Environmental Compliance Group, LLC

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SOIL VAPOR SURVEY WORKPLAN

SHORE ACRES GAS
403 EAST 12TH STREET
OAKLAND, CALIFORNIA

Prepared for: Rashid Ghafoor

ECG Project Number: GHA.19009
Alameda County Fuel Leak Case No. RO0002931

June 25, 2018

REGISTERED GEOLOGIST
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INTRODUCTION

Environmental Compliance Group (ECG) has been authorized by Mr. Rashid Ghafoor, the responsible party (RP) to provide this report for the site. ECG has prepared the soil vapor survey workplan requested by Alameda County Department of Environmental Health (ACDEH) in their correspondence dated May 25, 2018 (Appendix A).

This report is a Workplan to assess temporal and seasonal variations in soil gas concentrations at the site. Site information is as follows:

Site Location:	403 East 12th Street Oakland, California
Geotracker Global ID:	T0600174667

LIMITATIONS

This report has been prepared for use by Mr. Ghafoor and the relevant regulatory agencies. The conclusions in this report are professional opinions based on the data presented in this report. This report was prepared in general accordance with hydrogeologic and engineering methods and standards. No other warranties are made as to the findings or conclusions presented in this report. The work described in this report was performed under the direct supervision of the professional geologist whose signature and State of California registration are shown above.

SITE DESCRIPTION AND HYDROGEOLOGIC CONDITIONS

SITE DESCRIPTION

The site occupies a parcel on the southeast corner of 4th Avenue and East 12th Street in Oakland, Alameda County, California (Figure 1). The site is situated in a commercial and residential area in central Oakland and is currently used as a hand car wash. The site was historically used as a gasoline station. The area of interest at the site is the former location of three underground storage tanks (USTs) and three fuel dispenser islands where impacted soil and groundwater was first identified in 2006 and 2009. A detailed site plan is shown on Figure 2.

HYDROGEOLOGIC CONDITIONS

The site is underlain by Quaternary-age dune sand deposits referred to as the Merritt Sand. The Merritt Sand is typically described as loose, well-sorted fine- to medium-grained sand with a large silt component. The sand is reported to reach a maximum depth of 50-feet bgs in the area.

Based on boring logs from the advancement of 11 soil borings and the installation of six monitoring wells and four extraction wells, the stratigraphy of the site and vicinity consists of silt to approximately 30-feet bgs with discontinuous thin intervals of sandy silt and clayey silty sand present in the area.

Depth to groundwater is shallow and semi confined, ranging between 8- to 14-feet bgs. The groundwater flow direction appears to be generally toward the southeast. The site is located on a topographic high elevation.

PROJECT BACKGROUND

INVESTIGATIONS

In July 2006, Geofon Incorporated (Geofon) advanced soil borings GP-1 and GP-2 and collected and analyzed soil samples. Results are detailed in Geofon's report entitled *Summary of Phase II Assessment Activities,* dated July 25, 2006.

In August 2009, Wright Environmental Services, Inc. (Wright) removed three USTs, associated fuel dispensers, and all associated piping. Results are detailed in Wright's *Closure Report for Three Underground Storage Tanks*, dated September 2009.

In April 2010, Apex Envirotech, Inc. (Apex) advanced nine soil borings to evaluate the lateral and vertical extent of impacted soil and groundwater. Results are documented in Apex's *Subsurface Investigation Results Report* dated June 23, 2010.

In June 2011, ECG supervised the installation of six groundwater monitoring wells (MW-1 through MW-6) and two extraction wells (EW-1 and EW-2). Results are documented in ECG's *Off-Site Investigation and Dual Phase Pilot Test Results with Fourth Quarter 2011 Monitoring Report*, dated January 26, 2012.

In December 2011, ECG supervised the advancement of 11 soil borings to evaluate the lateral extent of impacted groundwater to the north, west, and south of the site. Results are documented in ECG's report entitled *Off Site Investigation and Dual Phase Pilot Test Results with Fourth Quarter 2011 Groundwater Monitoring Report* dated January 17, 2012.

RISK ASSESSMENTS

In January 2011, ECG conducted a preferential pathway study for the site. Results are detailed in ECG's *Site Assessment and Soil Vapor Extraction Pilot Test Workplan*, dated February 9, 2011.

In January 2011, ECG conducted a sensitive receptor survey for the site. Results are detailed in ECG's *Site Assessment and Soil Vapor Extraction Pilot Test Workplan*, dated February 9, 2011. Additional receptor survey data has been requested by the County from Alameda County Public Works Agency (ACPWA) files and is pending.

A soil vapor survey has not been completed for the site but is proposed in this workplan.

CORRECTIVE ACTIONS

In June 2011, ECG supervised the installation of six groundwater monitoring wells (MW-1 through MW-6) and two extraction wells (EW-1 and EW-2). ECG also performed a 5-day dual phase extraction (DPE) test in June 2011. Results are documented in ECG's *Off-Site Investigation and Dual Phase Pilot Test Results with Fourth Quarter 2011 Monitoring Report*, dated January 26, 2012.

In May 2013, ECG supervised the installation of two extraction wells (EW-3 and EW-4). In September 2013, ECG installed the subsurface piping network from the remediation wells to the remediation compound and the subsurface conduit required by PG&E to install the electrical service required to operate the remediation compound.

In April 2014, the dual phase extraction system began operation. The DPE system includes a 25-horsepower liquid-ring blower capable of up to 400 standardized cubic feet per minute (scfm) flowrate, thermal/catalytic oxidizer, a conveyance piping network, and four individual extraction wells. The blower extracts vapors and groundwater from each extraction wells and through the conveyance piping where the impacted vapor is destroyed in the thermal/catalytic oxidizer prior to discharge to the atmosphere and the groundwater is treated with an air stripper and granular activated carbon prior to discharge to the municipal sewer system.

The remediation system was started on April 30, 2014 and shut down on June 27, 2014 due to carbon change out requirements. The system was restarted on August 15, 2014. The remediation system was shut down on February 18, 2015 due to complaints from neighbors regarding the propane tank onsite providing supplemental fuel to the remediation equipment. ECG supervised the installation of natural gas provided by PG&E to the site and the system was restarted on August 11, 2015. The system was shut down on December 16, 2015 due to contaminant breakthrough of the first carbon vessel and scheduled carbon change out. The system was restarted January 21, 2016 and shut down on April 11, 2016 due to decreasing contaminant extraction rates and pending regulatory review of ECG's *Fourth Quarter 2015 Monitoring and Remediation System Evaluation Report*, dated August 1, 2016.

The DPE system is operated under Bay Area Air Quality Management District (BAAQMD) permit number 25354 and East Bay Municipal Utility District (EBMUD) Discharge Permit No. 68508758. The DPE system has removed approximately 8,434 pounds of TPHg, 39 pounds of benzene, and 2. pounds of MTBE from the subsurface.

SOIL VAPOR SURVEY WORKPLAN

The following is a summary of work proposed to assess temporal and seasonal variations in soil gas concentrations at the site. This soil gas data will also be used to assess the presence of a secondary source of benzene and ethylbenzene still exists at the site and will also help to confirm the dominant groundwater flow direction of the potentiometric surface at the site. This work will be performed in accordance with the ACDEH correspondence dated May 25, 2018 and California Department of Toxic Substances Control (DTSC) Vapor Intrusion Guidance, dated October 2011. All proposed work will also be completed in accordance with ECG's SOPs included in Appendix B.

The sampling will terminate approximately 24 hours later and the samples will be delivered under chain of custody to Eurofins Air Toxics Ltd. (Eurofins) in Folsom, California for analysis. Eurofins will analyze the samples for total volatile organic suite by USEPA Method TO-15 Modified.

SOIL VAPOR PROBE INSTALLATION

ECG will supervise Cascade during the advancement of thirteen soil vapor probes (SVP-1 through SVP-13) to a depth of 5-feet bgs at the locations shown on Figure 3. The soil vapor probes will be installed with a hand auger. The soil vapor probe will consist of a stainless steel vapor implant made of 316 stainless steel. They will be fitted a stainless steel collection tip (Figure 4). One end of

the soil vapor probe will be fitted with a PVC barb connected to 1/8 or ¼-inch diameter nylon or Teflon tubing. The tubing will be capped at the surface with a gas tight valve or fitting secured in a traffic rated vault box.

Soil samples will be collected from 0- to 5-feet bgs, lithologic changes, and areas of obvious impact for classification and field screening with a PID. Soil samples will be submitted under chain of custody documentation to CAL Labs, Inc. for analyses of TPHd, TPHg, BTEX, DIPE, ETBE, MTBE, TAME, TBA, 1,2-DCA, EDB, and naphthalene by EPA Method 8260. All work will be done in accordance to ECG SOPs included as Appendix B.

SOIL VAPOR PROBE SAMPLING

The soil vapor probes will not be purged or sampled until at least 48 hours after their installation. The soil vapor probes will be purged of stagnant air prior to sampling. Prior to purging an encapsulating shroud will be placed around the sampling apparatus and a tracer gas will be used inside the shroud in accordance with ECG SOPs in Appendix B. At least three purge volumes of vapor will be removed at a rate less than 200 milliliters per minute (ml/min.) prior sample collection.

Vapor samples will be collected into Summa canisters fitted with flow regulators to ensure that the canisters are filled at a rate less than 200 ml/min. Summa canisters will have a minimum capacity of 400 ml. The vapor samples will be submitted under chain of custody documentation to Eurofins for analyses of volatile organics by EPA Method TO-15, which includes benzene, ethylbenzene, and naphthalene. In addition, the samples will be analyzed for fixed methane, carbon dioxide, and oxygen using ASTM D1946.

Upon completion of the work, a results report will be submitted. The results will be compared to commercial indoor air environmental screening levels (ESL) established by the California Regional Water Quality Control Board, Region 2.

SCHEDULE

Upon approval of this Workplan report by ACDEH, ECG will begin permitting and scheduling the soil vapor probe installation activities. Once the analytical data is received, ECG will provide the data to ACDEH in tabular form to discuss prior to preparing a results report.

SITE CONCEPTUAL MODEL

ECG has prepared a SCM as requested by ACDEH and will make updates to the SCM as new data is received. The SCM is discussed in Table E-1 and shown on Figures E-1 through E-15.

FIGURES

NORTH

0 1,000 2,000

Approximate Scale In Feet
1 inch = 1,000 Feet

FIGURE 1	**SITE LOCATION MAP**	Environmental Compliance Group, LLC
Project Number: GHA.19009	Shore Acre Gas 403 East 12th Street Oakland, California	270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664-1035
Date: February 9, 2011		

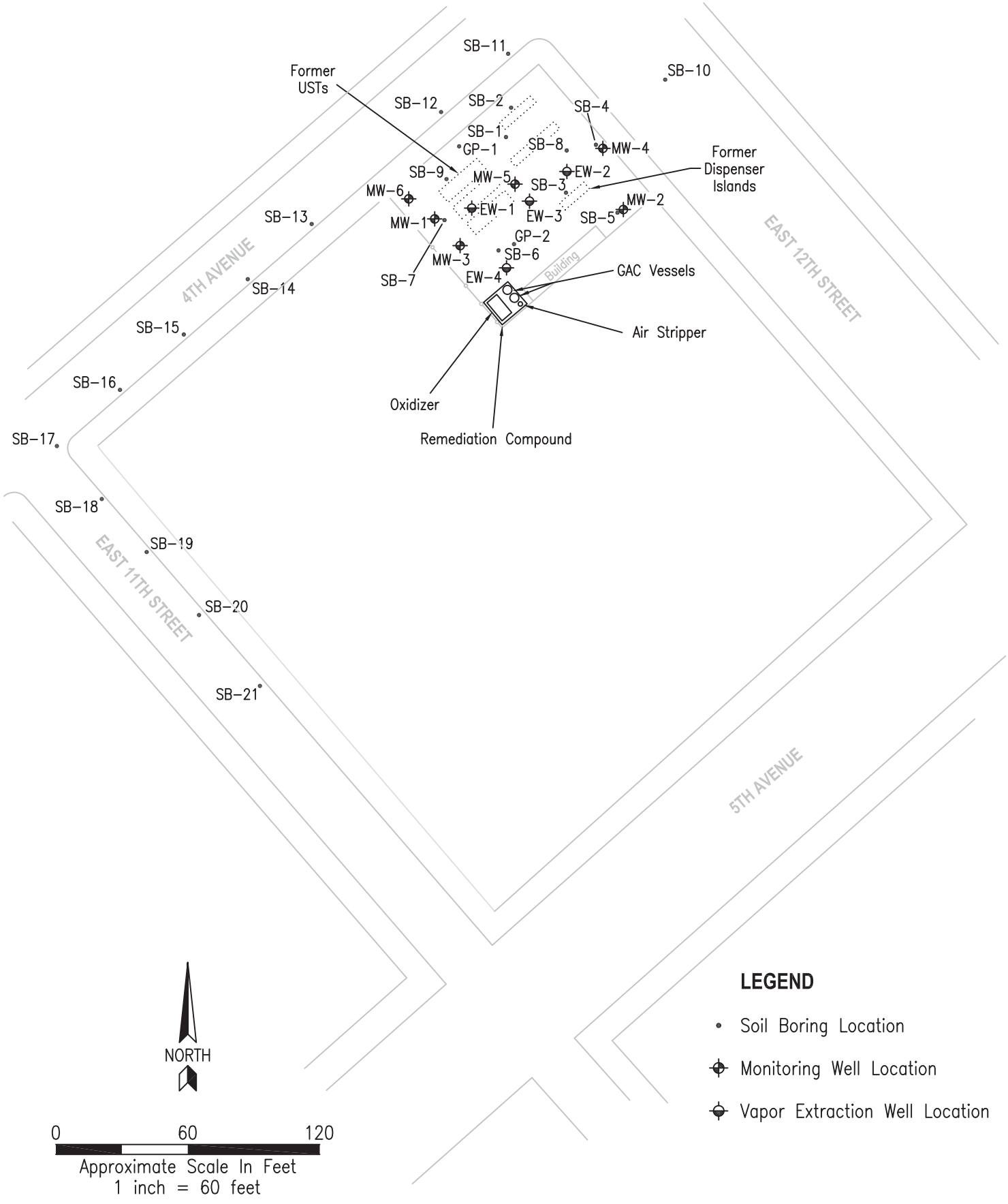


FIGURE 2	**SITE MAP**	Environmental Compliance Group, LLC
Project Number: GHA.19009	Shore Acre Gas 403 East 12th Street Oakland, California	270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664-1035
Date: June 2, 2018		

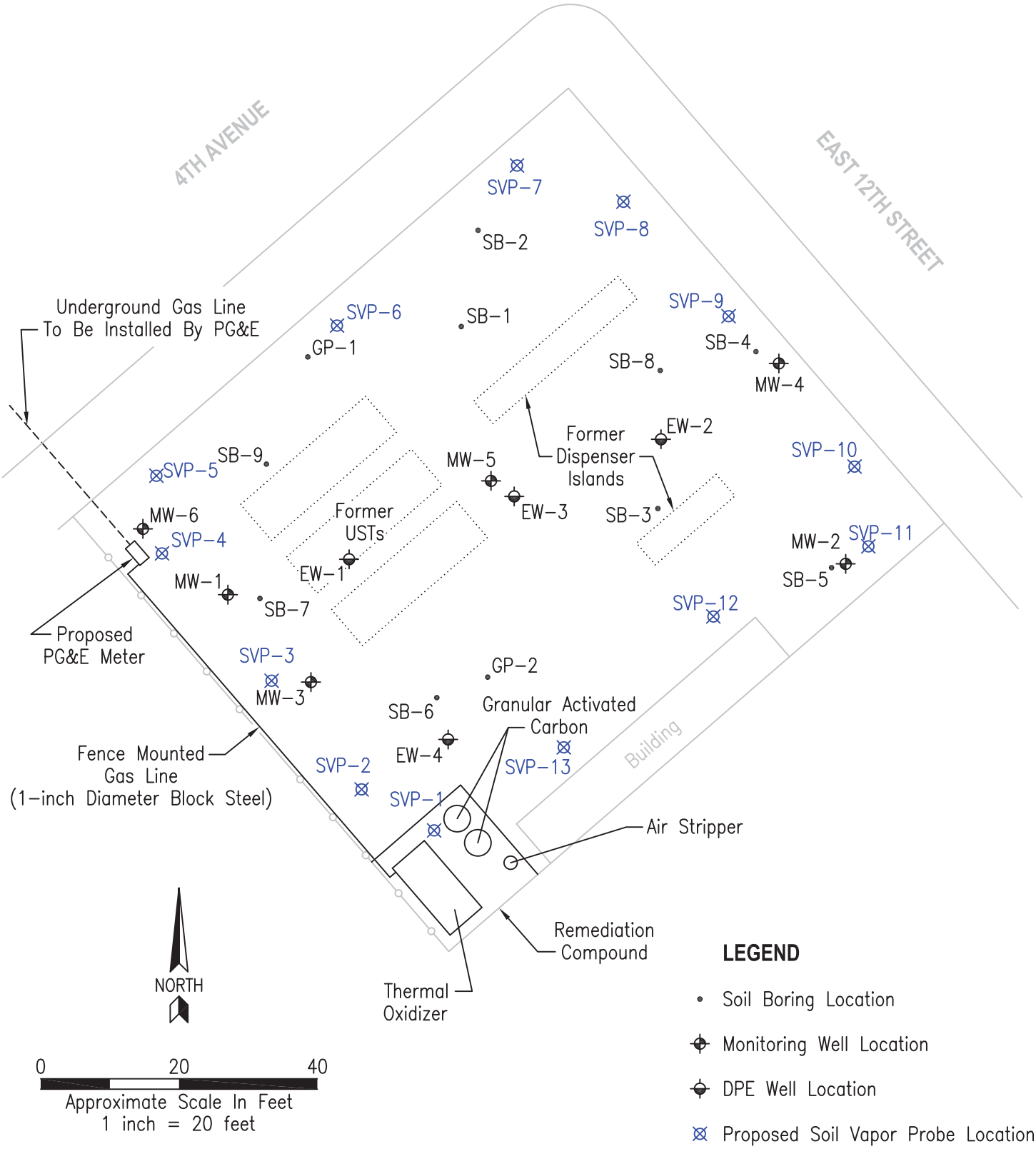
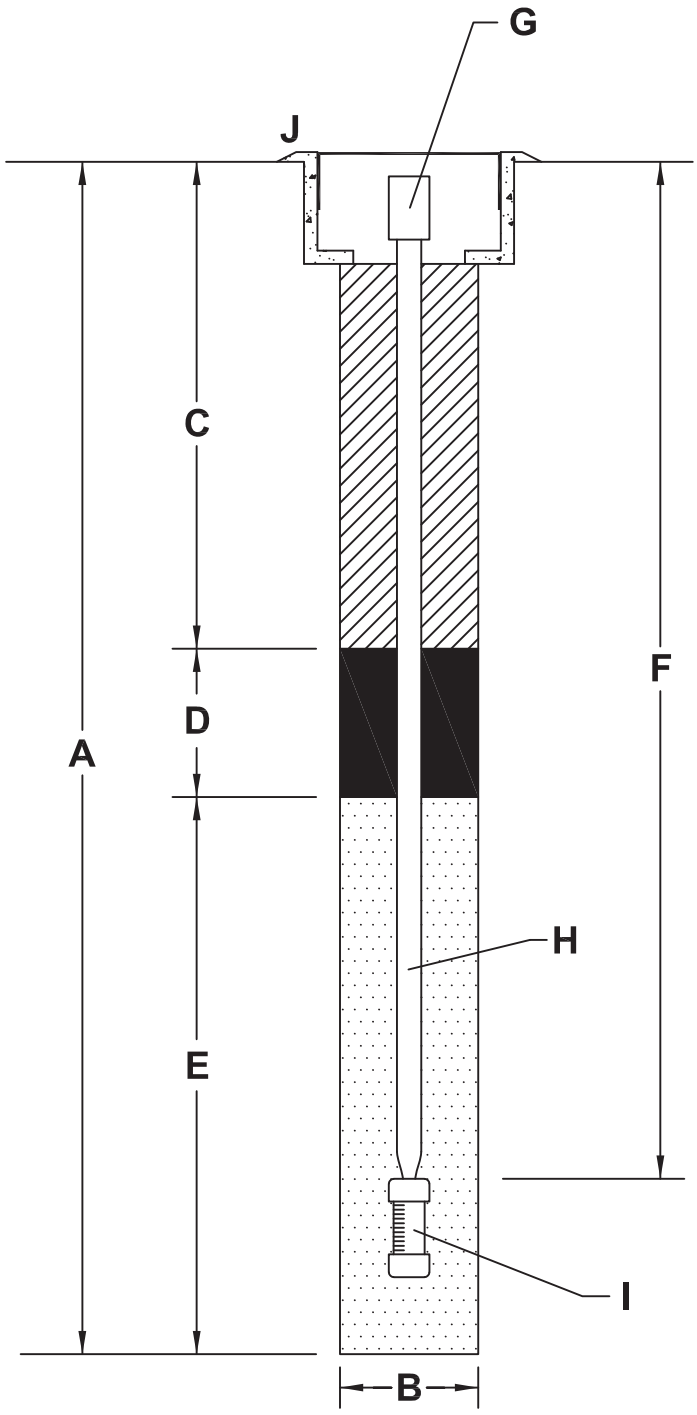


FIGURE 3	**PRPOSED SOIL VAPOR PROBE LOCATION MAP**	Environmental Compliance Group, LLC
Project Number: GHA.19009	Shore Acre Gas 403 East 12th Street Oakland, California	270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664-1035
Date: June 2, 2018		



A Total Depth Of Boring 5 ft.

B Diameter Of Boring 2 in.
Drilling Method Hand Auger

C Sanitary Seal From 0 to * ft.
Seal Material Hydrated Granular Bentonite

D Seal From * to * ft.
Seal Material Dry Granular Bentonite

E Filter Pack From * to * ft.
Pack Material No. 3 Lonestar Sand

F Depth To Probe 5 ft.

G Gas Tight Valve

H 1/8" To 1/4" Tubing

I Probe Tip (1/2" Sch 40 Well Screen)

J 8-inch Diameter Traffic Rated Christy Box

* Depths To Be Determined From Site Lithology

FIGURE 4	**PROPOSED SOIL VAPOR PROBE CONSTRUCTION DETAIL** Shore Acres Gas 403 East 12th Street Oakland, California	Environmental Compliance Group, LLC 270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664-1035
Project Number: GHA.19009		
Date: June 2, 2018		

TABLES

Table 1
Well Construction Details
Shore Acres Gas
403 East 12th Street
Oakland, California

Well ID	Date Installed	TOC Elevation (ft amsl)	Well Depth (ft bgs)	Casing Diameter (inches)	Casing Material	Screen/ Filter	Screen Interval (ft bgs)
Monitoring Wells							
MW-1	June 2011	30.81	20	2	PVC	0.020/#3	10-20
MW-2		31.29	20	2	PVC	0.020/#3	10-20
MW-3		31.30	18	2	PVC	0.020/#3	8-18
MW-4		31.21	19	2	PVC	0.020/#3	9-19
MW-5		31.35	20	2	PVC	0.020/#3	10-20
MW-6		30.79	20	2	PVC	0.020/#3	10-20
Dual Phase Extraction Wells							
EW-1	June 2011	31.46	20	4	PVC	0.020/#3	5-20
EW-2		31.43	20	4	PVC	0.020/#3	5-20
EW-3	May 2013	---	20	6	PVC	0.020/#3	5-20
EW-4		---	20	6	PVC	0.020/#3	5-20

Notes:

TOC - denotes top of casing
ft - denotes feet
amsl - denotes above mean sea level
bgs - denotes below ground surface
PVC - denotes polyvinyl chloride

Table 2a
Historical Soil Analytical Data
TPH and BTEX
Shore Acres Gas
403 East 12th Street
Oakland, California

Boring ID	Sample Depth (feet)	Collection Date	TPHd (mg/kg)	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total xylenes (mg/kg)
UST Removal Samples								
SS-D1	2	August 2009	**1,800***	**3,000**	<0.25	**0.34**	**39**	**180**
SS-D2	2		**900***	**2,400**	<0.25	<0.25	**36**	**120**
SS-D3	2		**460***	**1,000**	<0.15	<0.15	**12**	**14**
SS-D4	2		**540***	**640**	<0.090	**1.0**	**6.1**	**51**
SS-D5	2		**320**	**140**	<0.025	<0.025	**1.3**	**3.2**
SS-D6	2.0		**320***	**260**	<0.025	**0.054**	**1.0**	**8.0**
SS-J1	2.0		**39***	**160**	<0.025	<0.025	**0.71**	**0.94**
SS-Isle	4.0		**560***	**100**	<0.025	<0.025	**0.30**	**0.084**
SS-7	18.0		**310***	**1,600**	**6.9**	**76**	**39**	**200**
Tank 1-SS-1	14.0		**830***	**2,500**	**4.2**	**100**	**69**	**360**
Tank 1-SS-2	14.0		**62***	**480**	**1.8**	**5.3**	**14**	**62**
Tank 2-SS-1	14.0		**120***	**290**	**0.37**	**2.4**	**6.3**	**31**
Tank 2-SS-2	14.0		**330***	**80**	**0.074**	**0.051**	**1.2**	**5.8**
Tank 3-SS-1	14.0		**480***	**2,100**	**2.4**	**41**	**62**	**320**
Tank 3-SS-2	14.0		**75***	**130**	**0.23**	**0.26**	**3.1**	**15**
Soil Borings								
GP-1-15.5	15.5	July 2006	**13.0**	**18.0**	**0.63**	**0.052**	**0.69**	**0.13**
GP-1-18.0	18.0		<1.0	<1.0	**0.0056**	**0.0082**	<0.005	**0.019**
GP-2-12.0	12.0		**600**	**3,600**	**17**	**180**	**98**	**440**
GP-2-20.0	20.0		**79**	**1,100**	**3.2**	**41**	**25**	**130**
SB-1-9.5	9.5	April 2010	---	**1,600**	**5.1**	**43**	**30**	**180**
SB-1-24.5	24.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-1-29.5	29.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-2-9.5	9.5		---	**2.2**	**0.26**	**<0.010**	**0.066**	<0.020
SB-2-24.5	24.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-2-29.5	29.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-3-14.5	14.5		---	**17**	**17**	**100**	**42**	**240**
SB-3-24.5	24.5		---	<1.0	<0.005	**0.005**	<0.005	**0.013**
SB-3-29.5	29.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-4-14.5	14.5		---	**1,700**	**13**	**79**	**28**	**170**
SB-4-19.5	19.5		---	<1.0	<0.005	0.009	<0.005	**0.026**
SB-4-29.5	29.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-5-14.5	14.5		---	**470**	<0.20	**0.45**	**6.2**	**37**
SB-5-24.5	24.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-5-29.5	29.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-6-9.5	9.5		---	**6,100**	**21**	**170**	**95**	**580**
SB-6-29.5	29.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-6-32	32.0		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-7-9.5	9.5		---	**4,000**	**12**	**46**	**55**	**360**
SB-7-29.5	29.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-7-32	32.0		---	<1.0	<0.005	<0.005	<0.005	<0.010

Table 2a
Historical Soil Analytical Data
TPH and BTEX
Shore Acres Gas
403 East 12th Street
Oakland, California

Boring ID	Sample Depth (feet)	Collection Date	TPHd (mg/kg)	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total xylenes (mg/kg)
SB-8-9.5	9.5	April 2010	---	**2,500**	**16**	**110**	**63**	**370**
SB-8-24.5	24.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-8-29.5	29.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-9-14.5	14.5		---	**390**	**3.0**	**3.0**	**9.1**	**41**
SB-9-29.5	29.5		---	<1.0	<0.005	<0.005	<0.005	<0.010
SB-9-32	32.0		---	<1.0	<0.005	<0.005	<0.005	<0.010
Groundwater Wells								
MW-1-5	5	June 2011	<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
MW-1-15	15		<5.0	**18**	**0.55**	<0.050	**0.87**	**1.2**
MW-1-20	20		<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
MW-2-5	5		<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
MW-2-10	10		<5.0	**69**	<0.005	<0.005	<0.005	<0.010
MW-2-15	15		<5.0	**50**	<0.050	**0.48**	**3.1**	**19**
MW-2-20	20		<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
MW-3-5	5		<5.0	<1.0	<0.010	<0.010	<0.010	<0.020
MW-3-10	10		<15	**840**	**3.4**	**33**	**20**	**140**
MW-3-15	15		<5.0	**380**	**3.0**	**4.5**	**7.3**	**41**
MW-3-20	20		<5.0	<1.0	**0.019**	<0.005	**0.006**	<0.010
MW-4-5	5		<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
MW-4-10	10		<15	**420**	**1.7**	**2.6**	**9.2**	**51**
MW-4-15	15		<5.0	**3.1**	**0.036**	**0.20**	**0.15**	**0.95**
MW-4-20	20		<5.0	<1.0	**0.007**	**0.017**	**0.010**	**0.039**
MW-5-5	5		<5.0	**76**	<0.10	<0.10	**1.3**	**0.76**
MW-5-10	10		<15	**3,200**	**4.6**	**6.5**	**72**	**410**
MW-5-15	15		<5.0	**600**	**1.3**	**13**	**15**	**110**
MW-6-5	5		<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
MW-6-10	10		<5.0	**5.1**	**0.015**	<0.010	**3.4**	**1.0**
MW-6-15	15		<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
MW-6-20	20		<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
EW-1-5	5		<5.0	**34**	<0.005	<0.005	**0.16**	**0.31**
EW-1-10	10		<15	**85**	<0.10	<0.10	**2.2**	**0.89**
EW-1-15	15		<15	**420**	**2.1**	**4.1**	**9.4**	**55**
EW-1-20	20		<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
EW-2-5	5		<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
EW-2-10	10		<5.0	**130**	<0.10	<0.10	**2.9**	**15**
EW-2-15	15		<15	**5,500**	**29**	**430**	**120**	**910**
EW-2-20	20		<5.0	<1.0	**0.14**	**0.054**	**0.025**	**0.14**

Notes:

TPHd - denotes total petroleum hydrocarbons as diesel
TPHg - denotes total petroleum hydrocarbons as gasoline
mg/kg - denotes milligrams per kilogram
< - denotes less than the detection limit
--- denotes no data

Table 2b
Historical Soil Analytical Data
Oxygenates and Lead Scavengers
Shore Acres Gas
403 East 12th Street
Oakland, California

Boring ID	Sample Depth (feet)	Collection Date	DIPE (mg/kg)	ETBE (mg/kg)	MTBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	1,2-DCA (mg/kg)	EDB (mg/kg)
UST Removal Samples									
SS-D1	2	August 2009	<0.25	<0.25	<0.25	<0.25	<1.5	---	---
SS-D2	2		<0.25	<0.25	<0.25	<0.25	<1.5	---	---
SS-D3	2		<0.15	<0.15	<0.15	<0.15	<0.70	---	---
SS-D4	2		<0.090	<0.090	<0.090	<0.090	<0.50	---	---
SS-D5	2		<0.025	<0.025	<0.025	<0.025	<0.15	---	---
SS-D6	2		<0.025	<0.025	<0.025	<0.025	<0.15	---	---
SS-J1	2		<0.025	<0.025	<0.025	<0.025	<0.15	---	---
SS-Isle	4		<0.025	<0.025	<0.025	<0.025	<0.15	---	---
SS-7	18		<0.25	<0.25	<0.25	<0.25	<1.5	<0.25	<0.25
Tank 1-SS-1	14		<0.50	<0.50	<0.50	<0.50	<2.5	<0.50	<0.50
Tank 1-SS-2	14		<0.040	<0.040	**0.37**	<0.040	**0.51**	<0.040	<0.040
Tank 2-SS-1	14		<0.050	<0.050	**0.18**	<0.050	**0.35**	<0.050	<0.050
Tank 2-SS-2	14		<0.025	<0.025	**0.090**	<0.025	**0.16**	<0.025	<0.025
Tank 3-SS-1	14		<0.50	<0.50	<0.50	<0.50	<2.5	<0.50	<0.50
Tank 3-SS-2	14		<0.025	<0.025	**0.19**	<0.025	**0.15**	<0.025	<0.025
Soil Borings									
GP-1-15.5	15.5	July 2006	<0.005	<0.005	**0.029**	<0.005	**0.27**	---	---
GP-1-18.0	18.0		<0.005	<0.005	**0.54**	<0.005	**0.33**	---	---
GP-2-12.0	12.0		<0.50	<0.50	<0.50	<0.50	<2.5	---	---
GP-2-20.0	20.0		<0.025	<0.025	**0.041**	<0.025	<0.15	---	---
SB-1-9.5	9.5	April 2010	<0.80	<0.80	<0.80	<0.80	<8.0	<0.80	<0.80
SB-1-24.5	24.5		<0.005	<0.005	**0.11**	<0.005	<0.050	<0.005	<0.005
SB-1-29.5	29.5		<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
SB-2-9.5	9.5		<0.010	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010
SB-2-24.5	24.5		<0.005	<0.005	**0.053**	<0.005	<0.050	<0.005	<0.005
SB-2-29.5	29.5		<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
SB-3-14.5	14.5		<2.0	<2.0	<2.0	<2.0	<20	<2.0	<2.0
SB-3-24.5	24.5		<0.005	<0.005	**0.10**	<0.005	<0.050	<0.005	<0.005
SB-3-29.5	29.5		<0.005	<0.005	**0.010**	<0.005	<0.050	<0.005	<0.005
SB-4-14.5	14.5		<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0
SB-4-19.5	19.5		<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
SB-4-29.5	29.5		<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
SB-5-14.5	14.5		<0.20	<0.20	<0.20	<0.20	<2.0	<0.20	<0.20
SB-5-24.5	24.5		<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
SB-5-29.5	29.5		<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
SB-6-9.5	9.5		<2.0	<2.0	<2.0	<2.0	<20	<2.0	<2.0
SB-6-29.5	29.5		<0.005	<0.005	**0.20**	<0.005	<0.050	<0.005	<0.005
SB-6-32	32.0		<0.005	<0.005	**0.18**	<0.005	<0.050	<0.005	<0.005
SB-7-9.5	9.5		<1.0	<1.0	**4.0**	<1.0	<10	<1.0	<1.0
SB-7-29.5	29.5		<0.005	<0.005	**0.18**	<0.005	<0.050	<0.005	<0.005
SB-7-32	32.0		<0.005	<0.005	**0.11**	<0.005	<0.050	<0.005	<0.005

Table 2b
Historical Soil Analytical Data
Oxygenates and Lead Scavengers
Shore Acres Gas
403 East 12th Street
Oakland, California

Boring ID	Sample Depth (feet)	Collection Date	DIPE (mg/kg)	ETBE (mg/kg)	MTBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	1,2-DCA (mg/kg)	EDB (mg/kg)
SB-8-9.5	9.5	April 2010	<2.0	<2.0	<2.0	<2.0	<20	<2.0	<2.0
SB-8-24.5	24.5		<0.005	<0.005	**0.033**	<0.005	<0.050	<0.005	<0.005
SB-8-29.5	29.5		<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
SB-9-14.5	14.5		<0.20	<0.20	**5.5**	<0.20	<2.0	<0.20	<0.20
SB-9-29.5	29.5		<0.005	<0.005	**0.090**	<0.005	**0.15**	<0.005	<0.005
SB-9-32	32.0		<0.005	<0.005	**0.11**	<0.005	<0.050	<0.005	<0.005
Groundwater Wells									
MW-1-5	5	June 2011	<0.005	<0.005	**0.35**	<0.005	**0.093**	<0.005	<0.005
MW-1-15	15		<0.050	<0.050	**1.1**	<0.050	<0.50	<0.050	<0.050
MW-1-20	20		<0.005	<0.005	**0.31**	<0.005	**0.58**	<0.005	<0.005
MW-2-5	5		<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
MW-2-10	10		<0.050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.050
MW-2-15	15		<0.050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.050
MW-2-20	20		<0.005	<0.005	**0.006**	<0.005	<0.050	<0.005	<0.005
MW-3-5	5		<0.010	<0.010	**1.5**	<0.010	**0.37**	<0.010	<0.010
MW-3-10	10		<0.80	<0.80	**1.3**	<0.80	<8.0	<0.80	<0.80
MW-3-15	15		<0.20	<0.20	**3.0**	<0.20	<2.0	<0.20	<0.20
MW-3-20	20		<0.005	<0.005	**0.036**	<0.005	**0.16**	<0.005	<0.005
MW-4-5	5		<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
MW-4-10	10		<0.40	<0.40	<0.40	<0.40	<4.0	<0.40	<0.40
MW-4-15	15		<0.010	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010
MW-4-20	20		<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
MW-5-5	5		<0.10	<0.10	<0.10	<0.10	<1.0	<0.10	<0.10
MW-5-10	10		<4.0	<4.0	<4.0	<4.0	<40	<4.0	<4.0
MW-5-15	15		<0.40	<0.40	<0.40	<0.40	<4.0	<0.40	<0.40
MW-6-5	5		<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
MW-6-10	10		<0.010	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010
MW-6-15	15		<0.005	<0.005	**0.026**	<0.005	**0.088**	<0.005	<0.005
MW-6-20	20		<0.005	<0.005	**0.010**	<0.005	**0.37**	<0.005	<0.005
EW-1-5	5		<0.050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.050
EW-1-10	10		<0.10	<0.10	<0.10	<0.10	<1.0	<0.10	<0.10
EW-1-15	15		<0.40	<0.40	**0.59**	<0.40	<4.0	<0.40	<0.40
EW-1-20	20		<0.005	<0.005	**0.009**	<0.005	**0.16**	<0.005	<0.005
EW-2-5	5		<0.005	<0.005	**0.25**	<0.005	**0.14**	<0.005	<0.005
EW-2-10	10		<0.10	<0.10	**0.33**	<0.10	<1.0	<0.10	<0.10
EW-2-15	15		<4.0	<4.0	<4.0	<4.0	<40	<4.0	<4.0
EW-2-20	20		<0.005	<0.005	**0.008**	<0.005	**0.26**	<0.005	<0.005

Notes:

mg/kg - denotes milligrams per kilogram
< - denotes less than the detection limi
--- - denotes not analyzed/applicable
DCA - denotes dichloroethane
EDB - denotes ethylene dibromide
MTBE - denotes methyl tertiary butyl ether
DIPE - denotes di-isopropyl ether
ETBE - denotes ethyl tertiary butyl ether
TAME - denotes tertiary amyl ether
TBA - denotes tertiary butyl alcohol

Table 3a
Grab Groundwater Sample Results
TPH and BTEX
Shore Acres Gas
403 East 12th Street
Oakland, California

Sample ID	Collection Date	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)
Excavation							
Pit Sample 1	August 2009	**21,000**	**21,000**	**3,800**	**1,000**	**1,200**	**3,700**
Direct Push Grab Groundwater Samples							
SB-1	April 2010	---	**60**	**2.9**	**6.7**	**2.1**	**9.7**
SB-2		---	<50	<0.5	<0.5	<0.5	<1.0
SB-3		---	**170**	**1.5**	**11**	**4.8**	**27**
SB-4		---	**6,500**	**78**	**440**	**190**	**960**
SB-5		---	<50	<0.5	<0.5	<0.5	<1.0
SB-6		---	**440**	<20	<20	<20	<40
SB-7		---	**270**	<12	<12	<12	<25
SB-8		---	<50	**0.6**	**1.3**	**0.6**	**3.3**
SB-9		---	<50	<10	<10	<10	<20
SB-10	December 2011	---	<50	<0.5	<0.5	<0.5	<1.0
SB-11		---	**2,300**	**83**	**1.9**	**140**	**43**
SB-12		---	**4,700**	**620**	**290**	**84**	**400**
SB-13		---	**400**	**51**	**2.4**	**4.2**	**9.7**
SB-14		---	<50	**1.7**	z	**2.1**	<1.0
SB-15		---	**320**	**32**	**p**	**33**	**25**
SB-16		---	**4,800**	**1,600**	**10**	**49**	<20
SB-17		---	**990**	**290**	**7.2**	**27**	**4.3**
SB-18		---	**560**	**8.7**	**4.9**	**23**	**83**
SB-19		---	**260**	**7.1**	<0.5	**16**	**7.0**
SB-21		---	<50	<0.5	<0.5	<0.5	<1.0

Notes:

TPHd - denotes total petroleum hydrocarbons as diesel

TPHg - denotes total petroleum hydrocarbons as gasoline

ug/L - denotes micrograms per liter

< - denotes less than the detection limit

--- - denotes not analyzed/applicable

Table 3b
Grab Groundwater Sample Results
Oxygenates and Lead Scavengers
Shore Acres Gas
403 East 12th Street
Oakland, California

Sample ID	Collection Date	DIPE (ug/L)	ETBE (ug/L)	MTBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)
Excavation								
Water	February 2000	<10	<10	**15,000**	**39**	**17,000**	<10	<10
Direct Push Grab Groundwater Samples								
SB-1	April 2010	<0.5	<0.5	**14**	<0.5	<5.0	<0.5	<0.5
SB-2		<0.5	<0.5	**45**	<0.5	<5.0	<0.5	<0.5
SB-3		<0.5	<0.5	**110**	<0.5	**32**	<0.5	<0.5
SB-4		<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0
SB-5		<0.5	<0.5	**0.6**	<0.5	<5.0	<0.5	<0.5
SB-6		<20	<20	**4,000**	<20	<200	<20	<20
SB-7		<12	<12	**2,500**	<12	<120	<12	<12
SB-8		<0.5	<0.5	**26**	<0.5	**98**	<0.5	<0.5
SB-9		<10	<10	**1,800**	<10	**5,300**	<10	<10
SB-10	December 2011	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
SB-11		<1.0	<1.0	**22**	<1.0	**140**	<1.0	<1.0
SB-12		<5.0	<5.0	**100**	<5.0	**550**	<5.0	<5.0
SB-13		<2.0	<2.0	**39**	<2.0	**3,900**	<2.0	<2.0
SB-14		<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
SB-15		<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
SB-16		<10	<10	<10	<10	<100	<10	<10
SB-17		<2.0	<2.0	<2.0	<2.0	<20	<2.0	<2.0
SB-18		<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
SB-19		<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
SB-21		<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5

Notes:

ug/L - denotes micrograms per liter
< - denotes less than the detection limit
DCA - denotes dichloroethane
EDB - denotes ethylene dibromide
MTBE - denotes methyl tertiary butyl ether
DIPE - denotes di-isopropyl ether
ETBE - denotes ethyl tertiary butyl ether
TAME - denotes tertiary amyl ether
TBA - denotes tertiary butyl alcohol

Table 4a
Monitoring Well Data
Water Level, TPH, and BTEX
Shore Acres Gas
403 East 12th Street
Oakland, California

Well ID TOC	Date Measured	Depth to Groundwater (ft bgs)	Groundwater Elevation (ft amsl)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)
Monitoring Wells									
MW-1	6/23/2011	10.46	20.35	<250	23,000	4,500	820	1,700	3,800
	9/22/2011	12.13	18.68	<50	21,000	4,000	1,500	980	3,000
	12/11/2011	11.69	19.12	---	23,000	2,900	1,000	720	3,000
	3/30/2012	Inaccessible							
	6/1/2012	11.04	19.77	---	40,000	4,100	800	2,700	6,100
	9/14/2012	12.96	17.85	<100	20,000	2,700	160	830	2,600
	3/27/2013	8.57	22.24	<50	15,000	1,700	150	400	830
	5/20/2013	8.57	22.24	<100	22,000	2,800	870	560	2,000
	9/4/2013	9.29	21.52	<250	12,000	2,900	130	190	370
	12/6/2013	9.11	21.70	<120	15,000	3,000	780	580	2,400
	6/27/2014	8.92	21.89	<120	15,000	2,500	280	2,400	2,400
	9/19/2014	10.98	19.83	---	11,000	530	190	460	950
	12/15/2014	7.66	23.15	---	11,000	1,100	140	310	420
	3/31/2015	8.81	22.00	---	38,000	1,200	230	810	2,600
	9/18/2015	12.23	18.58	---	7,600	890	38	240	360
	12/16/2015	12.02	18.79	---	8,900	580	16	110	110
	3/22/2016	10.48	20.33	---	18,000	690	66	540	1,900
	9/23/2016	9.01	21.80	---	20,000	1,400	90	1,100	4,500
	3/28/2017	8.73	22.08	---	47,000	1,600	270	3,600	9,000
	9/28/2017	11.50	19.31	---	22,000	660	27	700	1,600
	3/30/2018	8.64	22.17	---	**45,000**	**920**	**110**	**3,100**	**10,000**
MW-2	6/23/2011	10.70	20.59	<250	13,000	1,000	160	370	1,600
	9/22/2011	12.42	18.87	<50	12,000	300	130	470	1,400
	12/11/2011	11.98	19.31	---	8,300	170	120	450	1,500
	3/30/2012	8.55	22.74	<250	17,000	850	700	710	2,900
	6/1/2012	11.26	20.03	---	5,300	830	260	630	1,700
	9/14/2012	13.11	18.18	<50	10,000	260	190	600	1,900
	3/27/2013	9.43	21.86	<50	12,000	440	98	320	810
	5/20/2013	9.41	21.88	<100	6,600	300	74	190	500
	9/4/2013	10.11	21.18	<100	5,300	300	50	180	280
	12/6/2013	9.93	21.36	<50	4,300	280	39	140	160
	6/27/2014	9.93	21.36	<50	1,300	200	22	85	160
	9/19/2014	12.49	18.80	---	990	42	12	97	110
	12/15/2014	8.65	22.64	---	85	14	3.3	5.2	13
	3/31/2015	9.83	21.46	---	---	---	---	---	---
	9/18/2015	12.45	18.84	---	1,300	29	8.9	44	120
	12/16/2015	12.57	18.72	---	880	8.2	2.9	16	30
	3/22/2016	11.11	20.18	---	900	7.3	2.4	3.7	16
	9/23/2016	9.90	21.39	---	570	10	2.9	13	37
	3/28/2017	9.42	21.87	---	3,000	120	6.2	39	64
	9/28/2017	12.10	19.19	---	2,100	11	2.5	16	43
	3/30/2018	9.32	21.97	---	**4,700**	**64**	**8.6**	**82**	**140**

Table 4a
Monitoring Well Data
Water Level, TPH, and BTEX
Shore Acres Gas
403 East 12th Street
Oakland, California

Well ID TOC	Date Measured	Depth to Groundwater (ft bgs)	Groundwater Elevation (ft amsl)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)
MW-3	6/23/2011	10.79	20.51	<250	55,000	15,000	3,600	2,000	4,300
	9/22/2011	12.60	18.70	<250	77,000	15,000	3,900	1,700	4,900
	12/11/2011	12.13	19.17	---	64,000	12,000	3,100	1,600	4,500
	3/30/2012	7.90	23.40	<120	100,000	17,000	10,000	2,000	8,400
	6/1/2012	11.47	19.83	---	83,000	15,000	6,000	2,900	10,000
	9/14/2012	13.42	17.88	<200	69,000	10,000	1,500	1,800	5,900
	3/27/2013	9.15	22.15	<200	63,000	7,100	2,100	1,900	7,700
	5/20/2013	9.16	22.14	<250	80,000	9,700	2,900	2,400	8,600
	9/4/2013	9.87	21.43	<250	47,000	7,200	470	1,200	5,000
	12/6/2013	9.69	21.61	<50	19,000	5,600	240	520	1,600
	6/27/2014	9.49	21.81	<50	12,000	5,800	240	860	760
	9/19/2014	11.62	19.68	---	9,500	610	160	220	400
	12/15/2014	8.10	23.20	---	1,300	260	69	39	120
	3/31/2015	9.37	21.93	---	13,000	1,300	270	230	700
	9/18/2015	13.13	18.17	---	8,300	1,000	150	150	440
	12/16/2015	13.09	18.21	---	11,000	1,100	130	290	350
	3/22/2016	11.39	19.91	---	1,500	230	23	14	53
	9/23/2016	9.57	21.73	---	4,200	640	51	58	140
	3/28/2017	9.20	22.10	---	1,200	47	20	11	67
	9/28/2017	11.91	19.39	---	3,400	97	56	84	190
	3/30/2018	9.23	22.07	---	**1,200**	**46**	**31**	**20**	**150**
MW-4	6/23/2011	10.62	20.59	<250	47,000	3,500	7,100	2,300	11,000
	9/22/2011	12.25	18.96	<250	46,000	2,000	2,400	1,100	5,300
	12/11/2011	11.89	19.32	---	46,000	2,100	3,400	1,800	7,000
	3/30/2012	8.51	22.70	<250	60,000	6,800	8,200	1,200	5,700
	6/1/2012	11.14	20.07	---	72,000	9,700	8,500	2,300	9,000
	9/14/2012	12.97	18.24	<50	15,000	940	880	450	1,700
	3/27/2013	9.05	22.16	<50	25,000	1,800	2,200	660	2,500
	5/20/2013	9.03	22.18	<250	18,000	1,600	1,700	470	1,900
	9/4/2013	9.68	21.53	<50	15,000	510	410	260	820
	12/6/2013	9.54	21.67	<50	9,600	630	650	240	970
	6/27/2014	9.58	21.63	<50	3,300	550	2,900	200	420
	9/19/2014	11.61	19.60	---	2,100	110	54	92	210
	12/15/2014	8.45	22.76	---	720	58	32	29	33
	3/31/2015	9.46	21.75	---	---	---	---	---	---
	9/18/2015	12.03	19.18	---	17,000	130	33	70	200
	12/16/2015	12.41	18.80	---	8,200	160	44	88	130
	3/22/2016	11.22	19.99	---	1,900	88	71	43	91
	9/23/2016	9.45	21.76	---	2,700	520	85	54	120
	3/28/2017	9.22	21.99	---	4,500	700	56	140	300
	9/28/2017	11.88	19.33	---	7,100	250	29	220	310
	3/30/2018	9.17	22.04	---	**5,100**	**520**	**25**	**70**	**110**

Table 4a
Monitoring Well Data
Water Level, TPH, and BTEX
Shore Acres Gas
403 East 12th Street
Oakland, California

Well ID TOC	Date Measured	Depth to Groundwater (ft bgs)	Groundwater Elevation (ft amsl)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)
MW-5	6/23/2011	10.12	21.23	<250	130,000	7,100	25,000	13,000	94,000
	9/22/2011	12.53	18.82	<250	120,000	6,900	7,600	3,800	17,000
	12/11/2011	12.09	19.26	---	110,000	7,800	14,000	4,200	20,000
	3/30/2012	8.06	23.29	Sheen - not sampled					
	6/1/2012	11.38	19.97	Sheen - not sampled					
	9/14/2012	13.61	17.74	Free product - not sampled					
	3/27/2013	9.21	22.14	Free product - not sampled					
	5/20/2013	9.17	22.18	Free product - not sampled					
	9/4/2013	9.70	21.65	Free product - not sampled					
	12/6/2013	9.67	21.68	<250	81,000	10,000	13,000	5,500	21,000
	6/27/2014	9.51	21.84	Free product - not sampled					
	9/19/2014	12.91	18.44	---	56,000	1,000	270	1,000	4,100
	12/15/2014	---	---	---	13,000	840	530	450	1,700
	3/31/2015	9.36	21.99	---	34,000	1,100	570	500	2,000
	9/18/2015	---	---	---	9,800	290	23	140	270
	12/16/2015	---	---	---	6,100	220	5.8	92	35
	3/22/2016	12.26	19.09	---	6,300	320	58	190	480
	9/23/2016	---	---	---	10,000	350	48	230	930
	3/28/2017	---	---	---	9,700	310	68	580	1,200
	9/28/2017	11.97	19.38	---	7,500	140	16	140	370
	3/30/2018	Inaccessible							
MW-6	6/23/2011	10.43	20.36	<250	11,000	2,400	120	480	840
	9/22/2011	12.10	18.69	<50	15,000	1,500	270	880	2,500
	12/11/2011	11.69	19.10	---	13,000	660	190	610	1,500
	3/30/2012	7.50	23.29	<250	9,500	1,200	160	250	520
	6/1/2012	11.04	19.75	---	23,000	2,200	220	1,300	3,000
	9/14/2012	12.96	17.83	<50	14,000	1,000	86	420	1,200
	3/27/2013	---	---	Inaccessible					
	5/20/2013	---	---	Inaccessible					
	9/4/2013	9.19	21.60	<100	9,500	1,400	120	1,400	1,600
	12/6/2013	9.03	21.76	<100	14,000	1,200	24	1,400	810
	6/27/2014	8.80	21.99	<100	9,800	1,200	75	2,800	530
	9/19/2014	10.68	20.11	---	6,500	240	21	490	110
	12/15/2014	7.62	23.17	---	4,700	520	25	110	43
	3/31/2015	8.75	22.04	---	10,000	330	12	80	73
	9/18/2015	11.61	19.18	---	7,000	430	24	120	110
	12/16/2015	11.58	19.21	---	8,200	460	12	17	26
	3/22/2016	10.10	20.69	---	5,900	380	15	87	83
	9/23/2016	8.90	21.89	---	7,700	170	<5.0	8.0	<10
	3/28/2017	8.70	22.09	---	8,100	190	11	100	130
	9/28/2017	11.35	19.44	---	6,100	210	17	27	48
	3/30/2018	8.65	22.14	---	**6,800**	**200**	**12**	**29**	**46**

Table 4a
Monitoring Well Data
Water Level, TPH, and BTEX
Shore Acres Gas
403 East 12th Street
Oakland, California

Well ID TOC	Date Measured	Depth to Groundwater (ft bgs)	Groundwater Elevation (ft amsl)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)
DPE Wells									
EW-1	6/28/2011	---	---	---	20,000	2,000	490	1,000	2,400
	9/22/2011	12.55	18.71	<120	39,000	3,900	610	1,400	4,600
	12/11/2011	12.09	19.17	---	27,000	2,600	270	1,400	4,400
	3/30/2012	8.06	23.20	<120	21,000	3,100	160	910	2,300
	6/1/2012	11.42	19.84	---	21,000	2,800	100	1,200	3,100
	9/14/2012	13.37	17.89	<50	22,000	1,900	50	1,000	2,600
	3/27/2013	9.06	22.20	<50	15,000	630	36	360	590
	5/20/2013	9.06	22.20	<100	11,000	600	28	210	350
	9/4/2013	9.77	21.49	<50	9,300	610	19	170	250
	12/6/2013	9.63	21.83	<100	11,000	740	17	260	340
	6/27/2014	9.55	21.91	<100	12,000	1,400	210	1,900	2,400
	9/19/2014	12.41	19.05	---	28,000	1,000	450	1,400	3,900
	12/15/2014	8.20	23.26	---	4,000	560	29	150	150
	3/31/2015	9.30	22.16	---	---	---	---	---	---
	9/18/2015	13.25	18.21	---	6,900	370	5.5	190	210
	12/16/2015	13.22	18.24	---	6,000	250	3.3	31	31
	3/22/2016	11.54	19.92	---	3,900	200	<5.0	46	33
	9/23/2016	9.51	21.95	---	6,200	130	<5.0	35	24
	3/28/2017	9.24	22.22	---	9,000	210	3.2	55	95
	9/28/2017	11.93	19.53	---	8,200	66	2.3	49	28
	3/30/2018	9.16	22.30	---	**10,000**	**46**	<2.0	**32**	**29**
EW-2	6/28/2011	---	---	---	33,000	3,100	2,000	790	3,500
	9/22/2011	12.50	18.90	<250	66,000	2,400	4,500	2,000	11,000
	12/11/2011	12.12	19.28	---	70,000	2,800	6,900	2,700	13,000
	3/30/2012	8.48	22.92	<250	57,000	5,800	5,500	1,200	5,400
	6/1/2012	11.40	20.00	---	82,000	8,800	8,600	3,300	13,000
	9/14/2012	13.27	18.13	<100	32,000	2,600	2,400	1,000	4,500
	3/27/2013	9.24	22.16	<100	18,000	940	790	390	1,700
	5/20/2013	9.21	22.19	<50	10,000	540	430	220	790
	9/4/2013	9.88	21.52	<250	10,000	680	580	480	1,700
	12/6/2013	9.96	21.47	<50	13,000	620	380	350	1,600
	6/27/2014	9.85	21.58	<50	27,000	3,200	5,600	1,200	8,000
	9/19/2014	16.80	14.63	---	18,000	690	1,300	360	2,400
	12/15/2014	8.73	22.70	---	11,000	510	500	160	1,100
	3/31/2015	9.90	21.53	---	---	---	---	---	---
	9/18/2015	15.10	16.33	---	16,000	1,400	2,400	520	3,400
	12/16/2015	16.57	14.86	---	29,000	1,400	3,300	400	2,500
	3/22/2016	16.56	14.87	---	22,000	820	2,100	420	2,800
	9/23/2016	9.82	21.61	---	6,500	37	38	29	170
	3/28/2017	9.54	21.89	---	7,100	64	33	51	260
	9/28/2017	12.30	19.13	---	1,900	8.8	15	23	79
	3/30/2018	9.60	21.83	---	**7,200**	**43**	**15**	**50**	**310**

Table 4a
Monitoring Well Data
Water Level, TPH, and BTEX
Shore Acres Gas
403 East 12th Street
Oakland, California

Well ID TOC	Date Measured	Depth to Groundwater (ft bgs)	Groundwater Elevation (ft amsl)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)
EW-3	5/20/2013	8.82	---	<50	1,300	430	540	280	1,000
	9/4/2013	9.49	---	<100	9,800	480	220	560	1,800
	12/6/2013	10.05	---	<50	10,000	810	580	260	1,100
	6/27/2014	9.90	---	<50	27,000	4,300	4,300	1,200	7,900
	9/19/2014	13.00	---	---	15,000	670	650	530	2,400
	12/15/2014	8.20	---	---	26,000	1,200	1,100	350	2,000
	3/31/2015	9.31	---	---	8,000	170	18	130	560
	9/18/2015	13.98	---	---	12,000	340	110	180	1,900
	12/16/2015	14.31	---	---	11,000	360	75	110	920
	3/22/2016	12.63	---	---	5,700	120	6.7	90	170
	9/23/2016	9.46	---	---	2,800	26	2.2	60	61
	3/28/2017	9.21	---	---	4,100	150	3.9	41	32
	9/28/2017	11.87	---	---	3,600	18	5.4	25	46
	3/30/2018	9.15	---	---	**2,900**	**13**	**2.2**	**9.6**	**27**
EW-4	5/20/2013	9.12	---	<50	8,100	720	160	94	430
	9/4/2013	9.85	---	z	11,000	990	580	310	1,200
	12/6/2013	9.62	---	w	4,400	150	170	140	670
	6/27/2014	9.47	---	<50	8,400	1,500	940	540	2,100
	9/19/2014	12.48	---	---	9,000	680	1,600	450	3,000
	12/15/2014	8.50	---	---	7,700	570	170	320	1,000
	3/31/2015	9.78	---	---	23,000	1,000	1,200	420	1,700
	9/18/2015	15.45	---	---	7,200	860	62	55	130
	12/16/2015	16.08	---	---	5,200	1,200	35	40	81
	3/22/2016	16.74	---	---	7,400	920	83	120	350
	9/23/2016	9.95	---	---	8,200	350	27	70	670
	3/28/2017	9.50	---	---	10,000	460	12	190	690
	9/28/2017	12.22	---	---	8,000	89	6.3	100	410
	3/30/2018	9.36	---	---	**5,100**	**190**	**10**	**76**	**250**

Notes:
TOC - denotes top of casing elevation
TPHg - denotes total petroleum hydrocarbons as gasoline
TPHd - denotes total petroleum hydrocarbons as diesel
ft bgs - denotes feet below top of casing
ft amsl - denotes feet above mean sea level
ug/L - denotes micrograms per liter
< - denotes less than the detection limit
--- - denotes not available/applicable
FLH - denotes floating liquid hydrocarbons
* - denotes less than six inches of water and considered dry

Table 4b
Monitoring Well Data
Oxygenates and Lead Scavengers
Shore Acres Gas
403 East 12th Street
Oakland, California

Well ID TOC	Date Measured	DIPE (ug/L)	ETBE (ug/L)	MTBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)
Monitoring Wells								
MW-1	6/23/2011	<25	<25	3,000	<25	3,900	<25	<25
	9/22/2011	<50	<50	2,600	<50	2,500	<50	<50
	12/11/2011	<20	<20	1,800	<20	1,600	<20	<20
	3/30/2012	Inaccessible						
	6/1/2012	<20	<20	2,800	<20	1,300	<20	<20
	9/14/2012	<10	<10	2,200	<10	1,600	<10	<10
	3/27/2013	<0.5	<0.5	590	<0.5	350	<0.5	<0.5
	5/20/2013	<10	<10	1,100	<10	620	<10	<10
	9/4/2013	<10	<10	240	<10	<100	<10	<10
	12/6/2013	<5.0	<5.0	350	<50	<100	<5.0	<5.0
	6/27/2014	<10	<10	97	<10	<100	<10	<10
	9/19/2014	<10	<10	150	<10	<100	<10	<10
	12/15/2014	<0.5	<0.5	310	<0.5	98	<0.5	<0.5
	3/31/2015	<5.0	<5.0	330	<5.0	<50	<5.0	<5.0
	9/18/2015	<5.0	<5.0	150	<5.0	<50	<5.0	<5.0
	12/16/2015	<5.0	<5.0	57	<5.0	<50	<5.0	<5.0
	3/22/2016	<50	<50	<50	<50	<500	<50	<50
	9/23/2016	<0.5	<0.5	250	<0.5	250	<0.5	<0.5
	3/28/2017	<20	<20	340	<20	470	<20	<20
	9/28/2017	<10	<10	130	<10	290	<10	<10
	3/30/2018	<20	<20	**170**	<20	400	<20	<20
MW-2	6/23/2011	<10	<10	240	<10	640	<10	<10
	9/22/2011	<5.0	<5.0	110	<5.0	260	<5.0	<5.0
	12/11/2011	<2.5	<2.5	45	<2.5	110	<2.5	<2.5
	3/30/2012	<5.0	<5.0	140	<5.0	490	<5.0	<5.0
	6/1/2012	<5.0	<5.0	180	<5.0	490	<5.0	<5.0
	9/14/2012	<5.0	<5.0	65	<5.0	190	<5.0	<5.0
	3/27/2013	<0.5	<0.5	120	<0.5	930	<0.5	<0.5
	5/20/2013	<2.5	<2.5	120	<2.5	1,800	<2.5	<2.5
	9/4/2013	<5.0	<5.0	100	<5.0	780	<5.0	<5.0
	12/6/2013	<5.0	<5.0	63	<5.0	230	<5.0	<5.0
	6/27/2014	<5.0	<5.0	21	<5.0	<50	<5.0	<5.0
	9/19/2014	<5.0	<5.0	16	<5.0	<50	<5.0	<5.0
	12/15/2014	<0.5	<0.5	7.3	<0.5	23	<0.5	<0.5
	3/31/2015	---	---	---	---	---	---	---
	9/18/2015	<0.5	<0.5	4.1	<0.5	<5.0	<0.5	<0.5
	12/16/2015	<0.5	<0.5	1.0	<0.5	<5.0	<0.5	<0.5
	3/22/2016	<0.5	<0.5	<0.5	<0.5	3.7	<0.5	<0.5
	9/23/2016	<0.5	<0.5	5.3	<0.5	<5.0	<0.5	<0.5
	3/28/2017	<0.5	<0.5	10	<0.5	<5.0	<0.5	<0.5
	9/28/2017	<1.0	<1.0	3.0	<1.0	<10	<1.0	<1.0
	3/30/2018	<1.0	<1.0	**10**	<1.0	<10	<1.0	<1.0

Table 4b
Monitoring Well Data
Oxygenates and Lead Scavengers
Shore Acres Gas
403 East 12th Street
Oakland, California

Well ID TOC	Date Measured	DIPE (ug/L)	ETBE (ug/L)	MTBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)
MW-3	6/23/2011	<100	<100	8,200	<100	6,400	<100	<100
	9/22/2011	<100	<100	11,000	<100	2,800	<100	<100
	12/11/2011	<100	<100	7,400	<100	1,800	<100	<100
	3/30/2012	<100	<100	13,000	<100	<1,000	<100	<100
	6/1/2012	<50	<50	12,000	<50	<500	<50	<50
	9/14/2012	<50	<50	9,400	<50	<500	<50	<50
	3/27/2013	<0.5	<0.5	7,900	<0.5	3,800	<0.5	<0.5
	5/20/2013	<25	<25	10,000	<25	5,000	<25	<25
	9/4/2013	<25	<25	5,300	<25	2,100	<25	<25
	12/6/2013	<25	<25	1,400	<25	640	<25	<25
	6/27/2014	<25	<25	520	<25	260	<25	<25
	9/19/2014	<25	<25	390	<25	370	<25	<25
	12/15/2014	<0.5	<0.5	110	<0.5	140	<0.5	<0.5
	3/31/2015	<5.0	<5.0	980	<5.0	610	<5.0	<5.0
	9/18/2015	<5.0	<5.0	410	<5.0	410	<5.0	<5.0
	12/16/2015	<5.0	<5.0	290	<5.0	<50	<5.0	<5.0
	3/22/2016	<5.0	<5.0	71	<5.0	56	<5.0	<5.0
	9/23/2016	<5.0	<5.0	380	<5.0	<50	<5.0	<5.0
	3/28/2017	<5.0	<5.0	19	<5.0	95	<5.0	<5.0
	9/28/2017	<1.0	<1.0	110	<1.0	79	<1.0	<1.0
	3/30/2018	<0.5	<0.5	**38**	<0.5	**49**	<0.5	<0.5
MW-4	6/23/2011	<50	<50	<50	<50	<500	<50	<50
	9/22/2011	<25	<25	<25	<25	<250	<25	<25
	12/11/2011	<25	<25	<25	<25	<250	<25	<25
	3/30/2012	<50	<50	56	<50	<500	<50	<50
	6/1/2012	<50	<50	180	<50	<500	<50	<50
	9/14/2012	<20	<20	<20	<20	<200	<20	<20
	3/27/2013	<0.5	<0.5	77	<0.5	450	<0.5	<0.5
	5/20/2013	<10	<10	61	<10	360	<10	<10
	9/4/2013	<2.5	<2.5	17	<2.5	64	<2.5	<2.5
	12/6/2013	<2.5	<2.5	6.6	<2.5	<25	<2.5	<2.5
	6/27/2014	<2.5	<2.5	<2.5	<2.5	<25	<2.5	<2.5
	9/19/2014	<2.5	<2.5	<2.5	<2.5	<25	<2.5	<2.5
	12/15/2014	<0.5	<0.5	<0.5	<0.5	13	<0.5	<0.5
	3/31/2015	---	---	---	---	---	---	---
	9/18/2015	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0
	12/16/2015	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0
	3/22/2016	<5.0	<5.0	<5.0	<5.0	<20	<5.0	<5.0
	9/23/2016	<5.0	<5.0	8.0	<5.0	<50	<5.0	<5.0
	3/28/2017	<5.0	<5.0	12	<5.0	<50	<5.0	<5.0
	9/28/2017	<2.0	<2.0	25	<2.0	<20	<2.0	<2.0
	3/30/2018	<2.0	<2.0	**22**	<2.0	<20	<2.0	<2.0

Table 4b
Monitoring Well Data
Oxygenates and Lead Scavengers
Shore Acres Gas
403 East 12th Street
Oakland, California

Well ID TOC	Date Measured	DIPE (ug/L)	ETBE (ug/L)	MTBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)
MW-5	6/23/2011	<120	<120	440	<120	<1,200	<120	<120
	9/22/2011	<50	<50	670	<50	1,500	<50	<50
	12/11/2011	<120	<120	690	<120	1,600	<120	<120
	3/30/2012	Sheen - not sampled						
	6/1/2012	Sheen - not sampled						
	9/14/2012	Free product - not sampled						
	3/27/2013	Free product - not sampled						
	5/20/2013	Free product - not sampled						
	9/4/2013	Free product - not sampled						
	12/6/2013	<25	<25	270	<25	<250	<25	<25
	6/27/2014	Free product - not sampled						
	9/19/2014	<25	<25	75	<25	<250	<25	<25
	12/15/2014	<0.5	<0.5	370	<0.5	340	<0.5	<0.5
	3/31/2015	<5.0	<5.0	71	<5.0	280	<5.0	<5.0
	9/18/2015	<5.0	<5.0	15	<5.0	<50	<5.0	<5.0
	12/16/2015	<5.0	<5.0	17	<5.0	<50	<5.0	<5.0
	3/22/2016	<5.0	<5.0	26	<5.0	110	<5.0	<5.0
	9/23/2016	<5.0	<5.0	38	<5.0	<50	<5.0	<5.0
	3/28/2017	<0.5	<0.5	27	<0.5	<5.0	<0.5	<0.5
	9/28/2017	<2.0	<2.0	27	<2.0	<20	<2.0	<2.0
	3/30/2018	Inaccessible						
MW-6	6/23/2011	<25	<25	1,100	<25	4,000	<25	<25
	9/22/2011	<12	<12	600	<12	2,800	<12	<12
	12/11/2011	<10	<10	290	<10	1,300	<10	<10
	3/30/2012	<10	<10	990	<10	3,500	<10	<10
	6/1/2012	<10	<10	1,400	<10	2,200	<10	<10
	9/14/2012	<10	<10	580	<10	2,000	<10	<10
	3/27/2013	Inaccessible						
	5/20/2013	Inaccessible						
	9/4/2013	<5.0	<5.0	29	<5.0	140	<5.0	<5.0
	12/6/2013	<2.5	<2.5	12	<2.5	<25	<2.5	<2.5
	6/27/2014	<2.5	<2.5	4.9	<2.5	<25	<2.5	<2.5
	9/19/2014	<2.5	<2.5	7.1	<2.5	<25	<2.5	<2.5
	12/15/2014	<0.5	<0.5	33	<0.5	88	<0.5	<0.5
	3/31/2015	<5.0	<5.0	12	<5.0	<50	<5.0	<5.0
	9/18/2015	<2.5	<2.5	9.6	<2.5	<25	<2.5	<2.5
	12/16/2015	<5.0	<5.0	10	<5.0	<50	<5.0	<5.0
	3/22/2016	<5.0	<5.0	8.7	<5.0	28	<5.0	<5.0
	9/23/2016	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0
	3/28/2017	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
	9/28/2017	<2.0	<2.0	<2.0	<2.0	<20	<2.0	<2.0
	3/30/2018	<2.0	<2.0	20	<2.0	<20	<2.0	<2.0

Table 4b
Monitoring Well Data
Oxygenates and Lead Scavengers
Shore Acres Gas
403 East 12th Street
Oakland, California

Well ID TOC	Date Measured	DIPE (ug/L)	ETBE (ug/L)	MTBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)
DPE Wells								
EW-1	6/28/2011	<25	<25	1,500	<25	5,300	<25	<25
	9/22/2011	<50	<50	640	<50	1,800	<50	<50
	12/11/2011	<25	<25	490	<25	1,000	<25	<25
	3/30/2012	<20	<20	370	<20	1,100	<20	<20
	6/1/2012	<25	<25	500	<25	1,700	<25	<25
	9/14/2012	<10	<10	370	<10	1,400	<10	<10
	3/27/2013	<0.5	<0.5	270	<0.5	560	<0.5	<0.5
	5/20/2013	<5.0	<5.0	250	<5.0	560	<5.0	<5.0
	9/4/2013	<2.5	<2.5	220	<2.5	590	<2.5	<2.5
	12/6/2013	<2.5	<2.5	130	<2.5	270	<2.5	<2.5
	6/27/2014	<10	<10	40	<10	<100	<10	<10
	9/19/2014	<20	<20	300	<20	<200	<20	<20
	12/15/2014	<0.5	<0.5	170	<0.5	110	<0.5	<0.5
	3/31/2015	---	---	---	---	---	---	---
	9/18/2015	<2.5	<2.5	100	<2.5	<25	<2.5	<2.5
	12/16/2015	<5.0	<5.0	24	<5.0	<50	<5.0	<5.0
	3/22/2016	<5.0	<5.0	40	<5.0	46	<5.0	<5.0
	9/23/2016	<5.0	<5.0	78	<5.0	<50	<5.0	<5.0
	3/28/2017	<0.5	<0.5	90	<0.5	<5.0	<0.5	<0.5
	9/28/2017	<2.0	<2.0	42	<2.0	<20	<2.0	<2.0
	3/30/2018	<2.0	<2.0	**74**	<2.0	<20	<2.0	<2.0
EW-2	6/28/2011	<25	<25	670	<25	4,100	<25	<25
	9/22/2011	<50	<50	740	<50	1,600	<50	<50
	12/11/2011	<50	<50	540	<50	880	<50	<50
	3/30/2012	<50	<50	1,800	<50	2,800	<50	<50
	6/1/2012	<50	<50	2,600	<50	3,300	<50	<50
	9/14/2012	<20	<20	1,100	<20	2,400	<20	<20
	3/27/2013	<0.5	<0.5	360	<0.5	1,800	<0.5	<0.5
	5/20/2013	<2.5	<2.5	390	<2.5	2,600	<2.5	<2.5
	9/4/2013	<5.0	<5.0	460	<5.0	1,400	<5.0	<5.0
	12/6/2013	<10	<10	210	<10	560	<10	<10
	6/27/2014	<10	<10	110	<10	<100	<10	<10
	9/19/2014	<25	<25	96	<25	<250	<25	<25
	12/15/2014	<0.5	<0.5	94	<0.5	66	<0.5	<0.5
	3/31/2015	---	---	---	---	---	---	---
	9/18/2015	<10	<10	50	<10	<100	<10	<10
	12/16/2015	<50	<50	58	<50	<500	<50	<50
	3/22/2016	<250	<250	<250	<250	<1,000	<250	<250
	9/23/2016	<5.0	<5.0	26	<5.0	<50	<5.0	<5.0
	3/28/2017	<0.5	<0.5	59	<0.5	<5.0	<0.5	<0.5
	9/28/2017	<2.0	<2.0	18	<2.0	65	<2.0	<2.0
	3/30/2018	<2.0	<2.0	**45**	<2.0	**210**	<2.0	<2.0

Table 4b
Monitoring Well Data
Oxygenates and Lead Scavengers
Shore Acres Gas
403 East 12th Street
Oakland, California

Well ID TOC	Date Measured	DIPE (ug/L)	ETBE (ug/L)	MTBE (ug/L)	TAME (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)
EW-3	5/20/2013	<2.5	<2.5	140	<2.5	1,100	<2.5	<2.5
	9/4/2013	<2.5	<2.5	120	<2.5	650	<2.5	<2.5
	12/6/2013	<2.5	<2.5	96	<2.5	690	<2.5	<2.5
	6/27/2014	<5.0	<5.0	150	<5.0	360	<5.0	<5.0
	9/19/2014	<25	<25	75	<25	<250	<25	<25
	12/15/2014	<0.5	<0.5	160	<0.5	700	<0.5	<0.5
	3/31/2015	<5.0	<5.0	38	<5.0	68	<5.0	<5.0
	9/18/2015	<5.0	<5.0	120	<5.0	<50	<5.0	<5.0
	12/16/2015	<5.0	<5.0	81	<5.0	<50	<5.0	<5.0
	3/22/2016	<2.5	<2.5	33	<2.5	84	<2.5	<2.5
	9/23/2016	<0.5	<0.5	32	<0.5	34	<0.5	<0.5
	3/28/2017	<0.5	<0.5	51	<0.5	130	<0.5	<0.5
	9/28/2017	<2.0	<2.0	35	<2.0	100	<2.0	<2.0
	3/30/2018	<1.0	<1.0	**59**	<1.0	**170**	<1.0	<1.0
EW-4	5/20/2013	<5.0	<5.0	480	<5.0	1,900	<5.0	<5.0
	9/4/2013	<5.0	<5.0	220	<5.0	1,300	<5.0	<5.0
	12/6/2013	<5.0	<5.0	58	<5.0	430	<5.0	<5.0
	6/27/2014	<2.5	<2.5	82	<2.5	65	<2.5	<2.5
	9/19/2014	<20	<20	120	<20	520	<20	<20
	12/15/2014	<0.5	<0.5	100	<0.5	110	<0.5	<0.5
	3/31/2015	<5.0	<5.0	140	<5.0	310	<5.0	<5.0
	9/18/2015	<5.0	<5.0	140	<5.0	420	<5.0	<5.0
	12/16/2015	<5.0	<5.0	87	<5.0	390	<5.0	<5.0
	3/22/2016	<25	<25	81	<25	250	<25	<25
	9/23/2016	<5.0	<5.0	150	<5.0	180	<5.0	<5.0
	3/28/2017	<0.5	<0.5	61	<0.5	270	<0.5	<0.5
	9/28/2017	<2.0	<2.0	46	<2.0	170	<2.0	<2.0
	3/30/2018	<2.0	<2.0	**30**	<2.0	**200**	<2.0	<2.0

Notes:

ug/L - denotes micrograms per liter
< - denotes less than the detection limit
DCA - denotes dichloroethane
EDB - denotes ethylene dibromide
MTBE - denotes methyl tertiary butyl ether
DIPE - denotes di-isopropyl ether
ETBE - denotes ethyl tertiary butyl ether
TAME - denotes tertiary amyl ether
TBA - denotes tertiary butyl alcohol
--- - denotes no data available

Table 5a
Soil Vapor Extraction System Performance Calculations
Shore Acres Gas
403 East 12th Street
Oakland, California

Date	Meter* (hours)	Influent Flow Rate (scfm)	Influent Sample Results			Extraction Rates (lb/day)			Cumulative Extraction (lb)		
			TPHg (ppmv)	Benzene (ppmv)	MTBE (ppmv)	TPHg (lb/day)	Benzene (lb/day)	MTBE (lb/day)	TPHg (lb)	Benzene (lb)	MTBE (lb)
05/27/14	590.3	106.0	2,500	14	0.73	112	0.5	0.0	2,745	11.4	0.7
06/17/14	961.5	125.0	40	1.4	0.18	2.1	0.05	0.0	2,778	12.3	0.8
06/27/14	988.2	Unit shut down for Carbon Change Out									
08/15/14	988.2	Restart Unit									
08/19/14	992.6	125.0	33	0.79	0.13	1.7	0.03	0.0	2,780	12.3	0.8
09/25/14	1,535.7	163.0	2,100	15	< 0.1	144	0.77	0.0	6,042	29.7	0.9
10/28/14	1,750.4	146.0	130	2.4	0.44	8.0	0.11	0.0	6,114	30.6	1.1
12/09/14	2,142.4	154.0	610	2.6	0.23	40	0.13	0.0	6,760	32.7	1.3
02/18/15	2,708.3	System shut down, propane tank removed from site									
08/11/15	2,708.9	System restarted									
08/25/15	2,864.4	125.0	344	2.7	< 0.1	18	0.11	0.0	7,305	32.6	1.3
09/29/15	3,428.0	128.0	91	1.4	< 0.1	5	0.06	0.0	7,420	33.9	1.4
10/26/15	3,742.1	122.0	225	0.97	< 0.1	12	0.04	0.0	7,571	34.4	1.5
11/23/15	4,175.9	150.0	407	1.2	< 0.1	26	0.06	0.0	8,036	35.4	1.6
12/16/15	4,613.3	148.0	102	0.84	< 0.1	6	0.04	0.0	8,152	36.1	1.6
12/16/15	4,613.3	Unit shut down for Carbon Change Out									
01/27/16	4,761.0	146.0	23	0.73	< 0.1	1.4	0.03	0.0	8,161	36.1	1.6
03/21/16	5,797.5	138.0	20	0.86	< 0.1	1.2	0.04	0.0	8,211	37.7	1.8
04/11/16	6,279.7	135.0	43	0.86	< 0.1	2.4	0.04	0.0	8,260	38.4	1.9

MW_{TPHg} = Molecular Weight of TPHg = 105 MW_{MTBE} = Molecular Weight of Methyl tert-butyl ether = 88.15
$MW_{Benzene}$ = Molecular Weight of Benzene = 78.11

days of operation during quarter 69.4

ft^3 = cubic feet min = minutes lb/day = pounds per day
ppmv = parts per million by volume = ft^3 / $1x10^6$ ft^3 scfm = standard cubic feet per minute

NS = not sampled NA = not analyzed NC = not calculated

Extraction rate = (flow rate(ft^3/min) x concentration (ft^3 / $1x10^6$ ft^3) x MW_{TPHg}(lb/lb-mol) x 1440 min/day)/(359 ft^3/lb-mol*)

* - Hour meter readings does not match field data sheets because hour meter was 5472.6 when unit was started.

Table 5b

Soil Vapor Extraction System Destruction Efficiency and Emission Calculations

Shore Acres Gas

403 East 12th Street

Oakland, California

Date	Stack Flow Rate (scfm)	Stack Sample Results (ppmv)			Emission Rates (lb/day)			Destruction Efficiency (%)		
		TPHg	Benzene	MTBE	TPHg	Benzene	MTBE	TPHg	Benzene	MTBE
05/27/14	106.0	< 5.0	< 0.050	< 0.10	< 0.2	< 0.002	< 0.004	100.0	100.0	100.0
06/17/14	125.0	< 5.0	< 0.050	< 0.10	< 0.2	< 0.002	< 0.004	100.0	100.0	100.0
08/19/14	125.0	< 5.0	< 0.050	< 0.10	< 0.2	< 0.002	< 0.004	100.0	100.0	100.0
09/25/14	163.0	< 5.0	< 0.050	< 0.10	< 0.3	< 0.003	< 0.006	100.0	100.0	100.0
10/28/14	146.0	< 5.0	< 0.050	< 0.10	< 0.3	< 0.002	< 0.005	100.0	100.0	100.0
12/09/14	154.0	< 5.0	< 0.050	< 0.10	< 0.3	< 0.002	< 0.005	100.0	100.0	100.0
02/18/15	154.0	System shutdown and propane tank removed from site								
08/11/15	121.0	System restart								
08/25/15	125.0	< 5.0	< 0.050	< 0.10	< 0.2	< 0.002	< 0.004	100.0	100.0	100.0
10/26/15	122.0	< 5.0	< 0.050	< 0.10	< 0.2	< 0.002	< 0.004	100.0	100.0	100.0
11/23/15	150.0	< 5.0	< 0.050	< 0.10	< 0.3	< 0.002	< 0.005	100.0	100.0	100.0
12/16/15	148.0	< 5.0	< 0.050	< 0.10	< 0.3	< 0.002	< 0.005	100.0	100.0	100.0
12/16/15		System shutdown and propane tank removed from site								
01/27/16	146.0	< 5.0	< 0.050	< 0.10	< 0.3	< 0.002	< 0.005	100.0	100.0	100.0
03/21/16	138.0	< 5.0	< 0.050	< 0.10	< 0.2	< 0.002	< 0.005	100.0	100.0	100.0
04/11/16	135.0	< 5.0	< 0.050	< 0.10	< 0.2	< 0.002	< 0.005	100.0	100.0	100.0

Note: "<" indicates analytical method detection limit; method detection limits are used as stack concentrations to estimate emission rates. Destruction efficiency is assumed to be 100%.

Sample Calculations

Emission rate = flow rate(ft^3/min) x concentration (ft^3 / $1x10^6$ ft^3) x MW (lb/lb-mole)/359 (ft^3/lb-mole*) x 1440 min/day

Destruction Efficiency = [(Extraction rate - Emission rate)/Extraction rate] x 100%

Stack flow = Catox Influent + Natural Gas flow rate

lb/day = pounds per day

ft^3 = cubic feet

ppmv = parts per million by volume = ft^3 / $1x10^6$ ft^3

NS = not sampled

min = minutes

scfm = standard cubic feet per minute

NA = Not applicable

Table 5c
Groundwater Treatment System Performance Data
Shore Acres Gas
403 East 12th Street
Oakland, California

DATE	TOTAL FLOW (gallons)	AVG. PERIOD FLOW RATE (gallons/min)	Influent Water Analytical Results			Estimated Removal Rates			Estimated Removal (Period)			Estimated Removal (Cumulative)		
			TPHg (ug/L)	Benzene (ug/L)	MTBE (ug/L)	TPHg (lb/day)	Benzene (lb/day)	MTBE (lb/day)	TPHg (pounds)	Benzene (pounds)	MTBE (pounds)	TPHg (pounds)	Benzene (pounds)	MTBE (pounds)
04/30/14	189,810	Unit Start Up												
06/27/14	358,850	2.02	18,600	2,600	96	0.45	0.063	0.002	26.21	3.66	0.13	26.21	3.66	0.13
08/19/14	360,060	Unit Stut Down for Carbon Change Out												
09/25/14	463,050	1.93	17,500	760	148	0.41	0.018	0.003	15.03	0.65	0.13	41.24	4.32	0.26
12/15/14	613,230	1.29	12,175	710	131	0.19	0.011	0.002	15.24	0.89	0.16	56.48	5.21	0.43
02/18/15	766,392	1.64	15,500	585	89	0.30	0.011	0.002	19.79	0.75	0.11	76.27	5.95	0.54
02/18/15	766,392	Unit Stut Down for Change from Propane to Natural Gas												
08/11/15	766,392	Unit Restarted												
09/18/15	849,579	1.52	10,525	743	103	0.19	0.014	0.002	40.72	2.87	0.40	117.00	8.83	0.94
12/16/15	1,082,639	1.82	12,800	803	63	0.28	0.018	0.001	35.49	2.23	0.17	152.49	11.05	1.11
12/16/15	1,082,639	Unit Stut Down for Carbon Change Out												
01/21/16	1,082,639	Unit Restarted												
03/22/16	1,239,526	1.79	9,750	515	52	0.21	0.011	0.001	20.28	1.07	0.11	172.77	12.13	1.22
04/11/16	1,340,425	Unit Stut Down for Rebound Monitoring												

156,887 **total gallons pumped during current reporting period** 20.28 1.07 0.11
2615 **average gallons per day during current reporting period**
1.8 **average gallons per minute during current reporting period**

Notes:
Influent concentrations are an average of extraction wells EW-1 through EW-4
Groundwater flow meter was 189,910 when unit was started up
Sample Calculations:
Extraction/ disposal rate = flow rate(gallons/min) * concentration (ug/L) * 3.785 L/gallon *lb/454,000,000 ug * 1440 min/day

NC - Not calculated
NS - Not Sampled
--- - Not Analyzed
MTBE - Methyl tertiary butyl ether
TPHg - Total Petroleum Hydrocarbons as gasoline
TBA -Tertiary butyl ether
lb/day - pounds per day
ug/L - micrograms per liter

APPENDICES

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
COLLEEN CHAWLA, Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
LOCAL OVERSIGHT PROGRAM (LOP)
For Hazardous Materials Releases
1131 HARBOR BAY PARKWAY, SUITE 250
ALAMEDA, CA 94502
(510) 567-6700
FAX (510) 337-9335

May 25, 2018

Mr. Rashid Ghafoor (Sent via e-mail to: rashidz1@aol.com)
226 Havenwood Circle
Pittsburg, CA 94567

Mr. Waseem Ghani Iqbal (Sent via e-mail to: paki_80@hotmail.com)
226 Havenwood Circle
Pittsburg, CA 94567

Subject: Fuel Leak Case No. RO0002931 and GeoTracker Global ID T0600174667, Shore Acres Gas, 403 E. 12th St., Oakland, CA 94606

Dear Mr. Ghafoor and Mr. Ghani:

Thank you for participating in the conference call coordinated by Alameda County Department of Environmental Health's (ACDEH) on May 18, 2018. Including yourself, Mike Sgourakis and Drew Van Allen of Environmental Compliance Group, LLC (ECG), your consultant, and ACDEH staff participated in the call. Mr. Waseem Ghani, was unavailable for the call. The purpose of the call was to discuss the April 4, 2018 *Data Gap Investigation Work Plan and Site Conceptual Model* (Work Plan), prepared and uploaded to Geotracker on April 19, 2018, by ECG on your behalf and the next steps to progress the case to closure. ACDEH understands that the property has not been sold, commercial property usage as a hand wash car wash will continue, and redevelopment is under consideration in the future.

The case does not meet the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP) adopted by the SWRCB on May 1, 2012 for the closure of leaking petroleum underground storage tank (UST) sites. ACDEH has determined that the site does not meet the LTCP General Criteria d (Free Product Removal), e (Site Conceptual Model), f (Secondary Source Removal), Media-Specific Criteria for Groundwater, Media-Specific Criteria for Vapor Intrusion to Indoor Air, and the Media-Specific Criteria for Direct Contact.

ACDEH's highest priority is to assess potential vapor intrusion to indoor air of the on-site trailer and adjacent downgradient businesses and residences due to the persistent and elevated benzene concentrations in shallow groundwater at the site, the close proximity of businesses and residential properties, and a variable groundwater gradient direction. ACDEH's second priority is off-site plume definition. The referenced work plan proposes actions with which ACDEH is in general agreement of undertaking; however, in the interest of closing data gaps identified by ACDEH in the May 18, 2018 conference call, ACDEH requests the preparation of the First Work Plan Addendum which addresses the assessment of potential vapor intrusion. Upon presentation of the data collected from the First Work Plan Addendum and updated SCM, ACDEH will decide if preparation of a Second Work Plan Addendum for off-site plume definition will be requested. Please prepare the First Work Plan Addendum, address the following technical comments, and submit by the date indicated below.

TECHNICAL COMMENTS

1. **Semiannual Groundwater Monitoring and Sampling Report, 1st Half 2018**: Please include hydrographs for all six groundwater wells (MWs) and four extraction wells (EWs) in the 1st Quarter Groundwater Monitoring and Sampling Report as discussed during the conference call. On the hydrographs, please include groundwater elevations; benzene and ethylbenzene concentrations; designation of remediation start and stop dates with a vertical line; and a Rose diagram.

2. **First Work Plan Addendum:** The Work Plan proposes the installation of three soil gas probes along the southwest property line but as discussed during the call and as shown in the Attachment 2 Figure, ACDEH requests the installation of ten additional soil gas probes. ACDEH requires installation of permanent soil vapor wells to assess temporal and seasonal variations in soil gas concentrations, consistent with California Department of Toxic Substances Control's (DTSC) (Vapor Intrusion Guidance) dated October 2011 and DTSC's , July 2015. Please specify the following actions in the Work Plan Addendum.

   a. **Boring Logs**: ACDEH requests submittal of boring logs and soil vapor well construction diagrams for each soil vapor well. On all boring logs, ACDEH requests the following information including, but not limited to, lithologic descriptions using the industry standard United Soil Classification System (USCS), depth to the bottom of the boring, depth to first encountered groundwater and if groundwater is not encountered, please state that information, depths at which soil/groundwater samples were collected, photoionization detector PID reading at all depths, staining, odor, soil color changes.

      Please note that any exploratory boring or hole, regardless of depth, must be graphically represented by a boring log, and all boring logs must be included in the soil and groundwater investigation report. Additionally, as a condition of Alameda County Public Works Agency's Permit and PDF's of all borings and monitoring well logs must be uploaded to Geotracker as "Geo Bores".

   b. **Soil Samples Analytes:** Please collect soil samples within the 0 to 5 foot depth interval, at the groundwater interface, lithologic changes, and in areas of obvious impact. Please analyze all soil samples for Total Petroleum Hydrocarbons as gasoline (TPHg), TPH as Diesel (TPHd), naphthalene, benzene, toluene, ethylbenzene, and xylenes (BTEX), Methyl tert-butyl ether (MTBE), and fuel oxygenates by EPA 8260.

   c. **Soil Vapor Analytes:** In addition to the proposed soil vapor analytes, ADCEH requests laboratory analysis of all soil vapor samples for the fixed gases methane, carbon dioxide, and oxygen using ASTM D1946. Please include those concentrations as a percentage on the summary tables for reference in the investigation report.

   d. **Standard Operating and Safety and Loss Control Procedures (SOPs)**: The SOP proposes using isobutylene 100 parts per million (ppm) as a tracer for soil vapor samples; however, ACDEH requests use of helium and requests a detailed description of qualitative leak testing during soil vapor sample collection. Appendix C, in DTSC's – dated July 2015 suggests using a shroud with a gaseous tracer to monitor for system leaks. The purpose of this leak check method is to provide a quantifiable means of evaluating the data quality effects of ambient air intrusion into the soil gas sample. ACDEH requests the following:

i. The encapsulating shroud should entirely encompass the sample apparatus and surface completion of the soil vapor well or vapor pin;
ii. Maintain a minimum of 20% helium atmosphere within the encapsulating shroud throughout the duration of purging and sampling;
iii. Monitoring, recording, and reporting of shroud helium concentrations in field logs to be included in the appendix of the report. Helium monitoring may be conducted using a field meter as long as the detector is capable of reporting Helium detections between 100% and 0.1% with a precision of at least +10% at 0.1%.

3. **Geotracker Electronic Submittal of Information (ESI) Compliance:** Please be aware that failure to comply with Geotracker requirements will jeopardize reimbursement from the USTCF and will delay eventual case closure.

TECHNICAL REPORT REQUEST

Please upload technical reports to the State Water Resources Control Board's Geotracker website, in accordance with the following specified file naming convention and schedule:

- **June 8, 2018**: GeoTracker electronic submittal date for all missing ESI submittals ✓
- **June 8, 2018**: Semiannual Groundwater Monitoring and Sampling Report, 1st Half 2018
  File to be named: RO2931_GWM_R_yyyy-mm-dd
- **June 27, 2018**: First Work Plan Addendum and Site Conceptual Model
  File to be named: RO2931_WP_SCM_ADEND_R_yyyy-mm-dd
- **November 30, 2018**: Semiannual Groundwater Monitoring and Sampling Report, 2nd Half 2018
  File to be named: RO2931_GWM_R_yyyy-mm-dd
- **May 31, 2019**: Semiannual Groundwater Monitoring and Sampling Report, 1st Half 2019
  File to be named: RO2931_GWM_R_yyyy-mm-dd
- **November 30, 2019**: Semiannual Groundwater Monitoring and Sampling Report, 2nd Half 2019
  File to be named: RO2931_GWM_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 this correspondence or your case, please send me an e-mail message at: karel.detterman@acgov.org or call me at (510) 567-6708.

Sincerely,

Digitally signed by Karel Detterman
DN: cn=Karel Detterman, o, ou, email=karel.detterman@acgov.org, c=US
Date: 2018.05.25 17:22:22 -07'00'

Karel Detterman, PG
Senior Hazardous Materials Specialist

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

Attachment 2 - Figure

cc: Drew Van Allen, Environmental Compliance Group, LLC, 270 Vintage Drive, Turlock, CA 95382 (Sent via E-mail to: ecg.ust@gmail.com)

Michael Sgourakis, Environmental Compliance Group, LLC, 270 Vintage Drive, Turlock, CA 95382 (Sent via E-mail to: mr.e.meat@hotmail.com)

Dilan Roe, ACDEH, (Sent via E-mail to: dilan.roe@acgov.org)
Karel Detterman, ACDEH, (Sent via E-mail to: karel.detterman@acgov.org)
Paresh Khatri, ACDEH, (Sent via E-mail to: paresh.khatri@acgov.org)
GeoTracker, eFile

ENVIRONMENTAL COMPLIANCE GROUP, LLC
STANDARD OPERATING AND SAFETY AND LOSS CONTROL PROCEDURES

1.0 SOIL BORING/DRILLING SAMPLE COLLECTION AND CLASSIFICATION PROCEDURES

ECG will prepare a site-specific Health and Safety Plan as required by the Occupational Health and Safety Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR.1910.120). The document will be reviewed and signed by all ECG personnel and subcontractors prior to performing work at the site.

Prior to conducting and subsurface work at the site, Underground Services Alert (USA) will be contacted to delineate subsurface utilities near the site with surface markings. In addition, the first five feet of every location will be hand cleared to a diameter larger than the diameter of the auger or probe as a further precaution against damaging underground utilities. Sites that are currently operated as gas stations will be cleared with a private utility locator prior to drilling activities.

Soil samples to be submitted for chemical analyses are collected into brass or stainless steel tubes. The tubes are placed in an 18-inch long split-barrel sampler. The split-barrel sampler is driven its entire length hydraulically or by 140-pound drop hammer. The split-barrel sampler is removed from the borehole and the tubes are removed. When the tubes are removed from the split-barrel sampler, the tubes are trimmed and capped with Teflon sheets and plastic caps or the soil is removed from the tubes and placed in other appropriate sample containers. The samples are sealed, labeled, and placed in ice under chain-of-custody to be delivered to the analytical laboratory. All samples will be kept refrigerated until their delivery to the analytical laboratory.

One soil sample collected from each split-barrel sampler is field screened with a photoionization detector (PID), flame ionization detector (FID), or other equivalent field screening meter. The soil sample is sealed in a plastic bag or other appropriate container to allow volatilization of volatile organic compounds (VOCs). The field meter is used to measure the VOC concentration in the container's headspace and is recorded on the boring logs at the appropriate depth interval.

Other soil samples collected from each split-barrel sampler are inspected and documented to identify the soil stratigraphy beneath the site and classify the soil types according to the United Soil Classification System. The soil types are recorded on boring logs with the appropriate depth interval and any pertinent field observations. Drilling and sampling equipment are steam cleaned or washed in solution and rinsed in deionized water prior to use, between sample collections and boreholes and after use.

2.0 SOIL EXCAVATION SAMPLE COLLECTION AND CLASSIFICATION PROCEDURES

Soil samples to be submitted for chemical analyses are collected into brass or stainless steel tubes or other appropriate containers. The samples are sealed, labeled, and placed in ice under chain-of-custody (COC) to be delivered to the analytical laboratory. All samples will be kept refrigerated until their delivery to the analytical laboratory.

Select soil samples are placed into a sealed plastic bag or other appropriate container and field screened using a PID, FID, or equivalent meter. Other soil samples collected are inspected and documented to identify the soil stratigraphy beneath the site and classify the soil types according to the United Soil Classification System. The soil types are recorded field notes with the appropriate depth interval and any pertinent field observations. Sampling equipment are steam cleaned or washed in solution and rinsed in deionized water prior to use, between sample collections, and after use. Soil cuttings and rinseate water are temporarily stored onsite pending laboratory analytical results and proper transport and disposal.

3.0 SAMPLE IDENTIFICATION AND COC PROCEDURES

Sample containers are labeled with job number, job name, sample collection time and date, sample collection point, and analyses requested. Sampling method, sampler's name, and any pertinent field observations are recorded on boring logs or excavation field notes. COC forms track the possession of the sample from the time of its collection until the time of its delivery to the analytical laboratory. During sample transfers, the person with custody of the samples will relinquish them to the next person by signing the COC and documenting the time and date. The analytical laboratory Quality Control/Quality Assurance (QA/QC) staff will document the receipt of the samples and confirm the analyses requested on the COC matches the sample containers and preservative used, if any. The analytical laboratory will assign unique log numbers for identification during the analyses and reporting. The log numbers will be added to the COC form and maintained in a log book maintained by the analytical laboratory.

4.0 ANALYTICAL LABORATORY QA/QC PROCEDURES

The analytical laboratory analyzes spikes, replicates, blanks, spiked blanks, and certified reference materials to verify analytical methods and results. The analytical laboratory QA/QC also includes:

Routine instrument calibration,
Complying with state and federal laboratory accreditation and certification programs,
Participation in U.S. EPA performance evaluation studies,
Standard operating procedures, and
Multiple review of raw data and client reports

5.0 HOLLOW STEM AUGER WELL INSTALLATION

Boreholes for wells are often drilled with a truck-mounted hollow stem auger drill rig. The borehole diameter is at least 4 inches wider than the outside diameter of the well casing. Soil samples are collected and screened as described in **Section 1.0** and decontamination procedures are also the same as described in **Section 1.0**.

Wells are cased with both blank and factory-perforated Schedule 40 PVC. The factory perforations are typically 0.020 inches wide by 1.5 inch long slots, with 42 slots per foot. A PVC cap is typically installed at the bottom of the casing with stainless steel screws. No solvents or cements are used in the construction of the wells. Well stabilizers or centering devices may be installed around the casing to ensure the filter material and grout in the annulus are evenly distributed. The casing is purchased pre-cleaned or steam cleaned and washed prior to installation in the borehole.

The casing is set inside the augers and sand, gravel, or other filter material is poured into the annulus to fill the borehole from the bottom to approximately 1-2 feet above the perforations. A two foot thick bentonite plug is placed above the filter material to prevent the grout from filling the filter pack. Neat cement or sand-cement grout is poured into the annulus from the top of the bentonite plug to the surface. For wells located in parking lots or driveways, or roads, a traffic rated well box is installed around the well. For wells located in landscaped areas or fields, a stovepipe well protection device is installed around the well. Soil cuttings and rinseate water are temporarily stored onsite pending laboratory analytical results and proper transport and disposal.

6.0 MUD AND AIR ROTARY WELL INSTALLATION

Boreholes for wells can also be drilled with a truck-mounted air rotary or mud rotary drill rig. Air or mud can be used as a drill fluid to fill the borehole and prevent the borehole from caving in and remove drill cuttings. Mud or air can be chosen depending on the subsurface conditions. Soil samples are collected and screened as described in **Section 1.0** and decontamination procedures are also the same as described in **Section 1.0**.

Wells are cased with both blank and factory-perforated Schedule 40 PVC. The factory perforations are typically 0.020 inches wide by 1.5 inch long slots, with 42 slots per foot. A PVC cap is typically installed at the bottom of the casing with stainless steel screws. No solvents or cements are used in the construction of the wells. Well stabilizers or centering devices may be installed around the casing to ensure the filter material and grout in the annulus are evenly distributed. The casing is purchased pre-cleaned or steam cleaned and washed prior to installation in the borehole. Soil cuttings and drilling fluids are temporarily stored onsite pending laboratory analytical results and proper transport and disposal.

The casing is set inside the augers and sand, gravel, or other filter material is poured into the annulus to fill the borehole from the bottom to approximately 1-2 feet above the perforations. A two foot thick bentonite plug is placed above the filter material to prevent the grout from filling the filter pack. Neat cement or sand-cement grout is poured into the annulus from the top of the bentonite plug to the surface. For wells located in parking lots or driveways, or roads, a traffic rated well box is installed around the well. For wells located in landscaped areas or fields, a stovepipe well protection device is installed around the well. Soil cuttings and rinseate water are temporarily stored onsite pending laboratory analytical results and proper transport and disposal.

7.0 WELL DEVELOPMENT

After well installation, the wells are developed to remove residual drilling materials from the annulus and to improve well production by fine materials from the filter pack. Possible well development methods include pumping, surging, bailing, jetting, flushing, and air lifting. Development water is temporarily stored onsite pending laboratory analytical results and proper transport and disposal. Development equipment are steam cleaned or washed in solution and rinsed in deionized water prior to use, between sample collections and after use. After well development the wells are typically allowed to stabilize for at least 24 hours prior to purging and sampling.

8.0 LIQUID LEVEL MEASUREMENTS

Liquid level measurements are made with a water level meter and/or interface probe and disposable bailers. The probe tip attached to a measuring tape is lowered into the well and into the groundwater when a beeping tone indicates the probe is in the groundwater. The probe and measuring tape (graduated to hundredths of a foot) are slowly raised until the beeping stops and the depth to water measurement is recorded. If the meter makes a steady tone, this indicates the presence of floating liquid hydrocarbons (FLH) and the probe and measuring tape are raised until the steady tone stops and the depth to the FLH is measured. Once depth to water and depth to FLH (if present) has been recorded, the probe and measuring tape are lowered to the bottom of the well where the total depth of the well is measured. The depth to water, depth to FLH, and depth to bottom are measured again to confirm the results.

If FLH is encountered in the well, a disposable bailer is lowered into the well and brought back to the surface to confirm the thickness/presence of FLH. To minimize potential for cross contamination between wells, all measurements are done from cleanest to dirtiest well. Prior to beginning liquid level measurements, in between measurements in all wells, and at the completion of liquid level measurements, the water level probe and measuring tape is cleaned with solution (Alconox, Simple Green, or equivalent) and rinsed with deionized water.

9.0 WELL PURGING AND SAMPLING

Each well is typically purged of at least three well casing volumes of groundwater prior to collecting a groundwater sample. Purging can continue beyond three well casing volumes if field parameters including pH, temperature, electrical conductivity are not stabilizing during the purging process. If the well is purged dry before the three well casing volumes has been purged, the well is typically allowed to recharge to 80 percent of its initial water level before a groundwater sample is collected.

Purging equipment can include submersible pumps, PVC purging bailers, disposable bailers, air lift pumps, or pneumatic pumps. Prior to beginning well purging, in between each well purging, and at the completion of purging activities, all non-dedicated purging equipment is cleaned with solution (Alconox, Simple Green, or equivalent) and rinsed with deionized water.

Once the well has been purged, it will be sampled with a disposable bailer, PVC bailer, stainless steel bailer, or through a low flow groundwater pump. The groundwater sample is transferred from the bottom of the bailer to reduce volatilization to the appropriate sample container. The sample containers are specified by the analytical laboratory depending on the analyses requested. Sample containers typically include volatile organic compound (VOA) vials with septa of Teflon like materials. The groundwater sample is collected into the VOAs to minimize air bubbles and once the cap has been placed on the VOA, the VOA is tipped upside down to see if air bubbles are present in the VOA. Typically a duplicate VOA is collected from each well to be analyzed by the analytical laboratory, if warranted, to verify results.

Sample containers are labeled as described in **Section 3.0** and placed immediately in an ice chest and kept refrigerated until its delivery to the analytical laboratory. A trip blank may also be prepared by the analytical laboratory to travel with the ice chest during transport to the laboratory. Field blanks from equipment that has been decontaminated may be collected in between use in different wells to verify the decontamination procedure is effective. To minimize potential for cross contamination between wells, all wells are purged and sampled from cleanest to dirtiest well.

10.0 TEDLAR BAG SOIL VAPOR SAMPLING

Sampling equipment to collect Tedlar bag soil vapor samples includes an air pump, a Tedlar bag which can range in size from 1 to 10 liters, and 3/16-inch diameter polyethylene tubing. The air pump should be equipped with 3/16-inch hose barbs for the polyethylene tubing to attach to. The Tedlar bag must be equipped with a valve for filling and sealing the bag.

When soil vapor samples are collected from remediation equipment, the sample collection port on the remediation equipment is typically fitted with a 3/16-inch hose barb. Prior to collecting soil vapor samples from remediation equipment, air flow, temperature, and pressure or vacuum of the sampling point/remediation equipment are recorded. One end of the polyethylene tubing is connected to the sample collection port and one end is connected to the influent of the air pump, creating an air tight seal. The air pump is turned on and soil vapor from the sample collection port is pumped through the air pump for at least one minute. The air pump is turned off and one end of another piece of polyethylene tubing is connected to the effluent of the air pump and one end is connected to the valve on the Tedlar bag. The valve is opened and the air pump is turned on filling the Tedlar bag with the soil vapor sample until the bag has reached 75% capacity, when the valve on the Tedlar bag is closed and the air pump is turned off.

Tedlar bags are labeled as described in **Section 3.0** and placed immediately in an empty ice chest and kept dry and unrefrigerated until its delivery to the analytical laboratory. After each soil vapor sample collection, the air pump is turned on for five minutes to allow ambient air to clear the air pump and polyethylene tubing.

11.0 SUMMA CANISTER SOIL VAPOR SAMPLING

Sampling equipment to collect Summa canister soil vapor samples includes a sterilized Summa stainless steel canister under vacuum, ¼-inch diameter polyethylene tubing, and a laboratory calibrated flow meter, if required.

When soil vapor samples are collected from remediation equipment, the sample collection port on the remediation equipment is typically fitted with brass connection with silicone septa that has been threaded into a tapped hole on the piping network. Prior to collecting soil vapor samples from remediation equipment, air flow, temperature, and pressure or vacuum of the sampling point/remediation equipment are recorded. One end of the polyethylene tubing is connected to the brass sample collection port and one end is connected to the canister valve or flow meter, creating an air tight seal. Prior to collecting the soil vapor sample, the valve on the Summa canister is opened to verify the Summa canister has the required vacuum which is recorded. Three well volumes of vapor will be purged at a rate less than 200 milliliters per minute (ml/min.), including sand pack pore volume from each soil vapor probe prior to sample collection. The sample valve or flow meter is opened and the soil vapor sample is collected into the Summa canister and the sample valve is closed and the final vacuum reading (typically greater than 5 inches per square inch) on the Summa canister is recorded.

Per the DTSC *Vapor Intrusion Guidance*, October 2011 and the DTSC Advisory – *Active Soil Gas Investigations*, dated July 2015, high quality soil gas data collection is driven by project-specific data quality objectives (DQOs) and can be enhanced by using a shroud and a gaseous tracer compound. This method of leak detection ensures that soil gas wells are properly constructed and the sample train components do not leak. Most gaseous tracer compounds do not affect target analyte measurements nor does their detection require sample dilution. Also, gaseous leak tracer compounds allow a quantitative determination of a leak either in the sampling train or from ambient air intrusion down the borehole.

The shroud will be designed to contain the entire sampling train and the soil gas well annulus. The sampling train will be constructed of material that does not react with the sample analytes and will not off gas or adsorb volatile compounds. The sampling equipment will be clean and shut-in tested prior to use. The gaseous leak tracer compound (helium at 20%) concentration inside the shroud will be monitored during purging and sampling to verify initial concentrations. A helium detector will be used to monitor tracer gas concentrations and will be recorded on field logs.

Summa canisters are labeled as described in **Section 3.0** and placed immediately in an empty ice chest and kept dry and unrefrigerated until its delivery to the analytical laboratory.

12.0 SYRINGE SOIL VAPOR SAMPLING

Sampling equipment to collect syringe soil vapor samples includes a sterilized, 100 cubic centimeter, gas tight syringe and silicone septa.

When soil vapor samples are collected from remediation equipment, the sample collection port on the remediation equipment is typically fitted with brass connection with silicone septa that has been threaded into a tapped hole on the piping network. Prior to collecting soil vapor samples from remediation equipment, air flow, temperature, and pressure or vacuum of the sampling point/remediation equipment are recorded. The syringe is inserted into the silicone septa and the plunger is purged or pumped at least three times. The sample is collected the fourth time the syringe plunger is extracted and the syringe is removed from the sample collection port and the needle on the syringe is capped with a rubber stopper.

Syringes are labeled as described in **Section 3.0** and placed immediately in an empty ice chest and kept dry and unrefrigerated until its delivery to the analytical laboratory.

13.0 TEMPORARY SAMPLING POINTS

A temporary borehole is advanced using either a slam bar or a direct push drill rig. In the case of the slam bar, once the borehole has been created, a temporary soil vapor probe is inserted into the borehole and advanced with a slide hammer or other physical force two additional feet. A bentonite seal is then placed in the borehole above the soil vapor probe to create an air tight seal and prevent ambient air from entering the sample collection space. In the case of the direct push drill rig, the sampling rod is advanced to the desired depth with a 6-inch retractable vapor screen at the tip. The sample screen on the 6-inch vapor screen is removed and a bentonite seal is then placed in the borehole above the soil vapor probe to create an air tight seal and prevent ambient air from entering the sample collection space.

Once the bentonite seal has set, at least one hour, the soil vapor survey samples are collected into Tedlar bags as described in **Section 10.0** or Suma canisters as described in **Section 11.0.** Samples are labeled as described in **Section 3.0** and placed immediately in an empty ice chest and kept dry and unrefrigerated until its delivery to the analytical laboratory. After each soil vapor sample collection, the air pump is turned on for five minutes to allow ambient air to clear the air pump and polyethylene tubing.

14.0 REPEATABLE SAMPLING POINTS

A borehole is advanced using either a hand auger or a drill rig. A 6-inch slotted probe with caps on both ends is placed in the borehole. A Swagelok fitting is attached to one end cap and 3/16-inch diameter Nylon tubing is attached to the Swagelok fitting. A one foot sand pack is placed around the probe and the remainder of the borehole is sealed with a layer of dry bentonite powder, followed by a layer of bentonite chips, and an additional layer of dry bentonite powder. A well box is placed on the surface of the repeatable sampling point and the excess Nylon tubing is placed inside the well box.

Soil vapor survey samples will be collected at least one week after probe installation. In addition, soil vapor survey samples will only be collected after five consecutive precipitation free days and after any onsite irrigation has been suspended.

The soil vapor survey samples are collected into Tedlar bags as described in **Section 10.0** or Summa canisters as described in **Section 11.0.** Tedlar bags or Summa canisters are labeled as described in **Section 3.0** and placed immediately in an empty ice chest and kept dry and unrefrigerated until its delivery to the analytical laboratory. After each soil vapor sample collection, the air pump is turned on for five minutes to allow ambient air to clear the air pump and polyethylene tubing.

Table E-1
Site Conceptual Model
Shore Acres Gas
403 East 12th Street
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap Item # echnical Comment	Resolution
Geology and Hydrogeology	Regional	The site is underlain by Quaternary-age dune sand deposits referred to as the Merritt Sand. The Merritt Sand is typically described as loose, well-sorted fine- to medium-grained sand with a large silt component. The sand is reported to reach a maximum depth of 50-feet bgs in the area.	None	NA
Geology and Hydrogeology	Site	Based on boring logs from the advancement of 11 soil borings and the installation of six monitoring wells and four extraction wells, the stratigraphy of the site and vicinity consists of silt to approximately 30-feet bgs with discontinuous thin intervals of sandy silt and clayey silty sand present in the area. Depth to groundwater is shallow and semi confined, ranging between 8- to 14-feet bgs. The groundwater flow direction appears to be generally toward the southeast. The site is located on a topographic high elevation. The most recent groundwater gradient map is shown on Figure 3 and a Rose Diagram is shown on Figure 4.	None	NA
Surface Water Bodies		The nearest surface water body is Lake Merritt, which is approximately 1,400-feet to the northwest. The Oakland Marine channel is located approximately 2,300-feet to the southwest of the site	None	NA
Nearby Wells		Based on the results of the well search conducted at the Department of Water Resources (DWR), 3 wells were identified within approximately 2,000 feet of the site. All of the located wells were identified as monitoring wells or test holes. Mr. Harvey Hanoi with East Bay Municipal Utilities District stated that there are no drinking water wells located within 2,000 feet of the site. REVIEW OF ACPWA PENDING	6. Additional receptor survey.	See data gaps table. ACPWA review proposed.

Table E-1
Site Conceptual Model
Shore Acres Gas
403 East 12th Street
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap Item # echnical Comment	Resolution
Release Source and Volume		The site was historically used as a gasoline station. The area of interest at the site is the former location of three underground storage tanks (USTs), one 12,000-gallon diesel and two 12,000-gallon gasoline, and three fuel dispenser islands where impacted soil and groundwater was identified in 2009 after the tank removals. No holes were observed in any of the USTs, but evidence of soil contamination was present near the fill end of each UST. Evidence of soil contamination was also present under the dispensers. Impacted groundwater was encountered in the UST pit. The volume of the release is not known.	2. Additional soil data is required in the source area	See data gaps table. Slot trenches will be dug in source areas.
LNAPL		Currently LNAPL is present in well MW-5 and concentrations of contaminants of concern in wells MW-1 and MW-6 indicate indirect evidence of LNAPLs.	1. Need LNAPL removal.	Passive free products skimmers to be installed in wells of concern.
Source Removal Activities		Soil that was excavated from the UST pits during tank removal activities and was returned to the excavation after the collection of soil samples for chemical analysis. A dual phase extraction system was in operation intermittently at the site from May 2014 to April 2016 and removed approximately 8,432 pounds of TPHg, 50 pounds of benzene, and 3 pounds of MTBE.	2. Remove additional impacted source material	Test pits will be dug in source areas to investigate and remove impacted source material.
Contaminants of Concern		Based on historical investigations conducted at the Site and correspondence with Alameda County, TPHg, BTEX, MTBE, and TBA are the contaminants of concern (COC) for the Site.	None	NA

Table E-1
Site Conceptual Model
Shore Acres Gas
403 East 12th Street
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap Item # echnical Comment	Resolution
Petroleum Hydrocarbons in Soil		Six monitoring wells, two extraction wells, and 22 soil borings have been advanced at the site and the lateral extent of impacted soil is shown on Figures 16 through 20. The boring and well locations are shown on Figure 2 and cross sections are shown on Figures 9 through 15. Soil analytical results are summarized on Tables 2a and 2b and they show reported soil concentrations did exceed ESLs for TPHg at locations GP-1, GP-2, SB-1, SB-4, SB-5, SB-6, SB-7, SB-8, SB-9, MW-3, MW-4, MW-5, VW-1, and VW-2 and did exceed ESLs for benzene at locations GP-1, GP-2, SB-1, SB-2, SB-4, SB-6, SB-7, SB-8, SB-9, MW-1, MW-3, MW-4, MW-5, VW-1, and VW-2 at depths of approximately 10- feet (below ground surface) bgs or greater. In addition, soil concentrations did exceed ESLs for toluene, ethyl benzene, and xylenes at multiple locations. The TPHg and BTEX soil concentrations do appear to be vertically defined and the lithology at the site would discourage vertical migration. All soil results above ESLs are located in or just adjacent to the more transmissive zones located between approximately 10- to 20-feet bgs. No data for naphthalene has been obtained. This has been defined as a significant data gap. The scope of work presented in this workplan includes the collection and analyses of soil samples for naphthalene.	2. 4. & 5. Additional soil data is required in the source area	See data gaps table. Test pits will be dug in source areas. Soil vapor probes will be installed.

Table E-1
Site Conceptual Model
Shore Acres Gas
403 East 12th Street
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap Item # echnical Comment	Resolution
Petroleum Hydrocarbons in Groundwater		Reported concentrations in groundwater have exceeded ESLs for TPHg, BTEX, and MTBE. Groundwater samples were collected from 21 direct-push borings, six monitoring wells, and two extraction wells and the analytical results (Tables 3a, 3b, 4a, and 4b) showed ESLs were exceeded for TPHg in SB-4, SB-6, SB-7, SB-11, SB-12, SB-13, SB-15 through SB-19, MW-1 through MW-6, VW-1, and VW-2. ESLs for benzene were exceeded in SB-4, SB-11, SB-12, SB-13, SB-16, and SB-17, MW-1 through MW-6, VW-1, and VW-2. ESLs for MTBE were exceeded in SB-6, SB-7, and SB-19, MW-1, MW-3, MW-5, MW-6, and VW-2. Groundwater isoconcentration maps using the offsite grab sample data are provided as Figures 21 through 23. Groundwater concentrations have not been defined horizontally to the southeast of the site. This has been defined as a significant data gap. The scope of work presented in this workplan includes the installation of two groundwater wells downgradient from the Site.	3. Lateral impacted groundwater is not defined.	See data gaps table. Two downgradient wells will be installed as described in the data gaps table in the workplan.
Risk Evaluation		The primary source; impacted media; release mechanism; secondary sources; exposure route; potential receptors, and an assessment of whether the exposure pathway is potentially complete, incomplete, or insignificant. Potential exposure routes that have been evaluated include incidental ingestion, dermal contact, dust inhalation, and vapor inhalation.	4. & 5. Vapor intrusion to indoor air and direct contact to outdoor air.	See data gaps table. Three soil vapor probes will be installed and indoor air

Table E-1
Site Conceptual Model
Shore Acres Gas
403 East 12th Street
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap Item # echnical Comment	Resolution
		Volatilization from soil to indoor air and outdoor air, vapor inhalation are the potential exposure pathways.	Proposed work includes the installation of three soil vapor probes and collection of outdoor and indoor air samples.	samples will be collected as described in the data gaps table in the workplan.

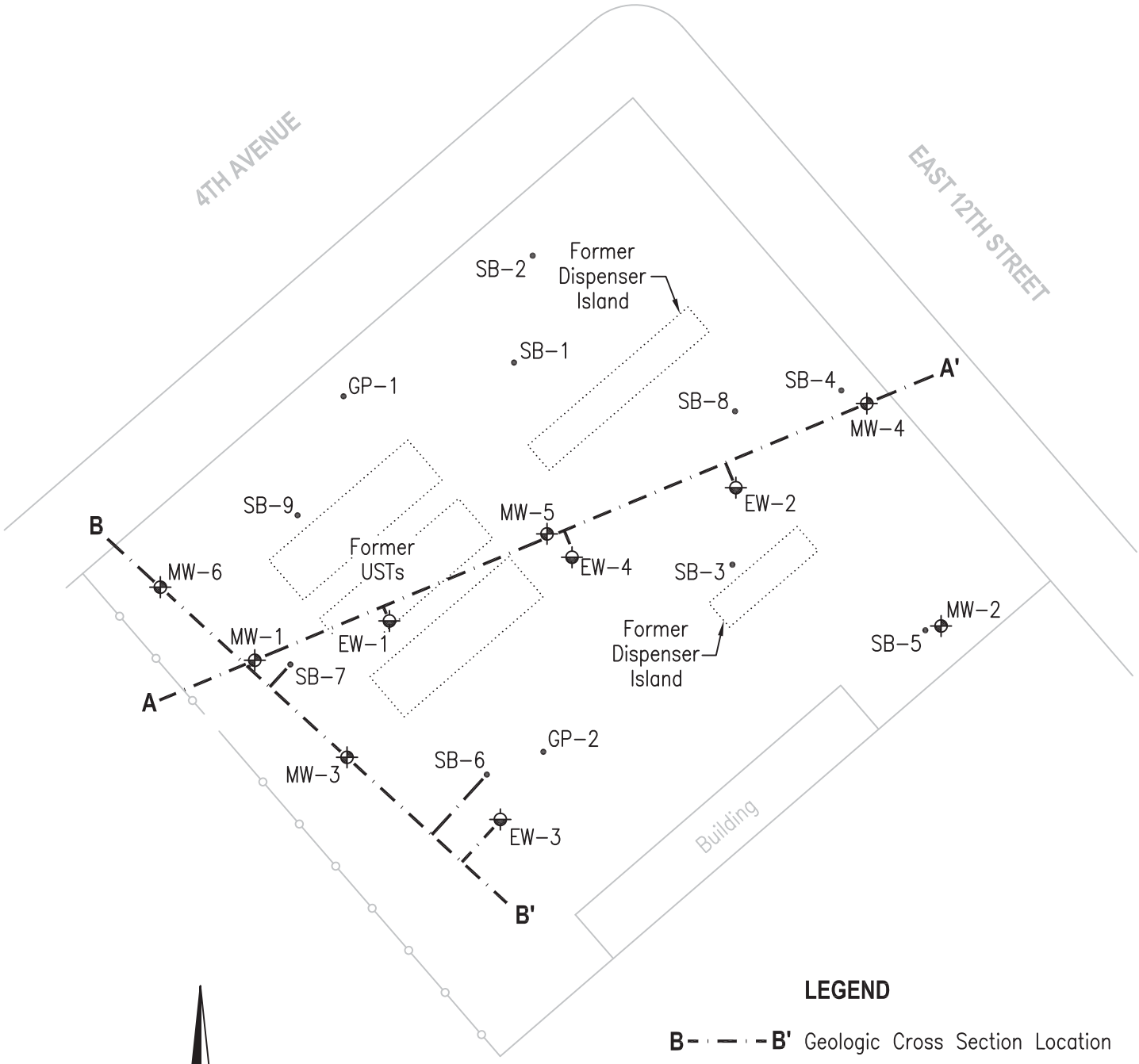
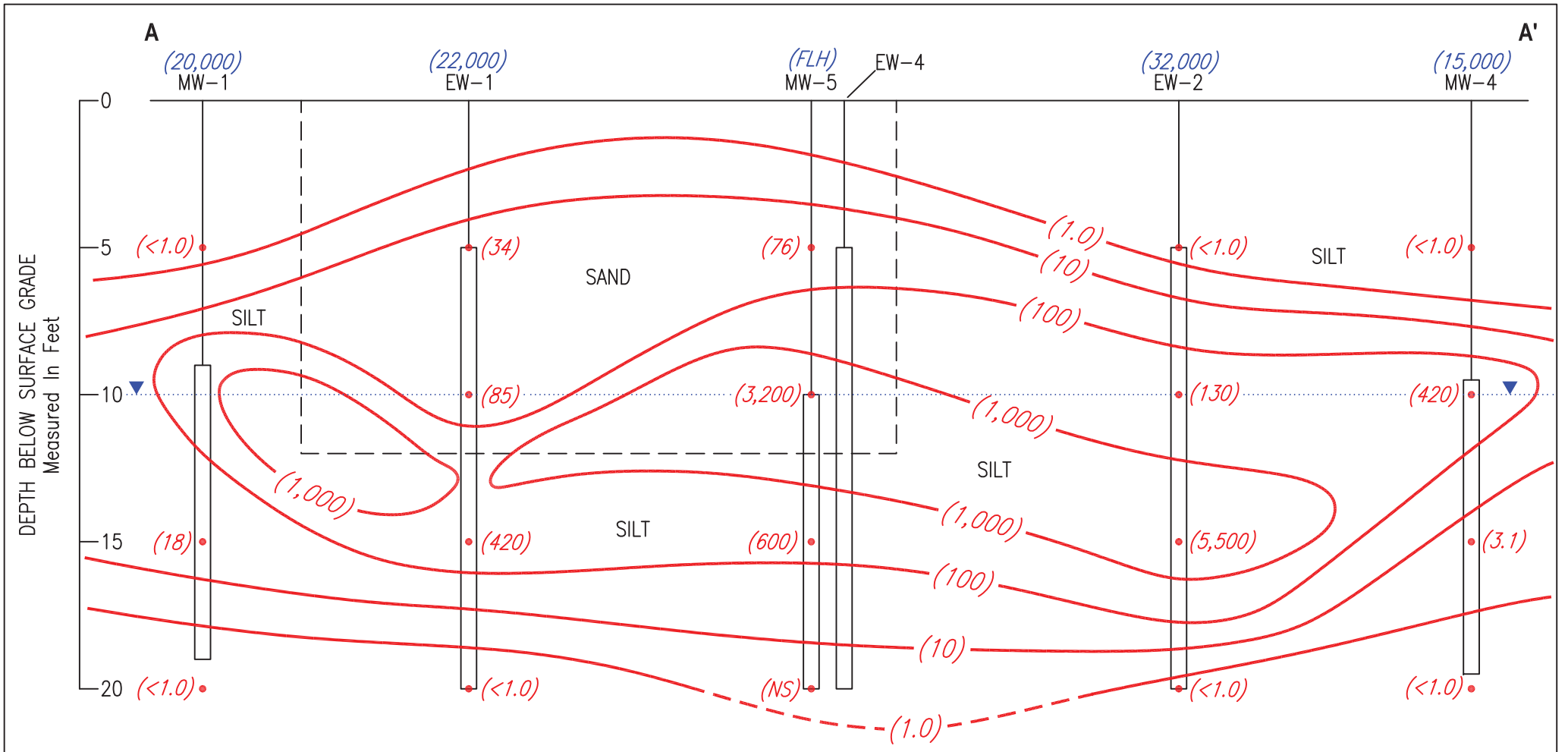


FIGURE E-1	**CROSS SECTION LOCATION MAP**	Environmental Compliance Group, LLC
Project Number: GHA.19009	Shore Acre Gas 403 East 12th Street Oakland, California	270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664-1035
Date: February 28, 2018		



LEGEND

- Soil Sample Location
- Screened Interval
- Approximate Lithologic Contact
- (NS) Not Sampled
- (5,500) Concentration Of TPHg In Soil Measured In mg/Kg
- (1,000) Line Of Equal Concentration Of TPHg In Soil Measured In mg/Kg (Dashed Where Inferred)
- (32,000) Concentration Of Benzene In Groundwater Measured In ug/L Sampled September 14, 2012
- (FLH) Floating Liquid Hydrocarbons
- Groundwater Level

5
0
0
10
Approximate Scale In Feet
(Vertical Exaggeration = 2X)

FIGURE E-2

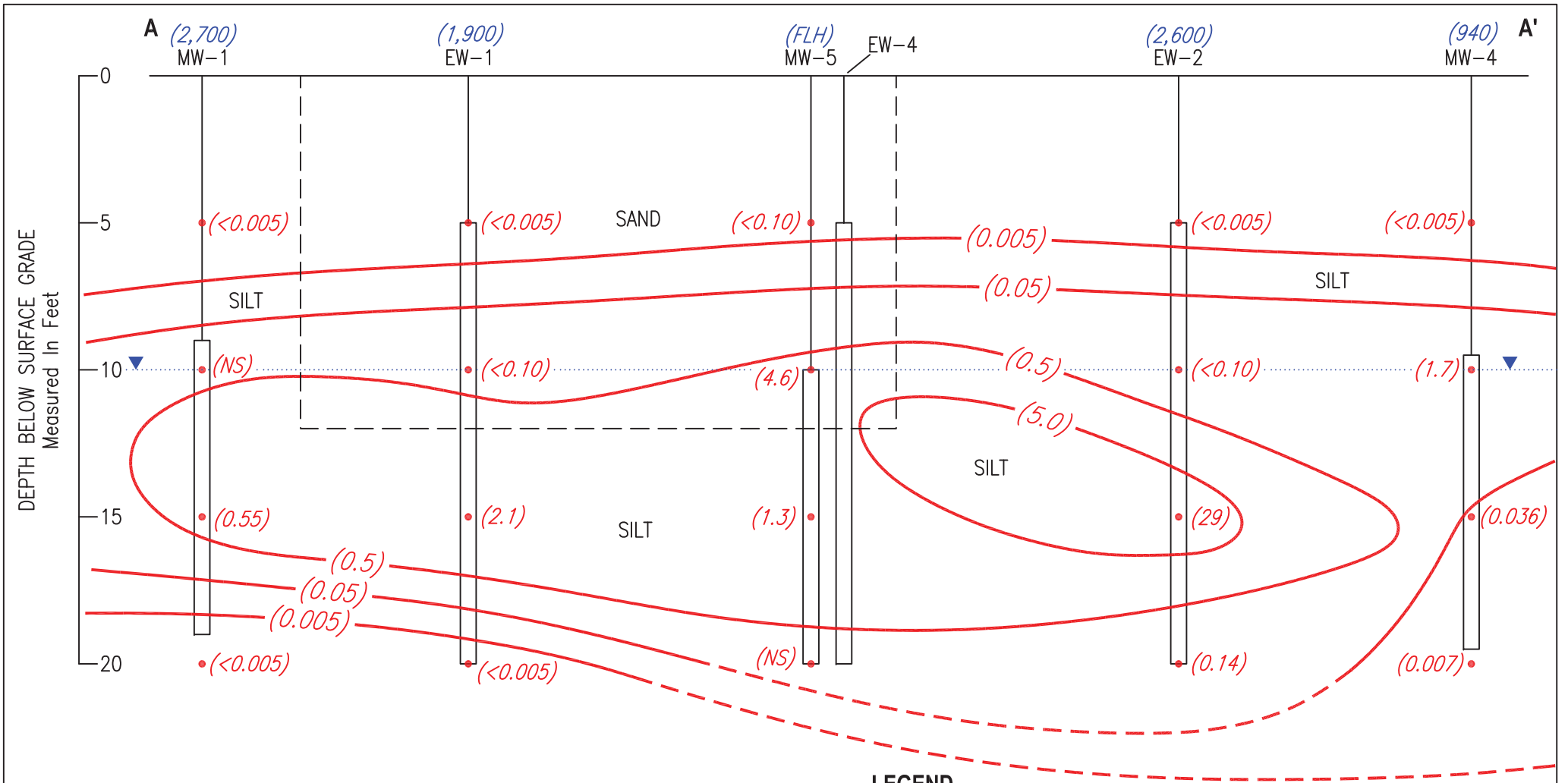
Project Number:
GHA.19009

Date:
February 28, 2018

TPHg IN SOIL ISOCONCENTRATION MAP CROSS SECTION A-A'

Shore Acre Gas
403 East 12th Street
Oakland, California

Environmental Compliance Group, LLC
270 Vintage Drive, Turlock, CA 95382
Phone: (209) 664-1035



LEGEND

- Soil Sample Location
- Screened Interval
- Approximate Lithologic Contact
- (NS) Not Sampled
- (29) Concentration Of Benzene In Soil Measured In mg/Kg
- (5.0) Line Of Equal Concentration Of Benzene In Soil Measured In mg/Kg (Dashed Where Inferred)
- (2,700) Concentration Of Benzene In Groundwater Measured In ug/L Sampled September 14, 2012
- (FLH) Floating Liquid Hydrocarbons
- Groundwater Level

5
0
0
10
Approximate Scale In Feet
(Vertical Exaggeration = 2X)

FIGURE E-3

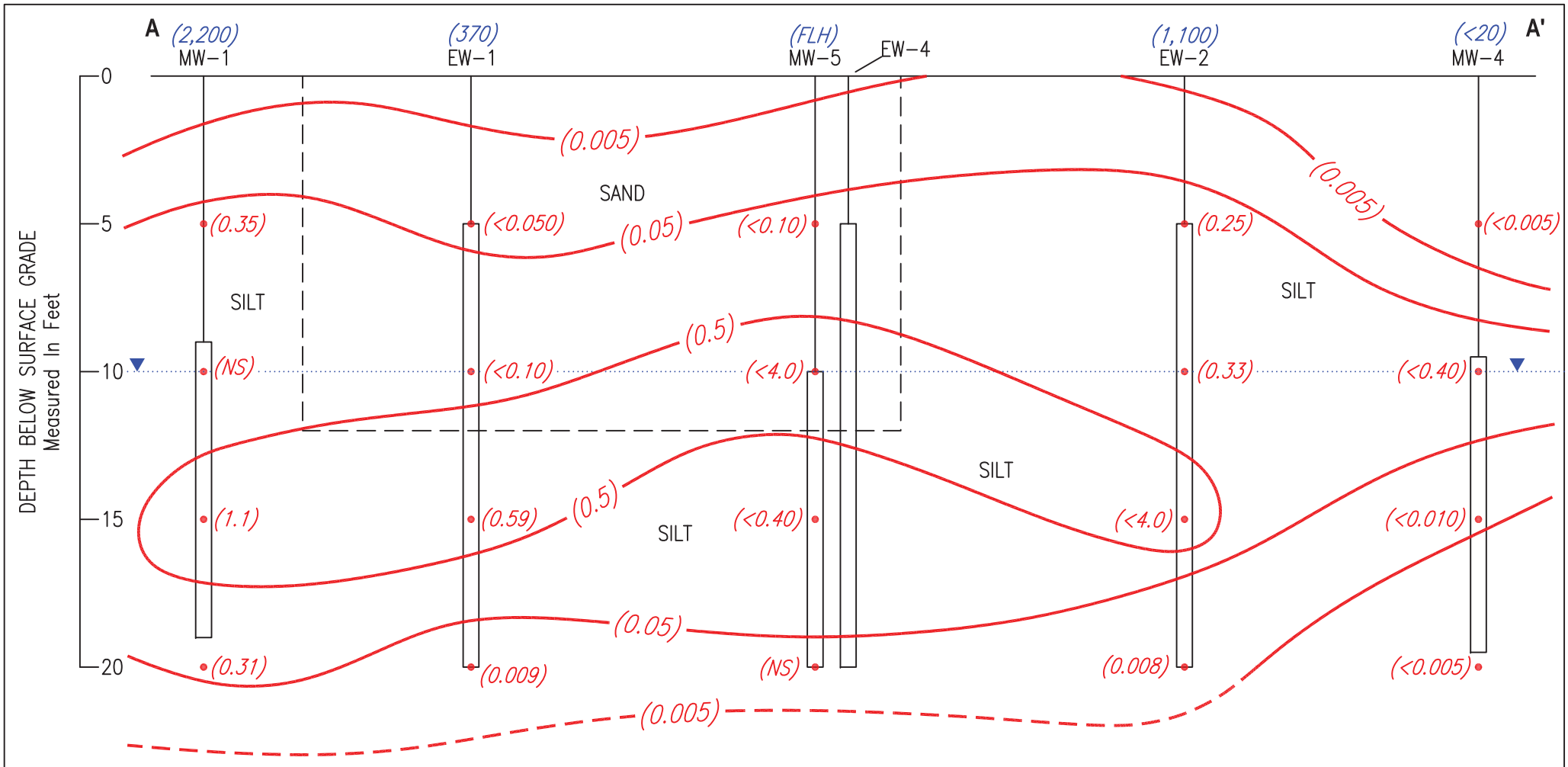
Project Number:
GHA.19009

Date:
February 28, 2018

BENZENE IN SOIL ISOCONCENTRATION MAP CROSS SECTION A-A'

Shore Acre Gas
403 East 12th Street
Oakland, California

Environmental Compliance Group, LLC
270 Vintage Drive, Turlock, CA 95382
Phone: (209) 664-1035



LEGEND

- Soil Sample Location
- Screened Interval
- Approximate Lithologic Contact
- (NS) Not Sampled
- (1.1) Concentration Of MTBE In Soil Measured In mg/Kg
- (0.5) Line Of Equal Concentration Of MTBE In Soil Measured In mg/Kg (Dashed Where Inferred)
- (2,200) Concentration Of Benzene In Groundwater Measured In ug/L Sampled September 14, 2012
- (FLH) Floating Liquid Hydrocarbons
- Groundwater Level

5
0
0
10
Approximate Scale In Feet
(Vertical Exaggeration = 2X)

FIGURE E-4

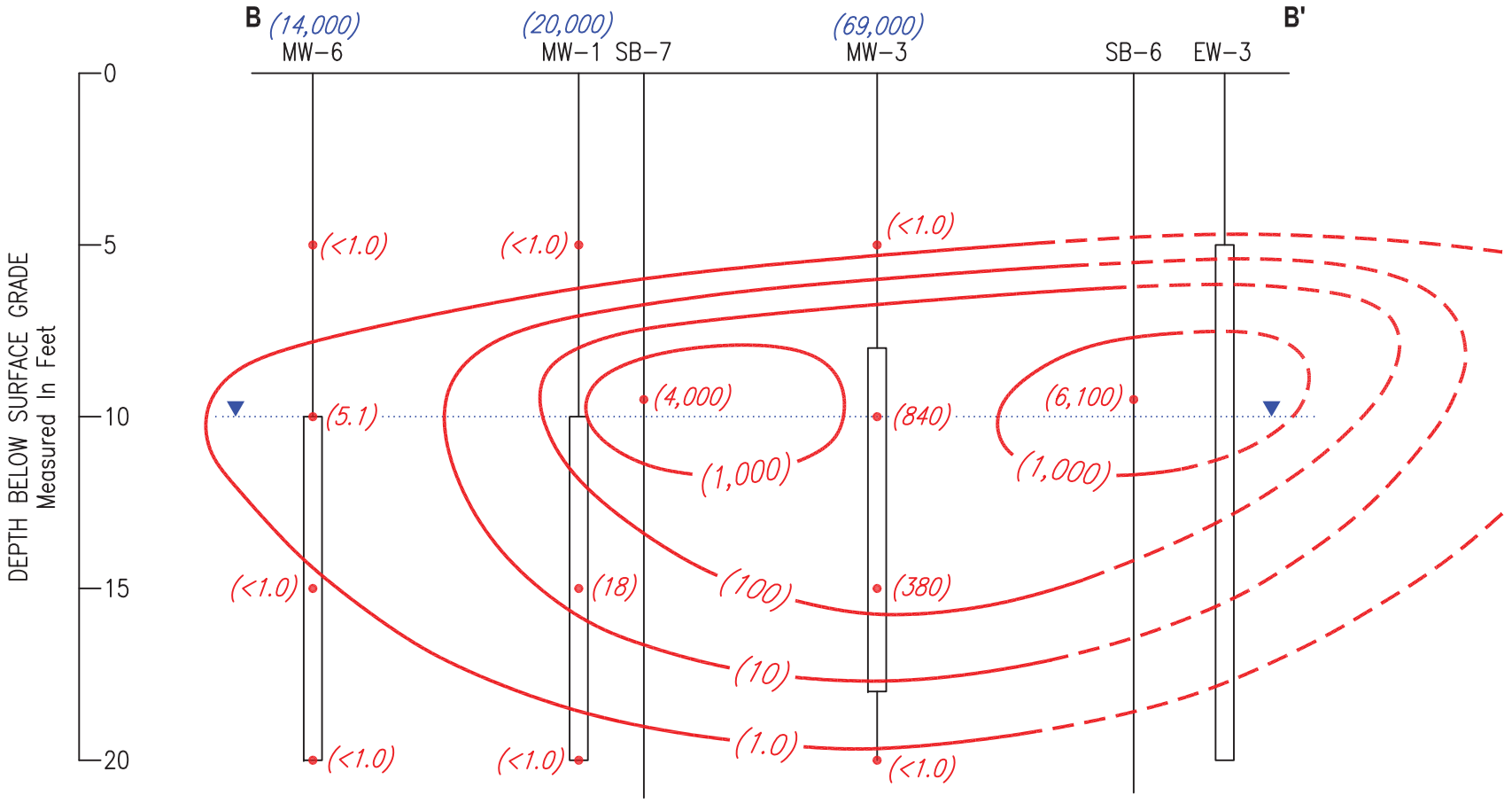
Project Number:
GHA.19009

Date:
February 28, 2018

MTBE IN SOIL ISOCONCENTRATION MAP CROSS SECTION A-A'

Shore Acre Gas
403 East 12th Street
Oakland, California

Environmental Compliance Group, LLC
270 Vintage Drive, Turlock, CA 95382
Phone: (209) 664-1035



LEGEND

- Soil Sample Location
- Screened Interval
- Approximate Lithologic Contact
- (6,100) Concentration Of TPHg In Soil Measured In mg/Kg
- (1,000) Line Of Equal Concentration Of TPHg In Soil Measured In mg/Kg (Dashed Where Inferred)
- (69,000) Concentration Of TPHg In Groundwater Measured In ug/L Sampled September 14, 2012
- Groundwater Level

5
0
0
10
Approximate Scale In Feet
(Vertical Exaggeration = 2X)

FIGURE E-5

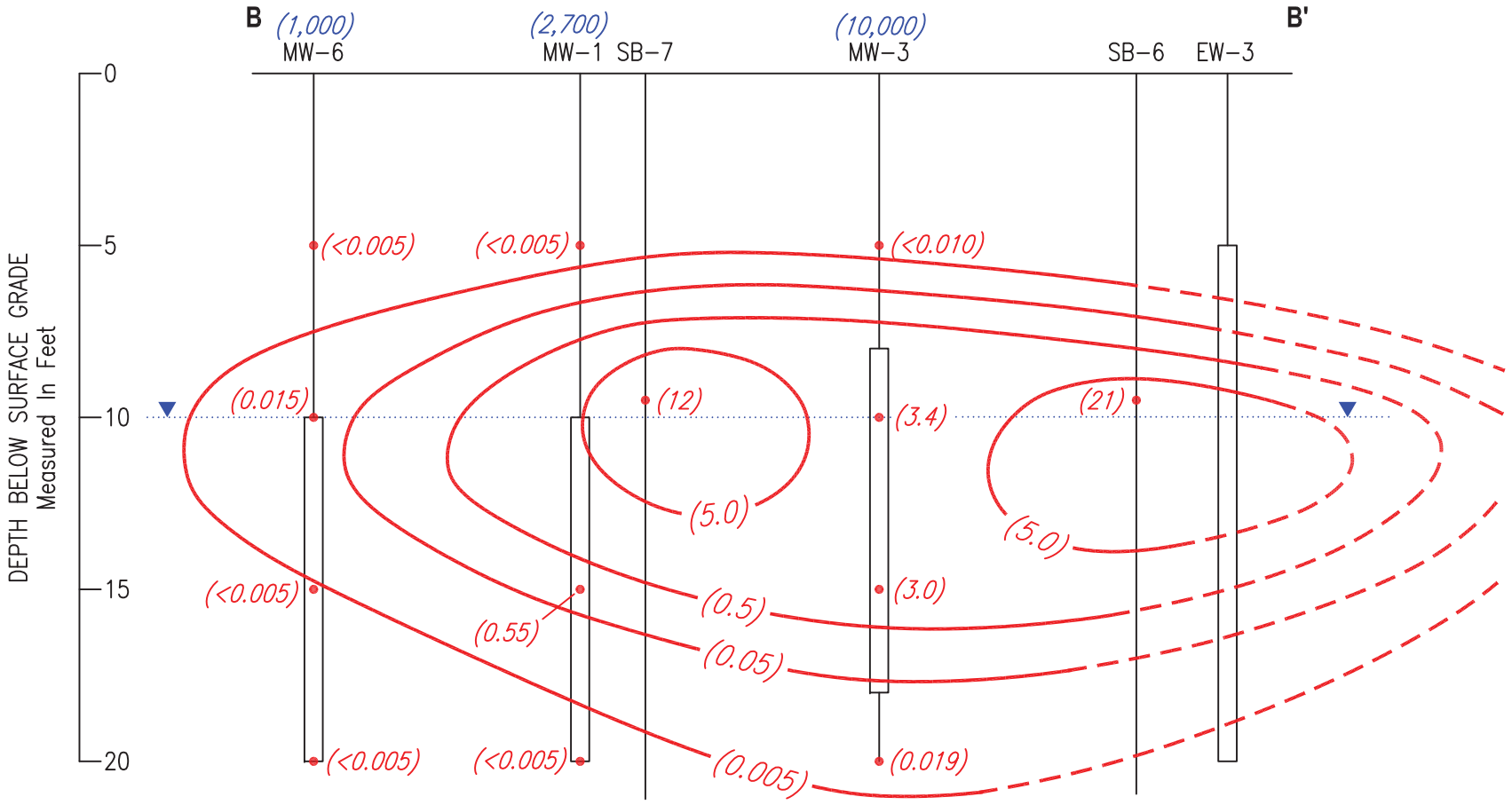
Project Number:
GHA.19009

Date:
February 28, 2018

TPHg IN SOIL ISOCONCENTRATION MAP CROSS SECTION B-B'

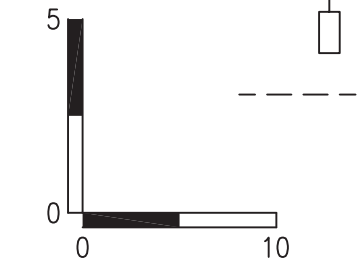
Shore Acre Gas
403 East 12th Street
Oakland, California

Environmental Compliance Group, LLC
270 Vintage Drive, Turlock, CA 95382
Phone: (209) 664-1035



LEGEND

- Soil Sample Location
- Screened Interval
- Approximate Lithologic Contact
- (21) Concentration Of Benzene In Soil Measured In mg/Kg
- (5.0) Line Of Equal Concentration Of Benzene In Soil Measured In mg/Kg (Dashed Where Inferred)
- (10,000) Concentration Of Benzene In Groundwater Measured In ug/L Sampled September 14, 2012
- Groundwater Level



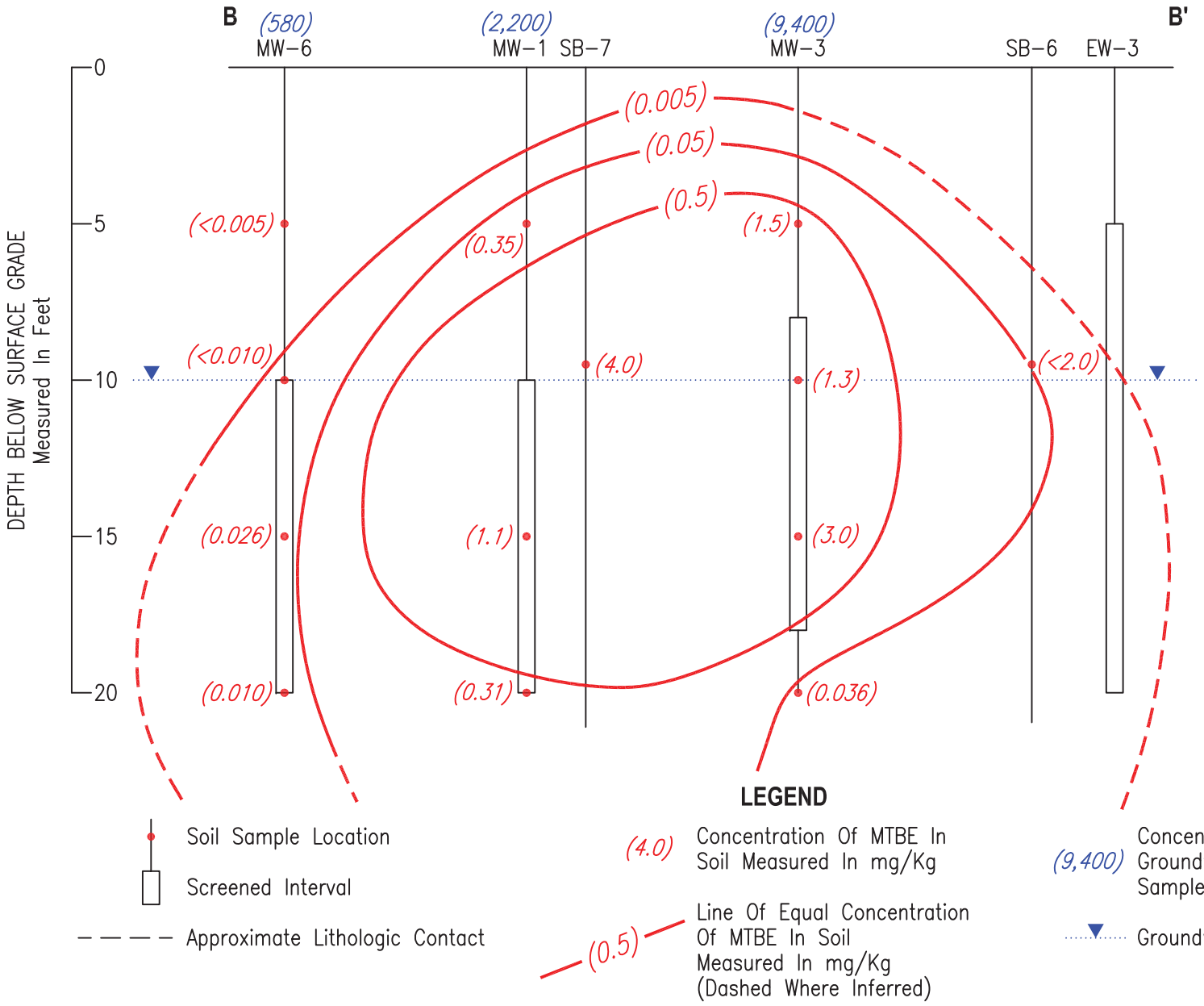
Approximate Scale In Feet
(Vertical Exaggeration = 2X)

FIGURE E-6
Project Number: GHA.19009
Date: February 28, 2018

BENZENE IN SOIL ISOCONCENTRATION MAP CROSS SECTION B-B'

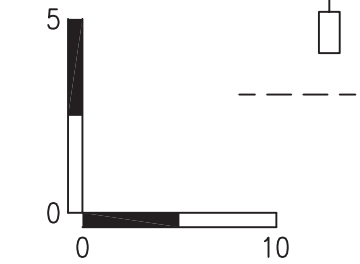
Shore Acre Gas
403 East 12th Street
Oakland, California

Environmental Compliance Group, LLC
270 Vintage Drive, Turlock, CA 95382
Phone: (209) 664-1035



LEGEND

- Soil Sample Location
- Screened Interval
- Approximate Lithologic Contact
- (4.0) Concentration Of MTBE In Soil Measured In mg/Kg
- (0.5) Line Of Equal Concentration Of MTBE In Soil Measured In mg/Kg (Dashed Where Inferred)
- (9,400) Concentration Of MTBE In Groundwater Measured In ug/L Sampled September 14, 2012
- Groundwater Level



Approximate Scale In Feet
(Vertical Exaggeration = 2X)

FIGURE E-7
Project Number: GHA.19009
Date: February 28, 2018

MTBE IN SOIL ISOCONCENTRATION MAP CROSS SECTION B-B'

Shore Acre Gas
403 East 12th Street
Oakland, California

Environmental Compliance Group, LLC
270 Vintage Drive, Turlock, CA 95382
Phone: (209) 664-1035

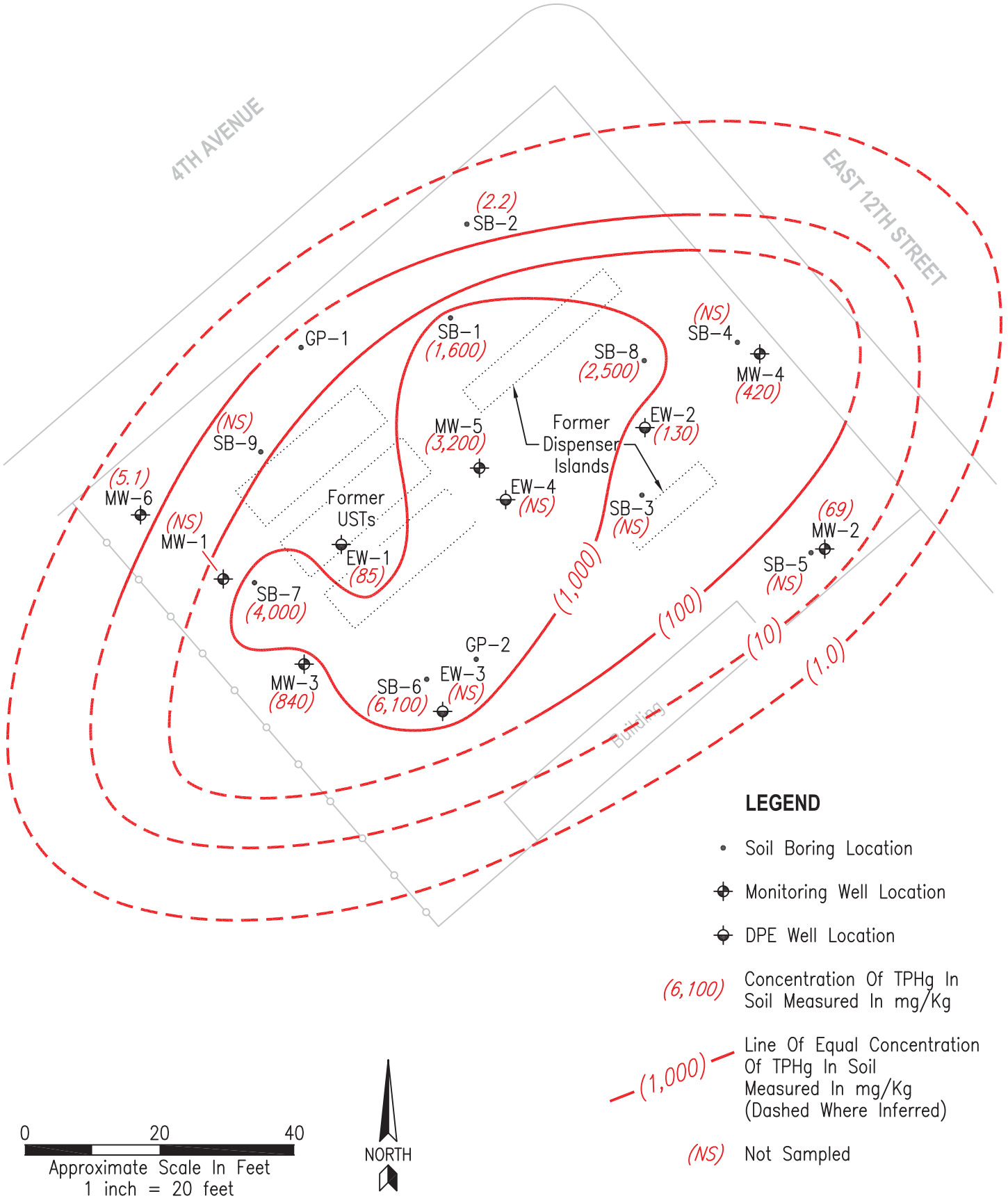


FIGURE E-8 **Project Number:** GHA.19009 **Date:** February 28, 2018	**TPHg IN SOIL AT 10 FEET bgs ISOCONCENTRATION MAP** Shore Acre Gas 403 East 12th Street Oakland, California	**Environmental Compliance Group, LLC** 270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664–1035

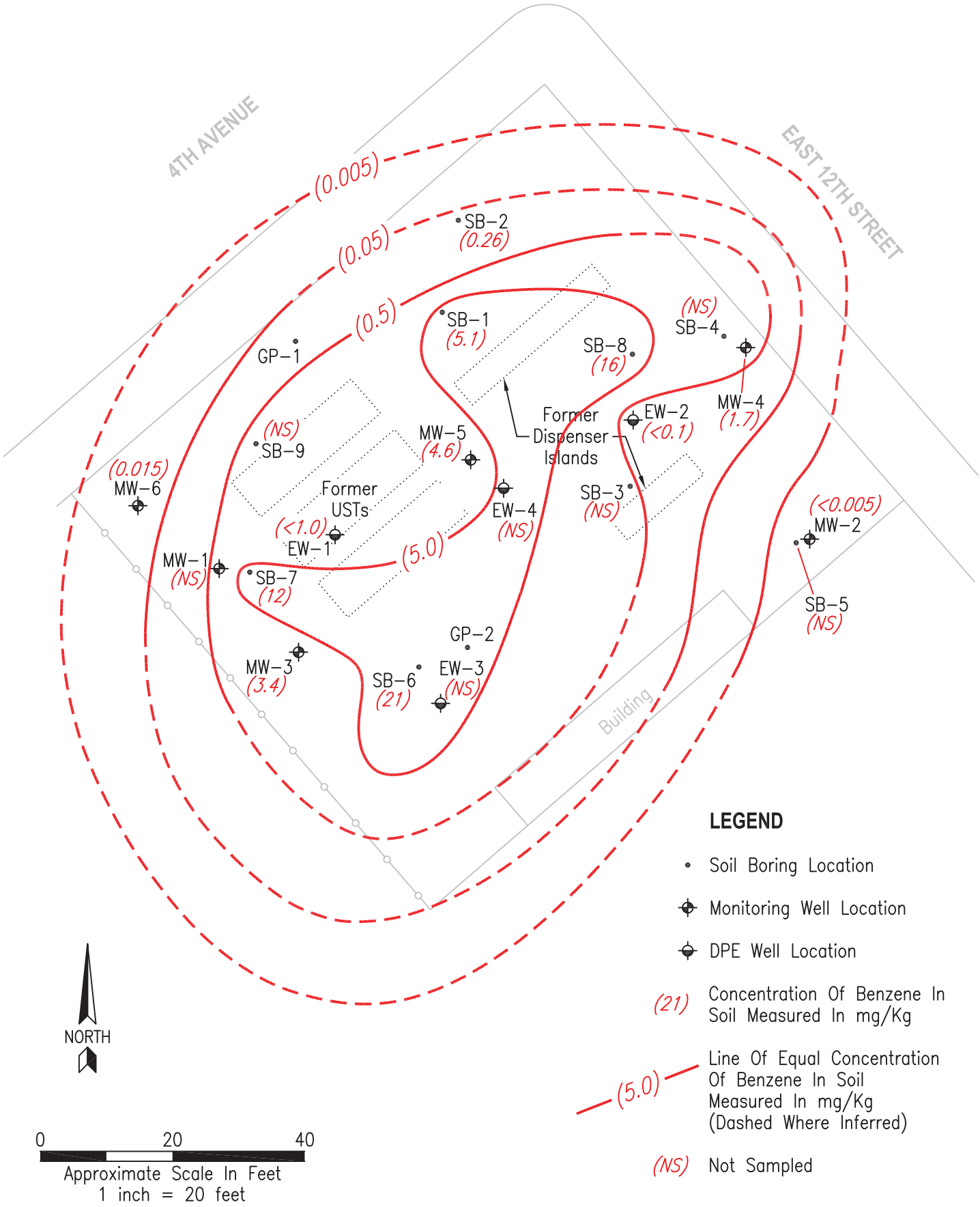


FIGURE E-9	**BENZENE IN SOIL AT 10 FEET bgs ISOCONCENTRATION MAP**	Environmental Compliance Group, LLC
Project Number: GHA.19009	Shore Acre Gas 403 East 12th Street Oakland, California	270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664-1035
Date: February 28, 2018		

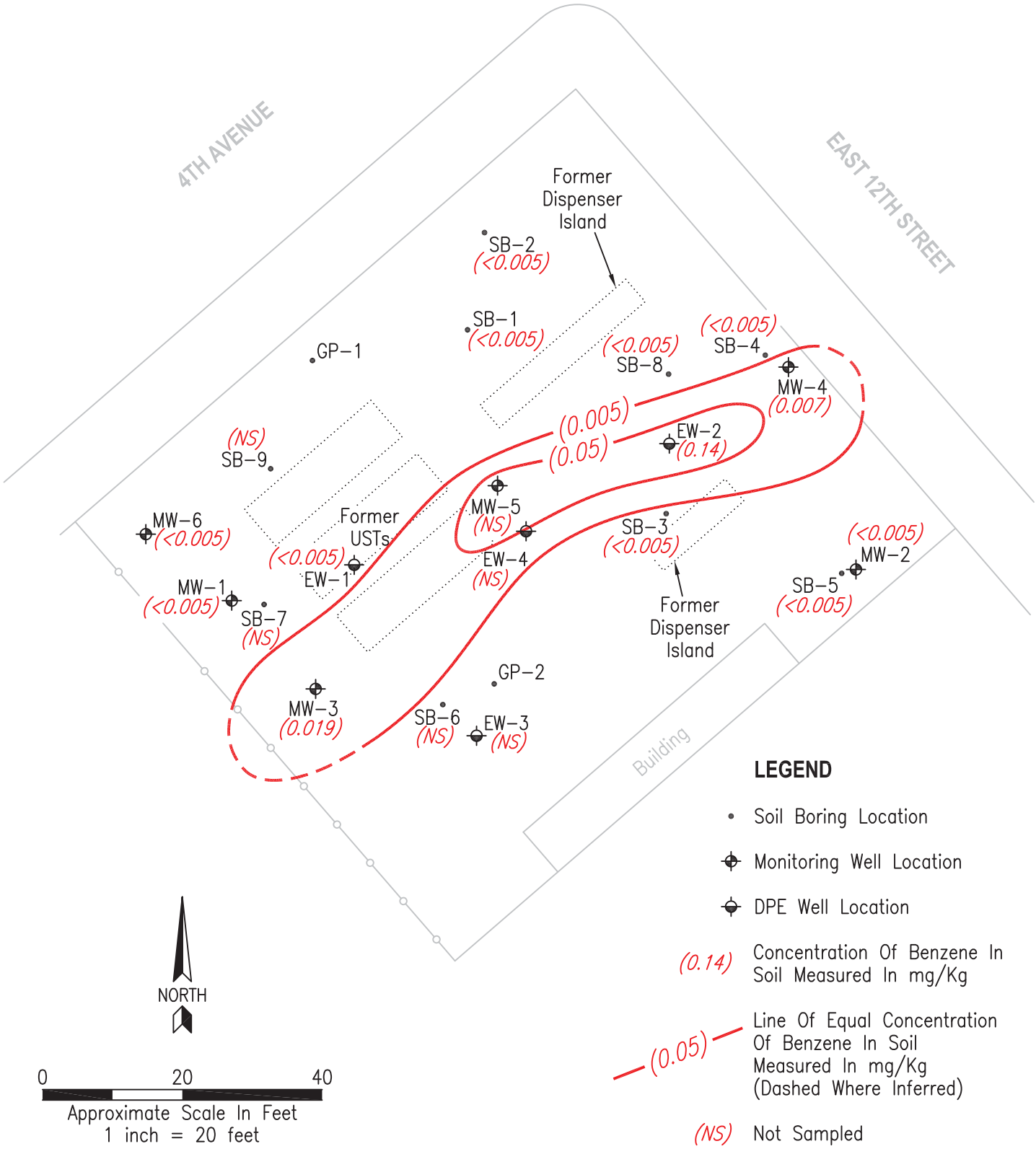


FIGURE E-10	**BENZENE IN SOIL AT 20-25 FEET bgs ISOCONCENTRATION MAP**	Environmental Compliance Group, LLC
Project Number: GHA.19009	Shore Acre Gas 403 East 12th Street Oakland, California	270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664–1035
Date: February 28, 2018		

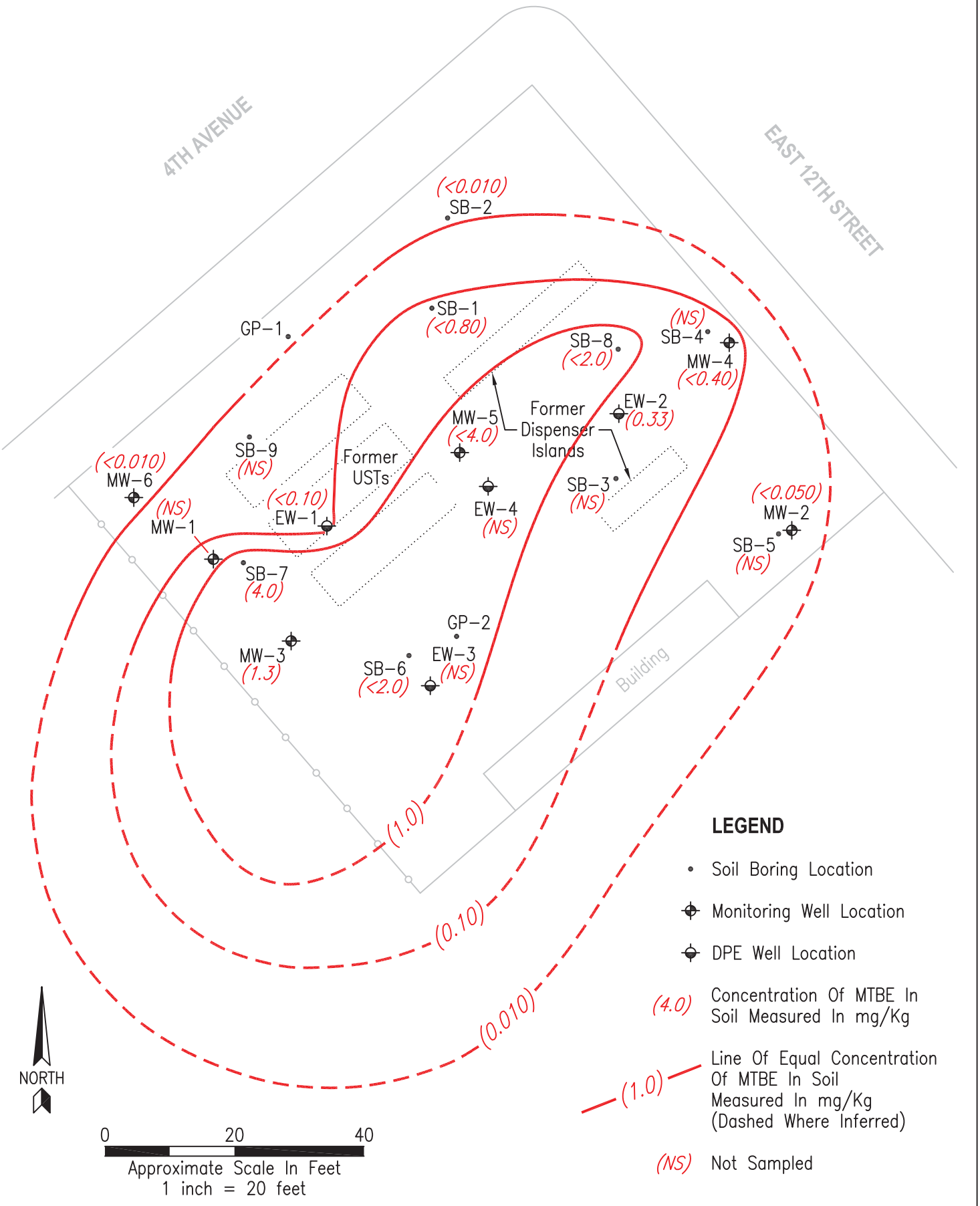


FIGURE E-11	**MTBE IN SOIL AT 10 FEET bgs ISOCONCENTRATION MAP**	Environmental Compliance Group, LLC
Project Number: GHA.19009	Shore Acre Gas 403 East 12th Street Oakland, California	270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664-1035
Date: February 28, 2018		

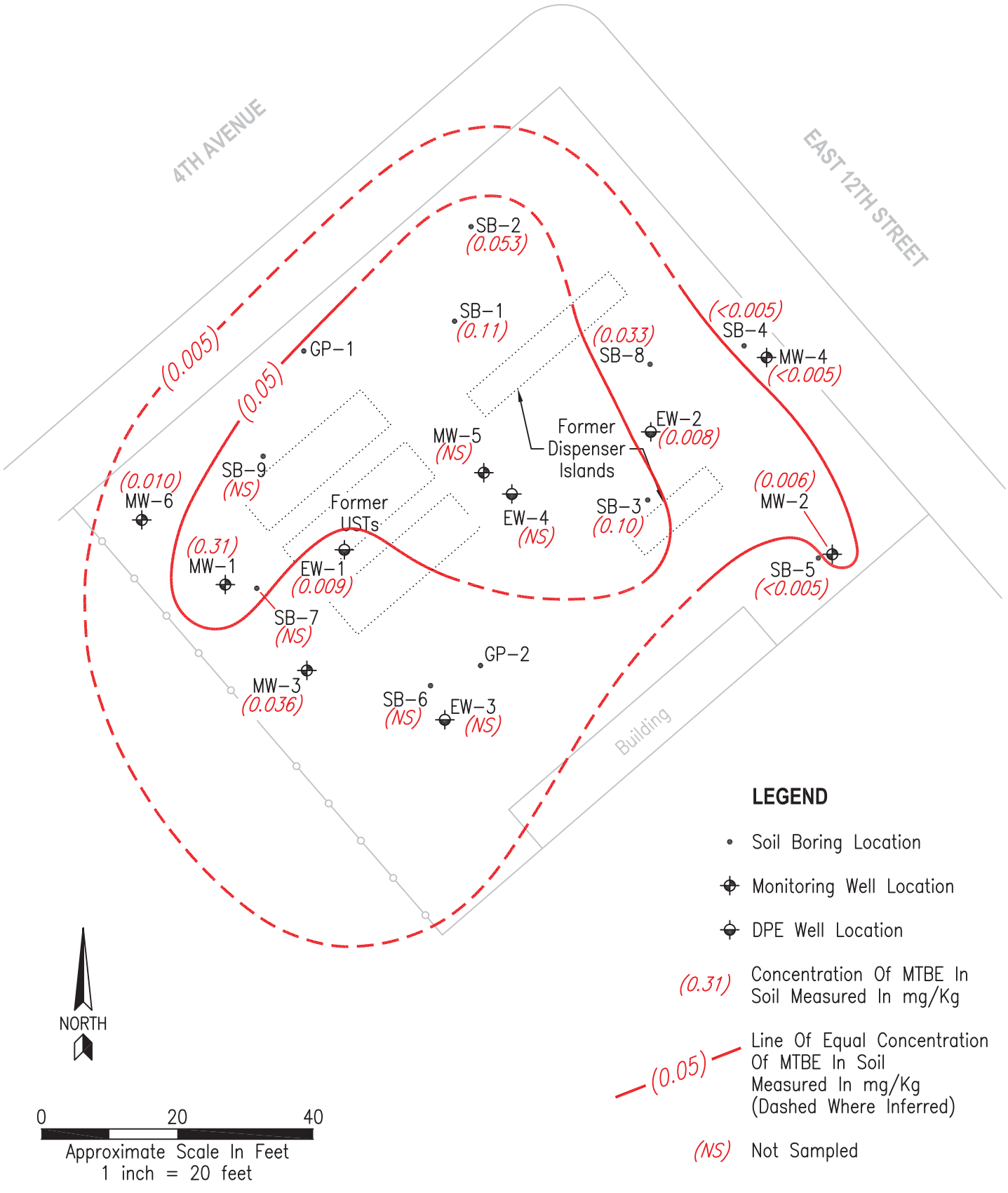


FIGURE E-12	**MTBE IN SOIL AT 20-25 FEET bgs ISOCONCENTRATION MAP**	Environmental Compliance Group, LLC
Project Number: GHA.19009	Shore Acre Gas 403 East 12th Street Oakland, California	270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664–1035
Date: February 28, 2018		

LEGEND

NORTH

- Monitoring Well Location
- Vapor Extraction Well Location
- (3,600) Concentration of TPHg In Groundwater Measured In ug/L
- 5,000 Lines Of Equal Concentration of TPHg In Groundwater Measured In ug/L (Dashed Where Inferred)

0 50 100

Approximate Scale In Feet
1 inch = 50 feet

FIGURE E-13	**TPHg IN GROUNDWATER ISOCONCENTRATION MAP SEPTEMBER 28, 2017** Shore Acre Gas 403 East 12th Street Oakland, California	Environmental Compliance Group, LLC 270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664-1035
Project Number: GHA.19009		
Date: November 16, 2017		

LEGEND

NORTH

- Monitoring Well Location
- Vapor Extraction Well Location
- (140) Concentration of Benzene In Groundwater Measured In ug/L
- 500 Lines Of Equal Concentration of Benzene In Groundwater Measured In ug/L (Dashed Where Inferred)

0 50 100

Approximate Scale In Feet
1 inch = 50 feet

FIGURE E-14	**BENZENE IN GROUNDWATER ISOCONCENTRATION MAP SEPTEMBER 28, 2017** Shore Acre Gas 403 East 12th Street Oakland, California	Environmental Compliance Group, LLC 270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664-1035
Project Number: GHA.19009		
Date: November 16, 2017		

LEGEND

NORTH

Monitoring Well Location

Vapor Extraction Well Location

(35) Concentration of MTBE In Groundwater Measured In ug/L

5,000 Lines Of Equal Concentration of MTBE In Groundwater Measured In ug/L (Dashed Where Inferred)

0 50 100

Approximate Scale In Feet
1 inch = 50 feet

FIGURE E-15	**MTBE IN GROUNDWATER ISOCONCENTRATION MAP SEPTEMBER 28, 2017** Shore Acre Gas 403 East 12th Street Oakland, California	**Environmental Compliance Group, LLC** 270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664–1035
Project Number: GHA.19009		
Date: November 16, 2017		