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August 10, 2015

Ms. Donna Drogos Alameda County Environmental Health 1131 Harbor Parkway, Suite 250 Oakland, CA 94502-6577

Subject:

First Quarter 2015 Groundwater Monitoring Report

**Shore Acres Gas** 

403 East 12<sup>th</sup> Street, Oakland, Alameda County, California

RO #0002931

ECG # GHA.19009

Dear Ms. Drogos:

Enclosed please find a copy of the July 22, 2015 *First Quarter 2015 Groundwater Monitoring Report* for the above referenced site prepared by our consultant Environmental Compliance Group, LLC.

I declare, under penalty and perjury, that the information and/or recommendations contained in this report are true and correct to the best of my knowledge.

Respectfully,

Rashid Ghafoor

1-5 kg



270 Vintage Drive Turlock, CA 95382 P: 209.664.1035 F: 209.664.1040

# FIRST QUARTER 2015 GROUNDWATER MONITORING AND REMEDIATION STATUS REPORT

SHORE ACRES GAS 403 EAST 12<sup>TH</sup> STREET OAKLAND, CALIFORNIA

Prepared for: Rashid Ghafoor

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

July 22, 2015



Drew Van Allen Senior Project Manager

DunVM

Michael S. Sgourakis Principal Geologist CA P.G. No. 7194

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First Quarter 2015 Groundwater Monitoring and Remediation Status Report Shore Acres Gas 403 East  $12^{\rm th}$  Street, Oakland, California

#### **Appendices**

Appendix A: Standard Operating Procedures Appendix B: Laboratory Analytical Reports

Appendix C: Field Notes

#### INTRODUCTION

Environmental Compliance Group (ECG) has been authorized by Mr. Rashid Ghafoor to provide this report for the site.

This report describes activities conducted during First Quarter 2015 groundwater monitoring event. 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 Rashid 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 vacant. 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 fuel dispensers where impacted soil and groundwater was first identified in 2006. 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 sand present in the area.

Depth to groundwater is shallow, ranging between 8- to 14-feet bgs and groundwater appears to be near historic highs. The groundwater flow direction appears to be generally toward the south.

#### CLEANUP CRITERIA

It is prudent to establish cleanup goals for soil and groundwater based upon reaching the residential Environmental Screening Levels (ESLs) established by Region II for sites with shallow soil where groundwater is not a current or potential drinking water source. The primary constituents of concern relative to the site appear to be total petroleum hydrocarbons as diesel (TPHd) and gasoline (TPHg) benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tertiary butyl ether (MTBE), and tertiary butyl alcohol (TBA). Accordingly, the following cleanup goals are proposed:

Constituent	Soil (mg/kg)	Groundwater (ug/L)
TPHd	100	210
TPHg	100	210
Benzene	0.12	46
Toluene	9.3	130
Ethylbenzene	2.3	43
Xylenes	11	100
MTBE	8.4	1,800
TBA	100	18,000

#### 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 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.

#### 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.

A soil vapor survey has not been completed for the site.

#### **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 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 6,816 pounds of TPHg, 33 pounds of benzene, and 3 pounds of MTBE from the subsurface. 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 is supervising the installation of natural gas to the site and PG&E should complete their scope of work during the second quarter 2015 at which time the remediation system will be restarted.

#### FIRST QUARTER 2015 MONITORING EVENT

#### WORK PERFORMED AND PROPOSED

The following is a summary of work performed during the first quarter 2015 and work proposed for next quarter at the site.

#### **WORK PERFORMED FIRST QUARTER 2015**

- 1. The first quarter 2015 groundwater monitoring event was performed on March 31, 2015.
- 2. ECG performed DPE system startup, troubleshooting, and maintenance to the O&M unit.
- 3. The remediation system was shut down February 18, 2015 and the propane tank was removed from the site.

#### WORK SCHEDULED FOR SECOND QUARTER 2015

- 1. Prepare and finalize the first quarter 2015 monitoring report.
- 2. Complete installation of the natural gas line and restart the unit.

#### DISCUSSION OF RECENT MONITORING ACTIVITIES

ECG performed the first quarter 2015 groundwater monitoring and sampling event at the site on March 31, 2015. Due to labeling errors, groundwater samples from wells MW-2, MW-4, EW-1, and EW-3 were not analyzed. Gauging, development, purging, and sampling were conducted in accordance with ECG's SOPs included in Appendix A. The collected groundwater samples were submitted to Argon Analytical Services, Inc. located in Ceres, California for laboratory analysis under COC protocols (Appendix B).

The following is a summary of the current status of the groundwater monitoring program at the site:

Current Phase of Project:

Remediation

Groundwater Sampling Schedule:

Quarterly

Wells MW-1 through MW-6, EW-1 through

EW-4

Analysis:

TPHg by EPA Method 8015M, BTEX, 5

oxygenates, and 2 lead scavengers by EPA

Method 8260B

Is Free Product Present On-Site:

Nο

The following is a summary of recent field and analytical data:

Average Depth to Groundwater

9.39-feet below ground surface (bgs)

Average Groundwater Elevation

21.86 -feet above mean sea level

Groundwater Gradient Direction

Southeast 0.011 feet/foot

Groundwater Gradient TPHg Detected Range

10,000 ug/L (MW-2) to 38,000 ug/L (MW-1)

Benzene Detected Range

170 ug/L (EW-3) to 1,300 ug/L (MW-3)

MTBE Detected

12 ug/L (MW-6) to 980 (MW-3)

Laboratory analytical reports and COCs are provided in Appendix B. Field notes are located in Appendix C. Summaries of groundwater monitoring and analytical data are presented in Tables 4a.

#### DISCUSSION OF RECENT REMEDIATION ACTIVITIES

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 is supervising the installation of natural gas to the site and PG&E should complete their scope of work during the second quarter 2015 at which time the remediation system will be restarted.

ECG performed remediation system monitoring and operations and maintenance activities on December 31, 2014, January 6 and 20, and February 5, 2015. Multiple additional visits were made to the site to ensure the operation of the remediation systems and restart them as needed as the unit needed. Operating parameters are recorded twice each month and are included on the field notes in Appendix C. Influent and effluent vapor samples are field screened each visit with a photoionization detector and samples are collected monthly in accordance with BAAQMD permit requirements. The collected vapor samples were submitted to Kiff Analytical, LLC, located in Davis, California for laboratory analysis under COC protocols.

The following is a summary of the first quarter 2015 remediation results at the site:

SVE System Operating Hours 565.9 hours, 23.6 days

Active SVE Extraction Points Varied
Average Influent Flowrate 146 scfm

TPHg Detected Range in SVE Influent

Vapor samples were not submitted to lab

prior to shutdown

Benzene Detected Range in SVE Influent Vapor samples were not submitted to lab

prior to shutdown

MTBE Detected in SVE Influent Vapor samples were not submitted to lab

prior to shutdown

SVE Destruction Efficiency >97% or less than 0.109 pounds of benzene

per day emission

Average Groundwater Extraction Rate 1.6 gallons per minute (gpm)

Average TPHg Detected in Groundwater Influent 15,500 ug/L Average Benzene Detected in Groundwater Influent 585 ug/L Average MTBE Detected in Groundwater Influent 89 ug/L

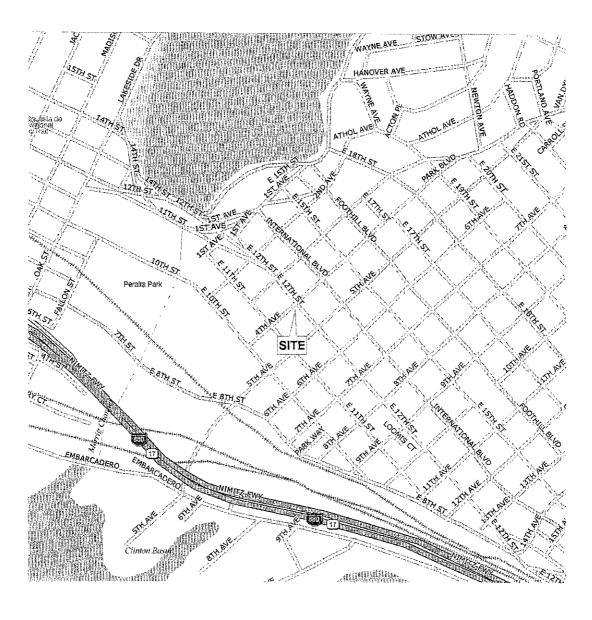
Summaries of remediation system operating parameters and analytical data are presented in Tables 5a, 5b, and 5c.

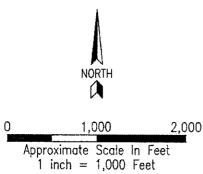
#### RESULTS AND CONCLUSIONS

Water levels and the gradient data were consistent with historical data. Tables 2a, 2b, 3a, 3b, 4a, and 4b tabulate the analytical data for soil and monitoring well sampling data.

The DPE system operated for 24 days during the first quarter of 2015 from December 24, 2014 to February 18, 2015, when the system was shut down. Approximately 20 pounds of TPHg, 0.75 pounds of benzene, and 0.11 pounds of MTBE were removed from the groundwater phase during this quarter (Table 5c). The DPE system operated within the rules of the BAAQMD permit issued to the facility.

ECG will continue coordinating with PG&E to install natural gas service and remove the propane tank. The natural gas piping was installed by PG&E in June 2015 and we are awaiting a date for PG&E to install the gas meter to restart the unit.



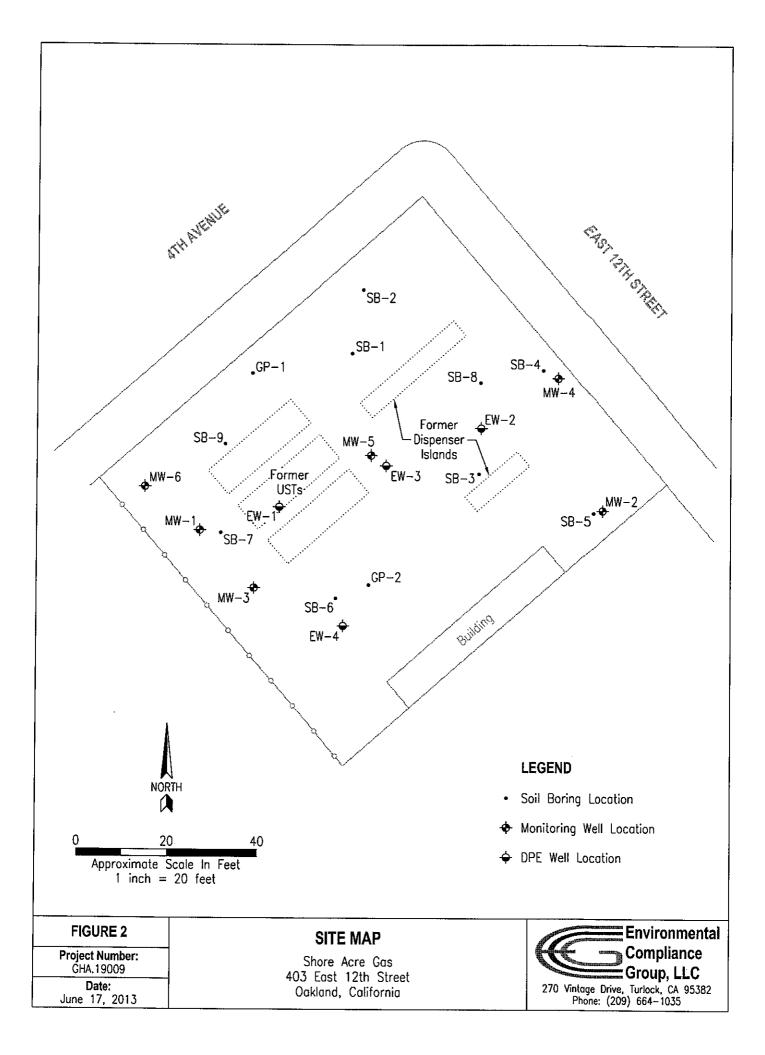


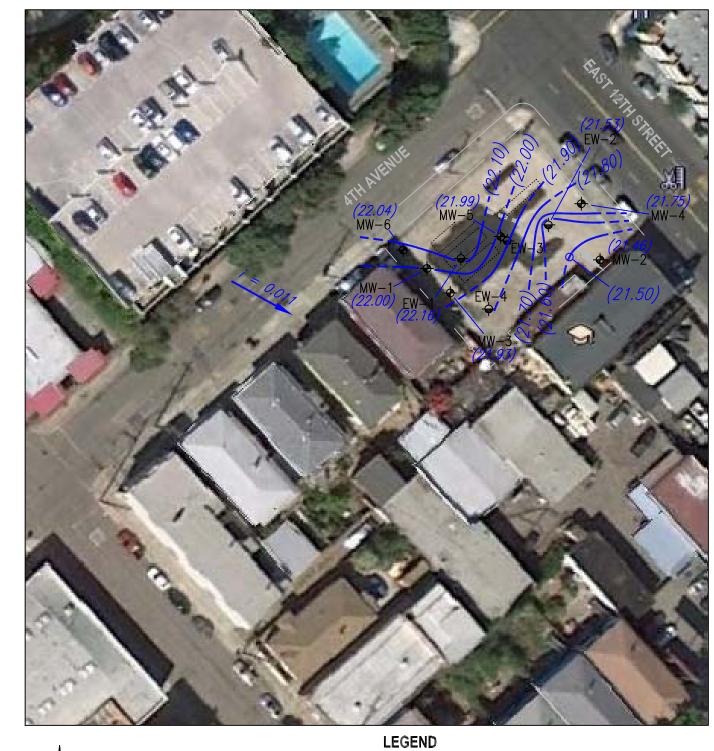
Project Number: GHA.19009

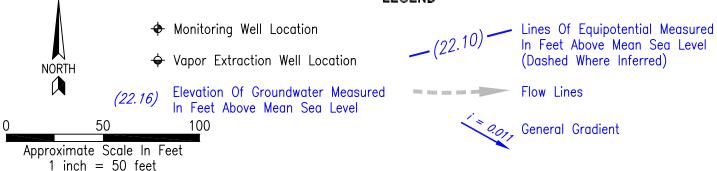
Date: February 9, 2011

#### SITE LOCATION MAP







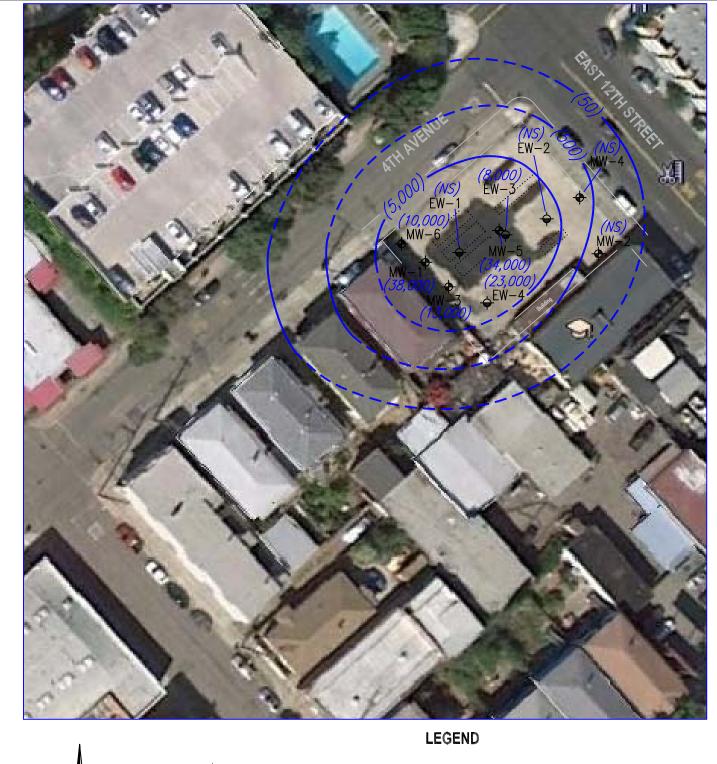


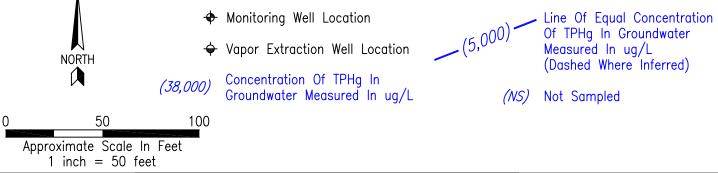
Project Number: GHA.19009

**Date:** August 12, 2015

### POTENTIOMETRIC SURFACE MAP MARCH 31, 2015







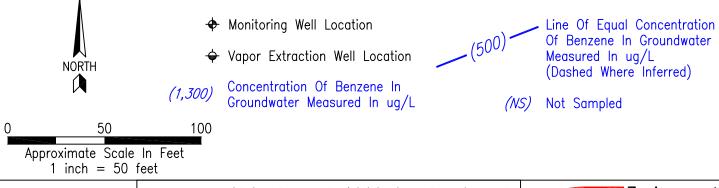
Project Number: GHA.19009

**Date:** August 12, 2015

### TPHg IN GROUNDWATER ISOCONCENTRATION MAP MARCH 31, 2015







Project Number: GHA.19009

**Date:** August 12, 2015

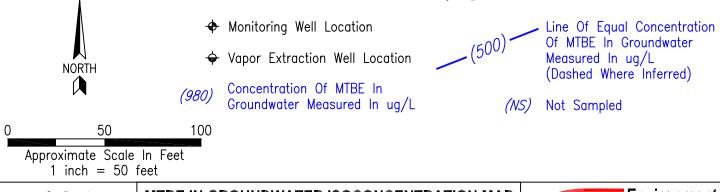
### BENZENE IN GROUNDWATER ISOCONCENTRATION MAP MARCH 31, 2015

Shore Acre Gas 403 East 12th Street Oakland, California



270 Vintage Drive, Turlock, CA 95382 Phone: (209) 664-1035





Project Number: GHA.19009

**Date:** August 12, 2015

### MTBE IN GROUNDWATER ISOCONCENTRATION MAP MARCH 31, 2015



### **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		30.81	20	2	PVC	0.020/#3	10-20		
MW-2		31.29	20	2	PVC	0.020/#3	10-20		
MW-3	June 2011	31.30	18	2	PVC	0.020/#3	8-18		
MW-4	Julie 2011	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 We	ells							
EW-1	June 2011	31.46	20	4	PVC	0.020/#3	5-20		
EW-2	Julie ZOTT	31.43	20	. 4	PVC	0.020/#3	5-20		
EW-3	May 2012		20	6	PVC	0.020/#3	5-20		
EW-4	Ividy ZO1Z		20	6	PVC	0.020/#3	5-20		

#### Notes:

TOC - denotes top of casing

ft - denotes feet

amsi - denotes above mean sea level

bgs - denotes below ground surface

PVC - denotes polyvinyl chloride

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# Table 2a Historical Soil Analytical Data TPH and BTEX

Shore Acres Gas 403 East 12th Street Oakland, California

Boring ID	Sample	Collection	TPHd	TPHg	Benzene	Toluene	Ethyl-	Total
_	Depth	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	benzene	xylenes
	(feet)						(mg/kg)	(mg/kg)
<b>UST Removal Sam</b>								
SS-D1	2		1,800*	3,000	<0.25	0.34	39	180
SS-D2	2	1	900*	2,400	<0.25	<0.25	36	120
SS-D3	2	1	460*	1,000	<0.15	<0.15	12	14
SS-D4	2	1 [	540*	640	<0.090	1.0	6.1	51
SS-D5	2	1	320	140	<0.025	<0.025	1.3	3.2
SS-D6	2.0	1 [	320*	260	<0.025	0.054	1.0	8.0
SS-J1	2.0	1	39*	160	<0.025	<0.025	0.71	0.94
SS-Isle	4.0	August	560*	100	<0.025	<0.025	0.30	0.084
SS-7	18.0	2009	310*	1,600	6.9	76	39	200
Tank 1-SS-1	14.0	1	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	1	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	1 . [	75*	130	0.23	0.26	3.1	15
Soil Borings				•				
GP-1-15.5	15.5		13.0	18.0	0.63	0.052	0.69	0.13
GP-1-18.0	18.0	1 2006	<1.0	<1.0	0.0056	0.0082	<0.005	0.019
GP-2-12.0	12.0	July 2006	600	3,600	17	180	98	440
GP-2-20.0	20.0	1	79	1,100	3.2	41	25	130
SB-1-9.5	9.5			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		<1.0	<0.005	<0.005	<0.005	<0.010
SB-3-14.5	14.5	1		17	17	100	42	240
SB-3-24.5	24.5	1		<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	April 2010		<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		<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		<1.0	<0.005	<0.005	<0.005	<0.010
SB-6-32	32.0	1		<1.0	<0.005	<0.005	<0.005	<0.010
SB-7-9.5	9.5	1		4,000	12	46	55	360
SB-7-29.5	29.5	1 !		<1.0	<0.005	<0.005	<0.005	<0.010
SB-7-32	32.0	1		<1.0	<0.005	<0.005	<0.005	<0.010

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#### Table 2a **Historical Soil Analytical Data TPH and BTEX**

**Shore Acres Gas** 403 East 12th Street Oakland, California

Boring ID	Sample	Collection	TPHd	TPHg	Benzene	Toluene	Ethyl-	Total
	Depth	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	benzene	xylenes
	(feet)						(mg/kg)	(mg/kg)
SB-8-9.5	9.5			2,500	16	110	63	370
SB-8-24.5	24.5	1		<1.0	<0.005	<0.005	<0.005	<0.010
SB-8-29.5	29.5	   April 2010		<1.0	<0.005	<0.005	<0.005	<0.010
SB-9-14.5	14.5	April 2010		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	]	454	<1.0	<0.005	<0.005	<0.005	<0.010
Groundwater Well	S							
MW-1-5	5		<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
MW-1-15	15	7	<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	June 2011	<5.0	<1.0	0.007	0.017	0.010	0.039
MW-5-5	5	Julie ZOTT	<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
VW-1-5	5		<5.0	34	<0.005	<0.005	0.16	0.31
VW-1-10	10	]	<15	85	<0.10	<0.10	2.2	0.89
VW-1-15	15		<15	420	2.1	4.1	9.4	55
VW-1-20	20		<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
VW-2 <b>-</b> 5	5	]	<5.0	<1.0	<0.005	<0.005	<0.005	<0.010
VW-2-10	10		<5.0	130	<0.10	<0.10	2.9	15
VW-2-15	15	]	<15	5,500	29	430	120	910
VW-2-20	20	ļ	<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

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# Table 2b Historical Soil Analytical Data Oxygenates and Lead Scavengers

Boring ID	Sample	Collection	DIPE	ETBE	MTBE	TAME	ТВА	1,2-DCA	EDB
	Depth	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
	(feet)		······································				<u></u>	<u> </u>	<u> </u>
UST Removal San	<del></del>			1					·
SS-D1	2	_	<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	1	<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	1	<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	August	<0.025	<0.025	<0.025	<0.025	<0.15		
SS-Isle	4	2009	<0.025	<0.025	<0.025	<0.025	<0.15		
SS-7	18	] 2005	<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	]	<0.005	<0.005	0.029	<0.005	0.27		
GP-1-18.0	18.0	July 2006	<0.005	<0.005	0.54	<0.005	0.33		
GP-2-12.0	12.0	July 2000	<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	) [	<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 <b>-</b> 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	April 2010	<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	1	<0.005	<0.005	0.18	<0.005	<0.050	<0.005	<0.005
SB-7-9.5	9.5	1	<1.0	<1.0	4.0	<1.0	<10	<1.0	<1.0
SB-7-29.5	29.5	1	<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	Collection	DIPE	ETBE	MTBE	TAME	TBA	1,2-DCA	EDB
	Depth	Date	(mg/kg)						
	(feet)								811
SB-8-9.5	9.5		<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	April 2010	<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
SB-9-14.5	14.5	Aprii 2010 [	<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 Well	s								
MW-1-5	5		<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	June 2011	<0.005	<0.005	<0.005	<0.005	<0.050	<0.005	<0.005
MW-5-5	5	Julie 2011	<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
VW-1-5	5	]	<0.050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.050
VW-1-10	10		<0.10	<0.10	<0.10	<0.10	<1.0	<0.10	<0.10
VW-1-15	15	]	<0.40	<0.40	0.59	<0.40	<4.0	<0.40	<0.40
VW-1-20	20	]	<0.005	<0.005	0.009	<0.005	0.16	<0.005	<0.005
VW-2-5	5		<0.005	<0.005	0.25	<0.005	0.14	<0.005	<0.005
VW-2-10	10		<0.10	<0.10	0.33	<0.10	<1.0	<0.10	<0.10
VW-2-15	15		<4.0	<4.0	<4.0	<4.0	<40	<4.0	<4.0
VW-2-20	20	]	<0.005	<0.005	0.008	<0.005	0.26	<0.005	<0.005
		1							

#### Notes:

denotes methyl tertiary butyl ether mg/kg - denotes milligrams per kilogram MTBE -

< - denotes less than the detection limi DIPE denotes di-isopropyl ether

EDB - denotes ethylene dibromide

--- - denotes not analyzed/applicable ETBE denotes ethyl tertiary butyl ether

DCA - denotes dichloroethane denotes tertiary amyl ether TAME -TBA -

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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		······································			Ethyl-	Total
	Date	TPHd	TPHg	Benzene	Toluene	benzene	Xylenes
		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Excavation							
	August						
Pit Sample 1	2009	21,000	21,000	3,800	1,000	1,200	3,700
Direct Push Gra	b Groundwa	iter Sampl	es				
SB-1			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	April 2010		<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			<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	Dagamahan		<50	1.7	<0.5	2.1	<1.0
SB-15	December 2011		320	32	0.7	33	25
SB-16	2011		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

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# Table 3b Grab Groundwater Sample Results Oxygenates and Lead Scavengers

Shore Acres Gas 403 East 12th Street Oakland, California

Sample ID	Collection	DIPE	ETBE	MTBE	TAME	ТВА	1,2-DCA	EDB
	Date	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Excavation								
	February	<10	<10	15,000	39	17,000	<10	<10
Water	2000							
Direct Push Gra	b Groundwa	ter Sampl	es					
SB-1		<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	1 [	<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	April 2010	<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		<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	December	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
SB-15	2011	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
SB-16	] 2011 [	<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

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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	(it bgs)	(it airisi)	(ug/ L/	(06/ -/	(46/-/	(8/-/	(-61-)	(-6/-/
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	12.00			Inaccessible		,	<u> </u>	· ·
	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
	-,-,					•			
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						
MW-3	6/23/2011	10.79	20.51	<250	55,000	15,000	3,600	2,000	4,300
- 41	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

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-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							
	3,31,2013	5.40	22.73	· · ·						
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 - n	ot sampled			
	6/1/2012	11.38	19.97			Sheen - n	ot sampled			
	9/14/2012	13.61	17.74		F	ree product	- not sample	ed		
	3/27/2013	9.21	22.14		F	ree product	- not sample	ed		
	5/20/2013	9.17	22.18		F	ree product	- not sampl	ed		
	9/4/2013	9.70	21.65				- not sampl			
	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		F	ree product	- not sampl	ed		
	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	
	, , , , , , , , , , , , , , , , , , ,									
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	-11-				Inacc	essible			
	5/20/2013					Inacc	essible			
	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	<del>                                     </del>	10,000	330	12	80	73	

Shore Acres Gas 403 East 12th Street Oakland, California

Well	Date	Depth to	Groundwater	·				Ethyl-	Total
1D	Measured	Groundwater	Elevation	TPHd	TPHg	Benzene	Toluene	benzene	Xylenes
тос		(ft bgs)	(ft amsi)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(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	I					
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	1.60	1,100
	3/31/2015	9.90	21.53						
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	444		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

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**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-4	5/20/2013	9.12		<50	8,100	720	160	94	430
	9/4/2013	9.85		<250	11,000	990	580	310	1,200
	12/6/2013	9.62		<50	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		200	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

#### 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

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Well	Date	DIPE	ETBE	MTBE	TAME	ТВА	1,2-DCA	EDB
ID	Measured	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
TOC			)	, 5. ,				
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	1		
	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
- 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							
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
			<u> </u>					

Well	Date	DIPE	ETBE	MTBE	TAME	TBA	1,2-DCA	EDB			
ID	Measured	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)			
TOC	-										
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										
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   <12   3/30/2012   Sheen - not sampled										
	3/30/2012			She	en - not sam	pled					
	6/1/2012			She	en - not sam	ıpled					
	9/14/2012			Free pr	oduct - not	sampled					
	3/27/2013			Free pr	oduct - not	sampled					
	5/20/2013			Free pr	oduct - not	sampled					
	9/4/2013			Free pr	oduct - not	sampled					
	12/6/2013	<25	<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			
								<u> </u>			
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	1	Т				
	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			
			<u> </u>		<u> </u>			<u> </u>			

Well	Date	DIPE	ETBE	MTBE	TAME	TBA	1,2-DCA	EDB
ID	Measured	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
тос						···		<u>_</u>
DPE Wells	-							<u> </u>
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	<2.0	<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							
							<u></u>	
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	<1.0	<10
	6/27/2014	<10	<10	110	<10	<50	<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							
							<u> </u>	
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
					<u> </u>	<u> </u>		

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-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

#### 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

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#### Table 5a **Soil Vapor Extraction System Performance Calculations**

**Shore Acres Gas** 403 East 12th Street Oakland, California

		luefles a set	Influent Sample Results			Extrac	tion Rates (	lb/day)	Cumulative Extraction (lb)					
Date	Meter* (hours)	Influent Flow Rate (scfm)	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					Resta	art 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	< 1.0	144	0.77	0.1	6,042	29.7	2.1			
10/28/14	1,750.4	146.0	130	2.4	0.44	8	0.11	0.0	6,114	30.6	2.3			
12/09/14	2,142.4	154.0	610	2.6	0.23	40	0.13	0.0	6,760	32.7	2.5			
02/18/15	2,708.3			Sy	stem shut o	down, propa	ne tank rem	oved from s	ite					

MW <sub>TPHg</sub> = Molecular Weight of TPHg = 105

MW<sub>MTBE</sub> = Molecular Weight of Methyl tert-butyl ether = 88.15

MW<sub>Benzene</sub> = Molecular Weight of Benzene = 78.11

days of operation during quarter

23.6

ft3 = 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(ft³/min) x concentration (ft³ / 1x106 ft³) x MW<sub>TPHq</sub>(lb/lb-mol) x 1440 min/day)/(359 ft³/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

	Stack	Stack Sa	mple Result	s (ppmv)	Emiss	ion Rates (	lb/day)	Destruction Efficiency (%)				
Date	Flow Rate (scfm)	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									

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

ft3 = cubic feet

ppmv = parts per million by volume = ft<sup>3</sup> / 1x10<sup>6</sup> ft<sup>3</sup>

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

	TOTAL	AVG. PERIOD					ated Removal	Rates	Estimated Removal (Period)			Estimated Removal (Cumulative)		
DATE	FLOW	FLOW RATE	TPHg	Benzene	MTBE	TPHg	Benzene	MTBE	TPHg	Benzene	MTBE	TPHg	Benzene	MTBE
	(gallons)	(gallons/min)	(ug/L)	(ug/L)	(ug/L)	(lb/day)	(lb/day)	(lb/day)	(pounds)	(pounds)	(pounds)	(pounds)	(pounds)	(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 Do	wn 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
1														

104,200 total gallons pumped during current reporting period

1737 average gallons per day during current reporting period

1.2 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 MTBE - Methyl tertiary butyl ether

TPHg - Total Petroleum Hydrocarbons as gasotine

-- - Not Analyzed

TBA -Tertiary butyl ether

19.79

0.75

0.11

1b/day - pounds per day

ug/L - micrograms per liter

### **APPENDICES**

## 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, 1/4-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 Advisory Active Soil Gas Investigations, April 2012, 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 (isobutylene 100 ppm) concentration inside the shroud will be monitored frequently to verify initial concentrations. A photoionization detector will be used to monitor tracer gas concentrations.

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.



## CALIFORNIA AGRICULTURE & ENVIRONMENTAL LABORATORY

2905 Railroad Avenue, Ceres, CA 95807 Phone: (209) 581-9280 Fax: (209) 581-9282

15 April 2015

Mike Sgourakis Environmental Compliance Group, LLC 270 Vintage Drive Turlock, CA 95382

RE: Shore Acres Gas Project Data

Enclosed are the results for sample(s) received on 04/02/15 08:00 by Argon Laboratories. The sample(s) were analyzed according to instructions in accompanying chain-of-custody. Results are summarized on the following pages.

Please see quality control report for a summary of QC data pertaining to this project.

The sample(s) will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Sample(s) may be archived by prior arrangement.

Thank you for the opportunity to service the needs of your company.

Sincerely,

Wayne Scott Lab Manager

# Argon Analytical Services, Inc. CHAIN OF CUSTODY

	Project Information:				Report To:							Samples Submitted To:					
Project No:	GHA.19009	1.			Consult				Complianc	e Group,	LLC		Laboratory:				Argon Labs
Project Title:	Shore Acres G				Addres	s:		itage Dri		•			Α	ddress	•		2905 Railroad Avenue
Location:	403 East 12th	Street						, CA 953					ـ ا				Ceres, CA 95307
	Oakland, CA				Contact Phone:		916.60	gourakis						ontact: hone:	100		(200) 584 8888
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## Cal Ag & Enviro Lab Sample Receipt Checklist

Client Name:	Enviromental C	Enviromental Compliance Group						Date & Time Received: 04/02/15					
Project Name:	Shore Acres Ga	as					Clien	t Project I	Number:		GHA	1900	9
Received By:	DP		Matrix	c:	Water	7	Soil			Slud	ge		
Sample Carrier:	Client 🖸	Laboratory		Fed Ex		UPS		Other					
Argon Labs Project	Number:	R504004/15	04020004	<u> </u>									
Shipper Container in	good condition?				Sample	s received	in prop	er containe	ers?	Yes	図	No	
	N/A	Yes 🔽	No		Samples	s received	f intact?			Yes	V	No	
Samples received un	der refrigeration?	Yes 🔽	No		Sufficier	nt sample	volume	for reques	ted tests?	Yes	V	No	
Chain of custody pres	sent?	Yes 🔽	No I		Sample	s receive	d within h	olding tim	e?	Yes	团	No	
Chain of Custody sign	ned by all parties?	Yes 🗹	No		Do samj	ples cont	ain prope	er preserva N/A	tive?	Yes	V	No	
Chain of Custody ma	tches all sample la	bels?			Do VOA	vials conta	iin zero hi	eadspace?					
		Yes 🗹	No				(None s	submitted	□ )	Yes	V	No	
Assessment of the motorchise.	ANY "No" RESPONSE MUST BE DETAILED IN THE COMMENTS SECTION BELOW												
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# CALIFORNIA AGRICULTURE & ENVIRONMENTAL LABORATORY

2905 Railroad Avenue, Ceres, CA 95807

Phone: (209) 581-9280 Fax: (209) 581-9282

Environmental Compliance Group, LLC

270 Vintage Drive

Turlock, CA 95382

Project Number: GHA.19009

Project Name: Shore Acres Gas

Project Manager: Mike Sgourakis

Work Order No.:

R504004

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	R504004-01	Water	03/31/15 12:57	04/02/15 08:00
MW-3	R504004-03	Water	03/31/15 12:19	04/02/15 08:00
MW-5	R504004-05	Water	03/31/15 11:11	04/02/15 08:00
MW-6	R504004-06	Water	03/31/15 11:40	04/02/15 08:00
EW-3	R504004-09	Water	03/31/15 14:30	04/02/15 08:00
EW-4	R504004-10	Water	03/31/15 15:00	04/02/15 08:00
				·

Approved By

Wayne & Scot



ABORATORY

2905 Railroad Avenue, Ceres, CA 95307 Phone: (209) 581-9280 Fax: (209) 581-9282

Environmental Compliance Group, LLC

270 Vintage Drive

Turlock, CA 95382 Project Number: GHA.19009

Project Name: Shore Acres Gas

Project Manager: Mike Sgourakis

Work Order No.: R504004

#### Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
MW-1 (R504004-01) Water	Sampled: 31-Mar-15 12:57	Received	: 02-Apr	-15 08:00			
Total Petroleum Hydrocarbo Gasoline	ns @ 38000	1000	ug/L	20	14-Apr-15	EPA 8260B	
Surr. Rec.:		103 %			y	4	
Benzene	1200	5.0	ti	10	07-Apr-15	8260B	1.5
Toluene	230	5.0	ù	ji	Á	ศ	
Xylenes, total	2600	10	н	n	it.	31	
Ethylbenzene	810	5,0	tī	lt .	J1	J#	
-Butanol	ND	50	<b>51</b>	at .	я	le .	
Methyl tert-Butyl Ether	330	5,0	н	at	н	H	
Di-Isopropyl Ether	ND	5.0	Ht	t)	H		
Ethyl tert-Butyl Ether	ND	5.0	le .	şi .	ñ	H	
ert-Amyl Methyl Ether	ND	5.0	pŧ	ħ	Ą	şŧ	*+4 1
1.2-Dichloroethane	ND	5.0	)š	lt .	ņ	Pt	
1,2-Dibromoethane (EDB)	ND	5.0	H	t de la companya de l	N N	Martin - A second Charles of Assessment annual specimens	
Surr. Rec.:	Of the CAA CENTRAL PROPERTY PROGRAM AND A REPORT OF THE CONTRACT OF THE CONTRA	104 %			μ	'n	

Surr. Rec.:

MW-3 (R504004-03) Water Sampled: 31-Mar-15 12:19 Received: 02-Apr-15 08:00

Total Petroleum Hydrocarbons @	13000	500	ug/L	10	14-Apr-15	EPA 8260B	
Gasoline		n on announce believe worker, All Arthright II berry	,	ung saka kanasanan dia Kandida di Kandida di Kandida di Maria da Maria da Maria da Maria da Maria da Maria da M		to a series and the series of the Control of the Series of	anne and the state of the second section is a second section of the section of the
Surr. Rec.:		102 %	1		u	#	
Benzene	1300	5.0	15	Ù	07-Apr-15	8260B	
Toluene	270	5.0	tr	fr	IJ	H	
Xylenes, total	700	10	**	11	) (	11	2
Ethylbenzene	230	5.0	и	ij	đ	j)	
t-Butanol	610	50	19	a	89	3¥	
Methyl tert-Butyl Ether	980	5.0	js	р	#\$	ŧŧ	
Di-Isopropyl Ether	ND	5.0	Ħ	#		)ŧ	
Ethyl tert-Butyl Ether	ND	5.0	11	*	n	14	
tert-Amyl Mothyl Ether	ND	5.0	19	11	<b>31</b>	)4	
1.2-Dichloroethane	ND	5.0	a	ít	H	is	
1,2-Dibromoethane (EDB)	ND	5.0	ft	14	8		

Surr. Rec.:

107%

California Agriculture & Environmental Laboratory, California D.O.H.S. Cert. #2359

Wayne & Scott



LABORATORY

2005 Railroad Avenue, Ceres, CA 95307 Phone: (209) 581-9280 Fax: (209) 581-9282

Environmental Compliance Group, LLC

270 Vintage Drive

Turlock, CA 95382 Project Number: GHA.19009

Project Name: Shore Acres Gas

Project Manager: Mike Sgourakis

Work Order No.:

R504004

#### Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
MW-5 (R504004-05) Water S	ampled: 31-Mar-15 11:11	Received	: 02-Apı	-15 08:00			
Total Petroleum Hydrocarbons Gasoline	@ 34000	1000	ug/L	20	14-Apr-15	EPA 8260B	Material and the state of the s
Surr. Rec.:	AN MAN AND STATE THE STATE OF T	107 %			19	· <del>11</del>	
Benzene	1100	5.0	Ð	10	07-Apr-15	8260B	
Toluene	570	5.0	ít	ß	0	13	
Xylenes, total	2000	10	u	19	11	#,	
Ethylbenzene	500	5.0	ti.	fi	財	я	:
ninyioeuzene t-Butanol	280	50	n	₹₹	ij	9	
Methyl tert-Butyl Ether	71	5.0	tř	u	d	fi	
Di-Isopropyl Ether	ND	5.0	Ħ	**	· н	Ħ	
Ethyl tert-Butyl Ether	ND	5.0	1ş	10	jı ,	મ	
tert-Amyl Methyl Ether	ND	5.0	p	, N	a	it	+
1,2-Dichloroethane	ND	5.0	19	at .	#	ţí	
1,2-Dibromoethane (EDB)	ND	5.0	14	11	#	#	
Surr. Rec.:	жүү түүү жүү үүү үүү үүү үүү үүү байдаг. Уу 3 айлайга й какта таланата анган тала тала тала тала тала тала тал	106 %		•	n	,,	

MW-6 (R504004-06) Water Sampled: 31-Mar-15 11:40 Received: 02-Apr-15 08:00

	10000	500	ng/L	10	14-Apr-15	EPA 8260B	**************************************
Total Petroleum Hydrocarbons @ Gasoline	10000	300		10	A CONTROL OF THE PROPERTY OF T	d	
Surr. Rec.:		109 %			η	n ·	1
Benzene	330	5.0	u	H	07-Apr-15	8260B	
Toluene	12	5.0	,,	H	11	36	
Xylenes, total	73	10	μ	н	t)	ıt	1 4
Ethylbenzene	80	5.0	и	8	St.	pt	
t-Butanol	ND	50	Ħ	Ħ	п	n	
Methyl tert-Butyl Ether	12	5.0	8t	it	11	H,	1.5
Di-Isopropyl Ether	ND	5.0	ţt.	R	ď	15	
Ethyl tert-Butyl Ether	ND	5.0	ж	t <del>í</del>	Ħ	IT .	
tert-Amyl Methyl Ether	ND	5.0	н	ti	RT .	ŧi	
1,2-Dichloroethane	ND	5.0	0	'n	н	**	
1,2-Dibromoethane (EDB)	ND	5.0	н	ji ,	, 8	8	
E. S. C.	n an anna an an an ar an an ar an an an an an an an an an an an an an	1000	, e vygrame amona o be belade tekb	derenter en erfem enne rek en en metappartet, beråke å bassas pronger pape	#	n	

Surr. Rec.:

105 %

Wayne & Swith



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2905 Railroad Avenue, Ceres, CA 95307 Phone: (209) 581-9280 Fax: (209) 581-9282

Environmental Compliance Group, LLC

95382

270 Vintage Drive

Turlock, CA

Project Number: GHA.19009

Project Name: Shore Acres Gas

Project Manager: Mike Sgourakis

Work Order No.: R504004

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### Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
EW-3 (R504004-09) Water S	ampled: 31-Mar-15 14:30	Received:	02-Apr	-15 08:00			:
Total Petroleum Hydrocarbons Gasoline	s @ 8000	500	ug/L	10	14-Apr-15	EPA 8260B	
Surr. Rec.:	g you common and you are a command that and and that and and that the transfer and define an ellipse and all the common and th	112 %			t)	37	
Benzene	170	5.0	9	Ħ	07-Apr-15	8260B	
Toluene	18	5.0	n	4	u	×	
	560	10	Ħ	B	11	В	*
Xylenes, total	130	5.0	<b>81</b>	В	11	9	
Ethylbenzene	68	50	11	t <del>y</del>	Ħ	и	
t-Butanol	38	5.0	1)	ti	tt	Ħ	
Methyl tert-Butyl Ether	ND	5.0	lą.	И	u	11	
Di-Isopropyl Ether			<b>11</b>	şr	18	1)	
Ethyl tert-Butyl Ether	ND	5.0	,,	le .	đ	#	
tert-Amyl Methyl Ether	ND	5.0			8	a	
1,2-Dichloroethanc	ND	5.0	76			12	٠.
1,2-Dibromoethane (EDB)	ND	5.0		21 	MANUSAN CONTRACTOR OF THE STATE	ana a a a a a a a a a a a a a a a a a a	
Surr. Rec.:		109 %			"	19	

EW-4 (R504004-10) Water Sumpled: 31-Mar-15 15:00 Received: 02-Apr-15 08:00

Total Petroleum Hydrocarbons @ Gasoline	23000	500	ug/L	10	14-Apr-15	EPA 8260B	
Absorbed and the control of the cont	man and an analysis of the state of the stat	111 %	THE STREET STREET, STR	LE TANA TRANSPORTER EMILIONAL PLE PRINCE CON COMPANY CONTRACTOR CO	A	n	
Surr. Rec.: Benzene	1000	5.0	¥	11	09-Apr-15	8260B	
Toluene	1200	5.0	Ð	ŧ	İŧ	12	
Xylenes, total	1700	10	tr	u	Ħ	1\$	
Ethylbenzene	420	5.0	it	Q	31	34	
t-Butanol	310	50	ŧŧ	și	Ħ	29	
Methyl tert-Butyl Ether	140	5.0	tt	n	16	\$\$	
Di-Isopropyl Ether	ND	5.0	11	в	. 8	"	
Ethyl tert-Butyl Ether	ND	5.0	91	it.	11	15	
tert-Amyl Methyl Ether	ND	5.0	ft	R	31	)1	
1,2-Dichloroethane	ND	5.0	H	t#	В	a	
1,2-Dibromoethane (EDB)	ND	5.0	#	A STATE OF THE STA	Q 	El Princippy of consistent contract the contract to a substitute El	CAMPAGNA VIOLENCE CONTRACTOR CONT

Surr. Rec.:

110%

Approved By



LABORATORY

2905 Railroad Avenue, Ceres, CA 95307 Phone: (209) 581-9280

Source

Fax: (209) 581-9282

%REC

Environmental Compliance Group, LLC

270 Vintage Drive Turtock, CA 95382 Project Number: GHA.19009

Project Name: Shore Acres Gas Project Manager: Mike Sgourakis Work Order No.: R504004

RPD

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Spike

Reporting

#### **Argon Laboratory**

Analyte	Result	Reporting Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch R500394 - EPA 5030B										
Blank (R500394-BLK1)		governor v statel and the first transmission	una anno es antica con periodicione escubi	Prepared	& Analyz	ed: 04/07/	15	er Alle Deggerfelde (#180 er i bjedd her sjel eil Mylyddiaga gan 1811 sanna i b sjel eil 181	an dial believe to M. Josef C. Material Paris.	na. I I II sai sa II san manay i manayay an alama
Surrogaie: Fluorobenzene	52.5	AND DESCRIPTIONS OF THE PROPERTY OF THE PROPER	ug/L	50		105	70-130			
Benzene	ND	0.5	ŧi							
Toluene	ND	0,5	31							
Xylenes, total	ND	1.0	Ħ							
Ethylbenzene	ND	0.5	#1						•	•
t-Butanol	ND	5.0	*11							
Methyl tert-Buryl Ether	ND	0.5	17							: .
Di-Isopropyl Ether	ND	0.5	11							
Ethyl tert-Butyl Ether	ND	0.5	ty							
tert-Amyl Methyl Ether	ND	0.5	Ŋ							
1,2-Dichloroethane	ND	0.5	\$f							
1,2-Dibromoethane (EDB)	ND	0.5	Ħ							
LCS (R500394-BS1)		en entere a constructiva processor or a section of	<sub>general</sub> agazan aran da Chillian - Califol	Prepared	l & Analyz	ed: 04/07/	/15	nga nga magamanan ar marawa a di sa na sa sa		namer mannangat statisma s. Am sård R AMMåndebek
Surrogate: Fluorobenzene	53.5	THE PERSON NAMED AND POST OF THE PERSON	ug/L	50		107	70-130			
Benzene	27.5		tí	25		110	80-120			
LCS Dup (R500394-BSD1)		La lacted III Lacette VA NOVA WANGE AND CO.		Prepared	l & Analyz	ed: 04/07/	/15		en ist of the control	
Surrogaie: Fluorobenzene	53.5	NUMBER OF A TOP OF STREET OF STREET STREET	ug/L	50	- Ag-1 = 14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	107	70-130			
Benzene	26.9		#	25		108	80-120	2	20	
Matrix Spike (R500394-MS1)	Se	urce: R5040	04-03	Prepared	l & Analyz	ed: 04/07	/15			
Surrogate: Fluorobenzene	52.0	A CONTRACTOR OF THE PROPERTY O	ug/L	50	um yan um ing ya magamad mandamaddini mba	104	70-130			
1,2-Dibromoethane (EDB)	24.3		ŧI	25	ND	97	70-130			
Matrix Spike Dup (R500394-MSD1)	So	urce: R5040	04-03	Prepared	l & Analyz	ed: 04/07	/15		1 mar de 1 a marachio e e del discolore del 1921 44000	
Surrogate: Fluorobenzene	54,5	handra manifest marry believe opening	ug/L	50	comprompt man material	109	70-130	:		
1,2-Dibromoethane (EDB)	25.5			25	ND	102	70-130	5	20	1.1
Batch R500410 - EPA 5030B						***************************************				
Blank (R500410-BLK1)				Prepared	i & Analyz	ed: 04/14	/15	man (graphings on the control of the		engo como contrato de la como de
Surrogate: Fluorobenzene	55.0	Colonia Constitution and the second second second	ug/L	50	nere animer et energie i en telepi i en recent enere	110	70-130		-	
Total Petroleum Hydrocarbons @ Gasoline	ND	50	ŭ							
								•		

Approved By Wagne 3



LABORATORY

2005 Railroad Avenue, Ceres, CA 95307 Phone: (209) 581-9280 Fax: (209) 581-9282

Environmental Compliance Group, LLC

270 Vintage Drive

95382 Turlock, CA

Project Number: GHA.19009

Project Name: Shore Acres Gas

Project Manager: Mike Sgourakis

Work Order No.:

R504004

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### **Argon Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch R500394 - EPA 5030B				·						
Blank (R500394-BLK1)	///			Prepared	& Analyz	ed: 04/07/	15	WATER CO. 11 CO. 12 CO. 12 CO. 12 CO. 12 CO. 12 CO. 12 CO. 12 CO. 12 CO. 12 CO. 12 CO. 12 CO. 12 CO. 12 CO. 12		MANUALI SANSONIOS POSSOS ES PARA UN ASSES ES ES ESPECIO
Surrogate: Fluorobenzene	52.5	y ogganiganskom mer mer er ar mener i skoli fart fra fritskildet i er obsåkninghleddeligiske er er er er er er er er er er er er er	ug/L	50		105	70-130	gage over an annie over the error and a quantum me		Service Commission of the Comm
Benzene	ND	0.5	H							
Toluene	ND	0.5	##							
Xylenes, total	ND	1.0	u							
Ethylbenzene	ND	0.5	*1							
t-Butanol	ND	5.0	*1							
Methyl tert-Butyl Ether	ND	0.5	tr							
Di-Isopropyl Ether	ND	0.5	11							
Ethyl tert-Butyl Ether	ND	0.5	11							
tert-Amyl Methyl Ether	ND	0.5	II							
1,2-Dichloroethane	ND	0.5	tr							
1,2-Dibromoethane (EDB)	ND	0.5	)t							
LCS (R500394-BS1)		ng y gandaran yan aga sapang pagasanan sanan san sa sa Salaka sa	enggya (mamaya sekili 6. iskili	Prepared	& Analyz	ed: 04/07/	15	g gagar inneghann sammer i i i aanaa sam	asasin destrus iralekralisalphiiriskiri	
Surrogate: Fluorobenzene	53.5	o bol bul sædde bledsad ble 13 granp i mes gapin	ug/L	50	per (Augustus) tables to the Committee of the Committee o	107	70-130		:	
Benzene	27.5		ıs	25		110	80-120			: : :
LCS Dup (R500394-BSD1)				Prepared	& Analyz	ed: 04/07/	15	140 to the seminanter reserve	minimum to take t trace to	
Surrogate: Fluorobenzene	53.5	pagagarannagananna silina moona maabalalandan	ug/L	50	ang paganagan pilikah kecambih iku 11 kelemb	107	70-130	-		
Benzene	26.9		fl	25		108	80-120	2	20	
Matrix Spike (R500394-MS1)	So	urce: R5040(	94-03	Prepared	& Analyz	ed: 04/07/	<b>/15</b>	manan meren sparatta (dettinistista		ge de ce constitue e e engles de la constitue e en engles de la constitue e en en en en en en en en en en en e
Surrogate: Fluorobenzene	52.0	i Agustinia (n. 1. de desente de la companio de la companio de la companio de la companio de la companio de la El Agustinia (n. 1. de de decentra de la companio de la companio de la companio de la companio de la companio	ug/L	50		104	70-130		·	
1,2-Dibromoethane (EDB)	24.3		11	25	ND	97	70-130			
Matrix Spike Dup (R500394-MSD1)	So	urce: R5040(	)4-03	Prepared	& Analyz	ed: 04/07/	/15	MANAGE TO THE STATE OF THE STAT	. INCININI I 07897070-8840-844-7-7-444-1	
Surrogate: Fluorobenzene	54.5	ACCESSORIES CONTRACTOR OF THE PROPERTY OF THE	ug/L	50	desse es es commen un un un un un un un un un un un un un	109	70-130		m man m m m m m m m m m m m m m m m m m	
1,2-Dibromoethane (EDB)	25.5		"	25	ND	102	70-130	5	20	411) 1
Batch R500410 - EPA 5030B										
Blank (R500410-BLK1)	(vi) began to yo (family and a 111 family 11			Prepared	l & Analyz	ed: 04/14	/15	***************************************		
Surrogate: Fluorobenzene	55,0	AMALIA MINISTER AND AND AND AND AND AND AND AND AND AND	ug/L	50	and the second second second second	110	70-130			
Total Petroleum Hydrocarbons @ Gasoline	ND	50	Ħ					:		

Approved By



#### LABORATORY

2905 Railroad Avenue, Ceres, CA 95307

Phone: (209) 581-9280 Fax: (209) 581-9282

Environmental Compliance Group, LLC

Project Number: GHA.19009

Work Order No.:

270 Vintage Drive Turlock, CA 95382 Project Name: Shore Acres Gas

WOIR CHUCK

Project Manager: Mike Sgourakis

R504004

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## **Argon Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch R500410 - EPA 5030B			,			····		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
LCS (R500410-BS1)		opportunities and a second of the contraction of th	o nagranda y sugar per suy suy i se tal talihi	Prepared	& Analyz	ed: 04/14/	15	gray grayer y common a sample same			
Surrogate: Fluorobenzene	53.0	Mose (ng) ta amerikan masa at mana at a mana at a	ug/L	50	7,000	106	70-130			:	
Total Petroleum Hydrocarbons @ Gasoline	1010		19	1000		101	80-120				
LCS Dup (R500410-BSD1)				Prepared	& Analyz	ed: 04/14/	15				
Surrogate: Fluorobenzene	55.Û	METER BONG DESCRIPTION OF THE STREET STREET	ug/L	50		110	70-130				
Total Petroleum Hydrocarbons @ Gasoline	1020		8	1000		102	80-120	1	20		

Wayne & Froth
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LABORATORY

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Environmental Compliance Group, LLC

270 Vintage Drive

Turlock, CA 95382

Project Number: GHA.19009

Project Name: Shore Acres Gas

Project Manager: Mike Sgourakis

Work Order No.:

R504004

#### **Notes and Definitions**

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Wayne & Stote

## **GROUNDWATER LEVEL DATA FORM**

PROJECT NAME:

Shore Acres Gas

PROJECT NUMBER:

GHA.19009

PROJECT MANAGER: MSS SITE ADDRESS:

403 East 12th Street, Oakland, CA

TASK NUMBER:

WELL ID	TIME	DEPTH TO BOTTOM	DEPTH TO WATER	DEPTH TO PRODUCT	PRODUCT THICKNESS	PRODUCT THICKNESS X 0.8	COMMENTS
MW-1	6953	19,95	8,81	,			
MW-2	0945	19.95	9.83	* .			
MW-3	0949	17.85	9.37	,			
MW-4	0947	(J. X8) ·	9.46				
MW-5	1000	19.27	9.36		,	·	
MW-6 -	095	19.93	8.75		,		
EW-1	0957	19.44	9.30				
EW-2	0959	20.03	9.90				
EW-3	1001	19.86	9.31				
EW-4	0955	19.93	9.78		,		
			•			· ·	
						<u></u>	
	***						
			v.				
			·				

Duf
3/31/15

PROJECT N PROJECT N SITE ADDR	/IANAGER:	Shore Acres MSS 403 East 12th	Gas h Street, Oakla	and, CA	PROJECT NU TASK NUMBI		GHA.1 9009			
	WELL ID:	w M	-1		TYPE (	OF WELL:	Monitoring			
	De <sub>l</sub> Water Col L <b>UME CALCU</b>	Total Depth: pth to Water: lumn Length: JLATION:	(1.14	• •	6-inch: ]					
Wat	Water Colum ((,() ter Column Le	×	ultiplier x No. \ \( \frac{1}{\text{Multiplier}}	x	Purge Volume  No. Volumes	=	5.75 Purge Volume			
MULTIPLIE		Schedule 40 F 2-inch: 4-inch: 6-inch:	PVC; Gallons/l 0.17 0.65 1.5	Linear Foot	Based on Cas	ing Diamet	er:			
PURGE MET	PURGE METHOD:  Disposable Bailer  PVC Bailer  Submersible Pump Other  Other									
TIME	VOLUME PURGED (gal)	рH	TEMP. (°C)	COND. (uS/cm)	DO (mg/l)	ORP (mV)	COMMENTS			
124 /	2	100	<u>ιβ'Σ</u>	801						
1253	4	7.04	13 (G)	796 708						
1257		4,00		001	j		SOWU			

 $W_{2}$ 

FIELD TECHNICIAN:	Pari		1	
DATE:	$\chi / \zeta^{\prime}$	<u>10</u>		

No.

PROJECT N PROJECT N SITE ADDR	IANAGER:	Shore Acres MSS 403 East 12t	Gas h Street, Oakli	and, CA	PROJECT NU TASK NUMBE		GHA 19009
	WELL ID:	MW-	3		TYPE C	F WELL:	Monitoring
WATER CO	LUMN DATA: Well De Water Co	Total Depth: pth to Water: lumn Length:	17 <sup>(feet)</sup> 5 9.37 3.48		WELL DIAME 2-inch: _ 4-inch: _ 6-inch: _	TER:	- - -
PURGE VOI	UME CALCU	ILATION:		Volumes = I	⊃urge Volume		
Wa	၉/५७ ter Column Le	x ngth	O.(7 Multiplier	. x	No. Volumes	=	Purge Volume
MULTIPLIE		Schedule 40 F 2-inch: 4-inch: 6-inch:		Linear Foot	Based on Casi	ng Diame	ter:
PURGE ME	Disp	osable Bailer PVC Bailer		SAMPLE I		Pump:	
PURGE ME	Disp			_		able Bailer Pump: Other:	
PURGE ME	Disp Submo VOLUME PURGED	PVC Bailer ersible Pump		_		Pump:	
TIME	VOLUME PURGED (gal)	PVC Bailer ersible Pump Other pH	TEMP. (°C)	COND. (uS/cm)	Disposa	Pump: Other:	
TIME	Disp Subme VOLUME PURGED (gal)	PVC Bailer ersible Pump Other pH	TEMP. (°C)	COND.	Disposa	Pump: Other:	
TIME 1209 1213 1217	VOLUME PURGED (gal)	PVC Bailer ersible Pump Other pH	TEMP. (°C) (9.9	COND. (uS/cm)	Disposa	Pump: Other:	COMMENTS
TIME 1209 1213 1217	VOLUME PURGED (gal)	PVC Bailer ersible Pump Other pH	TEMP. (°C) (9.9	COND. (uS/cm)	Disposa	Pump: Other:	COMMENTS

PROJECT IN PROJECT IN SITE ADDR	MANAGER:	Shore Acres MSS 403 East 12t	Gas h Street, Oakl	and, CA	PROJECT N TASK NUME		GHA.19009
	WELL ID:	MW-	5	-	ТҮРЕ	OF WELL:	Monitoring
WATER CO	De	Total Depth: pth to Water: lumn Length:	4-36	- -	WELL DIAM 2-inch: 4-inch: 6-inch:		- - -
PURGE VO	LUME CALCU		ultiplier x No. '	Valumas = 1	Durgo Valum		
	9,91 ter Column Le	x	Multiplier	X	No. Volumes	_ =	S Purge Volume
MULTIPLIE		Schedule 40 2-inch: 4-inch: 6-inch:	0.65	Linear Foot	Based on Ca	sing Diame	ter:
PURGE ME	Disp	osable Bailer PVC Bailer ersible Pump Other	######################################	SAMPLE I		sable Bailer Pump: Other:	
TIME	VOLUME PURGED (gal)	рН	TEMP. (°C)	COND. (uS/cm)	DO (mg/l)	ORP (mV)	COMMENTS
100	2.0	7-12	20.0	المكا			
1111	5.16	7-10	19.9	1571			29 mpc
		1					

PROJECT N PROJECT N SITE ADDR	MANAGER:	Shore Acres MSS 403 East 12t	Gas h Street, Oakl	and, CA	PROJECT NU TASK NUMBI		GHA.19009
	WELL ID:	MW-6	<i>&gt;</i>	-	TYPE	OF WELL:	Monitoring
WATER CO	De	Total Depth: pth to Water: lumn Length:	8.75	- - -	WELL DIAME 2-inch: 4-inch: 6-inch:		- -
PURGE VO	LUME CALCU		ultiplier x No. 1	Volumes = I	Purge Volume		
( Wa	( .( $\Theta$		Multiplier		No. Volumes	=	S.75 Purge Volume
MULTIPLIE		Oakadala 40 l	DVO: Oallana		December Con	ina Diama	i.a.u
	wumpiler for	2-inch: 4-inch: 4-inch: 6-inch:	0.17 0.65	Linear Foot	Based on Cas	ing Diame	eer.
PURGE ME				SAMPLE I			
	•	osable Bailer PVC Bailer ersible Pump Other		• • •	Dispos	able Baile Pump Other	
TIME	VOLUME PURGED (gal)	рН	TEMP.	COND. (uS/cm)	DO (mg/l)	ORP (mV)	COMMENTS
150	7	4.37	18 5	620			
	7	7-33	19. L 19. Z	621			sopl
	,						
						-	

FIELD TECHNICIAN:	DUA	\
DATE:	3/3(	10

Date of site visit:	12/31/14
Time of arrival:	09:30
Time of departure:	11.00

ECG employee:	dva
System status upon arrival:	shutdown
System status upon departure:	operating

SOIL VAPOR EXTRACTION SYSTEM										
	Vapor Manifold (influent)			INFLUENT	Traviani					
Oil Level	ΔΡ	Temp.	Pressure	Flow	Blower	Dilution	Hours	Time		
(OK/Low)	("w.c.)	(°F)	("w.c.)	(SCFM)	Pressure	%	(Hours)	(Hours)		
ок	<b>建</b> 电路			141.0		0	7,925.6	09:30		

 UTILITIES				SAMPLES	COLLECTE	O AND SAMPL	E TIMES
Natural Gas		Gas Train	EFFLUENT		Time	Sampler	PID
Meter	Flow Rate	Pressure	Flow		(hours)		(ppmv)
 (ft³ X 1000)	(SCFM)	(psig)	(SCFM)	EFFLUENT			
			141.0	INFLUENT			

VAPOR EXTRACTION WELL MANIFOLD LINES									
% Open Vacuum Delta PI Temp Field PID									
Line	(%)	("Hg)	("w.c.)	(°F)	(ppmv)				
EW-1	100%				water				
EW-2	100%		$T_{\mathbf{k}} = 2 \cdot \frac{1}{2} \cdot$	t <u>i je</u>	water				
EW-3	0%	11,000	1 (1 <u>1 1 1</u> 1 1 1 1 1	107 (Sept 2014)	1000000				
EW-4	100%				water				

	MISC. FIELD NOTES	
Restart unit		
temp 1466 dil 1321		
System down no alarms, propane at 30%		
Groundwater flow meter 696150		

Date of site visit:	1/16//15
Time of arrival:	09:30
Time of departure:	11.00

ECG employee:	-dva
System status upon arrival:	shutdown
System status upon departure:	operating

SOIL VAPOR EXTRACTION SYSTEM								
Vapor Manifold (influent)			INFLUENT	Traviani				
Oil Level	ΔΡ	Temp.	Pressure	Flow	Blower	Dilution	Hours	Time
(OK/Low)	("w.c.)	(°F)	("w.c.)	(SCFM)	Pressure	%	(Hours)	(Hours)
ОК		1.3.4.4		137.0		0	7,954.0	09:30

	UTILITIES				SAMPLES	COLLECTE	O AND SAMPL	ETIMES
	Natural Gas Gas Train		EFFLUENT		Time Sampler PI			
	Meter	Flow Rate	Pressure	Flow		(hours)		(ppmv)
	(ft³ X 1000)	(SCFM)	(psig)	(SCFM)	EFFLUENT			
Andro St. L	10.00			137.0	INFLUENT	to the state		

	VAPOR EXTRA	CTION WELL	MANIFOLD L	INES				
% Open Vacuum Delta PI Temp Fie								
Line	(%)	("Hg)	("w.c.)	(°F)	(ppmv)			
EW-1	100%		4.1		water			
EW-2	100%	144 144	14.14(1)	44	water			
EW-3	0%		0.446 <u>21</u> 6.60	14429	40.74 <u>-14</u> 65.0			
EW-4	100%	4.44.44	1.1	1 54	water			

	MISC. FIELD NOTES	
Restart unit	1 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	
temp 1571 dil 1333		
System down no alarms, propane at >80%		
Groundwater flow meter 704400	••	

Date of site visit:	01/20/15
Time of arrival:	09:30
Time of departure:	11.00

ECG employee:	dva
System status upon arrival:	operating
System status upon departure:	operating

SOIL VAPOR	SOIL VAPOR EXTRACTION SYSTEM								
Vapor Manifold (influent)			INFLUENT	Traviani			,		
Oil Level	ΔΡ	Temp.	Pressure	Flow	Blower	Dilution	Hours	Time	
(OK/Low)	("w.c.)	(°F)	("w.c.)	(SCFM)	Pressure	%	(Hours)	(Hours)	
OK				157.0		0	8,051.6	09:30	

UTILITIES				SAMPLES	COLLECTE	O AND SAMPI	E TIMES
Natural Gas Gas Train		EFFLUENT	Time Sampler		. PID		
Meter	Flow Rate	Pressure	Flow		(hours)		(ppmv)
(ft³ X 1000)	(SCFM)	(psig)	(SCFM)	EFFLUENT			1.7
	1.0 ( = 1.1		157.0	INFLUENT		25000	252.0

VAPOR EXTRACTION WELL MANIFOLD LINES								
% Open Vacuum Delta P! Temp Field PID								
Line	(%)	("Hg)	("w.c.)	(°F)	(ppmv)			
EW-1	100%			- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	water			
EW-2	100%	1 (22	2.2	100 <u>1</u> 10 11	water			
EW-3	0%	222	13 14 <u>17</u> 15 1	1 2 22	11.2			
EW-4	100%	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		7,111	water			

	MISC. FIELD NOTES			
1450 11 1400				
temp 1452 dil 1408 Propane at 15%	- Harris M. P.	1-11-117		
Tropane at 1078	سمعين والرواري والمراجع والمرا			
Groundwater flow meter 730151	to the second se			

Date of site visit:	02/05/15
Time of arrival:	09:30
Time of departure:	12:00

ECG employee:	dva
System status upon arrival:	shutdown
System status upon departure:	operating

SOIL VAPOR	SOIL VAPOR EXTRACTION SYSTEM									
	Vapor Manifold (influent)			INFLUENT	Traviani					
Oil Level	ΔΡ	Temp.	Pressure	Flow	Blower	Dilution	Hours	Time		
(OK/Low)	("w.c.)	(°F)	("w.c.)	(SCFM)	Pressure	%	(Hours)	(Hours)		
ок				145.0		0	8.066.9	09:30		

	UTILITIES				SAMPLES	COLLECTE	O AND SAMPI	LE TIMES
	Natural Gas		Gas Train	EFFLUENT		Time	Sampler	PID
	Meter	Flow Rate	Pressure	Flow		(hours)		(ppmv)
	(ft³ X 1000)	(SCFM)	(psig)	(SCFM)	EFFLUENT			
<b>Perm</b>			1511	145.0	INFLUENT			

VAPOR EXTRACTION WELL MANIFOLD LINES										
% Open Vacuum Delta Pl Temp Field Pl										
Line	Line (%) ("Hg) ("w.c.) (°F) (ppm									
. EW-1	100%		10 00 00 00 00 00 00 00 00 00 00 00 00 0		water					
EW-2	100%		<u></u>	1 2 1	water					
EW-3	0%	are red <u>isi</u> de estab	4 4 <u>1</u> 14 1	2.722	11/1/2012					
EW-4	100%	5 (1) <u>5 (</u> 1)			water					

	MISC. FIELD NOTES	
Moved propane tank restart unit		
temp 1470 dil 1409		_
Groundwater flow meter 734025		 •

Date of site visit:	02/10/15
Time of arrival:	09:30
Time of departure:	11:30

ECG employee:	dva
System status upon arrival:	shutdown
System status upon departure:	operating

SOIL VAPOR	SOIL VAPOR EXTRACTION SYSTEM									
	Vapor Manifold (influent)			INFLUENT	Traviani		-			
Oil Level	ΔΡ	Temp.	Pressure	Flow	Blower	Dilution	Hours	Time		
(OK/Low)	("w.c.)	(°F)	("w.c.)	(SCFM)	Pressure	%	(Hours)	(Hours)		
OK.				132.0		0	8.068.2	09:30		

UTILITIES					SAMPLES	COLLECTE	O AND SAMPI	_E TIMES
	Natura	Natural Gas		EFFLUENT		Time	Sampler	PID
	Meter	Flow Rate	Pressure	Flow		(hours)		(ppmv)
	(ft³ X 1000)	(SCFM)	(psig)	(SCFM)	EFFLUENT		3.79457434	11944
				132.0	INFLUENT		10000000	9.45.60

VAPOR EXTRACTION WELL MANIFOLD LINES						
	% Open	Vacuum	Delta Pl	Temp	Field PID	
Line	(%)	("Hg)	("w.c.)	(°F)	(ppmv)	
EW-1	100%	$\dot{\pm}$		1	water	
EW-2	100%	4-24	1400 <u>- 1</u> 860		", water	
EW-3	0%		4	4.44	225	
EW-4	100%	10000000000	944 444	1000	water	

	MISC. FIELD NOTES	
System down high water in AS unit, cleaned floats		
temp 1475 dil 1201		 
Groundwater flow meter 734521		

Date of site visit:	02/18/15
Time of arrival:	09:30
Time of departure:	11:30

ECG employee:	d <b>va</b>
System status upon arrival:	shutdown
System status upon departure:	shutdown

	Vapor Manifold (influent)		INFLUENT	Traviani	•			
Oil Level	ΔΡ	Temp.	Pressure	Flow	Blower	Dilution	Hours	Time
(OK/Low)	("w.c.)	(°F)	("w.c.)	(SCFM)	Pressure	%	(Hours)	(Hours)

UTILITIES			SAMPLES COLLECTED AND SAMPLE TIME				
 Natura	al Gas	Gas Train	EFFLUENT		Time	Sampler	PID
Meter	Flow Rate	Pressure	Flow		(hours)		(ppmv)
(ft³ X 1000)	(SCFM)	(psig)	(SCFM)	EFFLUENT			
			0.0	INFLUENT		erez Maria esta	

VAPOR EXTRACTION WELL MANIFOLD LINES							
	% Open	% Open Vacuum Delta PI Temp			Field PID		
Line	(%)	("Hg)	("w.c.)	(°F)	(ppmv)		
EW-1	100%		<u></u>	1	water		
EW-2	100%		19 19 1 <u>9</u> 19 19	$\frac{1}{2}$	water		
EW-3	- 0%	1		1	1. (a) <u>1.</u>		
EW-4	100%	1	1	444	water		

	MISC. FIELD NOTES	
System down, propane empty		
System left shut down. Removing propane tank.		and the second s
Groundwater flow meter 766392		