

**ExxonMobil
Environmental Services Company**

4096 Piedmont Avenue #194
Oakland, California 94611
510 547 8196 Telephone
510 547 8706 Facsimile

Jennifer C. Sedlachek
Project Manager

RECEIVED

11:36 am, Aug 15, 2011

Alameda County
Environmental Health

ExxonMobil

August 12, 2011

Mr. Jerry Wickham
Alameda County Health Services Agency
Environmental Health Services – Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RE: Former Exxon RAS #74121/10605 Foothill Boulevard, Oakland, California.

Dear Mr. Wickham:

Attached for your review and comment is a letter report entitled *Addendum to Soil Vapor Sampling Report*, dated August 12, 2011, for the above-referenced site. The report was prepared by Cardno ERI of Petaluma, California, and details conditions at the subject site.

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

If you have any questions or comments, please contact me at 510.547.8196.

Sincerely,



Jennifer C. Sedlachek
Project Manager

Attachment: Cardno ERI's *Addendum to Soil Vapor Sampling Report*, dated August 12, 2011

cc: w/ attachment
Mr. John Jay, MacArthur Boulevard Associates

w/o attachment
Ms. Paula Sime, Cardno ERI



Shaping the Future

Cardno ERI
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August 12, 2011
Cardno ERI 2780C.R01

Ms. Jennifer C. Sedlachek
ExxonMobil Environmental Services
4096 Piedmont Avenue #194
Oakland, California, 94611

SUBJECT Addendum to Soil Vapor Sampling Report

Former Exxon Service Station 74121
10605 Foothill Boulevard
Oakland California

Ms. Sedlachek:

At the request of ExxonMobil Environmental Services (EMES), on behalf of Exxon Mobil Corporation, Cardno ERI prepared this addendum to the *Soil Vapor Sampling Report*, dated February 25, 2011 (ETIC, 2011), prepared by ETIC Engineering, Inc. (ETIC) for the subject site. The purpose of this report is to address comments from the Alameda County Health Services Agency, Environmental Health Services – Environmental Protection Department (the County), in their correspondence dated July 14, 2011 (Appendix A).

SITE DESCRIPTION

Former Exxon Service Station 74121 is located at 10605 Foothill Boulevard in Oakland, California. The surrounding area consists of commercial and residential properties.

The subject site is a former Exxon service station. Currently the site is an undeveloped, landscaped area on the south corner of the intersection of Foothill Boulevard and 106th Avenue. The site is bordered by residential housing and a shopping center. The USTs were removed from the site prior to 1998. In February 2010, approximately 1,750 tons of soil were excavated from the site and disposed of (ETIC, 2010a).

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Additional site details are provided in ETIC's June 30, 2010 *Post-Remedial Excavation Report* (ETIC, 2010a) and ETIC's December 10, 2010 *Vapor Sampling Report* (ETIC, 2010b).

DATA EVALUATION

In the July 14, 2011 letter, the County requested an evaluation of the data presented in ETIC's *Soil Vapor Sampling Report* (ETIC, 2011). The sampling event consisted of the resampling of soil vapor wells VW2 and VW11 and the attempted sampling of vapor wells VW3 and VW4. Wells VW3 and VW4 contained water; thus, vapor samples were not collected.

Samples collected from well VW2 (adjacent to the residential property southwest of the site) did not contain reportable concentration of TPHg, BTEX, MTBE, or other VOCs.

Samples collected from well VW11 (near the former dispenser islands) contained reportable concentrations of TPHg and benzene. The TPHg concentration reported from well VW11 (420,000 micrograms per meter cubed [$\mu\text{g}/\text{m}^3$]) exceeds both residential and commercial ESLs established by the California Regional Water Quality Control Board, San Francisco Bay Region (CRWQCB, 2008). The benzene concentration is below commercial and residential ESLs.

ETIC figures and tables are included in Appendix B.

CONCLUSIONS

Select ESLs have been exceeded in soil vapor samples collected from several wells both before and after the remedial excavation. Samples have yet to be collected from wells VW3 and VW4 near the adjacent residential property. Samples have only been collected one time from several wells (VW1, VW5, VW6, VW9, and VW10) following the remedial excavation in 2010.

RECOMMENDATIONS

Cardno ERI recommends resampling the existing soil vapor wells at the site during the anticipated minimum groundwater elevation in approximately September 2011. Cardno ERI also recommends discontinuing irrigation at the site for a period of approximately one week prior to sample collection.

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REPORTING

Following sampling activities, a report summarizing field and laboratory procedures, current and previous laboratory results, conclusions, and recommendations will be submitted to EMES and the County. The report will be signed by a State of California professional geologist.

CONTACT INFORMATION

The responsible party contact is Ms. Jennifer C. Sedlachek, ExxonMobil Environmental Services, 4096 Piedmont Avenue #194, Oakland, California, 94611. The consultant contact is Ms. Paula Sime, Cardno ERI, 601 North McDowell Boulevard, Petaluma, California, 94954. The agency contact is Mr. Jerry Wickham, Alameda County Health Care Services Agency, Environmental Health Services, Environmental Protection, 1131 Harbor Bay Parkway, Suite 250, Alameda California, 94502.

LIMITATIONS

For any documents cited that were not generated by Cardno ERI, the data taken from those documents is used "as is" and is assumed to be accurate. Cardno ERI does not guarantee the accuracy of this data and makes no warranties for the referenced work performed nor the inferences or conclusions stated in these documents.

This document was prepared in accordance with generally accepted standards of environmental, geological, and engineering practices in California at the time of investigation. No soil engineering or geotechnical references are implied or should be inferred. The evaluation of the geologic conditions at the site for this investigation is made from a limited number of data points. Subsurface conditions may vary away from these data points.

August 12, 2011
Cardno ERI 2780C.R01 Former Exxon Service Station 74121, Oakland, California

For any questions concerning the content of this report, please contact Ms. Paula Sime at (707) 766-2000.

Sincerely,

SCANNED
IMAGE


David R. Daniels
Senior Staff Geologist
for Cardno ERI
707 766 2000
Email: david.daniels@cardno.com

SCANNED
IMAGE


Heidi L. Dieffenbach-Carle
P.G. 6793
for Cardno ERI
707 766 2000
Email: heidi.dieffenbach-carle@cardno.com



Enclosures:

References

Acronym List

- Appendix A Correspondence
- Appendix B ETIC Figures and Tables

cc: Mr. Jerry Wickham, Alameda County Health Care Services Agency, Environmental Health Services – Environmental Protection, 1131 Harbor Bay Parkway, Suite 250, Alameda, California 94502

Mr. John Jay, MacArthur Boulevard Associates, 10700 MacArthur Boulevard, Suite 200, Oakland, California 94605

August 12, 2011
Cardno ERI 2780C.R01 Former Exxon Service Station 74121, Oakland, California

REFERENCES

California Regional Water Quality Control Board (CRWQCB). November 2007 (Revised May 2008). *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*.
http://www.swrcb.ca.gov/sanfranciscobay/water_issues/available_documents/ESL_May_2008.pdf

ETIC Engineering (ETIC). June 30, 2010a. *Post-Remedial Excavation Report, Former Exxon Retail Site 74121, 10605 Foothill Boulevard, Oakland, California*.

ETIC Engineering (ETIC). December 10, 2010b. *Vapor Sampling Report, Former Exxon Retail Site 74121, 10605 Foothill Boulevard, Oakland, California*.

ETIC Engineering (ETIC). February 25, 2011. *Soil Vapor Sampling Report, Former Exxon Retail Site 74121, 10605 Foothill Boulevard, Oakland, California*.

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ACRONYM LIST

µg/L	Micrograms per liter	NEPA	National Environmental Policy Act
µs	Microsiemens	NGVD	National Geodetic Vertical Datum
1,2-DCA	1,2-dichloroethane	NPDES	National Pollutant Discharge Elimination System
acfm	Actual cubic feet per minute	O&M	Operations and Maintenance
AS	Air sparge	ORP	Oxidation-reduction potential
bgs	Below ground surface	OSHA	Occupational Safety and Health Administration
BTEX	Benzene, toluene, ethylbenzene, and total xylenes	OVA	Organic vapor analyzer
CEQA	California Environmental Quality Act	P&ID	Process & Instrumentation Diagram
cfm	Cubic feet per minute	PAH	Polycyclic aromatic hydrocarbon
COC	Chain of Custody	PCB	Polychlorinated biphenyl
CPT	Cone Penetration (Penetrometer) Test	PCE	Tetrachloroethene or perchloroethylene
DIPE	Di-isopropyl ether	PID	Photo-ionization detector
DO	Dissolved oxygen	PLC	Programmable logic control
DOT	Department of Transportation	POTW	Publicly owned treatment works
DPE	Dual-phase extraction	ppmv	Parts per million by volume
DTW	Depth to water	PQL	Practical quantitation limit
EDB	1,2-dibromoethane	psi	Pounds per square inch
EPA	Environmental Protection Agency	PVC	Polyvinyl chloride
ESL	Environmental screening level	QA/QC	Quality assurance/quality control
ETBE	Ethyl tertiary butyl ether	RBSL	Risk-based screening levels
FID	Flame-ionization detector	RCRA	Resource Conservation and Recovery Act
fpm	Feet per minute	RL	Reporting limit
GAC	Granular activated carbon	scfm	Standard cubic feet per minute
gpd	Gallons per day	SSTL	Site-specific target level
gpm	Gallons per minute	STLC	Soluble threshold limit concentration
GWPTS	Groundwater pump and treat system	SVE	Soil vapor extraction
HVOC	Halogenated volatile organic compound	SVOC	Semivolatile organic compound
J	Estimated value between MDL and PQL (RL)	TAME	Tertiary amyl methyl ether
LEL	Lower explosive limit	TBA	Tertiary butyl alcohol
LPC	Liquid-phase carbon	TCE	Trichloroethene
LRP	Liquid-ring pump	TOC	Top of well casing elevation; datum is msl
LUFT	Leaking underground fuel tank	TOG	Total oil and grease
LUST	Leaking underground storage tank	TPHd	Total petroleum hydrocarbons as diesel
MCL	Maximum contaminant level	TPHg	Total petroleum hydrocarbons as gasoline
MDL	Method detection limit	TPHmo	Total petroleum hydrocarbons as motor oil
mg/kg	Milligrams per kilogram	TPHs	Total petroleum hydrocarbons as stoddard solvent
mg/L	Milligrams per liter	TRPH	Total recoverable petroleum hydrocarbons
mg/m ³	Milligrams per cubic meter	UCL	Upper confidence level
MPE	Multi-phase extraction	USCS	Unified Soil Classification System
MRL	Method reporting limit	USGS	United States Geologic Survey
msl	Mean sea level	UST	Underground storage tank
MTBE	Methyl tertiary butyl ether	VCP	Voluntary Cleanup Program
MTCA	Model Toxics Control Act	VOC	Volatile organic compound
NAI	Natural attenuation indicators	VPC	Vapor-phase carbon
NAPL	Non-aqueous phase liquid		

APPENDIX A

CORRESPONDENCE



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

July 14, 2011

Ms. Jennifer Sedlachek (Sent via E-mail to: jennifer.c.sedlachek@exxonmobil.com)
Exxon Mobil
4096 Piedmont, #194
Oakland, CA 94611

MacArthur Boulevard Associates
c/o Mr. John Jay, Management Agent (Sent via E-mail to: johnjay@jayphares.com)
10700 MacArthur Boulevard, Suite 200
Oakland, CA 94605

Subject: Review of Soil Vapor Sampling Report for Fuel Leak Case No. RO0002635 and GeoTracker Global ID T0600120383, Exxon #7-4121, 10605 Foothill Boulevard, Oakland, CA 94605

Dear Ms. Sedlachek and Mr. Jay:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site, including the most recently submitted document entitled, "Soil Vapor Sampling Report," dated February 25, 2011 (Report). The Report, which was prepared by ETIC Engineering, Inc., presents the results from sampling of soil vapor probes. The purpose of the sampling was to provide data to evaluate the potential for vapor intrusion to existing adjacent residential properties and future onsite commercial buildings. The Report presents the sampling results but does not present an evaluation or recommendations. In the Conclusions section of the Report, it is stated that, "Recommendations will be submitted under separate cover." To date, we have not received the Recommendations.

We request that you provide an evaluation of the results presented in the document entitled, "Soil Vapor Sampling Report," dated February 25, 2011 along with recommendations for future actions **no later than August 15, 2011**.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **August 15, 2011** – Evaluation of Results from Soil Vapor Sampling Report and Recommendations for Future Actions

Jennifer Sedlachek
John Jay
RO0002635
July 14, 2011
Page 2

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,



Digitally signed by Jerry Wickham
DN: cn=Jerry Wickham, o=Alameda County
Environmental Health, ou,
email=jerry.wickham@acgov.org, c=US
Date: 2011.07.14 09:27:23 -0700

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Attachments: Responsible Party(ies) Legal Requirements/Obligations

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

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

Cardno ERI, Attn: James F. Chappell, 601 North McDowell, Petaluma, CA 94954 (*Sent via E-mail to: jim.chappell@cardno.com*)

Peter McIntyre, AEI Consultants, 2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597 (*Sent via E-mail to: pmcintyre@aeiconsultants.com*)

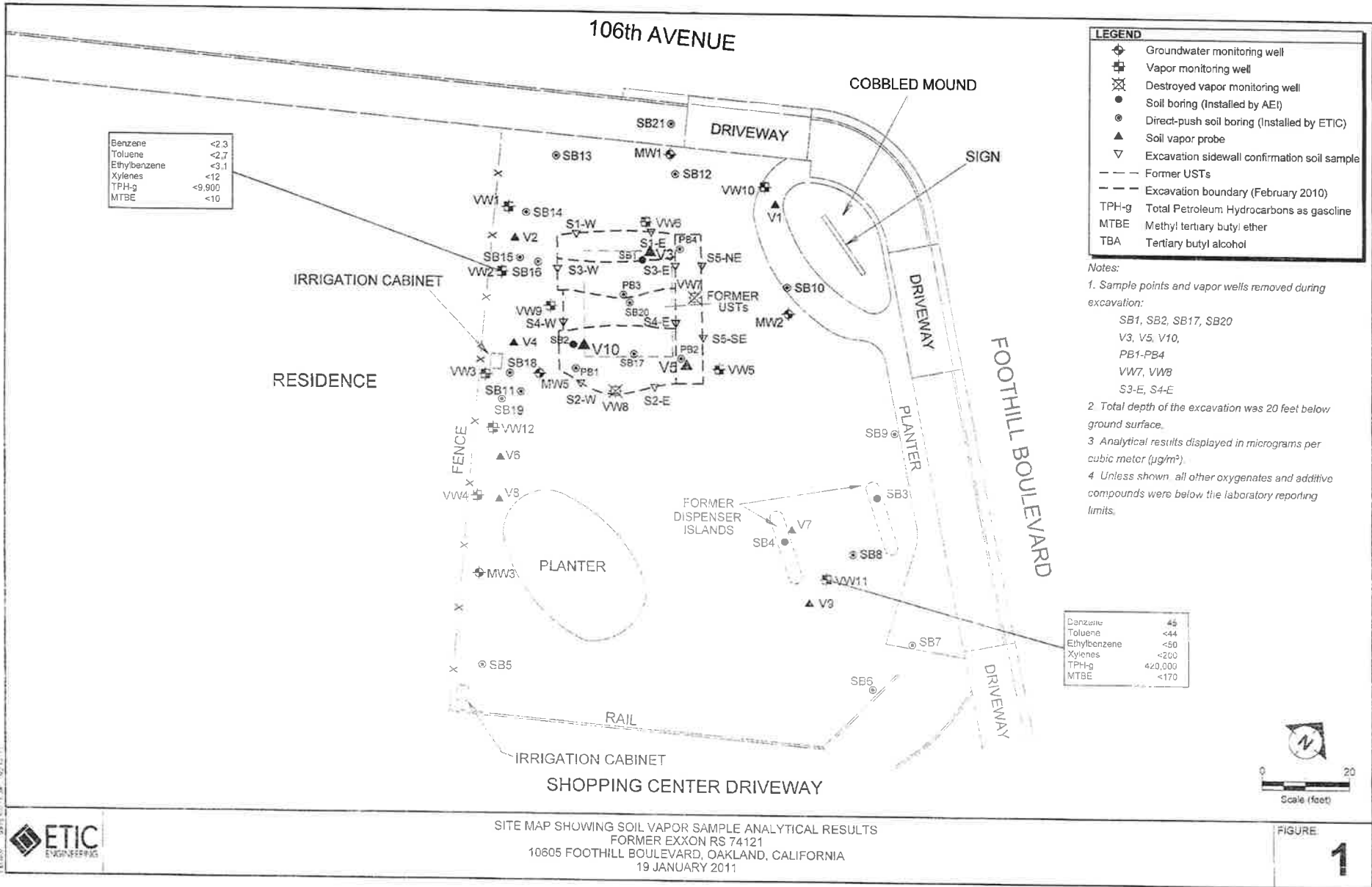
Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)

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

GeoTracker, eFile

APPENDIX B

ETIC FIGURES AND TABLES



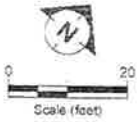
Benzene	<2.3
Toluene	<2.7
Ethylbenzene	<3.1
Xylenes	<12
TPH-g	<9,900
MTBE	<10

LEGEND

- ⊕ Groundwater monitoring well
- ⊕ Vapor monitoring well
- ⊗ Destroyed vapor monitoring well
- Soil boring (Installed by AEI)
- ⊙ Direct-push soil boring (Installed by ETIC)
- ▲ Soil vapor probe
- ▽ Excavation sidewall confirmation soil sample
- - - Former USTs
- - - Excavation boundary (February 2010)
- TPH-g Total Petroleum Hydrocarbons as gasoline
- MTBE Methyl tertiary butyl ether
- TBA Tertiary butyl alcohol

- Notes:
- Sample points and vapor wells removed during excavation:
 SB1, SB2, SB17, SB20
 V3, V5, V10,
 PB1-PB4
 VW7, VW8
 S3-E, S4-E
 - Total depth of the excavation was 20 feet below ground surface.
 - Analytical results displayed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
 - Unless shown, all other oxygenates and additive compounds were below the laboratory reporting limits.

Benzene	<45
Toluene	<44
Ethylbenzene	<50
Xylenes	<200
TPH-g	420,000
MTBE	<170



SITE MAP SHOWING SOIL VAPOR SAMPLE ANALYTICAL RESULTS
 FORMER EXXON RS 74121
 10805 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA
 19 JANUARY 2011



TABLE 1 WELL CONSTRUCTION DETAILS, FORMER EXXON RS 74121, 10605 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

Well Number	Well Installation Date	Elevation TOC (feet)	Casing Material	Total Depth (feet)	Well Depth (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (feet)	Slot Size (inches)	Filter Pack Interval (feet)	Filter Pack Material
MW1	a 01/23/07	82.47	PVC	26.5	25	8	2	10 - 25	0.010	8 - 25	#2/12 Sand
MW2	a 01/23/07	84.40	PVC	26.5	25	8	2	10 - 25	0.010	8 - 25	#2/12 Sand
MW3	a 01/24/07	83.25	PVC	26.5	25	8	2	10 - 25	0.010	8 - 25	#2/12 Sand
MW5	a 01/23/07	82.65	PVC	26.5	25	8	2	10 - 25	0.010	8 - 25	#2/12 Sand
VW1	a 01/22/07	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW2	a 01/22/07	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW3	a 01/22/07	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW4	a 01/22/07	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW5	a 01/22/07	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW6	b 03/23/09	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW7	c 03/23/09	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW8	c 03/23/09	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW9	b 03/23/09	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW10	b 03/23/09	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW11	b 03/23/09	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW12	b 03/23/09	--	SS	6	6	6	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand

TABLE 1 WELL CONSTRUCTION DETAILS, FORMER EXXON RS 74121, 10605 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

Well Number	Well Installation Date	Elevation TOC (feet)	Casing Material	Total Depth (feet)	Well Depth (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (feet)	Slot Size (inches)	Filter Pack Interval (feet)	Filter Pack Material
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Notes:

- a Well surveyed on 12 March 2007 by Morrow Surveying.
- b Well surveyed on 4 May 2009 by Morrow Surveying.
- c Well destroyed during remedial excavation.

PVC Polyvinyl chloride.
 SS Stainless steel.
 TOC Top of casing.

TABLE 2 SOIL VAPOR SAMPLE ANALYTICAL RESULTS, FORMER EXXON RETAIL SITE 74121, 10605 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

Boring ID	Depth (feet bgs)	Date	Concentration (% by Volume)					Concentration ($\mu\text{g}/\text{m}^3$)													
			Oxygen and Argon	Methane	Carbon Dioxide	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Total Xylenes	TPH-g	MTBE	TBA	DiPE	ETBE	1,2-DCA	TAME	EDB	1,1-DFA	
V1	5.5	05/01/06	9.4	--	--	200	<100	<100	<100	<100	--	790,000	<100	--	--	--	--	--	--	<10,000	
V2 ^a	--	05/01/06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
V3	5.5	05/01/06	19	--	--	120	160	140	<100	<100	--	110,000	<100	--	--	--	--	--	--	<10,000	
V3 ^a	10	05/01/06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
V4 ^a	--	05/01/06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
V5 ^a	--	05/01/06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
V6	7.0	05/01/06	9.1	--	--	170	<100	540	410	<100	--	880,000	<100	--	--	--	--	--	--	<10,000	
V7	7.5	05/01/06	21	--	--	84	140	<100	110	<100	--	2,200	<100	--	--	--	--	--	--	<10,000	
V7 dup	7.5	05/01/06	20	--	--	<80	110	<100	<100	<100	--	2,400	<100	--	--	--	--	--	--	<10,000	
V8 ^a	--	05/01/06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
V9	7.5	05/01/06	19	--	--	<80	<100	<100	<100	<100	--	360,000	<100	--	--	--	--	--	--	<10,000	
V10	8.0	05/01/06	11	--	--	1,100	130	340	180	<100	--	6,600,000	<100	--	--	--	--	--	--	<10,000	
V10	10.0	05/01/06	9.0	--	--	1,900	<100	<100	<100	<100	--	17,000,000	<100	--	--	--	--	--	--	<10,000	
VW1 ^b	5 - 6	4/27/07	11.1	--	--	<2.4	12	<3.2	10	4.8	--	<20,000	<11	<9.0	<12	<12	<3.0	<19	<5.7	<8.1	
VW1 ^c	--	4/23/09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
VW1	5 - 6	10/12/10	17.5	<0.785	5.24	<2.5	3.6	<3.4	--	--	<14	<11,000	<11	<9.5	<13	<13	<3.2	<13	<6.0	--	
VW2 ^o	--	4/27/07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
VW2	5 - 6	4/23/09	8.05	<0.770	6.55	<6.1	<7.3	<8.4	--	--	<33	210,000	<28	<23	<32	<32	<7.8	<32	<15	<21	
VW2 dup	5 - 6	4/23/09	7.88	<0.780	6.05	<6.2	<7.3	<8.5	--	--	<34	220,000	<28	<24	<33	<33	<7.9	<33	<15	29	
VW2	5 - 6	10/12/10	8.13	<0.820	6.90	<5.2	<6.2	<7.1	--	--	<28	190,000	<24	<20	<27	<27	<6.6	<27	<13	--	
VW2	5 - 6	1/19/11	2.59	<0.710	7.80	<2.3	<2.7	<3.1	--	--	<12	<9,900	<10	<8.6	<12	<12	<2.9	<12	<5.5	--	
VW3 ^c	--	4/27/07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
VW3 ^c	--	4/23/09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
VW3 ^c	--	10/12/10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
VW3 ^c	--	1/19/11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
VW4 ^c	--	4/27/07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
VW4 ^c	--	4/23/09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
VW4 ^c	--	10/12/10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
VW4 ^c	--	1/19/11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
VW5 ^o	5 - 6	4/27/07	3.49	--	--	4.4	11	4.4	12	4.8	--	<23,000	<12	<9.9	<14	<14	<3.3	<21	<6.3	<8.9	

TABLE 2 SOIL VAPOR SAMPLE ANALYTICAL RESULTS, FORMER EXXON RETAIL SITE 74121, 10605 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

Boring ID	Depth (feet bgs)	Date	Concentration (% by Volume)			Concentration (µg/m ³)														
			Oxygen and Argon	Methane	Carbon Dioxide	Benzene	Toluene	Ethyl-benzene	m,p-Xylene	o-Xylene	Total Xylenes	TPH-g	MTBE	TBA	DIPE	ETBE	1,2-DCA	TAME	EDB	1,1-DFA
VW5	5 - 6	4/23/09	2.57	<0.710	9.84	<2.3	<2.7	<3.1	--	--	<12	9,800	<10	<8.6	<12	<12	<2.9	<12	<5.5	<7.7
VW5	5 - 6	10/12/10	2.05	<0.790	13.2	5.1	6.8	<3.4	--	--	<14	22,000	<11	<9.6	<13	<13	<3.2	<13	<6.1	--
VW5 dup	5 - 6	10/12/10	2.16	<0.840	12.5	<2.7	7.9	4.1	--	--	<15	36,000	<12	76	<14	<14	<3.4	<14	<6.5	--
VW6 ^c	--	3/27/09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VW6	5 - 6	10/12/10	16.1	<0.835	5.25	7.3	11	12	--	--	24	<12,000	<12	12	<14	<14	<3.4	<14	<6.4	--
VW7	5 - 6	3/27/09	6.94	<0.810	5.52	54	910	180	--	--	860	11,000	<12	<9.8	<14	<14	<3.3	<14	<6.2	<8.8
VW8	5 - 6	3/27/09	2.91	2.61	5.98	<99	<120	<130	--	--	<540	4,400,000	<450	<380	<520	<520	<130	<520	<240	<330
VW9	5 - 6	3/27/09	11.2	<0.820	4.36	25	250	51	--	--	260	65,000	<30	<25	<34	<34	<8.3	<34	<34	<22
VW9 dup	5 - 6	3/27/09	<9.05	<9.05	<9.05	150	1,600	310	--	--	1,600	130,000	<130	<110	<150	<150	<37	<150	<70	<98
VW9	5 - 6	10/12/10	7.01	<0.775	15.4	<2.5	3.7	<3.4	--	--	<13	<11,000	<11	<9.4	<13	<13	<3.1	<13	<6.0	--
VW10	5 - 6	3/27/09	4.21	<0.780	2.69	38	520	120	--	--	550	880,000	<110	<95	<130	<130	<32	<150	<60	<84
VW10	5 - 6	10/12/10	4.83	<0.815	6.32	<2.6	4.0	<3.5	--	--	<14	<11,000	<12	<9.9	<14	<14	<3.3	<14	<6.3	--
VW11	5 - 6	3/27/09	6.18	<0.770	6.69	110	360	230	--	--	1,000	210,000	<110	<93	<130	<130	<31	<130	<59	5,300
VW11 ^b	--	10/12/10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VW11	5 - 6	1/19/11	2.35	<0.725	12.4	45	<44	<50	--	--	<200	420,000	<170	<140	<190	<190	<47	<190	<89	--
VW12	5 - 6	3/27/09	12.9	<1.26	4.78	90	1,700	340	--	--	1,500	17,000	<18	<15	<21	<21	<5.1	<21	<9.7	<14
Lowest Residential ESL ^d			--	--	--	84	63,000	980	21,000	21,000	21,000	10,000	9,400	--	--	--	94	--	4.1	--
Lowest Commercial/Industrial ESL ^d			--	--	--	280	180,000	3,300	58,000	58,000	58,000	29,000	31,000	--	--	--	310	--	14	--

Notes:

^a Soil vapor could not be extracted at depths between 4 and 10 feet bgs from this boring.

^b Soil vapor samples were collected without purging (grab samples).

^c Soil vapor samples were not collected due to the presence of water.

^d From Table E-1(a): Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion Concerns. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater - Interim Final. Regional Water Quality Control Board - San Francisco Bay Region, May 2008.

feet bgs Feet below ground surface.

1,1-DFA 1,1-Difluoroethane.

1,2-DCA 1,2-Dichloroethane.

DIPE Diisopropyl ether.

EDB Ethylene dibromide (1,2-dibromoethane).

ETBE Ethyl tertiary butyl ether.

MTBE Methyl tertiary butyl ether.

TABLE 2 SOIL VAPOR SAMPLE ANALYTICAL RESULTS, FORMER EXXON RETAIL SITE 74121, 10605 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

Boring ID	Depth (feet bgs)	Date	Concentration (% by Volume)					Concentration ($\mu\text{g}/\text{m}^3$)												
			Oxygen and Argon	Methane	Carbon Dioxide	Benzene	Toluene	Ethyl- benzene	m,p- Xylene	o- Xylene	Total Xylenes	TPH-g	MTBE	TBA	DIPE	ETBE	1,2-DCA	TAME	EDB	1,1-DFA
TAME	Tertiary amyl methyl ether.																			
TBA	Tertiary butyl alcohol.																			
TPH-g	Total Petroleum Hydrocarbons as gasoline.																			
dup	Duplicate.																			
ESL	Environmental screening level.																			
-	Not analyzed or not applicable.																			
$\mu\text{g}/\text{m}^3$	Micrograms per cubic meter.																			