Carryl MacLeod
Project Manager
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Chevron Environmental Management Company
6101 Bollinger Canyon Road
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Tel (925) 790-6270
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Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Former Chevron Service Station 209339
5940 College Avenue
Oakland, California
ACEH Case No. RO0000466

I accept the Addendum to Case Closure Request.

I agree with the conclusions and recommendations presented in this document. The information included is accurate to the best of my knowledge, and appears to meet local agency and Regional Board guidelines. This Addendum to Case Closure Request was prepared by Conestoga Rovers & Associates, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

Carryl MacLeod
Project Manager

Attachment: Addendum to Case Closure Report

CONESTOGA-ROVERS & ASSOCIATES

5900 Hollis Street, Suite A, Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
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December 4, 2012 Reference No. 311954

Mr. Mark Detterman
Alameda County Environmental Health (ACEH)
1131 Harbor Bay Parkway
Alameda, California 94502

Re: Addendum to Case Closure Request
Former Chevron Service Station 209339
5940 College Avenue
Oakland, California
ACEH Case RO0000466

Dear Mr. Detterman:

Conestoga-Rovers & Associates (CRA) is submitting this *Addendum to Case Closure Request* for the site referenced above (Figures 1 and 2) on behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "EMC"). The site meets the San Francisco Bay Regional Water Quality Control Board (RWQCB-SF) definition of a low-risk fuel site described in their memorandum "Interim Guidance on Required Clean-up at Low-Risk Fuel Sites" dated January 5, 1996. As a result, CRA and EMC submitted the August 25, 2011 *Case Closure Request* (Attachment A) to Alameda County Environmental Health (ACEH); a response from ACEH is pending.

Since the August 2011 submittal, the State Water Resources Control Board (SWRCB) adopted Resolution No. 2012-0016, the *Low-Threat Underground Storage Tank (UST) Case Closure Policy* (low-threat policy) on August 17, 2012. The purpose of this addendum is to present the results of our evaluation of current site conditions to closure criteria stated in the recently adopted *Low-Threat Policy*. A summary of the current site conditions is included as Attachment A. Since the site meets the stated closure criteria, we are requesting ACEH concurrence that the site meets low-threat case closure criteria and grant case closure. CRA presents a comparison of the site conditions to the policy's closure criteria below.

COMPARISON TO LOW-THREAT UNDERGROUND STORAGE TANK CASE CLOSURE POLICY

The intent of the policy is to increase cleanup process efficiency at petroleum release sites. A benefit of improved efficiency is the preservation of limited resources for mitigation of releases posing the greatest threat to human and environmental health. Per the policy, sites that meet the general and media-specific criteria described in the policy do not pose a threat to human health, safety, or the environment and are appropriate for case closure pursuant to Health and Safety Code section 25296.10. The policy further states that sites meeting the stated criteria for low-threat closure should be issued a closure letter if the site is determined to be low-threat based upon a site-specific analysis.

The eight general criteria that must be satisfied by all candidate sites are listed as follows:

a. *The unauthorized release is located within the service area of a public water system.*
Satisfied: The site and surrounding vicinity is serviced by the East Bay Municipal Utility District. There are no water supply wells within ½ mile radius of the site (incorrect distance of ¼ mile listed in the August 25, 2011 *Case Closure Request).*

b. *The unauthorized release consists only of petroleum.*
Satisfied: The site's unauthorized release has been characterized as a release of petroleum-based products (gasoline and benzene, toluene, ethylbenzene and xylenes [BTEX]).

c. *The unauthorized ("primary") release from the UST system has been stopped.*
Satisfied: Petroleum storage and handling facilities that potentially were the source of the release were removed from the site in 1968.

d. *Free product has been removed to the maximum extent practicable.*
Satisfied: Free product has never been observed at the site.

e. *A conceptual site model has been developed.*
Satisfied: The information contained herein and the August 25, 2011 *Case Closure Request* contain all elements of a conceptual site model.

f. *Secondary source removal has been addressed.*
Satisfied: Secondary source removal of soil around the former USTs, dispensers, and fuel piping was removed in 1968 and most likely further excavation of soil was completed during redevelopment in 1979.

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

Satisfied: MTBE has been evaluated in soil and groundwater, and reported in accordance with Health and Safety Code section 25296.15. The former Chevron station ceased operation in approximately 1968, and the first use of MTBE as a fuel additive was not until late 1970s to early 1980s. Therefore, MTBE detected in the site groundwater monitoring wells is not sourced from the site.

h. *Nuisance as defined by Water Code section 13050 does not exist at the site.*

Satisfied: Conditions satisfying the definition of a nuisance as defined in Water Code section 13050 do not exist at the site.

MEDIA-SPECIFIC CRITERIA REQUIREMENTS

Media-specific criteria are related to the most common exposure scenarios, which in the policy have been combined into three media-specific criteria related to:

1. Groundwater
2. Vapor Intrusion to Indoor Air
3. Direct Contact and Outdoor Air Exposure

GROUNDWATER-SPECIFIC CRITERIA

It is a fundamental tenet of the low-threat policy that if the closure criteria described in the policy are satisfied at a release site, applicable water quality objectives (WQOs) will be attained through natural attenuation within a reasonable amount of time, prior to the need for use of any affected groundwater. If a site has groundwater with a designated beneficial use that is affected by an unauthorized release, to satisfy the media-specific criteria for groundwater stated in the low-threat policy, the contaminant plume that exceeds WQOs must be stable or decreasing in aerial extent, and meet all of the additional characteristics of one of the five classes of sites listed in the policy.

The five classes of sites are stated in the policy as follows:

1. a. The contaminant plume that exceeds WQOs is less than 100 feet in length.
   b. There is no free product.
   c. The nearest existing water supply well and/or surface water body is greater than 250 feet from the defined plume boundary.

2. a. The contaminant plume that exceeds WQOs is less than 250 feet in length.
   b. There is no free product.
   c. The nearest existing water supply well and/or surface water body is greater than 1,000 feet from the defined plume boundary.
   d. The dissolved concentration of benzene is less than 3,000 micrograms per liter (µg/l) and the dissolved concentration of MTBE is less than 1,000 µg/l.

3. a. The contaminant plume that exceeds WQOs is less than 250 feet in length.
   b. Free product may be present below the site but does not extend off-site.
   c. The plume has been stable or decreasing for a minimum of 5 years.
   d. The nearest existing water supply well and/or surface water body is greater than 1,000 feet from the defined plume boundary.
   e. The property owner is willing to accept a deed restriction if the regulatory agency requires a deed restriction as a condition of closure.

4. a. The contaminant plume that exceeds WQOs is less than 1,000 feet in length.
   b. There is no free product.
   c. The nearest existing water supply well and/or surface water body is greater than 1,000 feet from the defined plume boundary.
   d. The dissolved concentration of benzene is less than 1,000 µg/l and the dissolved concentration of MTBE is less than 1,000 µg/l.

5. a. An analysis of site specific conditions determines that the site under current and reasonable anticipated near-term future scenarios 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.

Satisfied: The site satisfies Class 2 listed above. The petroleum hydrocarbon plume that exceeds WQOs is less than 250 feet in length based on site data from wells MW-2 and MW-1, and the grab-groundwater sample collected at SB-2. The groundwater plume is centered on the former gasoline and used-oil USTs removed in 1996 located at the adjacent leaking underground storage tank (LUST) case, the former Sheaff's service garage. The site wells MW-1 and MW-2 delineate the Sheaff's groundwater plume to the north (crossgradient) and to the west (downgradient). Figures 3 through 11 (Attachment A) present snapshots of the groundwater plume over time. Attachment B includes groundwater hydrocarbon

concentrations maps for events completed in 2011[1] and 2012.[2] No free product has been reported beneath the site. There are no water supply wells within ½ mile radius of the site, and there are no open surface water bodies within 1,000 feet from the groundwater plume; former Harwood Creek, located approximately 200 feet from Sheaff's well MW-3, is contained in a closed conduit.[3] No dissolved-phase benzene concentrations are detected in site well MW-1 and less than 1 µg/l of benzene is reported in site well MW-2. MTBE has not been detected in site wells MW-1 and MW-2 or in boring SB-2.

PETROLEUM VAPOR INTRUSION TO INDOOR AIR

Exposure to petroleum vapors migrating from soil and groundwater to indoor air may pose a potential human health risk. The low-threat policy provides conditions to meet to assure that the exposure to human health will not pose a risk. At least one of the following criteria must be met to be considered low-threat for vapor intrusion to indoor air:

a. Site-specific conditions at the release site satisfy all of the characteristics and criteria of scenarios 1 through 3 as applicable or all of the characteristics and criteria of scenario 4 present in the low-threat policy; or

b. A site specific risk assessment for the vapor intrusion pathway is conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency; or

c. As a result of controlling exposure through t he use of mitigation measures or through the use of institutional engineering controls, the regulatory agency determines that the petroleum vapors migrating from soil and groundwater will have no significant risk of adversely affecting human health.

Satisfied: The site meets the low-threat criteria "Scenario 3 - Dissolved Phase Benzene Concentrations in Groundwater" (with or without oxygen data), Figure A, where benzene concentrations are less than 100 µg/l, the bioattenuation zone:

---

1 CRA, 2011. *First Semi-Annual 2012 Groundwater Monitoring and Sampling Report*, Former Chevron Service Station 209339, 5940 College Avenue, Oakland, California, November 30, 2011.

2 CRA, 2012. *Second Semi-Annual 2012 Groundwater Monitoring and Sampling Report*, May 24, 2012

3 Golden Gate Tank Removal, Inc., 2009. *Soil and Water Investigation Work Plan & Site Conceptual Model,* Sheaff's Garage, 5930 College Avenue, Oakland, California, June 1, 2009.

a. Shall be a continuous zone providing a separation of at least 5 feet vertically between the dissolved-phase benzene and the foundation of existing or potential buildings; and
b. Contain total TPH (combined TPHg and TPHd) less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

Benzene concentrations in site wells MW-1 and MW-2 are less than 1 µg/l; the depth to groundwater beneath site wells MW-1 and MW-2 range from 7 to 13 feet below grade (fbg), which provides a 5 foot bioattenuation zone; and no TPH was detected in soil at 4.5 and 9 fbg.

DIRECT CONTACT AND OUTDOOR AIR EXPOSURE

The low-threat policy describes conditions where direct contact with contaminated soil or inhalation of contaminants volatized to outdoor air poses an insignificant threat to human health. Release sites where human exposure may occur satisfy media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if they meet any one of the following criteria:

a. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in the table below for the specified depth below ground surface. The limits from 0 to 5 fbg protect from ingestion, dermal contact, and outdoor inhalation of volatile and particulate emissions. The 5 to 10 fbg limits protect for inhalation of volatile emissions only; ingestion and dermal contact pathways not considered significant.

	Residential		*Commercial/Industrial*		*Utility Worker*
Constituent	*0 – 5 fbg mg/kg*	*Volatilization to outdoor air (5 – 10 fbg) mg/kg*	*0 – 5 fbg mg/kg*	*Volatilization to outdoor air (5 – 10 fbg) mg/kg*	*0 – 10 fbg mg/kg*
Benzene	1.9	2.8	8.2	12	14
Ethylbenzene	21	32	89	134	314
Naphthalene	9.7	9.7	45	45	219
PAH*	0.063	NA	0.68	NA	4.5

*Notes: Based on the seven carcinogenic polynuclear aromatic hydrocarbons (PAHs) as benzo(a)pyrene toxicity equivalent [BaPe]. The PAH screening level is only applicable where soil is affected by either waste oil and/or Bunker C fuel.

b. Maximum concentrations of petroleum constituents in soil are less than levels that a site-specific risk assessment demonstrates will have no significant risk of adversely affecting human health.

c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

Satisfied: The site meets the criteria "a" above. Only toluene, ethylbenzene and xylenes were detected at boring MW-2 at 4.5 fbg and the concentration of ethylbenzene was 0.0054 mg/kg, significantly below the low-threat policy criteria listed above. Soil samples were not analyzed for PAHs or naphthalene since there was no known used-oil release at the site.

The property was redeveloped as the current commercial property in 1979. The bottom level of current two-story building is approximately 3 to 4 feet below street level, and although the site was excavated to an unknown depth during construction, it was thought to be at least 6 fbg.[4] Given the likely depth of this excavation and benzene and ethylbenzene concentrations below the low-threat criteria, no significant risk to direct contact or outdoor air exists.

CONCLUSIONS AND RECOMMENDATIONS

Cease Groundwater Monitoring and Sampling

Groundwater data, as presented in the August 25, 2011 *Case Closure Request* and this addendum, support a conclusion that the site and the impacted groundwater pose no significant threat to human health or the environment. Therefore, effective immediately, Chevron shall cease groundwater monitoring and sampling activities pending a response and further direction from ACEH.

Case Closure Request

Soil and groundwater data presented in previous reports support the conclusion that site conditions meet all the general and media-specific criteria established in the low-threat policy, and therefore pose a low-threat to human health, safety, and the environment, satisfy the case-closure requirements of Health and Safety Code section 25296.10, and case closure is consistent with Resolution 92-49 that requires that cleanup goals be met within a reasonable

[4] CRA, 2008. *Site Conceptual Model*, Former Chevron Service Station 20-9339, 5940 College Avenue, Oakland, California, December 30, 2008.

time frame. Therefore, on behalf of EMC, CRA requests ACEH concurrence that the site meets low-threat closure criteria and the case be closed.

Please contact the project manager, Tina Hariu, at (510) 420-3344 if you have any questions or require additional information.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Celina Hernandez, PG 8931

CH/mws/7
Encl.

Attachment A CRA's August 25, 2011 *Case Closure Request*
Attachment B CRA's Groundwater Hydrocarbon Concentration Maps for 2011 and 2012

cc: Ms. Roya Kambin, Chevron *(electronic copy)*
Mr. Donald Sweet, San Francisco Property MGMT
Mr. Patrick Elwood, College Square Associates

ATTACHMENT A

CRA'S AUGUST 25, 2011 *CASE CLOSURE REQUEST*

CONESTOGA-ROVERS & ASSOCIATES

5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
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TRANSMITTAL

DATE: 8/25/2011

REFERENCE NO.: LOC# RO466

PROJECT NAME: Former Texaco Station 20-9339

TO: Mark Detterman
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Please find enclosed:
- ☐ Draft
- ☐ Originals
- ☐ Prints
- ☒ Final
- ☐ Other PDF

Sent via:
- ☒ Mail
- ☐ Overnight Courier
- ☐ Same Day Courier
- ☒ Other ACEH FTP Website and GeoTracker

QUANTITY	DESCRIPTION
1	Case Closure Request

- ☐ As Requested
- ☐ For Your Use
- ☒ For Review and Comment
- ☐
- ☐

COMMENTS:

Copy to:

Mr. Eric Frohnapple, Chevron
Mr. Donald Sweet, San Francisco Property MGMT

Completed by: Kiersten Hoey Signed: Kiersten Hoey

Filing: **Correspondence File**

Eric Frohnapple
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-6692
ericf@chevron.com

Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Former Chevron Service Station No. 20-9339
5940 College Avenue
Oakland, California

I accept the **Case Closure Request** dated August 25, 2011.

I agree with the conclusions and recommendations presented in this document. The information included is accurate to the best of my knowledge, and appears to meet local agency and Regional Board guidelines. This **Case Closure Request** was prepared by Conestoga Rovers & Associates, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

Eric Frohnapple
Project Manager

Attachment: Case Closure Request

CASE CLOSURE REQUEST

Former Chevron Service Station 20-9339
5940 College Avenue
Oakland, California
ACEH Case No. RO0000466

Prepared for:

Mr. Mark Detterman
Alameda County Environmental Health (ACEH)
1131 Harbor Bay Parkway
Alameda, California 94502

Prepared by:
Conestoga-Rovers & Associates

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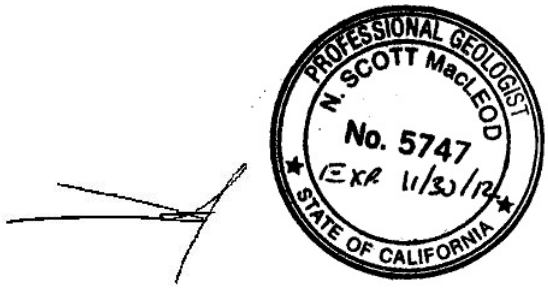
AUGUST 25, 2011
REF. NO. 311954 (7)
This report is printed on recycled paper.

CASE CLOSURE REQUEST

Former Chevron Service Station 20-9339
5940 College Avenue
Oakland, California
ACEH Case No. RO0000466

Kiersten Hoey



Scott MacLeod

AUGUST 25, 2011
REF. NO. 311954 (7)
This report is printed on recycled paper.

Prepared by:
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LIST OF APPENDICES

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) is submitting this *Case Closure Request* on behalf of Chevron Environmental Management Company (Chevron) for the former Chevron service station located at 5940 College Avenue in Oakland, California. Based on our review of the site background and conditions, this site meets the San Francisco Bay Region-Regional Water Quality Control Board's (RWQCB) definition of a low-risk fuel site as described in its memorandum "*Interim Guidance on Required Clean-up at Low-Risk Fuel Sites*" dated January 5, 1996. Site background, conditions, and our request for closure, based on the low-risk fuel site criteria, are addressed below.

1.1 SITE BACKGROUND

The site is a former Chevron gasoline service station located on the southeast corner of the intersection of College and Harwood Avenues in Oakland, California (Figure 1). The station occupied the site from 1938 to 1968. Former site facilities consisted of four underground storage tanks (USTs), one dispenser island and a building (Figure 2). From 1968, until the construction of the current building, the site was used as a parking lot. The current multi-story building was constructed in 1979 and contains multiple businesses (Figure 2). Adjacent and south of the site is the former Sheaff's Garage (Sheaff), now Stauder Automotive service facility, with an open ACEH fuel leak case (RO0000377).

Four soil borings and two monitoring wells have been installed at the site. Soil was excavated when the current building was constructed 3 to 4 feet below street level in 1979, but the depth and volume of the excavation is not known. A summary of the past investigation work performed at the site is included in Appendix A.

1.2 SITE GEOLOGY

The site is approximately 195 feet above mean sea level with a regional topographic slope east-northeastward toward San Francisco Bay. Native materials encountered appear to be Holocene-age alluvial fan and fluvial deposits consisting of interbedded sands, silts and clays to the total explored depth of 21 feet below grade (fbg). Lithology is not consistent between borings and there are no universal lithologic horizons. Brick fragments encountered at 5 fbg in MW-2 suggests that the shallow soils encountered in this area are backfill material. Boring logs are included in Appendix B.

A review of the Golden Gate Tank Removal's August 26, 2006 *Additional Site Characterization and Groundwater Monitoring Report,* indicates subsurface soil at the adjacent former Sheaff site (5930 College Avenue) is generally similar to subsurface soils encountered at the former Chevron site.

1.3 SITE HYDROLOGY

The site is located in the East Bay Plain basin. Groundwater in this basin is designated as a potential drinking water source; however, it is not currently used as a municipal drinking water supply due to readily available imported surface water. Depth to groundwater ranges from approximately 6 to 14 fbg. There are only two monitoring wells associated with the former Chevron site, but joint groundwater monitoring has been conducted with the former Sheaff's Garage semi-annually since 2001 (Figure 2). Based on the joint groundwater monitoring data, groundwater flow is variable, but predominately toward the west.

2.0 HYDROCARBON DISTRIBUTION

The primary constituents of concern (COCs) are total petroleum hydrocarbons as gasoline (TPHg) and benzene. Secondary COCs are toluene, ethylbenzene, and total xylenes. Methyl tertiary-butyl ether (MTBE) is not a COC.

2.1 SOIL

No TPHg or benzene, toluene, ethylbenzene, xylenes (BTEX), or MTBE were detected in the two samples collected from monitoring wells MW-1, located across College Avenue. Well MW-2 is located within the approximate location of the former USTs and contained toluene, ethylbenzene and total xylenes, but the concentrations were below the Environmental Screening Levels (ESLs)[1] (Table 1).

[1] Environmental Screening Levels from San Francisco Regional Water Quality Control Board's *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, Interim Final November 2007 (Revised May 2008). Table A.

2.2 GROUNDWATER

Joint groundwater monitoring with Sheaff has been ongoing for 10 years. Groundwater monitoring data from the most recent report submitted, is presented in Table 2. Grab-groundwater data collected at the Chevron site is included in Table 3. Historic groundwater monitoring data is presented in Appendix C. Sheaff's grab-groundwater and groundwater monitoring data are presented in Appendix D. Groundwater monitoring data for 2010 through 2011 is listed in Table A.

TABLE A: HYDROCARBON CONCENTRATIONS IN GROUNDWATER

	Date	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*
Drinking Water ESLs		***100***	***1***	***40***	***30***	***20***
		concentrations in micrograms per liter (µg/L)				
MW-1	4/12/2010	<50	<0.5	<0.5	<0.5	<1.5
	10/15/2010	<50	<0.5	<0.5	<0.5	<1.5
	4/14/2011	<50	<0.5	<0.5	<0.5	<1.5
MW-2	4/12/2010	310	1.0	<0.5	0.5	<1.5
	10/15/2010	480	1.3	<2.0	<2.0	7.1
	4/14/2011	150	<0.5	<0.5	<0.5	<5.0
Adjacent Former Sheaff's Garage site (5930 College Avenue)						
MW-1	4/12/2010	Not sampled				
	10/18/2010	24,000	8,100	820	2,200	4,400
	4/14/2011	Not sampled				
MW-2	4/12/2010	Not Sampled				
	10/18/2010	3,200	460	16	230	110
	4/14/2011	Not sampled				
MW-3	4/12/2010	Not Sampled				
	10/18/2010	2,700	270	11	290	399.2
	4/14/2011	Not sampled				
PW-1	4/12/2010	Not Sampled				
	10/18/2010	860	8.8	0.55	44	44
	4/14/2011	Not sampled				

Hydrocarbon Delineation

TPHg and benzene are detected in MW-2 at concentrations near the ESLs for groundwater that is a drinking water resource. No hydrocarbons have been detected in MW-1 since 2008, defining the downgradient extent of hydrocarbons in groundwater. Based on historic Chevron and Sheaff groundwater monitoring data and grab-groundwater sampling data, hydrocarbon concentrations detected at the Sheaff site are three orders of magnitude higher than those detected in Chevron wells. Hydrocarbons from the Sheaff site also appear to have migrated north across the

Chevron property (Figures 3 through 9). This is supported by the MTBE distribution shown Figure 5. The Chevron station has not been in operation since approximately 1968 and the first use of MTBE as a fuel additive was not until late 1970s to early 1980s. Figures 3, 4, and 5 illustrate the distribution of TPHg, benzene, and MTBE in the 1998-1999 time frame, Figures 6 and 7 illustrate the distribution of TPHg and benzene in 2002 and Figures 8 and 9 illustrate the distribution of TPHg and benzene in 2005. These dates correspond with previous subsurface investigations, wherein grab groundwater samples were collected. Note that data from both grab groundwater samples and wells are contoured on Figures 3 through 9. This is for qualitative use only, as it is not typical to mix grab-groundwater and well data sets. Figures 10 and 11 illustrate the distribution of TPHg and benzene in wells during the most recent monitoring and sampling event.

Hydrocarbon Trend and Degradation Calculations

No hydrocarbons have been detected in MW-1 since 2008. A graph illustrating TPHg and benzene concentrations over time in well MW-2 is presented on Figure A. Concentrations have steadily decreased since monitoring and sampling began in 2001.

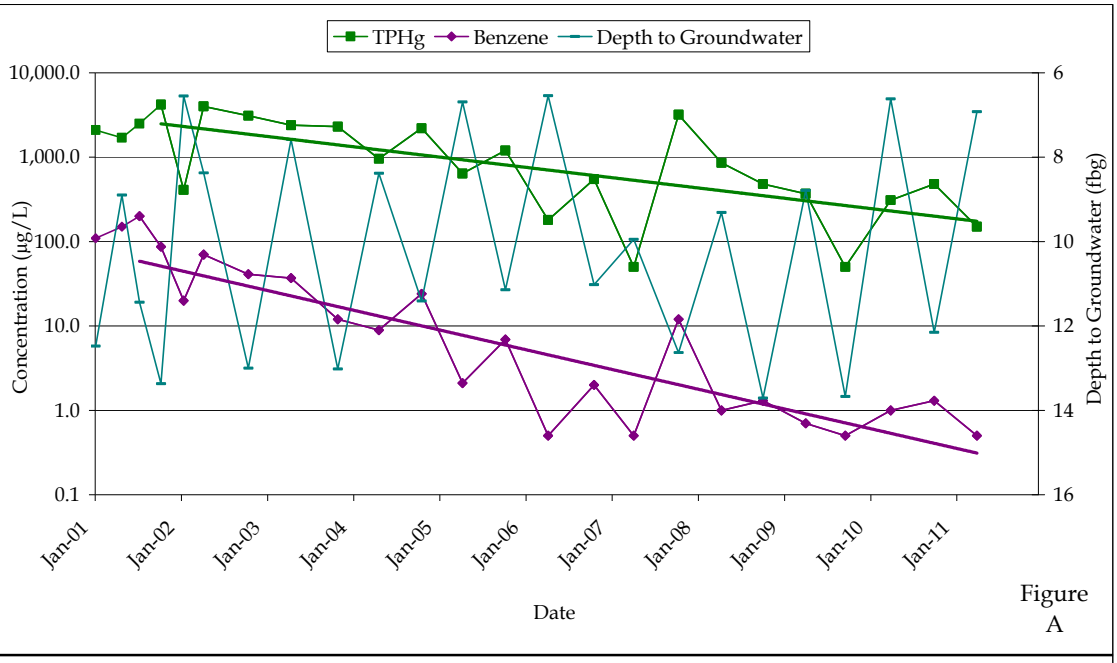


Figure A

FORMER CHEVRON SERVICE STATION #20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

MW-2: TPHg AND BENZENE CONCENTRATIONS AND DEPTH TO GROUNDWATER

CRA calculated dissolved-phase TPHg and benzene concentration trends for well MW-2 using the historical peak concentration. To estimate the time to meet RWQCB drinking water ESLs, CRA used the following first order exponential decay rate calculation:

$y = be^{(ax)}$, where y is concentration and x is time.

Concentrations in well MW-2, are expected to reach the drinking water ESLs for TPHg and benzene within 2 years. Degradation calculations are presented in Appendix E and summarized in Table B below. Based on decreasing hydrocarbon concentration trends, hydrocarbons originating from the former Chevron facilities have reached their maximum extent and are decreasing in size and mass. Based on dissolved hydrocarbon concentration contours over time, illustrated on Figures 3 through 9, the extent of hydrocarbons that have migrated onto the Chevron site from the Sheaff's site are also decreasing in size and mass.

TABLE B - SUMMARY OF DEGRADATION RATE CALCULATIONS (CHEVRON WELLS)

Well	*Analyte*	*Maximum Concentration (µg/L)*	*Current Concentration (µg/L)*	*Half-Life (years)*	*Date to Reach ESL*	*Years to Reach ESL*
MW-1	TPHg	1,700	< 50	NA	NA	Below ESLs
	Benzene	3.4	< 0.5	NA	NA	Below ESLs
MW-2	TPHg	4,200	150	2.52	April 2013	2
	Benzene	200	< 0.5	1.26	Feb 2009	Below ESLs

Notes and Abbreviations:
µg/L = Micrograms per liter
NA = Not applicable

3.0 REGULATORY STATUS REVIEW

Based on all the information presented above, the site meets the RWQCB criteria for a low-risk fuel site. As described by the January 5, 1996 RWQCB memorandum *Regional Board Supplemental Instructions to State Water Board December 8, 1995, Interim Guidance on Required Cleanup at Low-Risk Fuel Sites*, a low-risk groundwater case has the following general characteristics:

- The leak has stopped and ongoing sources, including free product, have been removed or remediated

- The site has been adequately characterized
- The dissolved hydrocarbon plume is not migrating
- No water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted
- The site presents no significant risk to human health or the environment

Each of the low-risk groundwater case characteristics are discussed below.

3.1 THE LEAK HAS STOPPED AND ONGOING SOURCES, INCLUDING FREE PRODUCT, HAVE BEEN REMOVED

The former USTs and dispensers were removed in 1968. No free product has ever been observed and hydrocarbon concentrations in groundwater and soil are not indicative of residual free product. Hydrocarbon concentrations in source area groundwater monitoring well MW-2 are predicted to reach ESLs in 2 years, indicating there is no residual hydrocarbon source mass of concern in soil.

3.2 THE SITE HAS BEEN ADEQUATELY CHARACTERIZED

Ten years of groundwater monitoring and grab-groundwater samples from soil borings adequately delineate the aqueous-phase hydrocarbon plume. Well MW-1 defines the downgradient extent of hydrocarbons in groundwater, and hydrocarbon concentrations in source area well MW-2 are approaching ESLs.

3.3 THE DISSOLVED HYDROCARBON PLUME IS NOT MIGRATING

The dissolved hydrocarbon plume is stable and concentrations are decreasing (Figure A above). The plume has reached its maximum extent, is shrinking in area and mass, and is not migrating.

3.4 NO WATER WELLS, DEEPER DRINKING WATER AQUIFERS, SURFACE WATER, OR OTHER SENSITIVE RECEPTORS ARE LIKELY TO BE IMPACTED

The remaining dissolved hydrocarbon mass is limited in extent and is not migrating. In Golden Gate Tank Removal's August 29, 2006 *Report of Additional Site Characterization*

and Groundwater Monitoring, for the Sheaff property, a sensitive receptor survey was conducted and found no beneficial domestic or irrigation wells within ¼-miles from the site. Based on the limited extent of hydrocarbons in groundwater, it is unlikely any wells beyond ¼-miles could be affected by hydrocarbons originating from the Chevron site. The nearest surface water body is an abandoned quarry located approximately 1-mile south of the site. Due to the large distance from the site, there is no risk to the abandoned quarry from hydrocarbons originating at the site.

3.5 THE SITE PRESENTS NO SIGNIFICANT RISK TO HUMAN HEALTH OR THE ENVIRONMENT

The subject property was a former Chevron service station that has been redeveloped as a commercial building and is expected to remain so for the foreseeable future. Surrounding land use is both commercial and residential. Possible exposure pathways include ingestion, direct contact with soil, and vapor intrusion to indoor air. We further discuss each of these pathways below.

Although the site is located above a groundwater basin with potential drinking water uses, Chevron's dissolved hydrocarbon plume is predicted to reach drinking water ESLs within 2 years. It is unlikely that any future well will be installed in the shallow water-bearing zone before the hydrocarbon plume from the Chevron site has fully attenuated.

Direct exposure to shallow soil by residents during home maintenance activities, yard work, and outdoor play activities or commercial/industrial workers during maintenance and ground-keeping is possible at this site; however, no hydrocarbons are detected in shallow soil above 8 fbg and the majority is either beneath a building or concrete. Therefore, it is unlikely any resident or commercial worker will come in contact with hydrocarbon-bearing soil.

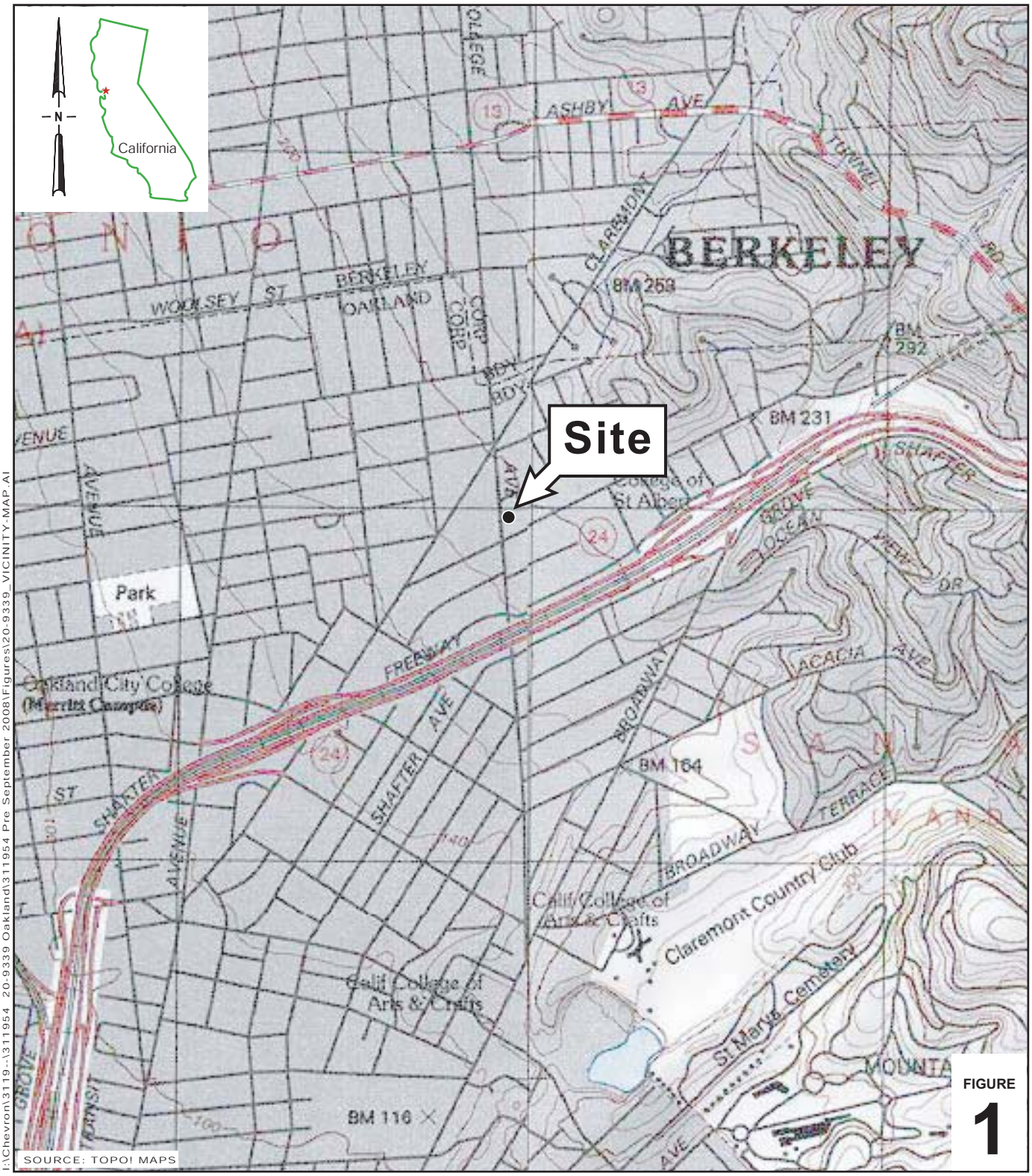
Vapor intrusion of hydrocarbons to indoor air is a potential exposure pathway; however, hydrocarbons detected in groundwater from the Chevron site are two orders of magnitude below the ESLs for potential vapor intrusion.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the site conditions and data presented above, this site meets the RWQCB criteria for a low-risk fuel site. Therefore, on behalf of Chevron, we recommend no further action and request low-risk case closure for the site.

FIGURES

10/01/08



I:\Chevron\3119-\311954 20-9339 Oakland\311954 Pre September 2008\Figures\20-9339_VICINITY-MAP.AI

FIGURE
1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Chevron Service Station 20-9339

5940 College Avenue
Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

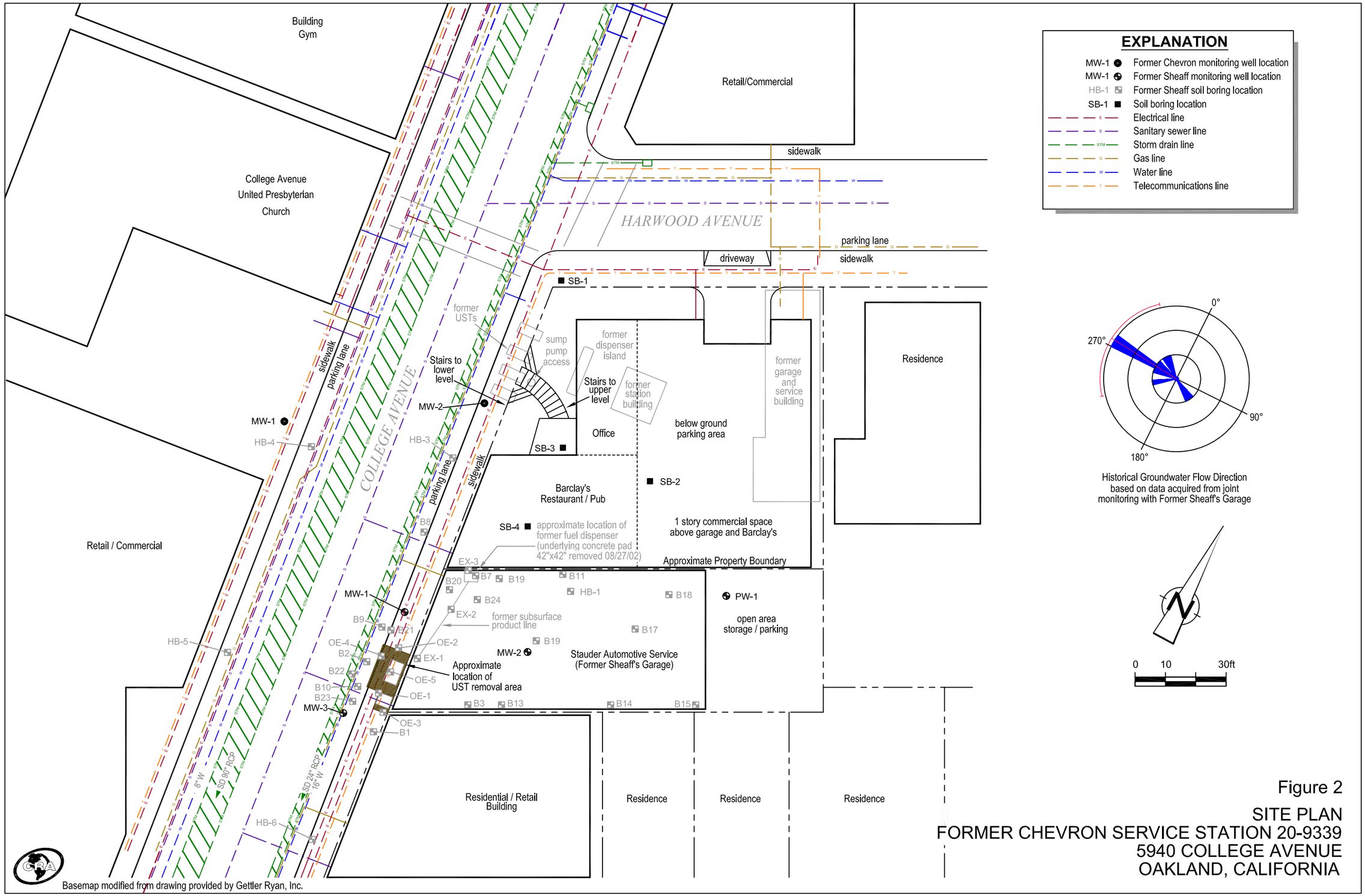


Figure 2

SITE PLAN
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

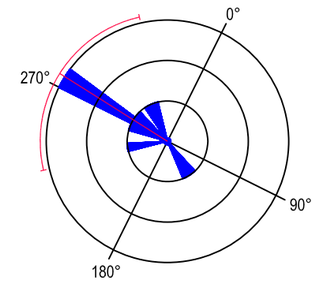
Basemap modified from drawing provided by Gettler Ryan, Inc.

311954-2010(007)GN-EM003.DWG

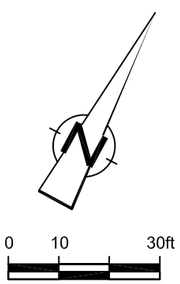
EXPLANATION

- MW-1 ● Former Chevron monitoring well location
- MW-1 ⊕ Former Sheaff monitoring well location
- HB-1 ▪ Former Sheaff soil boring location
- SB-1 ■ Soil boring location
- 100 — TPHg concentration contour line in micrograms per liter (µg/L) dashed where inferred
- WELL / TPHg — Well Designation; TPHg concentration in groundwater in micrograms per liter (µg/L)

NOTE: This figure includes both grab-groundwater and monitoring well data



Historical Groundwater Flow Direction based on data acquired from joint monitoring with Former Sheaff's Garage



Basemap modified from drawing provided by Gettler Ryan, Inc.

311954-2010(007)GN-EM004.DWG

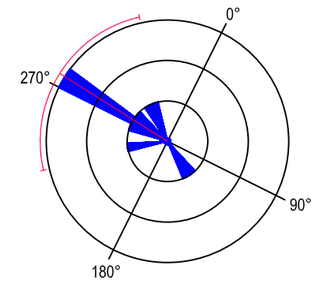
Figure 3

TPHG CONCENTRATIONS IN GROUNDWATER, 1998 - 1999
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

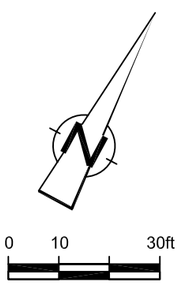
EXPLANATION

- MW-1 ● Former Chevron monitoring well location
- MW-1 ⊕ Former Sheaff monitoring well location
- HB-1 ▪ Former Sheaff soil boring location
- SB-1 ■ Soil boring location
- 100 — Benzene concentration contour line in micrograms per liter (µg/L) dashed where inferred
- WELL / BENZ — Well Designation; Benzene concentration in groundwater in micrograms per liter (µg/L)

NOTE: This figure includes both grab-groundwater and monitoring well data



Historical Groundwater Flow Direction based on data acquired from joint monitoring with Former Sheaff's Garage



Basemap modified from drawing provided by Gettler Ryan, Inc.

311954-2010(007)GN-EM005.DWG

Figure 4

BENZENE CONCENTRATIONS IN GROUNDWATER, 1998 - 1999
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

EXPLANATION

- MW-1 ● Former Chevron monitoring well location
- MW-1 ⊕ Former Sheaff monitoring well location
- HB-1 ▪ Former Sheaff soil boring location
- SB-1 ■ Soil boring location
- 100 — MTBE concentration contour line in micrograms per liter (µg/L) dashed where inferred
- WELL / MTBE — Well Designation; MTBE concentration in groundwater in micrograms per liter (µg/L)

NOTE: This figure includes both grab-groundwater and monitoring well data

Building Gym

College Avenue United Presbyterian Church

Retail/Commercial

sidewalk

HARWOOD AVENUE

parking lane

driveway

sidewalk

COLLEGE AVENUE

sidewalk

parking lane

SB-1 110

former USTs

sump pump access

former dispenser island

Stairs to lower level

Stairs to upper level

former station building

former garage and service building

Residence

MW-2

MW-1

HB-4

HB-3

SB-3 650

Office

below ground parking area

SB-2 <5

Barclay's Restaurant / Pub

1 story commercial space above garage and Barclay's

approximate location of former fuel dispenser underlying concrete pad (12'x42' removed 08/27/02)

SB-4 1,100

Approximate Property Boundary

Retail / Commercial

10

100

1,000

10,000

MW-1 1,100

MW-2 490

B-2 2,500

B-3 18,000

MW-3 390

B-1 <5

PW-1

open area storage / parking

Stauder Automotive Service (Former Sheaff's Garage)

Approximate location of UST removal area

product line

HB-5

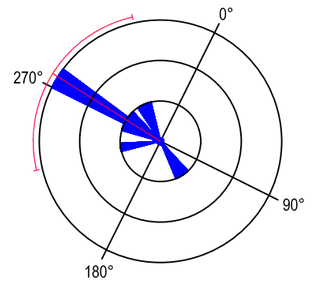
HB-6

Residential / Retail Building

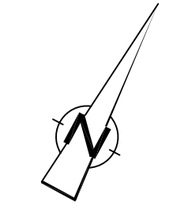
Residence

Residence

Residence



Historical Groundwater Flow Direction based on data acquired from joint monitoring with Former Sheaff's Garage



0 10 30ft

Basemap modified from drawing provided by Gettler Ryan, Inc.

Figure 5

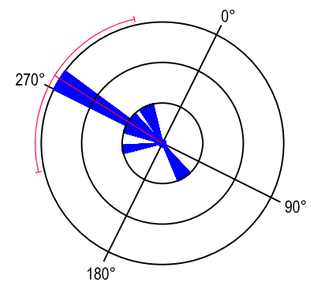
MTBE CONCENTRATIONS IN GROUNDWATER, 1998 - 1999
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

311954-2010(007)GN-EM006.DWG

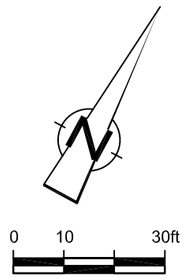
EXPLANATION

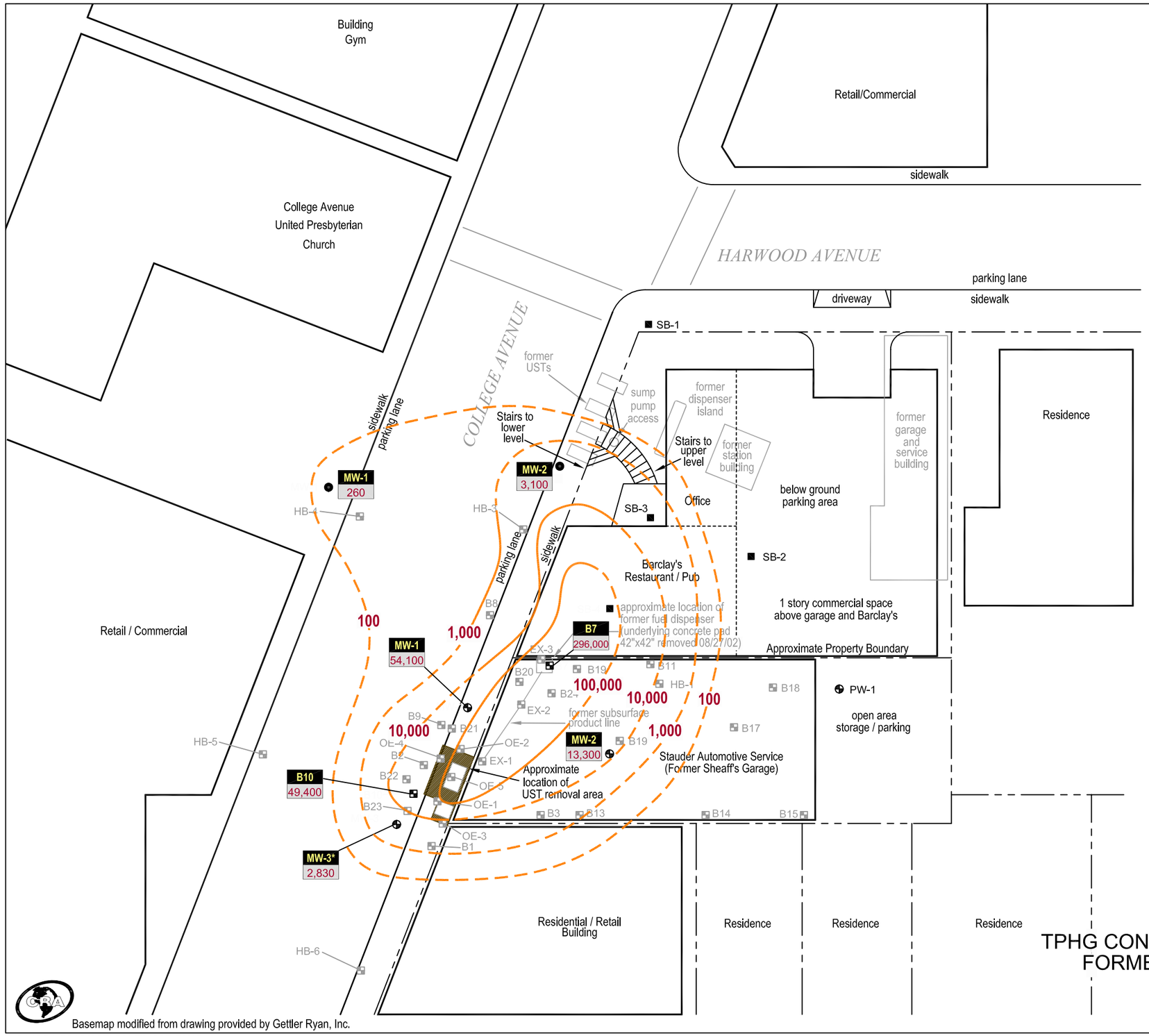
- MW-1 ● Former Chevron monitoring well location
- MW-1 ⊕ Former Sheaff monitoring well location
- HB-1 ▪ Former Sheaff soil boring location
- SB-1 ■ Soil boring location
- 100 — TPHg concentration contour line in micrograms per liter (µg/L) dashed where inferred
- WELL / TPHg — Well Designation; TPHg concentration in groundwater in micrograms per liter (µg/L)

NOTE: This figure includes both grab-groundwater and monitoring well data



Historical Groundwater Flow Direction based on data acquired from joint monitoring with Former Sheaff's Garage





Basemap modified from drawing provided by Gettler Ryan, Inc.

311954-2010(007)GN-EM007.DWG

Figure 6

TPHG CONCENTRATIONS IN GROUNDWATER, 2002
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

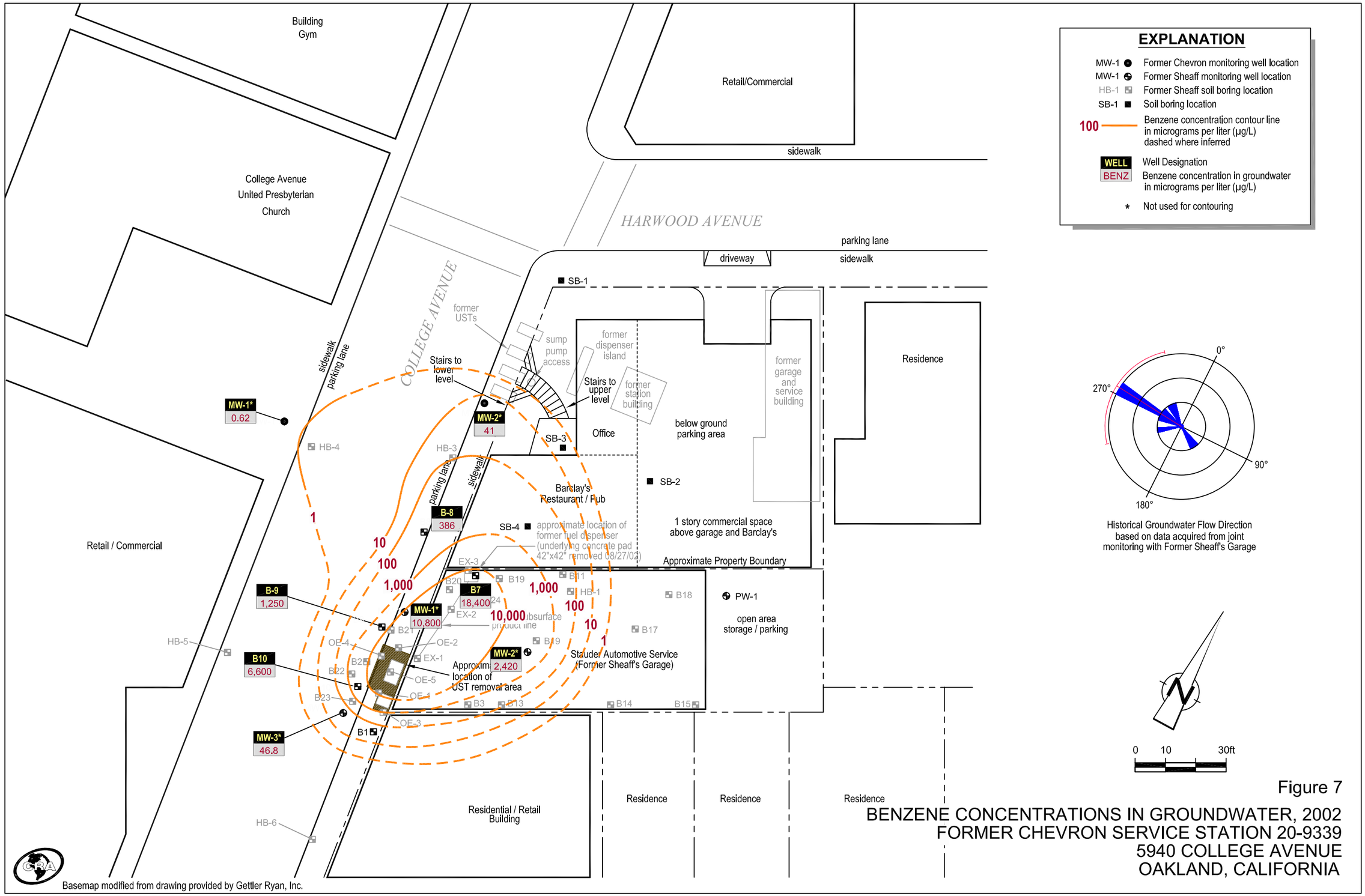


Figure 7

BENZENE CONCENTRATIONS IN GROUNDWATER, 2002
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

Basemap modified from drawing provided by Gettler Ryan, Inc.

311954-2010(007)GN-EM008.DWG

EXPLANATION

- MW-1 ● Former Chevron monitoring well location
- MW-1 ⊕ Former Sheaff monitoring well location
- HB-1 ▪ Former Sheaff soil boring location
- SB-1 ■ Soil boring location
- 100 — TPHg concentration contour line in micrograms per liter (µg/L) dashed where inferred
- WELL / TPHG — Well Designation; TPHg concentration in groundwater in micrograms per liter (µg/L)

NOTE: This figure includes both grab-groundwater and monitoring well data

Building Gym

College Avenue United Presbyterian Church

Retail/Commercial

sidewalk

HARWOOD AVENUE

parking lane

driveway

sidewalk

COLLEGE AVENUE

sidewalk

parking lane

former USTs

sump pump access

former dispenser island

Stairs to lower level

Stairs to upper level

former station building

former garage and service building

Residence

below ground parking area

Office

SB-1

SB-2

SB-3

SB-4

MW-1 <50

MW-2 640

HB-4 14,000

HB-3 13,000

100

1,000

10,000

100,000

1,000,000

Barclay's Restaurant / Pub

1 story commercial space above garage and Barclay's

approximate location of former fuel dispenser (underlying concrete pad 42'x42' removed 08/27/02)

Approximate Property Boundary

B19 4,600,000

B20 60,700

EX-3

MW-1 116,000

B24 3,830,000

former subsurface product line

B21 130,000

HB-1 173

B18 51

PW-1* 3,360

B16 154,000

B17 <50

open area storage / parking

Stauder Automotive Service (Former Sheaff's Garage)

B12 934,000

Approximate location of UST removal area

B14 <50

B15 53

MW-2 46,100

B23 21,000

MW-3 5,130

HB-5

HB-6 45

Retail / Commercial

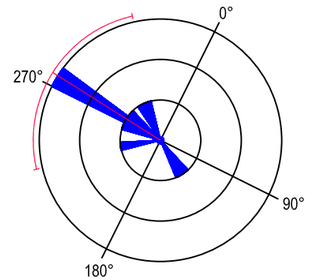
Residential / Retail Building

Residence

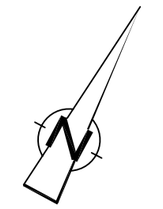
Residence

Residence

B1 B2 B3 B8 B9 B10 B11 B13 B22 OE-1 OE-2 OE-3 OE-4 OE-5



Historical Groundwater Flow Direction based on data acquired from joint monitoring with Former Sheaff's Garage



0 10 30ft

Basemap modified from drawing provided by Gettler Ryan, Inc.

311954-2010(007)GN-EM009.DWG

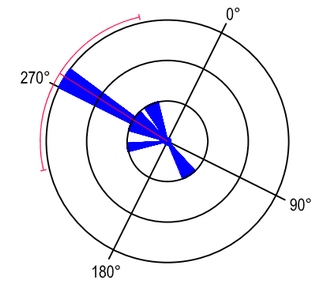
Figure 8

TPHG CONCENTRATIONS IN GROUNDWATER, 2005
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

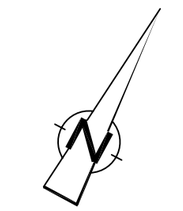
EXPLANATION

- MW-1 ● Former Chevron monitoring well location
- MW-1 ⊕ Former Sheaff monitoring well location
- HB-1 ▪ Former Sheaff soil boring location
- SB-1 ■ Soil boring location
- 100 — Benzene concentration contour line in micrograms per liter (µg/L) dashed where inferred
- WELL / BENZ — Well Designation; Benzene concentration in groundwater in micrograms per liter (µg/L)

NOTE: This figure includes both grab-groundwater and monitoring well data



Historical Groundwater Flow Direction based on data acquired from joint monitoring with Former Sheaff's Garage



0 10 30ft

Figure 9

BENZENE CONCENTRATIONS IN GROUNDWATER, 2005
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

Basemap modified from drawing provided by Gettler Ryan, Inc.

311954-2010(007)GN-EM010.DWG

EXPLANATION

MW-1 ● Former Chevron monitoring well location

MW-1 ⊕ Former Sheaff monitoring well location

100 — TPHG concentration contour line in micrograms per liter (µg/L) dashed where inferred

WELL / TPHG — Well Designation; TPHG concentration in groundwater in micrograms per liter (µg/L)

Building Gym

College Avenue United Presbyterian Church

Retail/Commercial

sidewalk

HARWOOD AVENUE

parking lane

driveway

sidewalk

COLLEGE AVENUE

former USTs

sump pump access

former dispenser island

Stairs to lower level

Stairs to upper level

former station building

former garage and service building

Residence

MW-1 <50

MW-2 480

sidewalk

parking lane

Office

below ground parking area

?

parking lane

sidewalk

Barclay's Restaurant / Pub

approximate location of former fuel dispenser (underlying concrete pad 42"x42" removed 08/27/02)

1 story commercial space above garage and Barclay's

Approximate Property Boundary

Retail / Commercial

10,000

1,000

100

MW-1 24,000

PW-1 860

open area storage / parking

former subsurface product line

MW-2 3,200

Approximate location of UST removal area

Stauder Automotive Service (Former Sheaff's Garage)

MW-3 2,700

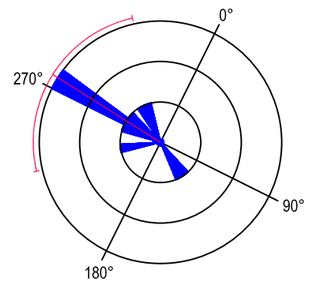
?

Residential / Retail Building

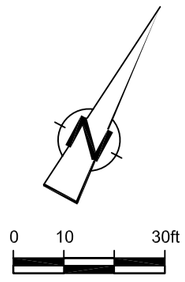
Residence

Residence

Residence



Historical Groundwater Flow Direction based on data acquired from joint monitoring with Former Sheaff's Garage



0 10 30ft

Figure 10

TPHG CONCENTRATIONS IN GROUNDWATER, OCTOBER 15, 2010
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

Basemap modified from drawing provided by Gettler Ryan, Inc.

311954-2010(007)GN-EM011.DWG

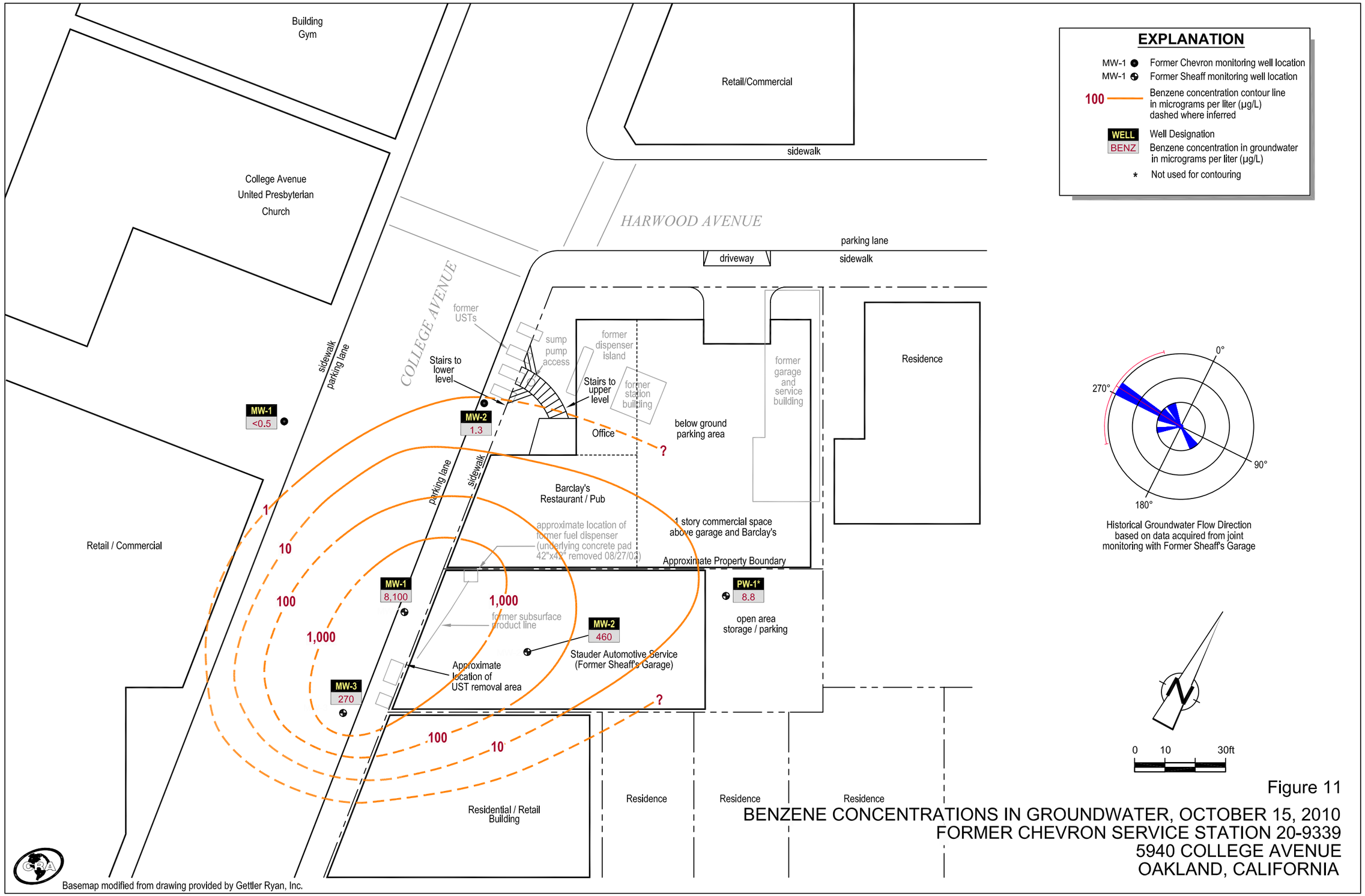


Figure 11

BENZENE CONCENTRATIONS IN GROUNDWATER, OCTOBER 15, 2010
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

Basemap modified from drawing provided by Gettler Ryan, Inc.

311954-2010(007)GN-EM012.DWG

TABLES

TABLE 1

CUMULATIVE SOIL ANALYTICAL DATA
FORMER CHEVRON SERVICE STATION
5940 COLLEGE AVENUE., OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg*	*Benzene*	*Toluene*	*Ethyl-benzene*	*Total Xylenes*	*MTBE*	*Lead*
			Reported in milligrams per kilogram (mg/kg)						
ESLs for Soil Leaching Screening Level (Drinking Water Sourse) Table G			***83***	***0.044***	***2.9***	***3.3***	***2.3***	***0.023***	***NE***
ESLs for Soil Direct Exposure Construction/Trench Worker Table K-3			***4,200***	***12***	***650***	***210***	***420***	***2,800***	***750***
MW-1-4.5	12/6/2000	4.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.05	--
MW-1-9.5	12/6/2000	9.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.05	--
MW-2-4.5	12/6/2000	4.5	<1.0	<0.0050	**0.0062**	**0.0054**	**0.021**	<0.05	--

Notes:

Total petroleum hydrocarbons as gasoline (TPHg) analyzed by EPA method 8015B modified 8260B

Environmental Screening Levels (ESLs) for commerical land use where groundwater is a current or potential drinking water source from *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* presented by the California Regional Water Quality Control Board - San Francisco Bay Region Interim Final November 2007, revised May 2008.

NE = Not established

fbg = feet below grade

<x = Not detected at reporting limit x

-- = Not analyzed/not applicable

TABLE 2

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

					HYDROCARBONS	*PRIMARY VOCS*			
Location	Date	*TOC*	*DTW*	*GWE*	*TPH-GRO*	*B*	*T*	*E*	*X*
	Units	*ft*	*ft*	*ft-amsl*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*
MW-1	10/14/2010	196.91	13.25	183.66	<50	<0.5	<0.5	<0.5	<1.5
MW-1	**04/14/2011**	**196.91**	**7.81**	**189.10**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<1.5**
MW-2	10/14/2010	197.35	12.15	185.20	480	1.3	<2.0	<2.0	7.1
MW-2	**04/14/2011**	**197.35**	**6.92**	**190.43**	**150**	**<0.5**	**<0.5**	**<0.5**	**<5.0**
QA	10/14/2010	-	-	-	<50	<0.5	<0.5	<0.5	<1.5
QA	**04/14/2011**	**-**	**-**	**-**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<1.5**

Abbreviations and Notes:

TOC = Top of Casing

DTW = Depth to Water

GWE = Groundwater elevation

(ft-amsl) = Feet Above Mean sea level

ft = Feet

µg/L = Micrograms per Liter

TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics

VOCS = Volatile Organic Compounds

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylene

-- = Not available / not applicable

<x = Not detected above laboratory method detection limit

* TOC elevations were surveyed on December 27, 2000, by Virgil Chavez Land Surveying. The benchmark used for the survey was the City of Oakland benchmark being a cut square in the top of curb, at the curb return at the northeast corner of College Avenue and Miles Avenue (Benchmark Elev. 179.075 feet msl).

TABLE 3

CUMULATIVE GRAB-GROUNDWATER ANALYTICAL DATA
FORMER CHEVRON SERVICE STATION
5940 COLLEGE AVENUE, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*
			← *Reported in micrograms per liter (µg/L)* →					
ESLs for Final Screening Levels where Groundwater is a Potential or Current Drinking Water Resource (Table F-1a)			***100***	***1.0***	***40***	***30***	***20***	***5.0***
ESLs for Potential Vapor Intrusion Into Buildings Comercial/Industrial (Table E-1a)			***Uses soil gas***	***1,800***	***530,000***	***170,000***	***160,000***	***80,000***
SB-1	8/31/1999	7.0	**5,100**	**43**	**34**	**40**	<5	**110**
SB-2	8/31/1999	9.5	<50	<0.5	<0.5	<0.5	<0.5	<5
SB-3	8/31/1999	9.0	**59,000**	**3,500**	**310**	**2,000**	**1,900**	**650**
SB-4	9/1/1999	7.0	**190,000**	**890**	**110**	**4,000**	**7,500**	**1,100**

Notes:

Total petroleum hydrocarbons as gasoline (TPHg) analyzed by EPA Method 8020

Benzene, toluene, ethylbenzene, and xylenes (BTEX); methyl tertiary-butyl ether (MTBE) by EPA Method 8020

ESL's = Environmental Screening Levels for groundwater that is a current or potential drinking water source (commercial/industrial land use) from Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater Interim Final November 2007, revised May 2008 by the California Regional Water Quality Control Board, San Francisco Bay Region

fbg = feet below grade

<x = Not detected at reporting limit x

ND = Not detected above various laboratory method detection limits

APPENDIX A

PREVIOUS ENVIRONMENTAL INVESTIGATION AND REMEDIATION

PREVIOUS ENVIRONMENTAL INVESTIGATION AND REMEDIATION
FORMER CHEVRON SERVICE STATION 20-9339

1979 Site Redevelopment

According to title records, the site was redeveloped in 1979 into the current two-story, multi-tenant commercial building. The current building contains commercial suites and parking below street level as well as an active sump pump for surface runoff. Construction of this current building required soil excavation to at least 4 feet below grade (fbg). There are no excavation records available. Prior to 1979, Dreyer's Grand Ice Cream used the site for additional parking.

1999 Soil Borings

In August and September 1999, Piers Environmental Services, Inc. (Piers) advanced soil borings SB-1 through SB-4 to assess the potential presence of hydrocarbons in groundwater resulting from the historical use of the site as a service station. No soil samples were analyzed. The activities are summarized in Piers' September 27, 1999 *Report of Findings Groundwater Investigation Report*.

2000 Monitoring Well Installations

In December 2000, Delta Environmental Consultants, Inc. (Delta) oversaw the installation of offsite monitoring wells MW-1 and MW-2. In April 2001, joint groundwater monitoring between the Chevron site and the former Sheaff's Garage site began per a request by Alameda County Environmental Health. The activities are summarized in Delta's February 20, 2001 *Well Installation Report*.

APPENDIX B

BORING LOGS

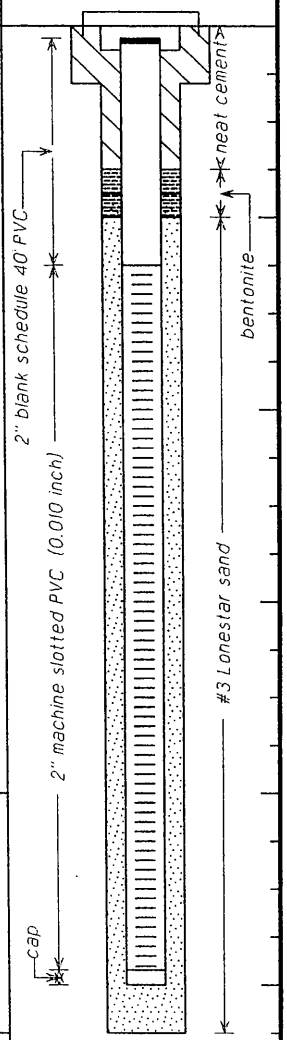
Gettler-Ryan, Inc.

Log of Boring MW-1

PROJECT: *Former Chevron Service Station No. 20-9339*	LOCATION: *5940 College Avenue, Oakland, California*
GR PROJECT NO. : *346521.02*	CASING ELEVATION: *196.51*
DATE STARTED: *12/06/00*	WL (ft. bgs): DATE: TIME:
DATE FINISHED: *12/06/00*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *21 feet*
DRILLING COMPANY: *Cascade Drilling*	GEOLOGIST: *Andrew Smith*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							Concrete.
						CL	CLAY (CL) - reddish brown (5YR 4/4), dry, very stiff; 85% clay, 10% silt, 5% angular fine gravel.
4	6.1	17	MW-1-4.5				At 5 feet color changes to very dark gray (7.5YR 3/1), becomes moist; 90% clay, 10% silt.
8	5.5	34	MW-1-9.5				At 10 feet becomes hard; includes some brick fragments.
12	10.6	32	MW-1-14.5				
16						SM	SILTY SAND (SM) - brown (10YR 5/3), moist, dense; 75% fine sand, 25% silt.
20	24.0	>100	MW-1-19.5				At 20 feet color changes to light yellowish brown (10YR 6/4), becomes wet, very dense.
24							Bottom of boring at 21 feet bgs.
28							(* = converted to equivalent standard penetration blows/foot.)

WELL DIAGRAM



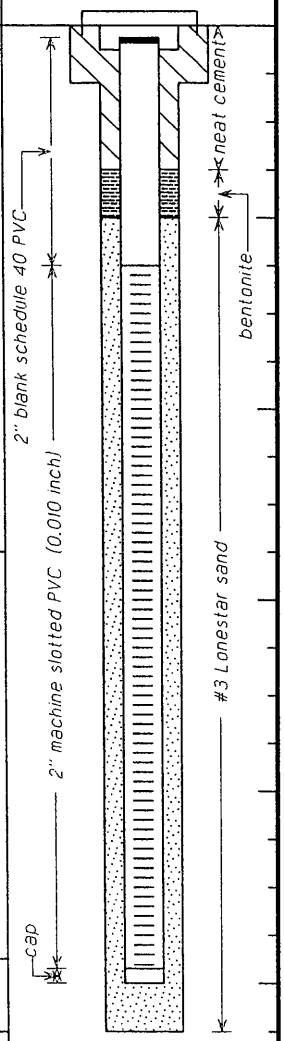
Gettler-Ryan, Inc.

Log of Boring MW-2

PROJECT: *Former Chevron Service Station No. 20-9339*	LOCATION: *5940 College Avenue, Oakland, California*
GR PROJECT NO. : *346521.02*	CASING ELEVATION: *197.35*
DATE STARTED: *12/06/00*	WL (ft. bgs): *10* DATE: *12/06/00* TIME: *14:25*
DATE FINISHED: *12/06/00*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *21 feet*
DRILLING COMPANY: *Cascade Drilling*	GEOLOGIST: *Andrew Smith*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							Concrete.
						SM	SILTY SAND WITH GRAVEL (SM) – brown (7.5YR 4/3), dry, soft; 65% fine sand, 20% angular gravel, 15% silt.
4	1.4	42	MW-2-4.5				At 5 feet includes brick fragments.
8	3.6	37	MW-2-9.5				At 8 feet becomes wet, dense.
						CL	CLAY (CL) – dark olive green (5Y 3/2), moist, hard; 90% clay, 10% silt.
12	4.2	42	MW-2-14.5				At 5 feet color changes to dark grayish brown (2.5Y 4/2).
16							
20	8.9	42	MW-2-19.5			SM	SILTY SAND (SM) – yellowish brown (10YR 5/6), moist, dense; 85% fine sand, 15% silt.
							Bottom of boring at 21 feet bgs.
24							(* = converted to equivalent standard penetration blows/foot.)
28							

WELL DIAGRAM



PIERS Environmental Services — Exploratory Boring Log

Project No. _____ Client: P. Elwood

Location: 5942 College Ave. Oakland

Drilling Method: 3" Hand Auger Permit: N/A

Boring # SB-1 Date 8-31-99

Logged By: BH

Page 1 of 1

Sample No.	Blow Count	Sample Type	Location Depth	USGS	Lithology Description Detail	H20	Well Const. Mark
					concrete w/ 3/4" Drain rock		
				CL	Low Plasticity CLAY, 30-35% silt, light brown, med-stiff		
			5'				
				GM	Silty/Sandy GRAVEL w/ 15% clay, Angular, poor graded, slight Hydrocarbon odor.		
SB-1		water	▽				
			10'		BOH		
			15'				
			20'				
			25'				
			30'				
			35'				
			40'				

Portland Cement

PIERS Environmental Services

Exploratory Boring Log

Project No. _____ Client: P. Elwood

Location: 5942 College Ave. Oakland

Drilling Method: 3" dia. Hand Auger Permit: N/A

Boring # SB-2 Date 8-31-99

Logged By: BH

Page 1 of 1

Sample No.	Blow Count	Sample Type	Location Depth USGS	Lithology Description Detail	H20	Well Const. Mark
				Conc. w/ 3/4" rock (drain)		
			CL	low Plast. CLAY, light brown, 30% silt		
			5'	med stiff		
			CL	Same 40% silt.		
SB-2		water ▽	10'			
				Bottom		
			15'			1' Portland Cement
			20'			
			25'			
			30'			
				*Note: Depths calculated From basement floor, approx. 3.5' below sidewalk elevation.		
			35'			
			40'			

Environmental Restoration Services Exploratory Boring Log

Project No. _____ Client: P. Elwood Boring # SB3 Date 8/31/99

Location: 5942 College Ave Oakland Logged By: BH

Drilling Method: 3" Hand Auger Permit: N/A Page 1 of 1

Sample No.	Blow Count	Sample Type	Location Depth USGS	Lithology Description	Well Const.
				concrete / 3/4 drain Rock	
			CL	Low Plast. CLAY, 30-35% silt, light brown. med. stiff	
			5'		
			SM	Silty Sandy GRAVEL 15% clay. light greenish grey med. dense. mod. Hydro carbon odor.	Portland Cement
SB-3		water ▽	10'		
			15'		
			20'		
			25'		
			30'		
			35'		
			40'		

PIERS Environmental Services

Exploratory Boring Log

Project No _____ Client: P Elwood

Location: 5942 College Ave Oakland

Drilling Method: 3"dia Hand Auger Permit: N/A

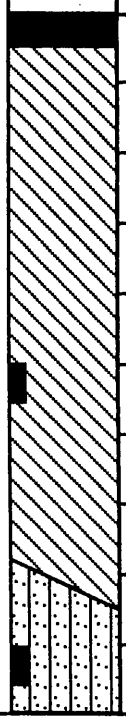
Boring # SB-4 Date 9/1/99

Logged By: BH

Page 1 of 1

Sample No	Blow Count	Sample Type	Location Depth	USGS	Lithology Description Detail	H20	Well Const
					concrete/sand/gravel		Mark
				CL	Low Plasticity CLAY, 30-35% silt, light brown, med stiff		Portland Cement
			5'				
SB-4		water ▽		GM	Silty GRAVEL, 30% silt w/ 20% clay Med dense, wet strong Hydrocarbon odor		
					BoH @ ±9 feet		
			10'				
			15'				
			20'				
			25'				
			30'				
			35'				
			40'				

Note: Depths calc from basement floor, approx 3 5 feet below sidewalk elevation

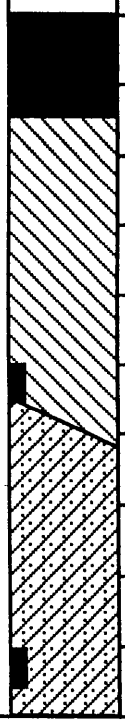
Sample Number	Blows per Foot	Soil Type	Time	Log	Depth in Feet	DESCRIPTION
					0	4 inches of sidewalk pavement section.
						Black silty clay, medium stiff moist.
						changing in color to brown.
7335-B1-5	hand sample	CL	0910		5	
						first water encountered during drilling.
7335-B1-9	hand sample	ML-SC	0925			Gray-brown clayey SILT to clayey sand (ML-SC), medium stiff,to medium dense, wet.
					10	

Boring Drilled May 6, 1998 to 10 feet.
using 4 inch diameter "minute man" augers.

Water encountered at about 8.5' during drilling.
Grab groundwater sample taken at 0945.
Boring grouted after drilling.

Golden Gate Tank Removal 255 Shipley Street • San Francisco, CA 94107 (415) 512 1555 • Fax (415) 512 0964	**Log of Boring Number: B1** 5930 College Avenue Oakland, California

Project Number: 7335	Date: June, 1998	Figure Number 4

Sample Number	Blows per Foot	Soil Type	Time	Log	Depth in Feet	DESCRIPTION
					0	5 inches of asphalt over 12 inches of base rock street pavement section.
						Dark brown silty clay, medium stiff moist.
7335-B2-5	hand sample	CL	1015		5	first water encountered during drilling.
						Brown sandy silty clay to silty clayey sand (CL-SC), medium stiff, wet.
7335-B2-9	hand sample	ML-SC	1030		10	

Boring Drilled May 6, 1998 to 10 feet.
using 4 inch diameter "minute man" augers.

Water encountered at about 6.5' during drilling.
Grab groundwater sample taken at 1100.
Boring grouted after drilling.

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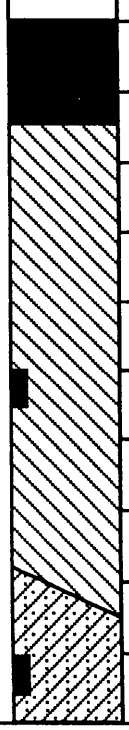
Log of Boring Number: B2
5930 College Avenue
Oakland, California

Project Number: 7335	Date: June, 1998	Figure Number 5

Sample Number	Blows per Foot	Soil Type	Time	Log	Depth in Feet	DESCRIPTION
					0	6 inches of concrete over 8 inches of base rock garage floor section.
						Black silty clay, medium stiff damp.
						grading to moist.
7335-B3-6	hand sample	CL	1215		5	
						first water encountered during drilling.
7335-B3-10	hand sample	CL	1240			Brown silty clay with some gravel inclusions, medium stiff, wet.
					10	

Boring Drilled May 6, 1998 to 10 feet.
using 4 inch diameter "minute man" augers.

Water encountered at about 6.5' during drilling.
Grab groundwater sample taken at 1240.
Boring grouted after drilling.

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Log of Boring Number: B3
5930 College Avenue
Oakland, California

Project Number: 7335	Date: June, 1998	Figure Number 6

Sample Number	Blows per Foot	Soil Type	Time	Log	Depth in Feet	DESCRIPTION
					0	8 inches of sidewalk/driveway concrete. 4 inches base rock.
						Brown silty clay, medium stiff, damp to moist.
7335-B4-5.0	11	CL	0740		5	
						Water level during drilling.
7335-B4-9.0	17	GM/ML	0800		10	Grey and brown silty gravel to gravelly silt, dense, wet.
						Brown sandy clay, stiff, moist to wet.
					15	

Drilled May 20, 1998 using 8 inch hollow stem augers. Water encountered at about 10 feet during drilling. Boring converted to Monitoring Well MW1 upon completion of sampling.

GOLDEN GATE TANK REMOVAL

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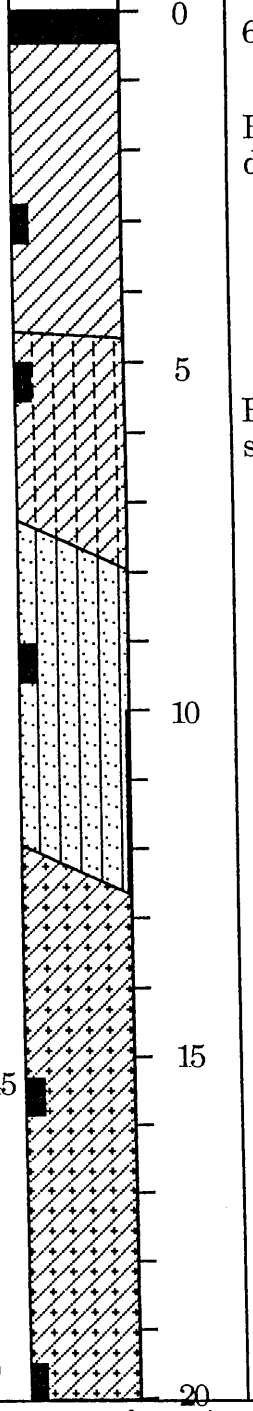
Log of Boring Number B4 (MW1)

5930 College Avenue
Oakland, California

Project Number: 7335	Date: June, 1998	Figure Number: 6

Sample Number	Blows per Foot	Soil Type	Time	Log	Depth in Feet	DESCRIPTION
					0	6 inches of garage concrete slab.
						Black silty clay, medium stiff damp, with occassional gravel.
7335-B5-3.0	push	CL	0845			
7335-B5-5.0	push	CL/ML	0905		5	Brown silty clay to clayey silt, medium stiff to stiff, moist.
7335-B5-9.0	push	CL	0920		10	Dark brown to grey silty clay stiff, moist.
						Brown silty clay with gravel fragments stiff, moist to wet
7335-B5-15.5	push	CL	0945		15	
						grading very stiff to hard
						small seepage areas around gravel fragments
7335-B5-20.0	push	CL	1030		20	

Boring Drilled October 2, 1999 to 20 feet using 8 inch diameter hollow stem augers.
No groundwater encountered during drilling. Boring coverted to Monitoirng Well MW2 after drilling.

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Log of Boring Number: B5/MW2
5930 College Avenue
Oakland, California

Project Number: 7335	Date: October, 1999	Figure Number 4

Sample Number	Blows per Foot	Soil Type	Time	Log	Depth in Feet	DESCRIPTION
					0	12 inches of sidewalk pavement section.
		CL				Black silty clay with minor gravel, medium stiff, damp.
7335-B6-5.0	push	ML/CL	1245		5	Brown clayey silt to silty clay, stiff, moist to wet.
7335-B6-10.0	push	ML	1310		10	Gray clayey SILT, stiff, moist.
7335-B6-15.5	push	CL/GC	1400		15	Brown gravelly clay to silty clay with gravel (rock fragments), very stiff to hard.
7335-B6-19.5	push	CL/GC	1430			first water encountered during drilling.
					20	

Boring Drilled October 2, 1999 to 20 feet using 8 inch diameter hollow stem augers.
Groundwater encountered at about 19.5 feet during drilling. Boring coverted to Monitoirng Well MW3 after drilling.

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Log of Boring Number: B6/MW3
5930 College Avenue
Oakland, California

Project Number: 7335	Date: October, 1999	Figure Number 5

LOG OF BORING B7

Depth (fbg)	Recovery/ Sample ID	Blow Counts (#/6")	Organic Vapor (ppm)	USCS Soil Type	Description	Boring Backfill Detail
0					Concrete (6 Inches)	Concrete (0'-0.5')
1	Hand Auger			ML	Moist, dusky yellowish brown (10YR 2/2), *clayey SILT* with trace sand	
5						
	7335-B7-8		13	CL	Moist, dark yellowish brown (10YR 4/2) striated with dark greenish gray (5GY 4/1), silty *CLAY* with trace sand	Portland Cement (0.5'-20')
10	7335-B7-12		8	SM	Moist, dark yellowish brown (10YR 4/2) with dark greenish gray (5GY 4/1), clayey, silty *SAND* with moderate gravel	
	7335-B7-13		22	CL	Same; silty *CLAY*	
15	7335-B7-16		55	ML	Moist to wet, dark greenish gray (5GY 4/1), clayey, sandy *SILT* with slight hydrocarbon odor	
	▼ (16.4)					
	7335-B7-20		19	SM/ ML	Wet, moderate yellowish brown (10YR 5/ 4), clayey, silty *SAND* / sandy *SILT*	
20					Total Boring Depth @ 20 fbg	2 Inches
25						

Fn:7335.sc.B7

BORING NUMBER: *B7*
LOCATION: 5930 College Avenue, Oakland, CA
PROJECT NO: 7335
DRILLING CONTRACTOR: Gregg Drilling , Inc.
DRILLING METHOD: 2" OD Percussion
DRILLING DATE: October 30, 2002

Logged By: B. Wheeler **Checked By:** M. Youngkin

Legend/Notes:

fbg = feet below grade
ppm = parts per million
NR = no recovery

▼ (16.4) = Depth to groundwater measured from grade surface on October 30, 2002

Golden Gate Tank Removal, Inc.

LOG OF BORING B8

Depth (fbg)	Recovery/ Sample ID	Blow Counts (#/6")	Organic Vapor (ppm)	USCS Soil Type	Description	Boring Backfill Detail
0					Asphalt (3 Inches)	Asphalt Patch (0'-0.5')
1	Hand Auger			SM	Road Base (Silty, gravelly SAND)	
				ML	Moist, dark yellowish brown (10YR 4/2), *clayey SILT* with trace sand	
5	NR No Sample			CL	Moist, dark yellowish brown (10YR 4/2) mottled with moderate yellowish (10YR 5/4), silty *CLAY*	Portland Cement (0.5'-20')
10	7335-B8-12		0			
15	7335-B8-16		33	ML	Moist, dark yellowish brown (10YR 4/2) with dark greenish gray (5GY 4/1), clayey, *SILT* with trace fine-grained sand	
	7335-B8-18			CL	Moist to wet, dark greenish gray (5GY 4/1), silty *CLAY* with trace rock fragments (slight to moderate hydrocarbon odor)	
(18.2) ▼						
20	7335-B8-20		15	ML	Wet, moderate yellowish brown (10YR 5/4), clayey, sandy *SILT*	2 Inches
					Total Boring Depth @ 20 fbg	
25						

Fn:7335.sc.B8

BORING NUMBER: ***B8***
LOCATION: 5930 College Avenue, Oakland, CA
PROJECT NO: 7335
DRILLING CONTRACTOR: Gregg Drilling , Inc.
DRILLING METHOD: 2" OD Percussion
DRILLING DATE: October 30, 2002

Logged By: B. Wheeler **Checked By:** M. Youngkin

Legend/Notes:

fbg = feet below grade
ppm = parts per million
NR = no recovery

▼ (18.2) = Depth to groundwater measured from grade surface on October 30, 2002

Golden Gate Tank Removal, Inc.

LOG OF BORING B9

Depth (fbg)	Recovery/ Sample ID	Blow Counts (#/6")	Organic Vapor (ppm)	USCS Soil Type	Description	Boring Backfill Detail
0					Asphalt (3 Inches)	Asphalt Patch (0'-0.5')
1	Hand Auger			SM	Road Base (Silty, gravelly SAND)	
5				SM/ ML	Moist, dusky yellowish brown (10YR 2/2), slightly clayey, silty *SAND* / Sandy *SILT* with gravel (≤0.25")	
	7335-B9-9			SM	Moist, dark yellowish brown (10YR 4/2), slightly clayey *SAND* with trace rock fragments	Portland Cement (0.5'-20')
10	NR			Not Logged		
			0			
	7335-B9-12			CL	Moist, dark yellowish brown (10YR 4/2); silty *CLAY;* moderate hydrocarbon odor; gardes to dark greenish gray (5GY 4/1) at 14 fbg	
15	7335-B9-15		33			
				ML	Moist, moderate to dark yellowish brown (10YR 5/4,4/2), clayey *SILT* with rock fragments	
▼ (16.9)					Moist, moderate yellowish brown (10YR 5/4) with greenish gray (5GY 4/1), clayey, sandy *SILT* with rock fragments	
20	7335-B9-20		15			
					Total Boring Depth @ 20 fbg	2 Inches
25						

Fn:7335.sc.B9

BORING NUMBER: *B9*
LOCATION: 5930 College Avenue, Oakland, CA
PROJECT NO: 7335
DRILLING CONTRACTOR: Gregg Drilling , Inc.
DRILLING METHOD: 2" OD Percussion
DRILLING DATE: October 30, 2002

Logged By: B. Wheeler **Checked By:** M. Youngkin

Legend/Notes:

fbg = feet below grade
ppm = parts per million
NR = no recovery

▼ (16.9) = Depth to groundwater measured from grade surface on November 1, 2002

Golden Gate Tank Removal, Inc.

LOG OF BORING B10

Depth (fbg)	Recovery/ Sample ID	Blow Counts (#/6")	Organic Vapor (ppm)	USCS Soil Type	Description	Boring Backfill Detail
0					Asphalt (3 Inches)	Asphalt Patch (0'-0.5')
1	Hand Auger			SM	Road Base (Silty, gravelly SAND)	
				ML	Moist, dusky yellowish brown (10YR 2/2), slightly clayey *SILT* with sand	
5	NR			Not Logged	Moist, dark yellowish brown (10YR 4/2) silty *CLAY* with trace sand and rock fragments	
			0		Moist, dark yellowish brown (10YR 4/2), clayey *SILT*	Portland Cement (0.5'-19')
10	7335-B10-11		206	ML	Same: dark greenish gray (5GY 4/1) with trace sand, moderate hydrocarbon odor	
▼ (13.85) 15	7335-B10-15		208		Moist to wet, moderate yellowish brown (10YR 5/4), clayey *SILT* with trace fine- to coarse-grained sand	
	7335-B10-17		59	CL		
				ML	Moist, dark yellowish brown (10YR 4/2) silty *CLAY* with rock fragments	
			18		Wet, moderate yellowish brown (10YR 5/4) with greenish gray (5GY 4/1), sandy *SILT* with rock fragments	2 Inches
20					Total Boring Depth @ 19 fbg	
25						

Fn:7335.sc.B10

BORING NUMBER: *B10*
LOCATION: 5930 College Avenue, Oakland, CA
PROJECT NO: 7335
DRILLING CONTRACTOR: Gregg Drilling , Inc.
DRILLING METHOD: 2" OD Percussion
DRILLING DATE: October 30, 2002

Logged By: B. Wheeler **Checked By:** M. Youngkin

Legend/Notes:

fbg = feet below grade
ppm = parts per million
NR = no recovery

▼ (13.85) = Depth to groundwater measured from grade surface on November 1, 2002

Golden Gate Tank Removal, Inc.

LOG OF BORING B11

Depth (fbg)	Recovery/ Sample ID	Blow Counts (#/6")	Organic Vapor (ppm)	USCS Soil Type	Description	Boring Backfill Detail
1	Hand Auger			SM	Concrete (3 Inches) Base (Silty, gravelly SAND)	Concrete (0'-0.5')
					Moist, dusky yellowish brown (10YR 2/2), slightly clayey *SILT* with sand	
5	NR				Moist, dark yellowish brown (10YR 4/2) *clayey SILT* with fine- to coarse-grained sand	
	7335-B11-8		0	ML		Portland Cement (0.5'-20')
10					Moist to wet, moderate to dark yellowish brown (10YR 4/2) *clayey SILT*	
	7335-B11-13		0			
15					Moist to wet, moderate yellowish brown (10YR 5/4), clayey *SILT* with trace fine- to coarse-grained sand	
				SM/ ML	Same; grades to a slightly clayey, silty *SAND* / sandy *SILT*	
20	7335-B11-20		0		Total Boring Depth @ 20 fbg	2 Inches
25						

Fn:7335.sc.B11

BORING NUMBER: ***B11***
LOCATION: 5930 College Avenue, Oakland, CA
PROJECT NO: 7335
DRILLING CONTRACTOR: Gregg Drilling , Inc.
DRILLING METHOD: 2" OD Percussion
DRILLING DATE: October 30, 2002

Logged By: B. Wheeler **Checked By:** M. Youngkin

Legend/Notes:

fbg = feet below grade
ppm = parts per million
NR = no recovery
Groundwater not encountered in borehole

Golden Gate Tank Removal, Inc.

APPENDIX C

HISTORIC GROUNDWATER MONITORING AND SAMPLING DATA

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #209339

5940 College Avenue

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-1									
01/03/01	196.91	12.75	184.16	930[1]	2.9	6.9	2.7	7.6	14/<2.0[3]
04/25/01	196.91	9.23	187.68	210[4]	2.0	1.5	2.0	3.3	5.3/<2.0[3]
07/09/01	196.91	11.86	185.05	290[5]	1.8	2.0	2.5	0.96	<2.5
06/08/00	196.91	13.49	183.42	200	<0.50	<0.50	<0.50	<1.5	<2.5
01/13/02	196.91	7.33	189.58	<50	<0.50	<0.50	<0.50	<0.50	<2.5
04/08/02	196.91	7.45	189.46	670	<0.50	<2.0	<1.0	5.6	<2.5
10/15/02	196.91	13.68	183.23	260	0.62	0.82	<0.50	<1.5	--
04/15/03	196.91	6.82	190.09	1,700	1.3	<5.0	<2.0	<5.0	--
10/31/03	196.91	13.72	183.19	150	<2.0	0.7	<2.0	<5.0	--
04/23/04	196.91	9.02	187.89	<50	<0.5	<0.5	<0.5	<1.5	--
10/22/04	196.91	11.50	185.41	63	<0.5	<0.5	<0.5	<1.5	--
04/14/05	196.91	7.11	189.80	<50	<0.5	<0.5	<0.5	<1.5	--
10/14/05	196.91	11.90	185.01	160	<0.5	<0.5	0.6	<5.0	--
04/14/06	196.91	6.95	189.96	<50	<0.5	<0.5	<0.5	<1.5	--
10/26/06	196.91	11.68	185.23	<50	<0.5	<0.5	<0.5	<1.5	--
04/13/07[6]	196.91	10.71	186.20	1,200	3.4	<5.0	2.1	<20	--
10/22/07	196.91	13.75	183.16	<50	<0.5	<0.5	<0.5	<1.5	--
04/21/08	196.91	9.95	186.96	120	<0.5	<0.5	<0.5	<1.5	--
10/15/08	196.91	14.30	182.61	<50	<0.5	<0.5	<0.5	<1.5	--
04/15/09	196.91	9.20	187.71	<50	<0.5	<0.5	<0.5	<1.5	--
10/01/09	196.91	14.26	182.65	<50	<0.5	<0.5	<0.5	<1.5	--
04/12/10	**196.91**	**7.04**	**189.87**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**--**
MW-2									
01/03/01	197.35	12.48	184.87	2,100[2]	110	11	63	25	83/2.2[3]
04/25/01	197.35	8.90	188.45	1,700[4]	150	12	30	15	150/<2.0[3]
07/09/01	197.35	11.44	185.91	2,500[5]	200	21	55	26	<50
04/08/02	197.35	13.37	183.98	4,200	87	2.8	29	9.8	<2.5
01/13/02	197.35	6.55	190.80	410	20	2.9	<2.5	4.4	27/<2.0[3]
04/08/02	197.35	8.37	188.98	4,000	70	1.7	17	17	<2.5
10/15/02	197.35	13.00	184.35	3,100	41	2.2	16	<6.0	--
04/15/03	197.35	7.58	189.77	2,400	37	<2.5	12	<7.5	--
10/31/03	197.35	13.02	184.33	2,300	12	3.4	4.8	<7.5	--

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #209339

5940 College Avenue

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-2 (cont)									
04/23/04	197.35	8.38	188.97	960	8.9	1.0	2.4	<1.5	--
10/22/04	197.35	11.41	185.94	2,200	24	<2.5	4.1	<10	--
04/14/05	197.35	6.69	190.66	640	2.1	<2.0	<2.0	7.5	--
10/14/05	197.35	11.14	186.21	1,200	6.9	<2.5	<2.5	<7.5	--
04/14/06	197.35	6.54	190.81	180	<0.5	<0.5	<0.5	<5.0	--
10/26/06	197.35	11.02	186.33	550	<2.0	0.5	<2.0	<10	--
04/13/07[6]	197.35	9.95	187.40	<50	<0.5	<0.5	<0.5	<1.5	--
10/22/07	197.35	12.63	184.72	3,200	12	<5.0	4.7	<20	--
04/21/08	197.35	9.31	188.04	860	1.0	<2.0[7]	<2.0[7]	<10[7]	--
10/15/08	197.35	13.71	183.64	480	1.3	0.8	1.1	<5.0[8]	--
04/15/09	197.35	8.79	188.56	370	0.7	1.3	0.9	6.5	--
10/01/09	197.35	13.67	183.68	<50	<0.5	<0.5	<0.5	<1.5	--
04/12/10	**197.35**	**6.62**	**190.73**	**310**	**1.0**	**<0.5**	**0.5**	**<1.5**	**--**
TRIP BLANK									
TB-LB									
01/03/01	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
04/25/01	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
07/09/01	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
QA									
10/08/01	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5
01/13/02	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
04/08/02	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	<2.5
10/15/02	--	--	--	<50	<0.50	<0.50	<0.50	<1.5	--
04/15/03	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
10/31/03	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
04/23/04	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
10/22/04	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
04/14/05	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
10/14/05	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
04/14/06	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
10/26/06	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
04/13/07	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #209339

5940 College Avenue

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	GWE (msl)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
QA (cont)									
10/22/07	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
04/21/08	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
10/15/08	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
04/15/09	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
10/01/09	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
04/12/10	**--**	**--**	**--**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**--**

Table 1

Groundwater Monitoring Data and Analytical Results

Former Chevron Service Station #209339
5940 College Avenue
Oakland, California

EXPLANATIONS:

TOC = Top of Casing
(ft.) = Feet
DTW = Depth to Water
GWE = Groundwater Elevation
(msl) = Mean sea level
TPH = Total Petroleum Hydrocarbons
GRO = Gasoline Range Organics
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl Tertiary Butyl Ether
(µg/L) = Micrograms per liter
-- = Not Measured/Not Analyzed
QA = Quality Assurance/Trip Blank

* TOC elevations were surveyed on December 27, 2000, by Virgil Chavez Land Surveying. The benchmark used for the survey was a City of Oakland benchmark being a cut square in the top of curb, at the curb return at the northeast corner of College Avenue and Miles Avenue, (Benchmark Elev. = 179.075 feet, msl).

[1] Laboratory report indicates unidentified hydrocarbons C6-C12.

[2] Laboratory report indicates gasoline C6-C12.

[3] MTBE by EPA Method 8260.

[4] Laboratory report indicates gasoline C6-C12 + unidentified hydrocarbons <C6.

[5] Laboratory report indicates gasoline C6-C12 + unidentified hydrocarbons C6-C12.

[6] Current laboratory analytical results do not coincide with historical data, although the laboratory results were confirmed.

[7] Laboratory report indicates that due to the presence of interferent near their retention time, normal reporting limits were not attained for toluene, ethylbenzene, and total xylenes. The presence or concentration of these compounds cannot be determined below the reporting limits due to the presence of these interferents.

[8] Laboratory report indicates that due to the presence of an interferent near its retention time, the normal reporting limit was not attained for total xylenes. The presence or concentration of this compound cannot be determined due to the presence of this interferent.

Table 2

Groundwater Analytical Results - Oxygenate Compounds

Former Chevron Service Station #209339
5940 College Avenue
Oakland, California

WELL ID	DATE	ETHANOL (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)
MW-1	01/03/01	<500	<50	<2.0	<2.0	<2.0	<2.0	<2.0
	04/25/01	--	<20	<2.0	<2.0	<2.0	<2.0	--
MW-2	01/03/01	<500	<50	2.2	<2.0	<2.0	<2.0	<2.0
	04/25/01	--	<20	<2.0	<2.0	<2.0	<2.0	--
	01/13/02	--	<20	<2.0	<2.0	<2.0	<2.0	--

EXPLANATIONS:

TBA = t-Butyl alcohol
MTBE = Methyl Tertiary Butyl Ether
DIPE = di-Isopropyl ether
ETBE = Ethyl t-butyl ether
TAME = t-Amyl methyl ether
1,2-DCA = 1,2-Dichloroethane
(µg/L) = Micrograms per liter
-- = Not Analyzed

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

Table 3
Groundwater Analytical Results
Former Chevron Service Station #209339
5940 College Avenue
Oakland, California

WELL ID	DATE	FERROUS IRON *(mg/L)*	TOTAL ALKALINITY *(mg/L)*	SULFATE AS SO_4 *(mg/L)*
MW-1	04/25/01	0.15	380	11
	07/09/01	<0.050	410	6.8
	10/08/01	--[1]	414	5.4
	01/13/02	<0.10[2]	390	10
MW-2	04/25/01	0.093	680	21
	07/09/01	0.44	600	9.3
	10/08/01	--[1]	683	3.8
	01/13/02	<0.10[2]	630	7.0

EXPLANATIONS:

(mg/L) = milligrams per liter
-- = Not Analyzed

ANALYTICAL METHODS:

EPA Method SM 3500 Fe for Ferrous Iron
EPA Method 310.1 for Total Alkalinity
EPA Method 300.0 for Sulfate as SO_4

[1] Analysis was not performed by the laboratory as requested on the Chain of Custody.
[2] Due to sample transfer by the lab from one laboratory to another, the sample was received beyond the EPA recommended holding time.

Table 4

Field Measurements

Former Chevron Service Station #209339

5940 College Avenue

Oakland, California

WELL ID	DATE	D.O. Before Purging *(mg/L)*	ORP Before Purging *(mV)*
MW-1	07/09/01	1.25	111
	10/08/01	1.20	64
	01/13/02[1]	--	--
MW-2	07/09/01	1.89	16
	10/08/01	1.04	58
	01/13/02[1]	--	--

EXPLANATIONS:

D.O. = Dissolved Oxygen Concentration

(mg/L) = Milligrams per liter

ORP = Oxygen Reduction Potential

(mV) = Millivolt

-- = Not Measured

[1] D.O. and ORP meter erratic; measurements not taken.

APPENDIX D

SHEAFF'S GARAGE GROUNDWATER DATA

TABLE 2A

Historical Results of Grab Groundwater Hydrocarbon Sample Analysis

5930 College Avenue, Oakland, CA

Sample Location	Sample ID	Sample Depth (feet bgs)	Sample Date	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Oxygenates (µg/L)	Naphthalene (µg/L)	MTBE (µg/L)	BTEX (µg/L)
B1	B1-GW	8.5	5/6/1998	31000	6000	--	--	ND<5	ND<5	2600 / 390 / 1600 / 4200
B2	B2-GW	6.5		200000	ND<5000	--	--	2500	2500	30000 / 49000 / 45000 / 21000
B3	B3-GW	6.5		$1x10^6$	7000	--	--	18000	18000	17000 / 24000 / 20000 / 80000
B7	B7-W	16.4	10/30/2002	296000	--	--	--	--	1360	18400 / 21900 / 8310 / 33800
B8	B8-W	11.5		1480	--	--	--	--	35	386 / 9 / 74 / 81
B9	B9-W	16.95	11/1/2002	16100	--	--	--	--	879	1250 / 1380 / 820 / 3480
B10	B10-W	13.85		49400	--	--	ND<5000	--	2680	6600 / 9940 / 1610 / 7600
B12	**B12-W**	--	5/2/2005	934000	--	--	92000*	ND≤500,000	ND<5000	64200 / 450000 / 550000 / 2697000
B14	**B14-W**	--	5/19/2005	ND<50	--	--	--	ND≤50	2.2	ND<0.5 / 1.2 / 0.6 / 3.5
B15	**B15-W**	--		53	--	--	--	ND≤50	ND<0.5	8.4 / ND<0.5 / ND<0.5 / ND<1.0
B16	**B16-W**	--	5/2/2005	154000	--	--	--	ND≤5000	**197**	2510 / 3020 / 4300 / 20400
B17	**B17-W**	--	5/19/2005	ND<50	--	--	--	ND≤50	ND<0.5	ND<0.5 / ND<0.5 / ND<0.5 / ND<1.0

Table Notes Following

TABLE 2A (Cont.)

Historical Results of Grab Groundwater Hydrocarbon Sample Analysis

5930 College Avenue, Oakland, CA

Sample Location	Sample ID	Sample Depth (ft bgs)	Sample Date	TPH-G (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	O&G (µg/L)	BTEX (µg/L)	MTBE (µg/L)	PAHs (µg/L)
B18	**B18-W**	6.4	4/14/2005	51	--	--	--	ND≤50	ND<0.5	ND<0.5 / ND<0.5 / ND<0.5 / 1.8
B19	**B19-W**	--	5/2/2005	4600000	--	--	--	ND≤5000	**146**	31100 / 70500 / 75600 / 228000
B20	**B20-W**	--	5/19/2005	60700	--	--	--	ND≤1000	**394**	6800 / 2600 / 1550 / 6520
B21	**B21-W**	15	6/22/2005	130000	--	--	5800000	ND≤1000 (EDB,EDC)	--	21000 / 24000 / 4500 / 23000
B23	**B23-W**	6.9	7/11/2005	21000	1800	--	9200	ND	**880**	2200 / 2600 / 450 / 3000
B24	**B24-W**	--	5/2/2005	3830000	--	--	--	--	ND<50	33200 / 46300 / 65500 / 175000
HB-1	**HB-1-W**	7.52	4/14/2005	173	--	--	--	ND≤50	0.9	0.8 / ND<0.5 / 0.9 / 3.9
HB-3	**HB-3-W**	8.05	7/11/2005	13000	--	--	--	ND≤2000	ND<20	690 / 21 / 1200 / 190
HB-4	**HB-4-W**	8.43		14000	--	--	--	ND≤2000	ND<20	13 / ND<10 / 10 / ND<10
HB-6	**HB-6-W**	6.45		45	--	--	--	ND≤100	ND<1	ND<0.5

Table Notes Following

TABLE 2B

Historical Results of Grab Groundwater Volatile Organic Compound Analysis

5930 College Avenue, Oakland, CA

B10	B10-W	13.85	11/1/2002	74	230	1610	441	ND<50	ND<50	765	ND<500	ND<100	ND<5000	ND<50	ND<250	ND<50
B12	**B12-W**	--	5/2/2005	61200	236000	430000	1270000	28600	ND<10000	305000	ND<10000	ND<5000	ND<250000	ND<10000	ND<10000	ND<5000
B21	**B21-W**	15	6/22/2005	ND<1000	ND<5000	ND<5000	ND<5000	ND<5000	ND<5000	ND<5000	ND<20000	ND<500	ND<5000	ND<500	ND<500	ND<500
B23	**B23-W**	6.9	7/11/2005	ND<50	ND<250	ND<250	320	ND<250	ND<250	ND<250	ND<1000	ND<25	ND<250	ND<25	ND<25	ND<25

TABLE NOTES:

ppb - parts per billion

NC - no criteria established for this chemical constituent

-- not analyzed for this constituent; parameter not measured

fbg - feet below grade surface

IPB- Isopropylbenzene

n-PB - n-Propylbenzene

1,3,5-TMB - 135 Trimethylbenzene

1,2,4-TMB - 1,2,4- Trimethylbenzene

Sec-BB - Sec-Butylbenzene

n-BB - n-Butylbenzene

MIBK - Methyl Isobutal Ketone

TCE - Trichloroethene

MC - Methylene Chloride

cis-1,2-DCE - cis-1,2-Dichloroethene

Tri-CFM - Trichlorofluoromethane

PCE - Tetrachloroethene

All other soil boring grab GW samples not analyzed for VOCs

CRWQCB/ESL = California Regional Water Quality Control Board's Interim Final - February 2005, Tier 1 Environmental Screening Level for groundwater that is a potential source of drinking water

TABLE 2C
Results of Grab Groundwater Sample Analysis for LUFT-5 Metals
5930 College Avenue, Oakland, CA

Sample Location	Sample ID	Sample Depth (fbg)	Sample Date	Cd (ug/L)	Cr (ug/L)	Pb (ug/L)	Ni (ug/L)	Zn (ug/L)
B10	B10-W	13.85	11/1/2002	ND<0.5	0.28	0.26	0.33	0.41
B12	**B12-W**		5/2/2005	17.4	9.51	106	30.7	100
B21	**B21-W**	15	6/22/2005	38	1400	75	1500	1900
B23	**B23-W**	6.9	7/11/2005	ND<2	ND<5	10	13	32
B23**	**B23-W**	6.9	7/11/2005	ND<2	ND<5	ND<5	11	30
CRWQCB/ESL - February 2005				3.8	50	2.5	8.2	81

TABLE 2C NOTES:

Cd - Cadmium
Cr - Chromium
Pb - Lead
Ni - Nickel
Zn - Zinc
mg/Kg - milligrams per Kilogram; parts per million (ppm)
fbg - feet below grade
** Results of dissolved sample (pre-filtered in field)
All other soil boring grab GW samples not analyzed for LUFT 5 Metals
CRWQCB/ESL = California Regional Water Quality Control Board's Interim Final - February 2005,
Tier 1 Environmental Screening Level for
groundwater that is a potential source of drinking water

TABLE 1

Historical Groundwater Levels & Hydrocarbon Analytical Results

5930 College Avenue, Oakland, CA

Well ID	Sample Date	Casing Elevation (ft, MSL)	Depth to GW (ft, TOC)	Water Elevation (ft, MSL)	Product Odor/ Sheen	TPH-G (ug/L)	MTBE (ug/L)	BTEX (ug/L)
MW-1	6/1/98	50.00 *	4.81	45.19	slight sheen	160000	1900	28000 / 21000 / 3800 / 21000
	9/10/98	50.00 *	7.5	42.5	Odor	290000	440	<50 / 25000 / 7100 / 32000
	10/7/99	50.00 *	10.04	39.96	Odor	85000	1100	20000 / 13000 / 3800 / 17000
	1/26/00	50.00 *	8.26	41.74	slight sheen	130000	470	25000 / 18000 / 4500 / 22000
	10/25/00	50.00 *	10.1	39.9	Odor	130000	1300	23000 / 12000 / 3900 / 18000
	2/2/01	50.00 *	9.61	40.39	Odor	128000	780	19000 / 11000 / 3800 / 18000
	4/25/01	195.9	7.39	188.51	Odor	120000	900	21000 / 13000 / 390 / 18000
	7/10/01		9.72	186.18	Odor	79000	660	15000 / 7800 / 3000 / 15000
	10/8/01		10.88	185.02	Odor/sheen	112000	374	25300 / 11800 / 4280 / 20600
	1/7/02		4.34	191.56	Odor	96100	596	21100 / 13500 / 4160 / 21900
	4/8/02		6.84	189.06	slight odor	111000	679	21200 / 13400 / 4230 / 21000
	7/9/02		9.4	186.5	slight odor	110000	570	20300 / 13300 / 4060 / 19800
	10/23/02		11.04	184.86	None	54100	1010 (1080)**	10800 / 3870 / 2320 / 9440
	10/15/03		10.8	185.1	None	90700	724	17800 / 4740 / 3150 / 13900
	2/2/04		7.35	188.55	None	108000	194	14200 / 7420 / 3450 / 19800
	4/23/04		6.83	189.07	slight odor	49200	114	7910 / 1480 / 1810 / 10100
	7/19/04		8.95	186.95	Odor	63900	303	7260 /2270 / 2510 / 10100
	10/22/04		10.15	185.75	None	80700	493 (296)**	13900 / 1670 / 3550 / 15200
	1/21/05		5.45	190.45	Odor	278000	271 (174)**	14700 / 25300 / 10800 / 73500
	4/14/05		5.3	190.6	Odor /sheen	116000	366 (410)**	15100 / 7080 / 4220 / 20700
	7/26/05		7.6	188.3	Odor	82000	ND<250	12000 / 4500 / 3300 / 14000
	10/14/05		9.58	186.32	Odor/sheen	64000	ND<250	13000 / 5700 / 3400 / 16000
	1/13/06		4.6	191.3	Odor/sheen	49000	ND<250	12000 / 5300 / 3500 / 17000
	4/14/06		3.08	192.82	Odor	51000	270	14000 / 5300 / 3500 / 17000
	10/26/06		9.22	186.68	Odor	34000	ND<250	12000 / 1600 / 3100 / 8600
	1/30/07		9.6	186.3	Odor	39000	ND<200	10000 / 2200 / 2900 / 10000
	4/13/07		9.24	186.66	NM	52000	150	9100 / 2600 / 3100 / 11000
	7/24/07		10.67	185.23	None	46000	240	10000 / 1200 / 3500 / 6200
	4/21/08		7.24	188.66	None	50000	ND<100	7800 / 1500 / 3000 / 12000
	7/22/08		9.71	186.19	Odor	60000	470 [1]	8100 / 1500 / 2700 / 9800
	10/21/08		11.63	184.27	Odor	15000	110	4900 / 430 / 1900 / 2260
	1/19/09		10.91	184.99	Odor/Sheen	33000	143	8830/837/2160/3880
	4/27/09		7.7	188.2	Odor	75000	53	8500/2100/2300/11000
	10/27/09		9.34	186.56	Odor	61000	75	8300/1500/2600/7900
	10/14/10		**10.3**	**185.6**	**Clear/Odor**	**24000** [2]	**220**	**8100/820/2200/4400**
CRWQCB ESL - Nov 2007						**100**	**5**	**1.0 / 40 / 30 / 20**

Table Notes Following

TABLE 1 (Cont.)

Historical Groundwater Levels & Hydrocarbon Analytical Results

5930 College Avenue, Oakland, CA

Well ID	Sample Date	Casing Elevation (ft, MSL)	Depth to GW (ft, TOC)	Water Elevation (ft, MSL)	Product Odor/ Sheen	TPH-G (ug/L)	MTBE (ug/L)	BTEX (ug/L)
MW-2	10/7/99	51.42*	11.49	39.93	slight/odor	18000	490	3000 / 1700 / 1000 / 3900
	1/26/00	51.42*	7.85	43.57	None	42000	560	9300 / 2200 / 2300 / 7700
	10/25/00	51.42*	11.57	39.85	slight/odor	31000	500	5500 / 370 / 1700 / 2600
	2/2/01	51.42*	10.77	40.65	Odor	36000	400	4300 / 530 / 1800 / 4500
	4/25/01	197.28	8.52	188.76	Odor	56000	460	6700 / 1700 / 2600 / 8200
	7/10/01		11.05	186.23	Odor	39000	180	6200 / 730 / 2300 / 6100
	10/8/01		12.79	184.49	Odor/sheen	40700	6460	6310 / 399 / 2100 / 5320
	1/7/02		4.92	192.36	Odor	59600	366**	10300 / 3250 / 4180 / 14400
	4/8/02		8.4	188.88	slight odor	66700	583**	10200 / 2670 / 3840 / 13200
	7/9/02		10.55	186.73	slight odor	37100	303 (298)**	5340 / 890 / 2110 / 6920
	10/23/02		13.85	183.43	None	13300	322 (360)**	2420 / 216 / 922 / 1470
	10/15/03		12.38	184.9	None	11300	264 (322)**	2660 / 51 / 1180 / 1220
	2/2/04		8.8	188.48	None	21700	168 (200)**	2130 / 51 / 1030 / 2060
	4/23/04		8.4	188.88	Slight odor	30400	112 (203)**	3570 / 322 / 1620 / 4140
	7/19/04		10.3	186.98	Odor	28300	283 (373)**	2540 / 239 /1320 / 2300
	10/22/04		10.25	187.03	Mod odor	13500	273 (229)**	1790 / 54 / 892 / 915
	1/21/05		6.65	190.63	Mod odor	278000	161 (163)**	5980 / 1030 / 2890 / 9070
	4/14/05		8.7	188.58	None	46100	155 (150)**	5170 / 787 / 2530 / 6010
	7/26/05		8.95	188.33	Mod odor	41000	ND (ND)**	5600 / 550 / 2600 / 4600
	10/14/05		10.92	186.36	Odor/sheen	13000	130	2900 / 100 / 1300 / 1200
	1/13/06		5.48	191.8	Odor	20000	ND<100	4900 / 490 / 2400 / 4200
	4/14/06		3.61	193.67	Odor	21000	ND<100	4000 / 740 / 2300 / 5100
	10/26/06		10.58	186.7	Odor	8200	68	1400 / 51 / 840 / 500
	1/30/07		10.98	186.3	Odor	17000	62	3200 / 150 / 2200 / 1800
	4/13/07		10.54	186.74	NM	19000	57	2000 / 85 / 1300 / 1100
	7/24/07		12.04	185.24	None	10000	84	1300 / 41 / 710 / 270
	4/21/08		8.01	189.27	None	17000	48	1800 / 100 / 1400 / 1300
	7/22/08		11.12	186.16	None	16000	100 [1]	1900 / 98 / 1600 / 741
	10/21/08		13.11	184.17	Odor/sheen	4900	65	700 / 20 / 370 / 52
	1/19/09		12.31	184.97	Odor	2500	90	167/8.49/114/50.3
	4/27/09		9.01	188.27	Odor/sheen	21000	ND<0.5	1700/130/1100/1800
	10/27/09		10.52	186.76	Odor	7000	ND<0.5***	510/19/330/160
	10/14/2010		**11.56**	**185.72**	**None**	**3200** [2]	**35**	**460/16/230/110**
CRWQCB ESL - Nov 2007						**100**	**5**	**1.0 / 40 / 30 / 20**

Table Notes Following

TABLE 1 (Cont.)

Historical Groundwater Levels & Hydrocarbon Analytical Results

5930 College Avenue, Oakland, CA

Well ID	Sample Date	Casing Elevation (ft, MSL)	Depth to GW (ft, TOC)	Water Elevation (ft, MSL)	Product Odor/ Sheen	TPH-G (ug/L)	MTBE (ug/L)	BTEX (ug/L)
MW-3	10/7/99	49.39*	9.67	39.72	None	6600	390	310 / 110 / 430 / 1000
	1/26/00	49.39*	5.4	43.99	None	3300	40	110 / 8 / 100 / 32
	10/25/00	49.39*	9.24	40.15	Slight odor	4500	ND	100 / 2 / 120 / 130
	2/2/01	49.39*	8.73	40.66	Slight odor	2900	35	35 / 3 / 160 / 298
	4/25/01	195.22	6.61	188.61	Slight odor	8400	56	260 / 33 / 290 / 510
	7/10/01		8.85	186.37	Slight odor	12000	35	39 / 10 / 690 / 1600
	10/8/01		9.75	185.47	Odor/sheen	4913	52	108 / 4 / 99 / 133
	1/7/02		4.25	190.97	Odor/sheen	7260	81.7**	723 / 138 / 492 / 887
	4/8/02		6.33	188.89	Odor	11700	ND**	540 / 108 / 706 / 1710
	7/9/02		8.56	186.66	Odor	2320	28.3 (20)**	37.1 / 4.7 / 98.5 / 187
	10/23/02		10.02	185.2	Odor/sheen	2830	ND (ND)**	46.8 / 4.7 / 43.6 / 65.5
	10/15/03		9.8	185.42	Odor/sheen	3040	ND (ND)**	91.3 / 8.4 / 69.9 / 148
	2/2/04		6.85	188.37	Odor/sheen	5140	ND (ND)**	126 / 8.7 / 134 / 238
	4/23/04		6.17	189.05	None	7210	ND (ND)**	227 / 39.5 / 448 / 879
	7/19/04		8.25	186.97	Slight odor	9860	ND (ND)**	20.4 / 3.2 / 30.6 / 117
	10/22/04		9.25	185.97	None	7420	96 (21)**	152 / 12.8 / 267 / 480
	1/21/05		5.22	190	Slight odor	2420	ND (ND)**	111 / 11.4 / 139 / 265
	4/14/05		6.64	188.58	Odor/sheen	5130	54 (41.4)**	357 / 19.4 / 287 / 510
	7/26/05		6.9	188.32	None	9800	ND (21)**	200 / 23 / 220 / 360
	10/14/05		8.83	186.39	Odor/sheen	6100	ND	76 / 19 / 170 / 350
	1/13/06		4.61	190.61	Odor	3900	24	380 / 17 / 230 / 300
	4/14/06		3.41	191.81	Odor	5000	69	760 / 44 / 230 / 190
	10/26/06		8.57	186.65	Odor	3100	17	120 /9.8 /55 / 54
	1/30/07		8.83	186.39	Odor	4500	ND<10	90 /7.6 / 75 / 44
	4/13/07		8.57	186.65	NM	2800	ND<5	55 / 4.9 / 19 / 6.1
	7/24/07		9.98	185.24	None	4800	ND<5	140 / 8.3 / 66 / 22
	4/21/08		9.3	185.92	None	4300	ND<5	200 / 11 / 30 / 14
	7/22/08		9.05	186.17	None	2400	53 [1]	140 / 13 / 26 / 18.5
	10/21/08		11.12	184.1	Slight Odor	2900	2.2	170 / 9.2 / 99 / 25.8
	1/19/09		10.29	184.93	Odor	3600	ND<0.5	148/6.73/24.5/22.1
	4/27/09		7.15	188.07	Odor/sheen	5800	8.8	370/12/82/84
	10/27/09		8.96	186.26	Odor	4900 [2]	ND<0.5***	130/8.5/89/130
	10/14/2010		**9.76**	**185.46**	**None**	**2700 [2]**	**ND<4.4**	**270/11/290/399.2**
CRWQCB ESL - Nov 2007						**100**	**5**	**1.0 / 40 / 30 / 20**

Table Notes Following

TABLE 1 (Cont.)

Historical Groundwater Levels & Hydrocarbon Analytical Results

5930 College Avenue, Oakland, CA

Well ID	Sample Date	Casing Elevation (ft, MSL)	Depth to GW (ft, TOC)	Water Elevation (ft, MSL)	Product Odor/ Sheen	TPH-G (ug/L)	MTBE (ug/L)	BTEX (ug/L)
PW-1	4/14/05	197.17	6.4	190.77	None	3360	ND (ND**)	62.8 / 6.7 / 79.5/ 317
	7/26/05		8.63	188.54	None	1300	ND (ND**)	22 / ND / 48 / 110
	10/14/05		10.71	186.46	None	4300	ND	93 /1.2 / 100 / 140
	1/13/06		4.87	192.3	None	450	ND<2.0	10 / ND / 37 / 72
	4/14/06		2.27	194.9	Odor	120	ND<2.0	2.3 / ND<1.0 / 3.5 /9.3
	10/26/06		10.3	186.87	Odor	2800	ND<10	61 / ND<5.0 / 130 / 34
	1/30/07		10.8	186.37	Odor	1200	ND<2	22 / ND<1.0 / 100 / 200
	4/13/07		10.31	186.86	NM	510	ND<1	6 / ND<0.5 / 30 / 56
	7/24/07		11.81	185.36	None	3400	ND<5	63 / ND<2.5 / 180 / 5.6
	4/21/08		9.08	188.09	None	300	ND<1	3 / ND<0.5 / 16 / 26
	7/22/08		9.83	187.34	None	710	3.1 [1]	9.3 / 1.2 [1] / 49 / 67.86
	10/21/08		12.9	184.27	None	1500 [2]	1	20 / ND<0.5 / 57 / 20
	1/19/09		12.11	185.06	Odor/sheen	1100 [2]	ND<0.5	12.3/ND<0.5/30.8/9.20
	4/27/2009		8.69	188.48	None	360 [3]	ND<0.5	2.7/ND<0.5/12/18
	10/27/2009		10.32	186.85	None	1100 [2]	ND<0.5	12/ND<0.5/36/34
	10/14/2010		**11.38**	**185.79**	**None**	**860** [3]	**ND<0.5**	**8.8/.55/44/44**
CRWQCB ESL - Nov 2007						**100**	**5**	**1.0 / 40 / 30 / 20**

NOTES:

ft, MSL = feet Above Mean Sea Level

TOC = Top of Well Casing

GW = Depth to Groundwater in feet Below TOC

TPH-G = Total Petroleum Hydrocarbons as Gasoline

MTBE = Methyl Tertiary Butyl Ether

BTEX = Benzene / Toluene / Ethylbenzene / Total Xylenes

ug/L = micrograms per liter

ND = Not detected above laboratory reporting limit

[1] = Presence confirmed, but Relative Percentage Difference (RPD) between columns exceeds 40%

[2] = Sample exhibit chromatographic pattern that does not resemble standard; See laboratory report for additional information

[3] = Although TPH-gas compounds are present, value is elevated due to discrete peak (PCE) within C5-C12 range quantified as gasoline

* = Arbitrary datum point with assumed elevation of 50 ft used prior to MSL survey on 4/ 25/01

** = Concentration confirmed by EPA Method 8260

** = Sample also analyzed for other Fuel oxygenates (EPA Method 8260); All results ND (See Lab Report)

CRWQCB/ESL = California Regional Water Quality Control Board's Interim Final - November 2007, Tier 1 Environmental Screening Level for groundwater that **IS** a potential source of drinking water

TABLE 2
Historical Groundwater VOC Analytical Results in PW-1
5930 College Avenue, Oakland, CA

Well ID	Sample Date	IPB (ug/L)	n-PB (ug/L)	1,3,5-TMB (ug/L)	1,2,4-TMB (ug/L)	Sec-BB (ug/L)	n-BB (ug/L)	Naphthalene (ug/L)	TCE (ug/L)	MC (ug/L)	cis-1,2-DCE (ug/L)	Vinyl Chloride (ug/L)	PCE (ug/L)
PW-1	4/14/05	11	22	110	100	ND,10	ND<10	43	3.3	ND<25	12	ND<0.5	84.9
	7/26/05	7.3	17	37	100	ND<10	ND<10	43	ND<1	ND<10	7	ND<1	48
	10/14//05	28	72	67	120	12	17	43	4.1	ND<40	29	ND<1	25
	1/13/06	ND<20	ND<10	ND<10	37	ND<10	ND<10	ND<10	1.4	ND<40	5	ND<1	95
	4/14/06	ND<2	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	1.1	ND<40	2.8	ND<1	68
	10/26/06	ND<10	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	6.2	ND<200	32	ND<5.0	26
	1/30/07	ND<2	23	31	120	ND<10	ND<10	18	ND<1	ND<40	11	ND<1	29
	4/13/07	2.4	6.1	7	30	ND<5	ND<5	6.8	0.84	ND<20	4.7	ND<0.5	64
	7/24/07	ND<5.0	60	ND<25	ND<25	ND<25	ND<25	ND<25	ND<2.5	ND<100	58	ND<2.5	50
	4/21/08	1.1	ND<5	ND<5	15	ND<5	ND<5	ND<5	0.88	ND<20	3.7	ND<0.5	91
	7/22/08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/21/08	17	14	5	15	9.4	14	5.1	6.2	ND<10	56	0.6	44
	4/27/09	1.2	3.3	3.4	16	ND<0.5	ND<0.5	ND<1.0	1.4	ND<5.0	4	ND<0.5	120
	10/27/09	6	4.8	ND<0.5	15	ND<0.5	ND<0.5	ND<1.0	ND<0.5	ND<5.0	35	ND<0.5	78
	10/14/10	**9.8**	**15**	**12**	**44**	**4.4**	**ND<0.5**	**4**	**5**	**ND<5.0**	**61**	**ND<0.5**	**35**
CRWQCB ESL		**NC**	**NC**	**NC**	**NC**	**NC**	**NC**	**17**	**5**	**5**	**6**	**0.5**	**5**

NOTES:
VOC = Volatile Organic Compounds
IPB = Isopropylbenzene
n-PB = n-Propylbenzene
1,3,5-TMB = 1,3,5-Trimethylbenzene
1,2,4-TMB = 1,2,4-Trimethylbenzene
sec-BB = sec-Butylbenzene
n-BB = n-Butylbenzene
TCE = Trichloroethene
MC = Methylene Chloride
cis-1,2-DCE = cis-1,2-Dichloroethene
PCE = Tetrachloroethene
ug/l = micrograms per liter
ND = Not detected above laboratory reporting limit
NC = No Criteria Listed
NA = Not Analyzed

CRWQCB/ESL = California Regional Water Quality Control Board's Interim Final - November 2007, Tier 1 Environmental Screening Level for groundwater that **IS** a potential source of drinking water

APPENDIX E

TREND GRAPHS AND DEGRADATION CALCULATIONS

Table A - Summary of Degradation Rate Calculations
Chevron Service Station #20-9339, 5940 College Avenue, Oakland, California

Well	Analyte	Maximum Concentration (ug/L)	Current Concentration (ug/L)	Half-Life (years)	Date to Reach ESL	Years to Reach ESL
MW-1	TPHg	1,700	< 50	NA	NA	Below ESLs
	Benzene	3.4	< 0.5	NA	NA	Below ESLs
MW-2	TPHg	4,200	150	2.48	Apr 2013	2
	Benzene	200	< 0.0	1.29	Feb 2009	Near ESLs

Notes and Abbreviations:
TPHg = Total petroleum hydrocarbons as gasoline
ug/L = Micrograms per liter
ESL = Environmental Screening Level
NA = Not applicable

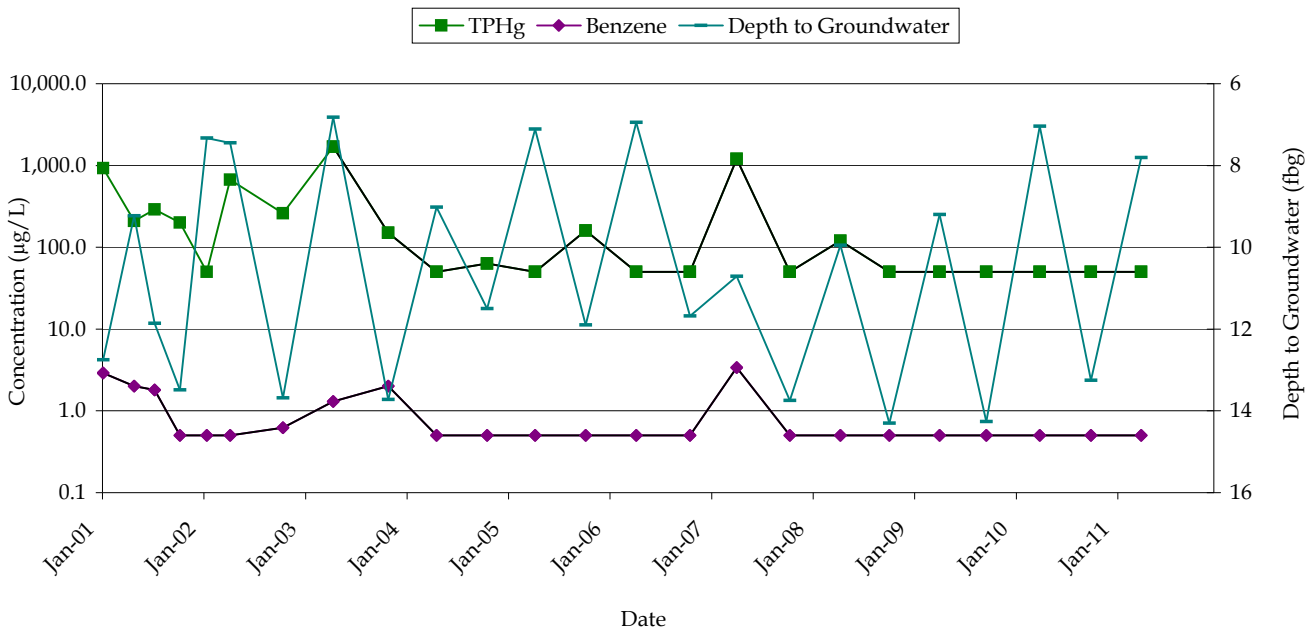
Predicted Time to Reach Environmental Screening Levels (ESL) in Well MW-1

Chevron Service Station #20-9339, 5940 College Avenue, Oakland, California

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L, a = decay constant
b = concentration at time (x), x = time (x) in days

	Constituent	Total Petroleum Hydrocarbons as Gasoline (TPHg)	Benzene
Given			
Environmental Screening Levels (ESL) :	y	100	1
Constant:	b	NA	NA
Constant:	a	NA	NA
Starting date for current trend:		NA	NA
Calculate			
Attenuation Half Life (years):	(-ln(2)/a)/365.25	NA	NA
Estimated Date to Reach ESL:	(x = ln(y/b) / a)	BELOW ESL	BELOW ESL



FORMER CHEVRON SERVICE STATION #20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

MW-1: TPHg AND BENZENE CONCENTRATIONS AND DEPTH TO GROUNDWATER

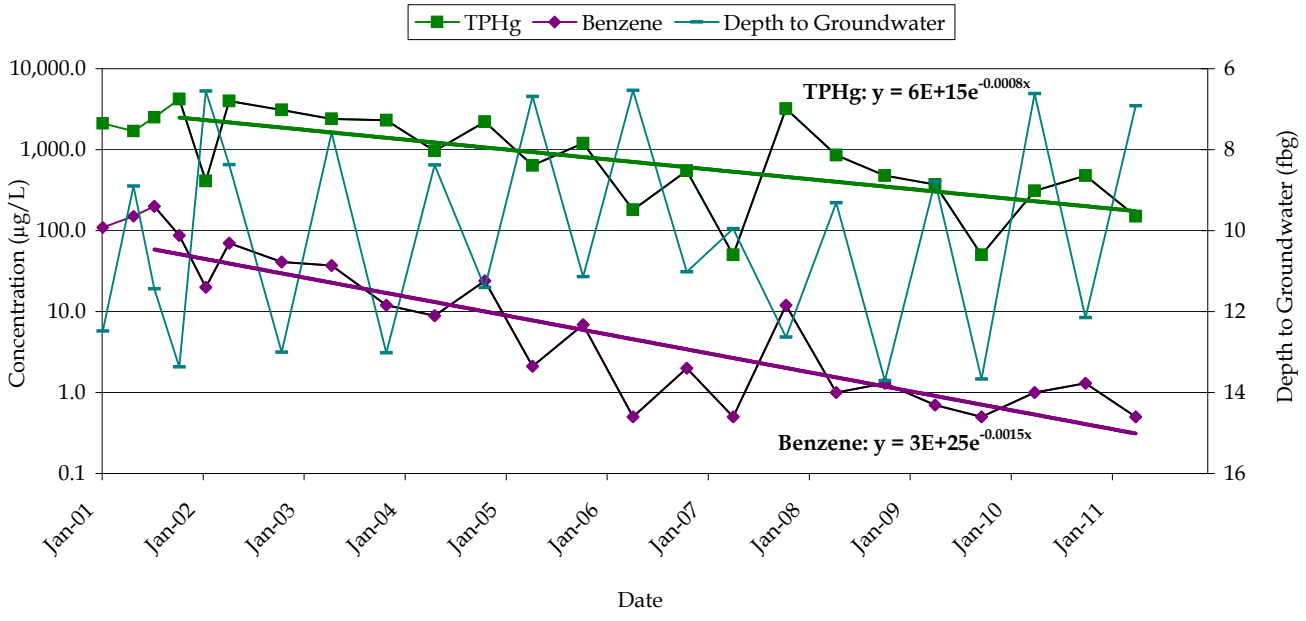
Predicted Time to Reach Environmental Screening Levels (ESL) in Well MW-2

Chevron Service Station #20-9339, 5940 College Avenue, Oakland, California

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L, a = decay constant
b = concentration at time (x), x = time (x) in days

	Constituent	Total Petroleum Hydrocarbons as Gasoline (TPHg)	Benzene
Given			
Environmental Screening Levels (ESL) :	y	100	1
Constant:	b	5.70E+15	2.58E+25
Constant:	a	-7.66E-04	-1.47E-03
Starting date for current trend:		10/8/2001	7/9/2001
Calculate			
Attenuation Half Life (years):	(-ln(2)/a)/365.25	2.48	1.29
Estimated Date to Reach ESL:	(x = ln(y/b) / a)	Apr 2013	Feb 2009



FORMER CHEVRON SERVICE STATION #20-9339
5940 COLLEGE AVENUE
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

MW-2: TPHg AND BENZENE CONCENTRATIONS AND DEPTH TO GROUNDWATER

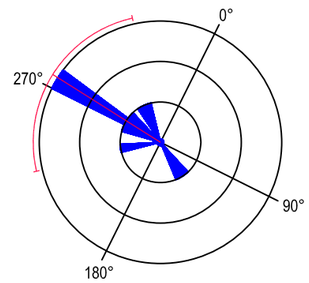
ATTACHMENT B

CRA'S GROUNDWATER HYDROCARBON CONCENTRATION MAPS
FOR 2011 AND 2012

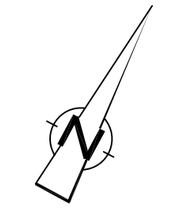
LEGEND

- FORMER CHEVRON MONITORING WELL LOCATION
- FORMER SHEAFF MONITORING WELL LOCATION
- WELL — WELL DESIGNATION
  ELEV — GROUNDWATER ELEVATION (MSL)
  TPHG — TPHg CONCENTRATION IN GROUNDWATER (µG/L)
  BENZ — BENZENE CONCENTRATION IN GROUNDWATER (µG/L)
- 187.0 — GROUNDWATER ELEVATION CONTOUR, IN FEET ABOVE MEAN SEA LEVEL (MSL), DASHED WHERE INFERRED
- x.xx — GROUNDWATER FLOW DIRECTION AND GRADIENT

Building Gym
College Avenue United Presbyterian Church
Retail/Commercial
sidewalk
HARWOOD AVENUE
parking lane
driveway
sidewalk
COLLEGE AVENUE
former USTs
sump pump access
former dispenser island
Stairs to lower level
Stairs to upper level
former station building
former garage and service building
Residence
187.0
MW-1
186.25
140
<0.5
MW-2
187.08
370
0.7
sidewalk
parking lane
Office
below ground parking area
Barclay's Restaurant / Pub
1 story commercial space above garage and Barclay's
approximate location of former fuel dispenser (underlying concrete pad 42"x42" removed 08/27/03)
Approximate Property Boundary
Retail / Commercial
MW-1
186.82
50,000
9,200
0.60
former subsurface product line
PW-1
187.38
260
<0.5
189.0
MW-2
189.86
9,200
810
Stauder Automotive Service (Former Sheaff's Garage)
Approximate location of UST removal area
open area storage / parking
188.0
MW-3
186.62
5,400
140
187.0
188.0
Residence
Residence
Residence
Residential / Retail Building



Historical Groundwater Flow Direction based on data acquired from joint monitoring with Former Sheaff's Garage



0 10 30ft

Basemap modified from drawing provided by Gettler Ryan, Inc.

Figure 2

GROUNDWATER ELEVATION AND HYDROCARBON CONCENTRATION MAP
FORMER CHEVRON SERVICE STATION 20-9339
5940 COLLEGE AVENUE
Oakland, California
October 7, 2011

311954-95(009)GN-EM002 NOV 17/2011

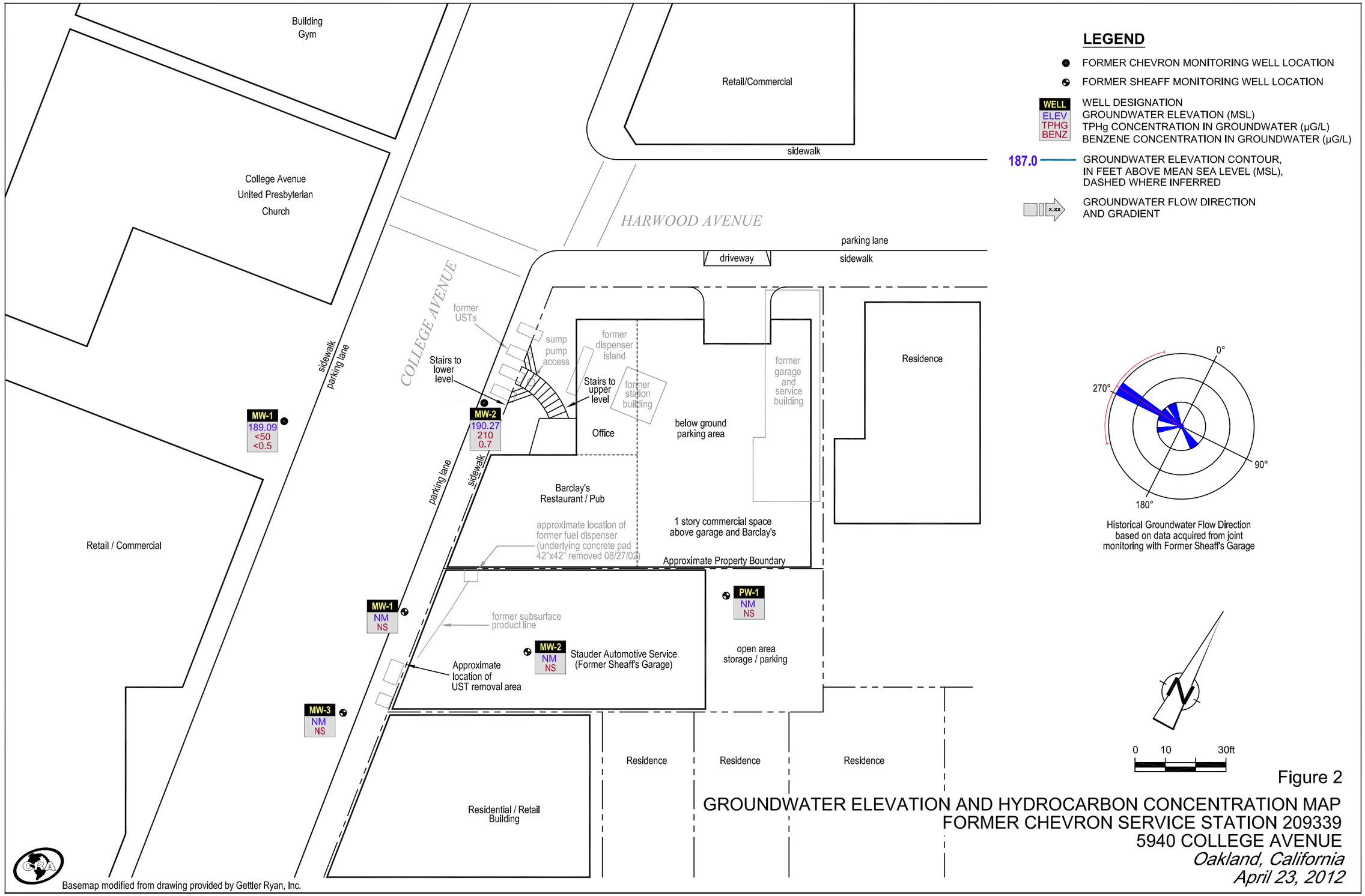


Figure 2

GROUNDWATER ELEVATION AND HYDROCARBON CONCENTRATION MAP
FORMER CHEVRON SERVICE STATION 209339
5940 COLLEGE AVENUE
Oakland, California
April 23, 2012

Basemap modified from drawing provided by Gettler Ryan, Inc.

311954-95(010)GN-EM002 MAY 21/2012