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1131 Harbor Bay Parkway
Alameda, California 94502

Subject: **TRANSMITTAL LETTER & CERTIFICATION STATEMENT**

Location: **Former Exxon Station, 3055 35th Avenue, Oakland**

ACEH LOP#: **RO-0000271; GeoTracker #: T0600100538;**

As the legally authorized representative for the responsible party, I certify the following statement to satisfy regulatory requirements for technical report submittals:

- *I declare, under penalty of perjury, that the information and/or recommendations contained in the aforementioned report, prepared on my behalf by WEBER, HAYES AND ASSOCIATES, are true and correct to the best of my knowledge.*

Sincerely,

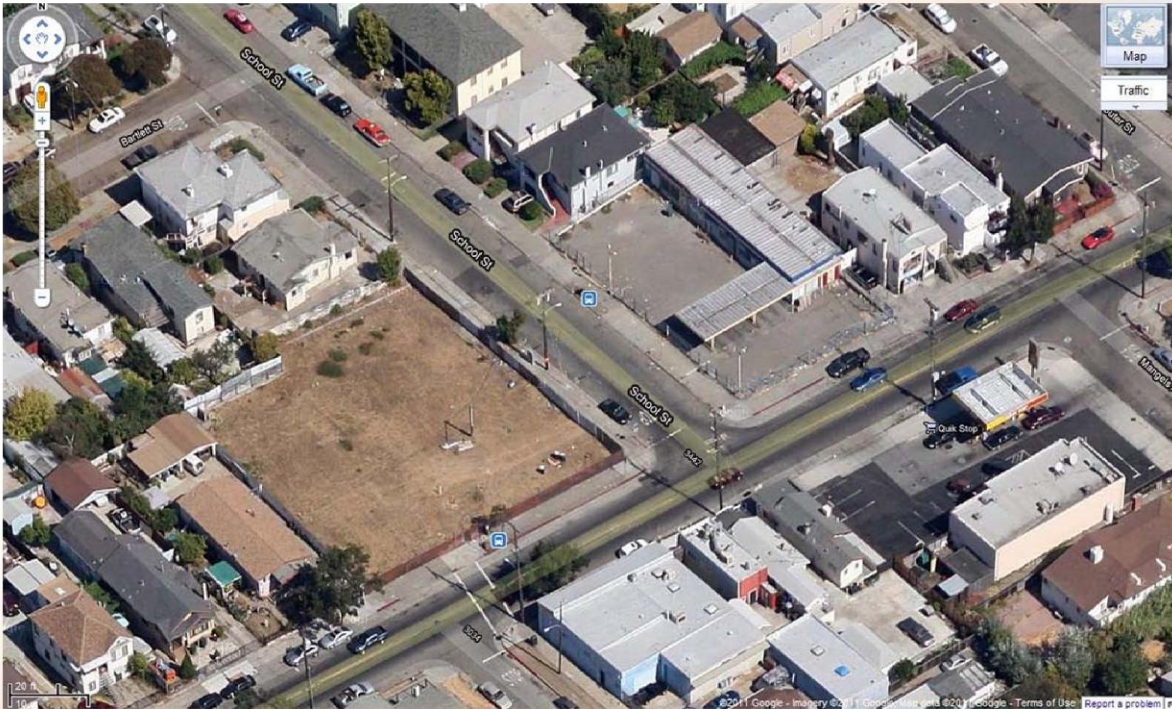

Lynn Worthington 12/16/2016

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WORK PLAN FOR ADDITIONAL SITE INVESTIGATION



DECEMBER 16, 2016

SITE: FORMER EXXON STATION, 3055 35TH AVENUE, OAKLAND, CALIFORNIA

Alameda County Environmental Health Fuel Leak Case RO 271

San Francisco Bay Regional Water Quality Control Board Case #: 01-0585

GeoTracker Global ID: T0600100538

WHA PROJECT: 2X103.F

Prepared for Submittal to: Alameda County Environmental Health
Attn: Keith Nowell, 1131 Harbor Bay Parkway, Alameda, CA 94502-6577

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ABBREVIATIONS AND ACRONYMS

bgs	<i>Below Ground Surface</i>	NFA	<i>No Further Action (de minimis Condition)</i>
BTEX	<i>Benzene, Toluene, Ethylbenzene, and Xylenes</i>	ppb	<i>Parts Per Billion</i>
DCOAE	<i>Direct Contact and Outdoor Air Exposure</i>	ppm	<i>Parts Per Million</i>
ECAP	<i>Expedited Cleanup Account Program</i>	µg/L	<i>Micrograms per Liter</i>
ESL	<i>Environmental Screening Level</i>	TPH-g	<i>Total Petroleum Hydrocarbons as gasoline</i>
JET	<i>Joint Execution Team</i>	TBA	<i>Tert Butanol</i>
LTCP	<i>Low-Threat UST Case Closure Policy</i>	UST	<i>Underground Storage Tank</i>
mg/Kg	<i>Milligrams per kilogram</i>	VOC	<i>Volatile Organic Compound</i>
MTBE	<i>Methyl tert Butyl Ether</i>		



1.0 EXECUTIVE SUMMARY

This Work Plan describes additional site investigation tasks proposed for the underground storage tank (UST) fuel release at 3055 35th Avenue in Oakland, California (the Site, Figures 1 and 2). The proposed tasks are designed to collect the data necessary to complete the evaluation of the Site under the State Water Resources Control Board's (State Water Board's) *Low-Threat UST Case Closure Policy* (LTCP).

Four gasoline USTs and one waste oil UST were removed from the Site in 1991. Subsequent soil, soil gas, and groundwater investigations confirmed there was a release of gasoline at the Site, and generally defined the extent of fuel/gasoline hydrocarbons in these environmental media. Active remediation by dual phase extraction in 2000-2004 removed approximately 6,545 pounds of hydrocarbons from the subsurface at the site. Post-remediation assessment by Conestoga Rovers and Associates in 2007 and 2008 defined the extent and magnitude of residual hydrocarbons at and downgradient of the Site. A data gap assessment by Weber Hayes and Associates in 2012 identified upgradient hydrocarbon sources. The site was accepted into the State Water Board's Expedited Claim Account Program (ECAP) Pilot Project in the summer of 2016. Evaluation of previously collected soil, soil gas, and groundwater analytical data from the Site in accordance with LTCP guidelines indicates:

- LTCP General Criteria have been met
- LTCP Groundwater Criteria have not been met due to the concentrations and downgradient extent of benzene in groundwater not being completely defined
- LTCP Soil Vapor Criteria have not been met due to the 2007-2008 soil gas samples not meeting all LTCP data requirements for analytes and bio-attenuation soil data
- LTCP Direct Contact and Outdoor Air Exposure (DCOAE) Criteria have been met off-site, but not on-site due to inadequate number of shallow soil samples on-site

A plan is presented to collect the additional samples necessary to complete the LTCP evaluation of groundwater, soil vapor, and DCOAE media-specific criteria. If the data collected indicate that closure under the LTCP is appropriate we will recommend it.

Field observations indicate groundwater occurs at the site under confined conditions at a depth of approximately 25 feet below the ground surface. Improperly screened monitoring and remediation wells on-site may allow groundwater under pressure to move upwards and contact residual hydrocarbons in unsaturated zones skewing well data. We propose collecting discrete groundwater samples for comparison with monitoring well samples to confirm this scenario. If this scenario is confirmed, the improperly screened monitoring and remediation wells should be properly destroyed.

2.0 INTRODUCTION

This Work Plan describes additional site investigation tasks proposed for the underground storage tank (UST) fuel release at 3055 35th Avenue in Oakland, California (the Site). The proposed tasks are designed to collect the data necessary to complete the evaluation of the Site for closure under the State Water Resources Control Board's (State Water Board's) Low-Threat UST Case Closure Policy (LTCP).

Four gasoline USTs and one waste oil UST were removed from the Site in 1991. Subsequent soil, soil gas, and groundwater investigations confirmed there was a release of gasoline at the Site, and generally defined the extent of fuel/gasoline hydrocarbons in these environmental media. Active remediation by dual phase extraction in 2000-2004 removed approximately 6,545 pounds of hydrocarbons from the subsurface at the site. Post-remediation assessment by Conestoga Rovers and Associates (CRA) in 2007 and 2008 defined the extent and magnitude of residual hydrocarbons at and downgradient of the Site. A data gap assessment by Weber, Hayes and Associates (WHA) in 2012 identified upgradient hydrocarbon sources. The site was accepted into the State Water Board's Expedited Claim Account Program (ECAP) Pilot Project in the summer of 2016. The Work Plan includes:

- A summary of previous soil, soil gas, and groundwater investigations related to the UST release at the site
- An evaluation of previously collected soil, soil gas, and groundwater analytical data from the Site in accordance with LTCP guidelines
- A plan for collecting the soil, soil gas and groundwater samples necessary to complete the LTCP evaluation for site closure
- Status of our requests to access off-site, downgradient properties and conduct a foundation survey prior to collecting the soil, soil gas and groundwater samples necessary to complete the LTCP evaluation – the foundation survey helped determine the depth of the soil gas samples
- A plan for a non-invasive utility map survey to determine if benzene-impacted groundwater could be transported through existing storm drains to surface water as required by Alameda County Environmental Health
- A review of the existing Sensitive Receptor Survey – this review indicates the existing Sensitive Receptor Survey is valid with the current extent of benzene in groundwater

3.0 SUMMARY OF SITE CHARACTERIZATION DATA

The site description, background on the UST release, and a summary of site characterization investigations and corrective actions are presented as Appendix A. The Updated Conceptual Site Model is presented as Appendix B. A summary of site characterization data is presented below.

On-site soil sample locations and analytical results are shown on Figures 3 and 4. Conestoga Rovers and Associates (CRA's) Phase I and II investigations in 2007 and 2008 provide the most comprehensive picture of the extent of hydrocarbons at and downgradient of the site available today (post-remediation). CRA's initial post-remediation (Phase I) off-site soil sample locations and analytical results are shown on Figure 5; Phase II soil sample locations and analytical results are shown on Figure 6; Phase I and II soil gas sample locations and analytical results are shown on Figure 7; and Phase I and II groundwater sample locations and analytical results are shown on Figure 8. CRA's soil, soil gas, and groundwater sample analytical results are presented in Tables 1, 2, and 3, respectively. CRA's Phase I and II soil gas AND groundwater sample locations and analytical results are shown together on Figure 9. **This key Figure shows there are low concentrations (below LTCP guidelines) of hydrocarbons in soil gas even when there are significant concentrations of benzene in groundwater and deep soil (greater than 10 feet below the ground surface [bgs]).**

Weber, Hayes and Associates (WHA) became the consultant for the site in 2011. Soil sample analytical data from our May 2012 *Data Gap Assessment* (designed to evaluate off-site contributions to the dissolved hydrocarbon plume and potential on-site hydrocarbon sources) is summarized in Table 4 and Figure 3.

The most recent groundwater analytical data on-site (monitoring and remediation wells) is from July 2015. The most recent groundwater analytical data off-site is from Conestoga Rovers Associates' 2007 and 2008 investigation. Groundwater data is summarized in Tables 3 and 5. We have extrapolated the data to plot what we believe is the current extent of benzene in groundwater on Figure 10. The addresses of parcels above the benzene plume are shown on Figure 11. Charts showing Total Petroleum Hydrocarbons as gasoline (TPH-g) and benzene concentrations over time in the on-site monitoring and remediation wells are shown on Figures 12 through 17.

Two geologic cross sections (AA' along the direction of groundwater flow; BB' perpendicular to AA') showing the lithology at the site and in the vicinity, are presented on Figures 18 and 19.

The Joint Execution Team (JET) established by the State Water Resources Control Board's ECAP for this project determined that benzene is the primary contaminant of concern in groundwater, and that the following are the only impediments to Low-Threat Closure of the UST release case at the Site:

- **An insufficient number of shallow soil samples on-site for evaluation of Direct Contact and Outdoor Air Exposure (DCOAE)**
- **The lack of up to date soil gas data with proper analyses (benzene, ethylbenzene, and oxygen [O₂]), and**
- **Confirmation that actionable vapor intrusion from benzene in groundwater is not occurring**

3.1 HYDROCARBON CONCENTRATIONS IN SOIL

Post-remediation soil sample analytical results (Tables 1 and 4, Figures 3, 4, 5, and 6) indicate:

- Only non-detect to trace levels of residual hydrocarbons were present in shallow soil (less than 10 feet bgs) on- and off-site (see Figures 4, 5 and 6). Shallow soil samples were only collected from seven locations on-site (MW-4, B-18 and 19, and DP-5, 7, 8, and 9 – see Figure 4).
- Hydrocarbons were present in on-site deep soil from 12 to 22 feet bgs
- Hydrocarbons were present in off-site deep soil from 12 to 22 feet bgs in borings B-13 through 16, which were installed in a transect located approximately 150 feet west (downgradient) of the site
- Hydrocarbons were **not** detected in any of the soil samples (shallow or deep) collected from the second downgradient transect of borings (B-23 through 28) located approximately 400 feet west of the site

Hydrocarbons may have been transported in deeper soil (10 to 20 feet bgs) to the first transect of off-site borings by confined deeper groundwater moving upward via improperly screened monitoring and remediation wells on-site and then moving laterally in this zone (see below).

The JET has determined that the existing data indicate DCOAE media specific criteria of the LTCP are satisfied off-site, and that additional shallow soil samples are only necessary to evaluate DCOAE criteria on-site. **We propose to address on-site DCOAE criteria by collecting shallow soil samples and**

analyzing them for Total Petroleum Hydrocarbons as gasoline and diesel (TPH-g and -d), benzene, toluene, ethylbenzene, and xylenes (BTEX), Methyl tert Butyl Ether (MTBE), and Naphthalene.

3.2 HYDROCARBON CONCENTRATIONS IN SOIL GAS

Soil gas sample analytical results from the Phase I and II Investigations by CRA in 2007 and 2008, respectively (Table 2; Figures 7 and 9) indicate:

- Hydrocarbons (TPH-g and benzene) were detected in soil gas samples collected from 5 and 10 feet bgs on-site
- The concentration of TPH-g and benzene in the soil gas samples were higher at 10 feet bgs than at 5 feet bgs (concentrations increased with depth)
- The on-site soil gas samples were not analyzed for ethylbenzene, naphthalene, or oxygen concentration
- The concentration of benzene in on-site soil gas samples from a depth of 5 feet bgs was below commercial LTCP screening levels. In five of the six on-site soil gas samples (all except SV-5) the concentration of benzene was also below the residential LTCP screening level.
- Only trace, insignificant concentrations of hydrocarbons (TPH-g/BTEX/MTBE, well below LTCP guidelines/Environmental Screening Levels) were detected in the off-site soil gas samples, all of which were collected at 5 feet bgs. The off-site soil gas samples were not analyzed for naphthalene
- The oxygen concentration in off-site soil gas samples was 16 to 19 percent (along with TPH less than 100 mg/kg in the 5 foot bgs soil samples), indicating the presence of a bio-attenuation zone

Even though soil gas data from 2007 and 2008 generally met LTCP guidelines for closure, the JET decided that an additional round of soil gas samples should be collected (along with shallow bio-attenuation TPH soil samples) to determine the current extent of hydrocarbons in soil gas per LTCP Soil Gas-Specific criteria.

Our foundation survey in November 2016 indicated that all the downgradient structures are constructed either with crawl spaces or slab on grade, and that soil gas sample probes SV-7 through 14 remain in place and are valid sample points. We proposed to collect samples from these and additional probes to be installed to evaluate the current extent of hydrocarbons in soil gas in the context of the LTCP.

3.3 HYDROCARBON CONCENTRATIONS IN GROUNDWATER

As describe above, the most recent groundwater analytical data on-site (monitoring and remediation wells) is from July 2015. The most recent groundwater analytical data off-site is from CRA's 2007 and 2008 investigations. Groundwater data is summarized in Tables 3 and 5. We have extrapolated the data to plot what we believe is the current extent of benzene in groundwater on Figure 10. Our analysis indicates the benzene plume is approximately 400 feet long. The Joint Execution Team (JET) believes that benzene is the primary contaminant of concern in groundwater. Confirming that vapor intrusion from benzene in groundwater is not occurring will remove the primary impediment to closure of this site.

Groundwater monitoring data to date indicates the benzene/hydrocarbon plume is stable and decreasing in size (see Table 5 and the Charts on Figures 12 through 17).

Recent data indicates hydrocarbons are migrating on-site from upgradient sources – the *active* QuikStop station across 35th Avenue and/or the *abandoned* Texaco station across School Street. Hydrocarbons from these upgradient sources appear to be raising the concentration of hydrocarbons in groundwater at the Site. We attribute the observed increase of benzene in Site monitoring wells since 2009 and TPH-g since 2012 to these off-site influences (see Figures 12 through 17). The hydrocarbon plume associated with the site appears to be part of a larger area-wide plume.

To define the current extent of hydrocarbons in groundwater, we propose:

- Collecting discrete groundwater samples from selected locations at and downgradient of the Site, and
- Collecting a round of samples from the monitoring and remediation wells at the Site

Field observations indicate groundwater occurs at the site under confined conditions at a depth of approximately 25 feet below the ground surface. Improperly screened monitoring and remediation wells on-site (10 to 30 feet bgs, and 5 to 30 feet bgs, respectively) may allow groundwater under pressure to move upwards and contact residual hydrocarbons in unsaturated zones skewing well data. The possible discrepancy is illustrated by 2008 data from MW-3 (benzene at 4,100 micrograms per liter [ug/L, parts per billion, ppb]) and B-18 (benzene at 23 ppb), which are only 15 feet apart (see Figure 9).

We propose collecting discrete groundwater samples for comparison with monitoring well samples to confirm this scenario. **If this scenario is confirmed, the improperly screened monitoring and**

remediation wells should be properly destroyed and the discrete groundwater sample results used for the LTCP groundwater evaluation.

4.0 EVALUATION FOR LOW-THREAT UST CASE CLOSURE

The State Water Board's *Low-Threat UST Case Closure Policy* (LTCP, SWRCB, 2012) specifies that in the absence of unique attributes of a case or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents, sites that meet the eight general and three media-specific criteria described in the LTCP pose a low threat to human health, safety or the environment and should be closed pursuant to Health and Safety Code section 25296.10.

Site data is discussed in the context of the LTCP General and Media-Specific Criteria below.

4.1 LTCP GENERAL CRITERIA

The General Criteria that must be satisfied by all UST release sites that are candidates for closure under the *Low-Threat UST Case Closure Policy* are listed below, **along with site specific information regarding that criteria (in bold)**:

- a. The unauthorized release is located within the service area of a public water system – **Yes, potable water in the City of Oakland is supplied from the Mokelumne River in the Sierra Nevada Mountains by the East Bay Municipal Utilities District**
- b. The unauthorized release consists only of petroleum – **Yes, confirmed by site soil, soil gas, and groundwater investigations**
- c. The unauthorized (“primary”) release from the UST system has been stopped – **Yes, the primary source USTs and associated product piping and dispensers were removed in January 1991**
- d. Free product has been removed to the maximum extent practicable – **Yes, free product was observed at the site on only one occasion, February 3, 2002 in MW-3. Dual Phase Extraction from 2000 to 2004 removed mobile free product from the site to the maximum extent practicable. A sheen was last observed in MW-2 on September 28, 2012.**
- e. A Conceptual Site Model (CSM) that assesses the nature, extent, and mobility of the release has been developed – **Yes, a CSM stand-alone report, dated June 24, 2011, was posted on GeoTracker. An updated CSM is presented in Appendix B of this report.**

- f. Secondary source has been removed to the extent practicable – **Yes. *Dual Phase Extraction from 2000 to 2004 removed approximately 6,545 pounds of secondary source petroleum hydrocarbons from the site***
- g. Soil or groundwater has been tested for methyl tert-butyl ether (MTBE) and results reported in accordance with Health and Safety Code section 25296.15; - **Yes**
- h. Nuisance as defined by Water Code section 13050 does not exist at the site – ***There are no nuisance conditions at the site***

4.2 LTCP MEDIA-SPECIFIC CRITERIA

Releases from USTs can impact human health and the environment through contact with any or all the following contaminated media: groundwater, surface water, soil, and soil vapor/soil gas (we use the terms interchangeably). Although this contact can occur through ingestion, dermal contact, or inhalation of the various media, the most common drivers of health risk are ingestion of groundwater from drinking water wells, inhalation of vapors accumulated in buildings, contact with near surface contaminated soil, and inhalation of vapors in the outdoor environment. To simplify implementation of the LTCP, these media and pathways have been evaluated and the most common exposure scenarios have been combined into three media-specific criteria:

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

UST release sites that satisfy the eight general and all three media-specific criteria are candidates for closure under the LTCP. The Media-Specific criteria of the Low-Threat Closure Policy are discussed relative to Site-specific data below.

4.2.1 Groundwater-Specific Criteria

If groundwater with a designated beneficial use is affected by an unauthorized release of petroleum hydrocarbons, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent to satisfy the Media-Specific criteria for groundwater, and meet all the additional characteristics of one of the five classes of sites presented in the LTCP.

There are no *designated* beneficial uses for groundwater in the immediate vicinity of the site: drinking water at the site and vicinity is provided by the East Bay Municipal Utilities District from the Mokelumne River in the Sierra Nevada Mountains.

Over twenty years of groundwater monitoring data from the Site (see charts, Figures 12 through 17) indicates the plume *from the Site* is decreasing in concentration and stable, so the site meets the primary Groundwater-Specific Criteria of the LTCP.

The hydrocarbon plume in groundwater does not meet any of the additional characteristics of Classes 1-4 presented in the LTCP due to its' size (approximately 400 feet long) and the concentration of benzene (greater than 3,000 ppb) in the plume.

If the data from the proposed investigation confirms our Conceptual Site Model, then this site meets Class 5 characteristics: "under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame." This is based on the following site specific conditions:

- The limited extent of the dissolved hydrocarbon plume (extending approximately 400 feet from the Site, see Figure 10)
- The low to non-detectable concentrations of hydrocarbons in soil gas above the dissolved hydrocarbon plume (See Figures 7 and 9). This data will be confirmed by the proposed soil gas sampling, and
- The significant distance from the Site to Peralta Creek (the nearest surface water) along the groundwater flow direction (1,150 feet, Figure 1)

Data to be collected during the proposed investigation will allow us to evaluate the site in the context of the Groundwater Specific Criteria of the LTCP.

4.2.2 *Petroleum Vapor Intrusion to Indoor Air Media-Specific Criteria*

The LTCP states that exposure to petroleum vapors migrating from soil or groundwater to indoor air may pose unacceptable human health risks. The LTCP describes conditions; including bio-attenuation zones, which if met will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks. In many petroleum release cases, potential human exposures to vapors are mitigated by bio-attenuation processes as vapors migrate toward the ground surface. The LTCP defines bio-attenuation zones as an area of soil with conditions that support bio-degradation of petroleum

hydrocarbon vapors, in these zones Total Petroleum Hydrocarbons (TPH-g + TPH-d) in soil from the ground surface to five feet bgs are less than 100 milligrams per kilogram (mg/kg) and the oxygen concentration of the soil gas at 5 feet bgs is greater than four percent (LTCP, Appendix 4).

The media-specific soil gas criteria of the LTCP are summarized in the following Table.

Concentrations of Petroleum Constituents in Soil Gas That Will Have No Significant Risk of Adversely Affecting Human Health

Chemical of Concern	Residential	Commercial/Industrial
	No Bio-Attenuation Zone	
Benzene	85 µg/m ³	280 µg/m ³
Ethylbenzene	1,100 µg/m ³	3,600 µg/m ³
Naphthalene	93 µg/m ³	310 µg/m ³
	With Bio-Attenuation Zone	
Benzene	85,000 µg/m ³	280,000 µg/m ³
Ethylbenzene	1,100,000 µg/m ³	3,600,000 µg/m ³
Naphthalene	93,000 µg/m ³	310,000 µg/m ³

µg/m³ = micrograms per cubic meter

- The concentration of benzene in on-site soil gas samples from a depth of 5 feet bgs was below commercial LTCP levels. In five of the six on-site soil gas samples (all except SV-5) the concentration of benzene was also below the residential LTCP screening level (see Table 2 and Figure 7).
- On-site soil gas samples were not analyzed for ethylbenzene, naphthalene or oxygen
- Only trace, insignificant concentrations of hydrocarbons (TPH-g/BTEX/MTBE, well below LTCP guidelines/Environmental Screening Levels) were detected in the off-site soil gas samples, all of which were collected at 5 feet bgs. The off-site soil gas samples were not analyzed for naphthalene
- The oxygen concentration in off-site soil gas samples was 16 to 19 percent (along with TPH less than 100 mg/kg in the top 5 feet of soil), indicating the presence of a bio-attenuation zone

Even though soil gas data from 2007 and 2008 generally met LTCP guidelines for closure, the JET determined that an additional round of soil gas samples was necessary to fully evaluate the current extent of hydrocarbons in soil gas per LTCP Soil Gas Specific criteria. **We proposed to collect soil gas samples to evaluate the current extent of hydrocarbons in soil gas in the context of the LTCP.**

4.2.3 Direct Contact and Outdoor Air Exposure Media-Specific Criteria

The Low-Threat UST Case Closure Policy describes conditions where direct contact with contaminated soil or inhalation of contaminants volatilized to outdoor air poses a low threat to human health. Release sites where human exposure may occur satisfy the media-specific criteria for Direct Contact and Outdoor Air Exposure (DCOAE) and may be considered low-threat if concentrations of specific hydrocarbons are below the screening levels specified in the LTCP. These screening levels are summarized in the table below.

Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health

Chemical of Concern	Residential		Commercial/ Industrial		Utility Worker
	0 to 5 feet bgs (mg/kg) ¹	Volatilization to outdoor air (5 to 10 feet bgs) (mg/kg)	0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) (mg/kg)	0 to 10 feet bgs (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

Notes: ¹ mg/kg = milligrams per kilogram

The concentration limits for 0 to 5 feet bgs protect from ingestion of soil, dermal contact with soil, and inhalation of volatile soil emissions and inhalation of particulate emissions. The five to 10 feet bgs concentration limits protect from inhalation of volatile soil emissions. The concentration limits for Utility Worker are protective for both dermal contact and inhalation for workers who are on-site for a limited time. We define shallow soils as soil from the ground surface to 10 feet bgs.

The LTCP does not require evaluation of hydrocarbons in deep soil (greater than 10 feet bgs in depth), because these hydrocarbons do not pose a risk to human health and can safely be left in place. Site characterization data indicates hydrocarbons likely remain in on-site deep soil at several locations and in off-site deep soil in the core of the first off-site transect, borings B-14, 15, and 16. These hydrocarbons are not considered in this LTCP evaluation and do not affect human health.

- Site data indicate that the residual petroleum hydrocarbons in soil between the ground surface and 10 feet bgs at the Site are below residential LTCP DCOAE criteria
- Concentrations of hydrocarbons in shallow off-site soil at the first downgradient transect (B-13 through 17, installed approximately 150 feet downgradient of the site) were all below LTCP DCOAE criteria
- Hydrocarbons were not detected in shallow off-site soil at the second downgradient transect (borings B-22 through 28, installed approximately 400 feet downgradient of the site)

The JET has determined that the existing data indicate DCOAE media specific criteria of the LTCP are satisfied off-site. The JET also determined that additional on-site shallow soil samples are necessary to evaluate Direct Contact and Outdoor Air Exposure (DCOAE) in accordance with LTCP media specific criteria. LTCP DCOAE criteria will be evaluated on-site by collecting additional shallow soil samples and analyzing them for hydrocarbons (TPH-g/TPH-d/BTEX/MTBE/Naphthalene).

5.0 WORK PLAN FOR ADDITIONAL SOIL, SOIL GAS AND GROUNDWATER INVESTIGATION

The Joint Execution Team (JET) established by the ECAP for this project agrees that benzene is the primary contaminant of concern in groundwater, and that the following are impediments to Low-Threat closure of the UST release case at the Site:

- The low number of shallow soil samples on-site are insufficient for evaluating Direct Contact and Outdoor Air Exposure (DCOAE)
- The lack of up to date soil gas data with proper analyses (benzene, ethylbenzene, naphthalene, and oxygen [O₂]), and
- Confirmation that actionable vapor intrusion from benzene in groundwater is not occurring

To address these impediments to closure we propose:

- Collecting shallow soil samples and analyzing them for hydrocarbons (TPH-g/TPH-d/BTEX/MTBE/TBA/Naphthalene) for evaluation of DCOAE criteria and the presence of a bio-attenuation zone on-site in accordance with the LTCP
- Collecting soil gas samples from existing and newly installed soil gas sample points and analyzing them for TPH-g/BTEX/MTBE/oxygen to fully evaluate the current extent of hydrocarbons in soil gas per LTCP Soil Gas-Specific criteria, and
- Collecting discrete groundwater samples from direct push borings installed at selected locations and collecting a round of groundwater samples from the monitoring and remediation wells that have been sampled recently as the monitoring program at the Site and analyzing them for TPH-g/BTEX/MTBE/TBA to define the current extent of hydrocarbons in groundwater

The proposed sampling program is described below. Proposed sample locations are shown on Figure 20.

After this *Work Plan* is approved and prior to mobilizing for soil sampling, we will complete the following pre-field tasks:

- Completing the arrangements for access to the off-site properties where we plan to collect the soil, soil gas, and groundwater samples. **The final location of the off-site samples will depend on securing access from the appropriate property owners – see Section 6.0.** Any necessary changes in sampling locations will be reviewed with Alameda County Environmental Health (ACEH) staff prior to mobilizing for field work.
- Notifying ACEH staff of the field dates prior to mobilizing for field work
- Scheduling the appropriate sub-contractors, and
- Confirming the location of subsurface utilities at drilling locations by notifying Underground Service Alert at least 48-hours prior to drilling any soil borings, and completing a limited utility survey with an private utility locating contractor at all the proposed boring locations

5.1 FOUNDATION SURVEY

We conducted a foundation survey in the neighborhood downgradient of the Site in November 2016 to determine the types of construction of the downgradient residences. The foundation survey indicated that all the downgradient structures are constructed either with crawl spaces or slab on grade. The multi-family apartment that contains addresses 3015, 3017, 3019, and 3021 35th Avenue and the single family residence at 3029 are slab on grade construction. The single family residences at 3033 and 3039 35th Avenue are built with crawl spaces below the living space. The single family residences at 3000, 3006, 3014, 3020, 3026, 3032, and 3038 Bartlett Street are built with crawl spaces below the living space.

During the foundation survey we also discovered and that soil gas sample probes SV-7 through 14 (installed by CRA) remain in place and are valid sample points (screened at the proper depth). Boring Logs of CRA's soil gas sample probes are presented as Appendix C.

5.2 SOIL SAMPLING

Fieldwork for soil sampling to determine the concentrations of residual hydrocarbons on- and off-site will follow our standard Field Methodology for Hydraulic Driven Probes, which is presented in Appendix D. To complete the field work we will mobilize a hydraulic driven direct-push GeoProbe[®] drill rig to advance direct push soil borings at the locations shown on Figure 20.

The borings will be advanced to first groundwater, which is expected to be encountered at a depth of approximately 20 to 30 feet bgs. The soil core from each boring will be carefully examined by an experienced field geologist a Boring Log describing the lithology observed will be prepared. Soil samples will be collected from each boring at depths of 2, 4, 7, 8, and 10 feet bgs, and at 5-foot intervals subsequently until groundwater is encountered. In addition, soil samples will be collected from the off-site boring adjacent to previous boring B-14 at 12, 14, 16, and 18 feet bgs (but not at 15 feet bgs) for comparison to previous data.

The location of boring B-15 is now inaccessible. The owner of the property where former borings B-16 and 17 were located has refused us access.

Analytical results will be compared to previous results and the media-specific criteria for direct contact and outdoor air exposure in the State Water Board's *Low-Threat UST Case Closure Policy* in a Technical Report describing the field work and results.

Any investigative wastes generated by the direct-push drilling method will be properly containerized in an appropriately labelled container, characterized, and properly disposed of. Documentation of proper disposal of the investigative wastes will be provided in the Technical Report describing the Investigation.

The soil samples will be submitted to a State-certified Laboratory for analysis for TPH-g, BTEX, MTBE, TBA, and Naphthalene by EPA Methods GC/MS and 8260. In addition, soil samples from 2 and 4 feet bgs will be analyzed for TPH-d to allow calculation of total TPH (= TPH-g + TPH-d) for use in determining the presence of a bio-attenuation zone.

5.3 SOIL GAS SAMPLING

To determine if, and at what concentrations, hydrocarbon volatile organic vapors are present in soil gas beneath downgradient properties that overlie the interpolated benzene plume from the site, and to evaluate the petroleum vapor intrusion to indoor air exposure pathway for health risks to residents of structures at these sites, we propose to collect soil gas samples from the locations shown on Figure 20:

- Six temporary soil gas sample probes (SV-15 through 20) installed on- and off-site (these probes will be installed in conjunction with the proposed soil sampling and properly destroyed after the soil gas samples are collected), and
- Existing off-site soil gas sample probes SV-7 through 10 (installed by CRA in 2008), pending final authorization from the off-site property owners (access to SV-7, 8, and 10 has been obtained)

Fieldwork for soil vapor sampling will follow our standard Field Methodology for Soil Vapor Sampling, which is also presented in Appendix D. To complete the field work we will construct temporary 5-foot deep soil gas sample probes (SV-15 through 20) via a direct-push drill rig as described in Appendix D at the locations shown on Figure 20. The soil gas sample probes will be constructed with either Teflon[®] or polyetheretherketones (PEEK) tubing per the April 2012 *Advisory – Active Soil Gas Investigations* (DTSC, April 2012, Appendix E).

Soil gas samples will be collected in Summa canisters supplied by a State-certified Laboratory from each completed temporary soil gas sample probe according to the methodology described in Appendix D after waiting at least 2-hours after construction for the probe to equilibrate. Soil gas samples will also be collected from accessible existing probes SV-7 through 10 following the methodology described in Appendix D.

If the soil lithology is so fine grained that collection of a soil vapor sample requires additional time for the Summa Canisters at a vacuum of 30 inches of mercury to equilibrate, we will allow the necessary time to collect the soil vapor samples.

The soil vapor samples will be submitted to a State-certified Laboratory for analysis for TPH-g by EPA Method TO-3 and for BTEX, MTBE, and Naphthalene by EPA Method TO-15. The laboratory will utilize all of the procedures specified in the April 2012 *Advisory – Active Soil Gas Investigations* (DTSC, April 2012, Appendix E) for Naphthalene analyses.

If present, the concentration of hydrocarbons in the soil gas samples will be evaluated with the media-specific criteria for petroleum vapor intrusion to indoor air in the State Water Board's *Low-Threat UST Case Closure Policy* in a Technical Report describing the field work and results.

5.4 GROUNDWATER SAMPLING

To determine the extent of the extent of hydrocarbons and benzene in groundwater at and downgradient of the site we propose to collect discrete groundwater samples from the direct push borings shown on Figure 20. Access to the proposed boring locations has been secured.

Fieldwork for groundwater sampling from the direct push driven probe borings will follow our standard Field Methodology for Hydraulic Drive Probe Sampling, which is in Appendix D.

The analytical results of the groundwater samples will be used to determine the extent of benzene in off-site groundwater. If necessary, two additional borings will be drilled on Bartlett Street and discrete groundwater samples will be collected from the borings according to our standard field methodology to determine the downgradient extent of the dissolved benzene plume.

We will make careful field observations and present them on boring logs to confirm if groundwater indeed occurs at the Site and vicinity under confined conditions and at what depths below the ground surface. This data will be used to determine if the monitoring and remediation wells on-site (screened 10 to 30 feet bgs, and 5 to 30 feet bgs, respectively) are allowing groundwater under pressure to move upwards into permeable, yet generally unsaturated zones, and transport hydrocarbons latterly. **If this scenario is confirmed, the improperly screened monitoring and remediation wells should be properly destroyed.**

We also propose to conduct a standard groundwater monitoring event at the site in conjunction with the driven probe discrete groundwater sampling. Groundwater monitoring will entail collecting depth-

to-groundwater measurements in all of the monitoring and remediation wells the site and groundwater samples from the monitoring and remediation wells at the site that have been sampled as part of the recent groundwater monitoring program: MW-1 through 4 and RW-5, 9, 13, and 14. Groundwater monitoring will be conducted in accordance with our standard Field Methodology for Groundwater Sampling, which is included in Appendix D.

All of the groundwater samples will be submitted to a State-certified Laboratory for analysis for TPH-g, BTEX, MTBE, TBA, and Naphthalene by EPA Methods GC/MS and 8260. A Technical Report describing the field work and results, including a comparison of the results from on-site wells with direct push discrete groundwater samples, will be prepared at the conclusion of the investigation.

5.5 TECHNICAL REPORTING

Following the receipt of the certified laboratory's analytical results, a technical report presenting the investigative methods, sample locations, analytical results, laboratory analytical reports, a summary of our interpretation of the data, and recommendations based on the data, including if the LTCP criteria are met, a request for site closure.

6.0 STATUS OF ACCESS TO DOWNGRADIENT PROPERTIES

We sent letters (in English and Spanish) requesting access to the downgradient parcels identified on Figure 11 in October and again in November 2016. On November 30, 2016 we met with the two property owners that responded (3033 and 3039 35th Avenue) and several of the residents of 3015, 3017, 3019, and 3021 35th Avenue – an apartment building whose owner gave us permission to access his property – to discuss and share information on the proposed sampling on these properties.

On November 30 we also knocked on the doors of the other properties in an attempt to provide information on the need for access, but no one answered the door. We left a copy of the request for access letter and contact information with a request to contact us at the other properties, but to date no one else has responded.

On December 9, 2016 we spoke with the son of the owner of the property at 3014 Bartlett Street, and he informed us that his mother (the property owner) did not want to grant us access to their property for sampling. We are attempting to contact this property owner to gain access, as this property contains existing soil gas sample point SV-9, from which we hope to collect a sample.

To date we have access agreements for the following properties:

- The multi-family apartment that contains addresses 3015, 3017, 3019, and 3021 35th Avenue
- The single family residence at 3033 35th Avenue
- The single family residence at 3039 35th Avenue

As described above, we discovered and that soil gas sample probes SV-7, 8, 10, and 14 (installed by CRA) remain in place and are valid sample points. Sample probes SV-7 and 8 are located at 3021 35th Avenue, so we have access to them and access for drilling a proposed off-site soil/groundwater boring. SV-10 is located in the sidewalk on Bartlett Street and is accessible for sampling.

7.0 WORK PLAN FOR UTILITY SURVEY

As required by ACEH, we will obtain maps of the storm drains near the site and dissolved benzene plume shown on Figure 10 from the Alameda County Department of Public Works. The benzene plume and storm drains will be plotted on the same figure and examined to determine if benzene-impacted groundwater could be transported through existing storm drains to surface water. The results will be included in the technical report for this investigation.

8.0 REVIEW OF EXISTING SENSITIVE RECEPTOR SURVEY

The existing Sensitive Receptor Survey for the Site (Cambria, 2006) is reproduced in Appendix E. This survey covers a radius of 2,000 feet from the site. The dissolved benzene plume extends approximately 400 feet west-southwest from the site. This means the existing Sensitive Receptor Survey covers the area 1,500 feet downgradient of the site. The Sensitive Receptor Survey did not identify any sensitive receptors; therefore the Sensitive Receptor Survey remains valid, and no update is necessary.

9.0 IMPLEMENTATION SCHEDULE

The proposed implementation schedule is:

- Work Plan review and approval, including final access agreements: January 2017
- Field work (soil, soil gas, and groundwater sampling) February 2017
- Laboratory analyses, data analysis, tabulation, evaluation and presentation March and April 2017
- Technical reporting, update Feasibility Study and Corrective Action Plan June 30, 2017

10.0 LIMITATIONS

Our service consists of professional opinions and recommendations made in accordance with generally accepted geologic principles and practices. This warranty is in lieu of all others, either expressed or implied. The analysis and conclusions in this report are based on sampling and testing, some of which have been conducted by others, all of which are necessarily limited. Additional data from future work may lead to modifications of the options expressed herein. All work was conducted under the direct supervision of a Professional Engineer and/or Geologist, Registered in the state of California, and experienced in environmental assessment and remediation.

Thank you for this opportunity to participate in the environmental assessment of your site. If you have any questions or comments regarding this project, please contact us at our offices at 831-722-3580.

Sincerely yours,

WEBER, HAYES AND ASSOCIATES

A California Corporation

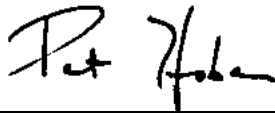
By:



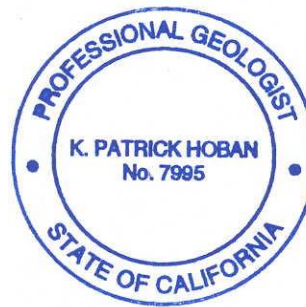
Craig B. Drizin, PE
Senior Engineer



And:



Patrick Hoban
Senior Geologist



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11.0 REFERENCES

Alameda County Environmental Health directives for 3055 35th Avenue, Oakland:

- Upload/download website (site ID#:RO-0000271):
http://ehgis.acgov.org/adeh/lop_results.jsp?trigger=2&enterd_search=RO0000271&searchfield=RECORD_ID
- 2005, December: *Electronic Report Upload (ftp) Instructions*, revision
- 2006, May 16: *Response to Cambria February 2006 "Revised Remediation Work Plan"*.
- 2007, March 1: *Approval of Cambria January 12, 2007 "Off-site and Soil Gas Work Plan"*.
- 2008, April 7: *Request to Present Phase I Results and Submit a Soil Vapor Work Plan*
- 2008, August 13: *Approval of Conestoga-Rovers and Associates (CRA) April 11, 2008: "Work Plan Addendum for Additional Characterization and Soil Vapor Sampling"*
- 2009, July 24: *Groundwater Monitoring Requirements: Reduction to Semi-Annual Monitoring*.
- 2011, January 21: *Request for Updated Site Conceptual Model*, electronic directive
- 2011, September 20: *Request for Work Plan*
- 2012, May 3: *Work Plan Approval*
- 2012, October 26: *Data Gap Investigation Report Deadline Extension Approval*
- 2015, July 30: *Request for Focused Feasibility Study/Corrective Action Plan*
- 2016, January 15: *Meeting Request*

California Environmental Protection Agency

- 1995-July: *Guidelines for Hydrogeologic Characterization of Hazardous-Substance Release Sites*

Cambria Environmental Technology (Cambria) reports for 3055 35th Avenue, Oakland:

- 1996, June 20: *Investigation Work Plan*
- 1997, June 27: *Risk-Based Corrective Action Analysis*
- 1998, April 8: *Corrective Action Plan*
- 1998, May 28: *Corrective Action Plan Addendum*
- 1998, December 7: *Well Installation and Supplemental Subsurface Investigation Report*
- 1999, August 14: *Second Quarter 1999 Monitoring and Interim Remedial Action Report*
- 2004, October 29: *Groundwater Monitoring and System Progress Report*
- 2005, February 22: *Remediation Work Plan*
- 2006, January 30: *Revised Remediation Work Plan*
- 2006, July 13: *Site Conceptual Model and Off-site Work Plan*
- 2007, January 12: *Offsite Soil Gas Workplan*

REFERENCES (Continued)

Conestoga-Rovers and Associates (CRA) reports for 3055 35th Avenue, Oakland:

- 2008, April 11: *Workplan for Additional Characterization and Soil Vapor Sampling*
- 2009, February 28: *Site Characterization Report*
- 2010, October 18: *Semi-Annual Groundwater Monitoring Report (dry season)*
- 2011, May 5: *Semi-Annual Groundwater Monitoring Report (wet season)*.

Consolidated Technologies reports for: 3055 35th Avenue, Oakland:

- 1991: *Results for Preliminary Subsurface Site Investigation*
- 1992, September: *Work Plan for a Subsurface Petroleum Hydrocarbon Contamination Assessment*

Department of Toxic Substances Control (DTSC): Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance), October 2011

Department of Toxic Substances Control (DTSC), CalEPA, and Los Angeles and San Francisco Region Water Quality Control Boards, Advisory - Active Soil Gas Investigations, July 2015

State Water Resources Control Board:

- Upload/download website (site ID#:T0600100538):
http://geotracker.swrcb.ca.gov/profile_report.asp?global_id=T0600100538
- 1989: Leu, D. J., et al., *Leaking Underground Fuel Tank Field (LUFT) Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure*
- 2010, December 28: Division of Financial Assistance *Preliminary 5-Year Review for Claim # 1275*
- 2012, August 17: *Low-Threat UST Case Closure Policy*
- 2012, September: *Leaking Underground Fuel Tank Guidance Manual*, Sullivan International Group, Inc.
- 2016, March 7: *Review Summary Report – Additional Work – Third Review*
- 2016, May 10: *Invitation to Participate in the Expedited Claim Account Program (ECAP)*
- 2016, July 13: *Claim Approaching Maximum Reimbursement Amount*

San Francisco Bay Regional Water Quality Control Board:

- Interim Final November 2007, Revised May 2008: *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*

Weber, Hayes and Associates reports for 3055 35th Avenue, Oakland:

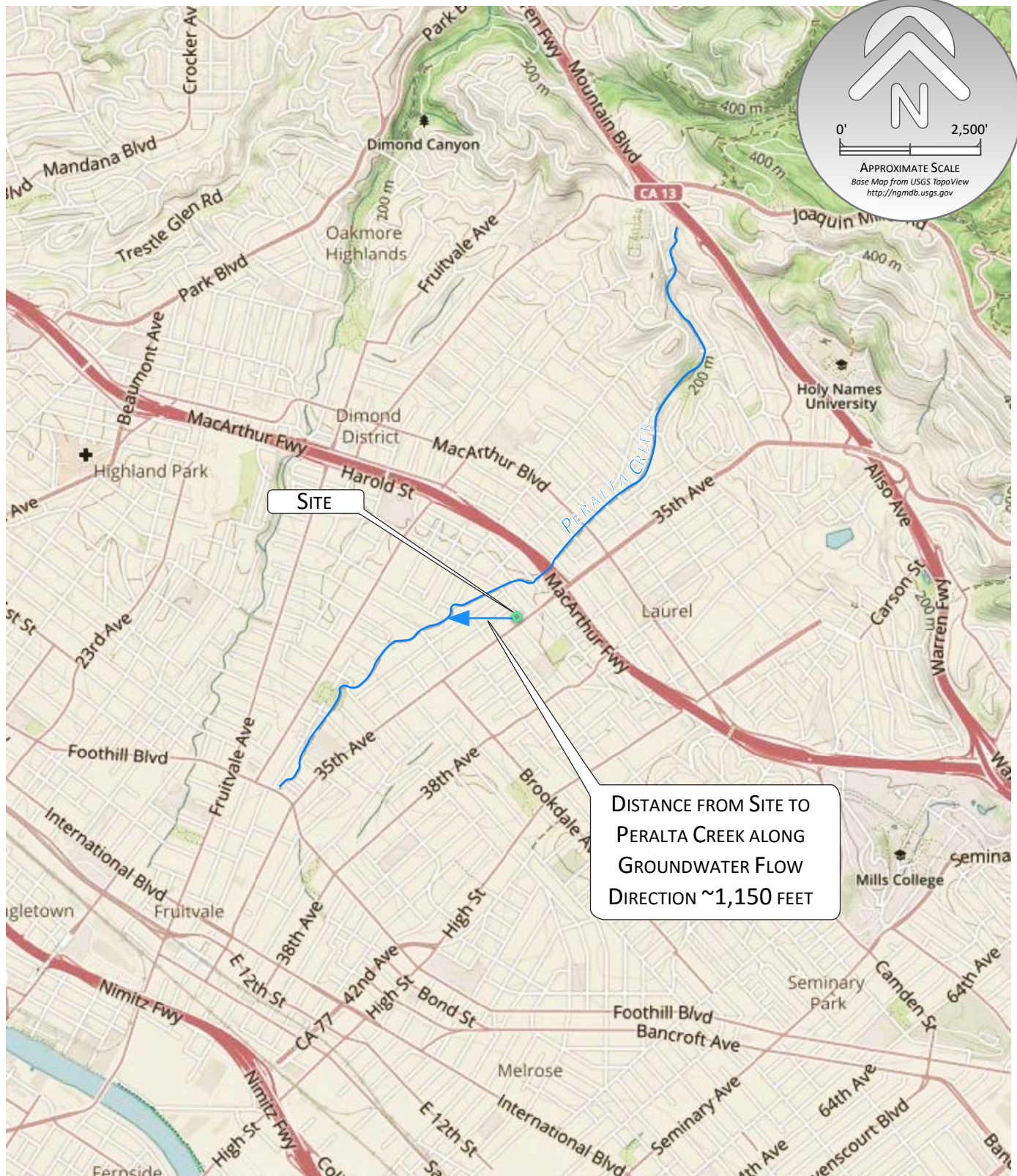
- 2011, June 24: *Updated Site Conceptual Model – Fuel Release Investigation*
- 2012, February 21: *Workplan for Limited Soil and Groundwater Data Gap Assessment*
- 2012, February 21: *Semi-Annual Groundwater Monitoring Report (sampled September 2011)*
- 2012, August 8: *Semi-Annual Groundwater Monitoring Report (sampled March 2012)*

REFERENCES (Continued)

Weber, Hayes and Associates reports for 3055 35th Avenue, Oakland (continued):

- 2012, October 29: *Semi-Annual Groundwater Monitoring Report (sampled September 2012)*
- 2012, December 31: *Limited Soil & Groundwater Data Gap Assessment*
- 2013, May 14: *Quarterly Groundwater Monitoring Report (Sampled March 2013)*
- 2013, August 22: *Quarterly Groundwater Monitoring Report (Sampled June 2013)*
- 2014, March 31: *Annual Groundwater Monitoring Report (Sampled September 2013 & Jan 2014)*
- 2015, August 18: *Annual Groundwater Monitoring Report (sampled July 15, 2015)*
- 2015, November 11: *Focused Feasibility Study and Corrective Action Plan*
- 2016, June 9: *Focused Feasibility Study and Corrective Action Plan, Revision 1*

FIGURES



WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

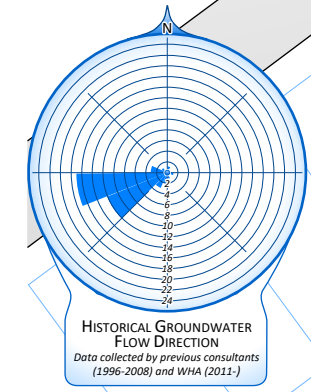
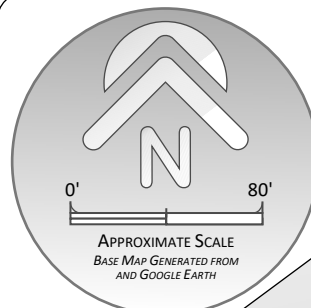
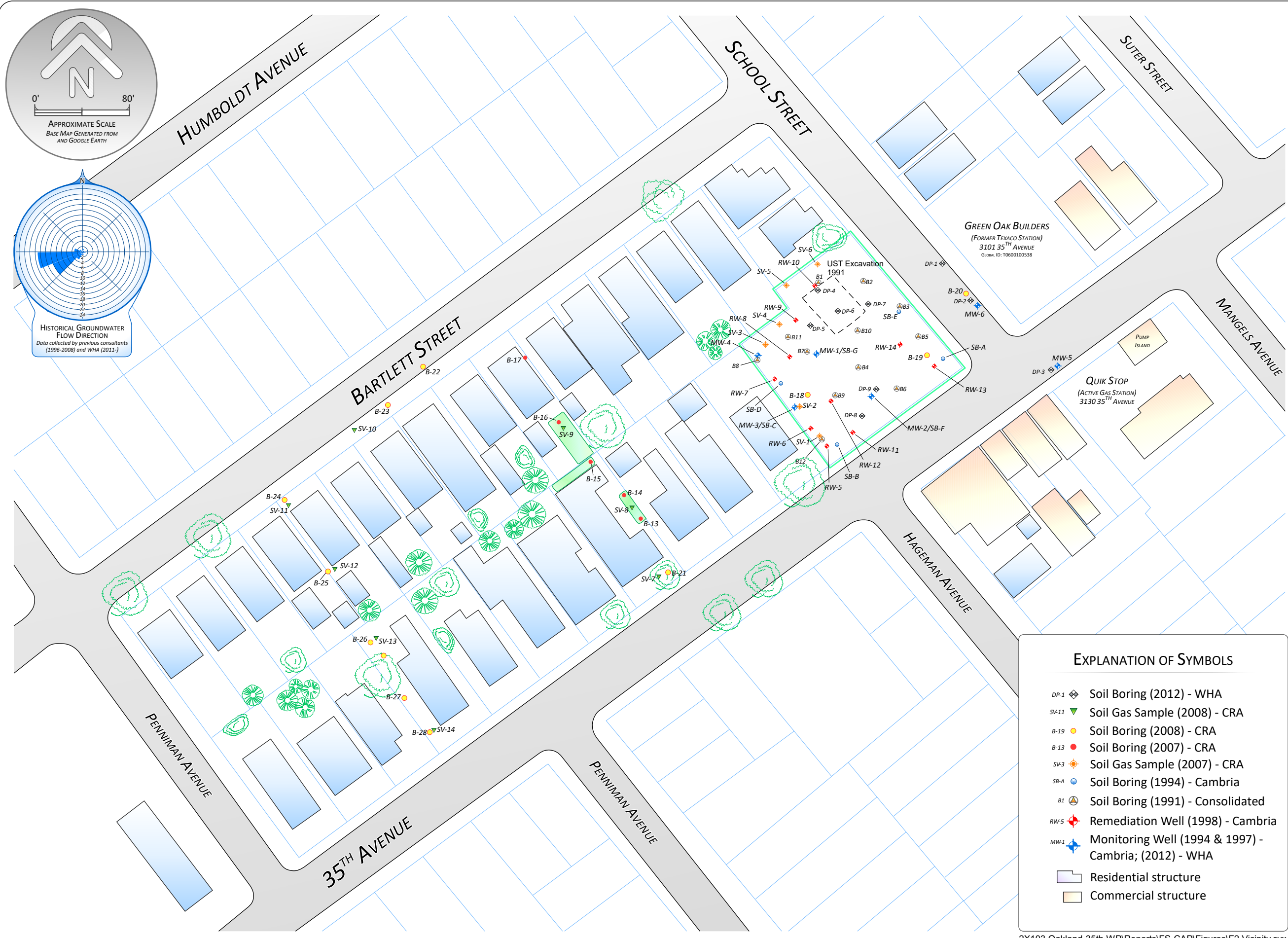
LOCATION MAP

SITE: FORMER EXXON STATION
ADDRESS: 3055 35TH AVENUE, OAKLAND, CA

DATE: SEPTEMBER 2015

REVISIONS/NOTES:

FIGURE
1
Project
2X103.C



EXPLANATION OF SYMBOLS

DP-1	◆	Soil Boring (2012) - WHA
SV-11	▼	Soil Gas Sample (2008) - CRA
B-19	●	Soil Boring (2008) - CRA
B-13	●	Soil Boring (2007) - CRA
SV-3	◆	Soil Gas Sample (2007) - CRA
SB-A	●	Soil Boring (1994) - Cambria
B1	●	Soil Boring (1991) - Consolidated
RW-5	◆	Remediation Well (1998) - Cambria
MW-1	◆	Monitoring Well (1994 & 1997) - Cambria; (2012) - WHA
	▭	Residential structure
	▭	Commercial structure

VICINITY MAP

SITE: FORMER EXXON STATION
ADDRESS: 3055 35TH AVENUE, OAKLAND, CA

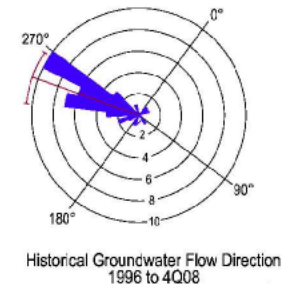
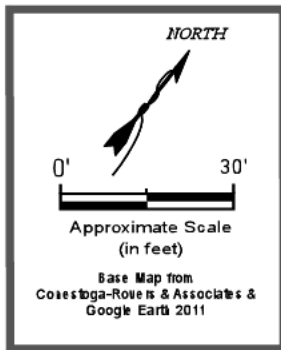
DATE: SEPTEMBER 2015

REVISIONS/NOTES:



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 120 Westgate Drive, Watsonville, CA
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FIGURE 2
 Project 2X103.C



DP-5 (May 2012)					
Depth	TPH-g	Benzene	EB	MTBE	Naph
8'	<0.10	<0.010	<0.010	<0.010	<0.010

MW-4 (Feb. 1997)				
Depth	TPH-g	Benzene	EB	MTBE
10'	64	0.24	0.7	<0.2

B-18 (Oct. 2008)				
Depth	TPH-g	Benzene	EB	MTBE
5'	<1.0	<0.005	<0.005	<0.005
10'	3.8	<0.005	<0.005	<0.050

DP-7 (May 2012)					
Depth	TPH-g	Benzene	EB	MTBE	Naph
4'	<0.10	<0.010	<0.010	<0.010	<0.010
8'	0.23	<0.010	<0.010	<0.010	<0.010

DP-1 (May 2012)					
Depth	TPH-g	Benzene	EB	MTBE	Naph
8'	<0.10	<0.010	<0.010	<0.010	<0.010

B-20 (CRA - 2008)				
Depth	TPH-g	Benzene	EB	MTBE
5'	110	<0.10	<0.10	<0.005
7.5'	240	0.090	1.4	<0.050
9.5'	590	0.68	4.9	<0.10

B-19 (Oct. 2008)				
Depth	TPH-g	Benzene	EB	MTBE
5'	<1.0	<0.005	<0.005	<0.005
10'	<1.0	<0.005	<0.005	<0.005

DP-3 (May 2012)					
Depth	TPH-g	Benzene	EB	MTBE	Naph
8'	<0.10	<0.010	<0.010	<0.010	<0.010

DP-9 (May 2012)					
Depth	TPH-g	Benzene	EB	MTBE	Naph
4'	<0.10	<0.010	<0.010	<0.010	<0.010

DP-8 (May 2012)					
Depth	TPH-g	Benzene	EB	MTBE	Naph
8'	<0.10	<0.010	<0.010	<0.010	<0.010

Explanation

All soil sample results are in milligrams per kilogram (mg/kg, parts per million, ppm)

- WHA, 2012
- CRA, 2008
- CAMBRIA, 1994/1997
- Consolidated Technologies, 1991

TPH-g = Total Petroleum Hydrocarbons as gasoline
 EB = Ethylbenzene
 MTBE = Methyl Tert Butyl Ether
 Naph = Naphthalene

<# = Compound not detected at or above reporting limit, # = Equivalent to Not Detected, ND

LTCP Guidelines (Residential/Commercial, mg/kg):

	0-5 ft.	5-10 ft.
Benzene	1.9/8.2	2.8/12
Ethylbenzene	21/89	32/134
Naphthalene	9.7/45	9.7/45

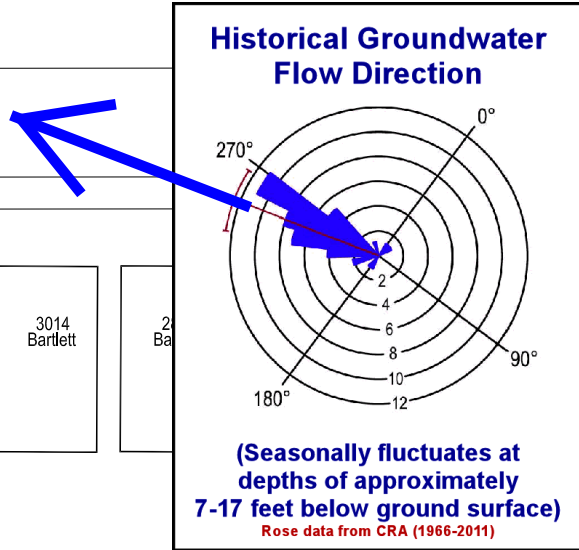
Figure 4
Project 2X103

Shallow Soil Sample Analytical Results
 Former Exxon Station
 3055 35th Avenue
 Oakland, California

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 Hydrogeology and Environmental Engineering
 120 Westgate Drive, Watsonville, Ca. 95076
 (831) 722 - 3580 Fax (831) 722 - 1159
 www.weber-hayes.com



July 2007 Phase I Off-Site Borings



B-17					
	Depth	TPHg	TPHd	Benzene	MTBE
Soil	5.0'	<1.0	<1.0	<0.005	<0.05
	10.0'	<1.0	<1.0	<0.005	<0.05
	12.0'	<1.0	<1.0	<0.005	<0.05
	14.0'	<1.0	<1.0	<0.005	<0.05
	16.0'	<1.0	<1.0	<0.005	<0.05
	18.0'	<1.0	<1.0	<0.005	<0.05
	20.0'	<1.0	<1.0	<0.005	<0.05
	24.0'	<1.0	<1.0	<0.005	<0.05

B-16					
	Depth	TPHg	TPHd	Benzene	MTBE
Soil	5.0'	<1.0	<1.0	<0.005	<0.05
	10.0'	430	75	1.5	<1.0
	12.0'	4,300	310	41	<50
	14.0'	9.9	3	0.26	<0.17
	16.0'	38	3.1	0.79	<0.25
	18.0'	350	55	7	<2.5
	20.0'	56	26	3	<0.5
	24.0'	<1.0	<1.0	<0.005	<0.05

B-15					
	Depth	TPHg	TPHd	Benzene	MTBE
Soil	10.0'	34	17	0.074	<0.005
	12.0'	200	44	0.54	<0.010
	14.0'	480	100	2	<0.010

B-14					
	Depth	TPHg	TPHd	Benzene	MTBE
Soil	12.0'	92	37	0.083	<0.010
	14.0'	430	52	4.6	<0.050
	16.0'	210	39	4.4	<0.050
	18.0'	55	11	0.28	<0.050
	20.0'	69	5.2	3.5	<0.010
	22.0'	15	2	1.1	<0.050
	24.0'	1.1	<1.0	0.027	0.021
	26.0'	<1.0	<1.0	<0.005	0.15

B-13					
	Depth	TPHg	TPHd	Benzene	MTBE
Soil	12.0'	<1.0	<1.0	<0.005	<0.005
	14.0'	1.3	<1.0	<0.005	<0.005
	16.0'	69	17	0.022	<0.005
	20.0'	2.9	<1.0	<0.005	<0.005
	24.0'	<1.0	<1.0	<0.005	<0.005

LTCP Residential Soil Screening Level	0-5'	--	--	1.9	--
LTCP Residential Soil Screening Level	5'-10'	--	--	2.8	--

PENNIMAN STREET

BARTLETT STREET

SCHOOL STREET

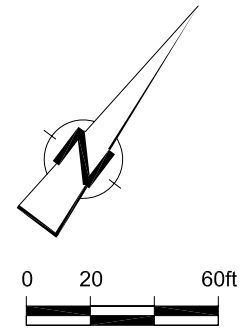
35th AVENUE

HAGEMAN

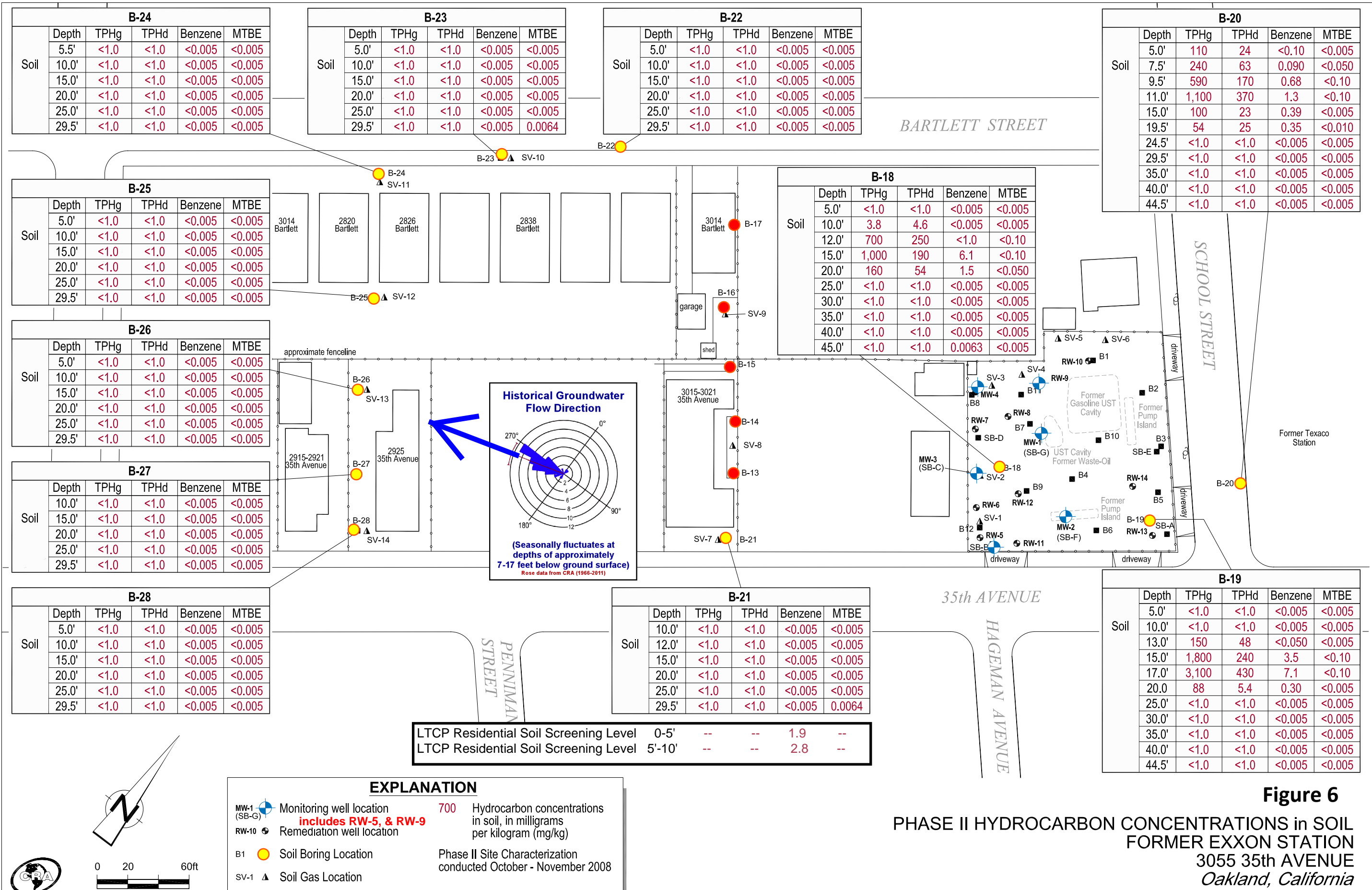
EXPLANATION

MW-1 (SB-G)	Monitoring well location	69	Hydrocarbon concentrations in soil, in milligrams per kilogram (mg/kg)
RW-10	Remediation well location		
B1	Soil Boring Location		Phase I Site Characterization conducted July 2007
sv-1	Soil Gas Location		

Figure 5
PHASE I HYDROCARBON CONCENTRATIONS in SOIL
FORMER EXXON STATION
3055 35th AVENUE
Oakland, California



October-2008 Phase II Off-Site Borings



SV-11				
Date	Depth	TPHg	Benzene	MTBE
12/05/08	5.0'	<1,800	<6.5	<7.3

SV-10				
Date	Depth	TPHg	Benzene	MTBE
12/05/08	5.0'	<1,800	<6.5	<7.3

SV-5				
Date	Depth	TPHg	Benzene	MTBE
05/24/07	5.0'	53,000	99	16
	10.0'	23,000	31	<4.2

SV-4				
Date	Depth	TPHg	Benzene	MTBE
05/24/07	5.0'	32,000	38	19
	10.0'	480,000	930	<41
	10.0' dup	620,000	1,100	<58

SV-6				
Date	Depth	TPHg	Benzene	MTBE
05/24/07	5.0'	19,000	21	<4.4
	10.0'	170,000	4,600	70

SV-12				
Date	Depth	TPHg	Benzene	MTBE
12/05/08	5.0'	<1,800	<6.5	<7.3

SV-9				
Date	Depth	TPHg	Benzene	MTBE
12/05/08	5.0'	<1,800	<6.5	<7.3

SV-3				
Date	Depth	TPHg	Benzene	MTBE
05/24/07	5.0'	16,000	14	190
	10.0'	31,000	35	<4.3

SV-13				
Date	Depth	TPHg	Benzene	MTBE
12/05/08	5.0'	<1,800	<6.5	<7.3

SV-8				
Date	Depth	TPHg	Benzene	MTBE
12/05/08	5.0'	<1,800	<6.5	<7.3

SV-14				
Date	Depth	TPHg	Benzene	MTBE
12/05/08	5.0'	<1,800	<6.5	<7.3

SV-7				
Date	Depth	TPHg	Benzene	MTBE
12/05/08	5.0'	<1,800	<6.5	<7.3

SV-2				
Date	Depth	TPHg	Benzene	MTBE
05/24/07	5.0'	13,000	38	<4.4
	10.0'	300,000	78	210

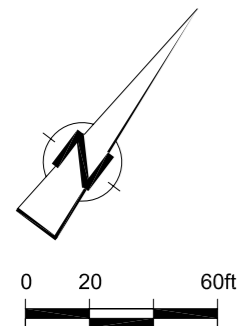
SV-1				
Date	Depth	TPHg	Benzene	MTBE
05/24/07	5.0'	8,400	14	<4.2
	10.0'	54,000	37	300

LTCP Residential Soil Gas Screening Level 5.0' -- 85 --

LTCP Commercial Soil Gas Screening Level 5.0' -- 280 --

EXPLANATION

- MW-1 ● Monitoring well location
- RW-10 ⊕ Remediation well location
- B1 ■ Soil Boring Location
- SV-1 ▲ Soil Gas Location
- 35 Hydrocarbon concentrations in soil gas, in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)
- Phase I Site Characterization conducted May 2007 (SV-1 through SV-6)
- Phase II Site Characterization conducted December 2008 (SV-7 through SV-14)



BARTLETT STREET

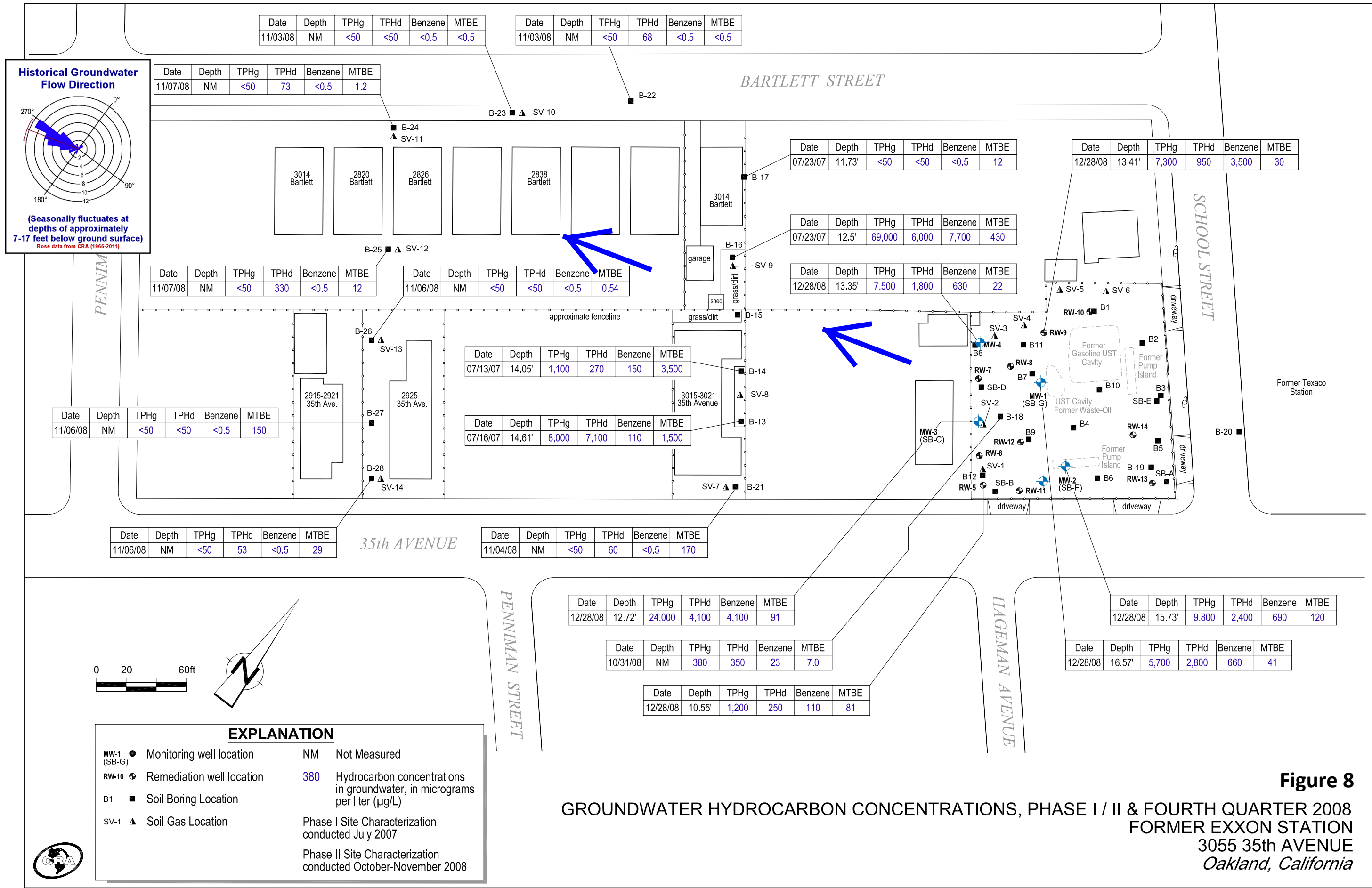
PENNIMAN STREET

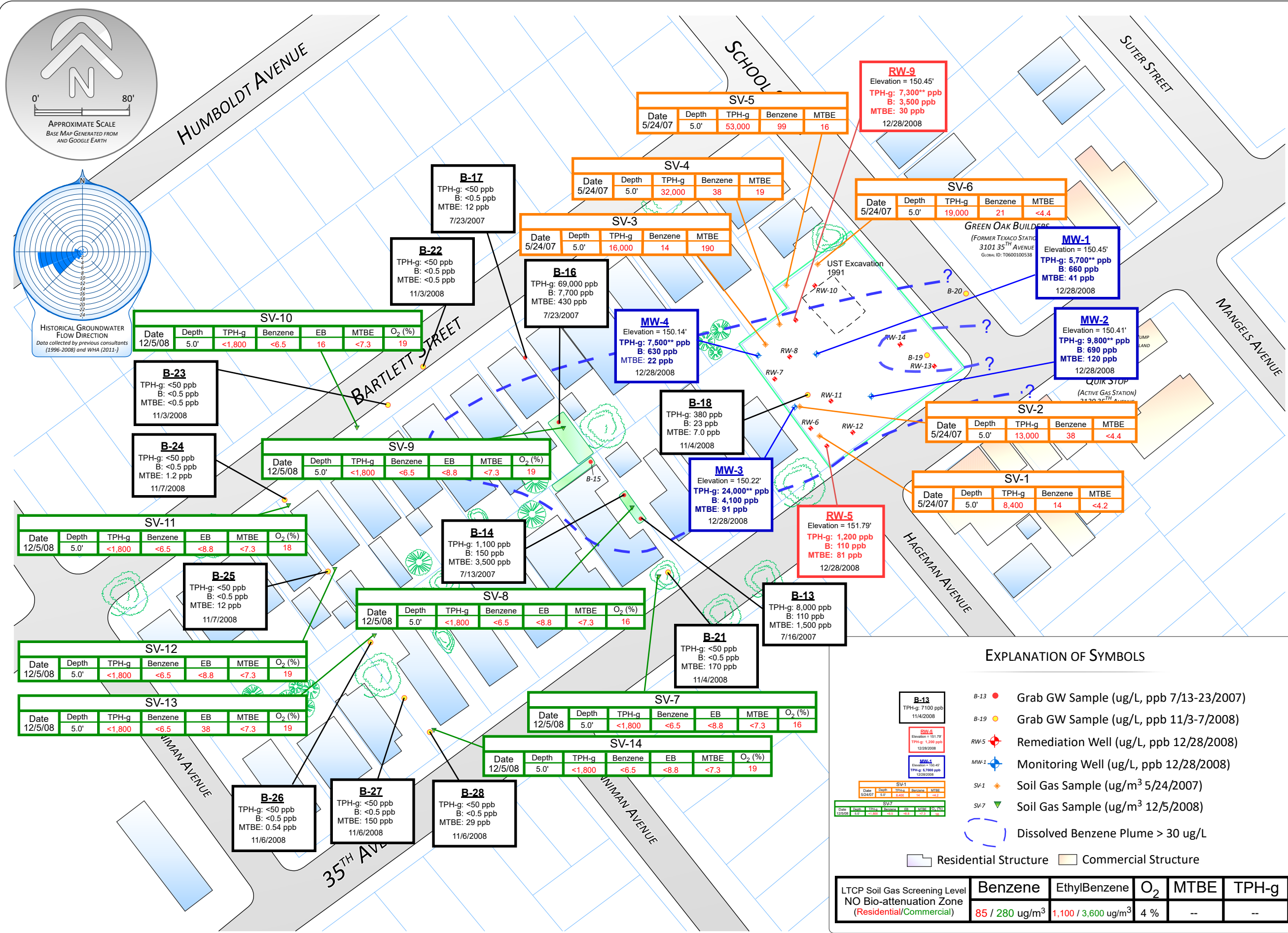
SCHOOL STREET

35th AVENUE

HAGEMAN AVENUE

Figure 7
 PHASE I & II HYDROCARBON CONCENTRATIONS in SOIL GAS
 FORMER EXXON STATION
 3055 35th AVENUE
 Oakland, California





HYDROCARBON CONCENTRATIONS IN GROUNDWATER AND SHALLOW SOIL GAS 2007-2008

SITE: FORMER EXXON STATION
 ADDRESS: 3055 35TH AVENUE, OAKLAND, CA

DATE: SEPTEMBER 2015

REVISIONS/NOTES:

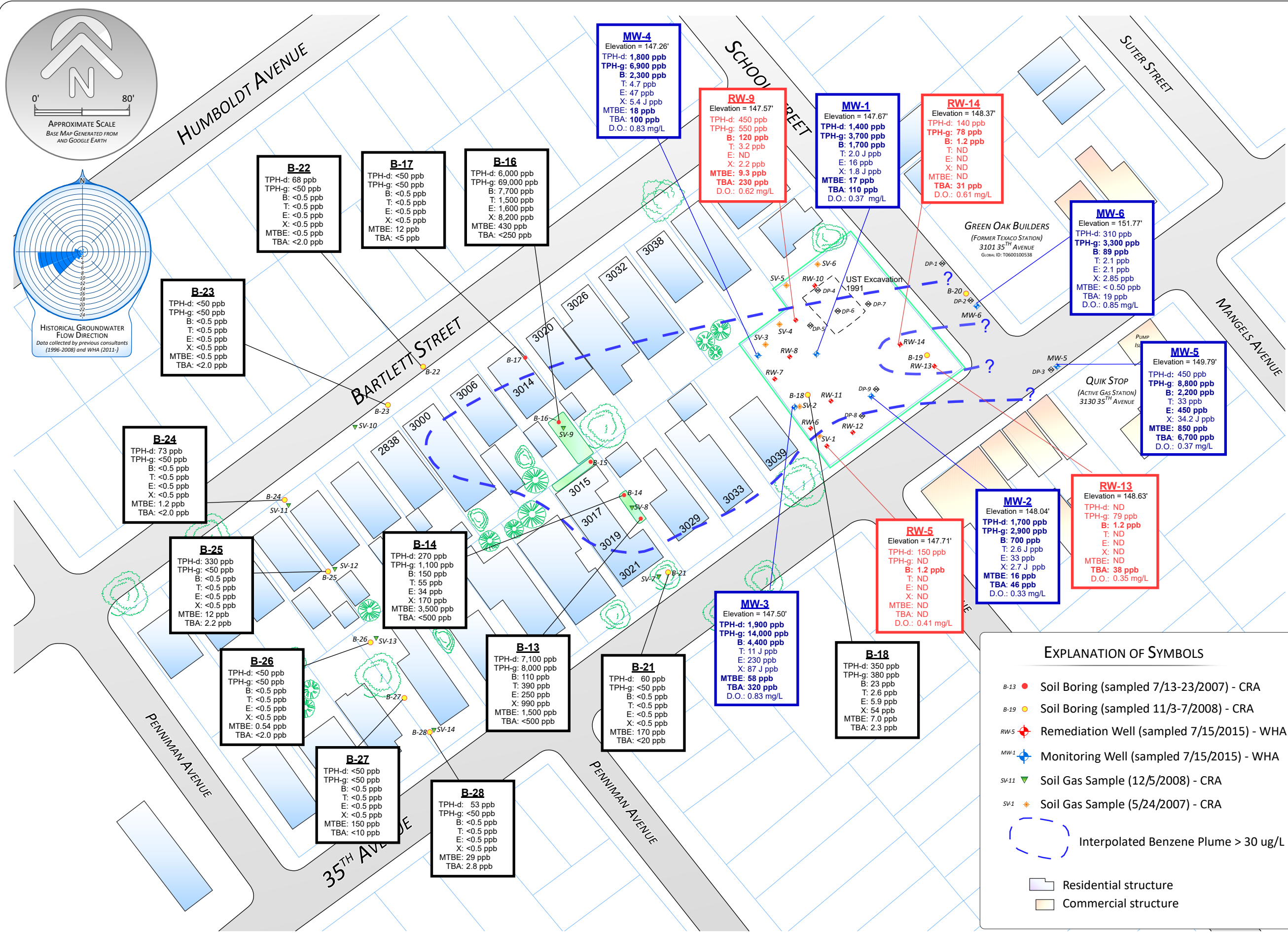
FIGURE 9
 Project 2X103.F

EXPLANATION OF SYMBOLS

- B-13 Grab GW Sample (ug/L, ppb 7/13-23/2007)
- B-19 Grab GW Sample (ug/L, ppb 11/3-7/2008)
- RW-5 Remediation Well (ug/L, ppb 12/28/2008)
- MW-1 Monitoring Well (ug/L, ppb 12/28/2008)
- SV-1 Soil Gas Sample (ug/m³ 5/24/2007)
- SV-7 Soil Gas Sample (ug/m³ 12/5/2008)
- Dissolved Benzene Plume > 30 ug/L
- Residential Structure
- Commercial Structure

LTCP Soil Gas Screening Level NO Bio-attenuation Zone (Residential/Commercial)	Benzene	EthylBenzene	O ₂	MTBE	TPH-g
	85 / 280 ug/m ³	1,100 / 3,600 ug/m ³	4 %	--	--





BENZENE PLUME 2015

FIGURE 10
Project
2X103.F

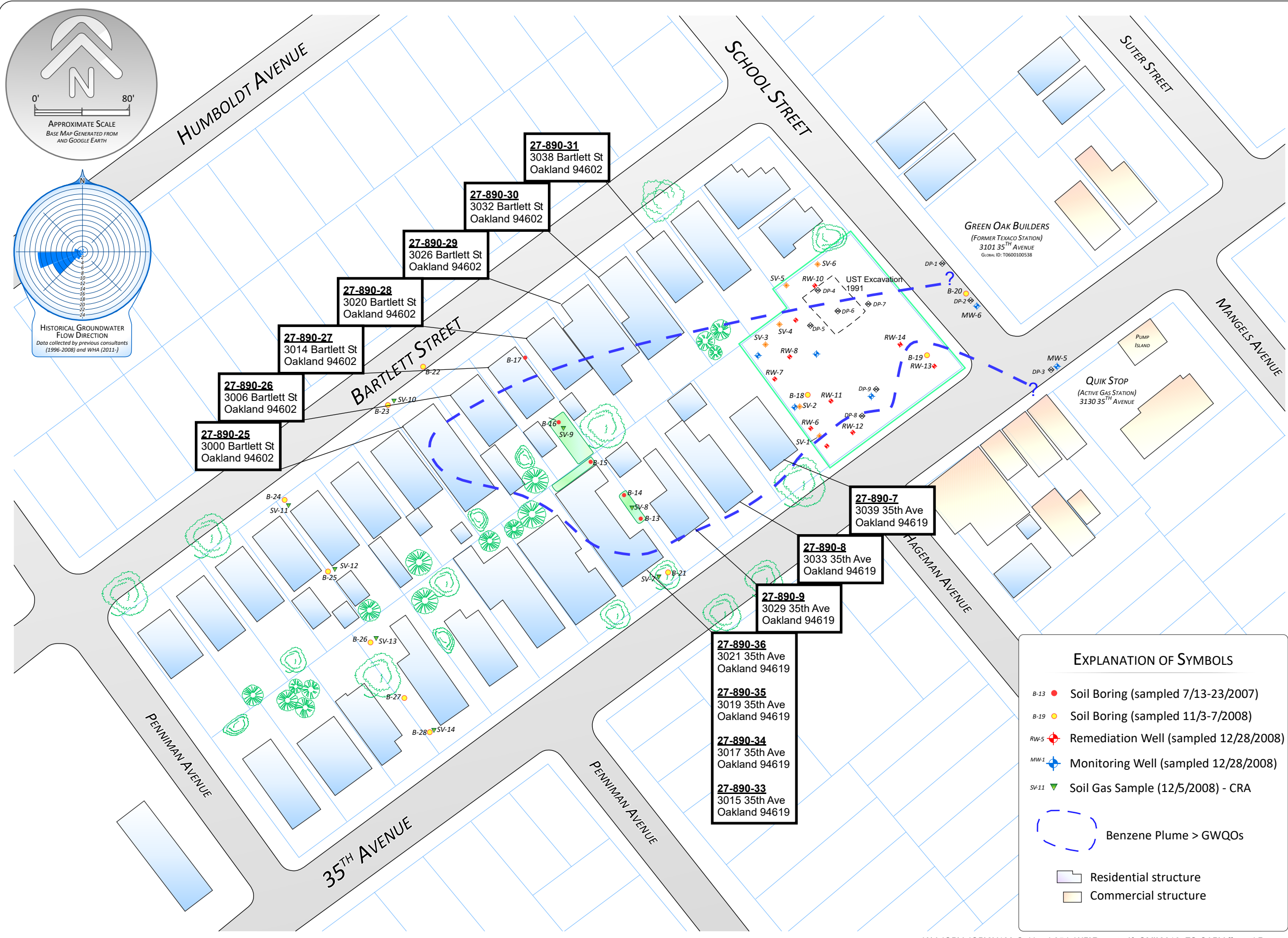
SITE: FORMER EXXON STATION
ADDRESS: 3055 35TH AVENUE, OAKLAND, CA

DATE: AUGUST 2016

REVISIONS/NOTES:



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120 Westgate Drive, Watsonville, CA
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PARCELS AFFECTED BY BENZENE PLUME

FIGURE 11
Project 2X103.F

SITE: FORMER EXXON STATION
ADDRESS: 3055 35TH AVENUE, OAKLAND, CA

DATE: AUGUST 2016 **REVISIONS/NOTES:**

EXPLANATION OF SYMBOLS

- B-13 ● Soil Boring (sampled 7/13-23/2007)
- B-19 ● Soil Boring (sampled 11/3-7/2008)
- RW-5 ◆ Remediation Well (sampled 12/28/2008)
- MW-1 ◆ Monitoring Well (sampled 12/28/2008)
- SV-11 ▼ Soil Gas Sample (12/5/2008) - CRA
- Benzene Plume > GWQOs
- Residential structure
- Commercial structure



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Figure 12
TPHg and Benzene Concentration Trends
Well MW-1 (March 1997 to July 2015)

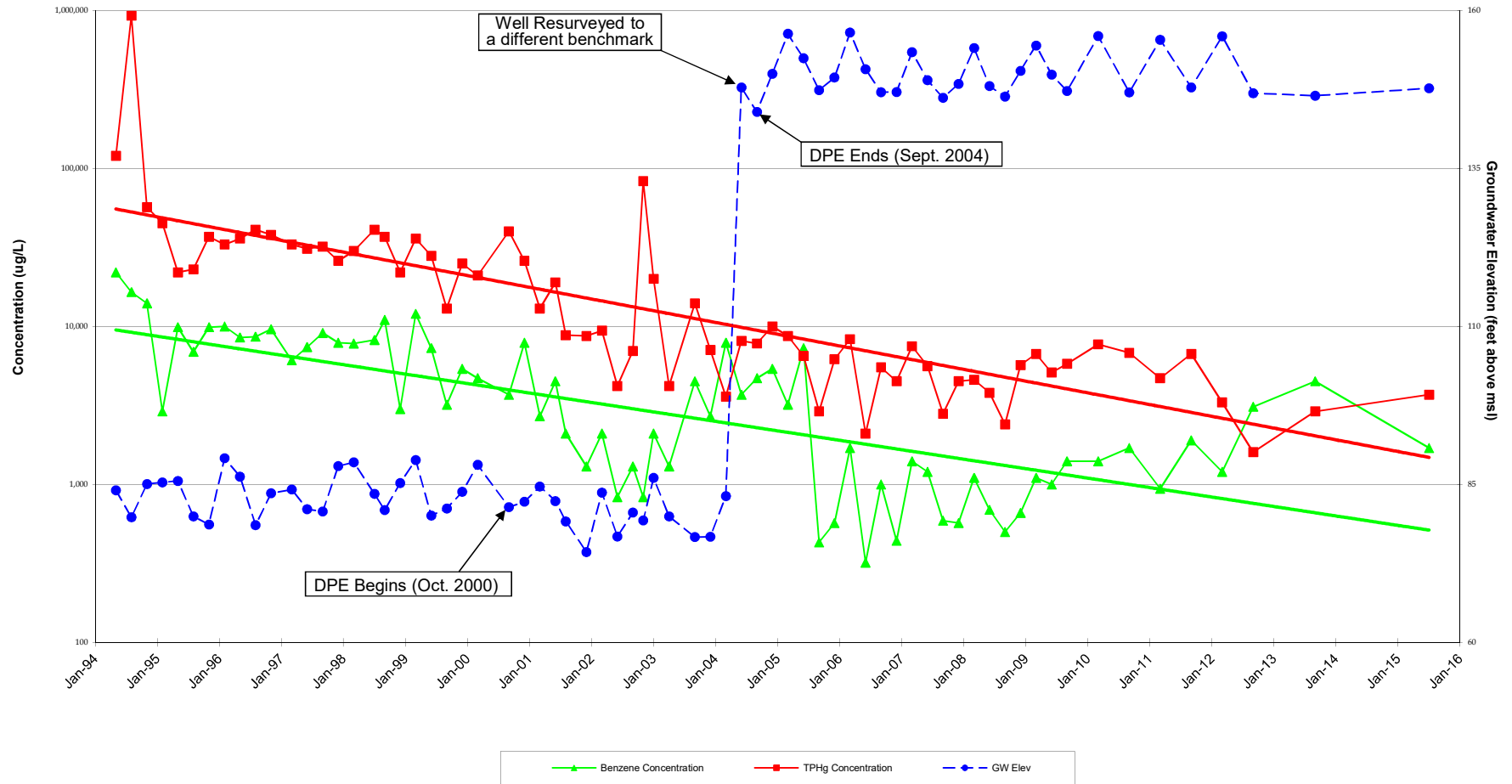


Figure 13
TPHg and Benzene Concentration Trends
Well MW-2 (March 1997 to July 2015)

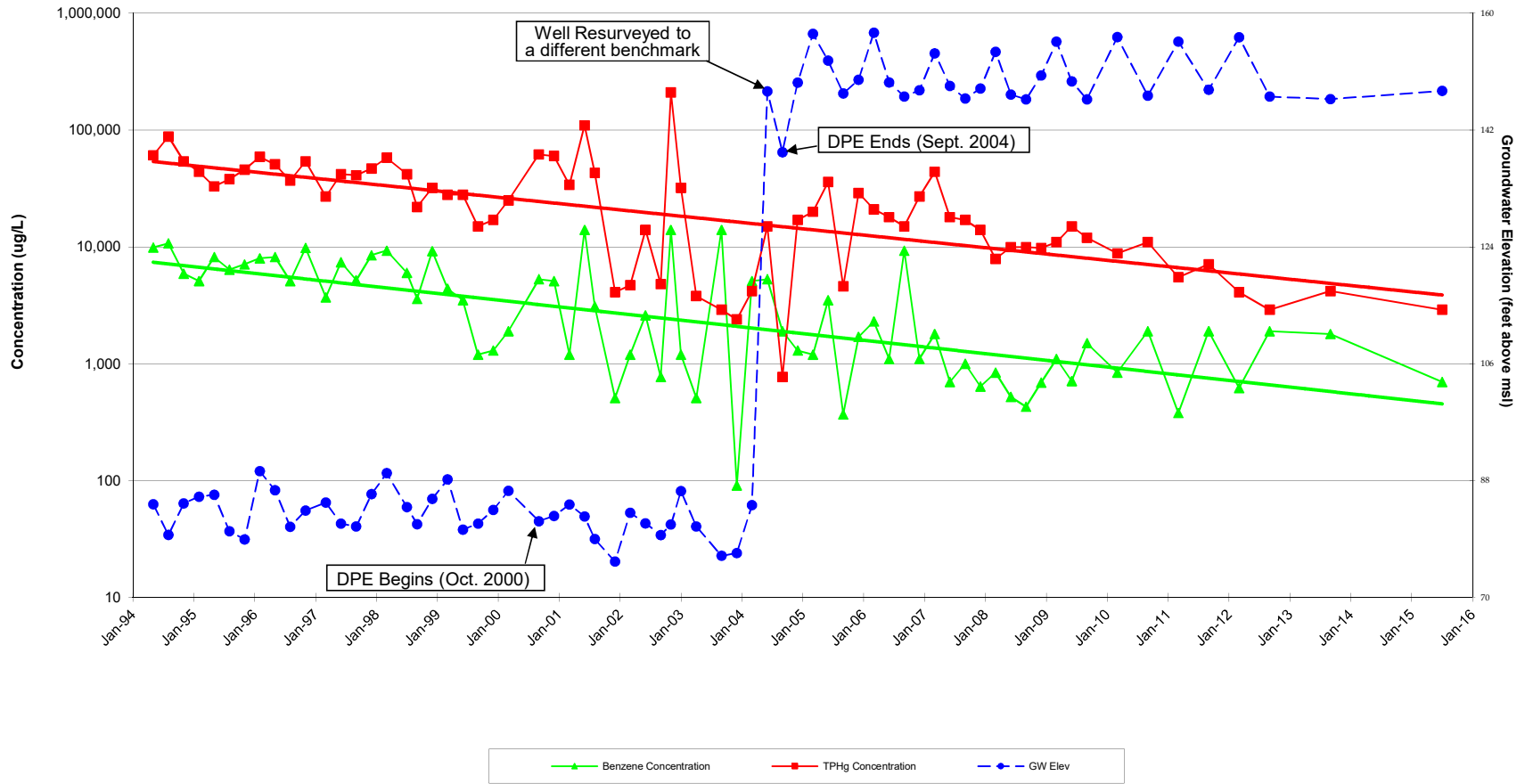


Figure 14
TPHg and Benzene Concentration Trends
Well MW-3 (March 1997 to July 2015)

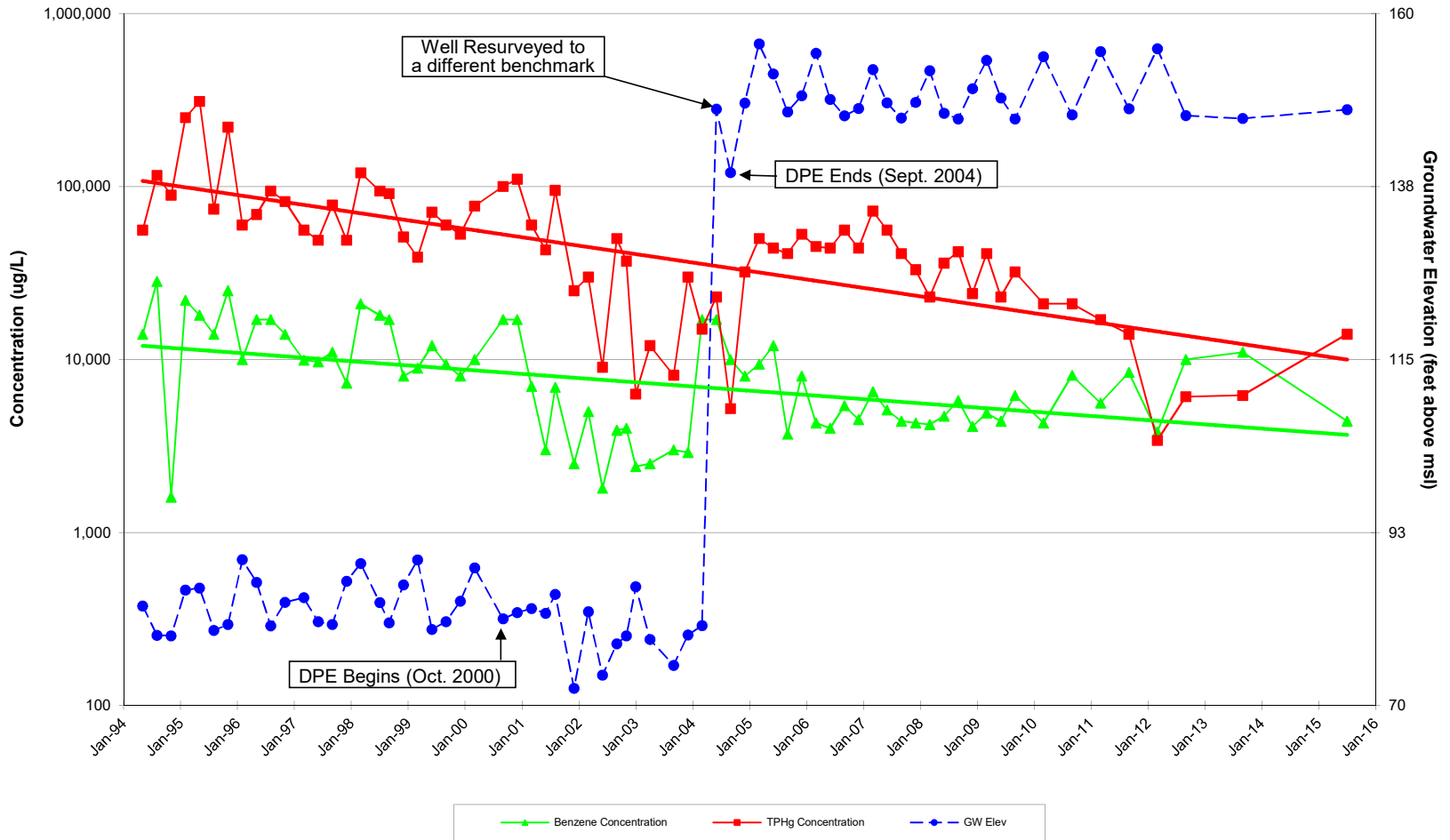
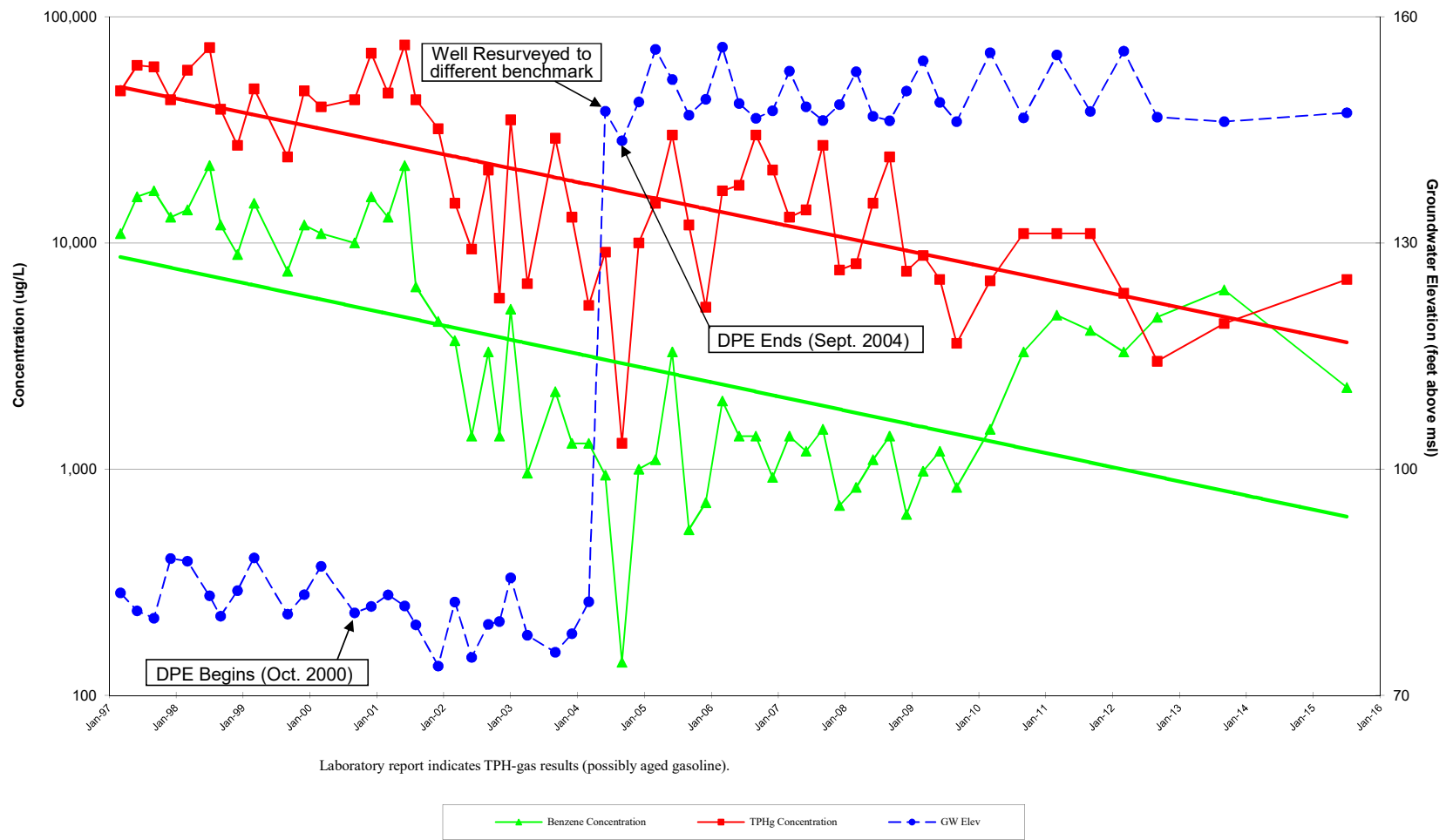


Figure 15
TPHg and Benzene Concentration Trends
Well MW-4 (March 1997 to July 2015)



Laboratory report indicates TPH-gas results (possibly aged gasoline).

Figure 16
TPHg and Benzene Concentration Trends
Well RW-5 (March 2005 to July 2015)

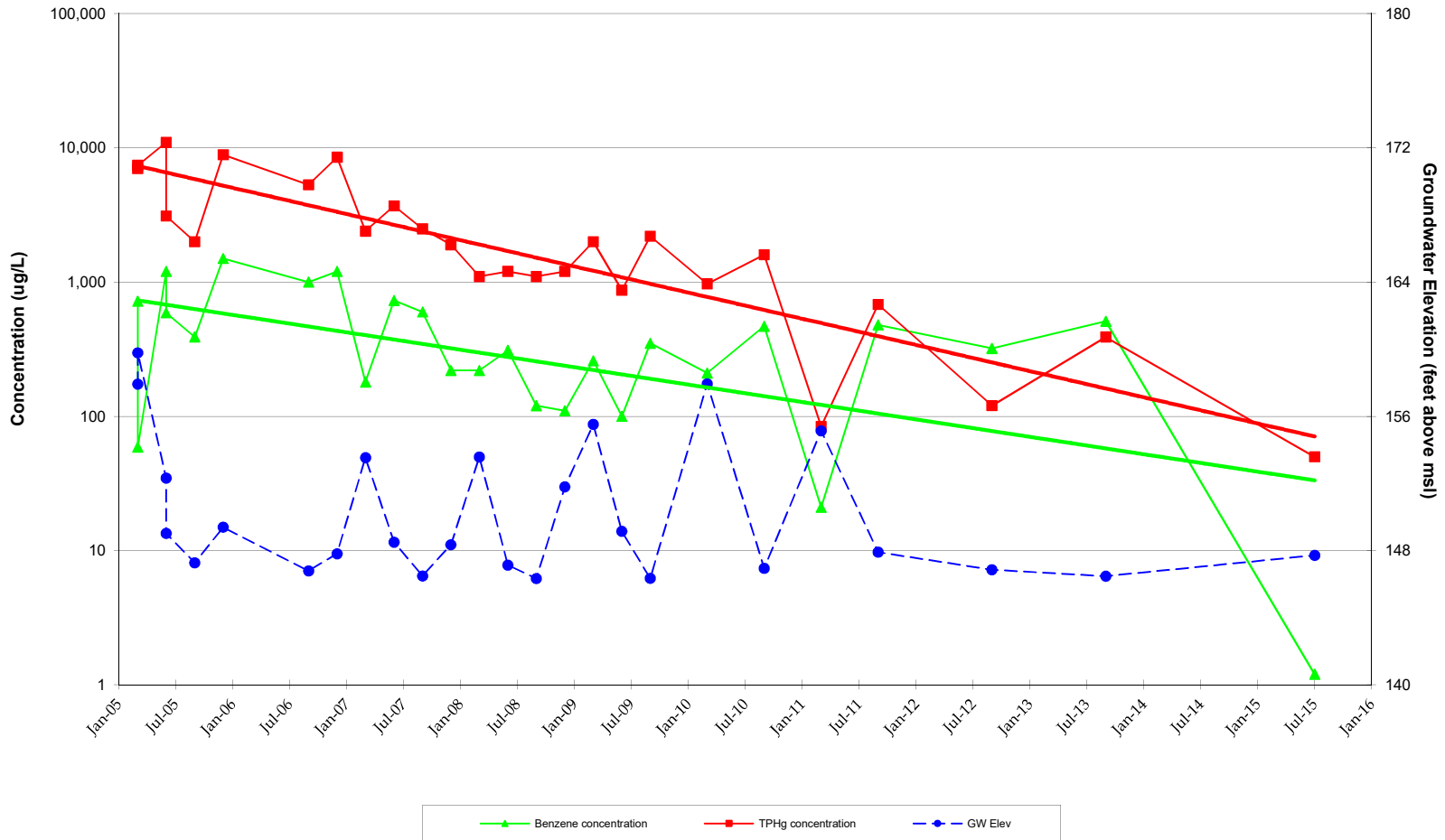
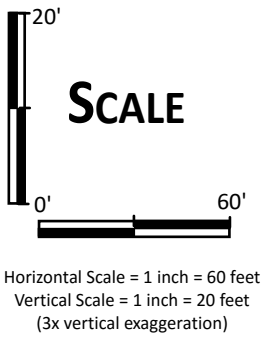
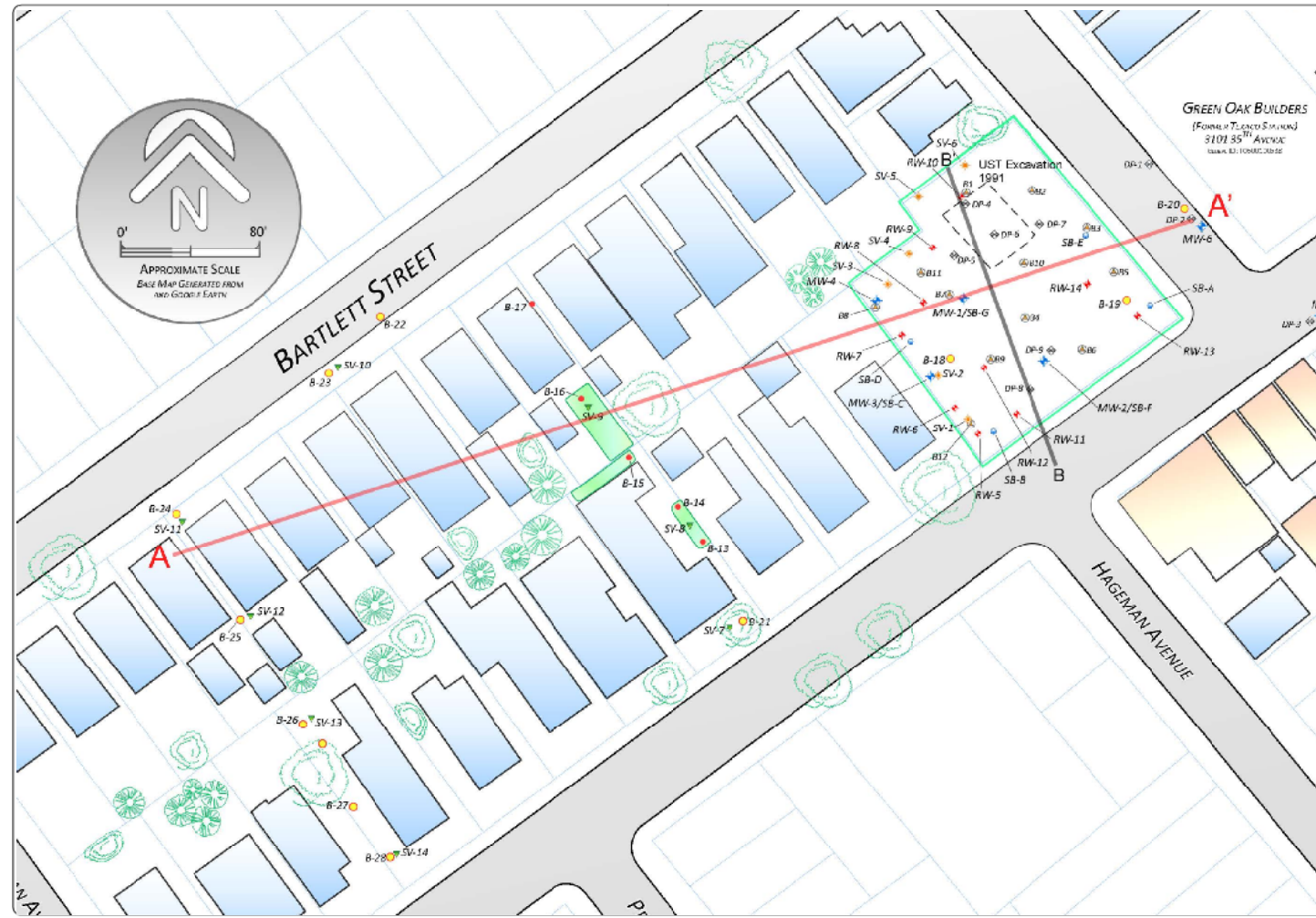
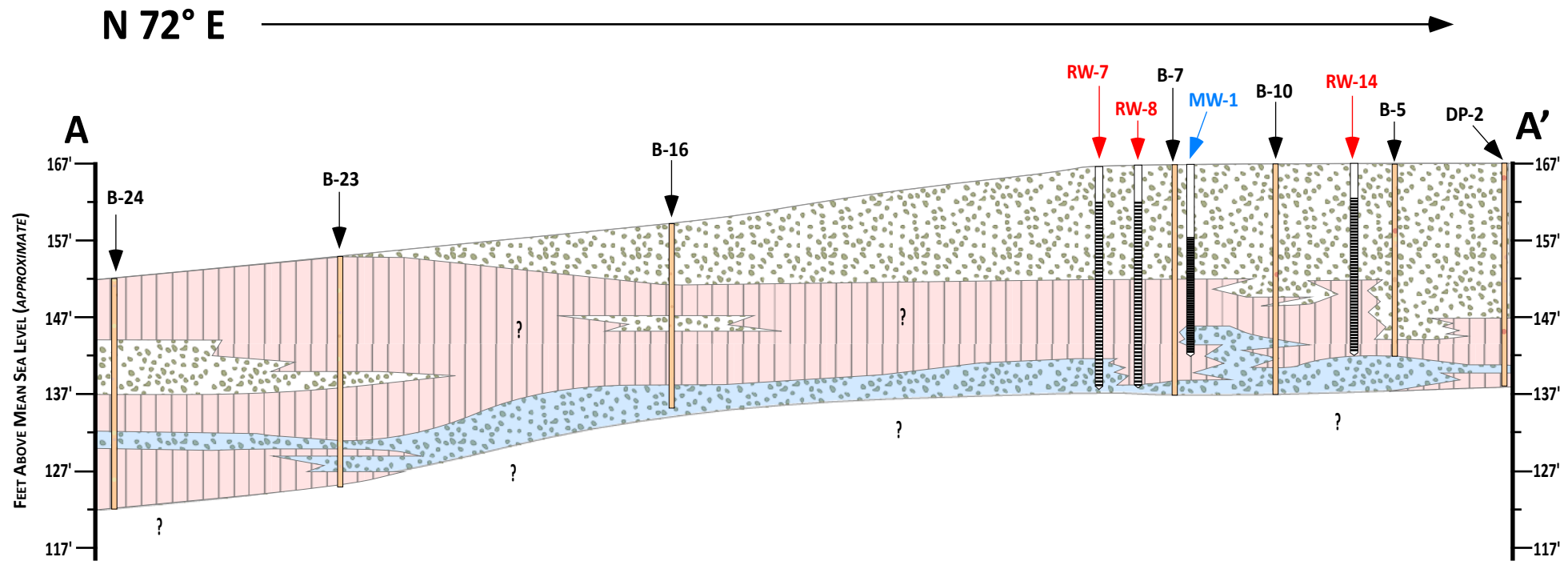


Figure 17
TPHg and Benzene Concentration Trends
Well RW-9 (March 2005 to July 2015)





EXPLANATION

	Lower Permeability Clays and Silts with or without minor amounts of sand and/or gravel (<30%), Clayey Silts
	Higher Permeability Sands, Silty Sands and Gravels (>60% sand/gravel) with minor to moderate amounts of silt or clay
	Higher Permeability Water-bearing (wet to saturated)
	Areas queried where data not available.
	B-10 Soil Boring (sealed to ground surface with neat cement following sample collection).
	MW-1/RW-8 Monitoring / Remediation Well with screened interval
	Notes: Similar lithology has been related across areas between boring locations; queried where uncertain. Most borings have been projected onto line of section - see Geologic Cross Section Transects details.

FIGURE 18
Project 2X103.C

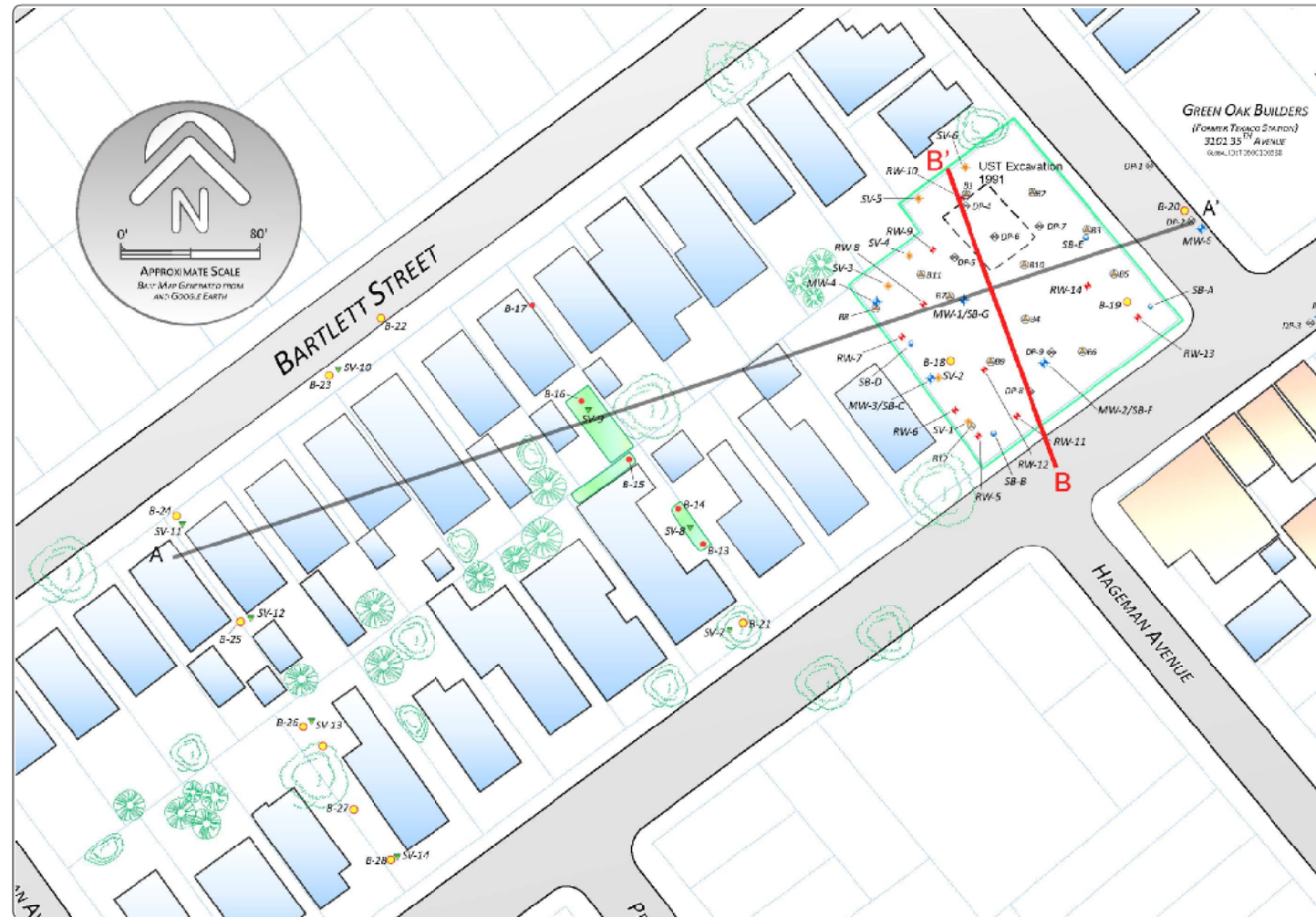
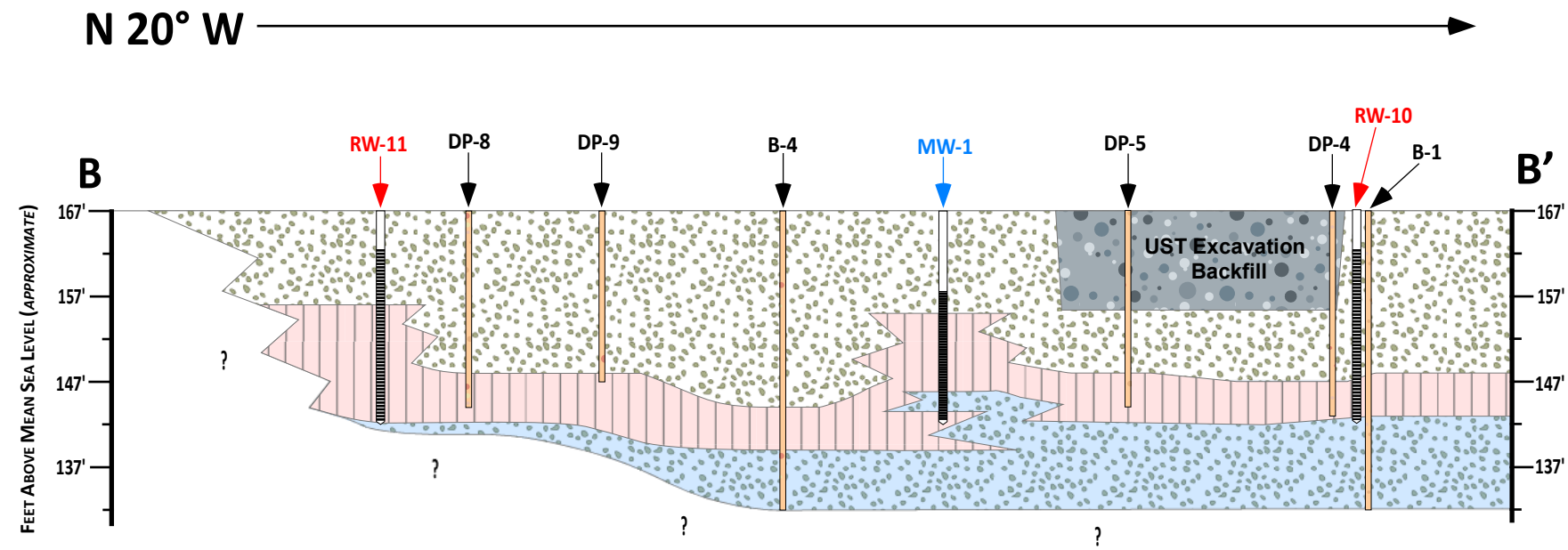
GEOLOGIC CROSS SECTIONS A-A'

SITE: FORMER EXXON STATION
ADDRESS: 3055 35TH AVENUE, OAKLAND, CA

DATE: MAY 2016
REVISIONS/NOTES:



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EXPLANATION	
	Lower Permeability Clays and Silts with or without minor amounts of sand and/or gravel (<30%), Clayey Silts
	Higher Permeability Sands, Silty Sands and Gravels (>60% sand/gravel) with minor to moderate amounts of silt or clay
	Higher Permeability Water-bearing (wet to saturated)
?	Areas queried where data not available.
	B-10 Soil Boring (sealed to ground surface with neat cement following sample collection).
	MW-1/RW-8 Monitoring / Remediation Well with screened interval
	Notes: Similar lithology has been related across areas between boring locations; queried where uncertain. Most borings have been projected onto line of section - see Geologic Cross Section Transects details.

GEOLOGIC CROSS SECTIONS B-B'

SITE: FORMER EXXON STATION
ADDRESS: 3055 35TH AVENUE, OAKLAND, CA

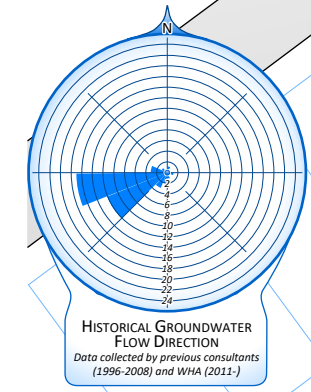
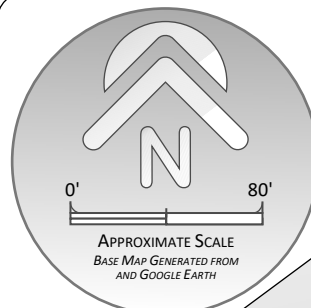
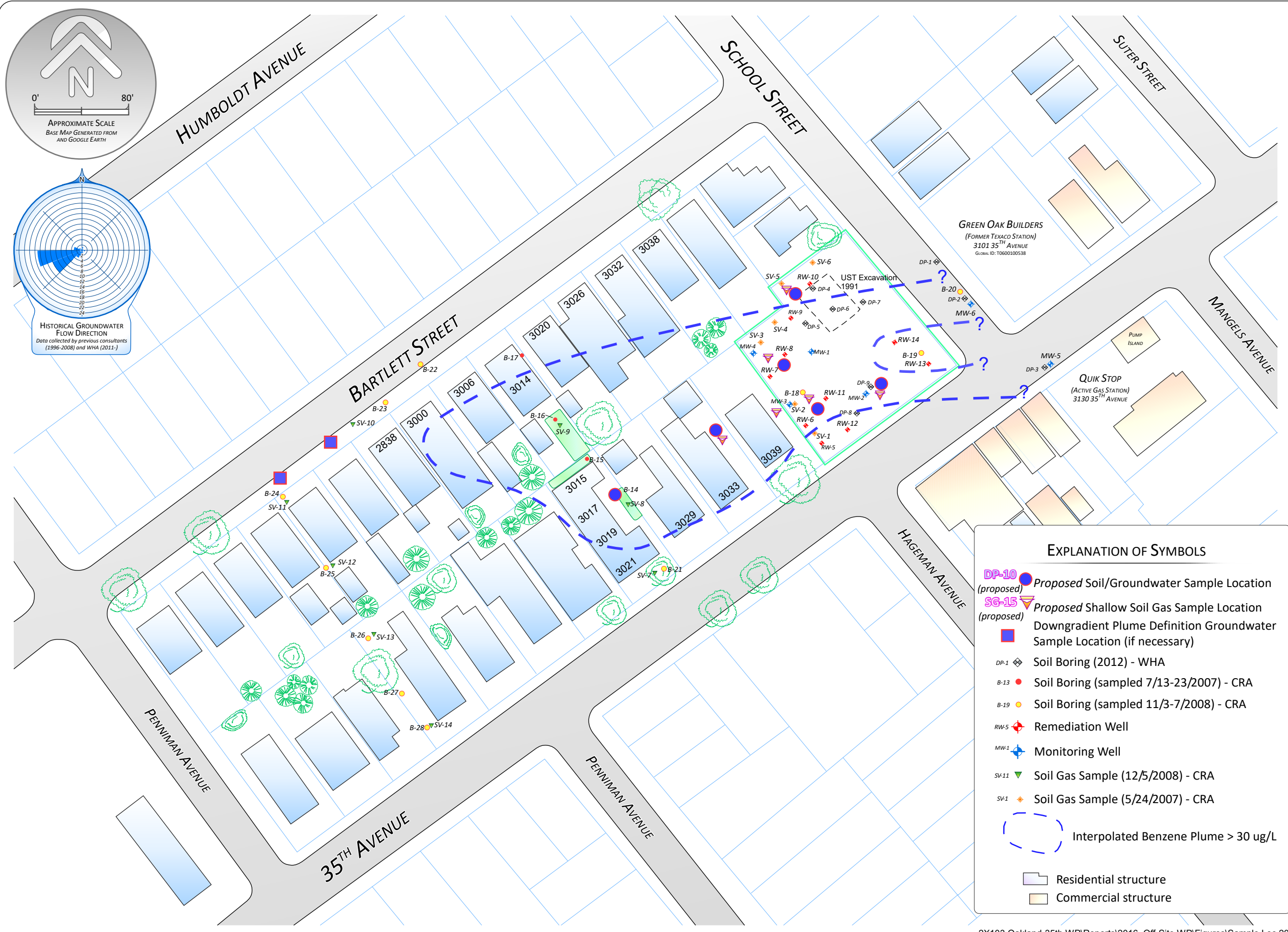
DATE: MAY 2016

REVISIONS/NOTES:



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FIGURE 19
 Project 2X103.C



EXPLANATION OF SYMBOLS

- DP-10 ● Proposed Soil/Groundwater Sample Location (proposed)
- SG-15 ▼ Proposed Shallow Soil Gas Sample Location (proposed)
- Downgradient Plume Definition Groundwater Sample Location (if necessary)
- ◇ Soil Boring (2012) - WHA
- Soil Boring (sampled 7/13-23/2007) - CRA
- Soil Boring (sampled 11/3-7/2008) - CRA
- + Remediation Well
- + Monitoring Well
- ▼ Soil Gas Sample (12/5/2008) - CRA
- + Soil Gas Sample (5/24/2007) - CRA
- Interpolated Benzene Plume > 30 ug/L
- Residential structure
- Commercial structure

PROPOSED SAMPLE LOCATIONS

FIGURE 20
Project 2X103.F

SITE: FORMER EXXON STATION
ADDRESS: 3055 35TH AVENUE, OAKLAND, CA

DATE: DECEMBER 2016 **REVISIONS/NOTES:**

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TABLES

Table 1: 1991-2008

**SOIL ANALYTICAL DATA
 PETROLEUM HYDROCARBONS
 FORMER EXXON SERVICE STATION
 3055 35TH AVENUE
 OAKLAND, CALIFORNIA**

Sample ID	Date Sampled	Sample Depth (ft)	GW Depth (ft)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
				Concentrations in mg/kg							
B1	11/5/1991	15	---	19	---	0.15	0.34	0.14	1.6	---	
B1	11/5/1991	20	---	1500	---	56	44	24	140	---	
B1	11/5/1991	30	---	<1.0	---	0.013	0.013	0.013	0.015	---	
B1	11/5/1991	35	---	<1.0	---	0.015	<0.0050	<0.0050	0.026	---	
B2	11/5/1991	15	---	290	---	0.057	1.3	3.8	17	---	
B2	11/5/1991	25	---	4.7	---	<0.0050	<0.0050	<0.0050	0.12	---	
B2	11/5/1991	35	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B3	11/6/1991	15	---	45	---	3.4	3.6	1.2	7.5	---	
B3	11/6/1991	20	---	130	---	1.9	4.7	2.4	19	---	
B3	11/6/1991	25	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B4	11/6/1991	25	---	1.0	---	0.27	0.18	0.018	0.17	---	
B4	11/6/1991	30	---	<1.0	---	<0.0050	0.0083	<0.0050	0.038	---	
B4	11/6/1991	35	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B5	11/6/1991	15	---	660	---	1.8	4.1	8.9	29	---	
B5	11/6/1991	20	---	97	---	3.2	1.2	1.7	4.6	---	
B5	11/6/1991	25	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B6	11/6/1991	15	---	1200	---	6.6	21	18	98	---	
B6	11/6/1991	20	---	7.3	---	1.5	1.5	0.36	1.8	---	
B6	11/6/1991	25	---	1.7	---	0.13	0.22	0.066	0.43	---	
B7	11/6/1991	15	---	2100	<1.0	28	100	38	290	---	ND VOCs/SVOCs
B7	11/6/1991	25	---	1.0	---	0.03	0.018	0.0058	0.06	---	
B7	11/6/1991	30	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B8	11/6/1991	15	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B8	11/6/1991	25	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B9	11/6/1991	15	---	480	---	5.9	23	8.9	72	---	
B10	11/6/1991	15	---	76	---	1.7	5.1	1.3	13	---	
B10	11/6/1991	20	---	260	---	7.3	21	6.6	54	---	
B10	11/6/1991	25	---	1.0	---	0.037	0.059	0.0089	0.064	---	

Table 1: 1991-2008

**SOIL ANALYTICAL DATA
PETROLEUM HYDROCARBONS
FORMER EXXON SERVICE STATION
3055 35TH AVENUE
OAKLAND, CALIFORNIA**

Sample ID	Date Sampled	Sample Depth (ft)	GW Depth (ft)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
				----- Concentrations in mg/kg ----->							
B10	11/6/1991	30	---	1.0	---	0.022	0.017	<0.0050	0.011	---	
B11	11/6/1991	15	---	20	---	0.034	0.033	0.55	1.0	---	
B11	11/6/1991	20	---	11	---	1.4	0.15	0.68	1.8	---	
B11	11/6/1991	25	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B12	11/6/1991	15	---	5.6	---	1.0	0.75	0.11	0.91	---	
B12	11/6/1991	25	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
B12	11/6/1991	30	---	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	
SB-A	5/5/94	11	14.5	3.4	4.2	<10	0.0072	0.0015	0.015	0.031	a
SB-A	5/5/94	16	---	1,600	620	<1,000	1.8	3.4	17	54	a
SB-B	5/6/94	11	15.0	170	52	<100	0.45	2.5	1.7	11	a
SB-B	5/6/94	16	---	940	120	<100	6.3	28	12	70	a
SB-C	5/6/94	11	13.9	25	6.7	<10	0.22	0.62	0.49	2.1	a
(MW-3)	5/6/94	16	---	490	280	<500	1.9	14	7.4	42	a
SB-D	5/6/94	11	19.5	<1	5.2	<10	<0.0025	<0.0025	<0.0025	<0.0025	
SB-D	5/6/94	16	---	<1	<1	<10	<0.0025	<0.0025	<0.0025	<0.0025	
SB-E	5/9/94	11	dry boring	220	56	<10	0.55	2.1	1.7	2.8	a
SB-E	5/9/94	16		3.8	1.4	<10	0.19	0.20	0.059	0.20	a
SB-F	5/9/94	11	13.3	370	57	<10	<0.25	<0.25	3.9	6.2	a
(MW-2)	5/9/94	15	---	2,900	450	<100	24	41	48	196	a
SB-G	5/9/94	11	14.5	20	18	<10	0.061	0.014	0.093	0.34	a
(MW-1)	5/9/94	15	---	390	52	<10	1.4	6.1	3.9	16	b
MW-4-10	2/26/97	10	---	64	62	0.24	1.1	0.7	2.6	<0.2	c,d
MW-4-15	2/26/97	15	---	530	150	5.1	18	8.4	39	5.4	c,d
B-18-5	10/29/08	5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-18-10	10/29/08	10	--	3.8	4.6	<0.005	<0.005	<0.005	0.023	(<0.005)	g,h
B-18-12	10/29/08	12	--	700	250	<1.0	1.2	<1.0	38	(<0.10)	j,f,g,d
B-18-15	10/29/08	15	--	1,000	190	6.1	4.3	11	53	(<0.10)	j,c,d

Table 1: 1991-2008

**SOIL ANALYTICAL DATA
PETROLEUM HYDROCARBONS
FORMER EXXON SERVICE STATION
3055 35TH AVENUE
OAKLAND, CALIFORNIA**

Sample ID	Date Sampled	Sample Depth (ft)	GW Depth (ft)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
----- Concentrations in mg/kg ----->											
B-18-20	10/29/08	20	--	160	54	1.5	0.50	2.0	9.7	(<0.050)	j,c,d
B-18-25	10/29/08	25	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-18-30	10/29/08	30	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-18-35	10/29/08	35	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-18-40	10/29/08	40	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-18-45	10/29/08	45	--	<1.0	<1.0	0.0063	<0.005	<0.005	<0.005	(<0.005)	
B-19-5	10/31/08	5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05 (<0.005)	
B-19-10	10/31/08	10	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05 (<0.005)	
B-19-13	10/31/08	13	--	150	48	<0.050	0.23	0.17	0.39	<0.50 (<0.005)	g,e,i
B-19-15	10/31/08	15	--	1,800	240	3.5	4.9	20	2.6	1.4 (<0.10)	j,c,d
B-19-17	10/31/08	17	--	3,100	430	7.1	4.3	34	58	<5.0 (<0.10)	j,c,d
B-19-20	10/31/08	20	--	88	5.4	0.30	0.15	0.93	0.61	<0.1 (<0.005)	c,i
B-19-25	10/31/08	25	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05 (<0.005)	
B-19-30	10/31/08	30	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05 (<0.005)	
B-19-35	10/31/08	35	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05 (<0.005)	
B-19-40	10/31/08	40	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05 (<0.005)	
B-19-44.5	10/31/08	44.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05 (<0.005)	
<i>Offsite Soil Borings - 2007</i>											
B-13-12'	7/13/07	12	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-13-14'	7/13/07	14	---	1.3	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	g
B-13-16'	7/13/07	16	---	69	17	0.022	0.49	0.27	0.074	(<0.005)	c,d,e,h
B-13-20'	7/13/07	20	---	2.9	<1.0	<0.005	0.034	0.017	0.077	(<0.005)	c,e
B-13-24'	7/13/07	24	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-14-12'	7/13/07	12	---	92	37	0.083	0.55	1.0	0.69	(<0.010)	d,e,f,h
B-14-14'	7/13/07	14	---	430	52	4.6	1.8	6.4	28	(<0.050)	c,d
B-14-16'	7/13/07	16	---	210	39	4.4	5.4	3	18	(<0.050)	c,d,h
B-14-18'	7/13/07	18	---	55	11	0.28	0.34	0.46	3.4	(<0.005)	c,d
B-14-20'	7/13/07	20	---	69	5.2	3.5	1.8	1.1	6.7	(<0.010)	c,d,h
B-14-22'	7/13/07	22	---	15	2	1.1	0.19	0.25	0.65	(<0.005)	c,d,h
B-14-24'	7/13/07	24	---	1.1	<1.0	0.027	0.0071	0.0073	0.013	(0.021)	c
B-14-26'	7/13/07	26	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(0.15)	

Table 1: 1991-2008

**SOIL ANALYTICAL DATA
 PETROLEUM HYDROCARBONS
 FORMER EXXON SERVICE STATION
 3055 35TH AVENUE
 OAKLAND, CALIFORNIA**

Sample ID	Date Sampled	Sample Depth (ft)	GW Depth (ft)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
				Concentrations in mg/kg							
B-15-10'	7/12/07	10	---	34	17	0.074	0.20	0.21	0.08	(<0.005)	c,d,e,h
B-15-12'	7/12/07	12	---	200	44	0.54	0.95	2.5	5.4	(<0.010)	c,d
B-15-14'	7/12/07	14	---	480	100	2	1.9	8	26	(<0.010)	d,e,f,h
B-16-5'	7/20/07	5	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-16-10'	7/20/07	10	---	430	75	1.5	2.1	4.4	21	(<1.0)	d,f,e
B-16-12'	7/20/07	12	---	4300	310	41	23	59	320	(<50)	c,d
B-16-14'	7/20/07	14	---	9.9	3	0.26	0.044	0.24	1.2	(<0.17)	c,d
B-16-16'	7/20/07	16	---	38	3.1	0.79	0.2	0.4	2.7	(<0.25)	c,d,e
B-16-18'	7/20/07	18	---	350	55	7	9.6	5.3	31	(<2.5)	c,d
B-16-20'	7/20/07	20	---	56	2.6	3	1.8	0.75	4.4	(<0.5)	c,d
B-16-24'	7/20/07	24	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-5'	7/20/07	5	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-10'	7/20/07	10	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-12'	7/20/07	12	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-14'	7/20/07	14	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-16'	7/20/07	16	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-18'	7/20/07	18	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-20'	7/20/07	20	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-22'	7/20/07	22	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
B-17-24'	7/20/07	24	---	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.05)	
<i>Offsite Soil Borings - 2008</i>											
B-20-5	10/30/08	5	--	110	24	<0.10	<0.10	<0.10	0.27	(<0.005)	e,i
B-20-7.5	10/30/08	7.5	--	240	63	0.090	0.058	1.4	0.94	(<0.050)	j,c,i
B-20-9.5	10/30/08	9.5	--	590	170	0.68	0.22	4.9	2.9	(<0.10)	j,c,i
B-20-11	10/30/08	11	--	1,100	370	1.3	1.5	10	10	(<0.10)	j,f,g,i
B-20-15	10/30/08	15	--	100	23	0.39	0.13	0.52	0.25	(<0.005)	c,i
B-20-19.5	10/30/08	19.5	--	54	25	0.35	<0.017	0.11	0.068	(<0.010)	j,c,i
B-20-24.5	10/30/08	24.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-20-29.5	10/30/08	29.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-20-35	10/30/08	35	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-20-40	10/30/08	40	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-20-44.5	10/30/08	44.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-21-10	11/4/08	10	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	

Table 1: 1991-2008

**SOIL ANALYTICAL DATA
 PETROLEUM HYDROCARBONS
 FORMER EXXON SERVICE STATION
 3055 35TH AVENUE
 OAKLAND, CALIFORNIA**

Sample ID	Date Sampled	Sample Depth (ft)	GW Depth (ft)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
				----- Concentrations in mg/kg -----							
B-21-12	11/4/08	12	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-21-15	11/4/08	15	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-21-20	11/4/08	20	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-21-25	11/4/08	25	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-21-29.5	11/4/08	29.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(0.0064)	
B-22-5	11/3/08	5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-22-10	11/3/08	10	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-22-15	11/3/08	15	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-22-20	11/3/08	20	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-22-25	11/3/08	25	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-22-29.5	11/3/08	29.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-23-5	11/3/08	5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-23-10	11/3/08	10	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-23-15	11/3/08	15	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-23-20	11/3/08	20	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-23-25	11/3/08	25	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-23-29.5	11/3/08	29.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-24-5.5	11/6/08	5.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-24-10	11/6/08	10	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-24-15	11/6/08	15	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-24-20	11/6/08	20	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-24-25	11/6/08	25	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-24-29.5	11/6/08	29.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-25-5	11/6/08	5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-25-10	11/7/08	10	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-25-15	11/7/08	15	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-25-22	11/7/08	22	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-25-25	11/7/08	25	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-25-29.5	11/7/08	29.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-26-5	11/5/08	5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-26-10	11/6/08	10	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-26-15	11/6/08	15	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	

Table 1: 1991-2008

**SOIL ANALYTICAL DATA
PETROLEUM HYDROCARBONS
FORMER EXXON SERVICE STATION
3055 35TH AVENUE
OAKLAND, CALIFORNIA**

Sample ID	Date Sampled	Sample Depth (ft)	GW Depth (ft)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
				<----- Concentrations in mg/kg ----->							
B-26-20	11/6/08	20	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-26-25	11/6/08	25	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-26-29.5	11/6/08	29.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-27-10	11/5/08	10	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-27-15	11/5/08	15	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-27-20	11/5/08	20	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-27-25	11/5/08	25	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-27-29.5	11/5/08	29.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-28-5	11/4/08	5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-28-10	11/5/08	10	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-28-15	11/5/08	15	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-28-20	11/5/08	20	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-28-25	11/5/08	25	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	
B-28-29.5	11/5/08	29.5	--	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	(<0.005)	

Abbreviations:

ft = feet

mg/kg = milligrams per kilogram

< x = Not detected above detection limit.

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015

TPHd = Total petroleum hydrocarbons as diesel by modified EPA Method 8015

Benzene, Toluene, Ethylbenzene, and Xylenes by EPA Method 8020/8021B

MTBE = Methyl Tertiary Butyl Ether by EPA Method 8020, or by EPA

Method 8260 in parentheses

B7-15 Metals: Cadmium 3.51 mg/kg, Chromium 25.1 mg/kg, Lead 3.19 mg/kg,

Zinc 47.7 mg/kg, Nickel 34.3 mg/kg

B7-15 Oil & Grease: ND (10 mg/kg)

Notes:

(a) The positive TPHd response appears to be a lighter hydrocarbon than diesel

(b) The positive TPHd result has an atypical chromatographic pattern

(c) Unmodified or weakly modified gasoline is significant (TPHg)

(d) Gasoline range compounds are significant (TPHd)

(e) No recognizable pattern

(f) Heavier gasoline range compounds are significant (aged gasoline?)

(g) Strongly aged gasoline or diesel range compounds are significant

(h) Diesel range compounds are significant; no recognizable pattern

(i) Stoddard solvent/mineral spirit

(j) Sample diluted due to high organic content

Table 2

**SOIL GAS ANALYTICAL DATA
3055 35TH AVENUE
OAKLAND, CA**

Sample ID	Date	Sample Depth (ft)	TPHg	←----- μg/m ³ -----→					MTBE	←----- μL/L -----→			←----- ppbV -----→			←----- μg/L -----→		Propane as Propene
				Benzene	Toluene	Ethyl- benzene	Xylenes	Carbon Dioxide		Oxygen	Methane	Butane	Isobutane	Propane	Butane as Hexane	Isobutane as Hexane		
<i>Onsite Soil Gas</i>																		
SV-1-5A	05/24/07	5	8,400	14	--	--	--	<4.2	--	--	--	ND	48 j	ND	--	--	--	
SV-1-10	05/24/07	10	54,000	37	--	--	--	300	--	--	--	ND	39 j	ND	--	--	--	
SV-2-5	05/24/07	5	13,000	38	--	--	--	<4.4	--	--	--	ND	83 j	ND	--	--	--	
SV-2-10	05/24/07	10	300,000	78	--	--	--	210	--	--	--	ND	ND	ND	--	--	--	
SV-3-5	05/24/07	5	16,000	14	--	--	--	190	--	--	--	ND	30 j	ND	--	--	--	
SV-3-10	05/24/07	10	31,000	35	--	--	--	<4.3	--	--	--	500 j	97 j	ND	--	--	--	
SV-4-5A	05/24/07	5	32,000	38	--	--	--	19	--	--	--	ND	57 j	ND	--	--	--	
SV-4-10	05/24/07	10	480,000	930	--	--	--	<41	--	--	--	ND	ND	ND	--	--	--	
SV-5-5	05/24/07	5	53,000	99	--	--	--	16	--	--	--	1,400 j	300 j	ND	--	--	--	
SV-5-10	05/24/07	10	23,000	31	--	--	--	<4.2	--	--	--	240 j	89 j	ND	--	--	--	
SV-6-5	05/24/07	5	19,000	21	--	--	--	<4.4	--	--	--	330 j	61 j	ND	--	--	--	
SV-6-10	05/24/07	10	170,000	4,600	--	--	--	70	--	--	--	1,700 j	360 j	ND	--	--	--	
SV-4-10 Duplicate	5/24/07	10	620,000	1,100	--	--	--	<58	--	--	--	ND	ND	ND	--	--	--	
Trip Blank	5/24/07	--	ND	ND	--	--	--	ND	--	--	--	ND	ND	ND	--	--	--	
<i>Offsite Soil Gas</i>																		
SV-7	12/5/08	5	<1,800	<6.5	7.9	<8.8	29	<7.3	32,000	160,000	<5.0	--	--	--	<10	<10	<10	
SV-8	12/5/08	5	<1,800	<6.5	<7.7	<8.8	<27	<7.3	33,000	160,000	<5.0	--	--	--	<10	<10	<10	
SV-9	12/5/08	5	<1,800	<6.5	<7.7	<8.8	<27	<7.3	27,000	190,000	<5.0	--	--	--	<10	<10	<10	
SV-10	12/5/08	5	<1,800	<6.5	23	16	79	<7.3	28,000	190,000	<5.0	--	--	--	<10	<10	<10	
SV-11	12/5/08	5	<1,800	<6.5	<7.7	<8.8	<27	<7.3	18,000	180,000	<5.0	--	--	--	<10	<10	<10	
SV-12	12/5/08	5	<1,800	<6.5	<7.7	<8.8	<27	<7.3	6,500	190,000	<5.0	--	--	--	<10	<10	<10	
SV-13	12/5/08	5	<1,800	<6.5	33	38	210	<7.3	14,000	190,000	<5.0	--	--	--	<10	<10	<10	
SV-14	12/5/08	5	<1,800	<6.5	<7.7	<8.8	<27	<7.3	22,000	190,000	<5.0	--	--	--	<10	<10	<10	
SV-13-Duplicate	12/5/08	5	<1,800	<6.5	33	40	220	<7.3	11,000	180,000	<5.0	--	--	--	<10	<10	<10	

Table 2

SOIL GAS ANALYTICAL DATA
3055 35TH AVENUE
OAKLAND, CA

Sample ID	Date	Sample	TPHg	Benzene	Toluene	Ethyl- benzene	Xylenes	MTBE	Carbon Dioxide	Oxygen	Methane	Butane	Isobutane	Propane	Butane as Hexane	Isobutane as Hexane	Propane as Propene
Sampled	Depth (ft)	← μg/m ³ →					← μL/L →		← ppbV →			← μg/L →					

Abbreviations:

ft = feet
 μg/m³ = micrograms per cubic meter
 μg/L = micrograms per liter
 μL/L = microliters per liter
 <X or ND: Not detected above laboratory detection limit.
 See Analytical Laboratory report for notes
 TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method TO-3
 Benzene by modified EPA Method TO-15
 MTBE = Methyl Tertiary Butyl Ether by modified EPA Method TO-15
 -- Not analyzed, not applicable or not available
 ND = Not detected
 Butane as Hexane for SV-7 through SV-14; reported in μg/L
 Isobutane as Hexane for SV-7 through SV-14; reported in μg/L
 Propane as Propene for SV-7 through SV-14; reported in μg/L

b - Compound present in laboratory blank greater than reporting limit
 j - Estimated value
 e - Exceeds instrument calibration range
 s - Saturated peak
 q - Exceeds quality control limits
 u - Compound analyzed for but not detected above the reporting limit
 uj - Non-detected compound associated with low bias in the CCV
 n - The identification is based on presumptive evidence

Table 3

**GRAB GROUNDWATER ANALYTICAL DATA
FORMER EXXON SERVICE STATION
3055 35TH AVENUE
OAKLAND, CALIFORNIA**

Sample ID	Date	Boring	GW	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TAME	TBA	EDB	1,2-DCA	DIPE	ETBE	Methanol	Ethanol	Notes
<i>Offsite Borings - 2007</i>																			
B-13	7/16/2007	30	14.61	8,000	7,100	110	390	250	990	(1,500)	<50	<500	<50	<50	<50	<50	--	<5,000	a,b,d,g
B-14	7/13/2007	30	14.05	1,100	270	150	55	34	170	(3,500)	<50	<500	<50	<50	<50	<50	--	<5,000	a,d,f
B-16	7/23/2007	24	12.50	69,000	6,000	7,700	1,500	1,600	8,200	(430)	<25	<250	<25	<25	<25	<25	--	<2500	a,d
B-17	7/23/2007	24	11.73	<50	<50	<0.5	<0.5	<0.5	<0.5	(12)	<0.5	<5	<0.5	<0.5	<0.5	<0.5	--	<50	
<i>Offsite Borings - 2008</i>																			
B-21-30	11/4/2008	30	NM	<50	60	<0.5	<0.5	<0.5	<0.5	(170)	<5.0	<20	<5.0	<5.0	<5.0	<5.0	--	<500	e2
B-22-30	11/3/2008	30	NM	<50	68	<0.5	<0.5	<0.5	<0.5	(<0.5)	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<500	<50	e2
B-23-30	11/3/2008	30	NM	<50	<50	<0.5	<0.5	<0.5	<0.5	(<0.5)	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<500	<50	
B-24-30	11/7/2008	30	NM	<50	73	<0.5	<0.5	<0.5	<0.5	(1.2)	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	--	600	e2
B-25-30	11/7/2008	30	NM	<50	330	<0.5	<0.5	<0.5	<0.5	(12)	<0.5	2.2	<0.5	<0.5	<0.5	<0.5	--	<50	b1, e7, e2, e6
B-26-30	11/6/2008	30	NM	<50	<50	<0.5	<0.5	<0.5	<0.5	(0.54)	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	--	<50	b1
B-27-30	11/6/2008	30	NM	<50	<50	<0.5	<0.5	<0.5	<0.5	(150)	<2.5	<10	<2.5	3.5	<2.5	<2.5	--	<250	
B-28-30	11/6/2008	30	NM	<50	53	<0.5	<0.5	<0.5	<0.5	(29)	<0.5	2.8	<0.5	3.9	<0.5	<0.5	--	<50	b1, e2
<i>Onsite Borings - 2008</i>																			
B-18A-30	10/31/2008	45	30	380	350	23	2.6	5.9	54	<10 (7.0)	<0.5	2.3	<0.5	<0.5	<0.5	<0.5	--	<50	d1, e4

Methods and Abbreviations:

GW Depth = Groundwater depth measured in feet below ground surface
 ft = Measured in feet
 TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method SW8015C
 TPHd = Total petroleum hydrocarbons as diesel by modified EPA Method SW8015C
 TPHmo = Total petroleum hydrocarbons as motor oil by modified EPA Method SW8015C
 Benzene, Toluene, Ethylbenzene, and Xylenes by EPA Method SW8021B
 MTBE = Methyl tertiary-butyl ether by EPA Method SW8021B; in parentheses by SW8260B
 µg/L = Micrograms per liter, equivalent to parts per billion in water
 --- = Not observed/not analyzed
 NM = Not Measured

Notes:

a = unmodified or weakly modified gasoline is significant
 b = diesel range compounds are significant; no recognizable pattern
 d = gasoline range compounds are significant
 f = one to a few isolated peaks present
 g = oil range compounds are significant
 b1 = aqueous sample that contains greater than ~ 1vol. % sediment
 d1 = weakly modified or unmodified gasoline is significant
 e2 = diesel range compounds are significant; no recognizable pattern
 e4 = gasoline range compounds are significant
 e6 = one to a few isolated peaks present in the TPH(d/mo) chromatogram
 e7 = oil range compounds are significant

Table 4: Soil Sample Analytical Results - May 8 & 9, 2012

**Former Exxon Station
3055 35th Avenue, Oakland, CA**

All soil sample analytical results are in milligrams per kilogram (mg/kg, parts per million, ppm)

Soil Sampling Information		Laboratory Analytical Results								
Sample Location	Sample Depth (feet, bgs)	Total Petroleum Hydrocarbons		Volatile Organic Compounds (VOC's by EPA 8260)						
		Extractable (w/ silica gel cleanup)	Gasoline	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	TBA	Naphthalene
		Diesel								
DP-1 (Off-site)	8'	--	<0.10	<0.010	<0.010	<0.010	<0.015	<0.010	<0.050	< 0.010
	14'	< 2.0	8.4*	< 0.0075	< 0.0049	< 0.0043	< 0.0126	< 0.013	< 0.10	< 0.050
	17'	--	<100	<0.010	<0.010	<0.010	<0.015	<0.010	<0.050	< 0.010
	★17B'	--	0.80**	<0.010	<0.010	0.064	<0.015	<0.010	<0.050	< 0.010
DP-3 (Off-site)	8'	--	<0.10	<0.010	<0.010	<0.010	<0.15	<0.010	<0.050	< 0.010
	11'	--	0.33**	<0.010	<0.010	<0.010	<0.015	<0.010	<0.050	<0.010
	14'	--	10**	< 0.0075	< 0.0049	0.30	< 0.0126	< 0.013	< 0.10	0.024 ^J
	20'	--	6.4	0.060	< 0.0049	0.22	0.17	< 0.013	< 0.10	0.094
	23'	--	0.93*	0.17	< 0.0025	0.046	< 0.038	0.0080 ^J	< 0.052	< 0.025
DP-4 (On-site)	12'	--	<0.10	<0.010	<0.010	<0.010	<0.015	<0.010	<0.050	< 0.010
	18'	12*	96*	0.22	< 0.0049	0.91	1.446	< 0.13	< 0.10	1.6
	24'	--	0.83*	0.30	< 0.0098	0.025 ^J	< 0.0256	< 0.026	< 0.21	< 0.100
DP-5 (On-site)	8'	--	<0.10	<0.010	<0.010	<0.010	<0.015	<0.010	<0.050	< 0.010
	11'	--	130*	< 0.15	< 0.098	1.8	3.1	< 0.26	< 2.1	1.2
	17'	--	1,000*	6.2	2.1 ^J	37	197	< 1.0	< 8.3	16
	23'	--	1.5*	0.55	0.015 ^J	0.14	0.5	< 0.013	< 0.10	0.17
DP-6 (On-site)	12'	--	13*	0.010 ^J	0.020 ^J	0.67	1.33	< 0.013	< 0.10	0.55
	21'	--	4,600*	36	37	81	450	< 5.2	< 42	25
	23'	--	1.3*	0.47	0.064	0.096	0.246	< 0.013	< 0.10	0.12
Laboratory Practical Quantitation Limit (PQL):		2.0	0.10	0.010			0.015	0.010	0.050	--
Soil Screening Levels CA Low-Threat Closure Policy (0-5 ft bgs) ⁽¹⁾ (Residential/Commercial-Industrial/Utility Worker)		--	--	1.9/8.2/14	--	21/89/314	--	--	--	9.7/45/219
Soil Screening Levels CA Low-Threat Closure Policy (5-10 ft bgs) ⁽¹⁾ (Residential/Commercial-Industrial/Utility Worker)		--	--	2.8/12/14	--	32/134/314	--	--	--	9.7/45/219
Residential / Commercial Environmental Screening Levels (ESLs) ⁽²⁾ :		100	--	0.044	2.9	3.3	2.3	0.023	0.075	1.2

Table 4: Soil Sample Analytical Results - May 8 & 9, 2012

**Former Exxon Station
3055 35th Avenue, Oakland, CA**

All soil sample analytical results are in milligrams per kilogram (mg/kg, parts per million, ppm)

Soil Sampling Information		Laboratory Analytical Results								
Sample Location	Sample Depth (feet, bgs)	Total Petroleum Hydrocarbons		Volatile Organic Compounds (VOC's by EPA 8260)						
		Extractable (w/ silica gel cleanup)	Gasoline	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	TBA	Naphthalene
		Diesel								
DP-7 (On-site)	4'	--	<0.10	<0.010	<0.010	<0.010	<0.015	<0.010	<0.050	<0.010
	8'	--	0.23**	<0.010	<0.010	<0.010	<0.015	<0.010	<0.050	<0.010
	11'	5.8*	2.8**	0.11	<0.010	<0.010	<0.015	<0.010	<0.050	<0.010
	17'	--	15*	0.024 ^J	0.043 ^J	0.89	1.568	< 0.013	< 0.10	1.1
	23'	--	1.2*	0.069	< 0.0020	0.042	0.0039J	< 0.0052	< 0.042	0.032
DP-8 (On-site)	8'	--	ND	<0.010	<0.010	<0.010	<0.015	<0.010	<0.050	<0.010
	17'	--	970*	2.6	0.63 ^J	21	63	< 0.26	< 2.1	11
	20'	--	69*	0.81 ^J	< 0.098	1.4	5.5	< 0.26	< 2.1	1.4
	23'	--	<0.10	<0.010	<0.010	<0.010	<0.015	<0.010	<0.050	<0.010
DP-9 (On-site)	4'	--	<0.10	<0.010	<0.010	<0.010	<0.015	<0.010	<0.050	<0.010
	18'	4.8*	5.8*	0.22	0.013 ^J	0.42	0.111 ^J	< 0.0065	< 0.052	0.22
	20'	--	1.7*	0.16	< 0.0020	0.065	0.0437 ^J	< 0.0052	< 0.042	0.069
Laboratory Practical Quantitation Limit (PQL):		2.0	0.10	0.010			0.015	0.010	0.050	0.010
Soil Screening Levels CA Low-Threat Closure Policy (0-5 ft bgs) ⁽¹⁾ (Residential/Commercial-Industrial/Utility Worker)		--		1.9/8.2/14	--	21/89/314	--	--	--	9.7/45/219
Soil Screening Levels CA Low-Threat Closure Policy (5-10 ft bgs) ⁽¹⁾ (Residential/Commercial-Industrial/Utility Worker)		--		2.8/12/14	--	32/134/314	--	--	--	9.7/45/219
Residential / Industrial Environmental Screening Levels (ESLs) ⁽²⁾ :		100		0.044	2.9	3.3	2.3	0.023	0.075	1.2

Notes:

- 1 = Low-Threat UST Case Closure Policy, California State Water Resources Control Board, August 17, 2012 - from Table 1 - Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health
- 2 = Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater (Interim Final, November 2007, Revised December 2013), San Francisco Bay Regional Water Quality Control Board

Bold Font = Concentration exceeds Residential LTCP Screening Level

ND = Not detected at or above the laboratory's Practical Quantitation Limit

< # = Not detected at or above the laboratory's Practical Quantitation Limit, #

-- = Sample not analyzed for this compound(s), data not available, or no screening level for this chemical/compound

* = Laboratory reports sample does not match pattern of reference Gasoline standard. Reported TPH value includes contribution from heavy end hydrocarbons (possibly aged gasoline)

** = Laboratory reports sample does not match pattern of reference Gasoline standard. Hydrocarbons in the range of C5-C12 quantified as Gasoline

★ = Laboratory reports result does not match pattern of reference gasoline standard. Reported value is the result of discrete peak and contribution from non-fuel hydrocarbon to range of C5-C12 quantified as Gasoline

J = Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather than quantitative

★ = DP-1 17B ft is a duplicate sample

✱ = Laboratory reports result not typical of TPH as Diesel standard pattern (lighter than diesel). Hydrocarbons with TPH as Diesel range are quantified as Diesel

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data										Field Measurements	Oxidation Reduction Potential (mV)				
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds									Dissolved Oxygen (mg/L)			
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)				
MW-1 4-inch	10 - 25	167.02	7/15/2015	--		19.35	147.67	1,400***	--	3,700*	1,700	2.0J	16	1.8J	17	110	< 4.2	< 4.2	< 4.2	0.37	-126		
			1/9/2014	--		20.49	146.53	--	--	--	--	--	--	--	--	--	--	--	--	--	0.89	-110	
			9/20/2013	--		20.51	146.51	1,500***	--	2,900*	4,500	9.6	150	6.8J	< 1.4	98	< 0.57	< 0.95	< 0.80 - 1.3	0.77	-88		
			6/25/2013	--		19.58	147.44	--	--	--	--	--	--	--	--	--	--	--	--	--	0.74	-100	
			3/13/2013	--		16.84	150.18	--	--	--	--	--	--	--	--	--	--	--	--	--	1.28	-79	
			11/9/2012	--		18.58	148.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			9/28/2012	--		20.14	146.88	1,800***	--	1,600*	3,100	9	110	9.4J	< 1.5	210	< 0.59	< 0.99	< 0.84 - 1.4	0.85	-109		
			3/30/2012	--		11.10	155.92	1,400***	--	3,300*	1,200	3.6J	82	8.7J	< 1.5	< 14	< 0.59	< 0.99	< 0.84 - 1.4	2.39	-100		
			9/22/2011	--		19.22	147.80	690**	--	6,700*	1,900	< 8.4	140	< 14.4	23	--	--	--	--	--	0.72	-91	
			3/17/2011	--		11.65	155.37	1,100 ^e	--	4,700 ^d	940	17	5.7	55	(34)	--	--	--	--	--	0.69	Not operating	
			9/10/2010	--	(Z) ^{TPHd}	19.99	147.03	1,700 ^{e,f} (790) ^{e,f}	--	6,800 ^d	1,700	17	150	150	(28)	--	--	--	--	--	0.65	Not operating	
			3/14/2010	--	(Z) ^{TPHd}	11.08	155.94	2,100 ^{e,f} (2,000) ^{e,f}	--	7,700 ^d	1,400	22	10	210	(42)	--	--	--	--	--	1.64	Not operating	
		9/5/2009	--	(Z) ^{TPHd}	19.78	147.24	1500 ^{e,k} (1,200) ^{e,k}	--	5,800 ^d	1,400	21	60	150	(37)	--	--	--	--	--	1.22	Not operating		
		6/7/2009	Sheen ^{Field}	(Z) ^{TPHd}	17.17	149.85	1,400 ^{e,m} (690) ^e	--	5,100 ^d	1,000	9.2	35	71	(42)	--	--	--	--	--	0.95	Not operating		
		3/14/2009	Sheen ^{Field}	(Z) ^{TPHd}	12.57	154.45	2,000 ^{e,k} (860) ^e	--	6,700 ^d	1,100	23	100	180	(35)	--	--	--	--	--	1.19	Not operating		
		12/28/2008	Sheen ^{Field}	(Z) ^{TPHd}	16.57	150.45	(2,800 ^e)	< 250	5,700 ^d	660	17	110	320	(41)	--	--	--	--	--	1.06	Not operating		
		9/6/2008	--	(Z) ^{TPHd}	20.66	146.36	(420 ^e)	--	2,400 ^d	500	11	30	67	< 75	--	--	--	--	--	1.20	Not operating		
		6/14/2008	--	(Z)	18.98	148.04	(410 ^e)	(< 250)	(3,800 ^d)	(690)	(12)	(64)	(240)	(< 80)	--	--	--	--	--	1.95	Not operating		
		3/9/2008	Sheen ^{Field}	(Z)	12.98	154.04	(470 ^e)	(< 250)	(4,600 ^d)	(1,100)	(23)	(82)	(140)	(< 50)	--	--	--	--	--	1.17	Not operating		
		12/8/2007	Sheen ^{Field}		18.66	148.36	520 ^{e,f}	--	4,500 ^d	570	13	57	200	< 120	--	--	--	--	--	1.24	Not operating		
		9/6/2007	--		20.84	146.18	690 ^{e,f}	--	2,800 ^d	590	17	35	100	< 80	--	--	--	--	--	0.90	Not operating		
		6/15/2007	Sheen ^{Field}		18.07	148.95	1,500 ^{e,k,f}	--	5,600 ^d	1,200	29	84	190	56	--	--	--	--	--	0.74	Not operating		
		3/16/2007	--		13.62	153.40	1,800 ^{e,f}	--	7,500 ^d	1,400	30	100	270	< 150	--	--	--	--	--	0.58	Not operating		
		12/6/2006	Sheen ^{Lab}		19.92	147.10	760 ^{e,g}	--	4,500 ^{d,g}	440	13	42	190	< 60	--	--	--	--	--	0.55	Not operating		
		9/5/2006	Sheen ^{Lab}		19.96	147.06	1,500 ^{e,k,g}	--	5,500 ^{d,g}	1,000	45	81	310	< 120	--	--	--	--	--	0.38	Not operating		
		6/30/2006	Sheen ^{Field}		16.33	150.69	1,500 ^{m,k,l}	--	2,100 ^{d,l}	320	6.1	< 1.0	77	< 90	--	--	--	--	--	0.66	Not operating		
		3/22/2006	Sheen ^{Field}		10.52	156.50	1,100 ^{e,k}	--	8,300 ^d	1,700	100	190	660	< 150	--	--	--	--	--	0.84	Not operating		
12/14/2005	Sheen ^{Field}		17.63	149.39	4,000 ^{e,k}	--	6,200 ^d	570	32	72	420	< 110	--	--	--	--	--	1.08	Not operating				
9/21/2005	--		19.64	147.38	860 ^{e,k,f}	--	2,900 ^d	430	19	46	150	< 50	< 66	< 8.6	< 12	< 14 - 17	--	1.14	Not operating				
6/21/2005	--		14.60	152.42	930 ^{e,k}	--	6,500 ^d	820	26	57	110	< 250	--	--	--	--	--	--	Not operating				
3/7/2005	--		10.73	156.29	1,300 ^{e,k}	--	8,700 ^d	1,200	99	140	770	< 500	--	--	--	--	--	0.91	Not operating				
12/27/2004	--		17.04	83.81	1,400 ^e	--	10,000 ^d	2,400	170	170	1,500	< 120	--	--	--	--	--	0.41	Not operating				
9/27/2004	--		23.07	77.78	1,700 ^e	--	7,800 ^d	1,800	110	120	670	< 180	--	--	--	--	--	0.28	Not operating				
6/16/2004	--		19.20	81.65	2,300 ^{e,f}	--	8,100 ^d	1,500	69	22	1,000	< 100	--	--	--	--	--	--	Not operating				
3/18/2004	--		17.70	83.15	1,100 ^{e,f}	--	3,600 ^d	650	59	38	370	< 90	--	--	--	--	--	--	Operating				
12/2/2003	Sheen ^{Lab}		24.12	76.73	9,300 ^{e,g}	--	7,100 ^{d,g}	1,400	230	160	820	< 100	--	--	--	--	--	--	Operating				
9/3/2003	--		24.16	76.69	36,000 ^{e,f}	--	14,000 ^d	300	50	33	480	< 50	--	--	--	--	--	--	Operating				
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument			
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--		

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements	Oxidation Reduction Potential (mV)							
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds										Dissolved Oxygen (mg/L)						
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)								
Continued MW-1			5/30/2003	--		16.65	84.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			4/25/2003	--		20.90	79.95	320 ^f	--	4,200 ^d	580	81	59	470	< 50	--	--	--	--	--	--	--	--	--	--	Operating	
			1/13/2003	--		14.80	86.05	5,300 ^{ef}	--	20,000 ^d	2,300	480	300	2,100	< 500	--	--	--	--	--	--	--	--	--	--	Not operating	
			11/21/2002	--		21.55	79.30	200,000 ^{ef}	--	83,000 ^{ef}	7,100	1,700	3,000	13,000	< 1,000	--	--	--	--	--	--	--	--	--	--	Operating	
			9/26/2002	--		20.30	80.55	1,300 ^{ef,k}	--	7,000 ^d	1,300	190	200	760	< 100	--	--	--	--	--	--	--	--	--	--	Operating	
			6/10/2002	--		24.10	76.75	900 ^{ef,k}	--	4,200 ^d	830	170	110	460	< 100	--	--	--	--	--	--	--	--	--	--	Operating	
			3/11/2002	--		17.13	83.72	1,400 ^f	--	9,400 ^d	2,100	200	74	470	< 20	--	--	--	--	--	--	--	--	--	--	Operating	
			12/7/2001	--		26.55	74.30	1,900 ^{ef}	--	8,700 ^d	1,300	160	38	730	< 20	--	--	--	--	--	--	--	--	--	--	Operating	
			8/30/2001	--		21.70	79.15	1,400 ^d	--	8,800 ^p	2,100	45	91	240	< 130	--	--	--	--	--	--	--	--	--	--	Operating	
			6/6/2001	--		18.47	82.38	4,000	--	19,000	4,500	130	270	430	< 400	--	--	--	--	--	--	--	--	--	--	Not operating	
			3/7/2001	--		16.19	84.66	2,400	--	13,000	2,700	43	69	300	< 100	--	--	--	--	--	--	--	--	--	--	Not operating	
			12/5/2000	--		18.60	82.25	3,400 ^f	--	26,000 ^a	7,900	150	580	810	< 300	--	--	--	--	--	--	--	--	--	--	Not operating	
			9/7/2000	--		19.45	81.40	12,000 ^{ef}	--	40,000 ^{ef}	3,700	1,400	910	4,900	< 50	--	--	--	--	--	--	--	--	--	--	Not operating	
			3/23/2000	--		12.76	88.09	3,300 ^f	--	21,000 ^d	4,700	140	470	1,100	< 350	--	--	--	--	--	--	--	--	--	--	Operating	
			12/10/1999	--		17.02	83.83	2,900 ^{ef}	--	25,000 ^d	5,400	130	620	1,400	< 1,000	--	--	--	--	--	--	--	--	--	--	1.03	
			9/28/1999	--		19.68	81.17	3,600 ^{ef}	--	13,000 ^d	3,200	130	320	1,100	< 210	--	--	--	--	--	--	--	--	--	--	0.55	
			6/29/1999	--		20.77	80.08	3,500 ^f	--	28,000 ^d	7,300	420	810	1,700	< 1,300	--	--	--	--	--	--	--	--	--	--	0.10	
			3/29/1999	--		11.98	88.87	6,800 ^f	--	36,000 ^d	12,000	750	1,300	2,400	950	--	--	--	--	--	--	--	--	--	--	0.50	
			12/8/1998	--		15.62	85.23	3,700	--	22,000	3,000	1,200	730	3,100	< 900	--	--	--	--	--	--	--	--	--	--	--	
			9/30/1998	--		19.90	80.95	3,300	--	37,000	11,000	950	1,200	2,800	< 20	--	--	--	--	--	--	--	--	--	--	2.0	
			7/14/1998	--		17.34	83.51	8,900 ^{ef}	--	41,000 ^d	8,200	1,100	1,200	3,000	< 200	--	--	--	--	--	--	--	--	--	--	1.8	
			3/18/1998	Sheen		12.34	88.51	4,200 ^{ef}	--	30,000 ^d	7,800	820	840	2,000	< 1,100	--	--	--	--	--	--	--	--	--	--	1.3	
			12/22/1997	--		12.95	87.90	5,800 ^f	--	26,000 ^d	7,900	370	920	1,500	< 790	--	--	--	--	--	--	--	--	--	--	0.7	
			9/17/1997	--		20.12	80.73	3,500 ^f	--	32,000 ^d	9,100	550	1,000	2,000	< 1,000	--	--	--	--	--	--	--	--	--	--	2.1	
			6/25/1997	--		19.77	81.08	7,400 ^f	--	31,000	7,400	440	890	1,800	< 400	--	--	--	--	--	--	--	--	--	--	3.7	
			3/20/1997	--		16.65	84.20	10,000	--	33,000	6,100	560	970	2,200	< 400	--	--	--	--	--	--	--	--	--	--	8.5	
11/27/1996	Sheen		17.24	83.61	6,100	--	38,000	9,600	950	1,600	3,100	< 400	--	--	--	--	--	--	--	--	--	--	5.6				
8/22/1996	--		22.30	78.55	6,200	--	41,000	8,600	1,300	1,500	2,900	< 200	--	--	--	--	--	--	--	--	--	--	8.0				
5/21/1996	--		14.62	86.23	8,500	--	36,000	8,500	1,400	1,300	2,800	1,900	--	--	--	--	--	--	--	--	--	--	--				
2/21/1996	--		11.69	89.16	4,300	--	33,000	10,000	480	1,000	1,800	3,300	--	--	--	--	--	--	--	--	--	--	--				
11/29/1995	--		22.19	78.66	--	--	37,000	9,900	530	1,600	2,900	--	--	--	--	--	--	--	--	--	--	--	--				
8/22/1995	--		20.90	79.95	--	--	23,000	6,900	340	1,200	1,900	--	--	--	--	--	--	--	--	--	--	--	--				
5/23/1995	--		15.29	85.56	--	--	22,000	9,900	990	790	2,000	--	--	--	--	--	--	--	--	--	--	--	--				
2/27/1995	--		15.53	85.32	--	--	45,000	2,900	2,500	760	4,100	--	--	--	--	--	--	--	--	--	--	--	--				
11/11/1994	--		15.80	85.05	--	--	57,000	14,000	4,400	1,400	6,400	--	--	--	--	--	--	--	--	--	--	--	--				
8/18/1994	Sheen		21.04	79.81	--	--	925,000	16,500	6,200	1,000	9,400	--	--	--	--	--	--	--	--	--	--	--	--				
7/19/1994	--		20.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
5/25/1994	Sheen		16.79	84.06	--	--	--	25,000	< 50,000	120,000	22,000	17,000	2,800	16,000	--	--	--	--	--	--	--	--	--				
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument							
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--						

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements	Oxidation Reduction Potential (mV)				
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds										Dissolved Oxygen (mg/L)			
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)					
Continued MW-2			4/25/2003	--		19.05	80.95	310 ^f	--	3,800 ^d	460	78	72	410	310	--	--	--	--	--	--	--	Operating	
			1/13/2003	Sheen ^{Lab}		13.60	86.40	14,000 ^{e,f,g,k}	--	32,000 ^{d,g}	4,500	1,600	920	3,600	< 1000	--	--	--	--	--	--	--	0.39	Not operating
			11/21/2002	--		18.75	81.25	350,000 ^{e,g}	--	210,000 ^{d,g}	14,000	23,000	4,400	28,000	< 1,700	--	--	--	--	--	--	--	0.43	Operating
			9/26/2002	--		20.39	79.61	660 ^f	--	4,800 ^d	770	200	140	740	< 50	--	--	--	--	--	--	--	0.29	Operating
			6/10/2002	--		18.59	81.41	2,000 ^f	--	14,000 ^d	2,600	710	150	2,000	< 800	--	--	--	--	--	--	--	--	Operating
			3/11/2002	--		16.95	83.05	590 ^f	--	4,700 ^d	1,200	150	30	310	< 50	--	--	--	--	--	--	--	0.24	Operating
			12/7/2001	--		24.45	75.55	750 ^{e,f}	--	4,100 ^d	510	88	8.2	580	< 20	--	--	--	--	--	--	--	0.47	Operating
			8/30/2001	--		21.00	79.00	15,000 ^{dh}	--	43,000 ^{dh}	3,100	720	980	5,500	< 200	--	--	--	--	--	--	--	--	Operating
			6/6/2001	--		17.51	82.49	48,000	--	110,000	14,000	9,000	1,900	12,000	< 950	--	--	--	--	--	--	--	0.24	Not operating
			3/7/2001	--		15.68	84.32	3,900	--	34,000	1,200	770	620	4,300	< 200	--	--	--	--	--	--	--	0.44	Not operating
			12/5/2000	--		17.45	82.55	87,000 ^{e,f,g}	--	60,000 ^{d,g}	5,100	2,200	1,600	9,000	< 200	--	--	--	--	--	--	--	0.31	Not operating
			9/7/2000	--		18.25	81.75	32,000 ^{e,g}	--	62,000 ^{d,g}	5,300	2,300	1,500	8,400	< 100	--	--	--	--	--	--	--	0.39	
			3/23/2000	--		13.56	86.44	3,100 ^f	--	25,000 ^d	1,900	1,100	660	3,700	< 500	--	--	--	--	--	--	--	--	
			12/10/1999	--		16.53	83.47	2,500 ^{e,f}	--	17,000 ^d	1,300	780	420	2,700	< 40	--	--	--	--	--	--	--	0.17	
			9/28/1999	--		18.61	81.39	3,400 ^{e,f}	--	15,000 ^d	1,200	540	230	2,300	< 36	--	--	--	--	--	--	--	1.18	
			6/29/1999	--		19.54	80.46	3,300 ^e	--	28,000 ^d	3,500	1,100	690	3,100	< 1,000	--	--	--	--	--	--	--	0.41	
			3/29/1999	--		11.81	88.19	7,500 ^{e,f}	--	28,000 ^d	4,400	1,600	950	4,100	410	--	--	--	--	--	--	--	1.86	
			12/8/1998	--		14.80	85.20	3,100	--	32,000	9,200	680	1,100	2,300	< 2,000	--	--	--	--	--	--	--	--	
			9/30/1998	--		18.71	81.29	2,400	--	22,000	3,600	1,300	720	3,200	< 30	--	--	--	--	--	--	--	1.8	
			7/14/1998	--		16.07	83.93	5,300 ^{e,f}	--	42,000 ^d	6,000	3,000	1,000	4,800	< 200	--	--	--	--	--	--	--	1.5	
			3/18/1998	Sheen		10.83	89.17	7,000 ^{e,f}	--	58,000 ^d	9,300	6,100	1,800	8,200	< 1,100	--	--	--	--	--	--	--	1.1	
			12/22/1997	--		14.09	85.91	6,100 ^e	--	47,000 ^d	8,500	4,600	1,800	8,400	< 1,200	--	--	--	--	--	--	--	1.2	
			9/17/1997	Sheen		19.05	80.95	8,900 ^e	--	41,000 ^d	5,200	3,400	1,300	5,900	< 700	--	--	--	--	--	--	--	1.2	
			6/25/1997	--		18.62	81.38	7,800 ^b	--	42,000	7,400	3,800	1,200	5,700	< 200	--	--	--	--	--	--	--	0.9	
			3/20/1997	--		15.39	84.61	6,100	--	27,000	3,700	2,300	580	2,800	< 400	--	--	--	--	--	--	--	8.1	
			11/27/1996	Sheen		16.61	83.39	10,000	--	54,000	9,800	7,000	1,800	7,900	< 2,000	--	--	--	--	--	--	--	3.1	
			8/22/1996	--		19.12	80.88	5,700	--	37,000	5,100	3,500	960	4,500	< 200	--	--	--	--	--	--	--	3.0	
			5/21/1996	--		13.47	86.53	3,400	--	51,000	8,200	5,200	1,300	6,600	2,400	--	--	--	--	--	--	--	--	
2/21/1996	--		10.53	89.47	--	--	59,000	8,000	6,000	1,800	8,900	4,500	--	--	--	--	--	--	--	--				
11/29/95	--		21.05	78.95	--	--	46,000	7,100	5,300	1,300	6,000	--	--	--	--	--	--	--	--	--				
8/22/1995	--		19.80	80.20	--	--	38,000	6,400	5,000	1,100	5,600	--	--	--	--	--	--	--	--	--				
5/23/1995	--		14.17	85.83	--	--	33,000	8,200	5,600	900	6,600	--	--	--	--	--	--	--	--	--				
2/27/1995	Sheen		14.46	85.54	--	--	44,000	5,100	5,300	930	6,400	--	--	--	--	--	--	--	--	--				
11/11/94	--		15.52	84.48	--	--	54,000	5,900	6,700	1,300	7,500	--	--	--	--	--	--	--	--	--				
8/18/1994	--		20.37	79.63	--	--	88,000	10,750	10,500	1,850	9,600	--	--	--	--	--	--	--	--	--				
7/19/1994	--		19.81	80.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
5/25/1994	--		15.65	84.35	--	--	6,900	< 5,000	61,000	9,900	7,400	960	4,600	--	--	--	--	--	--	--				
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	0.5	Field Instrument			
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--			

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data										Field Measurements	Oxidation Reduction Potential (mV)				
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds									Dissolved Oxygen (mg/L)			
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB				1,2-DCE	DIPE,ETBE,TAME (ug/L)	
MW-3 2-inch	10 - 25	162.94																					
			7/15/2015	--		15.44	147.50	1,900***	--	14,000*	4,400	11J	230	87J	58	320	< 21	< 21	< 21		0.83	-100	
			1/9/2014	--		16.50	146.44	--	--	--	--	--	--	--	--	--	--	--	--	--		0.69	-85
			9/20/2013	--		16.61	146.33	3,000***	--	6,200*	11,000	37	990	118.1J	< 7.2	350	< 2.8	< 4.7	< 4.0 - 6.4		0.39	-79	
			6/25/2013	--		15.65	147.29	--	--	--	--	--	--	--	--	--	--	--	--	--		0.59	-92
			3/13/2013	--		12.89	150.05	--	--	--	--	--	--	--	--	--	--	--	--	--		2.11	-95
			11/9/2012	--		14.69	148.25	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
			9/28/2012	--		16.22	146.72	2,700***	--	6,100*	10,000	36	860	104J	87	650	< 3.0	< 5.0	< 4.2-6.8		0.75	-98	
			3/30/2012	--		7.51	155.43	2,200***	--	3,400*	3,800	14J	360	57.3	63J	< 68	< 3.0	< 5.0	< 4.2 - 6.8		7.23	-113	
			9/22/2011	--		15.34	147.60	1,500**	--	14,000*	8,400	< 17	790	130	89	< 130	< 17	< 24	< 28 - 35		1.04	-82	
			3/17/2011	--		7.90	155.04	2,400*	--	17,000 ^d	5,600	43	660	210	(83)	--	--	--	--	--		0.83	Not operating
			9/10/2010	--	(Z) ^{TPHd}	16.14	146.80	2,500 ^{cf} (2,200) ^{cf}	--	21,000 ^d	8,100	59	800	300	(100)	--	--	--	--	--		0.91	Not operating
			3/14/2010	Sheen ^{Lab}	(Z) ^{TPHd}	8.56	154.38	19,000 ^{ef,kg,k} (4,300) ^e	--	21,000 ^{dg}	4,300	76	530	710	(97)	--	--	--	--	--		1.07	Not operating
			9/5/2009	Sheen ^{Lab}	(Z) ^{TPHd}	16.67	146.27	31000 ^{ef,kg,m,g} (11,000) ^{ef,kg}	--	32,000 ^{dg}	6,200	120	590	1,000	(80)	--	--	--	--	--		0.98	Not operating
			6/7/2009	Sheen ^{Field & Lab}	(Z) ^{TPHd}	13.94	149.00	6,900 ^{ef,m} (3,700) ^e	--	23,000 ^d	4,400	81	710	670	(97)	--	--	--	--	--		1.02	Not operating
			3/14/2009	Sheen ^{Field & Lab}	(Z) ^{TPHd}	9.02	153.92	8,700 ^{ef,kg} (8,100) ^{ef,g}	--	41,000 ^{dg}	4,900	140	940	1,600	(97)	--	--	--	--	--		1.14	Not operating
			12/28/2008	Sheen ^{Field & Lab}	(Z) ^{TPHd}	12.72	150.22	(4,100) ^{ef,g}	< 250	24,000 ^{dg}	4,100	91	380	960	(91)	--	--	--	--	--		0.91	Not operating
			9/6/2008	Sheen ^{Field & Lab}	(Z) ^{TPHd}	16.65	146.29	(7,900) ^{ef,g}	--	42,000 ^{dg}	5,800	190	1,100	2,400	< 800	--	--	--	--	--		1.03	Not operating
			6/14/2008	Sheen ^{Field}	(Z)	15.92	147.02	(4,900) ^f	(600)	(36,000) ^d	(4,700)	(140)	(830)	(1,600)	(< 500)	--	--	--	--	--		1.05	Not operating
		3/9/2008	Sheen ^{Field}	(Z)	10.40	152.54	(3,400) ^f	(310)	(23,000) ^d	(4,200)	(120)	(650)	(1,600)	(< 250)	--	--	--	--	--		0.71	Not operating	
		12/8/2007	Sheen ^{Field & Lab}		14.49	148.45	4,000 ^{ef,g}	--	33,000 ^{dg}	4,300	120	370	2,200	< 250	--	--	--	--	--		0.77	Not operating	
		9/6/2007	Sheen ^{Field & Lab}		16.55	146.39	14,000 ^{ef,g}	--	41,000 ^{dg}	4,400	180	1,000	3,800	< 700	--	--	--	--	--		0.70	Not operating	
		6/15/2007	Sheen ^{Field & Lab}		14.57	148.37	25,000 ^{ef,kg}	--	56,000 ^{dg}	5,100	200	1,100	3,200	< 1000	--	--	--	--	--		0.48	Not operating	
		3/16/2007	Sheen ^{Field & Lab}		10.25	152.69	5,300 ^{ef,kg}	--	72,000 ^{dg}	6,500	420	1,200	3,900	< 1,000	--	--	--	--	--		0.61	Not operating	
		12/6/2006	Sheen ^{Field & Lab}		15.25	147.69	19,000 ^{ef,kg}	--	44,000 ^{dg}	4,500	110	930	3,600	< 500	--	--	--	--	--		0.70	Not operating	
		9/5/2006	Sheen ^{Field & Lab}		16.25	146.69	16,000 ^{ef,kg}	--	56,000 ^{dg}	5,400	300	1,200	6,200	< 500	--	--	--	--	--		0.55	Not operating	
		6/30/2006	Sheen ^{Field & Lab}		14.10	148.84	15,000 ^{ef,kg}	--	44,000 ^{dg}	4,000	160	550	4,000	< 450	--	--	--	--	--		0.81	Not operating	
		3/22/2006	Sheen ^{Field & Lab}		8.10	154.84	15,000 ^{ef,kg}	--	45,000 ^{dg}	4,300	390	1,100	5,300	< 1,000	--	--	--	--	--		0.88	Not operating	
		12/14/2005	Sheen ^{Field & Lab}		13.65	149.29	19,000 ^{ef,kg}	--	53,000 ^{dg}	4,700	350	1,100	7,400	< 1,000	--	--	--	--	--		0.95	Not operating	
		9/21/2005	Sheen ^{Field & Lab}		15.73	147.21	16,000 ^{ef,kg}	--	41,000 ^{dg}	3,700	480	930	5,700	< 500	--	--	--	--	--		0.90	Not operating	
		6/21/2005	Sheen ^{Field & Lab}		10.79	152.15	12,000 ^{ef,g}	--	44,000 ^{dg}	4,900	870	1,100	6,500	< 1,200	--	--	--	--	--		--	Not operating	
3/7/2005	Sheen ^{Field & Lab}		6.91	156.03	14,000 ^{ef,g}	--	50,000 ^{dg}	6,100	2,100	1,300	7,400	< 500	--	--	--	--	--		0.62	Not operating			
12/27/2004	Sheen ^{Lab}		14.58	148.36	24,000 ^{ef,kg,k}	--	32,000 ^{dg}	4,400	2,800	650	4,800	< 250	--	--	--	--	--		0.71	Not operating			
9/27/2004	--		23.65	139.29	1,700 ^{ef}	--	5,200 ^d	430	220	100	680	250	--	--	--	--	--		0.55	Operating			
6/16/2004	--		15.40	81.47	8,800 ^{ef}	--	23,000 ^d	2,100	1,300	360	2,800	< 1,000	--	--	--	--	--		--	Operating			
3/18/2004	--		16.49	80.38	2,300 ^{ef}	--	15,000 ^d	2,600	990	260	1,700	< 300	--	--	--	--	--		--	Operating			
12/2/2003	Sheen ^{Lab}		17.70	79.17	8,400 ^{ef,g}	--	30,000 ^{dg}	2,900	2,100	530	3,600	< 500	--	--	--	--	--		--	Operating			
9/3/2003	--		21.65	75.22	3,300 ^{ef}	--	8,100 ^d	220	170	66	560	< 50	--	--	--	--	--		--	Operating			
5/30/2003	--		13.30	83.57	--	--	--	--	--	--	--	--	--	--	--	--	--		--	Not operating			
4/25/2003	--		18.30	78.57	1,200 ^{ef}	--	12,000 ^d	1,800	850	150	1,200	< 500	--	--	--	--	--		--	Operating			
1/13/2003	Sheen ^{Lab}		11.43	85.44	6,300 ^{ef,kg,k}	--	21,000 ^{dg}	2,400	2,300	390	3,000	< 500	--	--	--	--	--		0.31	Not operating			
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument			
Water Quality Objectives (WQOs):¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--	--	

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
 3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements	Oxidation Reduction Potential (mV)			
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds										Dissolved Oxygen (mg/L)		
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)				
Continued MW-3			11/21/2002	0.05		17.85	79.02	120,000 ^g	--	37,000 ^g	4,000	660	1,200	5,100	< 1,700	--	--	--	--	0.28	Operating		
			9/26/2002	--		18.85	78.02	130,000 ^g	--	50,000 ^g	3,900	5,400	820	6,600	< 500	--	--	--	--	0.19	Operating		
			6/10/2002	--		22.94	73.93	990 ^{c,k}	--	9,000 ^d	1,800	1,300	96	1,000	< 300	--	--	--	--	--	--	Operating	
			3/11/2002	--		14.69	82.18	2,800 ^{e,k}	--	30,000 ^d	5,000	2,400	190	1,800	< 1,300	--	--	--	--	--	0.30	Operating	
			12/7/2001	--		24.65	72.22	3,900 ^f	--	25,000 ^d	2,500	1,700	64	2,200	< 200	--	--	--	--	--	0.19	Operating	
			8/30/2001	--		12.43	84.44	190,000 ^h	--	95,000 ^h	6,900	10,000	2,700	15,000	< 250	--	--	--	--	--	0.24	Operating	
			6/6/2001	--		14.88	81.99	12,000	--	43,000	3,000	1,000	770	5,200	< 400	--	--	--	--	--	1.71	Not operating	
			3/7/2001	--		14.27	82.60	13,000	--	60,000	7,000	4,600	900	7,100	< 350	--	--	--	--	--	0.49	Not operating	
			12/5/2000	--		14.80	82.07	17,000 ^g	--	110,000 ^g	17,000	11,000	1,900	12,000	< 750	--	--	--	--	--	0.37	Not operating	
			9/7/2000	--		15.61	81.26	19,000 ^g	--	100,000 ^g	17,000	12,000	1,600	11,000	< 500	--	--	--	--	--	--	--	--
			3/23/2000	--		8.98	87.89	11,000 ^{h,j}	--	77,000 ^g	10,000	9,400	1,600	11,000	< 430	--	--	--	--	--	--	--	--
			12/10/1999	--		13.31	83.56	5,300 ^f	--	53,000 ^d	8,000	6,400	1,100	8,100	< 200	--	--	--	--	--	0.48	--	--
			9/28/1999	--		15.99	80.88	7,800 ^e	--	60,000 ^d	9,400	9,200	1,000	9,900	200	--	--	--	--	--	0.53	--	--
			6/29/1999	--		16.98	79.89	6,900 ^e	--	71,000 ^d	12,000	7,300	1,400	8,400	< 1,700	--	--	--	--	--	0.19	--	--
			3/29/1999	--		7.95	88.92	4,600 ^e	--	39,000 ^d	8,900	4,400	940	4,500	810	--	--	--	--	--	0.56	--	--
			12/8/1998	--		11.20	85.67	4,200	--	51,000	8,000	6,800	1,400	7,500	< 1,100	--	--	--	--	--	--	--	--
			9/30/1998	--		16.14	80.73	9,800	--	91,000	17,000	13,000	2,100	12,000	< 1300	--	--	--	--	--	2.0	--	--
			7/14/1998	--		13.51	83.36	65,000 ^{e,g}	--	94,000 ^g	18,000	14,000	1,900	11,000	< 1,400	--	--	--	--	--	1.8	--	--
			3/18/1998	Sheen		8.41	88.46	20,000 ^f	--	120,000 ^d	21,000	19,000	2,600	15,000	< 1,600	--	--	--	--	--	1.6	--	--
			12/22/1997	Sheen		10.71	86.16	14,000 ^e	--	49,000 ^d	7,300	5,300	1,400	7,500	< 1,100	--	--	--	--	--	3.1	--	--
			9/17/1997	Sheen		16.34	80.53	15,000 ^e	--	78,000 ^d	11,000	9,900	1,800	10,000	< 1,200	--	--	--	--	--	0.7	--	--
			6/25/1997	--		15.98	80.89	7,700 ^h	--	49,000	9,700	7,100	1,300	7,000	220	--	--	--	--	--	5.8	--	--
			3/20/1997	--		12.86	84.01	11,000	--	56,000	9,900	6,900	1,300	8,000	3,500	--	--	--	--	--	9.0	--	--
			11/27/1996	Sheen		13.47	83.40	24,000	--	82,000	14,000	13,000	2,400	13,000	< 1,000	--	--	--	--	--	2.4	--	--
			8/22/1996	--		16.50	80.37	16,000	--	94,000	17,000	15,000	2,100	12,000	330	--	--	--	--	--	2.0	--	--
			5/21/1996	Sheen		10.86	86.01	13,000	--	69,000	17,000	9,400	1,700	9,400	2,600	--	--	--	--	--	--	--	--
			2/21/1996	--		7.92	88.95	--	--	60,000	10,000	7,800	1,500	8,800	3,400	--	--	--	--	--	--	--	--
			11/29/1995	--		16.34	80.53	--	--	220,000	25,000	25,000	3,500	19,000	--	--	--	--	--	--	--	--	--
8/22/1995	--		17.10	79.77	--	--	74,000	14,000	13,000	1,900	11,000	--	--	--	--	--	--	--	--	--			
5/23/1995	Sheen		11.60	85.27	--	--	310,000	18,000	17,000	4,500	2,800	--	--	--	--	--	--	--	--	--			
2/27/1995	Sheen		11.86	85.01	--	--	250,000	22,000	26,000	7,800	21,000	--	--	--	--	--	--	--	--	--			
11/11/94	--		17.80	79.07	--	--	89,000	1,600	1,900	1,900	14,000	--	--	--	--	--	--	--	--	--			
8/18/1994	--		17.75	79.12	--	--	116,000	28,300	26,000	2,400	15,000	--	--	--	--	--	--	--	--	--			
7/19/1994	--		17.04	79.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
5/25/1994	Sheen		13.93	82.94	--	--	14,000	< 50,000	56,000	14,000	14,000	1,300	11,000	--	--	--	--	--	--	--			
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument			
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--		

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements	Oxidation Reduction Potential (mV)			
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds								Dissolved Oxygen (mg/L)				
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE			DIPE,ETBE,TAME (ug/L)		
MW-4 2-inch	10 - 30	163.49	7/15/2015	--		16.23	147.26	1,800***	--	6,900*	2,300	4.7	47	5.4J	18	100	<4.2	<4.2	<4.2	0.83	-104		
			1/9/2014	--		17.39	146.10	--	--	--	--	--	--	--	--	--	--	--	--	--	1.12	-31	
			9/20/2013	--		17.39	146.10	2,200***	--	4,400*	6,200	24	420	62	<1.4	160	<0.57	<0.95	<0.57 - 13	0.32	-89		
			6/25/2013	--		16.48	147.01	--	--	--	--	--	--	--	--	--	--	--	--	--	0.73	-99	
			3/13/2013	--		13.85	149.64	--	--	--	--	--	--	--	--	--	--	--	--	--	1.98	-72	
			11/9/2012	--		15.37	148.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			9/28/2012	--		17.01	146.48	2,100***	--	3,000*	4,700	13	200	67	34	220	<0.59	<0.99	<0.84 - 1.4	0.66	-108		
			3/30/2012	--		8.05	155.44	1,900***	--	6,000*	3,300	5.0J	95	28J	40	<68	<3.0	<5.0	<4.2 - 6.8	6.41	-101		
			9/22/2011	--		16.05	147.44	2,000***	--	11,000*	4,100	<17	160	100	<33	<130	<17	<24	<28 - 35	0.69	-98		
			3/17/2011	--		8.55	154.94	1,900*	--	11,000 ^d	4,800	17	190	110	(59)	--	--	--	--	--	0.75	Not operating	
			9/10/2010	--	(Z) ^{TPHd}	16.89	146.60	2,200 ^{e,f} (2,000)	--	11,000 ^d	3,300	24	160	330	(46)	--	--	--	--	--	0.88	Not operating	
			3/14/2010	--	(Z) ^{TPHd}	8.25	155.24	2,400 ^{e,f} (1,800) ^e	--	6,800 ^d	1,500	21	53	120	(33)	--	--	--	--	--	1.13	Not operating	
			9/5/2009	Sheen ^{Lab}	(Z) ^{TPHd}	17.39	146.10	1,200 ^{e,f,m} (1,600) ^{e,f}	--	3,600 ^d	830	17	13	53	(30)	--	--	--	--	--	1.01	Not operating	
			6/7/2009	Sheen ^{Field & Lab}	(Z) ^{TPHd}	14.83	148.66	4,200 ^{e,f,m} (2,000) ^e	--	6,900 ^d	1,200	23	41	190	(25)	--	--	--	--	--	1.05	Not operating	
			3/14/2009	Sheen ^{Field}	(Z) ^{TPHd}	9.30	154.19	2,800 ^{e,f,k} (3,200) ^e	--	8,800 ^d	980	23	61	220	(22)	--	--	--	--	--	1.27	Not operating	
		12/28/2008	Sheen ^{Field & Lab}	(Z) ^{TPHd}	13.35	150.14	(1,800 ^{e,g})	< 250	7,500 ^{d,g}	630	21	40	210	(22)	--	--	--	--	--	1.20	Not operating		
		9/6/2008	Sheen ^{Field & Lab}	(Z) ^{TPHd}	17.27	146.22	(2,800 ^{e,g})	--	24,000 ^{d,g}	1,400	65	130	2,300	<250	--	--	--	--	--	1.28	Not operating		
		6/14/2008	Sheen ^{Field}	(Z)	16.68	146.81	(4,200 ^e)	< 250)	(15,000 ^d)	(1,100)	(50)	(86)	(1,300)	< 150)	--	--	--	--	--	1.2	Not operating		
		3/9/2008	Sheen ^{Field}	(Z)	10.77	152.72	(3,000 ^e)	< 250)	(8,100 ^d)	(830)	(7.7)	(55)	(310)	< 50)	--	--	--	--	--	0.79	Not operating		
		12/8/2007	Sheen ^{Field & Lab}		15.15	148.34	790 ^{e,f,g}	--	7,600 ^{d,g}	690	27	39	570	<80	--	--	--	--	--	0.72	Not operating		
		9/6/2007	Sheen ^{Field & Lab}		17.25	146.24	8,400 ^{e,f,k,g}	--	27,000 ^{d,g}	1,500	150	120	4,500	<250	--	--	--	--	--	0.55	Not operating		
		6/15/2007	Sheen ^{Field & Lab}		15.43	148.06	7,200 ^{e,g}	--	14,000 ^{d,g}	1,200	46	63	850	<110	--	--	--	--	--	0.61	Not operating		
		3/16/2007	Sheen ^{Field & Lab}		10.71	152.78	2,700 ^{e,f,k,g}	--	13,000 ^{d,g}	1,400	32	93	740	<100	--	--	--	--	--	0.65	Not operating		
		12/6/2006	Sheen ^{Field & Lab}		15.95	147.54	22,000 ^{e,f,g}	--	21,000 ^{d,g}	920	56	73	1,500	<100	--	--	--	--	--	0.71	Not operating		
		9/5/2006	Sheen ^{Field & Lab}		16.96	146.53	9,400 ^{e,f,k,g}	--	30,000 ^{d,g}	1,400	180	110	4,300	<500	--	--	--	--	--	0.75	Not operating		
		6/30/2006	Sheen ^{Field & Lab}		15.00	148.49	19,000 ^{e,f,g}	--	18,000 ^{d,g}	1,400	50	60	1,300	<100	--	--	--	--	--	0.85	Not operating		
		3/22/2006	Sheen ^{Field & Lab}		7.52	155.97	9,300 ^{e,f,k,g}	--	17,000 ^{d,g}	2,000	230	150	1,900	<50	--	--	--	--	--	0.80	Not operating		
		12/14/2005	Sheen ^{Field & Lab}		14.43	149.06	9,800 ^{e,f,k,g}	--	5,200 ^{d,g}	710	41	91	540	<50	--	--	--	--	--	0.91	Not operating		
		9/21/2005	Sheen ^{Field & Lab}		16.55	146.94	15,000 ^{e,f,k,g}	--	12,000 ^{d,g}	540	100	54	1,800	<50	--	--	--	--	--	0.89	Not operating		
		6/21/2005	Sheen ^{Field & Lab}		11.82	151.67	12,000 ^{e,g}	--	30,000 ^{d,g}	3,300	270	250	2,800	<500	--	--	--	--	--	--	Not operating		
		3/7/2005	Sheen ^{Field & Lab}		7.81	155.68	9,300 ^{e,f,g}	--	15,000 ^{d,g}	1,100	140	88	1,900	<100	--	--	--	--	--	0.65	Not operating		
		12/27/2004	Sheen ^{Lab}		14.79	148.70	5,300 ^{e,f,k,g}	--	10,000 ^{d,g}	1,000	99	34	1,600	<50	--	--	--	--	--	0.74	Not operating		
		9/27/2004	--		19.93	143.56	980 ^{e,f,k}	--	1,300 ^d	140	10	11	81	<50	--	--	--	--	--	0.68	Not operating		
		6/16/2004	--		16.02	147.47	3,400 ^{e,f}	--	9,100 ^d	940	96	120	800	<50	--	--	--	--	--	--	Not operating		
3/18/2004	--		14.92	82.42	1,500 ^e	--	5,300 ^d	1,300	55	37	440	<180	--	--	--	--	--	--	Operating				
12/2/2003	--		19.17	78.17	5,800 ^{e,f}	--	13,000 ^d	1,300	180	120	1,900	<250	--	--	--	--	--	--	Operating				
9/3/2003	--		21.65	75.69	27,000 ^{e,f}	--	29,000 ^d	2,200	380	280	2,300	--	--	--	--	--	--	--	Operating				
5/30/2003	--		13.56	83.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating				
4/25/2003	--		19.37	77.97	2,200 ^{e,f}	--	6,600 ^d	960	130	100	560	<170	--	--	--	--	--	--	Operating				
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument			
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--		

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
 3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements	Oxidation Reduction Potential (mV)		
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds										Dissolved Oxygen (mg/L)	
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)			
Continued MW-4			1/13/2003	Sheen ^{Lab}		11.75	85.59	15,000 ^{e,k}	--	35,000 ^{d,g}	5,100	1,500	510	4,500	< 800	--	--	--	--	0.28	Not operating	
			11/21/2002	--		17.55	79.79	2,400 ^{e,k}	--	5,700 ^d	1,400	290	63	640	550	--	--	--	--	--	--	Operating
			9/26/2002	--		17.93	79.41	800 ^e	--	21,000 ^d	3,300	1,300	450	2,900	< 500	--	--	--	--	0.24	Operating	
			6/10/2002	--		22.30	75.04	3,400 ^e	--	9,400 ^d	1,400	50	< 5.0	690	< 200	--	--	--	--	--	--	Operating
			3/11/2002	--		14.95	82.39	1,600 ^{e,f,k}	--	15,000 ^d	3,700	500	92	790	< 500	--	--	--	--	0.30	Operating	
			12/7/2001	--		23.45	73.89	11,000 ^{e,f,g}	--	32,000 ^{d,g}	4,500	740	310	2,300	< 200	--	--	--	--	0.21	Operating	
			8/30/2001	--		18.00	79.34	3,200 ^d	--	43,000 ^a	6,400	630	510	2,600	< 200	--	--	--	--	0.32	Operating	
			6/6/2001	--		15.49	81.85	5,400	--	75,000	22,000	1,800	1,900	6,400	< 1,200	--	--	--	--	2.22	Not operating	
			3/20/2001	--		14.03	83.31	--		46,000	13,000	1,000	900	2,800	< 350	--	--	--	--	0.39	Not operating	
			12/5/2000	--		15.55	81.79	--		69,000 ^{d,g}	16,000	1,300	1,300	3,400	< 200	--	--	--	--	0.35	Not operating	
			9/7/2000	--		16.40	80.94	--		5,900 ^e	10,000	1,100	1,100	3,400	< 450	--	--	--	--	1.04	--	
			3/23/2000	--		10.22	87.12	--		3,100 ^{e,f}	11,000	1,600	910	3,100	690	--	--	--	--	--	--	
			12/10/1999	--		13.99	83.35	--		3,100 ^{e,f}	12,000	1,800	1,000	4,400	< 100	--	--	--	--	0.62		
			9/28/1999	--		16.58	80.76	--		3,200 ^{e,f}	7,500	1,200	190	2,200	210	--	--	--	--	14.29 [#]		
			6/29/1999	--		--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	
			3/29/1999	--		9.10	88.24	--		2,400 ^{e,h}	15,000	3,000	1,300	5,000	1,300	--	--	--	--	1.32		
			12/8/1998	--		13.45	83.89	--		1,600	8,900	1,600	730	2,300	< 1,500	--	--	--	--	--		
			9/30/1998	--		16.84	80.50	--		2,100	12,000	2,700	1,000	3,400	510	--	--	--	--	1.1		
			7/14/1998	--		14.15	83.19	--		2,900 ^{e,f}	22,000	7,000	1,800	7,300	< 200	--	--	--	--	1.0		
			3/18/1998	--		9.54	87.80	--		5,500 ^{e,f}	14,000	4,700	1,400	5,700	< 1,200	--	--	--	--	0.8		
			12/22/1997	--		9.21	88.13	--		3,100 ^e	13,000	3,900	1,100	4,200	< 960	--	--	--	--	3.7		
			9/17/1997	--		17.10	80.24	--		4,400 ^e	17,000	4,900	1,500	5,700	< 1,500	--	--	--	--	1.5		
6/25/1997	--		16.15	81.19	--		5,800 ^b	16,000	6,100	1,500	5,900	780 ^e	--	--	--	--	1.4					
3/20/1997	--		13.75	83.59	--		3,100	11,000	4,500	1,100	5,200	3,400	--	--	--	--	8.4					
MW-5 2-inch	20 - 30	165.74																				
			7/15/2015	--		15.95	149.79	450 ^{***}	--	8,800 [*]	2,200	33	450	34.2J	850	6,700	<11	<11	<11	0.37	-57	
			1/9/2014	--		17.12	148.62	1,100 [*]	--	13,000 ^{**}	1,700	33	740	32 J	640	1,300	< 1.4	< 2.4	< 2.0 - 3.2	1.21	-42	
			9/20/2013	--		17.31	148.43	540 ^{***}	--	4,400 [★]	2,200	47	1,200	50.1J	790	890	< 1.4	< 2.4	< 2.0 - 3.2	0.50	-60	
			6/25/2013	--		16.21	149.53	760 [^]	--	5,200 [★]	2,700	41	860	50.2 J	980	7,800	< 1.5	< 2.5	< 8.3	3.82	-26	
			3/13/2013	--		13.89	151.85	1,000 ^{***}	--	18,000 [★]	2,200	54	1,200	116.1 J	410	< 34	< 1.5	< 2.5	< 8.3	2.09	11	
			11/9/2012	--		15.11	150.63	340 ^{***}	--	3,000 [*]	1,300	16	340	35.2	390	2,300	< 0.30	< 0.50	< 0.68	1.7	90	
MW-6 2-inch	20 - 30	164.3																				
			7/15/2015	--		12.53	151.77	310 ^{***}	--	3,300 [*]	89	2.1	2.1	2.85	<0.5	19	< 0.50	2.2	< 0.50	0.85	-60	
			1/9/2014	--		16.18	148.12	190 [*]	--	3,700 ⁺	67	< 0.25	3.8	1.1 J	< 0.72	< 6.5	< 0.28	< 0.47	< 0.40 - 0.64	1.24	-75	
			9/20/2013	--		16.46	147.84	470 ^{***}	--	1,700 [★]	130	0.66J	4.6	< 1.74	< 1.4	< 13	< 0.57	< 0.95	< 0.80 - 1.3	0.61	-68	
			6/25/2013	--		14.78	149.52	520 [^]	--	3,400 [★]	250	2.1 J	6	1.9 J	< 1.5	88	< 0.59	< 0.99	< 3.34	3.39	-63	
			3/13/2013	--		13.05	151.25	710 ^{***}	--	1,800 [★]	230	2.5 J	15	1.6 J	< 1.5	< 14	< 0.59	< 0.99	< 1.66	6.39	20	
			11/9/2012	--		14.61	149.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
			11/2/2012	--		14.23	150.07	120 ^f	--	540 [★]	44	0.74	7.5	2.3	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	6.63	62	
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument		
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--	

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements	Oxidation Reduction Potential (mV)			
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds										Dissolved Oxygen (mg/L)		
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)				
RW-5 4-inch	5 - 25.7	162.34	7/15/2015	--		14.63	147.71	150***	--	< 50	1.2	< 0.50	< 0.50	< 1.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	0.41	-44		
			1/9/2014	--		15.69	146.65	--	--	--	--	--	--	--	--	--	--	--	--	--	1.07	-52	
			9/20/2013	--		15.87	146.47	160***	--	390*	510	3.9	11	7.28J	< 0.72	< 6.5	< 0.28	< 0.47	< 0.40 - 0.64	0.68	-49		
			6/25/2013	--		14.81	147.53	--	--	--	--	--	--	--	--	--	--	--	--	--	0.76	-67	
			3/13/2013	--		11.93	150.41	--	--	--	--	--	--	--	--	--	--	--	--	--	1.24	22	
			11/9/2012	--		14.46	147.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			9/28/2012	--		15.49	146.85	120^	--	120^v	320	1.3	0.98	1.4	0.80	5.7	< 0.5	< 0.5	< 0.5	< 0.5	0.73	-78	
			3/30/2012	--		0.40	161.94	< 100	--	< 50	< 0.50	< 0.50	< 0.50	< 1.50	< 0.50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	7.31	-3	
			9/22/2011	--		14.44	147.90	120**	--	680*	480	< 2.1	< 1.7	16	< 4.1	< 17	< 2.1	< 3.0	< 3.5 - 4.4	0.66	-65		
			3/17/2011	--		7.20	155.14	< 50	--	84^d	21	< 0.5	3.9	1.2	(< 0.5)	--	--	--	--	--	0.79	Not operating	
			9/10/2010	--	(Z ^{TPHd})	15.40	146.94	270^e	--	(200)^e	470	5.1	19	21	(3.6)	--	--	--	--	--	0.54	Not operating	
			3/14/2010	--	(Z ^{TPHd})	4.40	157.94	480^e,f,k	--	(340)^e	210	5.2	12.0	13.0	(41)	--	--	--	--	--	1.03	Not operating	
			9/5/2009	--	(Z ^{TPHd})	16.00	146.34	1,700^e,k,m	--	(600)^e,m	350	8.5	4.6	13.0	(50)	--	--	--	--	--	1.05	Not operating	
			6/7/2009	Sheen ^{Field}	(Z ^{TPHd})	13.19	149.15	720^m,j	--	(210)^e	100	4.4	1.3	2.8	(110)	--	--	--	--	--	1.13	Not operating	
			3/14/2009	Sheen ^{Field}	(Z ^{TPHd})	6.82	155.52	2,000^e,k,m	--	(750)^e	260	9.8	9.5	18.0	(38)	--	--	--	--	--	1.15	Not operating	
			12/28/2008	Sheen ^{Field}	(Z ^{TPHd})	10.55	151.79	(250)^m	--	< 250	1,200^d,n	110	5.6	2.5	9.8	(81)	--	--	--	--	1.13	Not operating	
			9/6/2008	Sheen ^{Field}	(Z ^{TPHd})	16.01	146.33	(220)^e	--	--	1,100^d	120	2.6	2.2	13	120	--	--	--	--	1.42	Not operating	
			6/14/2008	Sheen ^{Field}	(Z)	15.21	147.13	(190)^e	--	(< 250)	(1,200)^d	(310)	(5.8)	(3.5)	(25)	(< 250)	--	--	--	--	1.73	Not operating	
			3/9/2008	Sheen ^{Field}	(Z)	8.77	153.57	(90)^e	--	(< 250)	(1,100)^d	(220)	(5.3)	(4.9)	(10)	(< 90)	--	--	--	--	0.92	Not operating	
			12/8/2007	Sheen ^{Field}		13.99	148.35	370^e,f	--	--	1,900^d	220	4.0	10	38	500	--	--	--	--	0.74	Not operating	
			9/6/2007	Sheen ^{Field}		15.85	146.49	1,000^e,f	--	--	2,500^d	600	12	24	92	180	--	--	--	--	0.68	Not operating	
			6/15/2007	Sheen ^{Field & Lab}		13.84	148.50	2,000^e,k,f,g	--	--	3,700^d,g	730	14	36	80	< 150	--	--	--	--	0.65	Not operating	
			3/16/2007	Sheen ^{Field & Lab}		8.81	153.53	2,500^e,f,k,g	--	--	2,400^d,g	180	3.3	7.3	10	< 17	--	--	--	--	0.62	Not operating	
			12/6/2006	Sheen ^{Field & Lab}		14.53	147.81	5,500^e,f,g	--	--	8,500^d,g	1,200	24	91	250	< 900	--	--	--	--	0.79	Not operating	
			9/5/2006	Sheen ^{Field & Lab}		15.55	146.79	3,200^e,f,k,g	--	--	5,300^d,g	1,000	31	61	230	370	--	--	--	--	0.81	Not operating	
6/30/2006	Sheen ^{Field}		13.32	149.02	3,100^e,f,k	--	--	3,100^d	590	15	27	88	410	--	--	--	--	0.89	Not operating				
3/22/2006	Sheen ^{Field}		2.55	159.79	2,700^e,f,k	--	--	7,400^d	59	76	20	120	< 50	--	--	--	--	1.10	Not operating				
12/14/2005	Sheen ^{Field & Lab}		12.95	149.39	6,200^e,f,k,g	--	--	8,900^d,g	1,500	92	180	750	2,300	--	--	--	--	1.03	Not operating				
9/21/2005	Sheen ^{Field & Lab}		15.07	147.27	2,500^e,f,k,g	--	--	2,000^d,g	390	16	24	170	1,300	--	--	--	--	0.99	Not operating				
6/21/2005	Sheen ^{Field}		10.02	152.32	490^f	--	--	11,000^d	1,200	67	68	690	< 500	--	--	--	--	--	Not operating				
3/7/2005	Sheen ^{Field}		4.42	157.92	6,100^e,f,k	--	--	7,000^d	720	63	97	670	< 400	--	--	--	--	0.93	Not operating				
12/27/2004	--		10.45	151.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/27/2004	--		25.55	136.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Operating			
6/16/2004	--		14.73	147.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/18/2003	--		14.48	--	--	--	--	12,000	2,000	380	190	1,500	830	--	--	--	--	--	--				
1/13/2003	--		10.20	--	--	--	--	3,000	2,100	750	300	1,800	950	--	--	--	--	--	0.17				
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument			
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--		

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements	Oxidation Reduction Potential (mV)	
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds										Dissolved Oxygen (mg/L)
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)		
RW-6 4-inch	5 - 25.5	162.36	7/15/2015	--		14.72	147.64	--	--	--	--	--	--	--	--	--	--	1.42	-43		
			1/9/2014	--		15.84	146.52	--	--	--	--	--	--	--	--	--	--	--	0.55	-85	
			9/20/2013	--		15.96	146.40	--	--	--	--	--	--	--	--	--	--	--	0.78	-79	
			6/25/2013	--		14.92	147.44	--	--	--	--	--	--	--	--	--	--	--	0.57	-87	
			3/13/2013	--		12.15	150.21	--	--	--	--	--	--	--	--	--	--	--	1.18	61	
			11/9/2012	--		14.31	148.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			9/28/2012	--		15.57	146.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			3/30/2012	--		6.50	155.86	--	--	--	--	--	--	--	--	--	--	--	--	3.54	70
			9/22/2011	--		14.52	147.84	--	--	--	--	--	--	--	--	--	--	--	--	0.83	-86
			3/17/2011	--		7.18	155.18	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/10/2010	--		15.47	146.89	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/2010	--		6.45	155.91	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/5/2009	--		16.04	146.32	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/7/2009	--		13.21	149.15	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/2009	--		7.16	155.20	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/28/2008	--		12.02	150.34	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/2008	--		16.08	146.28	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/14/2008	--		15.28	147.08	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/9/2008	--		8.93	153.43	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/8/2007	--		14.21	148.15	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/2007	--		15.92	146.44	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/15/2007	--		13.90	148.46	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/16/2007	--		8.89	153.47	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/6/2006	--		14.63	147.73	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/5/2006	--		15.63	146.73	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/30/2006	--		13.44	148.92	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/22/2006	--		5.85	156.51	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
12/14/2005	--		13.02	149.34	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/21/2005	--		15.13	147.23	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
6/21/2005	--		10.13	152.23	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/7/2005	--		6.05	156.31	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
12/27/2004	--		9.82	152.54	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/27/2004	--		18.46	143.90	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
6/16/2004	--		14.80	147.56	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/18/2004	--		11.47	--	--	--	--	--	--	8,500	1,300	260	71	990	1,300	--	--	--			
1/13/2003	--		10.35	--	--	--	--	2,900	--	15,000	2,200	1,200	130	2,200	440	--	--	0.24			
3/11/2002	--		--	--	--	--	--	3,100	--	14,000	970	520	170	2,200	< 130	--	--	--			
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument	
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells
FORMER EXXON SERVICE STATION
 3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements					
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds								Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)				
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE			DIPE,ETBE,TAME (ug/L)			
RW-7 4-inch	5 - 29.5	162.72																						
			7/15/2015	--		15.35	147.37	--	--	--	--	--	--	--	--	--	--	--	--	--	0.79	-173		
			1/9/2014	--		16.43	146.29	--	--	--	--	--	--	--	--	--	--	--	--	--	1.02	-112		
			9/20/2013	--		16.61	146.11	--	--	--	--	--	--	--	--	--	--	--	--	--	0.52	-83		
			6/25/2013	--		15.54	147.18	--	--	--	--	--	--	--	--	--	--	--	--	--	0.64	-95		
			3/13/2013	--		12.84	149.88	--	--	--	--	--	--	--	--	--	--	--	--	--	1.72	77		
			11/9/2012	--		14.77	147.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
			9/28/2012	--		18.23	144.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
			3/30/2012	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
			9/22/2011	--		15.15	147.57	--	--	--	--	--	--	--	--	--	--	--	--	--	1.16	-69		
			3/17/2011	--		7.75	154.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			9/10/2010	--		16.04	146.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			3/14/2010	--		8.70	154.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			9/5/2009	--		16.55	146.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			6/7/2009	--		13.91	148.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			3/14/2009	--		7.94	154.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			12/28/2008	--		12.62	150.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			9/6/2008	--		16.51	146.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			6/14/2008	--		15.80	146.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			3/9/2008	--		9.69	153.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			12/8/2007	--		14.46	148.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			9/6/2007	--		16.42	146.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			6/15/2007	--		14.54	148.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			3/16/2007	--		9.69	153.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			12/6/2006	--		15.13	147.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			9/5/2006	--		16.12	146.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			6/30/2006	--		14.05	148.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			3/22/2006	--		5.75	156.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			12/14/2005	--		13.58	149.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
			9/21/2005	--		15.70	147.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating		
6/21/2005	--		10.85	151.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating					
3/7/2005	--		5.82	156.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating					
12/27/2004	--		9.85	152.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating					
9/27/2004	--		18.98	143.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating					
6/16/2004	--		15.22	147.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating					
3/18/2004	--		15.33	--	--		--		66	4.8	3.2	10	< 15	--	--	--	--	--						
1/13/2003	--		10.95	--			--		< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	--	--	--	--	0.22						
3/11/2002	--		--	--			--		< 50	--	< 50	< 0.5	< 5.0	--	--	--	--	--						
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument				
Water Quality Objectives (WQOs):¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--			

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
 3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data												Field Measurements	Oxidation Reduction Potential (mV)	
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds											Dissolved Oxygen (mg/L)
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (µg/L)			
RW-8 <i>4-inch</i>	5 - 29.5	164.13	7/15/2015	--		16.59	147.54	--	--	--	--	--	--	--	--	--	--	--	1.18	-33		
			1/9/2014	--		17.69	146.44	--	--	--	--	--	--	--	--	--	--	--	--	1.33	-68	
			9/20/2013	--		17.95	146.18	--	--	--	--	--	--	--	--	--	--	--	--	0.52	-41	
			6/25/2013	--		16.88	147.25	--	--	--	--	--	--	--	--	--	--	--	--	0.91	-59	
			3/13/2013	--		14.29	149.84	--	--	--	--	--	--	--	--	--	--	--	--	1.33	10	
			11/9/2012	--		15.81	148.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			9/28/2012	--		17.38	146.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			3/30/2012	--		8.49	155.64	--	--	--	--	--	--	--	--	--	--	--	--	--	0.74	-45
			9/22/2011	--		16.40	147.73	--	--	--	--	--	--	--	--	--	--	--	--	--	1.22	-58
			3/17/2011	--		8.92	155.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/10/2010	--		17.25	146.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/10/2010	--		17.25	146.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/2010	--		8.43	155.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/5/2009	--		17.80	146.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/7/2009	--		15.20	148.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/2009	--		9.25	154.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/28/2008	--		13.80	150.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/2008	--		17.70	146.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/14/2008	--		17.07	147.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/9/2008	--		11.05	153.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/8/2007	--		15.60	148.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/2007	--		17.63	146.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/15/2007	--		15.81	148.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/16/2007	--		11.04	153.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/6/2006	--		16.37	147.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/5/2006	--		17.38	146.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/30/2006	--		15.31	148.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/22/2006	--		7.88	156.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/14/2005	--		14.80	149.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/21/2005	--		16.90	147.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
6/21/2005	--		12.15	151.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/7/2005	--		8.10	156.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
12/27/2004	--		12.32	151.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/27/2004	--		19.74	144.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
6/16/2004	--		16.41	147.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/18/2004	--		15.34	--	--	--	760	310	9.9	11	16	< 25	--	--	--	--	--	--	--			
1/13/2003	--		12.80	--	--	--	390	150	11	4.1	4.1	13	--	--	--	--	--	0.31	--			
3/11/2002	--		--	--	--	--	80	--	--	1,300	620	11	15	14	< 60	--	--	--	--			
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument		
Water Quality Objectives (WQOs):¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--	

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements	Oxidation Reduction Potential (mV)			
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds										Dissolved Oxygen (mg/L)		
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)				
RW-9 4-inch	5 - 25	163.86	7/15/2015	--		16.29	147.57	450***	--	550*	120	3.2	< 0.50	2.2	9.3	230	< 0.50	< 0.50	< 0.50	0.62	-95		
			1/9/2014	--		17.38	146.48	--	--	--	--	--	--	--	--	--	--	--	--	--	0.87	-64	
			9/20/2013	--		17.39	146.47	370***	--	5,900★	4,600	40	8.4J	8.7J	< 7.2	< 65	< 2.8	< 4.7	< 4.0 - 6.4	0.49	-72		
			6/25/2013	--		16.49	147.37	--	--	--	--	--	--	--	--	--	--	--	--	--	0.80	-89	
			3/13/2013	--		13.90	149.96	--	--	--	--	--	--	--	--	--	--	--	--	--	2.12	37	
			11/9/2012	--		15.47	148.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			9/28/2012	--		17.05	146.81	230^	--	230^v	980	5.6	2.2	2.5	7.4	110	< 0.5	< 0.5	< 0.5	< 0.5	0.37	-133	
			3/30/2012	--		8.12	155.74	< 100	--	< 50	5.1	< 0.50	< 0.50	< 1.50	< 0.50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	6.13	20	
			9/22/2011	--		16.12	147.74	230**	--	1,900*	1,600	8.4	12	ND	8.3	< 17	< 2.1	< 3.0	< 3.5 - 4.4	1.03	-123		
			3/17/2011	--		8.60	155.26	< 50	--	300 ^d	83	1.6	< 0.5	< 0.5	(1.9)	--	--	--	--	--	0.88	Not operating	
			9/10/2010	--	(Z) ^{TPHd}	16.91	146.95	310 ^{cf} (210) ^{cf}	--	5,700 ^d	2,800	16	< 2.5	37	(20)	--	--	--	--	--	0.70	Not operating	
			3/14/2010	--	(Z) ^{TPHd}	8.15	155.71	770 ^c (700) ^c	--	11,000 ^d	3,900	80	120.0	450	(31)	--	--	--	--	--	1.10	Not operating	
			9/5/2009	--	(Z) ^{TPHd}	17.40	146.46	3,000 ^{fm} (1,100) ^{cf,fm}	--	8,300 ^d	3,100	32	5.5	69	(25)	--	--	--	--	--	1.02	Not operating	
			6/7/2009	Sheen ^{Field & Lab}	(Z) ^{TPHd}	14.90	148.96	4,800 ^{mf} (910) ^e	--	12,000 ^d	3,500	87	150	330	(30)	--	--	--	--	--	1.19	Not operating	
			3/14/2009	Sheen ^{Field}	(Z) ^{TPHd}	8.97	154.89	450 ^c (440) ^c	--	14,000 ^d	3,600	71	190	380	(31)	--	--	--	--	--	1.21	Not operating	
			12/28/2008	Sheen ^{Field}	(Z) ^{TPHd}	13.41	150.45	(950) ^c	< 250	7,300 ^d	3,500	24	150	200	(30)	--	--	--	--	--	1.28	Not operating	
			9/6/2008	Sheen ^{Lab}	(Z) ^{TPHd}	17.31	146.55	(1,600) ^{cf}	--	13,000 ^{dg}	3,600	52	170	220	< 350	--	--	--	--	--	1.22	Not operating	
			6/14/2008	--	(Z)	16.71	147.15	(610)	(< 250)	(8,100) ^d	(2,800)	(33)	(100)	(220)	(< 210)	--	--	--	--	--	1.29	Not operating	
			3/9/2008	--	(Z)	10.86	153.00	(570) ^c	(< 250)	(10,000) ^d	(4,200)	(71)	(180)	(380)	(< 35)	--	--	--	--	--	0.86	Not operating	
			12/8/2007	Sheen ^{Field}		15.22	148.64	1,000 ^{cf}	--	9,300 ^d	2,900	24	150	170	< 250	--	--	--	--	--	0.89	Not operating	
			9/6/2007	Sheen ^{Field & Lab}		17.29	146.57	2,200 ^{cf,fg}	--	13,000 ^{dg}	2,700	61	240	350	< 400	--	--	--	--	--	0.66	Not operating	
			6/15/2007	--		15.48	148.38	670 ^c	--	12,000 ^d	3,000	44	170	220	< 250	--	--	--	--	--	0.68	Not operating	
			3/16/2007	Sheen ^{Lab}		10.83	153.03	1,200 ^e	--	16,000 ^{dg}	3,700	76	230	340	< 350	--	--	--	--	--	0.71	Not operating	
			12/6/2006	Sheen ^{Lab}		16.04	147.82	660 ^{c,fg}	--	13,000 ^{dg}	3,000	29	180	260	< 250	--	--	--	--	--	0.74	Not operating	
			9/5/2006	--		17.02	146.84	1,100 ^e	--	14,000 ^d	3,900	39	200	230	< 330	--	--	--	--	--	0.69	Not operating	
			6/30/2006	--		15.04	148.82	1,400 ^e	--	14,000 ^d	3,100	53	130	260	< 300	--	--	--	--	--	0.73	Not operating	
			3/22/2006	--		7.63	156.23	680 ^c	--	7,600 ^d	2,900	59	190	310	< 200	--	--	--	--	--	0.95	Not operating	
12/14/2005	--		14.52	149.34	1,100 ^{cf}	--	6,300 ^d	1,900	29	150	260	< 50	--	--	--	--	--	0.98	Not operating				
9/21/2005	Sheen ^{Lab}		16.62	147.24	820 ^{c,fg}	--	8,300 ^{dg}	2,500	36	190	310	< 170	--	--	--	--	--	1.04	Not operating				
6/21/2005	--		11.90	151.96	630 ^c	--	9,400 ^d	2,400	69	210	470	< 350	--	--	--	--	--	--	Not operating				
3/7/2005	--		7.87	155.99	510 ^c	--	9,000 ^d	2,600	69	200	550	< 500	--	--	--	--	--	0.91	Not operating				
12/27/2004	--		24.88	138.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating				
9/27/2004	--		19.83	144.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating				
6/16/2004	--		16.03	147.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating				
3/18/2004	--		13.69	--	--	--	2,300	770	32	15	200	< 50	--	--	--	--	--	--	Not operating				
1/13/2003	--		11.85	--	--	--	2,000	7,700	610	310	< 500	--	--	--	--	--	--	0.39	Not operating				
3/11/2002	--		--	--	--	--	880	12,000	3,400	230	78	1,300	< 240	--	--	--	--	--	Not operating				
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	Field Instrument				
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--		

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
 3055 35th AVENUE, OAKLAND, CALIFORNIA
 All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements	Oxidation Reduction Potential (mV)		
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds										Dissolved Oxygen (mg/L)	
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (µg/L)			
RW-10 4-inch	5 - 25	163.02																				
			7/15/2015	--			15.22	147.80	--	--	--	--	--	--	--	--	--	--	--	1.29	-123	
			1/9/2014	--			16.33	146.69	--	--	--	--	--	--	--	--	--	--	--	1.01	-115	
			9/20/2013	--			16.53	146.49	--	--	--	--	--	--	--	--	--	--	--	0.71	-102	
			6/25/2013	--			15.41	147.61	--	--	--	--	--	--	--	--	--	--	--	0.75	-126	
			3/13/2013	--			12.81	150.21	--	--	--	--	--	--	--	--	--	--	--	0.91	-12	
			11/9/2012	--			14.52	148.50	--	--	--	--	--	--	--	--	--	--	--	--	--	
			9/28/2012	--			16.01	147.01	--	--	--	--	--	--	--	--	--	--	--	--	--	
			3/30/2012	--			7.02	156.00	--	--	--	--	--	--	--	--	--	--	--	0.79	-43	
			9/22/2011	--			15.11	147.91	--	--	1,900*	1,600	8.4	12	<3.6	<4.1	--	--	--	0.77	-104	
			3/17/2011	--			7.64	155.38	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/10/2010	--			15.87	147.15	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/2010	--			6.32	156.70	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/5/2009	--			16.36	146.66	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/7/2009	--			13.96	149.06	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/2009	--			8.02	155.00	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/28/2008	--			12.42	150.60	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/2008	--			16.23	146.79	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/14/2008	--			15.64	147.38	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/9/2008	--			9.96	153.06	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/8/2007	--			14.23	148.79	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/2007	--			16.23	146.79	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/15/2007	--			14.52	148.50	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/16/2007	--			9.91	153.11	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/6/2006	--			15.02	148.00	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/5/2006	--			15.98	147.04	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
6/30/2006	--			14.13	148.89	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/22/2006	--			6.53	156.49	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
12/14/2005	--			13.37	149.65	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/21/2005	--			15.51	147.51	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
6/21/2005	--			10.95	152.07	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/7/2005	--			6.40	156.62	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
12/27/2004	--			19.39	143.63	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/27/2004	--			18.35	144.67	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
6/16/2004	--			15.03	147.99	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/18/2004	--			13.13	--	--	--	5,800	2,400	11	< 10	110	< 300	--	--	--	--	--				
1/13/2003	--			10.75	--	--	--	330	--	4,300	1,500	43	98	98	< 100	--	--	0.41				
3/11/2002	--			--	--	--	--	740	--	12,000	3,900	150	110	1,100	< 270	--	--	--				
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	Field Instrument			
Water Quality Objectives (WQOs):¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--		

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
 3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements	Oxidation Reduction Potential (mV)	
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds										Dissolved Oxygen (mg/L)
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)		
RW-11 4-inch	5 - 25	162.67	7/15/2015	--		14.68	147.99	--	--	--	--	--	--	--	--	--	--	1.39	-126		
			1/9/2014	--		15.85	146.82	--	--	--	--	--	--	--	--	--	--	--	0.85	-72	
			9/20/2013	--		15.89	146.78	--	--	--	--	--	--	--	--	--	--	--	0.90	-77	
			6/25/2013	--		14.98	147.69	--	--	--	--	--	--	--	--	--	--	--	0.68	-85	
			3/13/2013	--		12.31	150.36	--	--	--	--	--	--	--	--	--	--	--	2.13	-31	
			11/9/2012	--		13.91	148.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			9/28/2012	--		15.61	147.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			3/30/2012	--		6.51	156.16	--	--	--	--	--	--	--	--	--	--	--	--	1.32	-106
			9/22/2011	--		14.50	148.17	--	--	--	--	--	--	--	--	--	--	--	--	0.94	-96
			3/17/2011	--		7.10	155.57	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/10/2010	--		15.42	147.25	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/2010	--		6.50	156.17	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/5/2009	--		16.02	146.65	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/7/2009	--		13.21	149.46	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/2009	--		7.14	155.53	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/28/2008	--		12.01	150.66	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/2008	--		15.99	146.68	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/14/2008	--		15.26	147.41	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/9/2008	--		8.81	153.86	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/8/2007	--		13.83	148.84	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/2007	--		15.84	146.83	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/15/2007	--		13.90	148.77	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/16/2007	--		8.85	153.82	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/6/2006	--		14.55	148.12	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/5/2006	--		15.56	147.11	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/30/2006	--		13.36	149.31	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/22/2006	--		5.70	156.97	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
12/14/2005	--		12.96	149.71	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/21/2005	--		15.09	147.58	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
6/21/2005	--		9.96	152.71	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/7/2005	--		5.95	156.72	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
12/27/2004	--		10.07	152.60	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/27/2004	--		18.44	144.23	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
6/16/2004	--		14.75	147.92	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/18/2004	--		12.45	--	--	--	--	--	--	9,300	980	120	180	770	2,000	--	--	--			
1/13/2003	--		9.80	--	--	--	--	2,700	--	5,300	490	110	120	180	--	--	0.24	--			
3/11/2002	--		--	--	--	--	--	< 50	--	260	34	5.3	8.1	48	< 5.0	--	--	--			
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5		
Water Quality Objectives (WQOs):¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)				
Well Identification # Casing Diameter	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds													
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)					
RW-12 4-inch	5 - 27	163.06																						
			7/15/2015	--			15.27	147.79	--	--	--	--	--	--	--	--	--	--	--	--		1.15	-87	
			1/9/2014	--			16.35	146.71	--	--	--	--	--	--	--	--	--	--	--	--		1.37	-81	
			9/20/2013	--			16.36	146.70	--	--	--	--	--	--	--	--	--	--	--	--		0.85	-90	
			6/25/2013	--			15.46	147.60	--	--	--	--	--	--	--	--	--	--	--	--		1.17	-48	
			3/13/2013	--			12.83	150.23	--	--	--	--	--	--	--	--	--	--	--	--		1.96	38	
			11/9/2012	--			14.98	148.08	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--
			9/28/2012	--			15.94	147.12	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--
			3/30/2012	--			7.06	156.00	--	--	--	--	--	--	--	--	--	--	--	--		1.09	--	-8
			9/22/2011	--			15.01	148.05	--	--	--	--	--	--	--	--	--	--	--	--		0.75	--	-77
			3/17/2011	--			7.68	155.38	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			9/10/2010	--			15.93	147.13	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			3/14/2010	--			6.29	156.77	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			9/5/2009	--			16.59	146.47	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			6/7/2009	--			13.70	149.36	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			3/14/2009	--			7.77	155.29	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			12/28/2008	--			12.80	150.26	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			9/6/2008	--			16.58	146.48	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			6/14/2008	--			15.74	147.32	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			3/9/2008	--			9.43	153.63	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			12/8/2007	--			14.87	148.19	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			9/6/2007	--			16.42	146.64	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			6/15/2007	--			14.44	148.62	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			3/16/2007	--			9.52	153.54	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			3/16/2007	--			9.52	153.54	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			12/6/2006	--			15.11	147.95	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			9/5/2006	--			16.11	146.95	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			6/30/2006	--			13.95	149.11	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			3/22/2006	--			6.35	156.71	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			12/14/2005	--			13.43	149.63	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			9/21/2005	--			15.63	147.43	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
			6/21/2005	--			10.58	152.48	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating
3/7/2005	--			6.59	156.47	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating			
12/27/2004	--			10.85	152.21	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating			
9/27/2004	--			19.09	143.97	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating			
6/16/2004	--			15.30	147.76	--	--	--	--	--	--	--	--	--	--	--	--		--	--	Not operating			
3/18/2004	--			13.63	--	--	--	--	17,000	2,700	960	230	1,500	1,400	--	--	--		--	--	Not operating			
1/13/2003	--			10.90	--	--	--	--	1,800	--	4,100	1,000	130	99	< 100	--	--		0.21	--	Not operating			
3/11/2002	--			--	--	--	--	--	900	--	13,000	4,500	130	130	270	< 5.0	--		--	--	Not operating			
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument				
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--			

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data											Field Measurements	Oxidation Reduction Potential (mV)			
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds										Dissolved Oxygen (mg/L)		
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)				
RW-13 4-inch	5 - 25	164.34 (Split)	7/15/2015	--		15.71	148.63	< 100	--	79*	1.2	< 0.5	< 0.5	< 1.5	< 0.5	38	< 0.50	< 0.50	< 0.50	0.35	-107		
			1/9/2014	--		17.01	147.33	110*	--	440**	43	< 0.50	2.5	< 1.5	5.2	200	< 0.5	< 0.5	< 1.5	0.74	-67		
			1/9/2014	--		17.01	147.33	< 100	--	150**	12	< 0.50	< 0.50	< 1.5	5.2	60	< 0.5	< 0.5	< 1.5	0.27	-61		
			9/20/2013	--		17.01	147.33	< 100	--	390*	84	1.1	2.1	1.1	< 0.5	10	< 0.5	< 0.5	< 1.5	0.18	-55		
			6/25/2013	--		16.01	148.33	< 100	--	210*	86	1.7	5.3	3.1	5.9	110	< 0.5	< 0.5	< 1.5	0.12	-86		
			3/26/2013	--		13.92	150.42	< 100	--	< 50	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 5	< 0.5	< 0.5	< 1.5	1.95	70		
			3/13/2013	--		13.22	151.12	--	--	--	--	--	--	--	--	--	--	--	--	--	1.13	97	
			11/9/2012	--		15.11	149.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			9/28/2012	--		16.39	147.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			3/30/2012	--		7.45	156.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.65	43
			9/22/2011	--		15.55	148.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.78	-78
			3/17/2011	--		8.19	156.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/10/2010	--		16.45	147.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/2010	--		7.49	156.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/5/2009	--		17.10	147.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/7/2009	--		14.31	150.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/2009	--		8.16	156.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/28/2008	--		13.26	151.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/2008	--		17.10	147.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/14/2008	--		16.32	148.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/9/2008	--		9.85	154.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/8/2007	--		14.97	149.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/2007	--		16.95	147.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/15/2007	--		14.98	149.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/16/2007	--		9.93	154.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/6/2006	--		15.70	148.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/5/2006	--		16.62	147.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/30/2006	--		14.44	149.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
3/22/2006	--		6.65	157.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
12/14/2005	--		14.11	150.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/21/2005	--		16.20	148.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
6/21/2005	--		11.05	153.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/7/2005	--		6.90	157.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
12/27/2004	--		18.12	146.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/27/2004	--		19.55	144.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
6/16/2004	--		15.83	148.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/18/2004	--		13.45	--	--	--	--	150	47	1.0	2.1	1.5	< 5.0	--	--	--	--	--	--	Not operating			
1/13/2003	--		11.20	--	--	--	--	210	54	2.0	2.7	2.7	< 5.0	--	--	--	--	--	0.35	--			
3/11/2002	--		--	--	--	--	--	830	190	13	13	34	< 5.0	--	--	--	--	--	--	--			
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument			
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--		

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
 3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data												Field Measurements	Oxidation Reduction Potential (mV)		
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds											Dissolved Oxygen (mg/L)	
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)				
RW-14 4-inch	5 - 25	163.76 (Split)	7/15/2015	--		15.39	148.37	140***	--	78*	1.2	<0.5	<0.5	<1.5	<0.5	31	<0.50	<0.50	<0.50	0.61	-122		
			1/9/2014	--		16.53	147.23	360*	--	1,200**	470	6.1	3.4	1.2	<0.50	98	<0.50	<0.50	DIPE = 0.71	0.63	-102		
			1/9/2014	--		16.53	147.23	1,200*	--	720**	130	<0.50	1.2	2.2	<0.50	85	<0.50	<0.50	DIPE = 0.83	0.24	-87		
			9/20/2013	--		16.64	147.12	150***	--	170*	83	1.6	2.4	1.1	5.5	34	<0.50	<0.50	<1.5	0.15	-88		
			6/25/2013	--		15.64	148.12	280^	--	560*	65	0.93	2	<1.5	<0.50	34	<0.50	<0.50	<1.5	0.24	-92		
			3/26/2013	--		13.49	150.27	<100	--	<50	1.5	<0.5	<0.5	<1.5	<0.5	<5	<0.50	<0.5	<1.5	1.34	23		
			3/13/2013	--		12.90	150.86	--	--	--	--	--	--	--	--	--	--	--	--	--	1.32	62	
			11/9/2012	--		14.72	149.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			9/28/2012	--		16.12	147.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			3/30/2012	--		7.11	156.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.43	10
			9/22/2011	--		15.22	148.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.80	-108
			3/17/2011	--		7.82	155.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/10/10	--		16.10	147.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/10	--		7.10	156.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/5/09	--		16.71	147.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/7/09	--		13.97	149.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/14/09	--		7.88	155.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/28/08	--		12.82	150.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/08	--		16.68	147.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/14/08	--		15.90	147.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/9/2008	--		9.60	154.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			12/8/2007	--		14.57	149.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			9/6/2007	--		16.54	147.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
6/15/2007	--		14.61	149.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/16/2007	--		9.66	154.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
12/6/2006	--		15.31	148.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/5/2006	--		16.21	147.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
6/30/2006	--		14.10	149.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/22/2006	--		6.43	157.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
12/14/2005	--		13.73	150.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
9/21/2005	--		15.82	147.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
6/21/2005	--		10.80	152.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
3/7/2005	--		6.61	157.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating			
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument			
Water Quality Objectives (WQOs): ¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--		

Table 5: Current and Historic Groundwater Elevation and Analytical Data - Monitoring Wells

FORMER EXXON SERVICE STATION
3055 35th AVENUE, OAKLAND, CALIFORNIA

All groundwater results are micrograms per liter (ug/L, parts per billion, ppb)

Monitoring Point Information			Date	SPH (feet)	Note	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, MSL)	Petroleum Hydrocarbon Concentration Data												Field Measurements	Oxidation Reduction Potential (mV)		
Well Identification # <i>Casing Diameter</i>	Screen Interval (feet)	TOC Elevation (feet)						Total Petroleum Hydrocarbons			Volatile Organic Compounds											Dissolved Oxygen (mg/L)	
								Diesel	Fuel Oil	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA	EDB	1,2-DCE	DIPE,ETBE,TAME (ug/L)				
Continued RW-14			12/27/2004	--		12.62	151.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating	
			9/27/2004	--		19.20	144.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			6/16/2004	--		15.41	148.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not operating
			3/18/2004	--		12.81	--	--	220	42	1.4	0.99	5.2	< 5.0	--	--	--	--	--	--	--	--	
			1/13/2003	--		11.00	--		3,700	230	77	91	91	< 50	--	--	--	--	--	--	--	0.38	
			3/11/2002	--		--	--		--	82	--	270	44	0.99	< 0.5	4.2	< 5.0	--	--	--	--	--	
Laboratory Detection Limit:								10	20	50	0.5	0.5	0.5	1.5	5	5	0.5	0.5	0.5	Field Instrument			
Water Quality Objectives (WQOs):¹								1,000			1	150	300	1,750	5	12	0.05	0.5	--	--	--		

Notes

Tabulated data prior to September 22, 2011 was provided by Conestoga-Rovers & Associates (CRA)

TOC = Top of Casing

Notes:

- c = There is a >40% difference between primary and confirmation analysis
- d = Unmodified or weakly modified gasoline is significant
- e = Gasoline range compounds are significant
- f = Diesel range compounds are significant; no recognizable pattern
- g = Lighter than water immiscible sheen/product is present
- h = One to a few isolated peaks present
- i = Medium boiling point pattern does not match diesel (stoddard solvent)
- j = Aged diesel is significant
- k = Oil range compounds are significant
- l = Liquid sample that contains greater than ~1 vol. % sediment
- m = Stoddard solvent/mineral spirit
- n = Strongly aged gasoline or diesel range compounds are significant in the TPHg chromatogram.
- o = MTBE by EPA Method SW8260B
- p = No recognizable pattern
- * = Well inaccessible during site visit
- ** = No water in well due to system operating in well, value reflects total well depth.
- # = abnormally high reading due to added hydrogen peroxide
- = Not sampled; not analyzed ; not applicable; or no SPH measured or observed

Notes for Previously Collected Data

All site wells were re-surveyed by Virgil Chavez Land Surveying on June 2, 2004 to the CA State

Coordinate System, Zone III (NAD83). Benchmark elevation = 177.397 feet (NGVD 29)

SPH = Separate-phase hydrocarbons depth measured from TOC

(Z) = Laboratory used Zemo Gravity Separation Protocol for Extractables & Purgeables

(Z^{TPHd}) = Laboratory used Zemo Gravity Separation Protocol for Extractables (TPHd)

() = Zero Gravity Separation Protocol Use Prior to Analysis

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method SW8015C

TPHd = Total petroleum hydrocarbons as diesel by modified EPA Method SW8015C; with Dawn Zemo Separation in (parentheses)

TPHmo = Total petroleum hydrocarbons as motor oil by modified EPA Method SW8015C

Benzene, Toluene, Ethylbenzene, and Xylenes by EPA Method SW8021B

MTBE = Methyl tertiary butyl ether by EPA Method SW8021B, or by SW8260B (designated by parentheses)

Sheen = A sheen was observed on the water's surface.

Field = Observed in field

Lab = Observed in analytical laboratory

Notes:

a = Result has an atypical pattern for diesel analysis

b = Result appears to be a lighter hydrocarbon than diesel

Weber, Hayes and Associates Notes:

Newly installed wells MW-5 and MW-6 were professionally surveyed and tied into the existing well network by Mid-Coast Engineers on November 2, 2012.

1 = Water Quality Objectives: Based on Maximum Contaminant Levels (Department of Health Services) or taste & odor threshold limits.

BOLD = Above WQO Threshold Limits.

2 = "Split" sample was collected by traditional purging and sampling technique (i.e., submersible pump purging at 1 gpm; sample upon sufficient well recovery) rather than low-flow sampling technique in order to compare/contrast analytical results as a function of sample technique.

TAME (Tert-amyl-methyl ether), TBA (tert-Butyl alcohol), EDB (1,2-Dibromoethane), 1,2-DCE (1,2-Dichloroethene), DIPE, (Diisopropyl ether), ETBE (Ethyl Tert-Butyl Ether).

Bold Font = Detected concentration exceeds Water Quality Objectives

* = Laboratory report indicates that although TPH-gas results are present, sample chromatogram does not resemble pattern of reference Gasoline standard (possibly aged gasoline)

** = Laboratory reports that result not typical of Diesel #2 standard pattern (possibly aged diesel or other fuel within the diesel quantification range such as diesel #4 or fuel oil).

*** = Laboratory report indicates that the sample chromatographic pattern does not resemble typical diesel standard pattern; unknown fuel pattern lighter than diesel possibly a type of naphtha or weathered gasoline.

^ = Sample chromatographic pattern does not resemble typical diesel standard pattern; unknown organics within diesel range quantified as diesel.

∇ = Not typical of Gasoline standard pattern. Result due to discrete peak (Benzene).

J = Laboratory indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative.

★ = Laboratory report indicates although TPH Gasoline compounds are present, the sample pattern does not match pattern of reference Gasoline standard. Hydrocarbons within range of C5-C12 quantified as Gasoline.

▲ = Laboratory reports result does not match pattern of reference Gasoline standard. Reported TPH value includes amount due to discrete peaks and non-target hydrocarbons within range of C5-C12 quantified as Gasoline.

= Diesel result due to discrete unknown peaks within quantified range

+ = Does not match pattern of reference Gasoline standard. Reported value is the result of extractable hydrocarbons overlap.

⊕ = Wells RW-5 and RW-7 exhibited anomalously high water levels on March 30, 2012; analytical results from well RW-5 are likely not representative.

APPENDIX A

SITE DESCRIPTION AND SUMMARY OF PREVIOUS INVESTIGATIONS AND CORRECTIVE ACTIONS

Appendix A: Site Description and Summary of Previous Investigations and Corrective Actions

Site Description and Surrounding Land Use

The Site is a vacant, undeveloped lot located at the northeast corner of 35th Avenue and School Street, in Oakland, California (see aerial photo, right). The Site is flat-lying, but the regional topography generally slopes southwestward from the Oakland hills towards the San Francisco Bay (see Location Map, Figure 1). The Site was occupied by an Exxon fuel dispensing and automotive service station between 1970 and 1991.

Historical aerial photographs dated 1959, 1980, and 2000, agree with reports stating the



Site's fuel dispensing station was constructed around 1970 and was decommissioned in 1991, when the Site's five (5) underground storage tanks (USTs) were removed and the gasoline fuel release was first discovered. The Site has remained an undeveloped, unpaved vacant lot since the Exxon station was demolished.

The general area surrounding the Site is a mixture of commercial businesses along the main thoroughfares and residential neighborhoods beyond the thoroughfares. An abandoned, former Texaco gas station (now Green Oaks Builders) is located immediately upgradient of the Site, across School Street to the east. Previous reports indicate the UST's from this station were removed in approximately 1984, but there is no record that closure soil samples were collected. Recent data indicates there are residual hydrocarbons at this site. An active Quick Stop fueling station is operating east of the Site, on the other side of 35th Street. Recent data indicates extensive petroleum hydrocarbon contamination in soil and groundwater throughout this site. A Vicinity Map is presented on Figure 2.

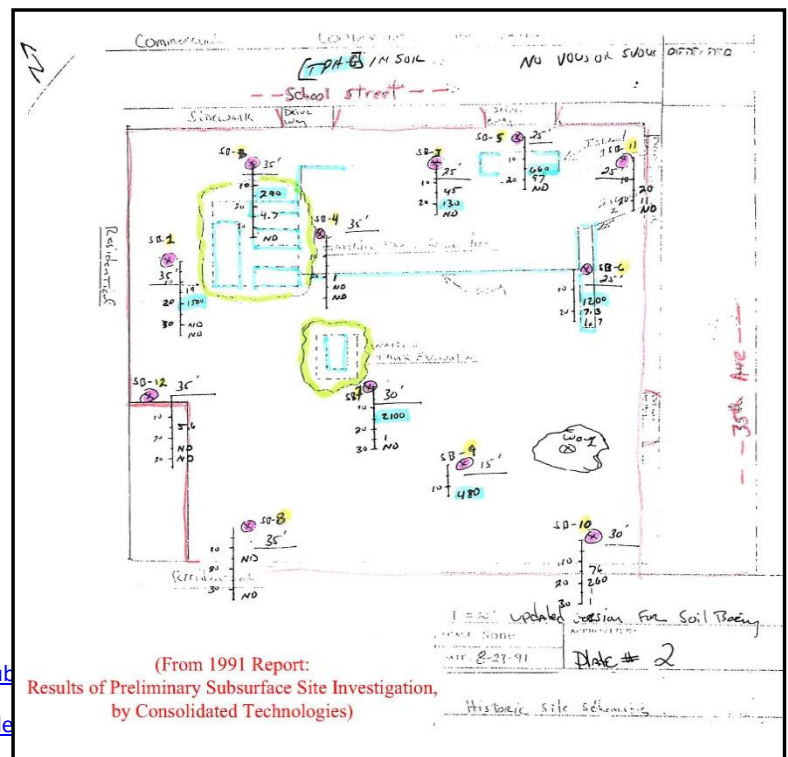
Site information is summarized in the Table below.

Site Information Details		
Site Address:	3055 35th Avenue, Oakland -- currently a vacant lot	APN No. 027-0890-006-02
Owner:	Golden Empire Properties, Inc	Mr. Lynn Worthington
Agency Contacts:	Alameda County Environmental Health (Case #RO 0000271 ¹) San Francisco Bay RWQCB (Case #: 01-0585 ²)	Keith Nowell keith.nowell@acgov.org Cherie McCaulou cmccaulou@waterboards.ca.gov

Summary of Previous Soil and Groundwater Investigations and Corrective Actions

1991, Fuel Tank Removals: In January 1991, Pacific Excavators is reported to have removed two (2) 4,000-gallon, and two (2) 6,500-gallon gasoline USTs, and one (1) 500-gallon waste oil UST from the Site. While there are some figures indicating soil stockpiles were present on-site, there is no record of UST pit over-excavation or off-site disposal. Figure 2 shows the location of the UST excavation. Subsequent environmental reports indicated that no UST closure samples were analyzed.

1991, Initial Soil Sampling Investigation: In November 1991, Consolidated Technologies installed twelve (12) soil borings (B-1 to B-12) via hollow stem auger and collected soil samples from depths of 15 to 35 feet below ground surface (bgs). Boring locations are shown in figure clip to the right. A gasoline release was confirmed based on field observations of moderate-to-strong petroleum odors in eleven of the twelve soil borings, generally encountered at depths of approximately 12-to-22 feet. Laboratory analyses confirmed the presence of Total Petroleum Hydrocarbons as gasoline (TPH-



¹: ACEH Site website: <http://ehgis.acgov.org/dehpublic/dehpub>

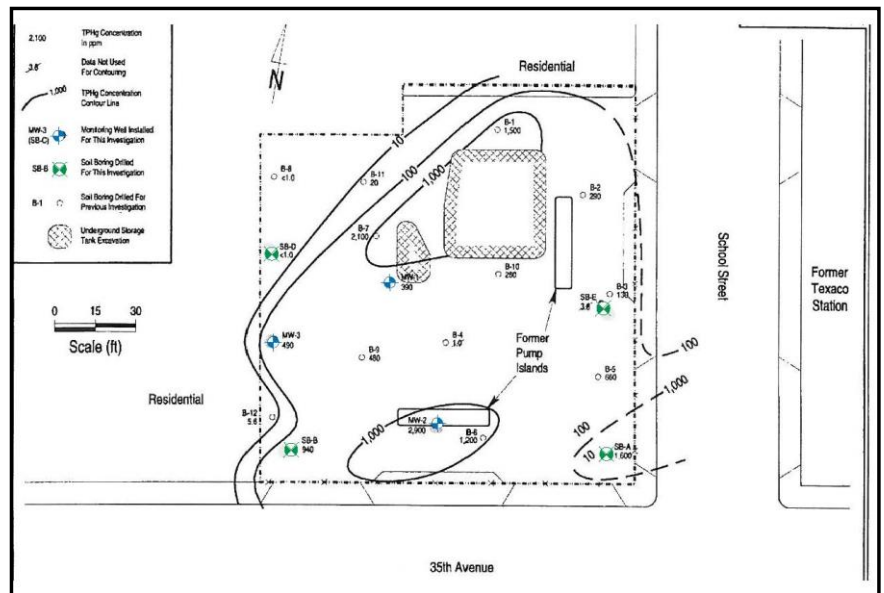
²: RWQCB Site website: <http://geotracker.swrcb.ca.gov/profile>

g) in samples collected from eleven of the twelve soil borings. The maximum concentration of TPH-g was detected at a depth of 15 feet bgs in boring B-7: 2,100 milligrams per kilogram (mg/kg, parts per million, ppm).

The highest concentrations of TPH-g and the volatile constituent compounds of gasoline -- benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected in soil samples collected at 15 and 20 feet bgs. We note that samples from the boring installed near the removed waste oil UST (B7), did not contain any of the additional contaminants of concern for a waste oil release: TPH-diesel, petroleum oil and grease, semi volatile organic compounds (analysis by EPA Method 8270), or other volatile solvent compounds beside BTEX (analysis by EPA Method 8010). This data indicated there was not a release from the waste oil UST. Also of note was that only limited petroleum hydrocarbon contamination was observed in the two downgradient borings, B-8 and 12.

1994, Follow-up Subsurface Investigation and Monitoring Well Installation: In May 1994, Cambria Environmental Technology, Inc. (Cambria) supervised the installation of seven (7) at hollow-stem auger

borings at the site, SB-A through SB-G, at the locations shown on the figure at right (see Figure 2 also). Two soil samples from each boring were analyzed for petroleum hydrocarbons. Three of the borings (SB-G, F, and C) were converted into monitoring wells (MW-1 through 3, respectively, each screened from 10 to 25 feet bgs). Groundwater samples were collected from the three newly installed wells. Grab groundwater samples were also collected from three other borings (SB-A, B and D). Boring logs indicated



hydrocarbons were not observed in the top ten feet of soil and moderate to very strong weathered gasoline odors were observed in all the borings at depths from approximately 10 to 20 feet bgs.

- **Soil Sample Analytical Results:** TPH-g was detected in soil samples collected from six of the seven soil borings. The maximum concentration detected was 2,900 ppm in SB-F/MW-2 at a depth of 15 feet bgs.
- **Groundwater Sample Analytical Results:** TPH-g and benzene were detected in all six groundwater samples. The maximum TPH-g/benzene concentrations detected in grab groundwater samples were 120,000/10,000 micrograms per liter ($\mu\text{g/L}$, parts per billion, ppb) in SB-B at 15 feet bgs. The maximum TPH-g/benzene concentrations detected in a developed monitoring well were similar, 120,000/22,000 ppb in MW-1.

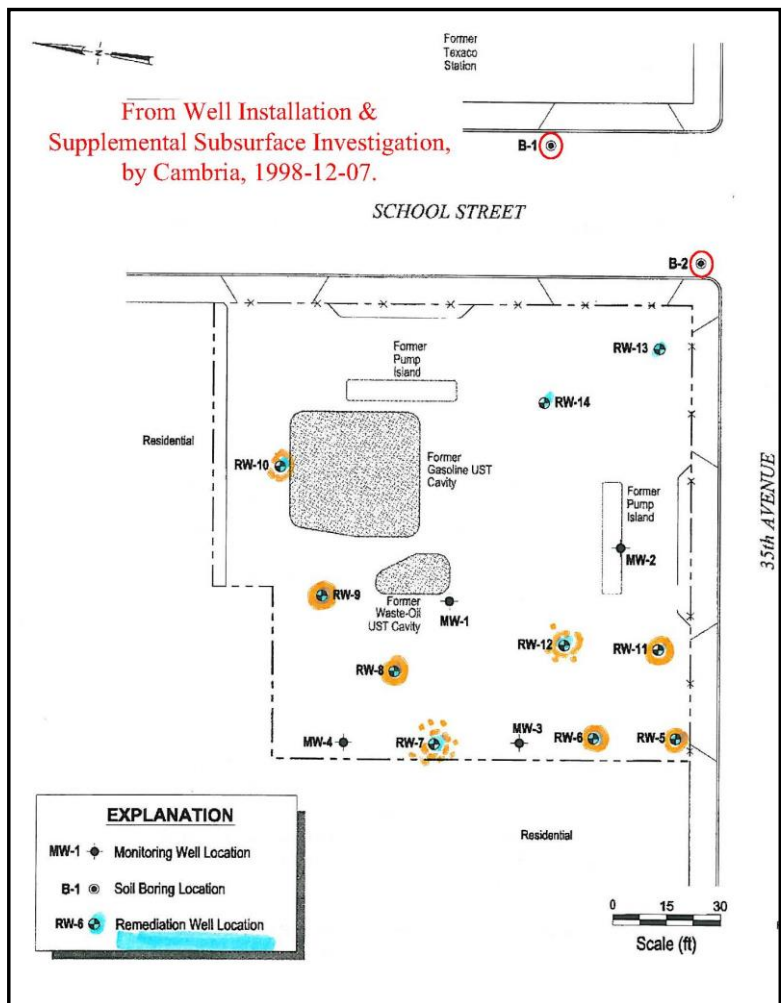
1996, Remediation Feasibility Testing: In July 1996, Cambria conducted a series of remediation feasibility tests for soil vapor extraction (SVE), SVE combined with air sparging, and SVE combined with groundwater extraction (Dual Phase Extraction, DPE). SVE vacuums of up to 150 inches-of-water were applied to the three monitoring wells for 20 to 45 minutes (approximately 5-feet of well screen was available for SVE above groundwater). The TPH-g concentrations in soil vapor samples collected from each well at the end of the SVE test ranged from less than 250 parts per million by volume (ppm_v) in test wells MW-1 and MW-2, to greater than 10,000 ppm_v in test well MW-3 at the western/downgradient end of the Site. Cambria did not note any significant increases in air flow or TPH-g concentrations in extracted soil vapor when SVE was combined with air sparging.

The generally low air and groundwater flow rates observed by Cambria during remediation tests are indicative of low permeability soils. Results of the remedial feasibility testing indicated that SVE, either alone or combined with air sparging, would not be effective in removing hydrocarbons from the subsurface. However, Cambria believed that DPE was a promising remedial alternative.

1997, Additional Downgradient, Monitoring Well:

In February 1997, Cambria installed one additional on-site monitoring well via hollow-stem auger (MW-4, screened from 10-30 feet bgs) at the downgradient (west) corner of the parcel. Soil samples for logging were obtained on 5-foot intervals but no field measurements (photoionization meter) or contaminant observations were included on the log. Two soil samples from the boring that were analyzed contained TPH-g; the maximum concentration, 530 ppm, was detected at a depth of 15 feet bgs. TPH-g and benzene were detected in a groundwater sample collected from the new well at concentrations of 47,000 and 11,000 ppb, respectively.

1998, Remediation Well Installation (see adjacent figure): In August 1998 Cambria installed ten (10), 4-inch diameter, DPE remediation wells (RW-5 through RW-14) at the Site. Soil samples for logging were obtained from the hollow-stem augers on 5-foot intervals (5 borings) or directly from augured drill cuttings (5 borings). Most borings had very similar subsurface logs (low

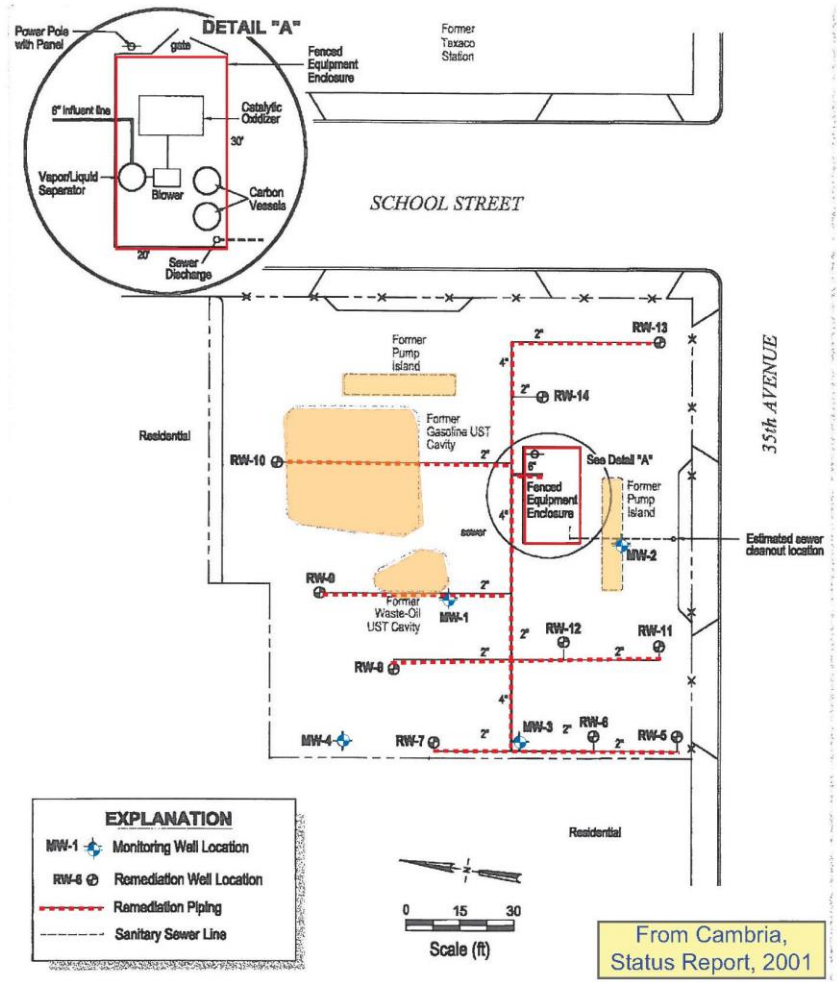


permeability clayey sands/gravels, and sandy clays having strong to moderate petroleum hydrocarbon odors). No soil samples were submitted to a laboratory for analyses.

In addition to the 10 installed remediation wells, an attempt was made to obtain upgradient, hydropunch-type, grab groundwater samples (two geoprobe borings, B-1 and B-2), on School Street. Sampling rods were advanced directly to depths of 28 and 38 feet (no soil cores were collected). Apparently, the low permeability soils encountered at those depths did not produce groundwater, so no water samples were collected.

1999, Interim Remedial Action - Injection of Hydrogen Peroxide: In August 1999, Cambria poured a limited volume (7-12 gallons) of 7.5% hydrogen peroxide solution into each of the four monitoring wells and ten remediation wells to oxygenate impacted groundwater to stimulate bio-degradation of hydrocarbons while DPE remediation system planning and construction was underway. Dissolved oxygen concentrations in groundwater did not significantly increase nor did contaminant concentrations decrease following the placement of hydrogen peroxide into the on-site wells. The results did not change ongoing plans for installing a DPE remediation system.

2000-2004, Site Remediation by Dual-Phase Vacuum Extraction: In October 2000, Cambria initiated remediation by DPE at the Site using a 200-cubic foot per minute (cfm) positive-displacement blower. The vacuum generated by the blower simultaneously extracted soil vapor and groundwater containing hydrocarbons from the remediation wells and pulled them to a centrally located treatment compound where the extracted air and water streams were separated. Vapor phase hydrocarbons were destroyed using a catalytic oxidizer, and dissolved phase hydrocarbons were removed from the extracted groundwater by two, 1,000-lb carbon canisters prior to discharging the treated water to the sanitary sewer. In August 2002, the positive-displacement blower was replaced by



a more powerful 20-horsepower liquid ring pump capable of generating higher vacuums. The upgraded system was designed to simultaneously extract soil vapor and groundwater from the four monitoring wells (MW-1 through MW-4) and the ten remediation wells (RW-5 through RW-14) using 1-inch diameter suction hose “stingers” lowered to depths typically ranging from 16-20 feet bgs in each well.

The DPE remediation system operated from October 2000 to September 2004. Approximately 6,545 pounds of vapor-phase hydrocarbons were removed during 13,965 hours of DPE at the Site. Approximately 11 pounds of dissolved-phase hydrocarbons were removed from 1,447,419 gallons of groundwater extracted from the Site (equal to an average groundwater extraction rate of 1.7 gallons per minute). In September 2004, the DPE system was dismantled due to asymptotically low hydrocarbon removal rates.

2006, Proposed Additional Remedial Actions (January), and Off-site Delineation Workplan (July):

Following the cessation of active remediation by DPE, Alameda County Environmental Health (ACEH) requested that a *Workplan* be prepared to implement an alternative remedial technique (December 2004). Post-remediation monitoring (2005) of six on-site wells (MW-1 through 4, and RW-5 and 9) showed sheen was present in each of the wells along with elevated concentrations of residual dissolved gasoline hydrocarbons, primarily TPH-g, benzene, and MTBE. The concentrations detected in 2005 in these 6 monitoring wells ranged from 9,400 to 53,000 ppb TPH-g, 1,200 to 6,100 ppb benzene, and non-detect to 2,300 ppb MTBE.

Cambria’s *Revised Remediation Workplan* proposed completing interim remedial pilot testing of seven (7) sparge/injection points to confirm the ability and cost-effectiveness of *In-Situ Chemical Oxidation* (ISCO) as an option for cleanup of residual, fuel-impacted groundwater in a low-permeability, shallow aquifer. Gaseous ozone was selected as the ISCO oxidizer because of: 1) ozone gas’ reported ability to transfer through fine-grained, saturated soils, and 2) ozone’s ability to destroy hydrocarbons on contact.

ACEH believed that previous DPE remediation at the Site (2000-2004) was not successful due to the low permeability restrictions that Site soils have on air and groundwater flow, and those same restrictions would likely limit the distribution of sparged/injected ozone from coming into contact with residual hydrocarbon contamination (ACEH, May 2006). ACEH instead requested that: 1) the original *Corrective Action Plan* (dated 1996) be updated with new understandings of the subsurface conditions to better evaluate proposed remedial options, and 2) an *Off-site Soil and Groundwater Investigation Workplan/Site Conceptual Model* be submitted to delineate extent of off-site soil contamination, the extent of groundwater plume migration, and a survey of wells within 2,000 feet and other sensitive receptors.

Cambria’s *Well and Sensitive Receptor Survey* (July 2006) concluded there were no potable supply wells, and that none of the active irrigation wells identified within a 2,000-foot radius of the Site were likely to be impacted based on their relative upgradient/sidegradient locations. A review of other potential sensitive receptors (schools, churches, and surface water bodies) concluded there were negligible direct

risks from impacted groundwater but there did exist a potential risk for plume off-gassing (vapor intrusion) if the residual hydrocarbon plume extended under residences (an identified “data gap”). Cambria’s proposed data gap sampling plan called for off-site soil and groundwater sampling of six (6) downgradient borings installed at distances ranging between approximately 300 and 600 feet off-site.

ACEH’s response opinion was that the distance between the proposed boring locations and the source was such that collected data would not be useful for Site characterization or delineation of the dissolved plume. In addition to requesting new proposed boring locations, ACEH requested completion of a soil gas investigation near the western property boundary.

2007 and 2008, On-Site Soil and Soil Gas, and Off-Site Soil, Soil Gas, and Groundwater Investigations:

In May and July 2007, and November and December 2008 Conestoga-Rovers and Associates (CRA, which had merged with Cambria) collected on-site soil gas and off-site soil, soil gas and groundwater samples to:

- Determine the extent of hydrocarbons in soil on- and off-site due to advective transport and seasonal groundwater fluctuation
- Identify whether subsurface soil gas concentrations indicated a potential vapor intrusion risk
- Investigate the extent of the dissolved petroleum hydrocarbon plume in groundwater

The Phase I investigation included:

- Collecting soil and groundwater samples from a transect of five (5) downgradient, continuously cored driven probe locations (B-13 through B-17, see figure below), and
- Collecting soil gas samples from six (6) on-site locations (SV-1 through 6)

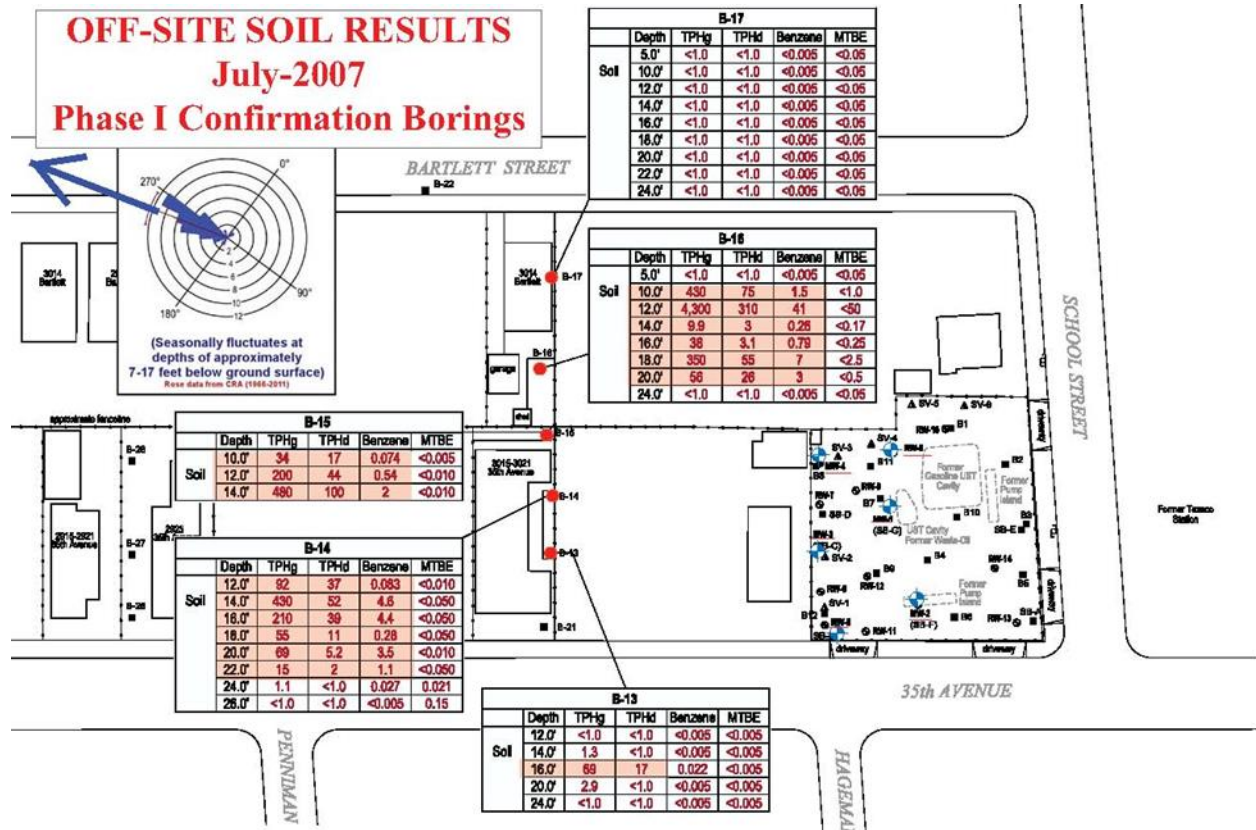
Phase I Soil Sampling Results

Off-site, smear zone gasoline contamination was observed during continuous core logging of the Phase I borings from approximately 12 to 20 feet bgs, which were placed at accessible locations in a transect approximately perpendicular to the dominant groundwater flow direction 150 feet downgradient (west) of the Site. Laboratory analyses of soil samples from the Phase I transect borings confirmed field observations as elevated concentrations of gasoline constituents were detected in the samples collected from the smear zone, while no significant amounts of hydrocarbons were detected in shallow soil samples from 0 to 10 feet bgs (see shaded results, below). These results indicated hydrocarbons had likely been transported by advective groundwater flow from the Site.

Laboratory analytical results from off-site groundwater grab samples from the initial Phase I transect borings showed elevated concentrations of gasoline, benzene, and MTBE were present approximately 150 feet downgradient of the site, indicating that the dissolved gasoline plume extended to this point off-site. Phase I, on-site soil gas samples along the property line indicated that concentrations of

hydrocarbons in shallow (5 feet bgs) soil gas were below commercial Low-Threat UST Case Closure Policy (LTCP) screening levels. Elevated concentrations of hydrocarbons were detected in deeper (10 feet bgs) soil gas samples. Phase I soil gas and groundwater sample results are discussed in more detail with Phase II results, below.

Phase I Off-Site Soil Borings, July 2007



2008, Phase II Additional Off-Site Characterization and Limited On-Site Investigations: In October and November 2008, a follow-up round of *Phase II Off-site Characterization Sampling* was completed by CRA to address previous detections of elevated gasoline constituent concentrations in soil, groundwater, and soil gas. The follow-up, Phase II investigation included:

- Drilling eight (8), continuously cored step-out soil borings (off-site), one installed as an infill boring at the south end of transect 1 (B-21) and the remaining seven (B-22 to B-28) positioned in a transect downgradient of the Phase I transect (the second transect was placed at accessible locations generally about 240 feet downgradient of the initial Phase I transect, about 400 feet from the Site)
- Drilling one upgradient (off-site, B-20) and two on-site continuously-cored soil borings (B-18 and 19) to a depth of 45 feet bgs to: 1) inspect for potential upgradient contribution from an

abandoned gas station site across School Street to the north (Texaco), and 2) inspect post-remediation, on-site soil conditions

- Collecting eight (8), grab groundwater samples from on-site boring B-18, and off-site borings B-21 through B-28

Phase II Soil Sampling Results

Off-site Soils: No additional off-site, smear zone gasoline contamination was observed during continuous core logging of the second, downgradient boring transect, which indicated smear zone impacts from lateral plume transport/fluctuating groundwater did not extend as far as the second transect. Laboratory analytical results of off-site soil samples confirmed field observations as hydrocarbons were not detected in any of the soil samples analyzed from the second transect borings.

On-site Soils: Smear zone gasoline contamination was observed in continuous soil cores collected from two, post-remediation borings drilled at the downgradient (B-18) and upgradient (B-19) sides of the property. Field observations and laboratory results confirmed elevated concentrations of residual gasoline contamination remained primarily at depths of approximately 12 to 20 feet bgs (see highlighted analytical results in the graphic below). Despite the removal of over 6,500 pounds of gasoline from the subsurface during four years of Dual Phase Extraction, residual hydrocarbon concentrations still exceeded regulatory thresholds. The lack of remedial success using Dual Phase Extraction as a cleanup technique is likely due to:

1. Dual phase extraction's inability to remove residual fuel contamination from low permeability soils at any significant distance from the too-widely spaced extraction wells, and
2. Contribution from a secondary, upgradient source or sources (the abandoned Texaco Station across School Street and/or the Quick Stop across and upgradient 35th Avenue). Data collected from exploratory boring B-20 (see figure below), which was drilled immediately adjacent to the former Texaco Station's fuel dispenser islands, confirmed field observations as laboratory analytical results of soil samples from this boring contained elevated concentrations of gasoline at very shallow depths (beginning at 5 feet bgs, see graphic below). These elevated, off-site gasoline concentrations, combined with the elevated gasoline concentrations detected in borings installed along the Site's upgradient property line indicate the abandoned Texaco station is an upgradient secondary source of contamination (see the analytical results from boring B-19, and previous borings SB-A & B-4).

In addition to the shallow contamination detected in upgradient boring (DP-20, see figure below) indicating a nearby, off-site source, it is notable that soil and groundwater data suggest this second source has no apparent evidence of the fuel additive MTBE. Specifically:

- MTBE was not detected in soil samples from the upgradient Texaco Station site.

- Results of groundwater collected from upgradient property line wells (RW-13 and 14) did not contain the fuel additive, while samples from mid-site and downgradient property line wells (MW-1 through MW-3 and RW-6 and RW-9) have contained MTBE. These distinctively different fuel fingerprints indicate a second source originates off site and the resulting plume is migrating onto the Site (discussed further below).

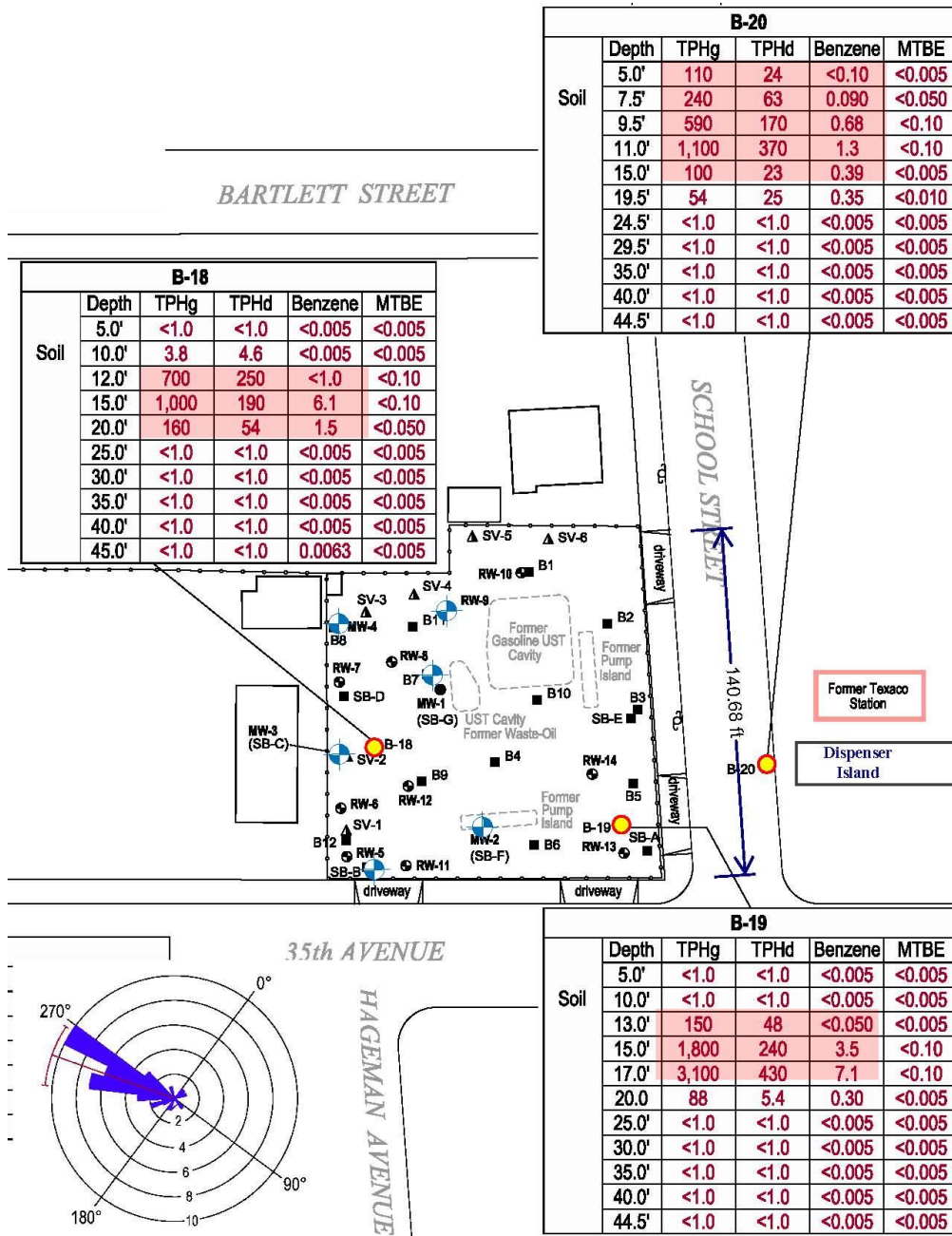


FIGURE 7

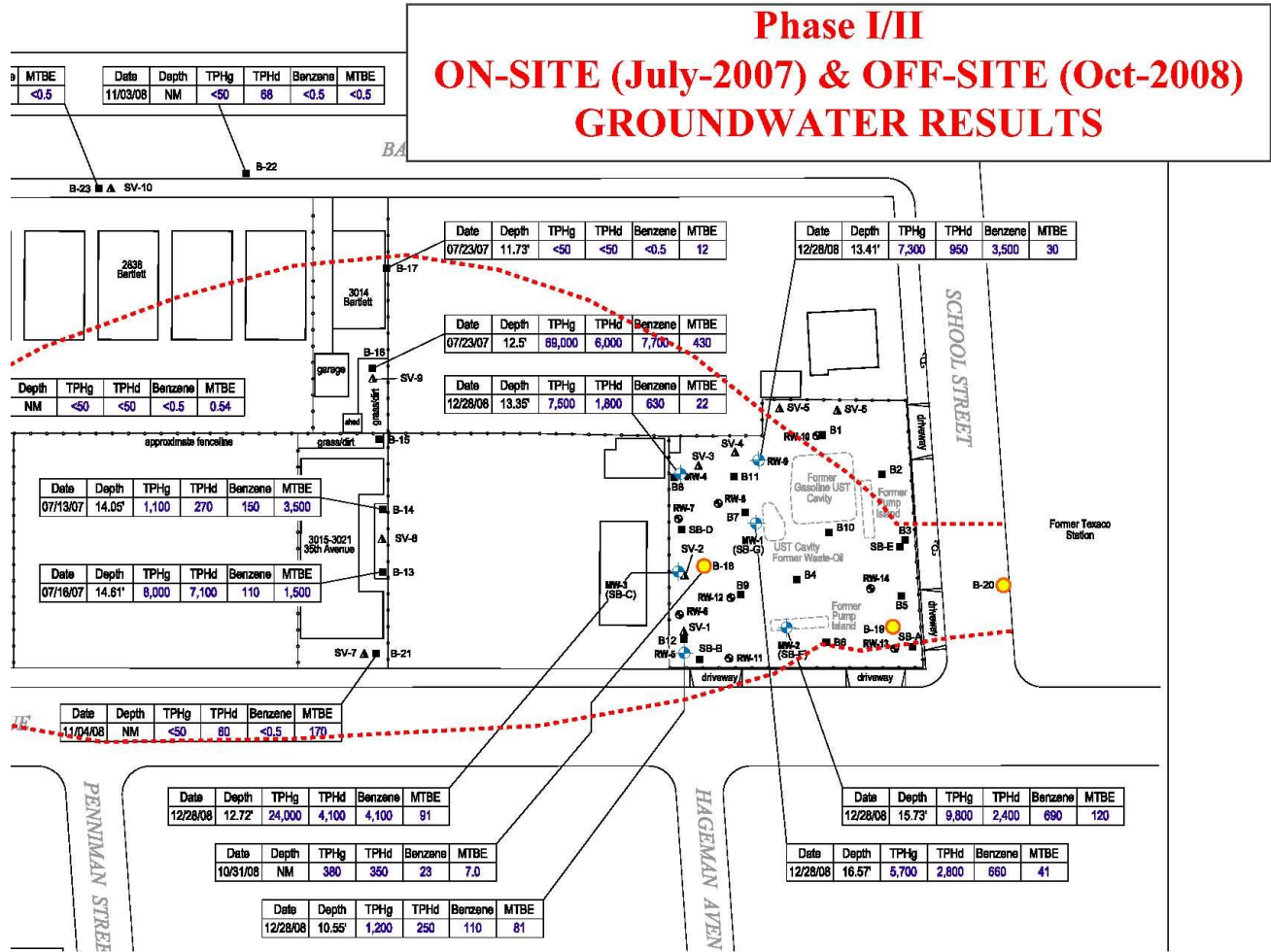
PHASE II HYDROCARBON CONCENTRATIONS in SOIL

Phase II, Post-Remediation On-Site Borings (B-18, B-19) and Upgradient Boring B-20 (2008)

Phase I & II Groundwater Sampling Results

Grab groundwater samples were collected from Phase I and Phase II off-site boring transects, and from on-site boring B-18. The analytical data is compared with monitoring well sample analytical results from the fourth quarter 2008 in the graphic below. A groundwater sample was not collected from the upgradient boring B-20.

Groundwater Analytical Results (Phase I & II borings and monitoring wells)



- TPH-g was detected in all on-site wells and borings (concentrations ranged from 380 to 24,000 ppb, with the maximum in MW-3), and five of the six first transect borings (concentrations ranged from “not detected” to 69,000 ppb, with the maximum in B-16, located directly downgradient of the Site). TPH-g was not detected in any of the downgradient, Phase II transect borings, indicating the TPH-g plume did not extend to this transect, approximately 400 feet west of the Site.

- Benzene was detected in all on-site wells and borings (concentrations ranged from 23 to 4,100 ppb, with the maximum in MW-3), and five of the six first transect borings (concentrations ranged from “not detected” to 7,700 ppb, with the maximum in B-16 [directly downgradient of the Site]). **Benzene was not detected in any of the downgradient, Phase II transect borings, indicating the benzene plume did not extend to this transect, approximately 400 feet west of the Site.**
- MTBE, was detected in all on-site wells and borings (concentrations ranged from 7 to 120 ppb, with the maximum in MW-2), and all first transect borings (concentrations ranged from 12 to 3,500 ppb, with the maximum in B-14). MTBE was detected in five of the seven downgradient, Phase II transect borings, but primarily at trace to non-detectable concentrations (from “not detected” to 150 ppb, with the maximum in B-27), indicating the MTBE plume did just extend to this transect, approximately 400 feet west of the Site, and may be following a specific higher permeability pathway. **Based on the attenuation with distance demonstrated in this investigation we estimate the maximum extent of the MTBE plume is approximately 650 feet downgradient of the Site (benzene plume approximately 400 feet from the site). We note that the nearest surface water body, Peralta Creek, is located approximately 1,150 feet downgradient of the Site.**
- The set of groundwater data suggests two mingling sources at the site, because the analytical results of groundwater collected from upgradient property line wells (RW-13 and 14) did not contain MTBE, while mid-site and downgradient property line wells (MW-1 through MW-3 and RW-6 and RW-9) did contain MTBE. These differing fuel fingerprints indicate one source originates on-site and a second plume is migrating onto the Site.

This set of groundwater analytical data indicated that a thin plume of MTBE extended from the Site to the second transect (400 feet downgradient of the site) in 2008. The low concentrations detected in the downgradient grab samples suggest the downgradient limit of the MTBE plume was near the Phase II transect borings in 2008. **The lack of TPH-g and benzene detections in the second transect indicated the dissolved hydrocarbon plume was stable 2008 and that TPH-g and constituent compounds were attenuating and limited to a distance between the two transects** (approximately 250 – 350 feet from the Site).

Phase I & II Soil Gas Sampling Results

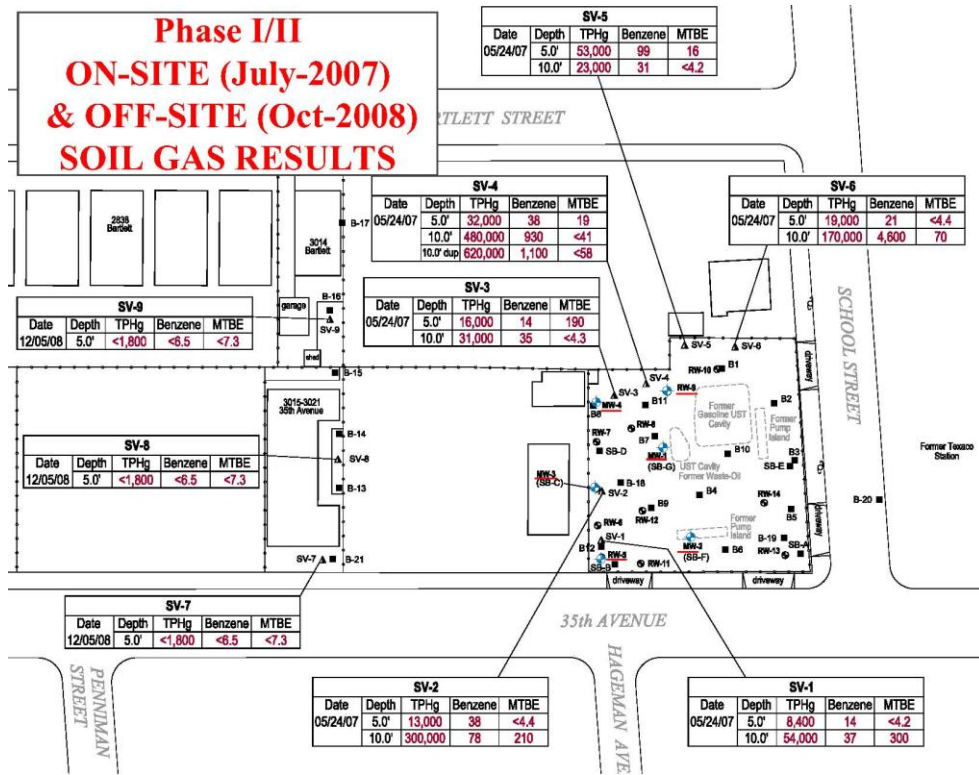
A round of off-site soil gas samples was collected in December 2008. Phase II soil gas sampling was completed at accessible locations along the two previously described soil and groundwater sampling transects, positioned approximately 150 feet (SV-7 through 9), and approximately 400 feet (SV-10 through 14), from the Site in the downgradient groundwater flow direction. Soil gas sample analytical results are discussed below:

- TPH-g was detected in all on-site, soil gas samples (concentrations at 5-foot bgs: 8,400-53,000 micrograms per cubic meter (ug/m^3), with the maximum at SV-5; and increasing at the 10-foot bgs sampling interval to 23,000-620,000 ug/m^3 , with the maximum at SV-4_{dup}). **TPH-g was not detected in any of the off-site soil gas samples (SV-7 through 14).** The residential Environmental Screening Level for TPH-g in shallow soil (5 feet bgs) is 370,000 ug/m^3 . There is no LTCP screening Level for TPH-g in shallow soil gas.
- Benzene was also detected in all on-site soil gas samples (concentrations at 5 feet: 14-99 ug/m^3 , with the maximum at SV-5; and again increasing at the 10 feet bgs sampling interval to 31-4,600 ug/m^3 , with the maximum at SV-6). **Benzene was not detected in any of the seven off-site soil gas sampling locations (SV-7 through SV-14).** The LTCP residential/commercial threshold limits for benzene in soil gas is 85/280 ug/m^3 , respectively³.
- MTBE was detected in all on-site, soil gas samples but in only three of the shallow sampling intervals (concentrations at 5 feet: “not detected” to 190 ug/m^3 , with the maximum at SV-3; the 10 feet bgs sampling interval concentrations ranged from not detected in three of the soil gas samples to 300 ug/m^3 , with the maximum at SV-1). **MTBE was not detected in any of the soil gas samples from the seven off-site soil gas sampling locations (SV-7 through SV-14).** The residential/commercial threshold limits for MTBE in soil gas is 4,000/13,400 ug/m^3 , respectively⁴.
- Toluene, Ethylbenzene, and Xylenes: Trace concentrations of these constituent gasoline compounds were detected in a few offsite soil gas samples (SV-7, 10 and 13) but at concentrations well below established threshold limits.

Comparison of hydrocarbon concentrations in off-site shallow (5-foot bgs) soil gas (graphic on page A-15) and groundwater samples (graphic on page A-12, see also Figure 9 of this report) indicate that the off-site hydrocarbon plume does not pose a risk for off-site soil vapor intrusion by volatile constituents of gasoline. Compare the non-detectable levels of hydrocarbons in soil gas in SV-7, 8, and 9 with the levels of hydrocarbons in groundwater in samples from borings B-13, 14, 15, 16, and 21.

³: State Water Resources Control Board, *Low-Threat UST Case Closure Policy*, August 17, 2012

⁴ Department of Toxic Substances Control, Office of Environmental Health Hazard Assessment, *California Human Health Screening Levels (CHHSLs)*, 2005



Soil Gas Sample Analytical Results

Includes Phase I borings (SV-1 through SV-6, July 2007) and Phase II (SV-7 through SV-14)

The set of soil gas sample analytical results from 2007 and 2008 indicates that elevated soil gas concentrations persisted at the Site, primarily in deeper (10 feet bgs) soils seven years after the Dual Phase Extraction system was decommissioned. Concentrations of hydrocarbons in shallow (5 feet bgs) soil gas samples on-site were below residential LTCP screening levels, except for benzene in SV-5, which slightly exceeded the residential LTCP screening level, but was below the commercial LTCP screening level. **The absence of hydrocarbons in in any of the off-site samples indicates there is no risk to off-site residences of vapor intrusion from VOCs off-gassing from smear zone soils or the dissolved plume.**

2011 to Present Updated Site Conceptual Site Model, Groundwater Monitoring and Data Gap Investigation: Weber, Hayes and Associates (WHA) became the consultant for the site in 2011. WHA conducted semi-annual groundwater monitoring as required by ACEH and prepared an *Updated Site Conceptual Model* (WHA, June 24, 2011).

WHA conducted a limited soil and groundwater *Data Gap Assessment* at the Site in May 2012 to: 1) confirm whether or not there were significant, contaminant contribution(s) originating from upgradient

active and/or abandoned fueling facilities, and 2) collect soil quality data at a few, previously untested, potential source locations (i.e., beneath the former UST locations and fueling dispensers) to assess both the effectiveness of previous on-site soil and groundwater cleanup efforts and determine the *current* magnitude of residual, on-site extent of hydrocarbons in soil. This *Assessment* was completed to fill data gaps identified in the *Site Conceptual Model* and lay the groundwork for selecting an appropriate remedial alternative for the Site.

The *Data Gap Assessment* indicated hydrocarbons were migrating with groundwater to the Site from the upgradient *active* QuikStop station across 35th Avenue and apparently to a lesser extent from the *abandoned* Texaco station across School Street. The observed increase of benzene in Site monitoring wells since 2009 can likely be attributed to these off-site sources.

Elevated levels of residual hydrocarbons in soil were concentrated primarily in the area at (below) the former gasoline USTs and excavation, from 10 to 21 feet bgs. Residual hydrocarbons in soil were also encountered at other locations, but at significantly lower concentrations – below the proposed cleanup goals for the Site.

Groundwater monitoring through July 2015 indicated that though concentrations of petroleum hydrocarbons in groundwater **at the Site** generally decreased over time, hydrocarbons are likely migrating onto the site from off-site, upgradient sources. Overall, groundwater monitoring data indicates the hydrocarbon plume **at the Site** is stable.

APPENDIX B
UPDATED CONCEPTUAL SITE MODEL - 2016

Appendix B: Updated Conceptual Site Model - 2016

This Appendix presents the Updated Conceptual Site Model (CSM) for the underground storage tank release at 3055 35th Avenue in Oakland, California (the site). The CSM is a progressive assemblage of information regarding the distribution of chemicals of concern and the hydrologic setting of a site where chemicals of concern have been released to the environment. The CSM describes the site, surrounding land use, the source and distribution of the chemicals of concern in all affected environmental media (including soil, soil gas and groundwater), describes regional and site geology and hydrogeology and physical site characteristics that affect contaminant transport and fate, identifies potential exposure pathways and sensitive receptors, describes fate and transport characteristics of the chemicals of concern, other factors relevant to the release, corrective actions and their effects, identifies data gaps, and identifies all confirmed and potential receptors (including water supply wells, surface water bodies, structures and their inhabitants).

The CSM serves as the framework for the investigation, remediation and ultimately the closure of the chemical release site. The CSM is dynamic and is continually updated as more information is gathered. Subsequent investigations provide data to accurately define the conditions at the site. Eventually new data will not change the CSM, and it is considered validated.

The underground storage tanks (USTs) and associated piping that were the apparent source of the gasoline fuel hydrocarbon release (the chemicals of concern) at the site have been removed and the extent of hydrocarbons in soil and groundwater have been adequately defined. **The CSM for the site is validated.**

Local Geology and Hydrogeology

The Site is located within a large, regional, northwest-trending alluvial basin (the East Bay Plain Subbasin), that extends beneath the San Francisco Bay to the west. The Subbasin's regional aquifer near the Site has a westerly groundwater flow direction, towards San Francisco Bay. The East Bay Municipal Utility District (EBMUD) has supplied potable water to Oakland and other communities in the East Bay since the 1930's because of historical over-pumping that reportedly damaged the water supply aquifers by seepage or saltwater intrusion. EBMUD obtains its water from protected Sierra runoff in the Mokelumne River watershed, which eliminated the need for local groundwater supply wells. **Local groundwater is not used for municipal or domestic supply.**

Shallow soil conditions near the Site have been logged during the installation of twenty-six (26) on-site borings and seventeen (17) off-site borings drilled to a maximum depth of 45 feet below ground surface (bgs). First- groundwater is found under confined conditions at a depth of approximately 25 feet bgs. Groundwater elevation at the Site fluctuates seasonally, roughly between the depths of 8 and 18 feet bgs.

Improperly screened monitoring and remediation wells on-site (10 to 30 feet bgs, and 5 to 30 feet bgs, respectively) may allow groundwater under pressure to move upwards and contact residual hydrocarbons in unsaturated zones skewing well data. The possible discrepancy is illustrated by 2008 data from MW-3 (benzene at 4,100 micrograms per liter [ug/L, parts per billion, ppb]) and B-18 (benzene at 23 ppb), which are only 15 feet apart (see Figure 9).

Exploratory borings have been logged by several field geologists since subsurface drilling investigations were initiated in 1991. Soil samples obtained from the earlier exploratory borings and well installation borings were collected using hollow stem drill rigs (5-foot sample intervals) while more recently sampling (2007-2012) was completed using driven probe rigs (continuous core sampling). Although drill logs show individual geologist variation with logging descriptions, designations, and opinions of permeability, the unifying theme is that the subsurface soils consist of an extremely heterogeneous mix of several soil types (see Figures 18 and 19):

- The dominant soil type encountered consisted of low-permeability soils that included clays, clayey-mixtures (clayey-silts and clayey-sands), and silty-mixtures (sandy-silts);
- The secondary soil type encountered consisted of moderately-permeable sandy units (high silt content, fine-grained sand units identified as silty-sands with clay binder), and
- Occasionally, some relatively thin, discontinuous, highly-permeable sand lenses were encountered (low silt content silty-sands).

The geologic cross-sections show: 1) the interbedded, heterogeneous nature of soils beneath the Site, and 2) the ubiquitous presence of fine-grained clays and/or silts in the soil mixtures (low-to-moderately permeable units), which generally retard the vertical and lateral movement of precipitation, contaminants/Chemicals of Concern and groundwater.

Note: Remediation feasibility testing for soil vapor extraction, air sparging, and groundwater extraction techniques indicated air and groundwater flow rates in the subsurface were relatively low (no vacuum influence was observed in nearby wells during soil vapor extraction testing and groundwater extraction wells dewatered with no groundwater drawdown observed in nearby monitoring wells), which confirmed the low permeability conditions beneath the Site (Cambria, 1996).

First-encountered groundwater levels in Site monitoring wells have been measured to fluctuate from 6 to 19 feet bgs, but seasonal fluctuations generally fall between 8 and 18 feet¹ bgs. The survey-based calculated groundwater flow direction beneath the Site is primarily towards the west, as shown by the

¹: Note: Water depths for MW-1 and MW-2 are not reflective of groundwater levels below ground surface due to their elevated casing height within monument type well vaults

cumulative-flow, rose diagram to the right. The average groundwater gradient at the site is approximately 0.009 foot/foot (approximately 1 foot of groundwater drop for 111 feet of lateral run).

Source of Contamination

The on-site gasoline hydrocarbon contamination originated from the former USTs and associated appurtenances that were removed in 1991. Elevated concentrations of gasoline (Total Petroleum Hydrocarbons as gasoline [TPH-g], the volatile constituents of gasoline, benzene, toluene, ethylbenzene, and xylenes [BTEX], and Methyl tert Butyl Ether [MTBE]) were found near the former UST excavation. This area continues to have the highest concentrations of hydrocarbons during on-going groundwater monitoring. In addition, data collected from recent off-site, upgradient exploratory borings and monitoring wells confirm additional gasoline contamination has migrated onto the Site from both the upgradient Texaco and QuikStop stations (Weber, Hayes and Associates, December 31, 2012). These off-site sources appear to be feeding the residual hydrocarbon plume in groundwater at the Site. It is also suspected that there may have historically been some limited migration of groundwater contaminants towards the Site from an active fuel release investigation located at 3201 35th Avenue (BP #11132; GeoTracker I.D. T0600100213) situated approximately one block (approximately 300 feet) to the northeast of the Site. It is currently unclear whether contaminants from this fuel release have impacted the Site.

Nature and Extent of Contamination

Soil

After the initial UST removal in 1991, gasoline-range petroleum hydrocarbons and the volatile constituent compounds of gasoline were identified as the Contaminants of Concern (COCs) for the Site. Specifically, TPH-g, BTEX, and MTBE were found at concentrations in excess of Tier I Environmental Screening Levels² for Residential/Commercial land uses (ESLs), both in on-site and off-site soils. Diesel-range Total Petroleum Hydrocarbons (TPH-diesel) were also encountered but generally identified as overlapping lighter fraction gasoline hydrocarbons detected within the diesel range. We do not believe a significant amount of diesel-range petroleum hydrocarbons were released to the environment at the Site.

Currently, the COCs and their cleanup levels in soil for gasoline-range petroleum hydrocarbons in soil are specified in the State Water Resources Control Board's *Low-Threat UST Case Closure Policy* (LTCP)³. The

²: *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, California Regional Water Quality Control Board - San Francisco Bay Region (interim Final, November 2007, Revised May 2008)

³ *Low-Threat UST Case Closure Policy*, California State Water Resources Control Board August, 2012

COCs for gasoline release sites are: benzene ethylbenzene, and naphthalene. Their respective screening/cleanup levels are summarized in the table below.

Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health

Chemical of Concern	Residential		Commercial/ Industrial		Utility Worker
	0 to 5 feet bgs (mg/kg) ¹	Volatilization to outdoor air (5 to 10 feet bgs) (mg/kg)	0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) (mg/kg)	0 to 10 feet bgs (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

Notes: ¹ mg/kg = milligrams per kilogram

On-Site Soil

Gasoline contamination was observed in on-site soils primarily in deeper soil (between 11 and 18 feet bgs) at the Site. Laboratory analysis of shallow on-site soils (i.e., shallower than or at 10 feet bgs) was limited - only 5 of the 50 soil samples collected by previous consultants on-site and analyzed at the laboratory were collected from shallow soils - most likely because there were no visual or other indications of contamination in shallow soils. **Only trace to non-detectable levels of hydrocarbons (below LTCP screening levels) were detected in the five shallow soil samples collected by previous consultants that were analyzed (MW-4-10, B-18-5, B-18-10, B-19-5, and B-19-10, see Table 1). Weber, Hayes and Associates collected shallow soil samples from three locations during the Data Gap Investigation in 2012. Hydrocarbons were not detected in these shallow soil samples, except for a trace of non-target hydrocarbons in one TPH-g sample (see Table 4).**

Laboratory analytical results from two post-remediation, continuously-cored exploratory borings, B-18 and 19, drilled in 2008 confirmed that elevated concentrations of residual gasoline contamination remained in deeper soil (12-18 feet bgs) at that time. **Samples collected during the 2012 Data Gap Assessment confirm that there are no hydrocarbons in shallow soil and that residual hydrocarbons in soil are only found in the smear zone from depths of approximately 12 to 21 feet bgs.**

Some residual hydrocarbons remained in deeper (12 to 21 feet bgs) on-site soils, primarily below the removed USTs. The persistence of on-site petroleum hydrocarbons in deeper soils on-site appears due in part to: 1) The DPE system installed at the site had remediation wells spaced too far apart to

effectively remove all hydrocarbons from the subsurface, and 2) the confirmed contribution from secondary, upgradient sources (the Texaco station across School Street, and the active QuikStop station across 35th Avenue).

Off-Site Soil

The extent of downgradient, off-site, smear zone gasoline contamination was determined by Conestoga Rovers and Associates (CRA) in 2007 and 2008 by installing, logging, and collecting samples from 13 off-site borings installed in two parallel transects installed approximately perpendicular to the groundwater flow direction at distances of 150 and 400 feet from the Site. Laboratory analyses of 91 discrete soil samples collected from these borings indicated hydrocarbons were present in deeper soil (12-22 feet bgs) in the first transect of borings, placed at accessible locations approximately 150 feet downgradient of the Site. Hydrocarbons were not detected in the soil samples collected from the borings in the second transect, placed at accessible locations approximately 400 feet downgradient of the Site, indicating that lateral transport of hydrocarbons did not extend to this distance. See Figures 5 and 6.

Groundwater

Laboratory analyses of groundwater samples collected from the two downgradient transects indicated a portion of the dissolved gasoline plume extended to the first transect (hydrocarbon concentrations were highest directly downgradient of the Site), but only trace amounts of hydrocarbons, primarily MTBE had reached the second transect, approximately 330 feet downgradient of the site. See Figure 8.

On-site groundwater has been sampled seasonally since 1994 and chemicals of concern have consistently been detected at concentrations in excess of groundwater quality objectives, which are summarized in the following table. As described above, the on-site data may be skewed by improperly screened wells. Well data should be evaluated with this in mind.

Groundwater Quality Objectives for Gasoline Constituents

<u>Chemical of Concern</u>	<u>Groundwater Quality Objective</u> (micrograms per liter, µg/L, parts per billion, ppb)
Total Petroleum Hydrocarbons	1,000
Benzene	1
Toluene	150
Ethylbenzene	300
Xylenes	1,750
MTBE	5

We note that the East Bay Municipal Utility District (EBMUD) provides potable water to Oakland, which it obtains from the Mokelumne River watershed in the Sierra Nevada Mountains. Water from EBMUD has eliminated the need for local groundwater supply wells.

Post remediation groundwater monitoring (water level gauging, water sampling and analyses, and reporting) has been conducted in six on-site wells since 2004. Individual concentration versus time charts for TPH-g and benzene (Figures 9 through 14 of this report) have been prepared to graphically present the changes and trends in hydrocarbon concentrations and/or groundwater levels.

Chart 1 (below) presents seasonal groundwater fluctuation data.

Figures 9 through 14 show the TPH-g and benzene concentrations in all site wells have decreased over time. An increase in benzene concentration (observed since early 2009) and an increase in TPH-g concentration (observed since 2012) in wells MW-1 through MW-4 indicates the influx of off-site dissolved hydrocarbons from upgradient off-site sources. There is no new source of hydrocarbons at the site since it has remained undeveloped since 1991. Based on the overall extent of the residual hydrocarbon plume associated with the Site (maximum historical limit 650 feet from site, current length estimated to be 400 feet), we do not expect the off-site upgradient plume to “push” the existing plume beyond its’ current limit, a maximum of approximately 400 feet from the site.

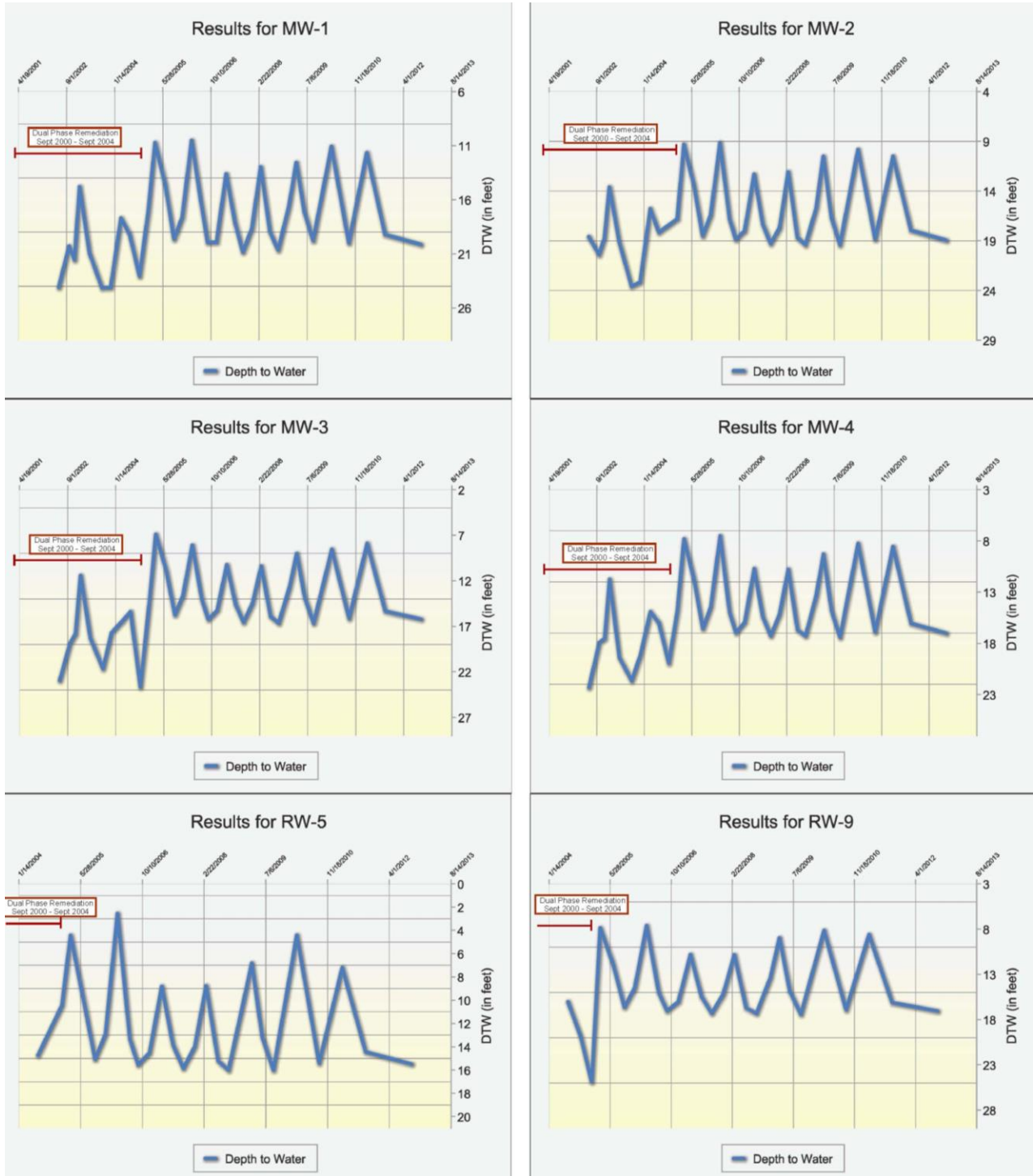


Chart 1: Depth to Groundwater (MW-1 and 2 have monument casings, so the reference point is two feet above the ground surface)

The groundwater analytical data from the site indicates:

- Seasonal fluctuations in groundwater potentiometric levels generally fall between 8-18 feet bgs (see Chart 1). Note that the casing in wells MW-1 and MW-2 extends approximately two feet above ground surface, so the reference point is this much higher, meaning the actual groundwater level is also this much higher.
- The average groundwater gradient at the Site is approximately 0.009 ft/ft (approximately 1 foot of groundwater drop for 111 feet of lateral run) towards the west
- There is a general inverse relationship between groundwater levels and contaminant concentrations. Groundwater concentrations are elevated when water levels are at their lowest point (i.e., September/October)
- A thin plume of MTBE extended off-site to the second transect of direct push boring/grab groundwater samples in 2008 (approximately 400 feet downgradient of the site, see Figure 6). Based on the decrease in concentrations of hydrocarbons in on-site wells, the plume is likely smaller today.
- The low concentrations of MTBE detected in to the second transect samples indicate the downgradient limit of the MTBE plume was near the transect in 2008
- Increasing benzene concentrations in wells MW-1 through 4 since early 2009, along with increasing TPH-g concentrations in these wells since 2012, indicates the influx of upgradient off-site dissolved hydrocarbon plumes to the site. The upward trends may also be the result of post remediation rebound, lateral transport of secondary source hydrocarbons (residual fuel release contaminants), or a combination of these processes.
- The lack of TPH-g and benzene detections in the second transect indicates that TPH-g and BTEX compounds attenuated and were limited to a distance between the two transects; approximately 250 feet from the Site in 2008. Based on the decrease in concentrations of hydrocarbons in on-site wells, the plume is likely smaller today.

Soil Gas

Soil gas sample analytical results from two mobilizations (on- and off-site – 2007 and 2008, respectively) indicate that **concentrations of the Chemicals of Concern in shallow (5 feet bgs) soil gas were below commercial LTCP guidelines in 2007 and 2008, and the concentration of benzene exceeded the residential LTCP in only one shallow sample at the site, SV-5**, see Figures 7 and 9. The COCs in soil gas and their respective LTCP Screening Levels/Cleanup Goals are summarized in the Table below.

Concentrations of Petroleum Constituents in Soil Gas That Will Have No Significant Risk of Adversely Affecting Human Health

	No Bio-Attenuation Zone	
Chemical of Concern	Residential	Commercial
Benzene	85 µg/m ³	280 µg/m ³
Ethylbenzene	1,100 µg/m ³	3,600 µg/m ³
Naphthalene	93 µg/m ³	310 µg/m ³
	With Bio-Attenuation Zone	
Benzene	85,000 µg/m ³	280,000 µg/m ³
Ethylbenzene	1,100,000 µg/m ³	3,600,000 µg/m ³
Naphthalene	93,000 µg/m ³	310,000 µg/m ³

µg/m³ = micrograms per cubic meter. Bio-Attenuation Zone = Oxygen content greater than 4 percent.

The on-site soil gas samples were not analyzed for ethylbenzene or naphthalene. The off-site soil gas samples were not analyzed for naphthalene. The oxygen concentration was not analyzed in the on-site soil gas samples.

The oxygen concentration in off-site soil gas samples was 16 to 19 percent (along with TPH less than 100 mg/kg in the top 5 feet of soil), indicating a bio-attenuation zone was present, though not necessary, as no hydrocarbons were detected in the off-site soil gas samples.

Deeper (greater than 10 feet bgs) on-site soil gas samples contained higher concentrations of hydrocarbons. This is consistent with soil sample analytical results. **The low levels of COCs in shallow on-site soil gas samples indicate there is no vapor intrusion risk for a commercial land use scenario at the Site.**

The absence of hydrocarbons in off-site soil gas samples indicates that vapor intrusion from VOCs off-gassing from smear zone soil or the dissolved hydrocarbon plume is not a risk to off-site residences.

Dominant Fate and Transport Characteristics

The dominant fate and transport characteristics of gasoline fuel hydrocarbons released at the Site are that they drain by gravity through the low-to-moderately permeable soil matrix to groundwater. During

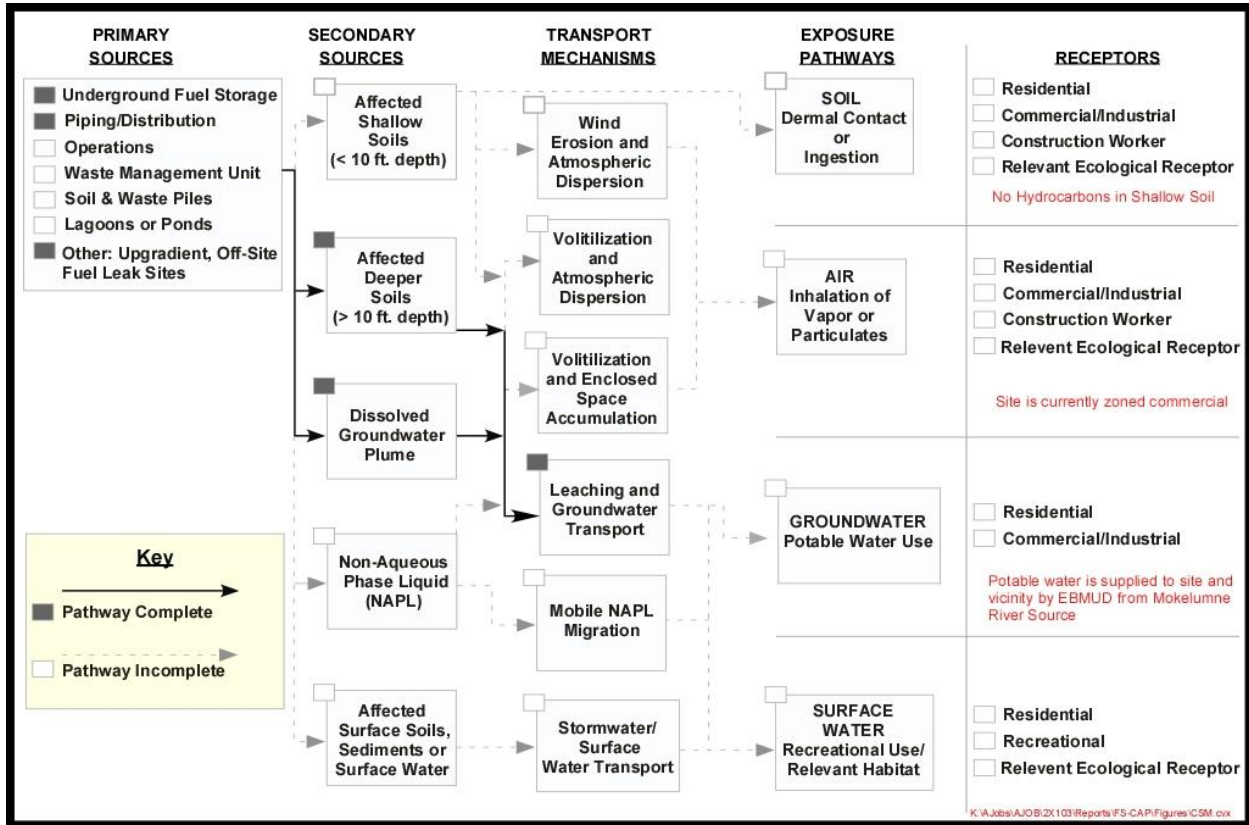
this process the hydrocarbon mass will partition into different phases. It can: 1) be adsorbed onto soil particles, 2) be dispersed into soil gas, 3) remain as free phase gasoline (“light non-aqueous phase liquid”, LNAPL, or free product/separate phase hydrocarbons/sheen) in soil interstices or floating on groundwater, and 4) be dissolved into groundwater. Gasoline/VOCs will reach a dynamic equilibrium between these phases, all of which have been observed at the Site, though free product was only observed once at the site (in 2002), and sheen has not been observed on groundwater at the site since 2012.

Hydrocarbons reached the saturated zone in sufficient quantity to form a sheen on top of the first encountered groundwater beneath the Site. Sheen was observed in six wells in the monitoring network between 2002 and 2012.

In the saturated zone at this Site hydrocarbons have been transported by groundwater through advective and dispersive processes in the general downgradient direction (west). Off-site characterization drilling and sampling results suggest that a thin plume of MTBE extended from the Site to the Phase II transect in 2008 (400 feet from the site); however, the low concentrations of TPH-g and BTEX detected in the downgradient grab groundwater samples collected from the Phase II off-site transect borings indicate the downgradient limit of the MTBE plume was near the Phase II borings. The lack of TPH-g and BTEX in the second transect groundwater samples indicates that TPH-g and BTEX compounds were attenuated and limited to a distance between the two transects, approximately 250 feet from the Site. The truncated plume indicates natural attenuation processes are at equilibrium with dissolved contaminant flux at the periphery of the plume. **Natural attenuation, combined with source removal of the leaking USTs/infrastructure, and four years of dual phase extraction appear to have limited the advective and dispersive transport of hydrocarbons in groundwater to a maximum of 650 feet from the Site.**

Potential Exposure Pathways

Currently there are no buildings present on the property and groundwater in the vicinity is not being used for drinking water. The potential exposure pathways (the ways humans or the environment may be exposed to the hydrocarbons that have been released at the Site) are presented graphically in the CSM flow chart below.



Exposure pathways and receptor risk based on the *Low-Threat UST Case Closure Guidelines* are discussed below:

- Cumulative soil sample analytical data indicates residual hydrocarbons in soil are limited to depths between 10 and 20 feet bgs. **The absence of hydrocarbons in the upper 10 feet of soil means the site meets the LTCP guidelines for residual hydrocarbons in soil, and there are no risks to Site users or construction workers.** It is unlikely that deeper soils would be encountered during future Site development, unless basements or sub-grade parking were proposed for the Site. LTCP closure guidelines require notification, additional assessment, and proper precautions (including engineering controls/ mitigation) if soil greater than 10 feet bgs is disturbed.
- Exposure to soil gas containing hydrocarbons.** The concentration of benzene in on-site soil gas samples was below the commercial LTCP screening levels in 2007 (in five of the six on-site soil gas samples the concentration of benzene was below the residential LTCP screening level also). On-site soil gas samples were not analyzed for ethylbenzene or naphthalene, the other COCs, or for oxygen content to determine if a bio-attenuation zone exists. Based on the concentration of benzene in these soil gas samples and the usual ratios of benzene to ethylbenzene to

naphthalene at UST release sites, **we do not believe there is a risk from residual hydrocarbons in soil gas at the Site.**

Neither benzene nor ethylbenzene were detected in the off-site soil gas samples collected in 2008. The oxygen concentration in the off-site samples ranged from 16 to 19 percent, indicating a bio-attenuation zone for hydrocarbons in soil gas exists off-site. Off-site soil gas samples were not analyzed for naphthalene. Based on the absence of benzene and ethylbenzene in the off-site soil gas samples, the usual ratios of benzene to ethylbenzene to naphthalene at UST release sites, and the presence of a bio-attenuation zone for hydrocarbons in off-site soil gas, **we do not believe there is a risk from hydrocarbons in residual soil gas near the Site.**

The low concentrations of hydrocarbons in the 2007 on-site soil gas samples and the absence of hydrocarbons in the 2008 off-site soil gas samples, combined with the concentrations of hydrocarbons detected in groundwater in 2008 (see Figures 7, 8 and 9) indicate that **off-gassing of hydrocarbons from smear zone soil or the dissolved plume to soil gas and subsequent exposure to hydrocarbons either outdoors or indoors via vapor intrusion does not exceed LTCP risk levels.**

- **Ingesting (drinking) hydrocarbon contaminated groundwater.** This exposure pathway is incomplete – potable water in Oakland is supplied by East Bay MUD from the Mokolumne River in the Sierra Nevada, and a previously completed 2,000-ft radius well survey investigation determined there are no drinking water wells screened within or near the dissolved hydrocarbon plume (Cambria, July 13, 2006 and Weber, Hayes and Associates, June 24, 2011).
- Groundwater quality is considered a sensitive receptor that must be protected from degradation by hydrocarbons (all groundwater in the State of California is considered a potential water supply resource). Active remediation of groundwater impacted by hydrocarbons was undertaken with the goal of removing hydrocarbons to a point where natural processes will restore groundwater quality to what it was prior to degradation by hydrocarbons.

Potential Sensitive Receptors

A 2,000-ft radius, sensitive receptor survey was completed in 2006 (Cambria, 2006), which looked for potential water supply wells, schools, churches, hospitals, and known daycare facilities within the target radius. The survey concluded that within the target radius, no water supply wells existed and the residual dissolved gasoline plume was not likely to impact the three identified irrigation wells (the closest well is located 750 feet away in a sidegradient direction [north]). Additionally, there are no other potential sensitive receptors (schools, churches, parks) located downgradient of the plume, and therefore **none of these sensitive receptors are likely to be impacted by the residual dissolved hydrocarbon plume. This analysis is still valid given the current apparent extent of the plume.**

The nearest surface water body is west-flowing Peralta Creek, located approximately 600 feet northwest of the site, **but 1,150 feet west of the site in the downgradient groundwater flow direction** (see Figure 1). It is extremely unlikely that dissolved gasoline plume compounds could reach Peralta Creek based on the downgradient distance to the Creek, the attenuated plume limits (approximately 550 feet from the site in 2008, estimated to be approximately 400 feet currently), and the low transmissivity of soils at and in the vicinity of the Site.

Potential sensitive receptors that may be exposed to hydrocarbons from the release at the Site include Site users and groundwater as a potential drinking water resource. The release poses no immediate threats to site users because the Site remains undeveloped. As described above, our evaluation of exposure pathways and receptor risk based on the *Low-Threat UST Case Closure Guidelines* indicates:

- There is no risk from residual hydrocarbons in soil, soil gas and groundwater to future Site users in a commercial land use scenario
- The accumulated data indicates there is no risk to off-site residences in the immediate vicinity of the Site from residual hydrocarbons in soil, soil gas and groundwater

Though groundwater is degraded by hydrocarbons at the Site, there is no complete pathway for drinking water ingestion as there are no water supply wells in the immediate vicinity of the Site.

Data Gaps

- 1) The mass of petroleum hydrocarbon contamination originating from the identified upgradient sources remains a data gap. Based on the overall extent of the residual hydrocarbon plume associated with the Site (approximately 400 feet from site), we do not expect the off-site upgradient plume to “push” the existing plume beyond its’ current limit. **This data gap is no longer significant.**
- 2) The downgradient extent of the residual dissolved gasoline hydrocarbon plume is not defined by monitoring wells. However, it was reasonably defined using direct-push grab groundwater samples in 2008. We estimate the maximum extent of the residual dissolved hydrocarbon plume is approximately 400 feet from the Site. **This data gap is not significant.**

There are no remaining significant data gaps at the site. The CSM is validated.

APPENDIX C

CRA SOIL GAS SAMPLE PROBE BORING LOGS – SV-7 THROUGH 14



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BORING / WELL LOG

CLIENT NAME	Golden Empire Properties	BORING/WELL NAME	SV-7
JOB/SITE NAME	GEP - Oakland	DRILLING STARTED	04-Nov-08
LOCATION	3055 35th Avenue, Oakland, CA	DRILLING COMPLETED	04-Nov-08
PROJECT NUMBER	130105	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	RSI Drilling, C-57, #802335	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Hand auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	3.5-inches	SCREENED INTERVALS	4.85 to 5.15 fbg
LOGGED BY	B. Fong	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	M. Jonas, PG# 6392	DEPTH TO WATER (Static)	NA
REMARKS	Soil vapor well		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CONCRETE: 6 inches thick	0.5	<p>Portland Type I/II Bentonite Seal Monterey Sand #2/12 Stainless steel probe - 3" screen Bottom of Boring @ 5.5 fbg</p>
							FILL: Silty SAND: Dusky brown (5YR 2/2); moist; 30% silt, 60% fine to coarse grained sand; 10% gravel up to 1/4" diameter; non-plastic; high estimated permeability.	2.0	
				5	ML		SILT with sand: Moderate brown (5YR 4/4); moist; 75% silt, 25% fine grained sand; non-plastic; high estimated permeability. @ 4': 55% silt, 35% fine to medium grained sand, 10% gravel up to 1/4" diameter.	5.5	

WELL LOG (PID) I:\R16-CHARS\1301-1130105-GEP-BORING-LOGS.GPJ DEFAULT.GDT 1/21/09



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BORING / WELL LOG

CLIENT NAME	Golden Empire Properties	BORING/WELL NAME	SV-8
JOB/SITE NAME	GEP - Oakland	DRILLING STARTED	31-Oct-08
LOCATION	3055 35th Avenue, Oakland, CA	DRILLING COMPLETED	31-Oct-08
PROJECT NUMBER	130105	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	RSI Drilling, C-57, #802335	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Hand auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	3.5-inches	SCREENED INTERVALS	4.85 to 5.15 fbg
LOGGED BY	B. Fong	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	M. Jonas, PG# 6392	DEPTH TO WATER (Static)	NA
REMARKS	Soil vapor well		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
				5	ML		<p>SILT: Dusky yellowish brown (10YR 2/2); 10% clay, 80% silt, 10% gravel; low plasticity; moderate estimated permeability.</p> <p>@ 1': 10% clay, 90% sand.</p> <p>@ 2': Dark yellowish orange (10YR 6/6); 5% clay, 75% silt, 20% fine to medium grained sand.</p>	5.8	<p>Portland Type I/II</p> <p>Bentonite Seal</p> <p>Monterey Sand #2/12</p> <p>Stainless steel probe - 3" screen</p> <p>Bottom of Boring @ 5.8 fbg</p>

WELL LOG (PID) \\NRI6-CHARS\1301-1130105-GEP-BORING-LOGS.GPJ DEFAULT.GDT 1/21/09



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BORING / WELL LOG

CLIENT NAME	Golden Empire Properties	BORING/WELL NAME	SV-9
JOB/SITE NAME	GEP - Oakland	DRILLING STARTED	29-Oct-08
LOCATION	3055 35th Avenue, Oakland, CA	DRILLING COMPLETED	29-Oct-08
PROJECT NUMBER	130105	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	RSI Drilling, C-57, #802335	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Hand auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	3.5-inches	SCREENED INTERVALS	4.85 to 5.15 fbg
LOGGED BY	B. Fong	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	M. Jonas, PG# 6392	DEPTH TO WATER (Static)	NA
REMARKS	Soil vapor well		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
				5	ML		<p>Sandy SILT: Dark yellowish brown (10YR 4/2); dry; 60% silt, 40% fine to medium grained sand; low plasticity; moderate estimated permeability.</p> <p>@ 2': Moderate yellowish brown (10YR 5/4); moist; 5% clay, 75% silt, 20% fine to medium grained sand.</p> <p>@ 3': 60% silt, 25% fine to coarse grained sand, 15% gravel up to 1/2" diameter.</p> <p>@ 4': 5% clay, 55% silt, 25% fine to coarse grained sand, 15% gravel up to 1/4" diameter.</p>	5.5	<p>Portland Type I/II</p> <p>Bentonite Seal</p> <p>Monterey Sand #2/12</p> <p>Stainless steel probe - 3" screen</p> <p>Bottom of Boring @ 5.5 fbg</p>

WELL LOG (PID) \IR16-CHARS\1301-1\130105-GEP-BORING-LOGS.GPJ DEFAULT.GDT 1/21/09



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BORING / WELL LOG

CLIENT NAME	Golden Empire Properties	BORING/WELL NAME	SV-10
JOB/SITE NAME	GEP - Oakland	DRILLING STARTED	06-Nov-08
LOCATION	3055 35th Avenue, Oakland, CA	DRILLING COMPLETED	06-Nov-08
PROJECT NUMBER	130105	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	RSI Drilling, C-57, #802335	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Hand auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	3.5-inches	SCREENED INTERVALS	4.85 to 5.15 fbg
LOGGED BY	B. Fong	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	M. Jonas, PG# 6392	DEPTH TO WATER (Static)	NA
REMARKS	Soil vapor well		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CONCRETE: 4 inches thick	0.5	<p>Portland Type I/II Bentonite Seal Monterey Sand #2/12 Stainless steel probe - 3" screen Bottom of Boring @ 6 fbg</p>
					ML		SILT with sand: Dusky brown (5YR 2/2); moist; 30% clay, 50% silt, 20% fine to medium grained sand; medium plasticity; moderate estimated permeability.		
					CL		CLAY: Moderate yellowish brown (10YR 5/4); moist; 60% clay, 35% silt, 5% fine grained sand; high plasticity; low estimated permeability.	3.0	
				5	ML		SILT with sand: Moderate yellowish brown (10YR 5/4); moist; 5% clay, 80% silt, 15% fine to coarse grained sand; medium plasticity; moderate estimated permeability.	4.0	
								6.0	

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BORING / WELL LOG

CLIENT NAME	Golden Empire Properties	BORING/WELL NAME	SV-11
JOB/SITE NAME	GEP - Oakland	DRILLING STARTED	29-Oct-08
LOCATION	3055 35th Avenue, Oakland, CA	DRILLING COMPLETED	29-Oct-08
PROJECT NUMBER	130105	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	RSI Drilling, C-57, #802335	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Hand auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	3.5-inches	SCREENED INTERVALS	4.85 to 5.15 fbg
LOGGED BY	B. Fong	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	M. Jonas, PG# 6392	DEPTH TO WATER (Static)	NA
REMARKS	Soil vapor well		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
				5	ML		<p>SILT: Very dark brown (10YR 2/2); moist; 30% clay, 60% silt, 10% fine grained sand; medium plasticity; low estimated permeability.</p> <p>@ 2': Dark grayish brown (10YR 4/2); 80% silt, 15% fine to medium grained sand, 5% gravel up to 1/4" diameter; low plasticity; moderate estimated permeability.</p> <p>@ 4': 5% clay, 85% silt, 10% fine to medium grained sand.</p>	6.0	<p>Bottom of Boring @ 6 fbg</p>

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BORING / WELL LOG

CLIENT NAME	Golden Empire Properties	BORING/WELL NAME	SV-13
JOB/SITE NAME	GEP - Oakland	DRILLING STARTED	05-Nov-08
LOCATION	3055 35th Avenue, Oakland, CA	DRILLING COMPLETED	05-Nov-08
PROJECT NUMBER	130105	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	RSI Drilling, C-57, #802335	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Hand auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	3.5-inches	SCREENED INTERVALS	4.85 to 5.15 fbg
LOGGED BY	B. Fong	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	M. Jonas, PG# 6392	DEPTH TO WATER (Static)	NA
REMARKS	Soil vapor well		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CONCRETE: 6 inches thick	0.5	<p>Portland Type I/II</p> <p>Bentonite Seal</p> <p>Monterey Sand #2/12</p> <p>Stainless steel probe - 3" screen</p> <p>Bottom of Boring @ 6 fbg</p>
					ML		Sandy SILT: Grayish brown (5YR 3/2); 5% clay, 40% silt, 35% fine to medium grained sand; low plasticity; moderate estimated permeability.	2.0	
					CL		CLAY: Moderate yellowish brown (10YR 5/4); 50% clay, 40% silt, 10% fine grained sand; high plasticity; low estimated permeability.	4.0	
				5	ML		Sandy SILT: Dark yellowish orange (10YR 6/6); 55% silt, 40% fine to coarse grained sand, 5% gravel up to 1/4" diameter; non-plastic; high estimated permeability.	6.0	

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BORING / WELL LOG

CLIENT NAME	Golden Empire Properties	BORING/WELL NAME	SV-14
JOB/SITE NAME	GEP - Oakland	DRILLING STARTED	04-Nov-08
LOCATION	3055 35th Avenue, Oakland, CA	DRILLING COMPLETED	04-Nov-08
PROJECT NUMBER	130105	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	RSI Drilling, C-57, #802335	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Hand auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	3.5-inches	SCREENED INTERVALS	4.85 to 5.15 fbg
LOGGED BY	B. Fong	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	M. Jonas, PG# 6392	DEPTH TO WATER (Static)	NA
REMARKS	Soil vapor well		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
				5	CL		<p>CLAY: Mottled light brown and dark yellowish brown (5YR 5/6, 10YR 4/2); moist; 50% clay, 40% silt, 10% fine grained sand; medium plasticity; low estimated permeability.</p> <p>@ 2': Moderate yellowish brown (10YR 5/4); 60% clay, 30% silt, 10% fine grained sand; high plasticity; low estimated permeability.</p>	6.0	<p>Portland Type I/II Bentonite Seal Monterey Sand #2/12 Stainless steel probe - 3" screen</p> <p>Bottom of Boring @ 6 fbg</p>

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APPENDIX D
FIELD METHODOLOGIES

Appendix D

Field Methodology for Hydraulic Driven Probes Using Macro-Core®, Large Bore® or Dual Tube® Hydraulic Driven Probes

Direct push exploratory borings are “drilled” with a Hydraulic Driven Probe drill rig, which hydraulically vibrates and drives steel probes into the soil. This sampling technology has the ability for either continuous or discrete sampling using a 4-foot long nickel-plated sampling probes fitted with clear acetate liners. During coring operations, the sampler remains open as it is driven into undisturbed soil over its entire 4-foot sampling interval.

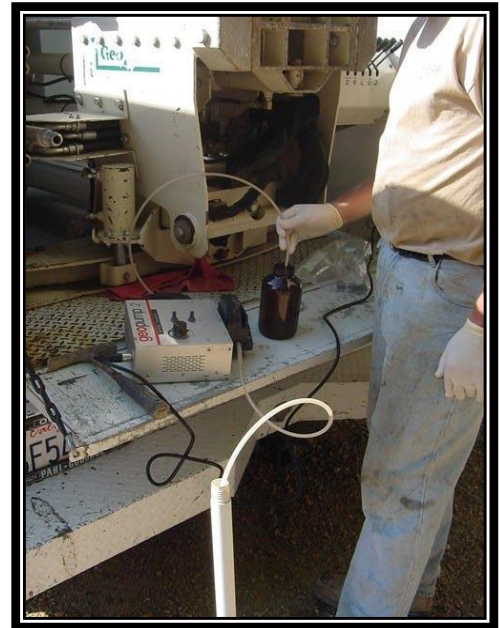
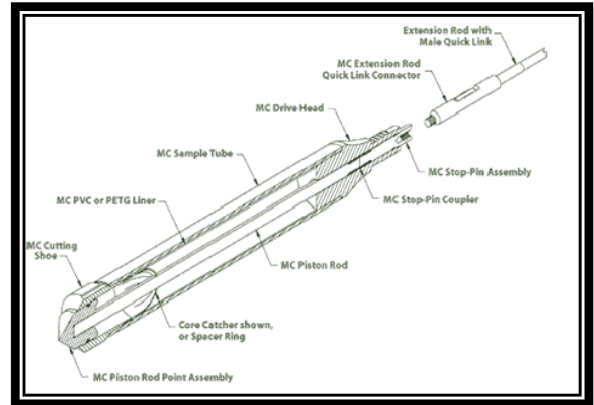
The soil cores are logged by an experienced geologist using the Unified Soil Classification System (USCS), noting in particular, the lithology of the soils, moisture content, and any unusual odor or discoloration. Relatively undisturbed soil samples are obtained for both lithologic logging and laboratory analysis. A portion of each individual soil core is stored in a sealed plastic bag for field screening of hydrocarbons and/or volatile organic compounds by a Photoionization Detector (PID). Vapor readings in parts per million (ppm) are recorded on the boring logs. The PID is also used during drilling for monitoring the work area for site safety.

All drilling equipment is decontaminated prior to arriving on-site to prevent possible transfer of contamination from another site. The sampling probe and all other soil sampling equipment are thoroughly cleaned between each borehole by washing in a Liqui-Nox or Alconox solution followed by a double rinsing with distilled water to prevent the transfer of contamination.

After drilling, all exploratory boreholes are grouted with continuous pour neat cement grout from the bottom of the borehole to the ground surface.

Samples Targeted for Laboratory Analysis:

Soil samples targeted for laboratory analysis are immediately cut from the acetate sample liner and protected at both ends with Teflon tape, sealed with non-reactive caps, taped, labeled, placed in a



plastic Ziploc baggie, and immediately stored in an insulated container chilled to a temperature of 4 degree Celsius.

Groundwater samples are collected after temporary PVC casing is placed in the hole and at least one borehole volume is purged and groundwater is visually observed to be free of sediment. Groundwater samples are either: 1) collected with a peristaltic pump and dedicated polyethylene tubing and dispensed directly into containers specifically prepared for the analyses (groundwater encountered at depths of less than 27 feet bgs) or 2) collected by mechanically lifting groundwater through a clean stainless steel foot valve and dedicated polyethylene and dispensed directly into containers specifically prepared for the analyses (groundwater encountered at depths greater than 27 feet bgs where a peristaltic pump cannot be used). Samples being analyzed for dissolved metals will be preserved and acidified by the testing laboratory following their receipt of samples. Once collected, groundwater sample containers are placed in Ziploc bags and are stored in an insulated container chilled to a temperature of 4 degree Celsius.

All samples are transported in chilled coolers to a State-certified laboratory under appropriate chain-of-custody documents. Soil samples that may be put on “hold” for potential future analysis will be stored in a dedicated sample freezer, be frozen, and stored under chain-of-custody documentation. Hold times will be confirmed with the testing laboratory to ensure that potential analysis of any “hold” samples will be analyzed within the laboratory hold times.

Field Methodology for Soil Gas Sampling

Weber, Hayes and Associates' field methodology for soil gas / soil vapor (we use the terms interchangeably) sampling is based on the procedures presented in the CalEPA's/DTSC/LARWQCB/SFRWQCB *Advisory – Active Soil Gas Investigations* (July 2015), and the DTSC/CalEPA's final *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)* (October 2011). The field methodology for soil gas sampling entails:

- Constructing Soil Vapor Sample Points and Purge Test Points (if necessary);
- Purge volume testing at the Purge Test Point(s);
- Setting up the sampling and leak testing equipment; and
- Soil Vapor Sampling

Constructing & Decommissioning Soil Vapor Sample Points

Soil gas sample points can be either semi-permanent or temporary. A semi-permanent sample point is constructed with a secure surface completion consisting of bolt-down flush-mounted well vault so it can be reused. A field geologist or engineer logs the soils encountered in the borehole drilled to install the soil gas sampling point using the Unified Soil Classification System (USCS), unless the site is already well characterized geologically.

Shallow Soil Gas Sample Point: The soil vapor/gas sample point is installed to the target sampling depth via hand auger, hollow stem auger drill rig, or with a Geo-Probe drill rig, which hydraulically drives and vibrates steel points into the soil. Using a Geo-Probe drill rig, the soil is cored out using a 4-foot long nickel-plated sampling barrel fitted with a clear acetate liner. During coring operations, the sample barrel remains open as it is driven into undisturbed soil over its entire 4-foot sampling interval. Shallow soil gas / soil vapor sample depths will be no less than 5 feet deep (if possible) in order to avoid breakthrough of ambient air from the surface. Shallow



Shallow soil vapor point installation via
GeoProbe drill rig

and deeper soil gas points are constructed in a similar manner. Once the sample point hole is cored to the desired sample depth, a length of 3/16-inch inner diameter Teflon or Nylaflo tubing having a porous media tip (i.e. ceramic filter stone) attached at the down-hole end of the tubing is inserted through a 1-inch diameter tremie-pipe that runs the entire length of the borehole. This sample tubing is placed approximately 6-inches above the base of the borehole. A minimum of a one-foot sand pack is emplaced at the base of the borehole (the grain size of the sand pack is larger than the grain size of the adjacent formation) surrounding the porous media tip, followed by at least one foot of dry granular

bentonite. The point tip is emplaced midway within the sand pack. A tremie-pipe is used to insert the sand pack and granular bentonite to ensure that no bridging occurs. The remainder of the borehole is sealed to the ground surface with hydrated bentonite gel that is pre-mixed at the ground surface; this ensures a sound surface seal and/or seal between multi-depth nested sample point sample intervals.

Semi-Permanent Soil Gas Sample Points are completed at the surface with a secure bolt-down flush-mounted well vault so the sample point can be reused.

Decommissioning Temporary Shallow Soil Gas Points: Following sample collection temporary soil gas sample points are properly decommissioned by one of the following regulatory approved techniques:

- The sample tubing is completely removed from the ground (if possible) allowing the bentonite gel slurry to flow into the void thereby sealing the borehole. Subsequently, approximately 6 inches of bentonite slurry is removed below the ground surface and the surface is patched to match the existing grade.
- The sample tubing is properly destroyed by injecting neat cement grout into the tubing via a syringe. The volume of grout injected into the tubing is monitored to ensure that the entire tubing is completely sealed. Subsequently, the tubing is cut off approximately 6 inches below the ground surface and the surface is patched to match the existing grade.
- The gas point is properly destroyed by overdrilling the sample tubing and annular seal material and removing the entire sample train. Once the sample train has been removed, the subsequent borehole is filled with neat cement grout to within about 6-inches of the ground surface and the surface is patched to match the existing grade.

Sub-Slab Soil Gas Sample Point: Sub-slab soil gas sampling points are constructed by coring a 1 to 1-1/4-inch diameter hole with a rotary hammer drill through the slab foundation. The sub-slab borehole is advanced approximately 3 to 4-inches below the base of the slab and into the sub-slab material. Once the sample point hole is cored to the desired sample depth a length of 3/16-inch inner diameter Teflon, Nylaflo, or inert, cleaned, metal tubing with a porous media tip (i.e. ceramic filter stone) attached at the down-hole end of the tubing is inserted into the borehole. The point tip is emplaced 1-2 inches above the base of the bore hole. A minimum of two to four inches of sand pack is emplaced at the base of the borehole completely surrounding the porous media sample point tip, followed by at least one to two inches of dry granular bentonite to above the base of the slab. The porous media sample point tip is emplaced midway within the sand pack. The remainder of the borehole is sealed to the ground surface with hydrated granular bentonite to ensure a sound surface seal. A semi-permanent sample point is completed at the surface with a capped swage-lock fitting cemented flush with the slab surface to allow future sampling while temporary sub-slab sampling points are destroyed following sample collection by removing the sample tubing, then sealing the subsequent void with hydrated bentonite, and then patching the surface with cement to match the slab.

Purging

Prior to soil gas sample collection, a purge volume or “dead space volume” will be calculated in order to purge ambient or stagnant air from the sampling system to ensure that collected samples are representative.

Per the procedures outlined in the CalEPA’s Advisory, a default of three purge volumes will be extracted prior to sampling. The purge volume consists of approximately three system volumes (i.e. tubing and annular space) of soil gas, while capturing the purge effluent. One system volume is calculated by summing the inner diameter (id) tubing volume (i.e., id area times the length of tubing) and the annular pore space volume (i.e., area of the borehole times the length of sand pack and granular bentonite surrounding the ceramic filter stone tip times an estimated sand-pack pore space volume of 33.8%). The purge rate will be conducted at the same rate soil gas is sampled (approximately 200 milliliters per minute, mL/min). We note that Cal-EPA guidance recommends purging or sampling at rates between 100 to 200 mL/min for soil gas probes at all depths, including sub-slab vapor probes, to limit air stripping and to prevent ambient air from diluting the sample. After the specific pre-determined purge volume is removed, a soil gas sample is collected for laboratory analyses for the site specific target compounds as discussed below.

Sample Collection

Once the appropriate “dead space volume” has been determined and purged from the sample point, the sample tubing is attached to a laboratory prepared soil gas manifold and a one or six liter Summa canister or sorbent sampling media tube (depending on required laboratory analysis) is attached to the sample point. We note that the choice between using a one liter or six liter canister is dependent on the purpose of the site investigation. When sampling for indoor air, a six liter canister is nearly always required because of the extremely low detection limits required to meet Indoor Air ESLs. For soil gas collection, a one liter canister may be all that is necessary if the site is known to contain high concentrations of contaminants of interest that make achieving low detection limits a secondary concern. In those cases, only the small volume of the 1 liter is necessary for analysis of both the TO-15 and the TO-3 compounds. However, if a site does not have historical data indicating that it is significantly contaminated, or if multiple analytical runs become necessary to achieve reporting limit/CHHSL/ESL reporting goals, it becomes critical to have a larger initial volume of collected sample. A six liter volume allows the laboratory to provide the lowest possible detection for the compounds of interest for full list TO-15 while providing enough volume for the additional analysis of individual compounds that may require dilution to bring them within the instrument calibration range. The 6 liter volume will provide enough residual sample to analyze for additional contaminants (e.g., EPA Method TO-3) and/or fixed Gases (ASTM D1946) if those analyses are necessary. We consult with the testing laboratory prior to each investigation to ensure that appropriate sample volumes are collected / appropriate sized summa canisters are used.

When collecting samples with different sample media at the same prescribed sample location, two separate soil gas sample points are constructed – one for sampling each media, in order to minimize altering subsurface conditions during sampling which may occur when sampling with several media separately or concurrently in the same borehole. Sample point locations will be separated laterally by approximately 5 feet and will not be sampled concurrently in order to avoid vacuum interference. Tubing installed at adjacent pre-constructed counterpart sample locations will be capped to avoid potential break-through during nearby sampling.



Sample collection with Summa canisters

The following sample collection procedures are followed for each sample collection media:

- The Summa canisters will be supplied by the analytical laboratory with a vacuum of approximately 30 inches of mercury and outfitted with a 50 or 200 mL/min flow control valve depending on sample type (i.e., sub-slab or shallow soil, respectively). The tubing will be connected to the soil gas manifold and Summa canister using airtight stainless-steel or brass fittings. The flow control valve will then be opened slowly to draw the gas sample from the target depth.
- Laboratory sorbent media and sampling pump (10 to 200 mL/min) will be supplied by the analytical laboratory. The tubing will be connected to sample pump or syringe using airtight stainless-steel or brass fittings. The sample pump/syringe will then be activated to draw approximately 1-liter of sample volume for TO-17 analysis from the target depth at a flow rate of 50 or 200 mL/min depending on sample type (i.e., sub-slab or shallow soil, respectively).



Sample collection with sorbent tube media

Schematic diagrams of sample configurations for the different sampling media (i.e., Summa canister and sorbent media) and point construction (i.e., shallow soil and sub-slab) are included as attachments 1, 2, and 3 of this field methodology.

Leak Detection Monitoring

Leak detection monitoring will be conducted during soil gas sampling by applying a tracer compound (usually isopropyl alcohol) to the sample system. Specifically, a shroud will be used to encapsulate the entire system (i.e., the sample canister and surface bentonite seal) so as to trap the applied tracer

compound. The concentration of the leak check compound within the shroud is monitored periodically throughout the sample collection period with a photoionization detector (PID), calibrated to the specific tracer gas compound, and these values are recorded in the field notes. The laboratory will analyze for the tracer compound in all of the Summa canisters, or the sample effluent will be field screened for the presence of the leak check compound if we are using sorbet tube sample collection media. If collecting samples in Summa canisters additional leak detection in the laboratory provided sample manifold ("sample train") will be checked in the field by closing off all valves to the laboratory provided soil gas manifold and subsequently opening the valve to the connected "purge" Summa canister, then checking to see that the pressure gauge on the canister remains stable for at least one (1) minute.

Low Flow Sampling Conditions

A low flow sampling condition is characterized as a condition where the sample point cannot sustain a flow rate of 100 mL/min for more than three minutes while maintaining an applied vacuum of less than 100 inches of water (or 7.4 inches of mercury). The vacuum applied to the sample point will be measured and monitored via a vacuum gauge installed between the sample point and the sample collection flow regulator. If the vacuum measured within the sample point exceeds 100 inches of water during dead space volume purging, then one of the following sample collection procedures will be employed:

- If the lithology observed during sample point installation indicates potential for low permeability / low flow conditions a representative soil sample at the soil gas sample depth will be collected and properly stored for possible laboratory analysis.
- A purge volume approximating one dead space volume (i.e., volume of the sample tube plus the volume of the sand pack pore space and granular bentonite pore space surrounding the point tip) will be evacuated prior to sample collection. Sample collection will proceed until the sample point vacuum equals 100 inches of water. The sample system will then be closed off to allow the point to relax and equilibrate. Over time the vacuum will eventually dissipate, the rate of which can be monitored via an in-line vacuum gauge installed as described above. Once the vacuum in the sample point has dissipated, sampling will resume as described above. This process will be repeated until an adequate sample volume has been obtained for the required laboratory analyses.
- If during low flow sampling as stated above, the sample system when closed off to allow the point to relax and equilibrate the point vacuum does not reduce by 13.5 inches of water (1 inch of mercury) in 1 hour, soil gas sampling will cease and the previously collected soil sample will be submitted to the laboratory for potential analysis for site specific constituents.

Sample Storage and Transport

Once collected, the soil gas samples are then transported to a State-certified laboratory under appropriate chain-of-custody documentation. Sorbent media are placed in individual zip-lock type bags

and immediately placed in a chilled cooler (chilled to 4 degrees Celsius) for storage and transport to the testing laboratory. Summa canisters are placed in laboratory provided cardboard boxes and stored at ambient temperature for transport to the testing laboratory.

Field Methodology for Groundwater Monitoring

Weber, Hayes and Associates' groundwater monitoring field methodology is based on procedures specified in the LUFT Field Manual and US EPA Groundwater Sampling Procedure - Low Stress (Low Flow) Purging and Sampling. The first step in groundwater well sampling is for Weber, Hayes and Associates field personnel to measure the depth-to-groundwater to the nearest hundredth (0.01) of a foot with an electric sounder. If the well appears to be pressurized, or the groundwater level is fluctuating, measurements are made until the groundwater levels stabilize, and a final depth-to-groundwater measurement is taken and recorded. After the depth-to-groundwater is measured, the well is then checked for the presence of free product with a clear, disposable polyethylene bailer. If free product is present, the thickness of the layer is recorded, and the product is bailed to a sheen. All field data (depth-to-groundwater, well purge volume, physical parameters, and sampling method) is recorded on field data sheets (see attached). Because removing free product may skew the data, wells that contain free product are not used in groundwater elevation and gradient calculations.

After measuring the depth-to-groundwater, each well is purged with a low flow peristaltic pump and dedicated sample tubing at a rate of less than 500 mL/min. The sample tubing intake is positioned at the center of the water column within the screened portion of the well. During purging, the water level in the well is monitored in order to maintain a drawdown of 0.33 feet or less if possible. The flow rate is adjusted to maintain minimal drawdown. During purging the physical parameters of temperature, conductivity, pH, dissolved oxygen (D.O.) concentration, and Oxidation-Reduction Potential (ORP) of the purge water are monitored with a QED MP20 Micropurge Flow Through Cell equipped meter to insure that these parameters have stabilized (i.e. +/- 0.1 for pH, +/- 3% for specific conductance, +/- 10 mV for redox potential, and +/- 10% for D.O.). The QED MP20 meter is capable of continuously monitoring the physical parameters of the purge water via the flow through cell and providing an alarm to indicate when the physical parameters have stabilized to the users specifications. Purging is determined to be complete (stabilized aquifer conditions reached) after the removal of approximately three to five well volumes of water or when the physical parameters have stabilized. Dissolved oxygen and ORP measurements are used as an indicator of intrinsic bioremediation within the contaminant plume. All field instruments are calibrated before use.

All purge water is stored on site in DOT-approved, 55-gallon drums for disposal by a state-licensed contractor pending laboratory analysis for fuel hydrocarbons.

After purging, and when groundwater parameters have stabilized, a groundwater sample is collected from each well with the dedicated sample tubing, and decanted into the appropriate laboratory-

supplied sample container(s). The sample containers at this site are three (3) 40-ml. Vials, and two (2) 1-liter amber bottles. Vials are filled until a convex meniscus formed above the vial rim, then sealed with a Teflon®-septum cap, and inverted to insure that there were no air bubbles or headspace in the vial. All other ample containers are completely filled with no headspace. All samples are labeled in the field and transported in insulated containers cooled with blue ice to state-certified laboratories under proper chain of custody procedures.

All field and sampling equipment is decontaminated before, between, and after measurements or sampling by washing in a Liqui-Nox and tap water solution, rinsing with tap water, and rinsing with distilled water.

APPENDIX E

SENSITIVE RECEPTOR SURVEY FOR THE SITE - CAMBRIA, 2006

5.0 WELL AND SENSITIVE RECEPTOR SURVEY

A potential sensitive receptor survey was performed to identifying any supply wells, schools, churches, hospitals, and known daycare facilities within a 2,000-foot radius of the subject site. Only wells, schools, and churches were found within the search criteria. The identified features are shown on Figure 7. The site is located in a mixed commercial/residential area. None of these potential sensitive receptors are known to be impacted by the site.

5.1. Supply Wells

In June and July 2006, California Department of Water Resources (DWR) and Alameda County Public Work Department (ACPWA) identified wells within a 2,000-foot radius of the site. Table 3 presents a summary of the findings. Within this search radius, no water supply wells and only three irrigation wells were identified. The closest irrigation well 2S/3W-4D3 (Map Location #1) is located at 3397 Arkansas Street, approximately 740 feet north of the site. The boring log for this well is provided in Appendix D. The well was installed in 1977 and is reportedly 62 feet deep. Typical groundwater gradients at the site are generally toward the west (see Figure 6 for historic groundwater gradients). Therefore, it is unlikely that this well would be impacted by groundwater contamination associated with the site. None of the other wells are located west of the site and therefore are not likely to be impacted.

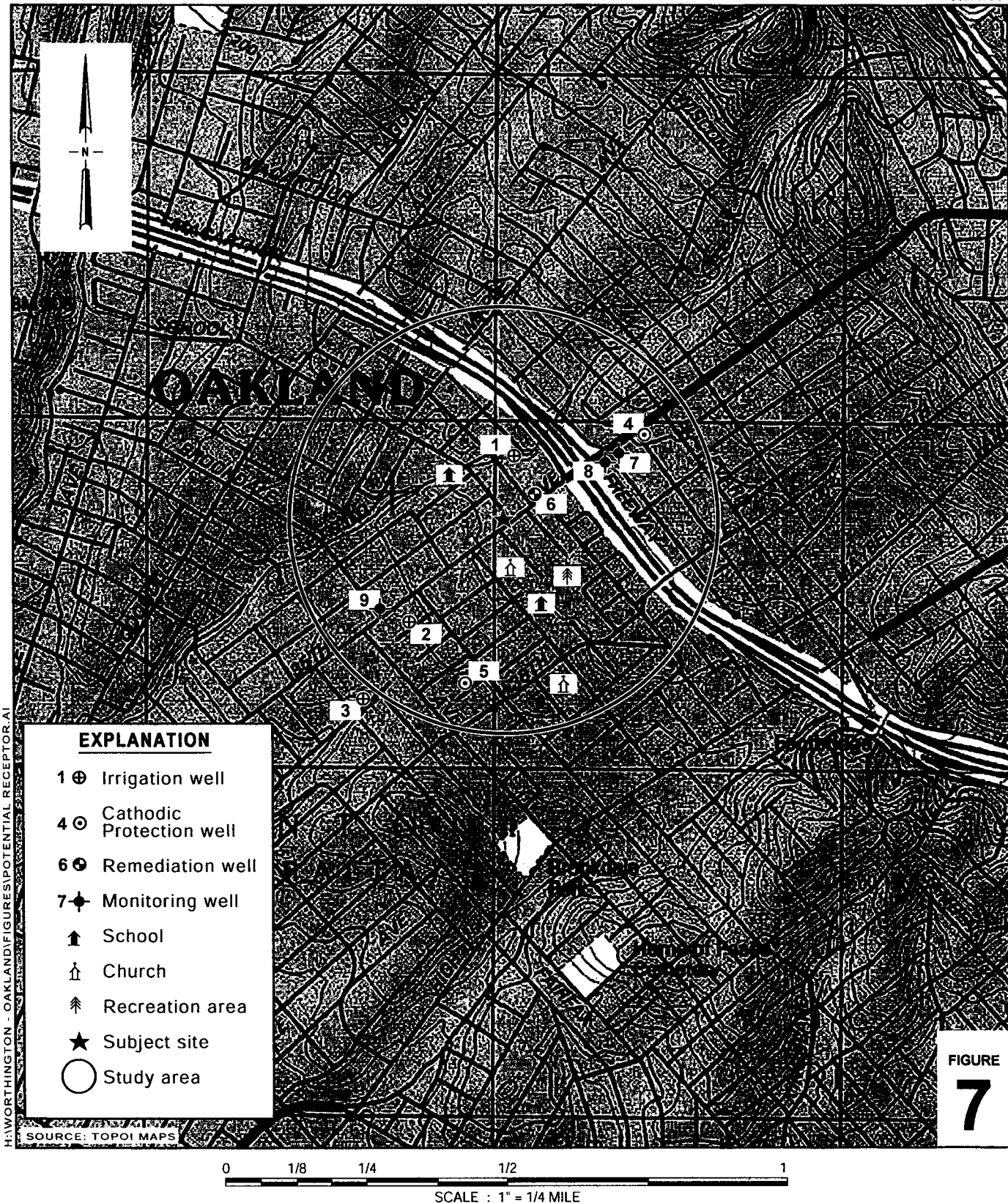
5.2. Surface Water Bodies

The nearest surface water is Peralta Creek, located approximately 0.1 miles north of the site. The topography and drainage is generally westward towards the Oakland Inner Harbor and San Francisco Bay. Peralta Creek flows into San Francisco Bay. Currently, the downgradient extent of any groundwater contamination is undefined. But, based on proximity to the site, the relatively low transmissivity of site lithology, and a westerly groundwater gradient, it is unlikely that Peralta Creek would be impacted.

5.3. Other Potential Sensitive Receptors

Figure 7 presents schools, churches, and recreation area within a 2,000-foot radius of the subject site. Since the groundwater gradient is in a westerly direction, none of these potential sensitive receptors are likely to be impacted. It is possible that the hydrocarbon plume may extend beneath neighboring residences. Vapor intrusion into indoor air is a potential exposure pathway that appears to require further evaluation (see Section 7).





Former Exxon Station
 3035 35th Avenue
 Oakland, California



C A M B R I A

**Potential Receptor
 Survey Map**
 (2,000 Foot Radius)

CAMBRIA

Table 3. 2,000 Foot Radius DWR and ACPWA Well Survey Summary - Former Exxon Station, 3035 35th Avenue, Oakland, California

Map Location	State Well No. (DWR)	Owner/Site Name	Well Location	Installation Date	Well Type	Current Well Use	Total Well Depth (ft bgs)	Screened Interval (ft bgs)	Seal Interval (ft bgs)	Approximate Distance from Former USTs (ft)
9	2S/3W-5H3	SAAB Saver	2601 35th Avenue	12/95	Monitoring	Active (3/12/98)	25	NA	NA	1,300 southwest
9	2S/3W-5H4	SAAB Saver	2601 35th Avenue	12/95	Monitoring	Active (3/12/98)	23	NA	NA	1,300 southwest
9	2S/3W-5H5	SAAB Saver	2601 35th Avenue	12/95	Monitoring	Active (3/12/98)	25	NA	NA	1,300 southwest

Notes and Abbreviations:

Well information provided by the State of California Department of Water Resources (DWR) and Alameda County Public Works Agency (ACPWA) in June/July 2006.

Location = Column number refers to map location on Figure 1.

Well ID = California State well identification number as recorded by the Department of Water Resources in Sacramento, California.

Well Type = stated well use from DWR well drillers report and maps provided by ACPWA

ft bgs = feet below grade surface

NA = Not available

(x/xx/xx) = Date ACPWA confirmed the current well use.

* = Assumed total well depth is same as total boring depth on DWR well completion report. Well construction details were not provided on DWR well completion reports.

Location of wells are based on street addresses and DWR well completion reports and ACPWA data.

ORIGINAL
File with DWR

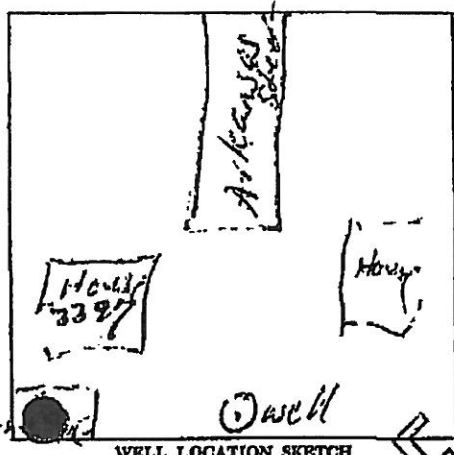
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

730' NN 5 1st Do not fill in
No. 33272
State Well No. 25/3W 4D3
Other Well No.

Notice of Intent No. 77633
Permit No. or Date 8-15-77

(1) OWNER: Name Arthur Smith
Address 3397 Arkansas Street
City Oakland, Ca Zip _____
(2) LOCATION OF WELL (See Instructions):
County Alameda Owner's Well Number _____
Well address if different from above _____
Township _____ Range _____ Section _____
Distance from cities, roads, railroads, fences, etc. _____

(12) WELL LOG: Total depth 62 ft Depth of completed well 62 ft
from ft. to ft. Formation (Describe by color, character, size or material)
0-2 Siltstone - grey to dk. brown
2-5 Clay - silty clay w/ gravel
5-20 Siltstone - grey to dk. brown
20-30 Siltstone - grey to dk. brown
30-40 Siltstone - grey to dk. brown
40-50 Siltstone - grey to dk. brown
50-62 Siltstone - grey to dk. brown



(3) TYPE OF WORK:
New Well Deepening
Reconstruction
Reconditioning
Horizontal Well
Destruction (Describe destruction materials and procedures in Item 12)
(4) PROPOSED USE:
Domestic
Irrigation
Industrial
Test Well
Stock
Municipal
Other

20-30 Siltstone - grey to dk. brown
30-40 Siltstone - grey to dk. brown
40-50 Siltstone - grey to dk. brown
50-62 Siltstone - grey to dk. brown

(3) EQUIPMENT:
Rotary Reverse
Cable Air
Bucket
(8) GRAVEL PACK:
Yes No Size _____
Diameter of bore _____
Packed from 20 to 62 ft

(7) CASING INSTALLED: Steel Plastic Concrete
(8) PERFORATIONS: Type of perforation or size of screen

From ft.	To ft.	Dia. in.	Cage or Wall	From ft.	To ft.	Slot size
1	2	6	8	20	62	1/4"

(9) WELL SEAL:
Was surface sanitary seal provided? Yes No If yes, to depth 20 ft.
Were strata sealed against pollution? Yes No Interval _____ ft.
Method of sealing Cement & sand

(10) WATER LEVELS:
Depth of first water, if known 29' ft.
Standing level after well completion 15' ft.

(11) WELL TESTS:
Was well test made? Yes No If yes, by whom? _____
Type of test Pump Bailor Air Lift
Depth to water at start of test _____ ft. At end of test _____ ft.
Discharge _____ gal/min after _____ hours Water temperature _____
Chemical analysis made? Yes No If yes, by whom? _____
Electric log made? Yes No If yes, attach copy to this report

Work started 8-16-77 Completed 8-17-77
WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
SIGNED Blair G. R. ...
NAME AAA Drilling Service
Address 1550 Market Street
City Honolulu, HI Zip 96813
License No. 225717 Date of this report 8-21-77

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER

EXXON (T0600100538) - (MAP)

3055 35TH AVE.
OAKLAND, CA 94619
ALAMEDA COUNTY
LUST CLEANUP SITE

CLEANUP OVERSIGHT AGENCIES
ALAMEDA COUNTY LOP (LEAD) - CASE #: R00000271
CASEWORKER: [BARBARA JAKUB](#)
SAN FRANCISCO BAY RWQCB (REGION 2) - CASE #: 01-0585
CASEWORKER: [Cherie McCaulou](#)
CUF Claim #: 1275
CUF Priority Assigned: B
CUF Amount Paid: \$1,011,531

[GEO_XY - BACK TO REPORT](#)

[EXPORT TO EXCEL](#)

CONF #	TITLE											SUBMITTED BY	SUBMIT DATE
9686033487	Well Survey Horizontal Data for 3055 35th Street, Oakland											Anna Avina	7/13/2004
#	GLOBAL_ID	FIELD_PT_NAME	FIELD_PT_CLASS	XY_SURVEY_DATE	LATITUDE	LONGITUDE	XY_METHOD	XY_DATUM	XY_ACC_VAL	XY_SURVEY_ORG	GPS_EQUIP_TYPE	XY_SURVEY_DESC	DIST_TO_SITE
11	T0600100538	MW-1	MW	6/2/2004	37.7908984	-122.2060211	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		30 feet
12	T0600100538	MW-2	MW	6/2/2004	37.7908024	-122.20586	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		75 feet
13	T0600100538	MW-3	MW	6/2/2004	37.7907749	-122.2060822	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		78 feet
14	T0600100538	MW-4	MW	6/2/2004	37.7908922	-122.2061904	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		64 feet
6	T0600100538	RW-10	MW	6/2/2004	37.7910566	-122.2060269	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		30 feet
7	T0600100538	RW-11	MW	6/2/2004	37.7907179	-122.2059133	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		98 feet
8	T0600100538	RW-12	MW	6/2/2004	37.7907907	-122.205977	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		69 feet
9	T0600100538	RW-13	MW	6/2/2004	37.7908731	-122.2056775	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		99 feet
10	T0600100538	RW-14	MW	6/2/2004	37.7909228	-122.2057791	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		65 feet
1	T0600100538	RW-5	MW	6/2/2004	37.790687	-122.2059876	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		106 feet
2	T0600100538	RW-6	MW	6/2/2004	37.7907263	-122.2060346	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		93 feet
3	T0600100538	RW-7	MW	6/2/2004	37.7908384	-122.2061413	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		66 feet
4	T0600100538	RW-8	MW	6/2/2004	37.7908911	-122.2060988	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		44 feet
5	T0600100538	RW-9	MW	6/2/2004	37.7909766	-122.2060831	CGPS	NAD83	30	Virgil Chavez Land Surveying	L530		25 feet

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0.015625 seconds

Surveyed Well Elevations (X-Y-Z survey)

3055 35TH AVE.
OAKLAND, CA 94619
ALAMEDA COUNTY
LUST CLEANUP SITE

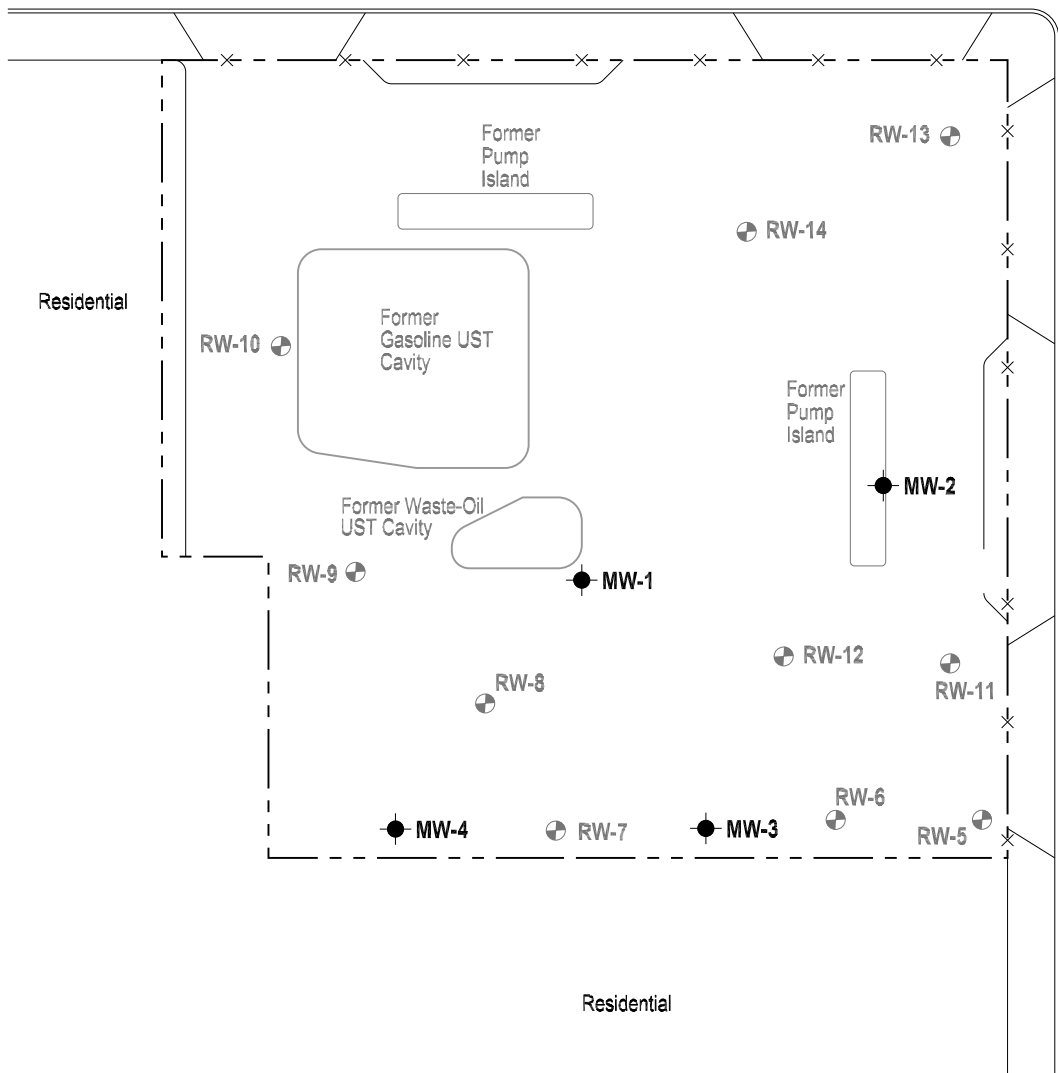
CLEANUP OVERSIGHT AGENCIES
ALAMEDA COUNTY LOP (LEAD) - CASE #: R00000271
CASEWORKER: [BARBARA JAKUB](#)
SAN FRANCISCO BAY RWQCB (REGION 2) - CASE #: 01-0585
CASEWORKER: [Cherie McCaulou](#)
CUF Claim #: 1275
CUF Priority Assigned: B
CUF Amount Paid: \$1,011,531

[GEO_Z - BACK TO REPORT](#)

[EXPORT TO EXCEL](#)

CONF #	TITLE											SUBMITTED BY	SUBMIT DATE
3661915421	Well Survey Elevation Data for 3055 35th Avenue, Oakland											Anna Avina	7/13/2004
#	GLOBAL_ID	FIELD_PT_NAME	ELEV SURVEY_DATE	ELEVATION	ELEV_METHOD	ELEV_DATUM	ELEV_ACC_VAL	ELEV SURVEY_ORG	RISER_HT	ELEV_DESC	EFFECTIVE_DATE		
1	T0600100538	MW-1	6/2/2004	167.02	CGPS	29	0.3	Virgil Chavez Land Surveying					
2	T0600100538	MW-2	6/2/2004	166.14	CGPS	29	0.3	Virgil Chavez Land Surveying					
3	T0600100538	MW-3	6/2/2004	162.94	CGPS	29	0.3	Virgil Chavez Land Surveying					
4	T0600100538	MW-4	6/2/2004	163.49	CGPS	29	0.3	Virgil Chavez Land Surveying					
10	T0600100538	RW-10	6/2/2004	163.02	CGPS	29	0.3	Virgil Chavez Land Surveying					
11	T0600100538	RW-11	6/2/2004	162.57	CGPS	29	0.3	Virgil Chavez Land Surveying					
12	T0600100538	RW-12	6/2/2004	163.06	CGPS	29	0.3	Virgil Chavez Land Surveying					
13	T0600100538	RW-13	6/2/2004	164.34	CGPS	29	0.3	Virgil Chavez Land Surveying					
14	T0600100538	RW-14	6/2/2004	163.76	CGPS	29	0.3	Virgil Chavez Land Surveying					
5	T0600100538	RW-5	6/2/2004	162.34	CGPS	29	0.3	Virgil Chavez Land Surveying					
6	T0600100538	RW-6	6/2/2004	162.36	CGPS	29	0.3	Virgil Chavez Land Surveying					
7	T0600100538	RW-7	6/2/2004	162.72	CGPS	29	0.3	Virgil Chavez Land Surveying					
8	T0600100538	RW-8	6/2/2004	164.13	CGPS	29	0.3	Virgil Chavez Land Surveying					
9	T0600100538	RW-9	6/2/2004	163.86	CGPS	29	0.3	Virgil Chavez Land Surveying					

SCHOOL STREET



35th AVENUE

EXPLANATION

- MW-1 ● Monitoring well location
- RW-6 ⊕ Remediation well location

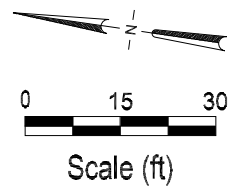


FIGURE 1