



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

May 5, 2015

Dan Fernandes
Jones Lang LaSalle Corporate Solutions
3800 Hamlin Road, Suite 100
Auburn Hills, MI 48326
(Sent via E-mail to: Dan.Fernandes@am.jll.com)

Eric S. Carlson
Volkswagen Group of America
2200 Ferdinand Porsche Drive
Herndon, VA 20171
(Sent via E-mail to: eric.carlson@vw.com)

Subject: Case Closure for Fuel Leak Case No. RO0000400 and GeoTracker Global ID T0600100227,
Broadway Volkswagen, 2740 Broadway, Oakland, CA 94612

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25296.10[g]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (<http://geotracker.swrcb.ca.gov>) and the Alameda County Environmental Health website (<http://www.acgov.org/aceh/index.htm>).

If you have any questions, please call Jerry Wickham at (510) 567-6791. Thank you.

Sincerely,

Dilan Roe, P.E.
LOP and SCP Program Manager

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

Responsible Parties

RO0000400

May 5, 2015

Page 2

Cc w/enc.:

James Bryson, ARCADIS, 855 Route 146, Suite 210, Clifton Park, NY 12065 (Sent via E-mail to: James.Bryson@arcadis-us.com)

Christopher Hahn, Volkswagen Group of America, 2200 Ferdinand Porsche Drive, Herndon, VA 20171 (Sent via E-mail to: christopher.hahn@vw.com)

Caitlin Bell, ARCADIS, 1900 Powell Street, Suite 1200, Emeryville, CA 94608 (Sent via E-mail to: Caitlan.Bell@arcadis-us.com)

Mark J. Arniola, City of Oakland Public Works Environmental Services, 250 Frank H. Ogawa Plaza, Suite 4314, Oakland, CA 94612 (Sent via E-mail to: marniola@oaklandnet.com)

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

GeoTracker, eFile

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

ALEX BRISCOE, Agency Director



DEPARTMENT OF ENVIRONMENTAL HEALTH
OFFICE OF THE DIRECTOR
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502
(510) 567-6777
FAX (510) 337-9135

REMEDIAL ACTION COMPLETION CERTIFICATION

May 5, 2015

Dan Fernandes
Jones Lang LaSalle Corporate Solutions
3800 Hamlin Road, Suite 100
Auburn Hills, MI 48326
(Sent via E-mail to: Dan.Fernandes@am.jll.com)

Eric S. Carlson
Volkswagen Group of America
2200 Ferdinand Porsche Drive
Herndon, VA 20171
(Sent via E-mail to: eric.carlson@vw.com)

Subject: Case Closure for Fuel Leak Case No. RO0000400 and GeoTracker Global ID T0600100227, Broadway Volkswagen, 2740 Broadway, Oakland, CA 94612

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

Please be aware that claims for reimbursement of corrective action costs submitted to the Underground Storage Tank Cleanup Fund more than 365 days after the date of this letter or issuance or activation of the Fund's Letter of Commitment, whichever occurs later, will not be reimbursed unless one of the following exceptions applies:

- Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or
- Submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

This notice is issued pursuant to subdivision (g) of Section 25296.10 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

Ronald Browder
Director

UST Case Closure Summary Form

Agency Information

Date: August 13, 2014

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: 510-567-6791
Staff Person: Jerry Wickham	Title: Senior Hazardous Materials Specialist

Case Information

Site Name: Broadway Volkswagen		
Site Address: 2740 Broadway, Oakland, CA 94612		
RB LUSTIS Case No: 01-0241	Local Case No.: NA	LOP Case No.: RO0000400
URF Filing Date: 01/18/1989	GeoTracker Global ID: T0600100227	
APN: 9-685-19-1	Current Land Use: Commercial	
Responsible Party(s):	Address:	Phone:
Megan Lambert Volkswagen Group of America	3800 Hamlin Road Auburn Hills, MI 48326	No phone number
Eric S. Carlson Volkswagen Group of America	2200 Ferdinand Porsche Drive Herndon, VA 20171	No phone number

Tank Information

Tank No.	Size (gal)	Contents	Closed in-Place/ Removed/Active	Date
A	1,000 gallons	Waste Oil	Removed	08/15/1988
B	300 gallons	Waste Oil	Removed	08/15/1988
C	550 gallons	Gasoline	Removed	08/15/1988
D	1,500 gallons	Unknown	Removed	08/23/1988

Conceptual Site Model (Attachment 1)

Closure Criteria Met (Attachment 2)

LTCP Groundwater Specific Criteria (Attachment 3)

LTCP Vapor Specific Criteria (Attachment 4)

LTCP Direct Contact and Outdoor Air Exposure Criteria (Attachment 5)

Site Maps (Attachment 6)

Analytical Data (Attachment 7)

UST Case Closure Summary Form

Additional Information:

Water Supply Wells in Vicinity:

No water supply wells appear to be located within 1,000 feet of the site.

Plume Length:

The plume has not been fully delineated to the north due to the presence of a large off-site building. The hydraulic gradient at the site has been variable, typically ranging from west to northwest. The Regional groundwater flow in the area of the site is generally towards the south or southeast. The plume is more than 25 years old and appears to be stable to decreasing. Based on source area concentrations, the age of the plume, and groundwater monitoring results along the apparent flow direction, plume length is estimated to be less than 1,000 feet. The nearest known water supply well is more than 2,000 feet from the site. Therefore, the plume boundary is estimated to be more than 1,000 feet from the nearest water supply well.

Trichloroethene in Groundwater:

Trichloroethene (TCE) was detected in groundwater at concentrations up to 2,100 micrograms per liter. The highest concentrations were detected in groundwater samples from monitoring wells that are screened across the deeper, semi-confined aquifer (MW-4, MW-5 and MW-6). TCE has been detected at significantly lower concentrations (typically less than 100 micrograms per liter) in groundwater samples collected from the shallower perched groundwater zone. Groundwater in the semi-confined aquifer appears to have cross-contaminated the shallow groundwater zone by migrating upwards through the monitoring wells that are completed in both zones. The TCE is suspected to be from an off-site source. Monitoring wells MW-4, MW-5, and MW-6 were destroyed on March 16, 1994 to prevent further migration of TCE into shallow groundwater.

Site Management Requirements:

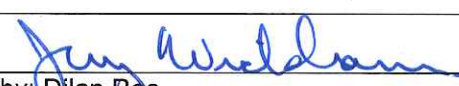
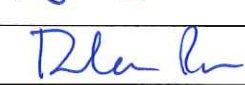
This fuel leak case has been evaluated for closure consistent with the State Water Resource Control Board Low-Threat Underground Storage Tank Closure Policy (LTCP). Based on this evaluation, no site management requirements appear to be necessary. However, excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities.

RWQCB Notification

Date of Notification: August 6, 2014

RWQCB Staff Name: Cherie McCaulou	Title: Engineering Geologist
-----------------------------------	------------------------------

Local Agency Representative

Prepared by: Jerry Wickham	Title: Senior Hazardous Materials Specialist
Signature: 	Date: 08/28/2014
Approved by: Dilan Roe	Title: LOP PROGRAM MANAGER
Signature: 	Date: 8/28/2014

UST Case Closure Summary Form

This Case Closure Summary along with the Case Closure Transmittal letter and the Remedial Action Completion Certification provides documentation of the case closure. This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions. Additional information on the case can be viewed in the online case file. The entire case file can be viewed over the Internet on the Alameda County Environmental Health (ACEH) website (<http://www.acgov.org/aceh/lop/ust.htm>) or the State of California Water Resources Control Board GeoTracker website (<http://geotracker.waterboards.ca.gov>). Not all historic documents for the fuel leak case may be available on GeoTracker. A more complete historic case file for this site is located on the ACEH website.

BROADWAY VOLKSWAGEN (T0600100227) - [MAP THIS SITE](#)

OPEN - VERIFICATION MONITORING

2740 BROADWAY
OAKLAND, CA 94612
ALAMEDA COUNTY

[ACTIVITIES REPORT](#)

[PUBLIC WEBPAGE](#)

[VIEW PRINTABLE CASE SUMMARY FOR THIS SITE](#)

CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP (LEAD) - CASE #: RO0000400

CASEWORKER: [Jerry Wickham](#) - SUPERVISOR: DILAN ROE

SAN FRANCISCO BAY RWQCB (REGION 2) - CASE #: 01-0241

CASEWORKER: [Cherie McCaulou](#) - SUPERVISOR: Cheryl L. Prowell

CUF Claim #: 13650 CUF Priority Assigned: D CUF Amount Paid: \$0

THIS PROJECT WAS LAST MODIFIED BY [JERRY WICKHAM](#) ON 6/25/2014 4:17:23 PM - [HISTORY](#)

THIS SITE HAS SUBMITTALS. CLICK [HERE](#) TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

CSM REPORT

CLAIM INFORMATION

CLAIM NO	PRIORITY	CLAIMANT	SITE ADDRESS	AMT REIMB TO DATE	AGE OF LOC	IMPACTED WELLS?
13650	D	VOLKSWAGEN OF AMERICA 3800 HAMLIN RD #100, AUBURN HILLS MI 48326	2740 BROADWAY OAKLAND, CA 94612			

PROJECT INFORMATION - [MAP THIS SITE](#)

SITE NAME / ADDRESS	STATUS	STATUS DATE	AGE OF CASE	CLEANUP OVERSIGHT AGENCIES
BROADWAY VOLKSWAGEN (T0600100227) 2740 BROADWAY OAKLAND, CA 94612	Open - Verification Monitoring	4/22/2014	26	ALAMEDA COUNTY LOP (LEAD) - CASE #: RO0000400 CASEWORKER: Jerry Wickham - SUPERVISOR: DILAN ROE SAN FRANCISCO BAY RWQCB (REGION 2) - CASE #: 01-0241 CASEWORKER: Cherie McCaulou - SUPERVISOR: Cheryl L. Prowell

STAFF NOTES (INTERNAL)

<NO STAFF NOTES ENTERED>

SITE HISTORY

The site is a automobile dealership. Site investigation activities have taken place since 1988. Four underground storage tanks (one 1,000-gallon waste oil near the garage at 27th Street (Tank A), one 300-gallon waste oil gasoline (Tank B) beneath sidewalk along Broadway, one 550-gallon gasoline (Tank C) beneath sidewalk along 28th Street, and one 1,500-gallon gasoline (Tank D) beneath sidewalk along 28th Street were removed in August 1988. Visual contamination was observed and detected in soil samples in the tank pits for Tanks C and D. A soil vapor and groundwater extraction system operated at the site from February 1996 through March 1998. Soil vapor sampling was completed at the site in February 2014. The case will be reviewed for closure under the Low-threat Closure Policy.

RISK INFORMATION [VIEW LTCP CHECKLIST](#) [VIEW PATH TO CLOSURE PLAN](#) [VIEW CASE REVIEWS](#)

CONTAMINANTS OF CONCERN	CURRENT LAND USE	BENEFICIAL USE	DISCHARGE SOURCE	DATE REPORTED	STOP METHOD	NEARBY / IMPACTED WELLS
Trichloroethylene (TCE), Gasoline	Commercial	GW - Municipal and Domestic Supply	Tank	1/18/1989	Other Means	0

FREE PRODUCT	OTHER CONTITUENTS	NAME OF WATER SYSTEM	LAST REGULATORY ACTIVITY	LAST ESI UPLOAD	EXPECTED CLOSURE DATE	MOST RECENT CLOSURE REQUEST
NO	NO	EBMUD	4/22/2014	6/17/2014		

CDPH WELLS WITHIN 1000 FEET OF THIS SITE

NONE

RESPONSIBLE PARTIES

NAME	ORGANIZATION	ADDRESS	CITY	EMAIL
FIRST2299 LAST2299 TOM MOFFATT	BROADWAY VOLKSWAGON C/O TRAMMELL CROW CO	2740 BROADWAY 3800 HAMLIN RD	OAKLAND AUBURN HILLS	

CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)

APN	GW BASIN NAME	WATERSHED NAME
009 068501901	Santa Clara Valley - East Bay Plain (2-9.04)	South Bay - East Bay Cities (20420)

COUNTY	PUBLIC WATER SYSTEM(S)
Alameda	EAST BAY MUD - 375 ELEVENTH STREET, OAKLAND, CA 94607

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER - [HIDE](#)

FIELD PT NAME	DATE	TPH _g	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
DUP	6/19/2013		ND	ND	ND	ND	ND	ND
MW-1	6/19/2013		ND	ND	ND	ND	0.5 UG/L	ND
MW-3	6/19/2013		ND	ND	ND	ND	ND	ND
MW-7	6/19/2013		ND	ND	ND	ND	ND	ND
MW-8	6/19/2013		360 UG/L	2.3 UG/L	16 UG/L		1.3 UG/L	ND
MW-9	6/19/2013		1500 UG/L	19 UG/L	110 UG/L		ND	ND
TB	6/19/2013		ND	ND	ND	ND	ND	ND
VW-1	6/19/2013		ND	ND	ND	ND	ND	ND
VW-2	6/19/2013		270 UG/L	58 UG/L	280 UG/L		ND	ND
VW-3	6/19/2013		72 UG/L	ND	16 UG/L		ND	ND

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL - [HIDE](#)

FIELD PT NAME	DATE	TPH _g	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
MW8-10-10	6/13/2013		ND	ND	ND		ND	ND
MW8-15-15	6/13/2013		ND	ND	ND		ND	ND
MW8-5-0-5	6/13/2013		ND	ND	ND		ND	ND
MW9-10-10	6/13/2013		ND	ND	16 UG/KG		ND	ND
MW9-15-15	6/13/2013		ND	ND	ND		ND	ND
MW9-5-0-5	6/13/2013		ND	ND	ND		ND	ND

MOST RECENT GEO_WELL DATA - [HIDE](#)

<u>FIELD PT NAME</u>	<u>DATE</u>	<u>DEPTH TO WATER (FT)</u>	<u>SHEEN</u>	<u>DEPTH TO FREE PRODUCT (FT)</u>
MW-1	6/19/2013	6.4	N	
MW-3	6/19/2013	9.3	N	
MW-7	6/19/2013	9.59	N	
MW-8	6/19/2013	10.4	N	
MW-9	6/19/2013	9.44	N	
VW-1	6/19/2013	9.42	N	
VW-2	6/19/2013	9.23	N	
VW-3	6/19/2013	8.2	N	

LOGGED IN AS JWICKHAM

[CONTACT GEOTRACKER HELP](#)

LTCP Checklist Go

[GEOTRACKER HOME](#) | [MANAGE PROJECTS](#) | [REPORTS](#) | [SEARCH](#) | [LOGOUT](#)

BROADWAY VOLKSWAGEN (T0600100227) - [MAP THIS SITE](#)

OPEN - ELIGIBLE FOR CLOSURE

2740 BROADWAY
OAKLAND, CA 94612
ALAMEDA COUNTY

[ACTIVITIES REPORT](#)
[PUBLIC WEBPAGE](#)

[VIEW PRINTABLE CASE SUMMARY FOR THIS SITE](#)

CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP (LEAD) - CASE #: R00000400

CASEWORKER: [Jerry Wickham](#) - SUPERVISOR: DILAN ROE

SAN FRANCISCO BAY RWQCB (REGION 2) - CASE #: 01-0241

CASEWORKER: [Cherie McCaulou](#) - SUPERVISOR: Cheryl L. Prowell

CUF Claim #: 13650 CUF Priority Assigned: D CUF Amount Paid: \$0

THIS PROJECT WAS LAST MODIFIED BY [JERRY WICKHAM](#) ON 8/6/2014 6:07:23 PM - [HISTORY](#)

THIS SITE HAS SUBMITTALS. CLICK [HERE](#) TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

CLOSURE POLICY

THIS VERSION IS FINAL AS OF 8/6/2014

CHECKLIST INITIATED ON 11/14/2012

[CLOSURE POLICY HISTORY](#)

General Criteria - The site satisfies the policy general criteria - [CLEAR SECTION ANSWERS](#)

YES

a. Is the unauthorized release located within the service area of a public water system?

Name of Water System:

YES NO

b. The unauthorized release consists only of petroleum ([info](#)).

YES NO

c. The unauthorized ("primary") release from the UST system has been stopped.

YES NO

d. Free product has been removed to the maximum extent practicable ([info](#)).

FP Not Encountered YES NO

e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed ([info](#)).

YES NO

f. Secondary source has been removed to the extent practicable ([info](#)).

YES NO

g. Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15.

Not Required YES NO

h. Does a nuisance exist, as defined by [Water Code section 13050](#).

YES NO

1. Media-Specific Criteria: Groundwater - The contaminant plume that exceeds water quality objectives is stable or decreasing in areal extent, and meets all of the additional characteristics of one of the five classes of sites listed below. - [CLEAR SECTION ANSWERS](#)

YES

EXEMPTION - Soil Only Case (Release has not Affected Groundwater - [Info](#))

YES NO

Does the site meet any of the Groundwater specific criteria scenarios?

YES NO

1.5 - The regulatory agency determines, based on an analysis of site specific conditions, that the site under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.

YES NO

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air - The site is considered low-threat for the vapor-intrusion-to-air pathway if site-specific conditions satisfy items 2a, 2b, or 2c - [CLEAR SECTION ANSWERS](#)

YES

EXEMPTION - Active Commercial Petroleum Fueling Facility

YES NO

Does the site meet any of the Petroleum Vapor Intrusion to Indoor Air specific criteria scenarios?

YES NO

2a - Scenario 3 ([example](#)): Dissolved Phase Benzene Concentrations Only in Groundwater (Low concentration groundwater scenarios with or without O2 measurements must satisfy one i, ii, or iii):

YES

i. For bioattenuation zone without oxygen measurements or oxygen <4% and benzene concentration are <100 µg/L, the bioattenuation zone: Is a continuous zone that provides a separation of at least 5 feet vertically between the dissolved phase benzene and the foundation of existing or potential building; and contain total TPH <100 mg/kg throughout the entire depth of the bioattenuation zone.

YES NO

ii. For bioattenuation zone without oxygen measurements or oxygen <4% and benzene concentration are >100 µg/L but <1,000 µg/L, the bioattenuation zone: Is a continuous zone that provides a separation of at least 10 feet vertically between the dissolved phase benzene and the foundation of existing or potential building, and contain total TPH <100 mg/kg throughout the entire depth of the bioattenuation zone.

YES NO

iii. For bioattenuation zone with oxygen ≥ 4% and benzene concentration are <1,000 µg/L, the bioattenuation zone: Is a continuous zone that provides a separation of at least 5 feet vertically between the dissolved phase benzene and the foundation of existing or potential building, and contain total TPH <100 mg/kg throughout the entire depth of the bioattenuation zone.

YES NO

3. Media Specific Criteria: Direct Contact and Outdoor Air Exposure - The site is considered low-threat for direct contact and outdoor air exposure if it meets 1, 2, or 3 below. - [CLEAR SECTION ANSWERS](#)

YES

EXEMPTION - The upper 10 feet of soil is free of petroleum contamination

YES NO

Does the site meet any of the Direct Contact and Outdoor Air Exposure criteria scenarios?

YES NO

3.1 - Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in the following table ([LINK](#)) for the specified depth below ground surface.

YES NO

Additional Information

This case should be kept OPEN in spite of meeting policy criteria.

YES NO

Has this LTCP Checklist been updated for FY 14/15?

YES NO

[SPELL CHECK](#)

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ATTACHMENT 2

**ATTACHMENT 3
LTCP GROUNDWATER SPECIFIC CRITERIA**

LTCP Groundwater Specific Scenario under which case was closed: Scenario 4

Site Data		LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
Plume Length	Estimated <1,000 feet	<100 feet	<250 feet	<250 feet	<1,000 feet
Free Product	No free product	No free product	No free product	Removed to maximum extent practicable	No free product
Plume Stable or Decreasing	Stable or decreasing	Stable or decreasing	Stable or decreasing	Stable or decreasing for minimum of 5 Years	Stable or decreasing
Distance to Nearest Water Supply Well	>1,000 feet	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Distance to Nearest Surface Water and Direction	430 feet east (appears to be upgradient)	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Property Owner Willing to Accept a Land Use Restriction?	Not applicable	Not applicable	Not applicable	Yes	Not applicable

GROUNDWATER CONCENTRATIONS

Constituent	Historic Site Maximum (ppb)	Current Site Maximum (ppb)	LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
Benzene	9,600	500	No criteria	3,000	No criteria	1,000
MTBE	5.7	5.0	No criteria	1,000	No criteria	1,000

Scenario 5: If the site does not meet scenarios 1 through 4, has a determination been made that under current and reasonably expected future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame?

**ATTACHMENT 4
LTCP VAPOR SPECIFIC CRITERIA**

LTCP Vapor Specific Scenario under which case was closed: Scenario 4

Active Fueling Station	No						
Site Data		LTCP Scenario 1 Criteria	LTCP Scenario 2 Criteria	LTCP Scenario 3A Criteria	LTCP Scenario 3B Criteria	LTCP Scenario 3C Criteria	LTCP Scenario 4 Criteria
Unweathered NAPL	No NAPL	LNAPL in groundwater	LNAPL in soil	No NAPL	No NAPL	No NAPL	No criteria
Thickness of Bioattenuation Zone Beneath Foundation	> 8 feet	≥30 feet	≥30 feet	≥5 feet	≥10 feet	≥5 feet	≥5 feet
Total TPH in Bioattenuation Zone	< 56 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm
Maximum Current Benzene Concentration in Groundwater	500 ppb	No criteria	No criteria	<100 ppb	≥100 and <1,000 ppb	<1,000 ppb	No criteria
Oxygen Data within Bioattenuation Zone	≥4% at lower end of zone	No criteria	No criteria	No oxygen data or <4%	No oxygen data or <4%	≥4% at lower end of zone	≥4% at lower end of zone
Depth of soil vapor measurement beneath foundation	5 feet	No criteria	No criteria	No criteria	No criteria	No criteria	≥5 feet

SCENARIO 4 DIRECT MEASUREMENT OF SOIL VAPOR CONCENTRATIONS

Site Soil Vapor Data			No Bioattenuation Zone		Bioattenuation Zone	
Constituent	Historic Maximum (µg/m ³)	Current Maximum (µg/m ³)	Residential	Commercial	Residential	Commercial
Benzene	6.3	6.3	<85	<280	<85,000	<280,000
Ethylbenzene	<5.6	<5.6	<1,100	<3,600	<1,100,000	<3,600,000
Naphthalene	<27	<27	<93	<310	<93,000	<310,000

If the site does not meet scenarios 1 through 4, does a site-specific risk assessment for the vapor intrusion pathway demonstrate that human health is protected?

If the site does not meet scenarios 1 through 4, has a determination been made that petroleum vapors from soil or groundwater will have no significant risk of adversely affecting human health as a result of controlling exposure through the use of mitigation measures or through the use of institutional controls?

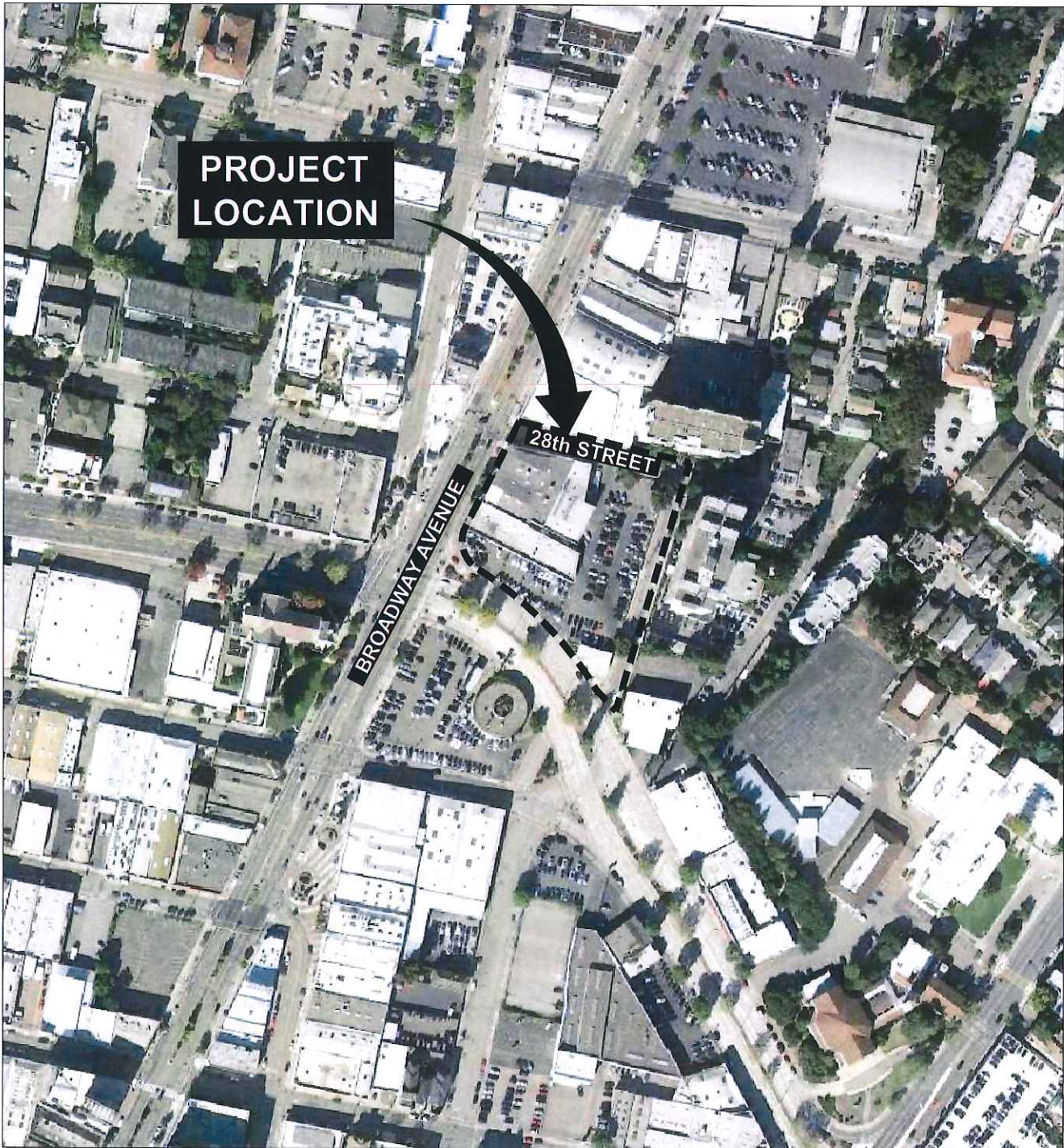
**ATTACHMENT 5
LTCP DIRECT CONTACT AND OUTDOOR AIR EXPOSURE CRITERIA**

LTCP Direct Contact and Outdoor Air Exposure Specific Scenario under which case was closed: Maximum concentrations of petroleum hydrocarbons are less than or equal to those in Table 1 below.

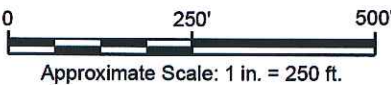
Are maximum concentrations less than those in Table 1 below? **Yes**

Constituent		Residential		Commercial/Industrial		Utility Worker
		0 to 5 feet bgs (ppm)	Volatilization to outdoor air (5 to 10 feet bgs) ppm	0 to 5 feet bgs (ppm)	Volatilization to outdoor air (5 to 10 feet bgs) ppm	0 to 10 feet bgs (ppm)
Site Maximum	Benzene	0.005	2.2	0.005	2.2	2.2
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	<0.005	14	<0.005	14	14
LTCP Criteria	Ethylbenzene	≤21	≤32	≤89	≤134	≤314
Site Maximum	Naphthalene	----	----	----	----	----
LTCP Criteria	Naphthalene	≤9.7	≤9.7	≤45	≤45	≤219
Site Maximum	PAHs	----	----	----	----	----
LTCP Criteria	PAHs	≤0.063	NA	≤0.68	NA	≤4.5
If maximum concentrations are greater than those in Table 1, are they less than levels from a site-specific risk assessment?				----		
If maximum concentrations are greater than those in Table 1, has a determination been made that the concentrations of petroleum in soil will have no significant risk of adversely affecting human health as a result of controlling exposure through the use of mitigation measures or through the use of institutional controls?				----		

CITY (Read) DIV (GROUP) (Read) DB (Read) LD (Opt) PIC (Opt) PM (Read) TM (Opt) LVR (Opt) ON (Off) REF*
G:\ENVCAD\enr\m\102013\DWG\EM001048 N01.dwg LAYOUT: 1. SAVED: 4/15/2013 2:00 PM ACADVER: 18.1S (LMS TECH) PAGES: 1. PAGES SETUP: --- PLOT STYLE TABLE: ARCADIS.CTB PLOTTED: 7/16/2013 1:17 PM BY: REYES, ALEC
XREFS: PROJECTNAME: EM001048 0001 Aerial.jpg

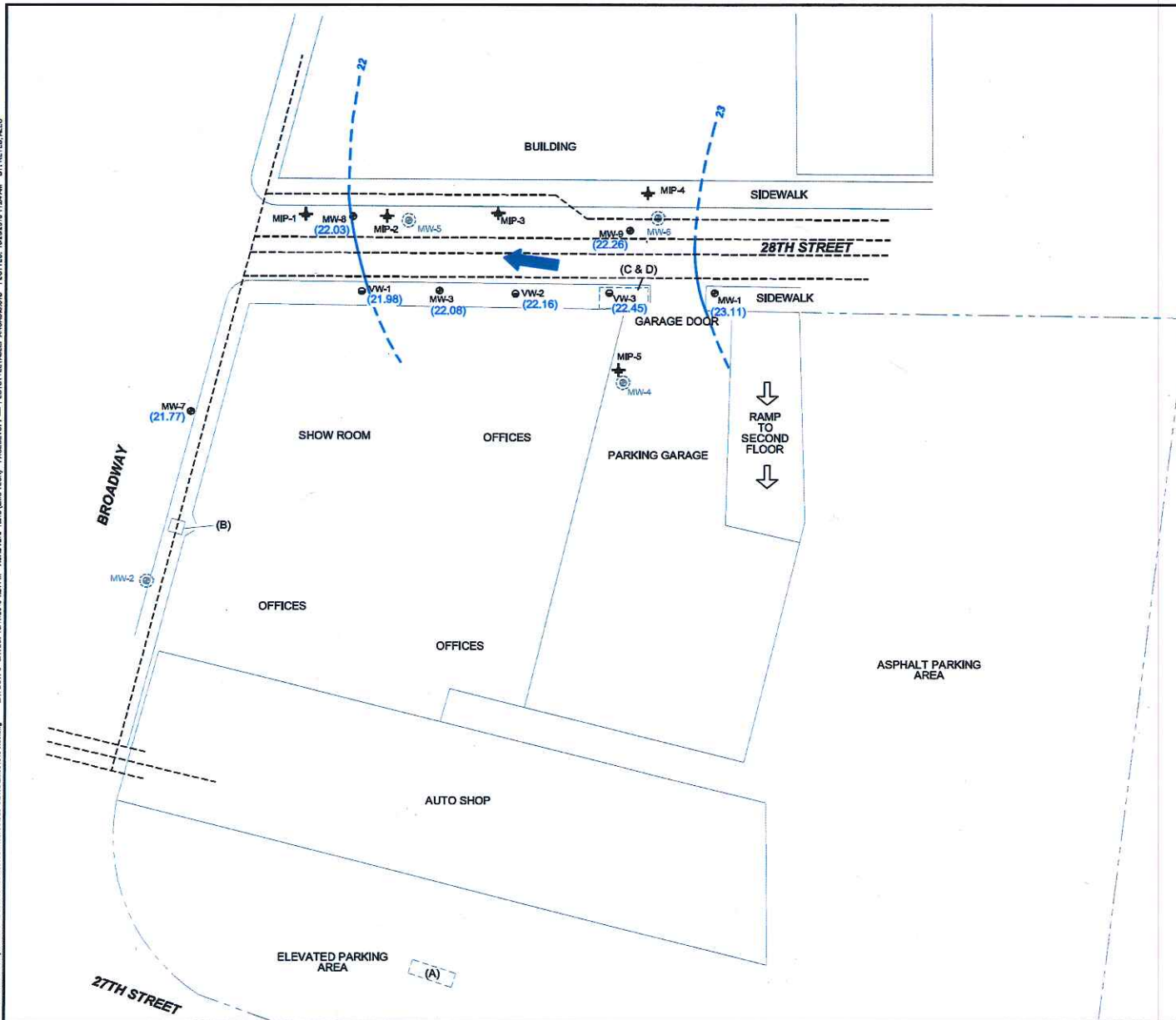


SOURCE: GOOGLE EARTH PRO



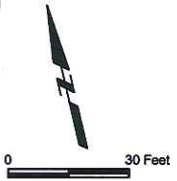
VW OAKLAND 2740 BROADWAY OAKLAND, CALIFORNIA	
SITE LOCATION MAP	
	FIGURE 1

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LEGEND

- — — — — PROPERTY LINE
- — — — — FENCE LINE
- — — — — UTILITY LINE
- MW-3 ● MONITORING WELL LOCATION
- MW-5 ● ABANDONED MONITORING WELL
- VW-1 ● VAPOR EXTRACTION WELL
- FORMER UNDERGROUND STORAGE TANK LOCATION
 - (A) WASTE OIL (1,000 GAL); TANK REMOVED, SITE CLEAN
 - (B) WASTE OIL (550 GAL); TANK REMOVED
 - (C&D) WASTE OIL (550 GAL) AND UNLEADED GASOLINE (3,000 GAL); TANKS REMOVED
- MIP-1 ● SOIL BORING LOCATIONS WITH EC/MIP CAPABILITIES
- EC/MIP ELECTRICAL CONDUCTIVITY / MEMBRANE INTERFACE PROBE
- (22.16) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 22 — CONTOUR OF CONSTANT GROUNDWATER ELEVATION
- ← INFERRED GROUNDWATER FLOW DIRECTION



REFERENCES:
MAP DIGITIZED FROM A SITE PLAN BY
ENVIRONMENTAL SCIENCE & ENGINEERING (6/91)
AND A SITE PLAN BY QST ENVIRONMENTAL (12/02/96 -
REVISED 12/28/98)

VW OAKLAND 2740 BROADWAY OAKLAND, CALIFORNIA	
GROUNDWATER CONTOUR MAP	
	FIGURE 3

CITY OF OAKLAND, 2013/05/01 10:00 AM, PROJECT: 14383, DRAWING: 14383-01, SHEET: 5, DATE: 12/28/98, LAYOUT: 14383-01-5, SCALE: 1"=30', PLOTTER: HP DesignJet 500, PLOTTED: 2/4/2014 3:38 PM BY: REVER, ALEJ



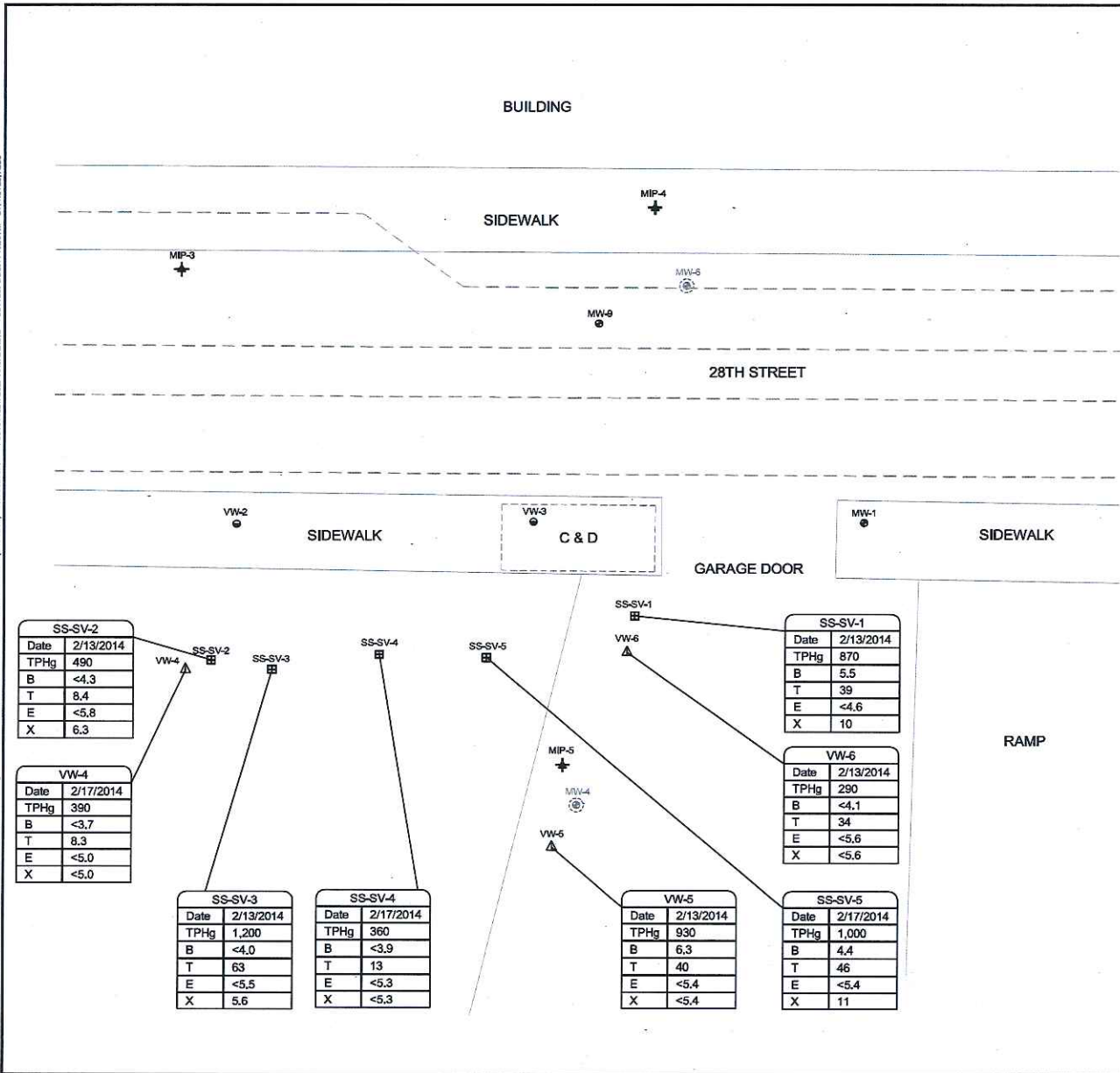
- LEGEND**
- PROPERTY LINE
 - FENCE LINE
 - UTILITY LINE
 - FORMER UNDERGROUND STORAGE TANK LOCATION
 - (A) WASTE OIL (1,000 GAL); TANK REMOVED, SITE CLEAN
 - (B) WASTE OIL (550 GAL); TANK REMOVED
 - (C&D) WASTE OIL (550 GAL) AND UNLEADED GASOLINE (3,000 GAL); TANKS REMOVED
 - MW-3 ● MONITORING WELL LOCATION
 - MW-5 ⊙ ABANDONED MONITORING WELL
 - VW-1 ⊙ VAPOR EXTRACTION WELL
 - VW-6 ▲ SOIL VAPOR MONITORING WELL
 - SS-SV-1 ⊞ SUB-SLAB SOIL VAPOR PROBE
 - MIP-1 ⊕ SOIL BORING LOCATIONS WITH EC/MIP CAPABILITIES
 - EC/MIP ELECTRICAL CONDUCTIVITY / MEMBRANE INTERFACE PROBE
 - (1,330) BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L) (DECEMBER 2013)
 - 100 --- APPROXIMATE EXTENTS OF CONCENTRATION CONTOUR (DASHED WHERE INFERRED)



REFERENCES:
 MAP DIGITIZED FROM A SITE PLAN BY ENVIRONMENTAL SCIENCE & ENGINEERING (6/91) AND A SITE PLAN BY QST ENVIRONMENTAL (12/02/96 - REVISED 12/28/98)

VW OAKLAND 2740 BROADWAY OAKLAND, CALIFORNIA	
BENZENE GROUNDWATER CONCENTRATION CONTOUR MAP	
	FIGURE 5

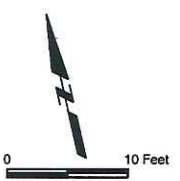
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- LEGEND**
- PROPERTY LINE
 - UTILITY LINE
 - FORMER UNDERGROUND STORAGE TANK LOCATION
 - (A) WASTE OIL (1,000 GAL); TANK REMOVED, SITE CLEAN
 - (B) WASTE OIL (550 GAL); TANK REMOVED
 - (C&D) WASTE OIL (550 GAL) AND UNLEADED GASOLINE (3,000 GAL); TANKS REMOVED
 - MW-3 ● MONITORING WELL LOCATION
 - MW-5 ● ABANDONED MONITORING WELL
 - VW-1 ● VAPOR EXTRACTION WELL
 - VW-6 ▲ SOIL VAPOR MONITORING WELL
 - SS-SV-1 ▣ SUB-SLAB SOIL VAPOR PROBE
 - MIP-1 + SOIL BORING LOCATIONS WITH EC/MIP CAPABILITIES
 - EC/MIP ELECTRICAL CONDUCTIVITY / MEMBRANE INTERFACE PROBE

LOCATION ID	
Date	DATE OF SAMPLE
TPHg	TOTAL PETROLEUM HYDROCARBONS IN GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES

NOTE:
ALL SOIL VAPOR ANALYTICAL RESULTS
SHOWN IN MICROGRAMS PER CUBIC METER



REFERENCES:
MAP DIGITIZED FROM A SITE PLAN BY
ENVIRONMENTAL SCIENCE & ENGINEERING (6/91)
AND A SITE PLAN BY QST ENVIRONMENTAL (12/02/96 -
REVISED 12/28/98)

SS-SV-2	
Date	2/13/2014
TPHg	490
B	<4.3
T	8.4
E	<5.8
X	6.3

VW-4	
Date	2/17/2014
TPHg	390
B	<3.7
T	8.3
E	<5.0
X	<5.0

SS-SV-3	
Date	2/13/2014
TPHg	1,200
B	<4.0
T	63
E	<5.5
X	5.6

SS-SV-4	
Date	2/17/2014
TPHg	360
B	<3.9
T	13
E	<5.3
X	<5.3

VW-5	
Date	2/13/2014
TPHg	930
B	6.3
T	40
E	<5.4
X	<5.4

SS-SV-1	
Date	2/13/2014
TPHg	870
B	5.5
T	39
E	<4.6
X	10

VW-6	
Date	2/13/2014
TPHg	290
B	<4.1
T	34
E	<5.6
X	<5.6

SS-SV-5	
Date	2/17/2014
TPHg	1,000
B	4.4
T	46
E	<5.4
X	11

VW OAKLAND
2740 BROADWAY
OAKLAND, CALIFORNIA

**SOIL VAPOR ANALYTICAL DATA FOR
SAMPLES COLLECTED
FEBRUARY 13 AND 17, 2014**

FIGURE
6

Table 1
Summary of Soil Analytical Results for Total Petroleum Hydrocarbons and Related Compounds
Volkswagen Automobile Dealership
2740 Broadway Avenue, Oakland, CA

Sample ID	Sample Date	Depth Sampled (feet bgs)	Petroleum Hydrocarbons									
			TPHg mg/kg	TPH as Diesel mg/kg	Kerosene mg/kg	Motor Oil mg/kg	Oil and Grease (503E) mg/kg	MTBE mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Total Xylenes mg/kg
Tier I ESL mg/kg			500	110	No Value	500	No Value	0.023	0.044	2.9	3.3	2.3
B-A	8/11/1988	8	<10	--	--	--	<50	--	<0.3	<0.3	<0.3	<0.3
B-B1	8/11/1988	11.33	56	--	--	--	680	--	<0.3	<0.3	<0.3	<0.3
B-B2	8/11/1988	10	840	--	--	--	2,400	--	<0.3	<0.3	<0.3	<0.3
B-C1	8/23/1988	13.33	<10	--	--	--	--	--	1.3	0.9	<0.3	0.3
B-C2	8/23/1988	8.33	<10	--	--	--	--	--	<0.3	<0.3	<0.3	<0.3
B-D1	8/23/1988	13.33	2,900	--	--	--	1,200	--	1.4	7	12	46
B-D2	8/23/1988	7.75	<10	--	--	--	< 50	--	2.2	26	14	78
MW-1	1/21/1989	7	<10	<10	--	--	< 20	--	--	--	--	--
MW-2	1/21/1989	5	--	--	--	--	< 20	--	--	--	--	--
MW-3	1/21/1989	7	--	--	--	--	35	--	--	--	--	--
MW-4	5/14/1991	5	ND	--	ND	ND	ND	--	ND	ND	ND	ND
		10	21	--	ND	ND	ND	--	0.22	0.70	0.260	1.300
MW-5	10/14/1991	5	<1.0	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005
		10	<1.0	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005
		15	<1.0	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005
		18	2.0	--	--	--	--	--	0.22	<0.010	0.028	0.022
MW-6	10/14/1991	5	<1.0	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005
		10	<1.0	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005
		15	<1.0	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005
SB-2A	5/14/1991	10	--	ND	ND	--	--	--	--	--	--	--
		15	--	ND	ND	--	--	--	--	--	--	--
SB-2B	5/14/1991	10	--	ND	ND	--	--	--	--	--	--	--
		15	--	ND	ND	--	--	--	--	--	--	--
SB-3	5/14/1991	5	2.3	ND	ND	ND	--	--	0.0052	0.0060	ND	0.021
		10	740	ND	ND	ND	--	--	1.2	30	9.4	42
		15	5.9	ND	ND	ND	--	--	8.1	0.48	0.099	0.38
SB-4	5/14/1991	5	ND	ND	ND	ND	--	--	ND	ND	ND	ND
	5/14/1991	15	13	ND	ND	14	--	--	0.61	1.1	0.17	0.84
SB-1E	8/5/1999	13.8-14.8	84	--	--	--	--	--	0.94	4.5	1.2	7.4
		14.8-15.8	2,600	--	--	--	--	--	13	180	37	160
SB-2E	8/5/1999	6.8-7.8	<1.0	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005
		9.5-10.5	<1.0	--	--	--	--	--	<0.005	<0.005	<0.005	<0.005
MW-8	06/13/13	5.0 - 5.5	<1.1	1.9 Y	--	9.1	--	<0.025	<0.0063	<0.0063	<0.0063	<0.0063
	06/13/13	10.0 - 10.5	<1.4	<1.3	--	<6.3	--	<0.026	<0.0064	<0.0064	<0.0064	<0.0064
	06/13/13	15.0 - 15.5	<1.3	<1.3	--	<6.4	--	<0.028	<0.0069	<0.0069	<0.0069	<0.0069
MW-9	06/13/13	5.0 - 5.5	<1.2	6.7 Y	--	49	--	<0.022	<0.0055	<0.0055	<0.0055	<0.0055
	06/13/13	10.0 - 10.5	2.2	<1.3	--	<6.3	--	<0.023	<0.0061	<0.0057	0.016	0.035
	06/13/13	15.0 - 15.5	<1.3	<1.2	--	<6.1	--	<0.027	<0.0067	<0.0067	<0.0067	<0.0067

Notes:

feet bgs = Feet below ground surface

TPHg = Total petroleum hydrocarbons as gasoline

MTBE = Methyl tertiary butyl ether

mg/kg = Milligrams per kilogram

< = Not detected at detection or reporting limit indicated

ND = Not detected; no detection or reporting limit provided in source report

-- = Not analyzed

Y = Laboratory reports the sample exhibits chromatographic pattern which does not resemble standard

Bolded values are above the Tier I ESL

Tier I ESL = Tier I Environmental Screening Levels (ESLs) for shallow soils of less than 3 meters below ground surface and commercial land use.

While some samples were collected at depths greater than 3 meters below ground surface, these values were used for a conservative comparison.

ATTACHMENT 7

Historical Soil Analytical Results
 Volatile Organic Compounds
 Broadway Volkswagen
 2470 Broadway, Oakland, CA

Sample ID	Sample Date	Depth Sampled (feet bgs)	Volatile Organic Compounds (mg/kg)														
			1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethene	2-Butanone	Acetone	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Tetra chloroethene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Vinyl chloride
B-A	8/11/1988	8	< 0.005	< 0.005	< 0.005	< 0.005	<0.1	<0.1	<0.01	--	< 0.005	<0.01	< 0.005	< 0.005	< 0.005	< 0.005	<0.01
B-B1	8/11/1988	11.33	< 0.005	< 0.005	< 0.005	< 0.005	<0.1	<0.1	<0.01	--	< 0.005	<0.01	< 0.005	< 0.005	< 0.005	< 0.005	<0.01
B-B2	8/11/1988	10	< 0.005	< 0.005	< 0.005	< 0.005	<0.1	<0.1	<0.01	--	< 0.005	<0.01	< 0.005	< 0.005	< 0.005	< 0.005	<0.01
B-C1	8/23/1988	13.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-C2	8/23/1988	8.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-D1	8/23/1988	13.33	<0.2	<0.2	<0.2	<0.2	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
B-D2	8/23/1988	7.75	<0.2	<0.2	<0.2	<0.2	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW-1	1/21/1989	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	1/21/1989	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	1/21/1989	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	5/14/1991	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/23/1991	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/24/1991	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	10/14/1991	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	10/14/1991	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-1E	8/5/1999	13.8-14.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		14.8-15.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-2A	5/14/1991	10	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--
		15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-2B	5/14/1991	10	--	--	--	--	--	--	--	ND	ND	ND	--	--	ND	ND	ND
		15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-2E	8/5/1999	6.8-7.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		9.5-10.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-3	5/14/1991	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		10	ND	ND	ND	--	--	--	--	ND	ND	ND	--	--	ND	ND	ND
		15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-4	5/14/1991	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/21/1991	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/22/1991	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	06/13/13	5.0 - 5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		10.0 - 10.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		15.0 - 15.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	06/13/13	5.0 - 5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		10.0 - 10.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		15.0 - 15.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
 feet bgs = Feet below ground surface
 mg/kg = Milligrams per kilogram
 < = Not detected at detection or reporting limit indicated
 ND = Not detected; no detection or reporting limit provided in source report
 -- = Not analyzed

**Historical Soil Analytical Results
Metals and Other Analyses
Broadway Volkswagen
2470 Broadway, Oakland, CA**

Sample ID	Sample Date	Depth Sampled (feet bgs)	Metals (mg/kg)					
			Cadmium	Chromium	Cyanide	Lead (total)	Nickel	Zinc
MW-5	10/14/1991	5	--	--	--	--	--	--
		10	< 0.25	39.8	--	7.5	60.0	53.9
		15	--	--	--	--	--	--
		18	--	--	--	--	--	--
SB-3	5/14/1991	5	--	--	--	--	--	--
		10	0.27	27.4	ND	5	42.5	42.5
		15	--	--	--	--	--	--

Notes:

feet bgs = Feet below ground surface

mg/kg = Milligrams per kilogram

< = Not detected at detection or reporting limit indicated

ND = Not detected; no detection or reporting limit provided in source report

-- = Not analyzed

Table 4
Summary of Soil Vapor Analytical Results
 Volkswagen Automobile Dealership
 2740 Broadway Avenue, Oakland, CA

Well Number	Sample Date	TPHg (C7-C12) $\mu\text{g}/\text{m}^3$	Benzene $\mu\text{g}/\text{m}^3$	Toluene $\mu\text{g}/\text{m}^3$	Ethyl benzene $\mu\text{g}/\text{m}^3$	Total Xylenes $\mu\text{g}/\text{m}^3$	Naphthalene	TCE $\mu\text{g}/\text{m}^3$	cDCE $\mu\text{g}/\text{m}^3$	1,2-Dichloroethane $\mu\text{g}/\text{m}^3$	trans-1,2-Dichloroethene $\mu\text{g}/\text{m}^3$	Vinyl Chloride $\mu\text{g}/\text{m}^3$	Oxygen (%)	Helium (%)
Tier I ESL Commercial ($\mu\text{g}/\text{m}^3$)		2,500,000	420	1,300,000	4,900	440,000	360	3,000	31,000	580	260,000	160	No Value	No Value
LTC Commercial Scenario 4b ($\mu\text{g}/\text{m}^3$)		No Value	280,000	No Value	3,600,000	No Value	310,000	No Value	No Value	No Value	No Value	No Value	No Value	No Value
VW-4	02/17/14	390	<3.7	8.3	<5.0	<5.0	<24	<6.2	<4.6	<4.7	<4.6	<3.0	22	<0.12
VW-5	02/13/14	930	6.3	40	<5.4	<5.4	<26	<6.7	<4.9	<5.0	<4.9	<3.2	21	<0.12
VW-6	02/13/14	290	<4.1	34	<5.6	<5.6	<27	<6.9	<5.1	<5.2	<5.1	<3.3	18	<0.13
SS-SV-1	02/13/14	870	5.5	39	<4.6	10	<22	<5.7	<4.2	<4.3	<4.2	<2.7	22	<0.10
SS-SV-2	02/13/14	490	<4.3	8.4	<5.8	6.3	<28	<7.2	<5.3	<5.4	<5.3	<3.4	22	<0.13
SS-SV-3	02/13/14	1,200	<4.0	63	<5.5	5.6	<26	<6.8	<5.0	<5.1	<5.0	<3.2	21	<0.13
SS-SV-4	02/17/14	360	<3.9	13	<5.3	<5.3	<26	<6.6	<4.8	<5.0	<4.8	<3.1	21	<0.12
SS-SV-5	02/17/14	1,000	4.4	46	<5.4	11	<26	<6.7	<5.0	<5.1	<5.0	<3.2	22	<0.12

Notes:

Tier I ESL = Tier I Environmental Screening Levels (ESLs) for soil gas screening levels for evaluation of potential vapor intrusion for commercial/industrial facility
 LTC Commercial Scenario 4b = Low-Threat Closure (LTC) Policy Petroleum Vapor Intrusion to Indoor Air Scenario 4b (direct Measurement of Soil Gas Concentrations - With Bioattenuation Zone) for commercial land use

TPHg = Total Petroleum Hydrocarbons as gasoline

TCE = Trichloroethene

cDCE = cis-1,2-Dichloroethene

$\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter air

< = Not detected at or above the laboratory reporting limit noted

Table 1
Groundwater Elevation Data
 Volkswagen Automobile Dealership
 2740 Broadway Avenue
 Oakland, California

Well	Well Casing Elevation ⁽¹⁾⁽²⁾	Screen Interval feet below ground surface	Well Diameter (inches)	Total Well Depth (feet)	Depth to Product ⁽³⁾ 26-Sep-13	Depth to Water ⁽³⁾ 26-Sep-13	Groundwater Elevation ⁽²⁾ 26-Sep-13
MW-1	31.28	5 to 20	2	19.20	NM	8.17	23.11
MW-3	31.68	5 to 20	2	18.60	NM	9.60	22.08
MW-7	31.53	20 to 25	4	23.50	NM	9.76	21.77
MW-8	32.70	16 to 20	2	20.04	NM	10.67	22.03
MW-9	31.85	11 to 15	2	14.94	NM	9.59	22.26
VW-1	31.67	14.5 to 19.5	4	18.55	NM	9.69	21.98
VW-2	31.71	12 to 16.5	4	16.93	NM	9.55	22.16
VW-3	31.11	5 to 15.5	4	NM	NM	8.66	22.45

Notes:

- (1) Survey conducted by PLS Surveys Inc. on July 1, 2013. April 21 and field measurements.
 - (2) In reference to feet above mean sea level.
 - (3) In feet below top of casing (approximately at ground surface).
- NM = Not measured

Table 3
Summary of Groundwater Analytical Results
Volkswagen Automobile Dealership
2740 Broadway Avenue, Oakland, CA

Well Number	Sample Date	TPHg µg/L (C7-C12)	TPHd µg/L (C10 - C24)	TPHmo µg/L (C24-C36)	Benzene µg/L	Toluene µg/L	Ethyl benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TCE µg/L	cDCE µg/L	1,1- Dichloroethene µg/L	1,2- Dichloroethane µg/L	1,3,5- Trimethyl benzene µg/L	1,2,4- Trimethyl benzene µg/L	n-Butyl benzene µg/L	Naphthalene µg/L	trans-1,2- Dichloroethene µg/L	TDS µg/L	
Tier I ESL µg/L		100	100	100	1	40	30	20	5	5	6	5	0.5	na	na	na	17	na	na	
VI ESL (Fine-Coarse Mix) µg/L		No Value	No Value	No Value	270	Sample Soil Gas	3,100	Sample Soil Gas	100,000	1,300	No Value	130,000	1,000	No Value	No Value	No Value	1,600	120,000	No Value	
MW-1	01/21/89	ND	na	na	53	13	1.4	8.2	—	na	na	—	na	na	na	na	na	—	na	
	05/13/91	130	na	na	ND	ND	ND	ND	—	58	na	—	ND	na	na	na	na	—	na	
	10/18/91	ND	na	na	ND	ND	ND	ND	—	120	na	—	ND	na	na	na	na	—	na	
	10/27/91	ND	na	na	ND	ND	ND	ND	—	11	na	—	ND	na	na	na	na	—	na	
	07/13/93	ND	na	na	ND	ND	ND	ND	—	6.4	na	—	ND	na	na	na	na	—	na	
	06/27/96	ND	na	na	ND	ND	ND	ND	—	na	na	—	na	na	na	na	na	—	na	
	09/19/96	ND	na	na	ND	ND	ND	ND	—	na	na	—	na	na	na	na	na	—	na	
	12/13/96	ND	na	na	ND	ND	ND	ND	—	na	na	—	na	na	na	na	na	—	na	
	10/07/97	ND	na	na	ND	ND	ND	ND	ND	na	na	—	na	na	na	na	na	—	na	
	08/03/99	ND	na	na	ND	ND	ND	ND	ND	na	na	—	na	na	na	na	na	—	na	
	06/08/12	<50	290 Y	<300	<0.5	<0.5	<0.5	<0.5	<0.5	0.3 J	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<2.0	—	410
	06/19/13	<50	290 Y	<300	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	na
09/26/13	<50	120 Y	<310	<0.5	<0.5	<0.5	<0.5	<0.5	na	na	na	na	na	na	na	na	na	na	na	
12/10/13	85 Z	220 Y	<300	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	52	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	na	
MW-2*	01/21/89	ND	na	na	ND	ND	ND	ND	—	na	na	—	na	na	na	na	na	—	na	
MW-3	01/21/89	32,000	na	na	9,600	8,200	1,800	6,200	—	na	na	—	na	na	na	na	na	—	na	
	05/13/91	81,000	na	na	7,800	12,000	1,200	4,000	—	14	na	—	380	na	na	na	na	—	na	
	10/18/91	73,000	na	na	9,400	8,600	750	3,300	—	14	na	—	8.3	na	na	na	na	—	na	
	10/27/91	37,000	na	na	7,100	4,900	970	3,500	—	ND	na	—	170	na	na	na	na	—	na	
	07/13/93	41,000	na	na	8,100	6,200	8,100	4,400	—	14	na	—	150	na	na	na	na	—	na	
	06/27/96	370	na	na	120	75	6.2	47	—	na	na	—	na	na	na	na	na	—	na	
	09/19/96	15,000	na	na	6,000	2,700	450	2,180	—	na	na	—	na	na	na	na	na	—	na	
	12/13/96	ND	na	na	30	10	2	7.4	—	na	na	—	na	na	na	na	na	—	na	
	12/13/96	ND	na	na	21	7	1	4.9	—	na	na	—	na	na	na	na	na	—	na	
	10/07/97	ND	na	na	ND	ND	ND	ND	ND	na	na	—	na	na	na	na	na	—	na	
Dup	10/07/97	ND	na	na	21	7	1	4.9	5.7	na	na	—	na	na	na	na	na	—	na	
	08/03/99	21,000	na	na	5,500	2,300	470	990	—	na	na	—	na	na	na	na	na	—	na	
MW-4*	06/08/12	<50	56	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<2.0	—	310	
	06/19/13	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	na	
	09/26/13	<50	<51	<310	2.6	<0.5	<0.5	<0.5	na	na	na	na	na	na	na	na	na	na	na	
	12/10/13	<50	<51	<300	28	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<2.0	<0.5	na	
MW-4*	01/21/89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	05/13/91	13,000	—	—	160	690	250	1,100	—	490	—	—	ND	—	—	—	—	—	—	
	10/18/91	ND	—	—	11	11	ND	15	—	450	—	—	3.9	—	—	—	—	—	—	
	10/27/91	180	—	—	6.4	2.8	1.2	6.2	—	520	—	—	ND	—	—	—	—	—	—	
	07/13/93	320	—	—	36	4.4	1.8	5.3	—	550	—	—	ND	—	—	—	—	—	—	

Table 3
Summary of Groundwater Analytical Results
Volkswagen Automobile Dealership
2740 Broadway Avenue, Oakland, CA

Well Number	Sample Date	TPHg µg/L (C7-C12)	TPHd µg/L (C10 - C24)	TPHmo µg/L (C24-C36)	Benzene µg/L	Toluene µg/L	Ethyl benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TCE µg/L	cDCE µg/L	1,1- Dichloroethene µg/L	1,2- Dichloroethane µg/L	1,3,5- Trimethyl benzene µg/L	1,2,4- Trimethyl benzene µg/L	n-Butyl benzene µg/L	Naphthalene µg/L	trans-1,2- Dichloroethene µg/L	TDS µg/L	
Tier I ESL µg/L		100	100	100	1	40	30	20	5	5	6	5	0.5	na	na	na	17	na	na	
MW-5*	01/21/89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	05/13/91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	10/18/91	16,000	—	—	3,500	530	670	1,100	—	120	—	—	32	—	—	—	—	—	—	
	10/27/91	87	—	—	ND	ND	ND	ND	—	410	—	—	ND	—	—	—	—	—	—	
	07/13/93	90	—	—	ND	ND	ND	ND	—	530	—	—	ND	—	—	—	—	—	—	
MW-6*	01/21/89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	05/13/91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	10/18/91	28,000	—	—	640	2,700	1,100	4,500	—	230	—	—	60	—	—	—	—	—	—	
	10/27/91	1,300	—	—	48	130	55	230	—	2,000	—	—	ND	—	—	—	—	—	—	
	07/13/93	1,100	—	—	5.1	30	30	230	—	2,100	—	—	ND	—	—	—	—	—	—	
MW-7	06/27/96	ND	na	na	ND	ND	ND	ND	ND	na	na	—	na	na	na	na	na	—	na	
	09/19/96	67	na	na	ND	ND	ND	ND	ND	na	na	—	na	na	na	na	na	—	na	
	12/13/96	ND	na	na	ND	ND	ND	ND	ND	na	na	—	na	na	na	na	na	—	na	
	10/07/97	ND	na	na	ND	ND	ND	ND	ND	na	na	—	na	na	na	na	na	—	na	
	06/08/12	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	4.6	0.5	—	1.2	<0.5	<0.5	<0.5	<2.0	—	290	
Dup	06/19/13	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	3.2	0.3 J	<0.5	0.5	<0.5	<0.5	<0.5	<2.0	<0.5	na	
	06/19/13	<50	<50	<300	3.1	<0.5	<0.5	<0.5	<0.5	<0.5	0.3 J	<0.5	0.5	<0.5	<0.5	<0.5	<2.0	<0.5	na	
	09/26/13	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	<0.5	na	na	na	na	na	na	na	na	na	na	
	09/26/13	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	na	na	na	na	na	na	na	na	na	na	
	12/10/13	<50	<51	<300	<0.5	<0.5	<0.5	<0.5	<0.5	3.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	na	
MW-8	06/19/13	1,800 Y	650	<300	360	2.3 J	16	2.2 J	1.3 J	<2.5	19	<2.5	2.3 J	<2.5	<2.5	<2.5	<10	<2.5	na	
	09/26/13	890	370 Y	<290	330	3.3	66	8.3	na	na	na	na	na	na	na	na	na	na	na	
	12/10/13	1,200	550	<340	310	5.7	88	14.0	5.0	4.3	120	<2.0	2.7	<2.0	<2.0	7.0	<8.0	<2.0	na	
	MW-9	06/19/13	5,400	1,100	<300	1,500	19	110	37	<8.3	13	14	<8.3	<8.3	<8.3	10	<8.3	42	<8.3	na
		09/26/13	8,300	2,300	<310	650	<6.3	690	610	na	na	na	na	na	na	na	na	na	na	na
12/10/13		12,000	1,900	<300	500	<6.3	890	1,209	<6.3	<6.3	7.5	<6.3	<6.3	210	750	<6.3	240	<6.3	na	
VW-1 Dup	06/08/12	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<2.0	—	210	
	06/08/12	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<2.0	—	210	
	06/19/13	<50	70 Y	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	na	
	09/26/13	<50	<52	<310	<0.5	<0.5	<0.5	<0.5	na	na	na	na	na	na	na	na	na	na	na	
	12/10/13	<50	<51	<310	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	na	
VW-2	06/08/12	36,000	3,400 Y	<300	1,800	3,000	1,200	4,900	<25	<25	<25	—	<25	240	960	70	480	—	370	
	06/19/13	4,300	830	<300	270	58	280	430	<1.7	<1.7	<1.7	<1.7	1.7	16	260	<1.7	22 J	<1.7	na	
	09/26/13	850	240 Y	<310	26	38	56	118	na	na	na	na	na	na	na	na	na	na	na	
	12/10/13	3,900	640	<310	300	260	210	490	<0.5	<0.5	0.5	<0.5	1.3	18	110	<0.5	37	<0.5	na	
VW-3	06/08/12	120,000 Y	9,300	2,000	54	<20	84	640	<20	<20	<20	—	<20	650	2,000	83	240	—	370	
	06/19/13	13,000	6,200	650	72	<7.1	16	119.7	<7.1	<7.1	<7.1	<7.1	<7.1	300	1,000	58	70	<7.1	na	
	09/26/13	6,000	2,900	370	100	<1.3	<1.3	43.1	na	na	na	na	na	na	na	na	na	na	na	
	12/10/13	6,500	3,200	730	120	1.7	11	49.6	<1.3	<1.3	<1.3	<1.3	<1.3	170	410	64	81	<1.3	na	
MIP-1	04/05/13	630 Y	590	<300	52	1.0	0.5 J	0.7	1.6	18	40	0.3 J	2.8	<0.5	<0.5	<0.5	<2.0	0.3 J	—	

Table 3
Summary of Groundwater Analytical Results
Volkswagen Automobile Dealership
2740 Broadway Avenue, Oakland, CA

Well Number	Sample Date	TPHg µg/L (C7-C12)	TPHd µg/L (C10 - C24)	TPHmo µg/L (C24-C36)	Benzene µg/L	Toluene µg/L	Ethyl benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TCE µg/L	cDCE µg/L	1,1- Dichloroethene µg/L	1,2- Dichloroethane µg/L	1,3,5- Trimethyl benzene µg/L	1,2,4- Trimethyl benzene µg/L	n-Butyl benzene µg/L	Naphthalene µg/L	trans-1,2- Dichloroethene µg/L	TDS µg/L
Tier I ESL µg/L		100	100	100	1	40	30	20	5	5	6	5	0.5	na	na	na	17	na	na
MIP-2	04/05/13	510 Y	450	<300	140	1.1	<1.0	0.7 J	<1.0	42	4.4	<1.0	1.5	<1.0	<1.0	<1.0	<4.0	<1.0	---
MIP-3	04/05/13	1,800	600	<300	270	2.1	120	135	1.2 J	270	17	<1.7	1.1 J	<1.7	1.5 J	3.0	17	<1.7	---
MIP-4	04/05/13	13,000	4,300	320	15	5.7	510	1,490	<5.0	960	11	<5.0	<5.0	290	850	57	150	<5.0	---
Dup	04/05/13	14,000	1,700	<300	29	8.5	670	1,970	<6.3	750	7.0	<6.3	<6.3	340	1,000	73	200	<6.3	---
MIP-5	04/05/13	4,200	1,000	<300	9.0	18	46	189	<1.3	170	10	<1.3	1.2 J	58	170	19	18	<1.3	---

Notes:

Tier I ESL Tier I Environmental Screening Levels (ESLs) for shallow soils of less than 3 meters below ground surface and groundwater that is a current or potential source of drinking water.

TPHg Total Petroleum Hydrocarbons as gasoline

TPHd Total Petroleum Hydrocarbons as diesel

TPHmo Total Petroleum Hydrocarbons as motor oil

MTBE Methyl tertiary butyl ether

cDCE cis-1,2-Dichloroethene

EDC 1,2-Dichloroethane (ethylene dichloride)

TCE Trichloroethene

TDS Total dissolved solids

µg/L micrograms per liter

ND Not detected at or above detection limits (historical limits unknown).

— Not analyzed

na historical data not available

Dup Duplicate sample

* Wells abandoned

< Not detected at or above the laboratory detection limit noted.

Y Laboratory reports the sample exhibits chromatographic pattern which does not resemble standard.

J Laboratory reports estimated value.

Z Sample exhibits unknown single peak or peaks

VI ESL Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion for Fine to Coarse Media for Commercial/Industrial Land Use

Bolded values are above the Tier I ESL

Italicized values are above the VI ESL