1.9 Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-8-2.5	2.5	SB-8	3/14/2011	14	3.1 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-8-6.5	6.5	SB-8	3/14/2011	910	150 Y	1.5 Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-8-12.5	12.5	SB-8	3/14/2011	54	32 Y	< 0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-9-2.5	2.5	SB-9	3/14/2011	260	80 Y	< 0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-9-6.5	6.5	SB-9	3/14/2011	160	27 Y	< 0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-9-12.5	12.5	SB-9	3/14/2011	890	330 Y	1.7 Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-10-2.5	2.5	SB-10	3/15/2011	630	210 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-10-5.5	5.5	SB-10	3/15/2011	< 5.0	1.3 Y	< 0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-10-12.5	12.5	SB-10	3/15/2011	42	24 Y	0.75 Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-11-2.5	2.5	SB-11	3/17/2011	22	7.7 Y	< 0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-11-7.5	7.5	SB-11	3/17/2011	51	23 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-11-12.5	12.5	SB-11	3/17/2011	51	20 Y	< 0.15	< 5.1	< 5.1	< 5.1	< 5.1	59	12	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	< 66	< 66	< 66	< 66	< 66
SB-12-2.5	2.5	SB-12	3/14/2011	470	140 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-12-7.5	7.5	SB-12	3/14/2011	120	34 Y	< 0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-12-12.5	12.5	SB-12	3/14/2011	88	22 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-13-2.5	2.5	SB-13	3/15/2011	410	140 Y	< 0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-14-2.5	2.5	SB-14	3/15/2011	800	230 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-14-7.5	7.5	SB-14	3/15/2011	360	150 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-15-2.5	2.5	SB-15	2/18/2011	600	130 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-15-4.5	4.5	SB-15	3/15/2011	410	230 Y	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-15-12.5	12.5	SB-15	3/15/2011	210	98 Y	0.28 Y	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-16-2.5	2.5	SB-16	3/16/2011	390	110 Y	< 0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-16-7.5	7.5	SB-16	3/16/2011	22	6.1 Y	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-16-12.5	12.5	SB-16	3/16/2011	7.4	3.4 Y	< 0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-17-2.5	2.5	SB-17	3/16/2011	230	82 Y	< 0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-17-6.0	6.0	SB-17	3/16/2011	17	6.8 Y	< 0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-17-12.5	12.5	SB-17	3/16/2011	58	15 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-18-2.5	2.5	SB-18	3/17/2011	240	48 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-18-7.0	7.0	SB-18	3/17/2011	71	16 Y	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-18-12.5	12.5	SB-18	3/17/2011	1,800	390 Y	1.4 Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-19-2.5	2.5	SB-19	3/17/2011	290	77 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-19-7.5	7.5	SB-19	3/17/2011	920	360 Y	< 0.20	< 4.1	< 4.1	< 4.1	< 4.1	39	8.6	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1	< 330	< 330	< 330	< 330	< 3,800	
SB-19-12.5	12.5	SB-19	3/17/2011	490	310 Y	1.4 Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-20-1.5	1.5	SB-20	3/17/2011	410	170 Y	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-20-6.5	6.5	SB-20	3/17/2011	170	76 Y	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-20-12.5	12.5	SB-20	3/17/2011	410	130 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-21-2.5	2.5	SB-21	3/17/2011	61	34 Y	< 0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-21-8.5	8.5	SB-21	3/17/2011	530	150 Y	< 0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-21-12.5	12.5	SB-21	3/17/2011	790	210 Y	4.1 Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-22-2.5	2.5	SB-22	3/17/2011	540	310 Y	< 0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-22-7.0	7.0	SB-22	3/17/2011	< 5.0	1.0 Y	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-22-12.5	12.5	SB-22	3/17/2011	420	100 Y	0.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2
 Summary of Analytical Results for Soil - Metals
 Proposed 64th and Christie Avenue Residential Building
 6340 and 6390 Christie Avenue
 Emeryville, CA

Sample ID	Depth (ft bgs)	Sample Location	Date	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
SB-7-2.5	2.5	SB-7	3/14/2011	2.1	5.5	440	0.42	0.61	41	8.4	72	210	0.090	< 0.25	62	< 0.50	< 0.25	< 0.50	33	290
SB-7-5.0	5.0	SB-7	3/14/2011	3.6	3.6	150	0.32	0.51	18	7.9	38	83	0.17	< 0.25	19	< 0.50	< 0.25	< 0.50	36	150
SB-7-12.0	12.0	SB-7	3/14/2011	0.94	8.9	69	0.38	0.62	62	9.6	35	48	0.83	< 0.25	54	< 0.50	0.32	< 0.50	45	110
SB-8-2.5	2.5	SB-8	3/14/2011	< 0.50	4.9	31	0.12	< 0.25	32	9.2	8.1	3.4	0.066	< 0.25	42	< 0.50	< 0.25	< 0.50	35	37
SB-8-6.5	6.5	SB-8	3/14/2011	0.89	4.3	170	0.40	0.43	40	10	25	80	0.16	< 0.25	68	< 0.50	< 0.25	< 0.50	39	140
SB-8-12.5	12.5	SB-8	3/14/2011	< 0.50	1.8	88	0.27	< 0.25	8.5	2.8	5.9	11	0.18	< 0.25	7.9	< 0.50	< 0.25	< 0.50	15	25
SB-9-2.5	2.5	SB-9	3/14/2011	2.2	8.8	150	0.34	1.5	36	8.8	200	95	0.32	0.31	42	< 0.50	< 0.25	< 0.50	36	250
SB-9-6.5	6.5	SB-9	3/14/2011	1.1	3.2	150	0.52	< 0.25	39	8.3	24	11	0.23	< 0.25	36	< 0.50	< 0.25	< 0.50	43	43
SB-9-12.5	12.5	SB-9	3/14/2011	1.4	3.2	190	0.16	0.35	8.5	5.2	12	36	0.12	< 0.25	8.2	< 0.50	< 0.25	< 0.50	25	270
SB-10-2.5	2.5	SB-10	3/15/2011	13	19	680	0.41	1.0	54	16	430	260	0.93	6.4	69	< 0.50	0.47	< 0.50	41	780
SB-10-5.5	5.5	SB-10	3/15/2011	5.1	3.5	88	0.34	< 0.25	28	6.8	11	4.1	0.034	0.63	31	< 0.50	< 0.25	< 0.50	25	30
SB-10-12.5	12.5	SB-10	3/15/2011	11	5.1	89	0.42	< 0.25	73	11	24	37	0.21	0.53	61	< 0.50	< 0.25	< 0.50	53	90
SB-11-2.5	2.5	SB-11	3/17/2011	6.9	3.7	130	0.50	0.28	37	9.7	34	20	0.056	0.64	54	< 0.50	< 0.25	< 0.50	52	49
SB-11-7.5	7.5	SB-11	3/17/2011	4.0	3.4	200	0.44	< 0.25	39	12	16	25	0.099	0.42	53	< 0.50	< 0.25	< 0.50	36	49
SB-11-12.5	12.5	SB-11	3/17/2011	5.7	8.0	190	0.47	0.31	37	9.9	51	88	0.29	1.0	35	< 0.50	0.30	< 0.50	41	280
SB-12-2.5	2.5	SB-12	3/14/2011	5.6	20	190	0.30	0.95	36	8.1	170	180	0.69	0.92	37	< 0.50	< 0.25	< 0.50	32	260
SB-12-7.5	7.5	SB-12	3/14/2011	2.9	5.4	180	0.38	0.82	35	8.7	160	160	0.26	0.56	42	< 0.50	0.42	< 0.50	33	380
SB-12-12.5	12.5	SB-12	3/14/2011	1.1	5.1	210	0.42	0.28	47	9.3	27	130	0.17	< 0.25	42	< 0.50	< 0.25	< 0.50	36	140
SB-13-2.5	2.5	SB-13	3/15/2011	4.2	28	230	0.32	1.0	34	9.4	190	230	0.37	1.1	57	< 0.50	< 0.25	< 0.50	40	350
SB-14-2.5	2.5	SB-14	3/15/2011	12	17	270	0.46	0.86	58	13	150	160	0.40	1.1	57	< 0.50	< 0.25	< 0.50	40	350
SB-14-7.5	7.5	SB-14	3/15/2011	20	12	210	0.37	0.83	50	9.7	730	450	7.3	1.0	51	< 0.50	0.56	< 0.50	35	960
SB-15-2.5	2.5	SB-15	3/15/2011	15	12	260	0.38	3.8	39	9.9	230	260	0.34	1.4	50	< 0.50	0.29	< 0.50	33	500
SB-15-4.5	4.5	SB-15	3/15/2011	13	3.8	160	0.21	1.5	26	5.7	120	250	0.16	1.1	22	< 0.50	0.80	< 0.50	15	260
SB-15-12.5	12.5	SB-15	3/15/2011	5.1	1.4	65	0.23	< 0.25	20	4.8	29	20	0.081	0.66	25	< 0.50	< 0.25	< 0.50	17	82
SB-16-2.5	2.5	SB-16	3/16/2011	10	15	280	0.36	1.2	44	13	190	230	1.6	2.8	49	< 0.50	0.44	< 0.50	35	420
SB-16-7.5	7.5	SB-16	3/16/2011	6.1	3.7	190	0.49	0.44	42	14	56	48	1.0	0.74	41	< 0.50	< 0.25	< 0.50	39	120
SB-16-12.5	12.5	SB-16	3/16/2011	7.1	9.8	110	0.46	< 0.25	31	11	180	6.6	0.11	0.76	42	< 0.50	< 0.25	< 0.50	34	46
SB-17-2.5	2.5	SB-17	3/16/2011	12	27	320	0.36	4.7	40	9.7	550	430	5.2	0.80	38	1.5	0.46	< 0.50	30	630
SB-17-6.0	6.0	SB-17	3/16/2011	4.4	3.2	130	0.42	< 0.25	42	17	19	6.4	0.041	0.47	36	< 0.50	< 0.25	< 0.50	37	32
SB-17-12.5	12.5	SB-17	3/16/2011	< 0.50	2.4	29	0.15	< 0.25	9.3	2.2	12	19	0.13	0.35	13	< 0.50	< 0.25	1.4	11	25
SB-18-2.5	2.5	SB-18	3/17/2011	5.9	68	290	0.27	11	38	6.9	230	170	0.56	0.66	32	2.8	0.30	< 0.50	24	430
SB-18-7.0	7.0	SB-18	3/17/2011	1.1	2.8	72	0.25	< 0.25	16	3.7	9.6	24	0.15	< 0.25	18	< 0.50	< 0.25	1.2	17	27
SB-18-12.5	12.5	SB-18	3/17/2011	7.4	5.5	170	0.40	0.33	66	9.5	25	14	0.26	0.36	59	< 0.25	< 0.50	< 0.50	48	160
SB-19-2.5	2.5	SB-19	3/17/2011	13	120	640	0.28	3.9	59	8.0	790	330	0.29	0.60	49	< 0.50	0.40	< 0.50	32	1,500
SB-19-7.5	7.5	SB-19	3/17/2011	12	16	430	0.56	1.1	33	7.3	110	250	0.35	1.1	47	< 0.50	< 0.25	< 0.50	53	190
SB-19-12.5	12.5	SB-19	3/17/2011	4.4	6.8	180	0.29	< 0.25	34	7.0	19	53	0.76	0.63	31	0.67	< 0.25	< 0.50	32	85

Table 2
 Summary of Analytical Results for Soil - Metals
 Proposed 64th and Christie Avenue Residential Building
 6340 and 6390 Christie Avenue
 Emeryville, CA

Sample ID	Depth (ft bgs)	Sample Location	Date	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
SB-20-1.5	1.5	SB-20	3/17/2011	9.5	23	200	0.28	1.0	35	8.0	200	180	0.62	0.73	39	< 0.50	< 0.25	< 0.50	32	240
SB-20-8.5	8.5	SB-20	3/17/2011	5.8	15	110	0.18	0.61	29	8.1	82	65	0.11	0.58	36	< 0.50	< 0.25	< 0.50	29	130
SB-20-12.5	12.5	SB-20	3/17/2011	5.2	7.7	150	0.36	< 0.25	41	12	43	35	0.28	0.64	47	< 0.50	< 0.25	< 0.50	33	81
SB-21-2.5	2.5	SB-21	3/17/2011	4.9	4.3	86	0.27	< 0.25	40	9.8	18	44	0.066	0.33	42	< 0.50	< 0.25	< 0.50	34	62
SB-21-8.5	8.5	SB-21	3/17/2011	10	5.8	120	0.33	1.2	37	8.3	52	140	0.25	0.76	37	< 0.50	< 0.25	< 0.50	36	430
SB-21-12.5	12.5	SB-21	3/17/2011	12	4.2	110	0.25	0.43	30	7.7	77	84	0.39	1.1	31	< 0.50	< 0.25	< 0.50	30	100
SB-22-2.5	2.5	SB-22	3/17/2011	8.8	98	630	0.34	2.5	40	11	200	190	0.35	4.5	45	< 0.50	< 0.25	< 0.50	33	560
SB-22-7.0	7.0	SB-22	3/17/2011	3.1	2.7	170	0.41	< 0.25	36	6.3	14	94	0.10	0.32	34	< 0.50	< 0.25	< 0.50	34	54
SB-22-12.5	12.5	SB-22	3/17/2011	6.9	6.9	180	0.42	0.45	35	8.9	78	130	2.0	2.3	32	< 0.50	< 0.25	< 0.50	34	140
SB-23-2.5	2.5	SB-23	3/17/2011	9.5	8.7	160	0.48	0.52	35	8.8	140	83	0.18	0.88	35	< 0.50	< 0.25	< 0.50	34	94
SB-23-7.0	7.0	SB-23	3/17/2011	4.0	3.0	130	0.45	0.32	40	8.4	16	110	0.048	0.72	35	< 0.50	< 0.25	< 0.50	37	54
SB-23-12.5	12.5	SB-23	3/17/2011	2.2	6.0	66	0.21	0.34	24	6.5	8.3	12	0.035	0.53	24	< 0.50	< 0.25	< 0.50	28	23
SB-24-1.5	1.5	SB-24	3/16/2011	9.2	6.8	200	0.66	0.38	21	11	49	64	0.72	1.5	29	< 0.50	< 0.25	< 0.50	29	130
SB-24-5.5	5.5	SB-24	3/16/2011	5.7	8.9	180	0.28	1.4	41	6.9	29	39	0.24	1.1	33	< 0.50	< 0.25	< 0.50	27	110
SB-24-12.0	12.0	SB-24	3/16/2011	2.0	1.4	28	0.22	< 0.25	10	2.4	5.4	21	0.42	0.34	6.9	< 0.50	< 0.25	< 0.50	8.0	31
SB-25-2.5	2.5	SB-25	3/16/2011	10	7.8	190	0.44	0.71	36	13	89	150	0.52	1.4	43	< 0.50	0.33	< 0.50	36	240
SB-25-7.5	7.5	SB-25	3/16/2011	7.9	7.1	250	0.42	1.3	35	14	120	130	0.37	0.87	41	< 0.50	< 0.25	< 0.50	35	300
SB-25-12.5	12.5	SB-25	3/16/2011	8.7	4.5	200	0.33	0.96	37	7.1	360	310	0.11	1.2	30	< 0.50	0.58	0.78	27	340
SB-27-2.5	2.5	SB-27	3/16/2011	2.8	1.8	170	0.63	< 0.25	140	4.2	33	9.9	1.4	0.55	16	< 0.50	< 0.25	< 0.50	17	44
SB-27-7.5	7.5	SB-27	3/16/2011	5.8	3.6	190	0.50	< 0.25	53	16	23	91	0.25	0.91	110	< 0.50	< 0.25	< 0.50	40	71
SB-27-12.5	12.5	SB-27	3/16/2011	6.1	4.5	120	0.33	< 0.25	35	8.1	21	11	0.14	1.2	36	< 0.50	< 0.25	< 0.50	34	44
SB-32-2.5	2.5	SB-32	3/16/2011	5.3	2.3	130	0.25	1.3	35	6.8	120	110	2.5	2.1	32	< 0.50	< 0.25	< 0.50	28	210
SB-32-7.5	7.5	SB-32	3/16/2011	8.1	6.5	760	0.40	1.7	37	8.8	60	800	0.79	1.1	32	< 0.50	< 0.25	< 0.50	40	340
SB-32-11.0	11.0	SB-32	3/16/2011	5.7	3.1	180	0.41	< 0.25	80	12	18	16	0.22	0.55	31	< 0.50	< 0.25	0.96	36	51
SB-33-2.5	2.5	SB-33	3/17/2011	6.9	4.1	200	0.46	0.59	44	18	25	6.7	0.11	1.2	64	< 0.50	< 0.25	< 0.50	51	44
SB-33-8.5	8.5	SB-33	3/17/2011	8.9	6.6	140	0.42	0.38	27	6.8	72	69	0.32	1.2	22	< 0.50	< 0.25	< 0.50	37	110
SB-33-12.5	12.5	SB-33	3/17/2011	5.3	5.6	110	0.40	< 0.25	27	12	14	6.7	0.074	0.91	34	< 0.50	< 0.25	< 0.50	32	28
SB-34-2.5	2.5	SB-34	3/17/2011	20	14	170	32	0.73	31	9.2	160	680	0.19	0.63	34	< 0.50	< 0.25	< 0.50	38	250
SB-34-8.5	8.5	SB-34	3/17/2011	4.1	3.1	120	0.47	< 0.25	27	6.5	18	24	0.19	0.54	22	< 0.50	< 0.25	< 0.50	28	36
SB-34-10.5	10.5	SB-34	3/17/2011	4.2	2.4	93	0.39	0.49	24	3.3	36	250	0.42	0.78	15	< 0.50	< 0.25	< 0.50	12	100
SB-35-2.5	2.5	SB-35	3/17/2011	8.2	7.7	160	0.43	0.31	28	10	70	78	0.54	0.68	33	< 0.50	< 0.25	< 0.50	44	120
SB-35-8.5	8.5	SB-35	3/17/2011	5.5	3.1	67	0.28	0.46	14	5.8	26	17	0.20	0.60	14	< 0.50	< 0.25	< 0.50	20	56
SB-35-12.5	12.5	SB-35	3/17/2011	6.1	3.1	220	0.26	0.43	19	4.3	28	65	0.21	0.97	23	< 0.50	< 0.25	< 0.50	23	200
SB-36-2.5	2.5	SB-36	3/15/2011	11	3.6	180	0.46	< 0.25	38	13	68	86	0.28	0.76	42	< 0.50	< 0.25	< 0.50	46	180
SB-36-6.5	6.5	SB-36	3/15/2011	8.0	5.6	190	0.27	0.39	31	7.2	55	88	0.24	0.84	33	< 0.50	< 0.25	< 0.50	23	240
SB-36-12.5	12.5	SB-36	3/15/2011	15	24	130	0.30	6.1	64	8.5	88	160	0.76	2.6	42	< 0.50	1.5	< 0.50	32	2,600

Table 2
Summary of Analytical Results for Soil - Metals
Proposed 64th and Christie Avenue Residential Building
6340 and 6390 Christie Avenue
Emeryville, CA

Sample ID	Depth (ft bgs)	Sample Location	Date	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
SB-37-2.5	2.5	SB-37	3/15/2011	6.6	4.7	210	0.46	< 0.25	28	8.7	37	72	0.34	0.55	37	< 0.50	< 0.25	< 0.50	28	190
SB-37-7.5	7.5	SB-37	3/15/2011	8.4	5.6	180	0.59	< 0.25	39	11	27	82	0.071	0.73	41	< 0.50	< 0.25	< 0.50	50	79
SB-37-12.5	12.5	SB-37	3/15/2011	15	7.0	390	0.27	1.2	59	7.5	210	1,500	< 0.020	2.0	35	< 0.50	< 0.25	< 0.50	42	1,300
SB-38-2.5	2.5	SB-38	3/15/2011	5.3	9.8	310	0.30	0.94	28	6.3	67	740	0.51	0.98	27	< 0.50	0.37	< 0.50	27	420
SB-38-7.5	7.5	SB-38	3/15/2011	26	4.5	200	0.30	1.1	38	13	44	240	< 0.020	2.0	43	< 0.50	0.30	< 0.50	37	420
SB-38-12.5	12.5	SB-38	3/15/2011	6.6	6.6	110	0.34	3.4	55	14	17	9.0	0.040	1.0	54	< 0.50	< 0.25	< 0.50	47	57
SB-39-2.5	2.5	SB-39	3/15/2011	3.9	12	62	0.27	< 0.25	21	7.8	13	3.1	0.060	1.4	32	< 0.50	< 0.25	1.5	24	33
SB-39-5.0	5.0	SB-39	3/15/2011	5.1	2.6	220	0.53	0.28	38	8.0	21	19	0.20	0.81	37	< 0.50	< 0.25	1.4	37	60
SB-39-12.5	12.5	SB-39	3/15/2011	5.2	4.4	130	0.36	0.44	35	7.2	12	6.0	0.040	1.0	31	< 0.50	< 0.25	< 0.50	39	38
SB-40-2.5	2.5	SB-40	3/15/2011	6.2	4.9	280	0.49	< 0.25	28	7.2	26	40	0.33	0.61	29	< 0.50	< 0.25	< 0.50	28	89
SB-40-7.5	7.5	SB-40	3/15/2011	6.6	2.2	130	0.53	< 0.25	49	11	16	5.0	0.049	0.42	70	< 0.50	< 0.25	< 0.50	39	28
SB-40-12.5	12.5	SB-40	3/15/2011	5.1	5.9	69	0.29	0.69	36	6.2	14	14	0.14	0.69	28	< 0.50	< 0.25	< 0.50	31	840
SB-41-2.5	2.5	SB-41	3/15/2011	9.1	5.3	300	0.45	0.39	46	9.7	190	200	0.84	0.75	52	< 0.50	0.39	< 0.50	36	300
SB-41-6.5	6.5	SB-41	3/15/2011	6.5	6.4	380	0.59	< 0.25	33	9.9	25	29	0.43	0.73	35	< 0.50	< 0.25	< 0.50	34	58
SB-41-12.5	12.5	SB-41	3/15/2011	8.1	2.5	210	0.47	< 0.25	17	7.6	17	18	0.15	1.2	20	< 0.50	< 0.25	< 0.50	33	57
Residential Direct-Exposure ESL⁽¹⁾				31	22	15000	150	39	--	1400	31000	260	6.7	390	1500	390	390	6	78	23,000
TTLc values (mg/kg)⁽²⁾				500	500	10,000	75	100	2,500	8,000	2,500	1,000	20	3,500	2,000	100	500	700	2,400	5,000

Notes:

ft bgs = Feet below ground surface

mg/kg = Milligrams per kilogram

< 0.25 = Not detected at or above the indicated laboratory reporting limit

-- = Not applicable

(1) Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL): Direct Exposure for Residential Use (DERU); HQ = 1 for Non-Carcinogens (Table K-1).

(2) TTLc = Total Threshold Limit Concentration

Table 1
Summary of Analytical Results for Verification Soil Samples - Organic Compounds
64th and Christie Avenue Residential Building
6340 and 6390 Christie Avenue
Emeryville, California

Sample ID	Sample Depth (ft bgs)	Date Sampled	TPHmo (mg/Kg)	TPHd (mg/Kg)	TPHg (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl-benzene (µg/Kg)	Xylenes (µg/Kg)	Other VOCs (µg/Kg)
EB-1	17.3	2/1/2013	<5.0	<1.0	<0.19	<4.5	<4.5	<4.5	<4.5	ND
EB-2	17.3	2/1/2013	95	12 Y	<0.16	<4.4	<4.4	<4.4	<4.4	ND
EB-3	18.5	2/1/2013	<5.0	<1.0	<0.18	<4.7	<4.7	<4.7	<4.7	ND
EB-4	17.2	2/1/2013	<5.0	<1.0	<0.23	<4.6	<4.6	<4.6	<4.6	ND
EB-5	16.3	2/4/2013	<5.0	<1.0	<0.22	<7.6	<7.6	<7.6	<7.6	ND
EB-6	14.9	2/7/2013	<5.0	<1.0	<0.21	<4.4	<4.4	<4.4	<4.4	ND
EB-7	13.2	2/7/2013	<5.0	<1.0	<0.20	<4.9	<4.9	<4.9	<4.9	ND
EB-8	12.8	2/7/2013	<5.0	<0.99	<0.19	<6.9	<6.9	<6.9	<6.9	ND
EB-9	13.6	2/14/2013	<5.0	<1.0	<0.17	<5.6	<5.6	<5.6	<5.6	ND
EB-10	14.5	2/14/2013	<5.0	<1.0	<0.20	<4.6	<4.6	<4.6	<4.6	ND
EB-11	15.3	2/14/2013	<5.0	<1.0	<0.18	<4.4	<4.4	<4.4	<4.4	ND
EB-12	14.3	2/27/2013	<5.0	<1.0	<0.18	<4.7	<4.7	<4.7	<4.7	ND
EB-13	15.9	3/4/2013	<5.0	<1.0	<0.20	<5.8	<5.8	<5.8	<5.8	ND
Approved Remedial Goal⁽¹⁾			1,800	540	540	120	320,000	2,300	150,000	--
Residential: Direct Contact⁽²⁾			--	--	--	1.9	--	21	--	--
Residential: Outdoor Volatilization⁽²⁾			--	--	--	2.8	--	89	--	--
Utility Worker⁽³⁾			--	--	--	14	--	314	--	--

Notes:

VOCs = Volatile Organic Compounds.

mg/kg = milligrams per kilogram.

µg/kg = micrograms per kilogram.

ft bgs = Feet below ground surface. Sample collected at excavation bottom; depth is approximate.

< 0.15 = Not detected at or above the indicated laboratory reporting limit.

ND = Not detected. Reporting limit varies. Refer to laboratory analytical report.

-- = Not analyzed or not applicable.

Y = Sample exhibits chromatographic pattern which does not resemble standard.

TPHmo = Total petroleum hydrocarbons quantified as motor oil.

TPHd = Total petroleum hydrocarbons quantified as diesel.

TPHg = Total petroleum hydrocarbons quantified as gasoline.

(1) The approved project remedial goal was equivalent to the November 2008 Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL): *Direct Exposure Soil Screening Levels, Residential Exposure Scenario*; HQ = 1 for Non-Carcinogens (Table K-1).

(2) Concentration in Soil That Will Have No Significant Risk of Adversely Affecting Human Health - Residential Direct Contact. SWRCB, 2012.

(3) Concentration in Soil That Will Have No Significant Risk of Adversely Affecting Human Health - Volatilization to Outdoor Air. SWRCB, 2012.

(4) Concentration in Soil That Will Have No Significant Risk of Adversely Affecting Human Health - Utility Worker. SWRCB, 2012.

Table 2
Summary of Analytical Results for Verification Soil Samples - Metals
64th and Christie Avenue Residential Building
6340 and 6390 Christie Avenue
Emeryville, California

Sample ID	Sample Depth (ft bgs)	Date Sampled	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
EB-1	17.3	2/1/2013	<0.49	3.7	79	0.26	<0.25	20	5.6	11	3.8	0.021	<0.25	22	<0.49	<0.25	<0.49	23	27
EB-2	17.3	2/1/2013	<0.52	2.5	34	0.42	0.29	38	9.6	20	4.7	0.028	<0.26	47	<0.52	<0.26	<0.52	34	45
EB-3	18.5	2/1/2013	<0.50	5.4	63	0.37	0.34	34	9.6	18	4.6	0.022	<0.25	42	<0.50	<0.25	<0.50	44	41
EB-4	17.2	2/1/2013	<0.46	4.6	70	0.25	<0.23	59	7.4	11	2.8	<0.018	<0.23	34	<0.46	<0.23	<0.46	44	34
EB-5	16.3	2/4/2013	<0.44	8.2	310	0.49	0.65	52	9.7	25	5.2	0.040	1.4	75	<0.44	<0.22	<0.44	54	53
EB-6	14.9	2/7/2013	<0.48	6.2	58	0.50	<0.24	46	8.8	21	4.7	0.031	0.26	54	0.64	<0.24	<0.48	37	44
EB-7	13.2	2/7/2013	<0.48	5.5	90	0.26	<0.24	48	11	13	2.9	<0.017	0.33	40	<0.48	<0.24	<0.48	44	33
EB-8	12.8	2/7/2013	<0.47	3.5	72	0.31	<0.23	30	6.0	13	4.8	<0.018	<0.23	29	<0.47	<0.23	<0.47	31	26
EB-9	13.6	2/14/2013	<0.48	3.2	44	0.17	<0.24	56	8.9	9.4	2.2	<0.018	<0.24	34	<0.48	<0.24	<0.48	44	27
EB-10	14.5	2/14/2013	<0.45	4.7	120	0.47	<0.23	41	13	19	4.8	0.026	<0.23	60	<0.45	<0.23	<0.45	30	40
EB-11	15.3	2/14/2013	<0.45	8.0	81	0.51	0.31	36	19	24	6.9	0.021	0.57	63	<0.45	<0.23	<0.45	42	41
EB-12	14.3	2/27/2013	<0.48	5.2	110	0.49	<0.24	51	19	22	6.4	<0.017	<0.24	57	<0.48	<0.24	<0.48	47	48
EB-13	15.9	3/4/2013	<0.48	4.9	51	0.24	<0.24	37	7.0	11	2.6	<0.016	<0.24	34	<0.48	<0.24	<0.48	34	34
Approved Remedial Goal⁽¹⁾			31	0.39	15,000	150	1.7	-	910	31,000	260	6.7	390	1,500	390	390	6.3	78	23,000

Notes:

ft bgs = Feet below ground surface. Sample collected at excavation bottom; depth is approximate.

mg/kg = Milligrams per kilogram.

< 0.25 = Not detected at or above the indicated laboratory reporting limit.

- = Not applicable.

(1) The approved project remedial goal was equivalent to the November 2008 Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL): Direct Exposure Soil Screening Levels, Residential Exposure Scenario; HQ = 1 for Non-Carcinogens (Table K-1).

ATTACHMENT 5

2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On December 20, 1999, ASE associate geologist Ian Reed measured the depth to water in each site groundwater monitoring well using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. There was no free-floating product or sheen present in any well. Groundwater elevation data is presented as Table One.

TABLE ONE
Groundwater Elevation Data

Well I.D.	Date of Measurement	Top of Casing Elevation (relative to project datum)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-1	1-28-99	10.00	4.85	5.15
	3-29-99		4.85	5.15
	7-20-99		5.08	4.92
	10-22-99		5.08	4.92
	12-20-99		5.10	4.90
MW-2	1-28-99	9.96	4.17	5.79
	3-29-99		3.89	6.07
	7-20-99		4.30	5.66
	10-22-99		4.36	5.60
	12-20-99		4.48	5.48
MW-3	1-28-99	9.25	4.23	5.02
	3-29-99		4.41	4.84
	7-20-99		3.86	5.39
	10-22-99		3.94	5.31
	12-20-99		4.18	5.07

A groundwater potentiometric surface map is presented as Figure 2. The groundwater flow direction is to the southeast with a gradient of approximately 0.011-feet/foot. This groundwater flow direction is consistent with previous findings.

3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS

Prior to sampling, each monitoring well was purged of four well casing volumes of groundwater using a dedicated bailer. Slight petroleum hydrocarbon odors were present during the purging and sampling of the groundwater monitoring wells. The parameters pH, temperature and conductivity were monitored during the well purging. Samples were not collected until these parameters stabilized. Groundwater samples were

TABLE TWO
Certified Analytical Results of GROUNDWATER Samples
All results are in parts per billion

Well ID & Dates Sampled	TPH-G	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	Lead
<u>MW-1</u>							
1-28-99	730	22	3.3	24	61	<5.0	<5.0
3-29-99	950	37	5.7	27	60	<5.0	--
7-20-99	970	40	5.4	67	120	<5.0	--
10-22-99	1,300	71	7.2	100	210	<10	--
12-20-99	2,000	72	10	93	220	< 5.0	--
<u>MW-2</u>							
1-28-99	710	20	180	14	67	<5.0	<5.0
3-29-99	500	8.6	44	4.3	25	<5.0	--
7-20-99	510	8.4	44	6.0	31	<5.0	--
10-22-99	280	13	10	6.2	36	<5.0	--
12-20-99	480	8.6	4.6	5.8	29	< 5.0	--
<u>MW-3</u>							
1-28-99	<50*	<0.5	<0.5	<0.5	0.69	<5.0	<5.0
3-29-99	130	1.9	8.2	1.4	7.1	<5.0	--
7-20-99	170	<0.5	1.9	<0.5	0.89	<5.0	--
10-22-99	70**	<0.5	<0.5	<0.5	<0.5	<0.5	--
12-20-99	110	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	--
DHS MCL	NE	1	150	700	1,750	13	15
EPA METHOD	5030/ 8015M	8020	8020	8020	8020	8020	6010

Notes:

* = Hydrocarbons uncharacteristic of gasoline detected in the gasoline range at 68 ppb.

** = Hydrocarbons detected do not match a gasoline standard

-- = Not analyzed

NE = DHS MCL not established

DHS MCL = California Department of Health Services maximum contaminant level for drinking water.

Non-detectable concentrations noted by the less than sign (<) followed by the laboratory detection limit.

Table 3
Summary of Analytical Results for Groundwater Samples
Proposed 64th and Christie Building
6340 and 6390 Christie Avenue
Emeryville, California

Sample Location	Sample Type	Sample Identification	Sample Depth (feet bgs)	Date Collected	TPHd (µg/L)	TPHmo (µg/L)	TPHg (µg/L)	VOCs						Lead (µg/L)
								Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Carbon Disulfide (µg/L)	MTBE (µg/L)	
6340 Christie Avenue														
BH-A	Grab	BH-A	--	10/09/98	--	--	620,000	1,200	4,900	16,000	64,000	--	<1,000	--
BH-B	Grab	BH-B	--	10/09/98	--	--	40,000	280	40,000	3,200	6,400	--	<250	--
BH-C	Grab	BH-C	--	10/09/98	--	--	18,000	58	280	150	120	--	<50	--
BH-D	Grab	BH-D	--	10/09/98	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<5.0	--
BH-E	Grab	BH-E	--	10/09/98	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<5.0	--
BH-F	Grab	BH-F	--	10/22/99	--	--	65	1.2	<0.5	1.4	1.2	--	<5.0	--
BH-G	Grab	BH-G	--	10/22/99	--	--	180	<1.0	<1.0	1.5	2.4	--	<10	--
MW-1	Well	MW-1	--	01/28/99	--	--	730	22	3.3	24	61	--	<5.0	<5.0
MW-1	Well	MW-1	--	03/29/99	--	--	9,850	37	5.7	27	60	--	<5.0	--
MW-1	Well	MW-1	--	07/20/99	--	--	970	40	5.4	67	120	--	<5.0	--
MW-1	Well	MW-1	--	10/22/99	--	--	1,300	71	7.2	100	210	--	<10	--
MW-1	Well	MW-1	--	12/20/99	--	--	2,000	72	10	92	220	--	<5.0	--
MW-2	Well	MW-2	--	01/28/99	--	--	710	20	180	14	67	--	<5.0	<5.0
MW-2	Well	MW-2	--	03/28/99	--	--	500	8.5	44	4.3	25	--	<5.0	--
MW-2	Well	MW-2	--	07/20/99	--	--	510	7.4	44	6	31	--	<5.0	--
MW-2	Well	MW-2	--	10/22/99	--	--	280	13	10	6.2	36	--	<5.0	--
MW-2	Well	MW-1	--	12/20/99	--	--	490	8.8	4.6	5.8	29	--	<5.0	--
MW-3	Well	MW-3	--	01/28/99	--	--	<50	<0.5	<0.5	<0.5	0.69	--	<5.0	<5.0
MW-3	Well	MW-3	--	03/28/99	--	--	130	1.9	8.2	1.4	7.1	--	<5.0	--
MW-3	Well	MW-3	--	07/20/99	--	--	170	<0.5	1.6	<0.5	0.89	--	<5.0	--
MW-3	Well	MW-3	--	10/22/99	--	--	70	<0.5	<0.5	<0.4	<0.5	--	<5.0	--
MW-3	Well	MW-1	--	12/20/99	--	--	110	<0.5	<0.5	<0.5	<0.5	--	<0.5	--
GW-4	Grab	GW-4-11	11	12/15/04	22,000	<10,000	<250	<5	<5	<5	<5	<0.5	<10	--
GW-5	Grab	GW-5-12	12	12/15/04	9,700	<5,000	110	2.8	1.5	<0.5	<0.5	<0.5	<1	--
GW-6	Grab	GW-6-6	8	12/15/04	4,200	<1,300	<25	<0.5	<0.3	<0.5	<0.5	<0.5	<1	--
GW-7	Grab	GW-7-12	12	12/15/04	49,000	<13,000	<500	<10	<10	<10	<20	<10	<20	--
6390 Christie Avenue														
GW-1	Grab	GW-1-12	12	12/15/04	7,000	<1,300	<25	0.81	0.68	<0.5	<0.5	<0.5	<1	--
GW-2	Grab	GW-2-8	8	12/15/04	<250	3,300	37	<0.5	<0.5	<0.5	<0.5	0.74	<1	--
GW-3	Grab	GW-3-8	8	12/15/04	<250	7,400	<25	<0.5	<0.5	<0.5	<0.5	<0.5	<1	--
Non-Drinking Water Ceiling ESL ⁽¹⁾					2,500	2,500	5,000	20,000	400	300	5,300	--	1,800	80,000
Drinking Water Ceiling ESL ⁽²⁾					100	100	100	170	40	30	20	--	5	50,000
Drinking Water ESL ⁽³⁾					210	210	210	1	150	300	1,800	--	13	15
California Primary MCL ⁽⁴⁾					--	--	--	1	150	300	1,750	--	13	15 (AL)
Federal Primary MCL ⁽⁵⁾					--	--	--	5	1,000	700	10,000	--	--	15 (AL)
Vapor Intrusion ESL - Residential Exposure ⁽⁶⁾					--	--	--	540	380,000	170,000	160,000	--	24,000	--
Vapor Intrusion ESL - Commercial Exposure ⁽⁶⁾					--	--	--	1,800	530,000	170,000	160,000	--	80,000	--

Notes:

- = Concentration exceeding one or more screening criteria.
- bgs = Below ground surface.
- µg/L = Micrograms per liter.
- VOCs = Volatile organic compounds (U.S. EPA Test Method 8260). Only chemicals detected at or above reporting limits are shown.
- TPHd = Total petroleum hydrocarbons (TPH) quantified as diesel (U.S. EPA Test Method 8015M).
- TPHmo = TPH quantified as motor oil (U.S. EPA Test Method 8015M).
- TPHg = TPH quantified as gasoline (U.S. EPA Test Method 8260).
- MTBE = Methyl tert-butyl ether (U.S. EPA Test Method 8260).
- Lead (U.S. EPA Test Method 8010).
- = Not applicable or not analyzed.
- <1,000 = Not detected at or above the indicated laboratory reporting limit.
- (1) California Regional Water Quality Control Board, San Francisco Region (RWQCB) Environmental Screening Level (ESL), Non-Drinking Water Gross Contamination Ceiling Levels (Table I-2; May 2008)
- (2) RWQCB Drinking Water Ceiling Levels (Table I-1; May 2008).
- (3) RWQCB Drinking Water Screening Levels (Table F-3; May 2008).
- (4) California Primary Maximum Contaminant Level (MCL) for Drinking Water (November 2008); AL = Action Level.
- (5) U.S. EPA National Primary Drinking Water Standards (May 2009); AL = Action Level
- (6) RWQCB Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion Concerns (Table E-1; May 2008).

Table 3
Summary of Analytical Results for Groundwater - Petroleum Hydrocarbons and VOCs
Proposed 64th and Christie Avenue Residential Building
6340 and 6390 Christie Avenue
Emeryville, CA

Sample ID	Date	TPHmo (mg/L)	TPHd (mg/L)	TPHg (mg/L)	VOCs													
					Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	sec-Bb (µg/L)	p-Iso T (µg/L)	Isopb (µg/L)	n-Bb (µg/L)	Pbz (µg/L)	Naph (µg/L)	1,2,4-Tmb (µg/L)	1,3,5-Tmb (µg/L)	
GW-8	3/16/2011	< 0.3 / 1.4	< 0.050 / 1.000 Y	< 0.050	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	2.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
GW-9	3/16/2011	< 0.3 / 3.9	< 0.050 / 3.600 Y	< 0.050	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.8	< 0.5
GW-10	3/15/2011	< 0.3 / 4.8	< 0.050 / 4.900 Y	< 0.050	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5
GW-11	3/15/2011	< 0.3 / 6.6	0.130 Y / 5.900 Y	0.18	< 0.5	2.0	< 0.5	0.6	< 0.5	0.6	< 0.5	< 0.5	< 0.5	< 0.5	0.7	3.1	1.9	< 0.5
GW-12	3/15/2011	< 0.3 / 11.0	0.130 Y / 10.000 Y	0.150 Y	< 0.5	< 0.5	< 0.5	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.1	< 0.5
GW-13	3/15/2011	< 0.3 / 3.5	0.120 Y / 3.300 Y	0.420	< 0.5	1.5	1.0	9.9	< 0.5	1.5	2.5	0.7	2.2	1.8	< 0.5	36.0	9.4	
TB-1	3/15/2011	--	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Non-Drinking Water Ceiling Level⁽¹⁾		2.5	2.5	5.0	20,000	400	300	5,300	1,800	--	--	--	--	--	210	--	--	

Notes:

mg/L = Milligrams per liter

µg/L = Micrograms per liter

Y = Sample exhibits chromatographic pattern which does not resemble standard

< 300 / 1,400 = Indicates sample results with / without silica gel cleanup

< 0.5 = Not detected at or above the indicated laboratory reporting limit

-- = Not Analyzed

TPHmo = Total petroleum hydrocarbons quantified as motor oil

TPHd = Total petroleum hydrocarbons quantified as diesel

TPHg = Total petroleum hydrocarbons quantified as gasoline

MTBE = Methyl Tert-Butyl Ether

sec-Bb = sec-Butylbenzene

p-Iso T = para-Isopropyl Toluene

Isopb = Isopropylbenzene

n-Bb = n-Butylbenzene

Pbz = Propyl Benzene

Naph = Naphthalene

1,2,4-Tmb = 1,2,4-Trimethylbenzene

1,3,5-Tmb = 1,3,5-Trimethylbenzene

(1) California Regional Water Quality Control Board, San Francisco Region (RWQCB) Environmental Screening Level (ESL), Non-Drinking Water Gross Contamination Ceiling Levels (Table I-2; May 2006)

Table 4
Summary of Analytical Results for Groundwater - Dissolved Metals
Proposed 64th and Christie Avenue Residential Building
6340 and 6390 Christie Avenue
Emeryville, CA

Sample ID	Date	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Lead (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Silver (µg/L)	Thallium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
GW-8	3/16/2011	< 10	< 7.1	400	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 0.20	24	12	< 10	< 5.0	< 10	9.8	< 20
GW-9	3/16/2011	< 10	< 7.1	690	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 0.20	< 5.0	7.5	< 10	< 5.0	< 10	< 5.0	< 20
GW-10	3/15/2011	< 10	< 7.1	190	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 0.20	9.3	11	< 10	< 5.0	< 10	10	75
GW-11	3/15/2011	< 10	< 7.1	1,400	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 0.20	< 5.0	6.0	< 10	< 5.0	< 10	< 5.0	< 20
GW-12	3/15/2011	< 10	25	4,500	< 2.0	< 5.0	< 5.0	5.6	< 5.0	< 5.0	< 0.20	< 5.0	< 5.0	< 10	< 5.0	< 10	6.0	37
GW-13	3/15/2011	< 10	< 7.1	210	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	12	< 0.20	< 5.0	9.7	< 10	< 5.0	< 10	< 5.0	36
Non-Drinking Water Ceiling Level ⁽¹⁾		50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000

Notes:

< 10 = Not detected at or above the indicated laboratory reporting limit

µg/L = Micrograms per liter

(1) California Regional Water Quality Control Board, San Francisco Region (RWQCB) Environmental Screening Level (ESL), Non-Drinking Water Gross Contamination Ceiling Levels (Table I-2;

Table 4
Summary of Analytical Results for Soil Vapor Samples
Proposed 64th and Christie Building
6340 and 6390 Christie Avenue
Emeryville, California

Sample Location	Sample Identification	Sample Depth (feet bgs)	Date Collected	VOCs				TPH (µg/L)	Methane (% Gas)
				cis-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	m,p-Xylenes (µg/L)		
6340 Christie Avenue									
SG-4	SG-4-3	3	12/15/04	<0.10	5.5	1.1	1.4	830	85
SG-5	SG-5-3	3	12/15/04	<0.10	<0.10	<0.10	<0.10	8.8	83
SG-6	SG-6-2	2	12/15/04	0.15	<0.10	<0.10	0.10	8.3	7.8
SG-7	SG-7-2	2	12/15/04	<0.10	<0.10	<0.10	0.11	6.7	14
SG-8	SG-8-3	3	12/15/04	<0.10	0.20	0.11	0.11	76	64
SG-9	SG-9-2	2	12/15/04	<0.10	<0.10	0.10	0.12	<5.0	9.0
SG-10	SG-10-2	2	12/15/04	<0.10	0.13	0.12	<0.10	31	56
SG-11	SG-11-2	2	12/15/04	<0.10	0.34	0.29	0.11	380	16
SG-12	SG-12-2	2	12/15/04	<0.10	0.13	1.4	<0.10	5.6	0.2
6390 Christie Avenue									
SG-1	SG-1-2	2	12/15/04	<0.10	<0.10	<0.10	<0.10	6.8	--
SG-2	SG-2-1	1	12/15/04	<0.10	<0.10	<0.10	<0.10	<5.0	ND
SG-3	SG-3-3	3	12/15/04	<0.10	<0.10	<0.10	<0.10	9.3	14
ESL ⁽¹⁾				7.3	0.084	63	21	10	--
USEPA Region 9 RSL (for ambient air) ⁽²⁾				--	0.00031	5.20	0.104	--	--

Notes:

Shaded area = Concentration exceeding one or more screening criteria.

bgs = Below ground surface.

µg/L = Micrograms per liter of air.

VOCs = Volatile organic compounds (U.S. EPA Test Method 8260). Only VOCs detected at or above laboratory reporting limits are listed.

TPH = Total petroleum hydrocarbons in C-5 to C-11 range (U.S. EPA Test Method 8260).

cis-1,2-DCE = cis-1,2-dichloroethene.

Methane analyzed in the field using a GEM 500 Landfill Gas Meter; ND indicates no methane detected.

<0.10 = Not detected at or above the indicated laboratory reporting limit.

Shaded area indicates a concentration exceeding one or more screening criterium.

-- = Not analyzed or not applicable.

(1) California Regional Water Quality Control Board, San Francisco Region (RWQCB) Environmental Soil Gas Screening Levels (ESLs) for Evaluation of Potential Vapor Intrusion Concerns, Residential Exposures (Table E-2) (May 2008).

(2) U.S. EPA Region 9 Regional Screening Levels (RSLs) for ambient air (May 2010).

ATTACHMENT 6