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**Keith Nowell, P.G., C.HG**
Alameda County Environmental Health (ACEH)
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;**

| Date of Report | Title of Report |
|---|---|
| June 9, 2016 | *Focused Feasibility Study and Corrective Action Plan – Revision 1* |

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**

c: **Golden Empire Properties, Inc.**
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# FOCUSED FEASIBILITY STUDY AND CORRECTIVE ACTION PLAN


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

*Fuel Leak Case RO 271*

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

GeoTracker Global ID: T0600100538

WHA PROJECT: 2X103.C

REVISION 1
JUNE 9, 2016

***Prepared for Submittal to:***

ALAMEDA COUNTY
ENVIRONMENTAL HEALTH
*Attn: Keith Nowell*
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| | | | |
|---|---|---|---|
| bgs | *Below Ground Surface* | ppb | *Parts Per Billion* |
| BTEX | *Benzene, Toluene, Ethylbenzene, and Xylenes* | ppm | *Parts Per Million* |
| ESL | *Environmental Screening Level* | µg/L | *Micrograms per Liter* |
| LTCP | *Low-Threat UST Case Closure Policy* | TPH-g | *Total Petroleum Hydrocarbons as gasoline* |
| mg/Kg | *Milligrams per kilogram* | TBA | *Tert Butanol* |
| MTBE | *Methyl tert Butyl Ether* | UST | *Underground Storage Tank* |
| NFA | *No Further Action (de minimis Condition)* | VOC | *Volatile Organic Compound* |

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## 1.0 EXECUTIVE SUMMARY

This report presents a Focused Feasibility Study and Corrective Action Plan (FS-CAP) for the underground storage tank (UST) fuel release at 3055 35th Avenue in Oakland, California (the Site). The FS-CAP was prepared in response to Alameda County Environmental Health's (ACEH's) July 30, 2015 directive.

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.

Based on the State Water Resources Control Board's *Low-Threat UST Case Closure Policy* (LTCP), proposed cleanup goals for soil, soil gas, and groundwater at the Site are presented in Section 3.0.

Evaluation of soil, soil gas, and groundwater analytical data from the Site in accordance with the LTCP guidelines / Proposed Cleanup Goals indicates **there is no risk from residual hydrocarbons in shallow soil, soil gas, or groundwater, and that the presence of residual secondary source hydrocarbons in soil at the Site is the only impediment to closure of the Site**. Data indicate hydrocarbons are migrating on to the site in groundwater from upgradient sources, and the hydrocarbon plume beneath the site is part of a larger regional plume. This fact does not alter the LTCP risk assessment for the site.

A Focused Feasibility Study of three remedial alternatives for removal of residual secondary source hydrocarbons at the Site is presented. The remedial alternatives are:

- Focused excavation below the removed USTs, including removal and re-use of the pea gravel backfill currently in the former UST excavation
- Focused excavation at the periphery of the former UST location using large diameter augers, and
- Dual Phase Extraction with extraction wells spaced close enough together to create overlapping cones of influence for removal of soil vapor/soil gas and groundwater over the entire site

**The most cost-effective remedial action/Corrective Action Plan for removal of secondary source hydrocarbons is focused excavation beneath the removed USTs**. An implementation schedule for this selected remedial alternative is presented, including post-excavation groundwater monitoring and soil gas sampling near the remaining "hot spot" encountered in previous soil gas sampling, SV-5.

## 2.0 INTRODUCTION

This report presents a Focused Feasibility Study and Corrective Action Plan (FS-CAP) for the underground storage tank (UST) fuel release site at 3055 35th Avenue in Oakland, California (the Site, Figures 1 and 2). The FS-CAP was prepared in accordance with a meeting held on July 29, 2015 at Alameda County Environmental Health's (ACEH's) offices with ACEH staff, representatives of the Responsible Party, and Weber, Hayes and Associates; the ACEH's July 30, 2015 directive; and the provisions of section 2725 of the UST regulations (CCR, Title 23, Chapter 16, Section 2600, et seq.).

The FS-CAP includes:

- The proposed cleanup goals and the basis for the cleanup goals – the State Water Resources Control Board's *Low-Threat UST Case Closure Policy* (LTCP, SWRCB, 2012) was used to establish the cleanup goals for the Site (Section 3.0)
- A summary of site characterization data (Section 4.0)
- Receptor information including likely future land use scenarios, adjacent land use and sensitive receptors, and potential groundwater receptors (Section 5.0)
- An evaluation of three remedial alternatives including a discussion of the technical feasibility and cost effectiveness (Section 6.0)
- A description of the selected remedial alternative – excavation of residual secondary source hydrocarbons below the removed USTs (Section 7.0)
- A schedule for implementation of the proposed remedial alternative, including post-excavation soil gas and groundwater sampling (Section 9.0)

A review of the site characterization data indicates the Site meets all of the General and Media-Specific Criteria for closure under the LTCP, except for General Criteria f, removal of secondary source hydrocarbons in soil. The selected remedial alternative of focused excavation below the removed UTSs removes secondary source hydrocarbons to the maximum extent practicable. Upon completion of the remedial excavation and post-excavation soil gas and groundwater sampling, the Site will be evaluated for closure based on LTCP guidelines.

## 3.0 PROPOSED CLEANUP GOALS

The proposed cleanup goals for the site are based on the State Water Resources Control Board's *Low-Threat UST Case Closure Policy* (LTCP, SWRCB, 2012). The LTCP 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 are appropriate for closure pursuant to Health and Safety Code section 25296.10.

The Chemicals of Concern (COCs) at a UST gasoline release site, per the LTCP, are: benzene, ethylbenzene, Methyl tert Butyl Ether (MTBE, in groundwater), and naphthalene. The physical and chemical characteristics of the COCs are summarized in Appendix A.

The LTCP General and Media-Specific Criteria for site closure are presented below. **The Media-Specific Criteria of the LTCP are the numeric cleanup goals proposed for the site**.

### 3.1 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***:

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. A sheen has been observed In MW-1, 2, 3, and 4 and in RW-5 and 9 (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 C of this report.***

f. Secondary source has been removed to the extent practicable – ***No. Dual Phase Extraction from 2000 to 2004 removed some secondary source petroleum hydrocarbons, but secondary***

***source hydrocarbons remain in soil from approximately 10 to 20 feet below the ground surface (bgs) primarily below the removed USTs. This is the only impediment to closure of this UST release case***

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***

### 3.2 LTCP MEDIA-SPECIFIC CRITERIA

Releases from USTs can impact human health and the environment through contact with any or all of 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

UST release sites that are candidates for closure under the LTCP must satisfy the eight general and all three media-specific criteria. The Media-Specific criteria in the Low-Threat Closure Policy provide the numeric cleanup goals for hydrocarbons in soil, soil gas, and groundwater at the Site.

#### 3.2.1 *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 of 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 as drinking water at the site and in the vicinity is provided by the East Bay Municipal Utilities District from the Mokelumne River in the Sierra Nevada Mountains**.

In addition, over twenty years of groundwater monitoring data from the Site 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 and the concentration of benzene in the plume. However, the Site does meet 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 conclusion is based on the following site specific conditions:

- The extent of the dissolved hydrocarbon plume (extending approximately 650 feet from the Site, see Figure 3)
- The low to non-detectable concentrations of hydrocarbons in soil gas above the dissolved hydrocarbon plume (See Figures 8 and 9), and
- The distance from the Site to Peralta Creek along the groundwater flow direction (1,150 feet, Figure 1), and the maximum extent of the hydrocarbon plume that exceeds groundwater quality objectives is 650 feet from the site

The accumulated data indicate the fuel release case at the Site can be closed under current conditions in accordance with Groundwater-Specific Criteria Class 5 of the LTCP. Site characterization data is summarized in Section 4.0 and compared to groundwater specific screening criteria/cleanup goals in Section 4.3.

### 3.2.2 *Petroleum Vapor Intrusion to Indoor Air Media-Specific Criteria*

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 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).

**We propose the media-specific soil gas criteria from the LTCP, summarized in the following Table, as the cleanup goals for petroleum hydrocarbons in soil vapor/soil gas at the site**.

**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/$m^3$ = micrograms per cubic meter. Bio-Attenuation Zone = Oxygen content greater than 4 percent.

Site data indicate that the residual petroleum hydrocarbon COCs in soil gas at the Site are below commercial LTCP screening levels, allowing closure of the Site in accordance with Soil Gas-Specific Criteria of the LTCP. Concern with the one on-site soil gas sample near the property boundary (SV-5), where benzene exceeded the ***residential*** soil gas screening level (the site is zoned for commercial use), suggest an additional sample in this area is appropriate, see Section 4.2 and the recommendation in Section 9. Site characterization data is summarized in Section 4.0 and compared to soil gas-specific screening criteria/cleanup goals in Section 4.2.

### 3.2.3 *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 volatized 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 and shall be considered low-threat if concentrations of COCs are below the screening levels specified in the LTCP. These screening levels are summarized in the table below. **We propose these LTCP screening levels as the cleanup goals for COCs in soil between the ground surface and 10 feet bgs at the site as shown 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. **The LTCP does not present a numeric cleanup goal for hydrocarbons in soil greater than 10 feet bgs in depth, implying that these hydrocarbons can safely be left in place - as long as LTCP General Criteria f that requires secondary source hydrocarbons beneath the source be removed to the maximum extent practicable is also met**. Site characterization data indicates hydrocarbons are present in soil at many locations on the site at depths greater than 10 feet bgs. **We propose to use the concentration limits for soil from five to 10 feet bgs as the cleanup goals for soil deeper than 10 feet bgs**.

Site data indicate that the residual petroleum hydrocarbon COCs in soil between the ground surface and 10 feet bgs at the Site are below residential LTCP screening levels, allowing closure of the Site in accordance with Soil-Specific Criteria of the LTCP, once secondary source hydrocarbons below the removed USTs are removed to the maximum extent practicable. Site characterization data is summarized in Section 4.0 and compared to soil-specific screening criteria/cleanup goals in Section 4.1.

The proposed cleanup goals for the Site are summarized in the table below by Chemical of Concern and environmental media. Any residual risks identified after removal of secondary source hydrocarbons can be addressed by deed restrictions and/or site management plans.

**Proposed Cleanup Goals for 3055 35th Avenue, Oakland, CA**

| Chemical / Media | Land Use | Benzene | Ethylbenzene | Naphthalene | MTBE |
|---|---|---|---|---|---|
| Soil Gas (µg/m$^3$) No Bio-attenuation | Residential | 85 | 1,100 | 93 | NR |
| | Commercial | 280 | 3,600 | 310 | NR |
| Soil Gas (µg/m3) w/Bio-attenuation | Residential | 85,000 | 1,100,000 | 93,000 | NR |
| | Commercial | 280,000 | 3,600,000 | 310,000 | NR |
| Soil (mg/kg) 0-5 feet bgs | Residential | 1.9 | 21 | 9.7 | NR |
| | Commercial | 8.2 | 32 | 9.7 | NR |
| Soil (mg/kg) 5-10 feet bgs | Residential | 2.8 | 89 | 45 | NR |
| | Commercial | 12 | 34 | 45 | NR |
| Soil (mg/kg) 0-10 feet bgs | Utility Worker | 14 | 314 | 219 | NR |
| Soil >10 feet bgs | Any | 12, MEP in source area | 34, MEP in source area | 45, MEP in source area | NR |
| Groundwater (ug/L)* | Any | 1,000-3,000 | NR | NR | 1,000 |

Bio-attenuation = Bio-attenuation zone (as described in Appendix 4, Scenario 4 of the LTCP for direct measurement of soil gas concentrations) is present
NR = Not Regulated MEP = Remove Hydrocarbons to Maximum Extent Practicable
*= Acceptable concentrations of hydrocarbons in groundwater depend on the size of dissolved hydrocarbon plume and distance to nearest surface water and/or production well as described in the State Water Board's *Low-Threat UST Case Closure Policy* (LTCP)

We reviewed all of the data related to the UST release at this site in the framework provided by the LTCP by comparing site data to the cleanup goals presented above in Section 4.0.

## 4.0 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 B. The Updated Conceptual Site Model is presented as Appendix C. A summary of site characterization data is presented below, followed by a comparison of site characterization data to the proposed cleanup goals for hydrocarbons in soil, soil gas, and groundwater.

On-site soil sample locations and analytical results are shown on Figure 4. Conestoga Rovers and Associates (CRA's) Phase I and II work in 2007 and 2008 provided the most comprehensive picture of the extent of hydrocarbons at and downgradient of the site. CRA's 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; 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 dissolved hydrocarbons in groundwater (exceeding LTCP Groundwater-Specific Criteria for Classes 1-4) and in deep smear zone soil (greater than 10 feet bgs)**.

Weber, Hayes and Associates (WHA) became the consultant for the site in 2011. Soil sample analytical data from WHA's May 2012 *Data Gap Assessment* is summarized on Table 4 and Figure 4. Naphthalene data was obtained from the laboratory for these soil samples and added to Table 4 and Figure 4. The revised laboratory report is presented as Appendix D.

The most recent groundwater analytical data (July 2015) and the extent of the dissolved hydrocarbon plume that exceeds water quality objectives in are presented on Figure 3; Figures 10 and 11 show the extent of the dissolved hydrocarbon plume in December 2000 and 2007-2008, respectively. Historical groundwater elevation and analytical data, including those by previous consultants, are summarized on Table 5. Charts showing the concentration of Total Petroleum Hydrocarbons as gasoline (TPH-g) and benzene over time in monitoring wells MW-1 through 4 and remediation wells RW-5 and 9 are presented on Figures 12 through 17. Note that the concentration axis on these charts is logarithmic.

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

### 4.1 HYDROCARBON CONCENTRATIONS IN SOIL COMPARED TO CLEANUP GOALS

Soil sample analytical results indicate:

- Only non-detect to trace levels of hydrocarbons, at concentrations below LTCP guidelines, were detected in the top ten feet of soil on- and off-site – **indicating there is no risk from residual hydrocarbons in soil and the Site meets the Soil-Specific Criteria for closure in the LTCP** (data is summarized in Tables 1 and 4 and Figures 4, 5 and 6)
- Residual hydrocarbons are present on-site from 10 to 21 feet bgs, but only exceed the cleanup goal of 12 mg/kg benzene at three locations: at boring B-1 at 20 feet bgs (56 mg/kg in November 1991), at boring B-7 at 15 feet bgs (28 mg/kg in November 1991), and at boring DP-6 at 21 feet (36 mg/kg in May 2012 – see Figure 4). Data from nearby boring DP-4 indicates the benzene contamination in B-1 at 20 feet has likely degraded due to natural attenuation processes. Data from boring SB-G/MW-1 (benzene not detected in May 1994), which is near B-7, indicates the benzene contamination in B-7 at 15 feet has likely degraded due to natural attenuation processes and it is not cost effective to try to remove this possible isolated residual benzene contamination. **The highest concentrations of residual secondary source hydrocarbons in soil at the site are located beneath the removed USTs**. **This secondary source should be removed from the site**.
- Hydrocarbons were present in soil from 10 to 20 feet bgs in the off-site first transect/Phase I borings, likely due to advective transport by groundwater in the smear zone. Only the concentration of benzene in boring B-16 at 12 feet bgs (41 mg/kg) exceeds the cleanup goal for deep soil. Soil gas data from nearby SV-9 indicate there is no threat of vapor intrusion in this area (see Figures 5, 7, and 9). This contamination is inaccessible, and these deep; residual hydrocarbons do not pose a threat to human health or the environment and are not an impediment to closure.
- No hydrocarbons were detected in the samples from the off-site second transect/Phase II borings, indicating advective transport of hydrocarbons did not reach the second transect, located about 375 feet downgradient of the site
- Based on the absence of hydrocarbons in the transect 2/Phase II soil samples, **we estimate the maximum extent of hydrocarbons in soil in the smear zone is approximately 235 feet from the**

**site**. Natural attenuation should reduce the concentrations of hydrocarbons in the off-site smear zone, especially if the secondary source is removed at the Site. These residual hydrocarbons do not pose a threat to human health or the environment and are not an impediment to closure.

### 4.2 HYDROCARBON CONCENTRATIONS IN SOIL GAS COMPARED TO CLEANUP GOALS

Soil gas sample analytical results from the Phase I and II investigations (Figures 7 and 9) indicate:

- The concentration of benzene in on-site soil gas samples from a depth of 5 feet bgs was below commercial LTCP screening levels for a site without a bio-attenuation zone. 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. On-site soil gas samples were not analyzed for ethylbenzene or naphthalene, the other COCs at the Site, 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, **the Site meets the Soil Gas-Specific Criteria of the LTCP for closure**. Due to the location of soil gas sample SV-5 near the north property line, the adjacent residence to the north near this location, and the concentration of benzene in SV-5 exceeding the ***residential*** soil gas screening level, we recommend that a verification soil gas sample be collected at this location to confirm soil gas concentrations have been reduced below screening levels. This sample should be analyzed for TPH-g, benzene, toluene, ethylbenzene and xylenes (BTEX), MTBE and percent oxygen for evaluation in accordance with LTCP guidelines.

- Neither benzene nor ethylbenzene were detected in the off-site soil gas samples. 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, **there is not a risk of vapor intrusion from hydrocarbons in residual soil gas to the residences downgradient of the Site, and the Site meets the Soil Gas-Specific Criteria of the LTCP for closure at the off-site residences**.

### 4.3 HYDROCARBON CONCENTRATIONS IN GROUNDWATER COMPARED TO CLEANUP GOALS

Groundwater analytical data from 2008 is presented on Figures 8 and 11. The 2008 groundwater data are the most extensive and fully define the extent of the dissolved hydrocarbon plume that exceeds water quality objectives. We believe this data is representative of overall site conditions. Figures 3 and 10 present the extent of the dissolved hydrocarbon plume in 2015 and 2000, respectively. The groundwater data indicate:

- TPH-g and BTEX were not detected in any of the downgradient, Phase II transect borings, indicating **the TPH-g/BTEX plume did not extend to this transect, approximately 375 feet from the Site**
- The lack of TPH-g and benzene in the Phase II samples indicate the dissolved hydrocarbon plume is stable and that TPH-g and BTEX are attenuating and limited to a distance between the two transects (approximately 250 feet from the Site)
- MTBE was detected on-site and in all first transect borings (concentrations ranged from 12 to 3,500 micrograms per liter [µg/L, parts per billion, 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 (concentrations ranged from "not detected" to 150 ppb, with the maximum in B-27 – which was downgradient of B-14), indicating the MTBE plume did just extend to the second transect, approximately 375 feet west of the Site, and may be following a specific transport pathway.
- **Based on the attenuation with distance demonstrated in this investigation we estimate the maximum extent of the MTBE / dissolved hydrocarbon plume is likely 650 feet downgradient of the Site**. **The nearest surface water body, Peralta Creek, is located approximately 1,150 feet downgradient of the Site along the groundwater flow direction (see Figure 1)**. **The data indicates the dissolved hydrocarbon plume is stable and will never reach surface water**.
- The complete set of groundwater data to date suggests at least two mingling sources of hydrocarbons in groundwater at the site itself, 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 from upgradient sources. The dissolved hydrocarbon plume mapped on Figure 3 is part of a larger regional plume, but the LTCP risk analysis is still valid – this plume does NOT pose a risk to human health or the environment.

The low concentrations of hydrocarbons in the Phase I soil gas samples and the absence of hydrocarbons in the Phase II off-site soil gas samples, despite the concomitant high concentrations of benzene in groundwater at nearby sampling locations (see Figure 9), indicates that **off-gassing of hydrocarbons from the dissolved plume to soil gas and subsequent exposure to hydrocarbons either outdoors or indoors via the vapor intrusion exposure pathway is an incomplete exposure pathway. This means there is not a risk to the residences downgradient of the Site or to future commercial site users from residual benzene in groundwater**. The following Table compares the concentrations of benzene in shallow soil gas with the concentration in nearby groundwater (see Figure 9):

| Benzene in Soil Gas | Benzene in nearby Groundwater |
|---|---|
| SV-2: 38 µg/m$^3$ | MW-3: 4,100 µg/L |
| SV-3: 14 µg/m$^3$ | MW-4: 630 µg/L |
| SV-9: < 6.5 µg/m$^3$ | B-16: 7,700 µg/L |
| 85 µg/m$^3$ = Residential LTCP Soil Gas Screening Level | |

Groundwater monitoring data through July 2015 show hydrocarbon concentrations generally decreased over time at the Site, indicating the residual hydrocarbon plume is stable, but **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 are raising the concentration of hydrocarbons in groundwater at the Site**. The observed increase of benzene in Site monitoring wells since 2009 and TPH-g since 2012 can be attributed to these off-site releases (see Figures 12 through 17). The hydrocarbon plume associated with the site is part of a larger regional plume, but the LTCP risk analysis is still valid – this plume does NOT pose a risk to human health or the environment, and **the Site meets Class 5 of the Groundwater-Specific Criteria for Low-Threat UST Case Closure**.

### 4.4 SUMMARY OF SITE CHARACTERIZATION DATA

In summary, the analytical data indicate:

- There is no risk from residual hydrocarbons in soil and the Site meets the Soil-Specific Criteria for closure in the LTCP (data is summarized in Tables 1 and 4 and Figures 4, 5 and 6)
- The Site meets the Soil Gas-Specific Criteria of the LTCP for closure
- Soil gas data indicate the volatile components of the groundwater hydrocarbon plume cannot reach the surface or the interior of overlying buildings where possible receptors may be exposed to them
- The dissolved hydrocarbon plume *from the Site* is limited in extent to approximately 650 from the Site and is stable – it will not reach the nearest surface water which is 1,150 feet from the site in the downgradient direction.
- There are no water supply wells downgradient of the site that could be impacted by the dissolved hydrocarbon plume.

Our review of all the data related to the UST release at this site in the framework provided by the LTCP and the cleanup goals presented above (Section 3.0) indicates the concentrations of residual COCs in shallow soil, soil gas, and groundwater are below Cleanup Goals. The only remaining impediment to closure of the Site is the removal of secondary source petroleum hydrocarbons is soil below the removed USTs to the maximum extent practicable, as required by LTCP General Criteria f. The selected remedial alternative of focused excavation beneath the former UST excavation removes residual secondary source hydrocarbons to the maximum extent practicable in the most economic manner (see below, Section 6.0). Implementation of this alternative should allow closure of the Site under the LTCP after verification soil gas and groundwater sampling.

## 5.0 EXPOSURE PATHWAYS AND POTENTIAL RECEPTORS

Contaminant transport and exposure pathways are the mechanisms by which a Chemical of Concern (COC) from the fuel release at a site may contact a receptor. A receptor is a human or other living organism with the potential to be exposed to and adversely affected by a COC from the Site.

A complete exposure pathway consists of (1) a source of COCs (described above), (2) COC transport or the physical migration of the COCs, (3) a point of exposure where a receptor may come in contact with COCs, and (4) an exposure route, such as dermal contact, inhalation, and/or ingestion. If any part of the exposure pathway is ***incomplete***, a receptor cannot be exposed to the COC. COC transport and exposure pathways for the Site are presented diagrammatically on Figure 20 and discussed below.

### 5.1 COC TRANSPORT

The COC transport pathways at the Site that are complete are:

- Hydrocarbon contamination of soil greater than 10 feet bgs (deep soil) from the source/UST release (confirmed by soil sampling)
- Leaching of hydrocarbons to groundwater (confirmed by groundwater sampling)
- Dissolved phase migration of hydrocarbons in groundwater (confirmed by off-site soil and groundwater sampling)

The contaminant transport pathways at the Site that are ***incomplete*** are:

- Hydrocarbon contamination of soil less than 10 feet bgs (shallow soil) (confirmed by soil sampling)
- Vapor migration of hydrocarbons from soil or groundwater to soil gas and potentially to indoor or outdoor air (incomplete - concentrations of hydrocarbons in 5-foot bgs soil gas samples are below LTCP screening levels)
- Hydrocarbon contamination of groundwater for potable use (incomplete based on potable water source in the Sierra Nevada – via EBMUD) , and
- Migration of hydrocarbons with groundwater and discharging of hydrocarbons to surface water (incomplete based on plume length and distance to nearest surface water along the groundwater flow path)

### 5.2 EXPOSURE PATHWAYS/POINT OF EXPOSURE/POTENTIAL RECEPTORS

Exposure pathways are the mechanisms by which receptors may come into contact with a COC. A "point of exposure" is where a receptor comes into contact with a COC. Exposure pathways leading to ***potential*** points of exposure for receptors at the Site and in the vicinity are:

- Site construction workers coming in contact with hydrocarbon contaminated soil or soil gas at the site
- Future Site users or workers (the Site is zoned for commercial use) being exposed to volatile vapors from residual hydrocarbons in soil and / or groundwater
- Nearby residents (adjacent to and downgradient of the Site, along 35th Avenue, School Street and Bartlett Street), and/or off-site construction workers being exposed to volatile vapors from residual hydrocarbons in soil and / or groundwater

**Analytical data collected at the site and in the vicinity, as described in Section 4.0, and evaluated using Site Cleanup Goals based on the State Water Board's Low-Threat UST Case Closure guidelines as described in Section 3.0, indicate all of these potential exposure pathways at the site are *incomplete*, as shown on Figure 20**.

### 5.3 OTHER SENSITIVE RECEPTORS/ POTENTIAL GROUNDWATER RECEPTORS

A 2,000-ft radius, sensitive receptor survey was completed in 2006 (Cambria, 2006) to identify other potential sensitive receptors, such as potable supply or irrigation wells, schools, churches, hospitals, and known daycare facilities. The survey determined that within the target radius, no potable 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, or daycare centers) located downgradient of the plume, and therefore **none of these potential sensitive receptors are likely to be impacted by the residual dissolved hydrocarbon 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 and the attenuated plume limits (maximum 650 feet from the site).

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 would restore groundwater quality to

what it was prior to degradation by hydrocarbons. Removal of secondary source hydrocarbons from the site and natural attenuation will restore groundwater quality in a reasonable amount of time at this site, protecting future groundwater resources.

## 6.0 FOCUSED FEASIBILITY STUDY: REMOVAL OF SECONDARY SOURCE HYDROCARBONS

Based on the July 29, 2015 meeting with ACEH staff, the ACEH's July 30, 2015 directive; and in accordance with the provisions of section 2725 of the California UST regulations (CCR, Title 23, Chapter 16, Section 2600, et seq.), we evaluated three corrective action options/remedial alternatives to remove residual secondary source hydrocarbons from the Site. Removal of residual secondary source hydrocarbons from the Site will remove the last impediment to site closure in accordance with the State Water Resources Control Board's *Low-Threat UST Case Closure Policy*.

We screened three corrective action options/remedial alternatives for removal of secondary source hydrocarbons:

- Focused excavation below the removed USTs, including removal and re-use of the pea gravel backfill currently in the former UST excavation
- Focused excavation at the periphery of the former UST location using large diameter augers, and
- Dual Phase Extraction

Each remedial alternative is evaluated for technical feasibility, cost and effectiveness below:

### 6.1 FOCUSED EXCAVATION BELOW THE REMOVED USTS

This remedial alternative entails (see Figure 21):

- Drilling four direct push borings through the UST pea gravel backfill and collecting soil samples below the backfill / former USTs to characterize the soil for direct loading and hauling to the landfill during the excavation (see Figure 16)
- Pre-arranging for landfill acceptance of the hydrocarbon contaminated soil beneath the former USTs based on the characterization samples
- Removing the remediation system electrical power connection and treated water disposal connection to the sanitary sewer

- Properly destroying (under permit) all of the monitoring and remediation wells at the site as they would likely be damaged during excavation
- Excavating the pea gravel currently in the former UST excavation and the hydrocarbon contaminated secondary source soil beneath the excavation to approximately 21 feet bgs. The area of the excavation will be approximately 35 feet by 50 feet; the total volume of the excavation will be approximately 1,400 cubic yards (cy). The pre-characterized soil would be "hot" loaded directly onto trucks for transport to the appropriate landfill as it is excavated.
- Backfilling the excavation: segregated pea gravel (estimated to be 75% of the existing 700 cy, or 550 cy) and clean imported engineered fill (approximately 850 cy) would be used to backfill the excavation. The pea gravel will be wrapped in a geotextile at the bottom of the excavation. The engineered fill will be placed on top of the pea gravel and geotextile and compacted. Compaction tests will be made in the top five feet of fill.
- Collecting post-excavation groundwater samples at four locations on-site via direct push/hydropunch sampling and analyzing the samples for TPH-g, BTEX, MTBE, and tert Butanol (TBA) by EPA Method 8260
- Collecting a post-excavation soil gas sample near SV-5 to assess the current soil gas concentration on-site at the location with the highest concentration of benzene in soil gas. The soil gas sample will be analyzed at a state-certified laboratory for TPH-g, BTEX, MTBE, TBA, naphthalene and percent oxygen by EPA Methods TO-15 and 3C.
- Preparing a technical report describing the remedial excavation and summarizing excavation and landfill volumes and landfill acceptance sample analytical results and post-excavation groundwater and soil gas analytical data

This remedial alternative is technically feasible. Shoring is not necessary, but the excavation may have to be benched in the uncontaminated upper ten feet of soil surrounding the former UST location. If benching is necessary, the uncontaminated soil removed for the bench would be replaced at the end of the project.

The estimated cost for this remedial alternative is $419,250, see Table 6.

This remedial alternative if very effective, it removes 700 cubic yards of the residual secondary source hydrocarbon-contaminated soil with the highest concentrations of hydrocarbons.

### 6.2 FOCUSED EXCAVATION USING LARGE DIAMETER AUGERS

This remedial alternative entails (see Figure 22):

- Drilling eight direct push borings in the area around the former USTs (the large diameter augers cannot drill through the pea gravel backfill in the UST excavation) and collecting soil samples to characterize the residual secondary source hydrocarbon-contaminated soil for direct loading and hauling to the landfill during excavation (see the Large Diameter Auger locations on Figure 17)
- Pre-arranging for landfill acceptance of the secondary source hydrocarbon contaminated soil based on the characterization samples
- Removing the remediation system electrical power connection and treated water disposal connection to the sanitary sewer
- Properly destroying (under permit) all of the monitoring and remediation wells at the site as they would likely be damaged during Large Diameter Auger excavation
- Removing hydrocarbon-contaminated secondary source soil at the periphery of the former UST excavation to a depth of approximately 21 feet bgs using 6-foot diameter Large Diameter Augers (18 LDA holes). The total volume of the removed soil will be will be approximately 400 cy. The pre-characterized soil would be "hot" loaded directly onto trucks for transport to the appropriate landfill
- To allow continued work by the LDA rig, each hole will be backfilled with 2-sack sand slurry. The LDA rig will drill every other hole to allow time for the slurry to set up, then come back and drill the remaining holes
- A technical report describing the remedial excavation and summarizing excavation and landfill volumes and landfill acceptance sample analytical results will be prepared
- Collecting post-excavation groundwater samples at four locations on-site via direct push/hydropunch sampling and analyzing the samples for TPH-g, BTEX, MTBE, and tert Butanol (TBA) by EPA Method 8260
- Collecting a post-excavation soil gas sample near SV-5 to assess the current soil gas concentration on-site at the location with the highest concentration of benzene in soil gas. The

soil gas sample will be analyzed at a state-certified laboratory for TPH-g, BTEX, MTBE, TBA, naphthalene and percent oxygen by EPA Methods TO-15 and 3C.

This remedial alternative is technically feasible.

The estimated cost for this remedial alternative is $439,560, see Table 7.

This remedial alternative, though higher in cost, is less effective than alternative 1. It removes only 400 cubic yards of residual secondary source hydrocarbon-contaminated soil, but the secondary source soil with the highest concentrations of hydrocarbons is left in place below the pea gravel fill in the former UST excavation because this soil is not accessible by LDA, which cannot drill through gravel. This remedial alternative is not recommended.

### 6.3 DUAL PHASE EXTRACTION

Dual Phase Extraction (DPE) is an in situ remediation technique that uses a high vacuum blower to simultaneously extract soil gas/vapor and groundwater containing hydrocarbons from the subsurface via remediation wells. At the surface the extracted soil gas and groundwater are separated and treated prior to discharge. This technique has been used at the site with limited success due to improperly screened and too widely spaced wells. DPE wells need to be properly screened in similar permeability zones and spaced close enough together to create overlapping cones of depression in groundwater and movement of subsurface air and soil gas at the maximum distance between wells.

This remedial alternative entails (see Figure 23):

- Conducting a pilot test of DPE to determine zones of influence for both groundwater extraction and soil gas extraction in both lower permeability and higher permeability zones at the site (see Figure 19 for site lithology). This data would be used to determine remediation well spacing, remediation well screen intervals, and the number of remediation wells necessary.
- Designing and engineering the DPE system including number and location of DPE remediation wells, remediation well screen intervals, and specifying DPE and treatment equipment
- Reconnecting the existing remediation system electrical power, obtaining building and air discharge permits, and re-permitting the treated water disposal connection to the sanitary sewer

- Installing new properly screened remediation wells at the location of the removed USTs. We calculate that, at a minimum, 12 remediation wells will be necessary. The final determination of the number of remediation wells will depend on the results of pilot testing.
- Connecting the remediation wells to the remediation equipment compound.
- Obtaining and installing DPE remediation equipment including High Vacuum Liquid Ring Blower, Air-Water Separator, water transfer pump, Air Pollution Control Device, and Water Treatment System
- Commissioning the Remediation System including start up sampling and reporting
- Operating and maintaining the DPE remediation system
- Remedial evaluation groundwater sampling of TPH-g, BTEX, MTBE, and TBA - semi-annually with reporting
- Performing annual remediation progress assessments with a technical report of findings
- Post remediation groundwater and soil gas sampling and reporting. Soil gas sampling will be near SV-5 to assess the current soil gas concentration on-site at the location with the highest concentration of benzene in soil gas. The soil gas sample will be analyzed at a state-certified laboratory for TPH-g, BTEX, MTBE, TBA, naphthalene and percent oxygen by EPA Methods TO-15 and 3C.
- Remediation System Removal and Site Restoration

This remedial alternative is technically feasible.

The estimated cost for this remedial alternative is $490,000, see Table 8.

This remedial alternative is more expensive than the other alternatives and its' effectiveness is unknown at this point. This remedial alternative is not recommended.

Focused excavation beneath the former USTs is the most cost-effective remedial option for removal of secondary source hydrocarbons at the Site. We recommend this alternative be implemented to move the site toward closure.

## 7.0 SELECTED REMEDIAL ALTERNATIVE – FOCUSED EXCAVATION BELOW REMOVED USTs

The most cost-effective remedial alternative is focused excavation beneath the former UST excavation.

This alternative removes residual secondary source hydrocarbons (with the highest concentrations) to the maximum extent practicable in the most cost-effective manner. We recommend that this alternative be selected as the corrective action for the Site.

## 8.0 IMPLEMENTATION SCHEDULE

The proposed implementation schedule is:

- FS-CAP review and approval: Third Quarter 2016
- Public Comments and Final approval of FS-CAP / Pre-Field Planning / Characterization Soil Sampling for Disposal /Well Destruction / Remove remediation system electrical power and treated water disposal connections / Remedial Permitting / Contractor Coordination: Third Quarter 2016
- On-site excavation of residual secondary source hydrocarbons: Late Third/Early Fourth Quarter 2016
- Post-Excavation soil gas and groundwater sampling Fourth Quarter 2016
- Technical Reporting and Site Closure: First Quarter 2017

## 9.0 SUMMARY AND RECOMMENDATIONS

- 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.
- Proposed cleanup goals for soil, soil gas, and groundwater at the Site are presented in Section 3.0 based on the State Water Resources Control Board's *Low-Threat UST Case Closure Policy* (LTCP).

**Site characterization data indicates it is appropriate to close the UST Release Case at the site under the *Low-Threat UST Case Closure Policy* following removal of residual secondary source hydrocarbons in soil at the Site from 10 to 20 feet bgs below the removed USTs**:

- Non-detectable to trace amounts of hydrocarbons (at concentrations below LTCP closure guidelines) were detected in shallow soil samples (less than 10 feet below the ground surface [bgs]) on- and off-site, **indicating there is no risk from residual hydrocarbons in soil on-and off-site**.

- Secondary source hydrocarbons remain in soil from 10 to 20 feet bgs at the Site, primarily beneath the former UST excavation. **These secondary source hydrocarbons are the primary impediment to closure of the Site and should be removed by excavation to the maximum extent practicable as recommended in Section 6. 0**.

- Hydrocarbons were transported by advective flow of groundwater up to 235 feet downgradient of the site in deeper soil /smear zone soil (greater than 10 feet bgs). Natural attenuation should reduce the concentrations of hydrocarbons in the off-site smear zone soil, especially if the secondary source is removed at the Site.

- The concentration of hydrocarbons in on-site shallow (5 feet bgs) soil gas samples was below commercial LTCP screening levels, **indicating there is no risk from residual hydrocarbons in soil gas on-site**. In five of the six on-site soil gas samples the concentration of benzene was below the residential LTCP screening level also. Due to the location of soil gas sample SV-5 near the north property line, the adjacent residence to the north near this location, and the concentration of benzene in SV-5 exceeding the ***residential*** soil gas screening level (Figures 7 and 9), we recommend that a verification soil gas sample be collected at this location to confirm soil gas concentrations have been reduced below screening levels. This sample should be analyzed for TPH-g, BTEX, MTBE and percent oxygen for evaluation in accordance with LTCP guidelines.

- Hydrocarbons were not detected in the off-site soil gas samples, and the oxygen concentration indicated there is a bio-attenuation zone for hydrocarbons off-site. **There is not a risk of vapor intrusion from hydrocarbons in residual soil gas to the residences downgradient of the Site**.

- Groundwater monitoring data through July 2015 show hydrocarbon concentrations generally decreased over time at the Site, indicating the residual hydrocarbon plume is stable

- **A round of post-excavation groundwater verification samples should be collected and analyzed**

- Recent data indicates hydrocarbons are migrating on-site from upgradient sources – the *active* QuikStop station across 35th Avenue and apparently to a lesser extent from the *abandoned* Texaco station across School Street. The dissolved hydrocarbon plume at the site is part of a

larger regional plume, but the LTCP risk assessment is still valid - – this plume does NOT pose a risk to human health or the environment. Natural attenuation will restore groundwater quality at and downgradient of the site in a reasonable time frame.

Removal of residual secondary source hydrocarbons from the Site is the last impediment to site closure in accordance with the State Water Resources Control Board's *Low-Threat UST Case Closure Policy*. Three corrective action options/remedial alternatives to remove residual levels of secondary source hydrocarbons from the Site were evaluated:

- Focused excavation below the removed USTs, including removal and re-use of the pea gravel backfill currently in the former UST excavation
- Focused excavation at the periphery of the former UST location using large diameter augers, and
- Dual Phase Extraction

**The most cost-effective remedial alternative is focused excavation beneath the former UST excavation**. We recommend that this alternative be implemented as the Corrective Action Plan for the Site.

## 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.

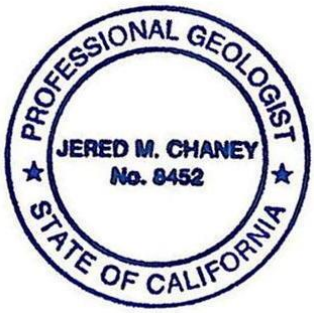
Sincerely yours,

WEBER, HAYES AND ASSOCIATES

A California Corporation

By: _____

Jered Chaney, PG
*Project Geologist*




And: _____

Craig B. Drizin, PE
*Senior Engineer*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## 11.0 REFERENCES

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- 2011, September 20: *Request for Work Plan*
- 2012, May 3: *Work Plan Approval*
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- 1997, June 27: *Risk-Based Corrective Action Analysis*
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- 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**:**

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State Water Resources Control Board:

- Upload/download website (site ID#:T0600100538): http://geotracker.swrcb.ca.gov/profile_report.asp?global_id=T0600100538
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- 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)*
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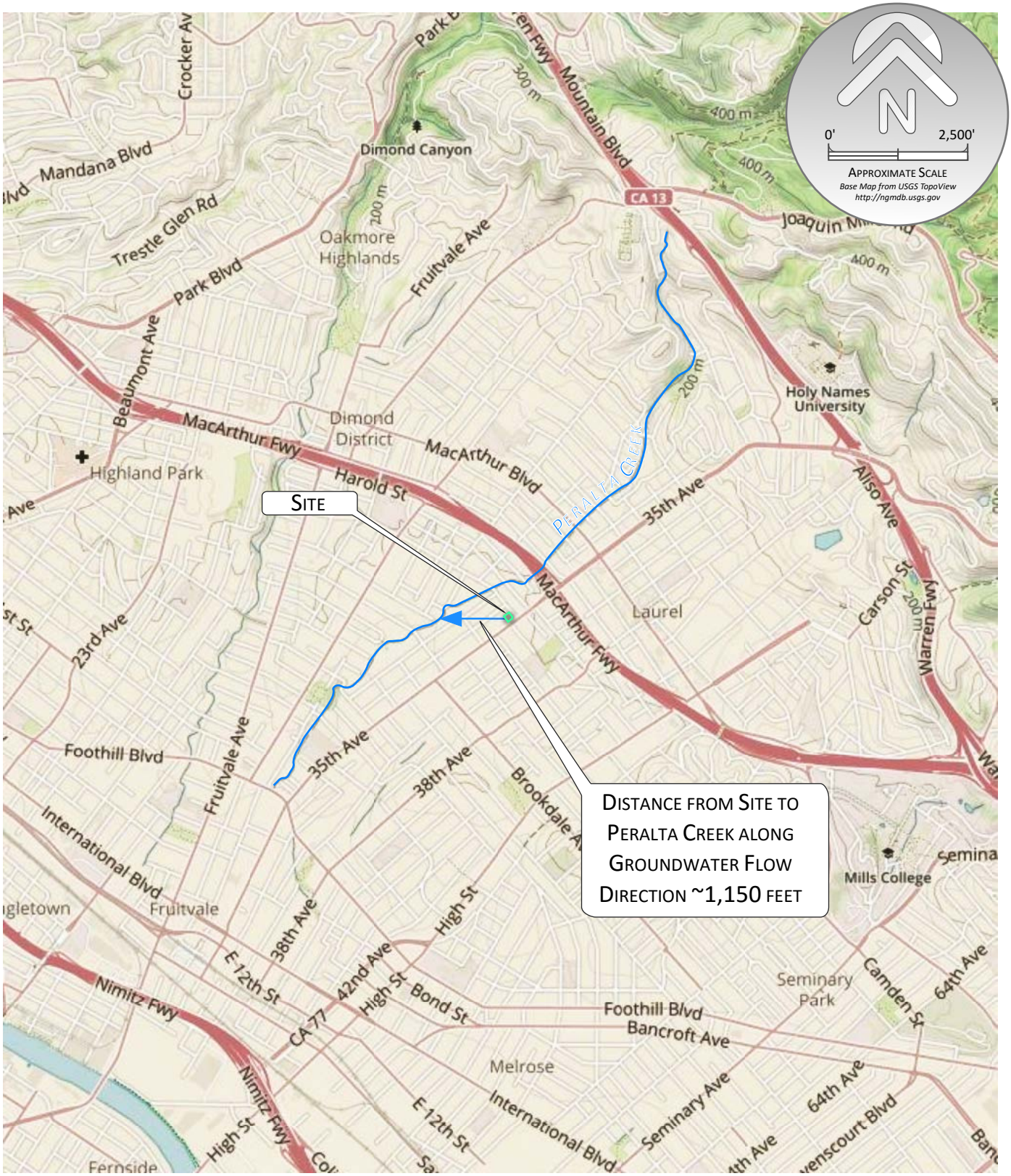
# FIGURES

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# Location Map

Site: Former Exxon Station
Address: 3055 35th Avenue, Oakland, CA

Date: September 2015

Revisions/Notes:

**Figure 1**
*Project 2X103.C*

# FIGURE 2

*Project 2X103.C*

# VICINITY MAP

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

REVISIONS/NOTES:

DATE: SEPTEMBER 2015


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HUMBOLDT AVENUE
SCHOOL STREET
SUTTER STREET
MANGELS AVENUE
BARTLETT STREET
HAGEMAN AVENUE
PENNIMAN AVENUE
PENNIMAN AVENUE
35TH AVENUE

GREEN OAK BUILDERS
(FORMER TEXACO STATION)
3101 35TH AVENUE
GLOBAL ID: T0600100538

QUIK STOP
(ACTIVE GAS STATION)
3130 35TH AVENUE

PUMP ISLAND

UST Excavation 1991

APPROXIMATE SCALE
BASE MAP GENERATED FROM AND GOOGLE EARTH
0' 80'

HISTORICAL GROUNDWATER FLOW DIRECTION
Data collected by previous consultants (1996-2008) and WHA (2011-)

## 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

# FIGURE 3

*Project 2X103.C*

# HYDROCARBON PLUME JULY 2015

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

REVISIONS/NOTES:

DATE: SEPTEMBER 2015


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0' 80'

APPROXIMATE SCALE
*BASE MAP GENERATED FROM AND GOOGLE EARTH*

HISTORICAL GROUNDWATER FLOW DIRECTION
*Data collected by previous consultants (1996-2008) and WHA (2011-)*

HUMBOLDT AVENUE
BARTLETT STREET
SCHOOL STREET
SUTTER STREET
MANGELS AVENUE
HAGEMAN AVENUE
PENNIMAN AVENUE
35TH AVENUE

**MW-4**
Elevation = 147.26'
TPH-d: **1,800* ppb**
**TPH-g: 6,900** ppb**
**B: 2,300 ppb**
T: 4.7 ppb
E: 47 ppb
X: 5.4 J ppb
MTBE: **18 ppb**
TBA: **100 ppb**
D.O.: 0.83 mg/L

**RW-9**
Elevation = 147.57'
TPH-d: 450* ppb
TPH-g: 550** ppb
**B: 120 ppb**
T: 3.2 ppb
E: ND
X: 2.2 ppb
**MTBE: 9.3 ppb**
**TBA: 230 ppb**
D.O.: 0.62 mg/L

**MW-1**
Elevation = 147.67'
**TPH-d: 1,400* ppb**
**TPH-g: 3,700** ppb**
**B: 1,700 ppb**
T: 2.0 J ppb
E: 16 ppb
X: 1.8 J ppb
**MTBE: 17 ppb**
**TBA: 110 ppb**
D.O.: 0.37 mg/L

**RW-14**
Elevation = 148.37'
TPH-d: 140* ppb
**TPH-g: 78** ppb**
**B: 1.2 ppb**
T: ND
E: ND
X: ND
MTBE: ND
**TBA: 31 ppb**
D.O.: 0.61 mg/L

**MW-6**
Elevation = 151.77'
TPH-d: 310* ppb
**TPH-g: 3,300** ppb**
**B: 89 ppb**
T: 2.1 ppb
E: 2.1 ppb
X: 2.85 ppb
MTBE: < 0.50 ppb
TBA: 19 ppb
D.O.: 0.85 mg/L

**MW-3**
Elevation = 147.50'
**TPH-d: 1,900* ppb**
**TPH-g: 14,000** ppb**
**B: 4,400 ppb**
T: 11 J ppb
E: 230 ppb
X: 87 J ppb
**MTBE: 58 ppb**
**TBA: 320 ppb**
D.O.: 0.83 mg/L

**MW-5**
Elevation = 149.79'
TPH-d: 450* ppb
**TPH-g: 8,800** ppb**
**B: 2,200 ppb**
T: 33 ppb
**E: 450 ppb**
X: 34.2 J ppb
**MTBE: 850 ppb**
**TBA: 6,700 ppb**
D.O.: 0.37 mg/L

**RW-13**
Elevation = 148.63'
TPH-d: ND
TPH-g: 79** ppb
**B: 1.2 ppb**
T: ND
E: ND
X: ND
MTBE: ND
**TBA: 38 ppb**
D.O.: 0.35 mg/L

**RW-5**
Elevation = 147.71'
TPH-d: 150* ppb
TPH-g: ND ppb
**B: 1.2 ppb**
T: ND
E: ND
X: ND
MTBE: ND
TBA: ND
D.O.: 0.41 mg/L

**MW-2**
Elevation = 148.04'
**TPH-d: 1,700* ppb**
**TPH-g: 2,900** ppb**
**B: 700 ppb**
T: 2.6 J ppb
E: 33 ppb
X: 2.7 J ppb
**MTBE: 16 ppb**
**TBA: 46 ppb**
D.O.: 0.33 mg/L

GREEN OAK BUILDERS
*(FORMER TEXACO STATION)*
*3101 35TH AVENUE*
GLOBAL ID: T0600100538

QUIK STOP
*(ACTIVE GAS STATION)*
*3130 35TH AVENUE*

UST Excavation 1991

PUMP ISL.

SV-6 SV-5 SV-3 SV-4 SV-10 SV-9 SV-11 SV-12 SV-13 SV-14 SV-8 SV-7 SV-1 SV-2
RW-10 RW-8 RW-7 RW-6 RW-11 RW-12
DP-1 DP-2 DP-3 DP-4 DP-5 DP-6 DP-7 DP-8 DP-9
B-17 B-22 B-23 B-16 B-15 B-14 B-13 B-21 B-24 B-25 B-26 B-27 B-28 B-18 B-19 B-20

## 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

2X103.Oakland-35th WP\Reports\FS-CAP\Figures\2015 HC Plume.cvx

NORTH

0' 30'

Approximate Scale (in feet)

Base Map from Conestoga-Rovers & Associates & Google Earth 2011

## DP-5 (May 2012)

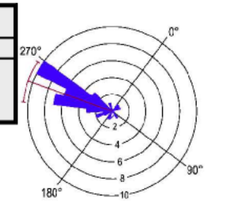
| Depth | TPH-g | Benzene | EB | MTBE | Neph |
|---|---|---|---|---|---|
| 8' | <0.10 | <0.010 | <0.010 | <0.010 | <0.010 |
| 11' | 130 | <0.15 | 1.8 | <0.26 | 1.2 |
| 17' | 1,000 | 6.2 | 37 | <1.0 | 16 |
| 23' | 1.5 | 0.55 | 0.14 | <0.013 | 0.17 |

## DP-4 (May 2012)

| Depth | TPH-g | Benzene | EB | MTBE | Neph |
|---|---|---|---|---|---|
| 12' | <0.10 | <0.010 | <0.010 | <0.010 | <0.010 |
| 18' | 96 | 0.22 | 0.91 | <0.13 | 1.6 |
| 24' | 0.83 | 0.30 | 0.025 | <0.026 | <0.100 |

## DP-6 (May 2012)

| Depth | TPH-g | Benzene | EB | MTBE | Naph |
|---|---|---|---|---|---|
| 12' | 13 | 0.010 | 0.67 | <0.013 | 0.55 |
| 21' | 4,600 | 36 | 81 | <5.2 | 25 |
| 23' | 1.3 | 0.47 | 0.096 | <0.013 | 0.12 |




Historical Groundwater Flow Direction 1996 to 4Q08

## B-11 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 15' | 20 | 0.034 | 0.55 | -- |
| 20' | 11 | 1.4 | 0.68 | -- |
| 25' | <1.0 | <0.0050 | <0.0050 | -- |

## B-1 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 15' | 19 | 0.15 | 0.14 | -- |
| 20' | 1,500 | 56 | 24 | -- |
| 30' | <1.0 | 0.013 | 0.013 | -- |
| 35' | <1.0 | 0.015 | <0.0050 | -- |

## B-2 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 15' | 290 | 0.057 | 3.8 | -- |
| 25' | 4.7 | <0.0050 | <0.0050 | -- |
| 35' | <1.0 | <0.0050 | <0.0050 | -- |

## MW-4 (Feb. 1997)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 10' | 64 | 0.24 | 0.7 | <0.2 |
| 15' | 530 | 5.1 | 8.4 | 5.4 |

## B-10 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 15' | 76 | 1.7 | 13 | -- |
| 20' | 260 | 7.3 | 6.6 | -- |
| 25' | 1.0 | 0.037 | 0.0089 | -- |
| 30' | 1.0 | 0.022 | <0.0050 | -- |

## B-8 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 15' | <1.0 | <0.0050 | <0.0050 | -- |
| 25' | <1.0 | <0.0050 | <0.0050 | -- |

## 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 |
| 11' | 2.8 | 0.11 | <0.010 | <0.010 | <0.010 |
| 17' | 15 | 0.024 | 0.89 | <0.013 | 1.1 |
| 23' | 1.2 | 0.069 | 0.042 | <0.0052 | 0.032 |

## DP-1 (May 2012)

| Depth | TPH-g | Benzene | EB | MTBE | Naph |
|---|---|---|---|---|---|
| 8' | <0.10 | <0.010 | <0.010 | <0.010 | <0.010 |
| 14' | 8.4 | <0.0075 | <0.0043 | <0.013 | <0.050 |
| 17' | <100 | <0.010 | <0.010 | <0.010 | <0.010 |
| 17' (dup) | 0.80 | <0.010 | 0.064 | <0.010 | <0.010 |

## B-7 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 15' | 2,100 | 28 | 38 | -- |
| 25' | 1.0 | 0.03 | 0.0058 | -- |
| 30' | <1.0 | <0.0050 | <0.0050 | -- |

## B-3 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 15' | 45 | 3.4 | 1.2 | -- |
| 20' | 130 | 1.9 | 2.4 | -- |
| 25' | <1.0 | <0.0050 | <0.0050 | -- |

## MW-1 (SB-G) (May 1994)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 11' | 20 | <10 | 0.014 | 0.34 |
| 16' | 390 | <10 | 6.1 | 16 |

## SB-E (May 1994)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 11' | 220 | <10 | 2.1 | 2.8 |
| 16' | 3.8 | <10 | 0.20 | 0.20 |

## SB-D (May 1994)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 11' | <1.0 | <10 | <0.0025 | <0.0025 |
| 16' | <1.0 | <10 | <0.0025 | <0.0025 |

## 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 |
| 11' | 1,100 | 1.3 | 10 | <0.10 |
| 15' | 100 | 0.39 | 0.52 | <0.005 |
| 19.5' | 54 | 0.35 | 0.11 | <0.010 |
| 24.5' | <1.0 | <0.005 | <0.005 | <0.005 |
| 29.5' | <1.0 | <0.005 | <0.005 | <0.005 |
| 35' | <1.0 | <0.005 | <0.005 | <0.005 |
| 40' | <1.0 | <0.005 | <0.005 | <0.005 |
| 44.5' | <1.0 | <0.005 | <0.005 | <0.005 |

## MW-3 (SB-C) (May 1994)

| Depth | TPH-g | Benzene | EB | MTBE | |
|---|---|---|---|---|---|
| 11' | 25 | <10 | 0.62 | 2.1 | |
| 16' | 490 | <500 | 14 | 42 | |

## B-5 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 15' | 660 | 1.8 | 8.9 | -- |
| 20' | 97 | 3.2 | 1.7 | -- |
| 25' | <1.0 | <0.0050 | <0.0050 | -- |

## 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 |
| 12' | 700 | <1.0 | <1.0 | <0.10 |
| 15' | 1,000 | 6.1 | 11 | <0.10 |
| 20' | 160 | 1.5 | 2.0 | <0.050 |
| 25'-40' | <1.0 | <0.005 | <0.005 | <0.005 |
| 45' | <1.0 | 0.0063 | <0.005 | <0.005 |

## SB-A (May 1994)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 11' | 3.4 | <10 | 0.0015 | 0.031 |
| 16' | 1,600 | <1,000 | 3.4 | 54 |

## 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 |
| 13' | 48 | <0.050 | 0.17 | <0.005 |
| 15' | 240 | 3.5 | 20 | <0.10 |
| 17' | 430 | 7.1 | 34 | <0.10 |
| 20' | 5.4 | 0.30 | 0.93 | <0.005 |
| 25'- 44.5' | <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 |
| 11' | 0.33 | <0.010 | <0.010 | <0.010 | <0.010 |
| 14' | 10 | <0.0075 | 0.30 | <0.013 | 0.024 |
| 20' | 6.4 | 0.060 | 0.22 | <0.013 | 0.094 |
| 23' | 0.93 | 0.17 | 0.046 | 0.0080 | <0.025 |

## B-12 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 15' | 5.6 | 1.0 | 0.11 | -- |
| 25' | <1.0 | <0.0050 | <0.0050 | -- |
| 30' | <1.0 | <0.0050 | <0.0050 | -- |

## B-9 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 15' | 480 | 5.9 | 8.9 | -- |

## B-6 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 15' | 1,200 | 6.6 | 18 | -- |
| 20' | 7.3 | 1.5 | 0.36 | -- |
| 25 ' | 1.7 | 0.13 | 0.066 | -- |

## SB-B (May 1994)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 11' | 170 | <100 | 2.5 | 11 |
| 16' | 940 | <100 | 28 | 70 |

## DP-8 (May 2012)

| Depth | TPH-g | Benzene | EB | MTBE | Naph |
|---|---|---|---|---|---|
| 8' | <0.10 | <0.010 | <0.010 | <0.010 | <0.010 |
| 17' | 970 | 2.6 | 21 | <0.26 | 11 |
| 20' | 69 | 0.81 | 1.4 | <0.26 | 1.4 |
| 23' | <0.10 | <0.010 | <0.010 | <0.010 | <0.010 |

## B-4 (Nov. 1991)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 25' | 1.0 | 0.27 | 0.018 | -- |
| 30' | <1.0 | <0.0050 | <0.0050 | -- |
| 35' | <1.0 | <0.0050 | <0.0050 | -- |

## MW-2 (SB-F) (May 1994)

| Depth | TPH-g | Benzene | EB | MTBE |
|---|---|---|---|---|
| 11' | 370 | <10 | <0.25 | 6.2 |
| 15' | 2,900 | <100 | 41 | 196 |

## DP-9 (May 2012)

| Depth | TPH-g | Benzene | EB | MTBE | Naph |
|---|---|---|---|---|---|
| 4' | <0.10 | <0.010 | <0.010 | <0.010 | <0.010 |
| 18' | 5.8 | 0.22 | 0.42 | <0.0065 | 0.22 |
| 20' | 1.7 | 0.16 | 0.065 | <0.0052 | 0.069 |

## 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.

LTCP Guidelines(Res/Com, mg/kg): Benzene 0-5 ft: 1.9/8.2; 5-10 ft: 2.8/12; Ethylbenzene 0-5 ft: 21/89; 5-10 ft: 32/134; Naphthalene 0-10 ft: 9.7/45

Former Exxon Station
Former Gasoline UST Location (two 4,000-gallon & two 6,500-gallon gasoline USTs removed in 1991)
Former Pump Island
Former 500 gallon Waste Oil UST Location
Abandoned Texaco Station
Canopy / Former Dispenser Islands
SCHOOL STR
35TH AVENUE
MW-4
B8
B11
B1
B2
B7
MW-1 (SB-G)
B10
B3
SB-E
SB-D
MW-3 (SB-C)
B-18
B4
B9
B5
B-20
DP-2
B12
SB-B
MW-2 (SB-F)
B6
B-19
SB-A

2x103.Oakland-35th WP\Reports\FS-CAP\Figures\Soil B-E.cvx

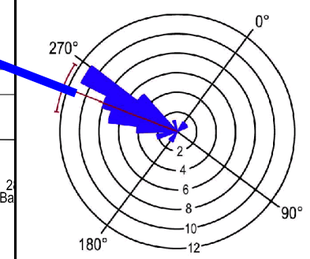
Figure 4
Project 2X103

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


**Weber, Hayes & Associates**
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

**Historical Groundwater Flow Direction**




**(Seasonally fluctuates at depths of approximately 7-17 feet below ground surface)**

Rose data from CRA (1966-2011)

**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 |
| | 22.0' | <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 | -- |

## EXPLANATION

- MW-1 (SB-G) Monitoring well location **includes RW-5, & RW-9**
- RW-10 Remediation well location
- B1 Soil Boring Location
- SV-1 Soil Gas Location
- 69 Hydrocarbon concentrations in soil, in milligrams per kilogram (mg/kg)
- Phase I Site Characterization conducted July 2007

0 20 60ft

**Figure 5**

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

I:\IR\130105\GOLDEN EMPIRE PROPERTIES\FIGURES\130105-002_PHASE-I-HC.DWG

# October-2008 Phase II Off-Site Borings

**B-24**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.5' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 10.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 15.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 20.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 29.5' | <1.0 | <1.0 | <0.005 | <0.005 |

**B-23**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 10.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 15.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 20.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 29.5' | <1.0 | <1.0 | <0.005 | 0.0064 |

**B-22**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 10.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 15.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 20.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 29.5' | <1.0 | <1.0 | <0.005 | <0.005 |

**B-20**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.0' | 110 | 24 | <0.10 | <0.005 |
| | 7.5' | 240 | 63 | 0.090 | <0.050 |
| | 9.5' | 590 | 170 | 0.68 | <0.10 |
| | 11.0' | 1,100 | 370 | 1.3 | <0.10 |
| | 15.0' | 100 | 23 | 0.39 | <0.005 |
| | 19.5' | 54 | 25 | 0.35 | <0.010 |
| | 24.5' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 29.5' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 35.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 40.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 44.5' | <1.0 | <1.0 | <0.005 | <0.005 |

**B-25**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 10.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 15.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 20.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 29.5' | <1.0 | <1.0 | <0.005 | <0.005 |

**B-18**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 10.0' | 3.8 | 4.6 | <0.005 | <0.005 |
| | 12.0' | 700 | 250 | <1.0 | <0.10 |
| | 15.0' | 1,000 | 190 | 6.1 | <0.10 |
| | 20.0' | 160 | 54 | 1.5 | <0.050 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 30.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 35.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 40.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 45.0' | <1.0 | <1.0 | 0.0063 | <0.005 |

**B-26**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 10.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 15.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 20.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 29.5' | <1.0 | <1.0 | <0.005 | <0.005 |

**B-27**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 10.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 15.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 20.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 29.5' | <1.0 | <1.0 | <0.005 | <0.005 |

**B-28**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 10.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 15.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 20.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 29.5' | <1.0 | <1.0 | <0.005 | <0.005 |

**B-21**

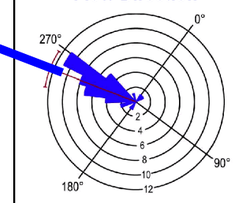
| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 10.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 12.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 15.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 20.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 29.5' | <1.0 | <1.0 | <0.005 | 0.0064 |

**B-19**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 10.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 13.0' | 150 | 48 | <0.050 | <0.005 |
| | 15.0' | 1,800 | 240 | 3.5 | <0.10 |
| | 17.0' | 3,100 | 430 | 7.1 | <0.10 |
| | 20.0 | 88 | 5.4 | 0.30 | <0.005 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 30.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 35.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 40.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 44.5' | <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 | -- |

**Historical Groundwater Flow Direction**




(Seasonally fluctuates at depths of approximately 7-17 feet below ground surface)

Rose data from CRA (1966-2011)

**EXPLANATION**

- MW-1 (SB-G) Monitoring well location — includes RW-5, & RW-9
- RW-10 Remediation well location
- B1 Soil Boring Location
- SV-1 Soil Gas Location
- 700 Hydrocarbon concentrations in soil, in milligrams per kilogram (mg/kg)
- Phase II Site Characterization conducted October - November 2008

0 20 60ft

I:\IR\130105\GOLDEN EMPIRE PROPERTIES\FIGURES\130105-002_PHASE-II-HC(7).DWG

**Figure 6**

PHASE II HYDROCARBON CONCENTRATIONS in SOIL
FORMER EXXON STATION
3055 35th AVENUE
*Oakland, California*

| 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 |

BARTLETT STREET

B-22

B-23 SV-10

B-24 SV-11

PENNIMAN STREET

3014 Bartlett

2820 Bartlett

2826 Bartlett

2838 Bartlett

3014 Bartlett

B-17

| 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 |

B-25 SV-12

| 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 |

garage

B-16

SV-9

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

shed

approximate fenceline

B-15

SV-5 SV-6

SV-4

SV-3

RW-10 B1

RW-9

B11

B2

MW-4

B8

RW-8

RW-7

B7

SB-D

Former Gasoline UST Cavity

Former Pump Island

MW-1 (SB-G)

B10

B3

SB-E

UST Cavity Former Waste-Oil

driveway

SCHOOL STREET

Former Texaco Station

B-20

B-26 SV-13

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

2915-2921 35th Avenue

B-27

2925 35th Avenue

3015-3021 35th Avenue

B-14

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

SV-8

B-13

MW-3 (SB-C)

B-18

SV-2

B4

B9

RW-14

RW-12

B5

RW-6

Former Pump Island

B-19

SB-A

SV-1

MW-2 (SB-F)

B6

RW-13

B12

RW-5

RW-11

SB-B

driveway

driveway

driveway

B-28

SV-14

SV-7 B-21

35th AVENUE

HAGEMAN AVENUE

| 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 |

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

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

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

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

## EXPLANATION

MW-1 (SB-G) ● 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 (µg/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)

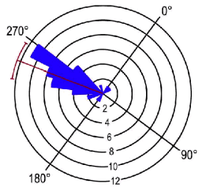
0 20 60ft

CRA

**Figure 7**

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

**Historical Groundwater Flow Direction**




(Seasonally fluctuates at depths of approximately 7-17 feet below ground surface)

Rose data from CRA (1965-2011)

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 11/03/08 | NM | <50 | <50 | <0.5 | <0.5 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 11/03/08 | NM | <50 | 68 | <0.5 | <0.5 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 11/07/08 | NM | <50 | 73 | <0.5 | 1.2 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 07/23/07 | 11.73' | <50 | <50 | <0.5 | 12 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 13.41' | 7,300 | 950 | 3,500 | 30 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 07/23/07 | 12.5' | 69,000 | 6,000 | 7,700 | 430 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 13.35' | 7,500 | 1,800 | 630 | 22 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 11/07/08 | NM | <50 | 330 | <0.5 | 12 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 11/06/08 | NM | <50 | <50 | <0.5 | 0.54 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 07/13/07 | 14.05' | 1,100 | 270 | 150 | 3,500 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 07/16/07 | 14.61' | 8,000 | 7,100 | 110 | 1,500 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 11/06/08 | NM | <50 | <50 | <0.5 | 150 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 11/06/08 | NM | <50 | 53 | <0.5 | 29 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 11/04/08 | NM | <50 | 60 | <0.5 | 170 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 12.72' | 24,000 | 4,100 | 4,100 | 91 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 10/31/08 | NM | 380 | 350 | 23 | 7.0 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 10.55' | 1,200 | 250 | 110 | 81 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 15.73' | 9,800 | 2,400 | 690 | 120 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 16.57' | 5,700 | 2,800 | 660 | 41 |

BARTLETT STREET

35th AVENUE

PENNIMAN STREET

HAGEMAN AVENUE

SCHOOL STREET

Former Texaco Station

3014 Bartlett

2820 Bartlett

2826 Bartlett

2838 Bartlett

2915-2921 35th Ave.

2925 35th Ave.

3015-3021 35th Avenue

garage

shed

grass/dirt

approximate fenceline

driveway

Former Gasoline UST Cavity

Former Pump Island

UST Cavity Former Waste-Oil

B-22 B-23 SV-10 B-24 SV-11 B-25 SV-12 B-26 SV-13 B-27 B-28 SV-14 B-17 B-16 SV-9 B-15 B-14 SV-8 B-13 SV-7 B-21 SV-5 SV-6 SV-4 SV-3 B-18 SV-2 SV-1 B-20

RW-10 RW-9 RW-4 RW-8 RW-7 RW-12 RW-6 RW-5 RW-11 RW-13 RW-14

B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12

MW-1 (SB-G) MW-2 (SB-F) MW-3 (SB-C)

SB-A SB-B SB-D SB-E B-19

0 20 60ft

## EXPLANATION

| | | | |
|---|---|---|---|
| MW-1 (SB-G) | Monitoring well location | NM | Not Measured |
| RW-10 | Remediation well location | 380 | Hydrocarbon concentrations in groundwater, in micrograms per liter (µg/L) |
| B1 | Soil Boring Location | | |
| SV-1 | Soil Gas Location | | |

Phase I Site Characterization conducted July 2007

Phase II Site Characterization conducted October-November 2008

**Figure 8**

GROUNDWATER HYDROCARBON CONCENTRATIONS, PHASE I / II & FOURTH QUARTER 2008
FORMER EXXON STATION
3055 35th AVENUE
*Oakland, California*

I:\IR\130105\GOLDEN EMPIRE PROPERTIES\FIGURES\130105-002_HCGW(5).DWG

# Figure 9

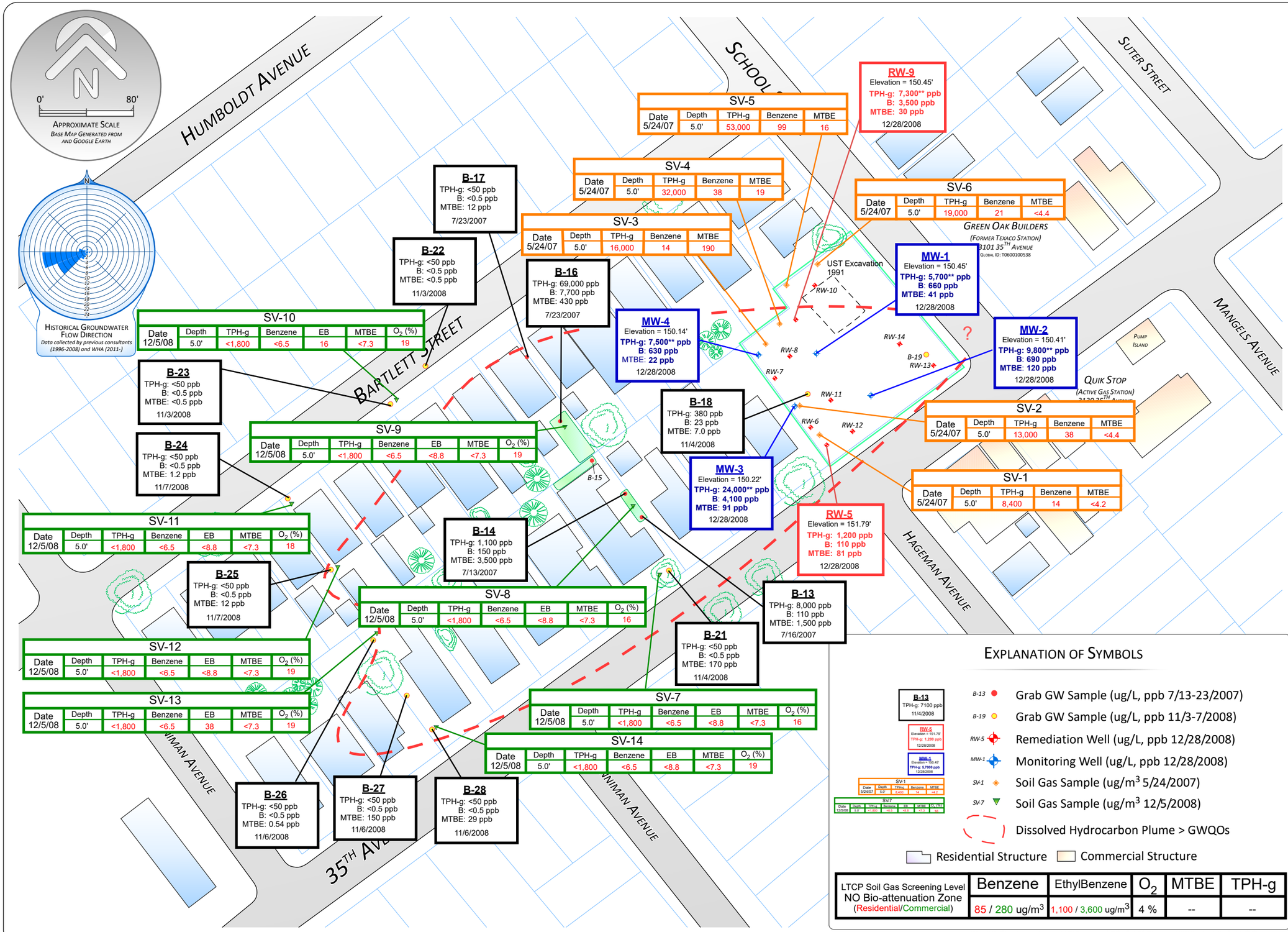
Project 2X103.C

## Hydrocarbon Concentrations in Groundwter and Shallow Soil Gas 2007-2008

Site: Former Exxon Station
Address: 3055 35th Avenue, Oakland, CA

Revisions/Notes:

Date: September 2015




## Explanation of Symbols

- B-13 (TPH-g: 7100 ppb, 11/4/2008)
- RW-5 (Elevation = 151.79', TPH-g: 1,200 ppb, 12/28/2008)
- MW-1 (Elevation = 150.45', TPH-g: 5,700** ppb, 12/28/2008)
- SV-1 (Date 5/24/07 | Depth 5.0' | TPH-g 8,400 | Benzene 14 | MTBE <4.2)
- SV-7 (Date 12/5/08 | Depth 5.0' | TPH-g <1,800 | Benzene <6.5 | EB <8.8 | MTBE <7.3 | O2 (%) 16)

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 Hydrocarbon Plume > GWQOs
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/m³ | 1,100 / 3,600 ug/m³ | 4 % | -- | -- |


Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com


2X103.Oakland-35th WP\Reports\FS-CAP\Figures\2007-2008 GW-SG.cvx

# FIGURE 10
*Project 2X103.C*

# HYDROCARBON PLUME DECEMBER 2000

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

REVISIONS/NOTES:

DATE: SEPTEMBER 2015


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



2X103.Oakland-35th WP\Reports\FS-CAP\Figures\2000 HC Plume.cvx

# FIGURE 11

*Project 2X103.C*

# HYDROCARBON PLUME 2007-2008

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

DATE: SEPTEMBER 2015

REVISIONS/NOTES:


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


APPROXIMATE SCALE
BASE MAP GENERATED FROM AND GOOGLE EARTH
0' 80'

HISTORICAL GROUNDWATER FLOW DIRECTION
*Data collected by previous consultants (1996-2008) and WHA (2011-)*

HUMBOLDT AVENUE
BARTLETT STREET
SCHOOL STREET
SUTTER STREET
MANGELS AVENUE
HAGEMAN AVENUE
PENNIMAN AVENUE
35TH AVENUE

GREEN OAK BUILDERS
*(FORMER TEXACO STATION)*
*3101 35TH AVENUE*
GLOBAL ID: T0600100538

QUIK STOP
*(ACTIVE GAS STATION)*
*3130 35TH AVENUE*

PUMP ISLAND

UST Excavation 1991

**B-22**
TPH-d: 68* ppb
TPH-g: <50** ppb
B: <0.5 ppb
T: <0.5 ppb
E: <0.5 ppb
X: <0.5 ppb
MTBE: <0.5 ppb
TBA: <2.0 ppb

**B-17**
TPH-d: <50* ppb
TPH-g: <50** ppb
B: <0.5 ppb
T: <0.5 ppb
E: <0.5 ppb
X: <0.5 ppb
MTBE: 12 ppb
TBA: <5 ppb

**B-16**
TPH-d: 6,000* ppb
TPH-g: 69,000** ppb
B: 7,700 ppb
T: 1,500 ppb
E: 1,600 ppb
X: 8,200 ppb
MTBE: 430 ppb
TBA: <250 ppb

**MW-4**
Elevation = 150.14'
TPH-d: **1,800* ppb**
**TPH-g: 7,500** ppb**
**B: 630 ppb**
T: 21 ppb
E: 40 ppb
X: 210 ppb
MTBE: **22 ppb**
D.O.: 1.20 mg/L

**RW-9**
Elevation = 150.45'
TPH-d: 950* ppb
**TPH-g: 7,300** ppb**
**B: 3,500 ppb**
T: 24 ppb
E: 150 ppb
X: 200 ppb
**MTBE: 30 ppb**
D.O.: 1.28 mg/L

**MW-1**
Elevation = 150.45'
**TPH-d: 2,800* ppb**
**TPH-g: 5,700** ppb**
**B: 660 ppb**
T: 17 ppb
E: 110 ppb
X: 320 ppb
**MTBE: 41 ppb**
D.O.: 1.06 mg/L

**B-23**
TPH-d: <50* ppb
TPH-g: <50** ppb
B: <0.5 ppb
T: <0.5 ppb
E: <0.5 ppb
X: <0.5 ppb
MTBE: <0.5 ppb
TBA: <2.0 ppb

**MW-3**
Elevation = 150.22'
**TPH-d: 4,100* ppb**
**TPH-g: 24,000** ppb**
**B: 4,100 ppb**
T: 91 ppb
**E: 380 ppb**
X: 960 ppb
**MTBE: 91 ppb**
D.O.: 0.91 mg/L

**B-24**
TPH-d: 73* ppb
TPH-g: <50** ppb
B: <0.5 ppb
T: <0.5 ppb
E: <0.5 ppb
X: <0.5 ppb
MTBE: 1.2 ppb
TBA: <2.0 ppb

**B-18**
TPH-d: 350* ppb
TPH-g: 380** ppb
B: 23 ppb
T: 2.6 ppb
E: 5.9 ppb
X: 54 ppb
MTBE: 7.0 ppb
TBA: 2.3 ppb

**RW-5**
Elevation = 151.79'
TPH-d: 250* ppb
**TPH-g: 1,200 ppb**
**B: 110 ppb**
T: 5.6 ppb
E: 2.5 ppb
X: 9.8 ppb
**MTBE: 81 ppb**
D.O.: 1.13 mg/L

**MW-2**
Elevation = 150.41'
**TPH-d: 2,400* ppb**
**TPH-g: 9,800** ppb**
**B: 690 ppb**
T: 19 ppb
E: 250 ppb
X: 180 ppb
**MTBE: 120 ppb**
D.O.: 0.63 mg/L

**B-25**
TPH-d: 330* ppb
TPH-g: <50** ppb
B: <0.5 ppb
T: <0.5 ppb
E: <0.5 ppb
X: <0.5 ppb
MTBE: 12 ppb
TBA: 2.2 ppb

**B-26**
TPH-d: <50* ppb
TPH-g: <50** ppb
B: <0.5 ppb
T: <0.5 ppb
E: <0.5 ppb
X: <0.5 ppb
MTBE: 0.54 ppb
TBA: <2.0 ppb

**B-27**
TPH-d: <50* ppb
TPH-g: <50** ppb
B: <0.5 ppb
T: <0.5 ppb
E: <0.5 ppb
X: <0.5 ppb
MTBE: 150 ppb
TBA: <10 ppb

**B-28**
TPH-d: 53* ppb
TPH-g: <50** ppb
B: <0.5 ppb
T: <0.5 ppb
E: <0.5 ppb
X: <0.5 ppb
MTBE: 29 ppb
TBA: 2.8 ppb

**B-14**
TPH-d: 270* ppb
TPH-g: 1,100** ppb
B: 150 ppb
T: 55 ppb
E: 34 ppb
X: 170 ppb
MTBE: 3,500 ppb
TBA: <500 ppb

**B-21**
TPH-d: 60* ppb
TPH-g: <50** ppb
B: <0.5 ppb
T: <0.5 ppb
E: <0.5 ppb
X: <0.5 ppb
MTBE: 170 ppb
TBA: <20 ppb

**B-13**
TPH-d: 7,100* ppb
TPH-g: 8,000** ppb
B: 110 ppb
T: 390 ppb
E: 250 ppb
X: 990 ppb
MTBE: 1,500 ppb
TBA: <500 ppb

B-20 B-19 B-18 B-17 B-16 B-15 B-14 B-13 B-12 B-23 B-24 B-25 B-26 B-27 B-28 B-22 B-21
SV-1 SV-2 SV-3 SV-4 SV-5 SV-6 SV-7 SV-8 SV-9 SV-10 SV-11 SV-12 SV-13 SV-14
RW-6 RW-7 RW-8 RW-10 RW-11 RW-12 RW-13 RW-14

## 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
- Hydrocarbon Plume > GWQOs
- Residential structure
- Commercial structure

2X103.Oakland-35th WP\Reports\FS-CAP\Figures\2007-2008 HC Plume.cvx

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

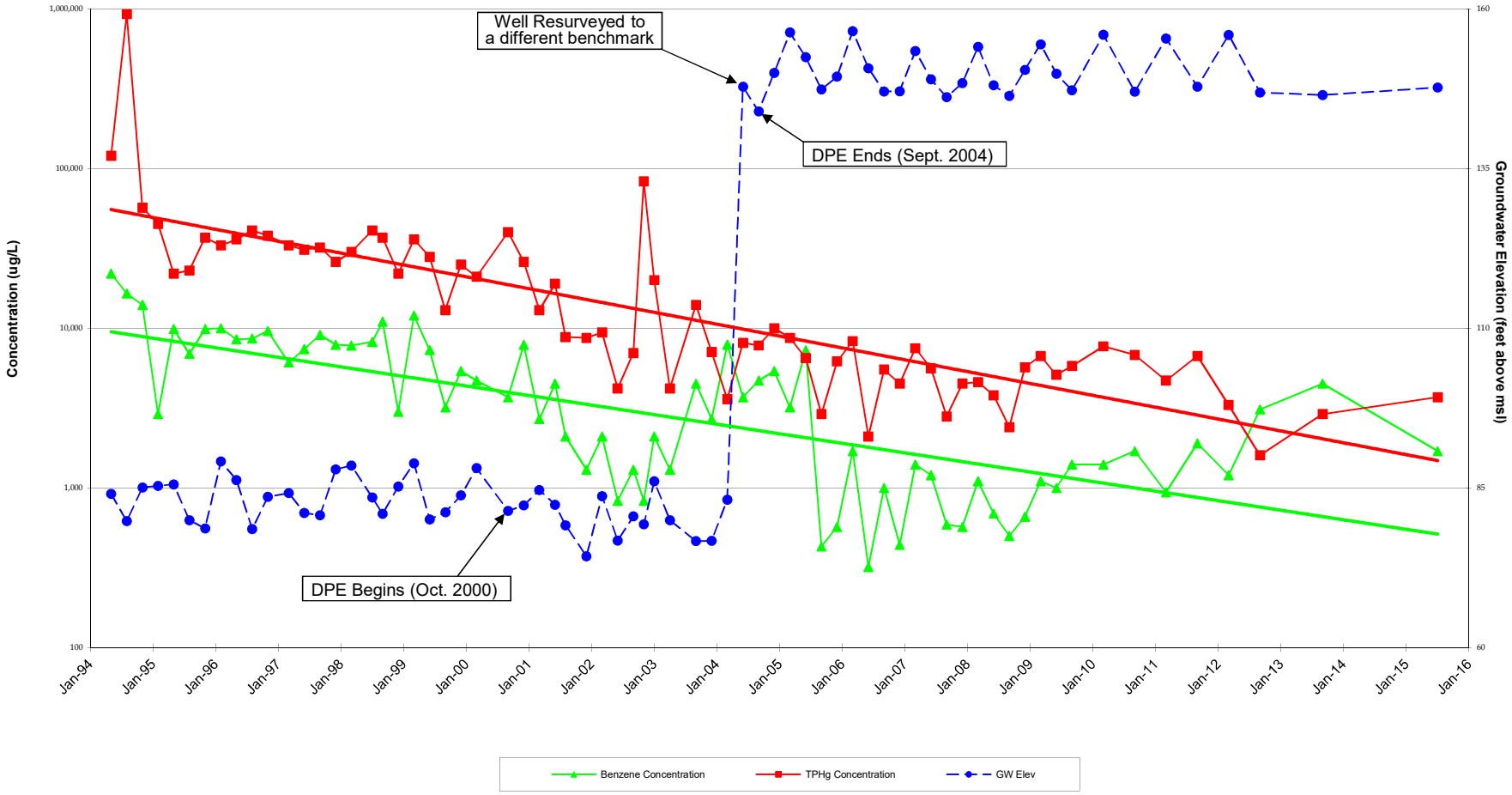


**Figure 13**
**TPHg and Benzene Concentration Trends**
**Well MW-2 (March 1997 to July 2015)**

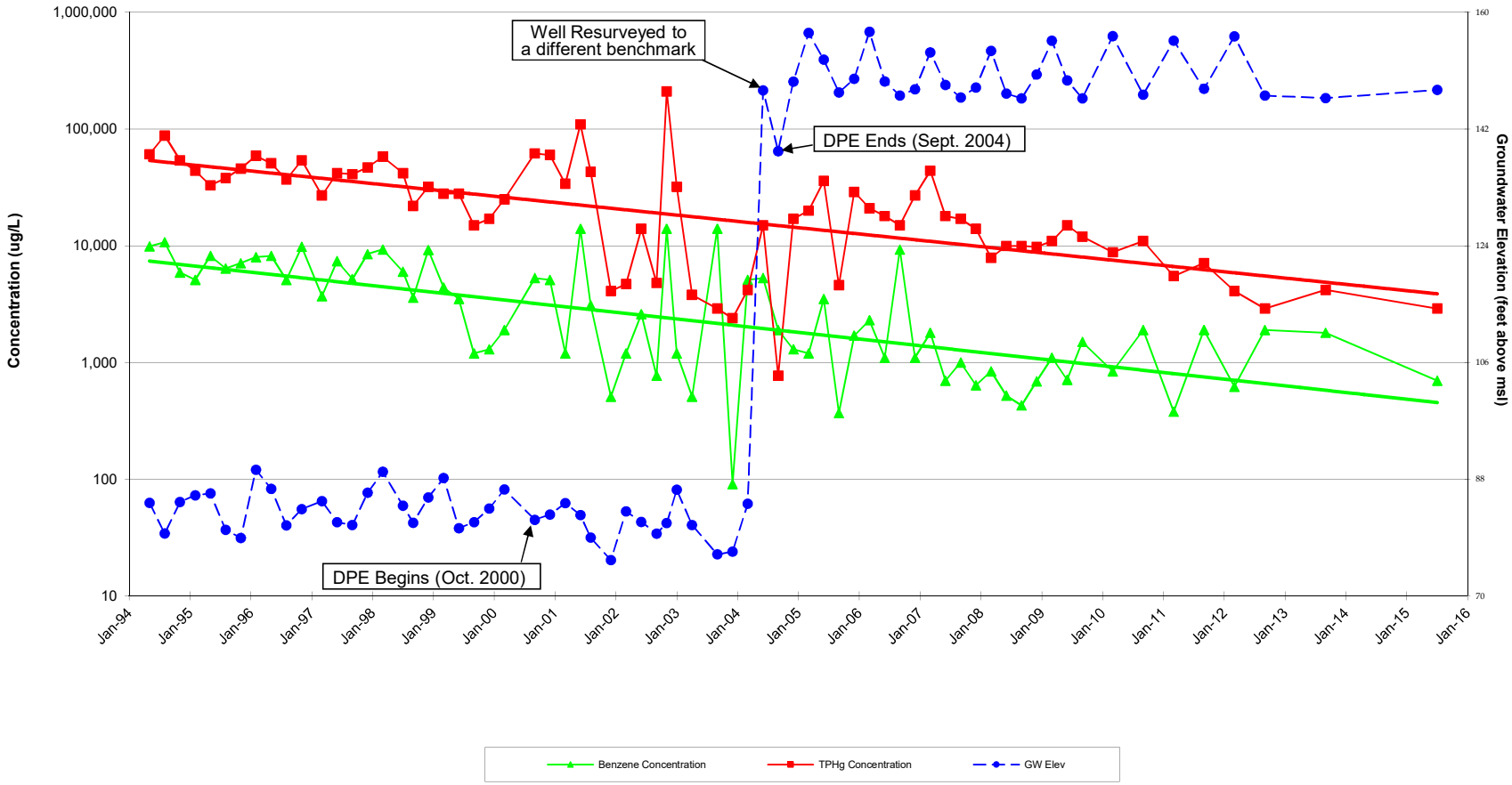


**Figure 14**
**TPHg and Benzene Concentration Trends**
**Well MW-3 (March 1997 to July 2015)**

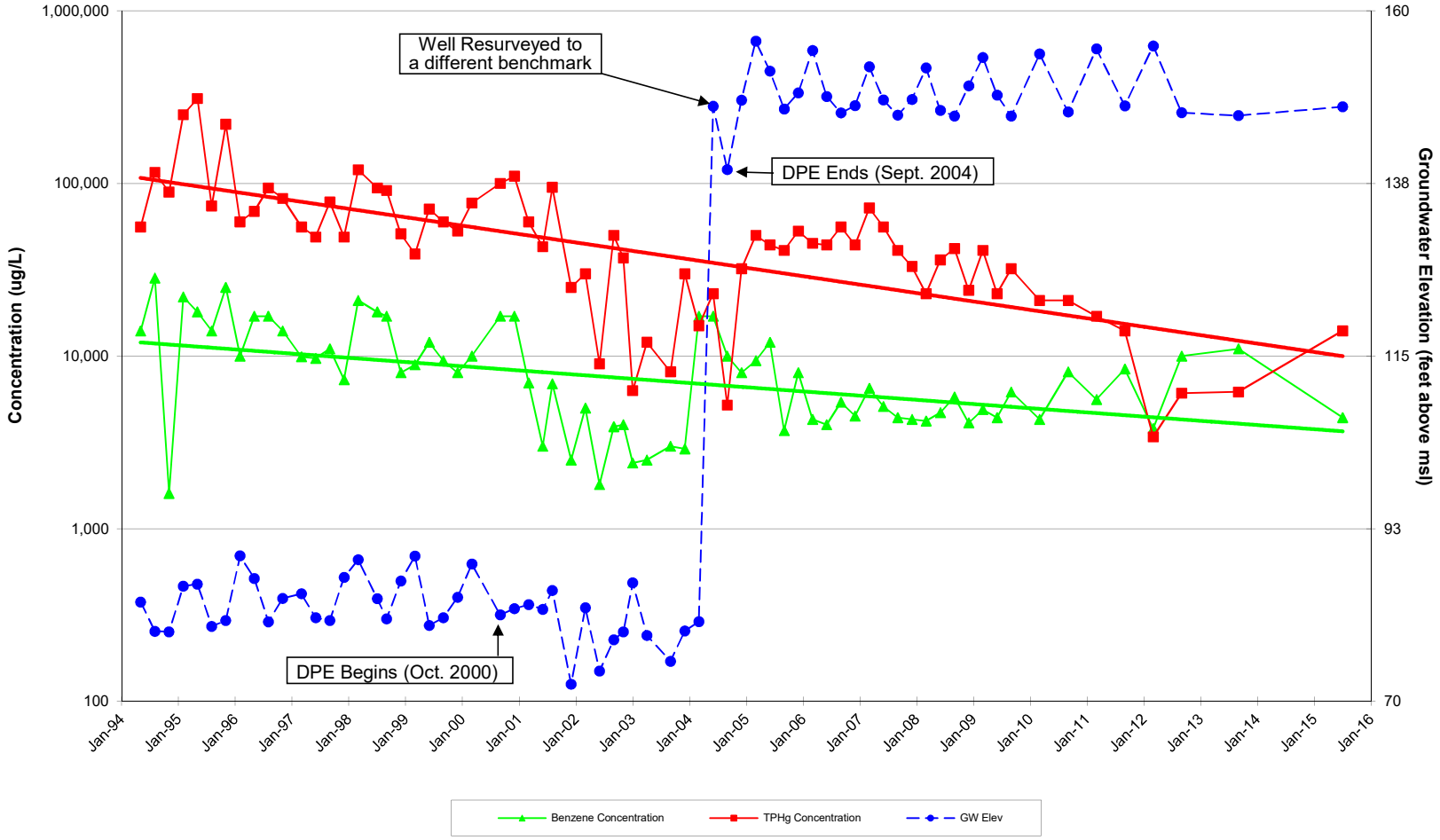
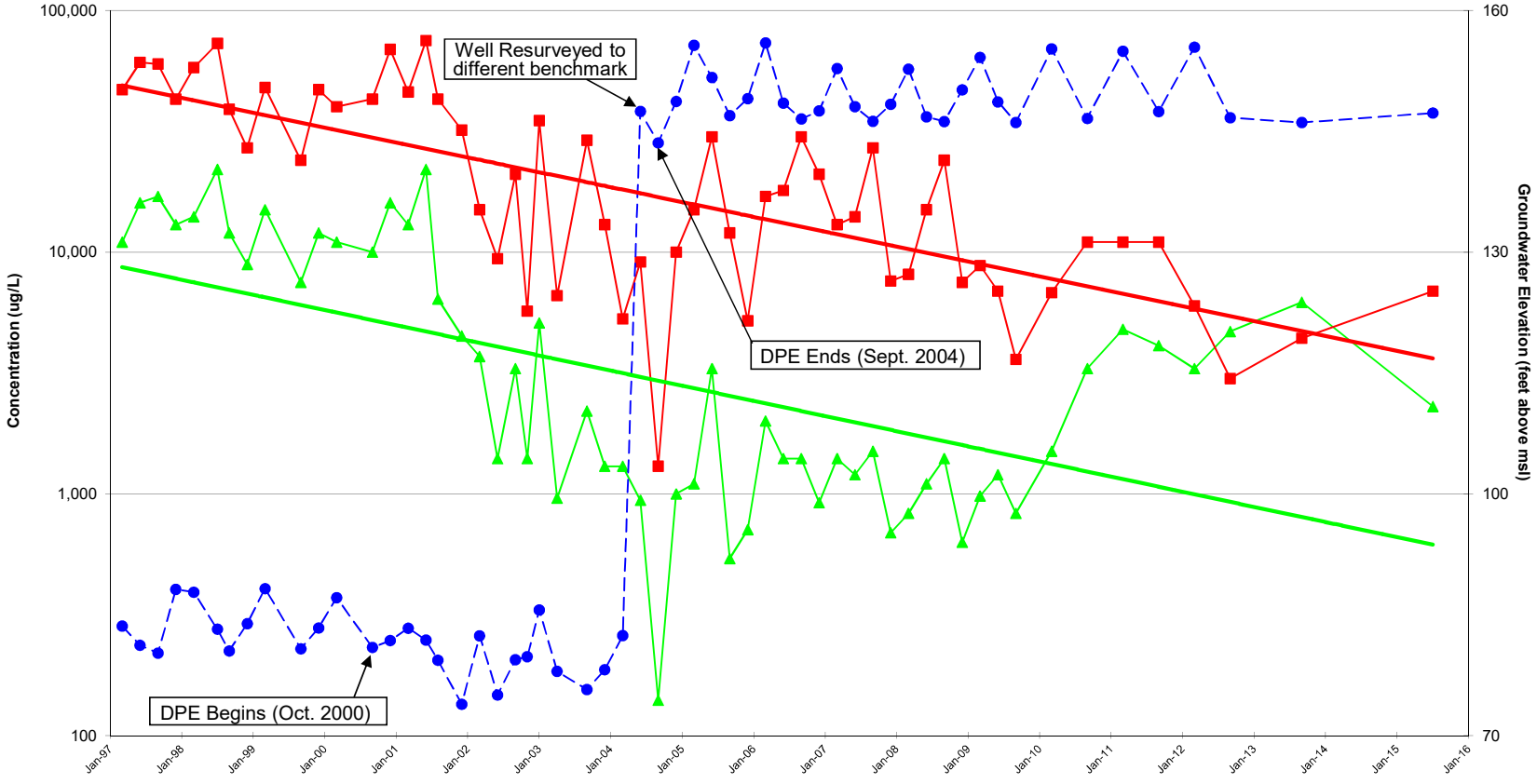


**Figure 15**
**TPHg and Benzene Concentration Trends**
**Well MW-4 (March 1997 to July 2015)**




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

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

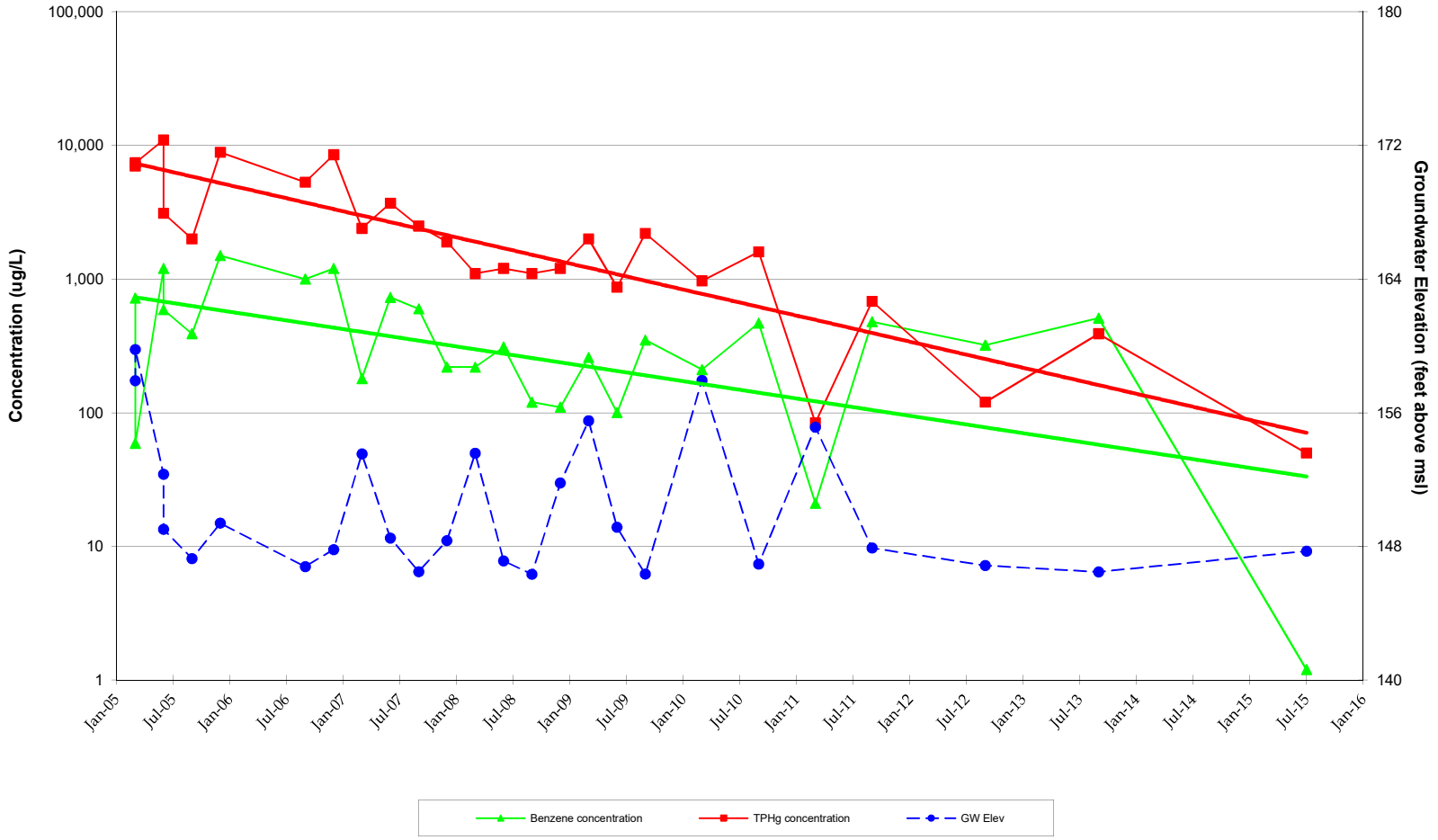
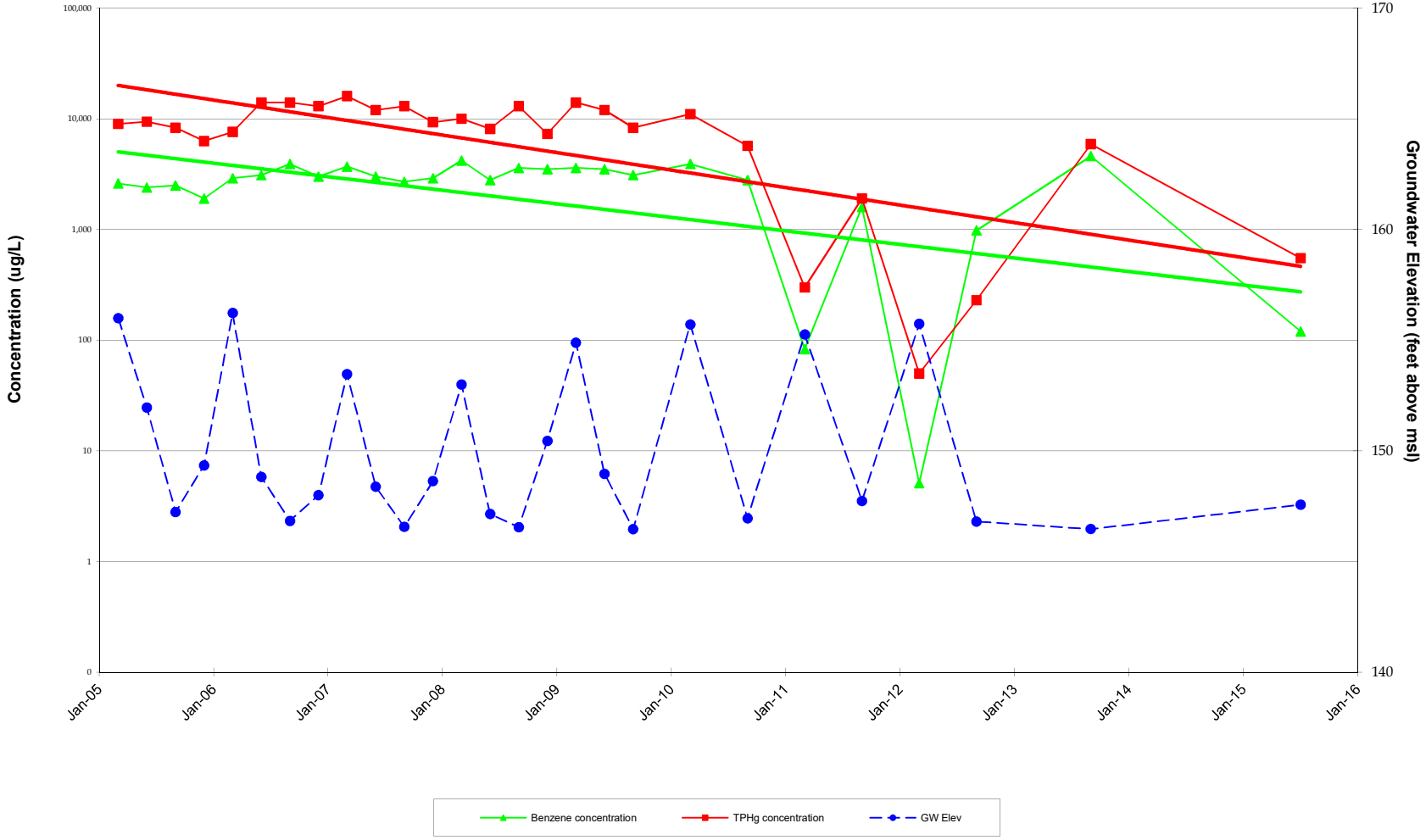


**Figure 17**
**TPHg and Benzene Concentration Trends**
**Well RW-9 (March 2005 to July 2015)**



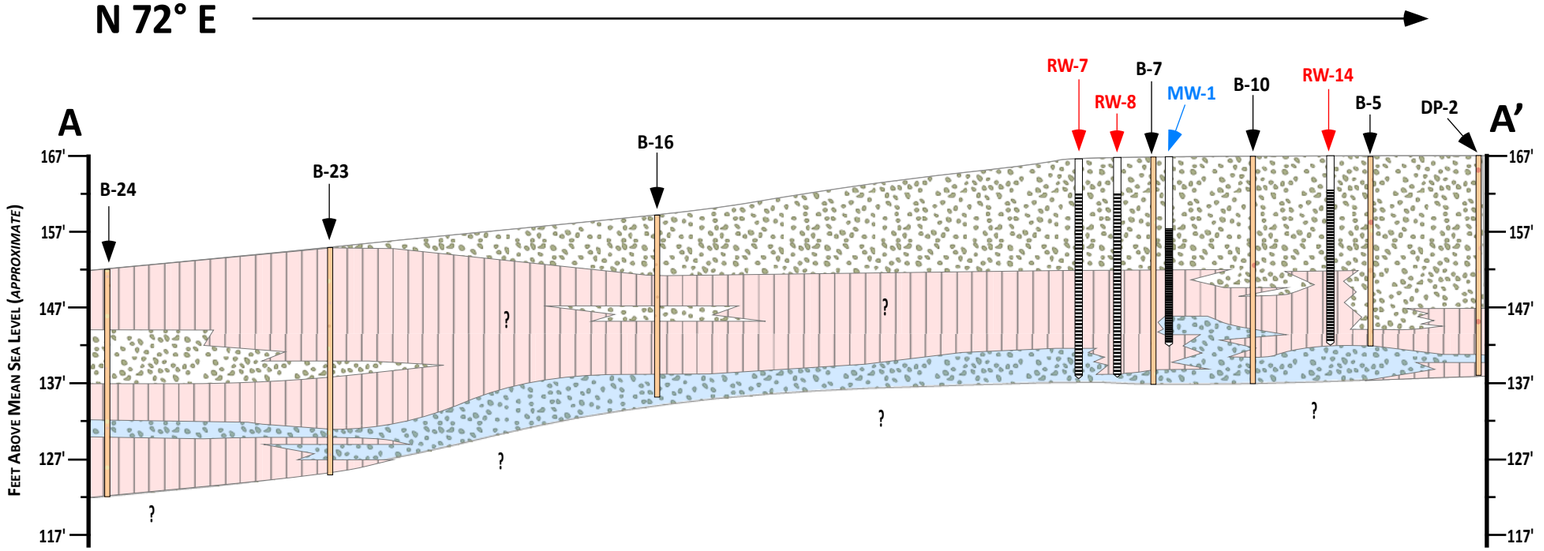
# Figure 18
*Project 2X103.C*

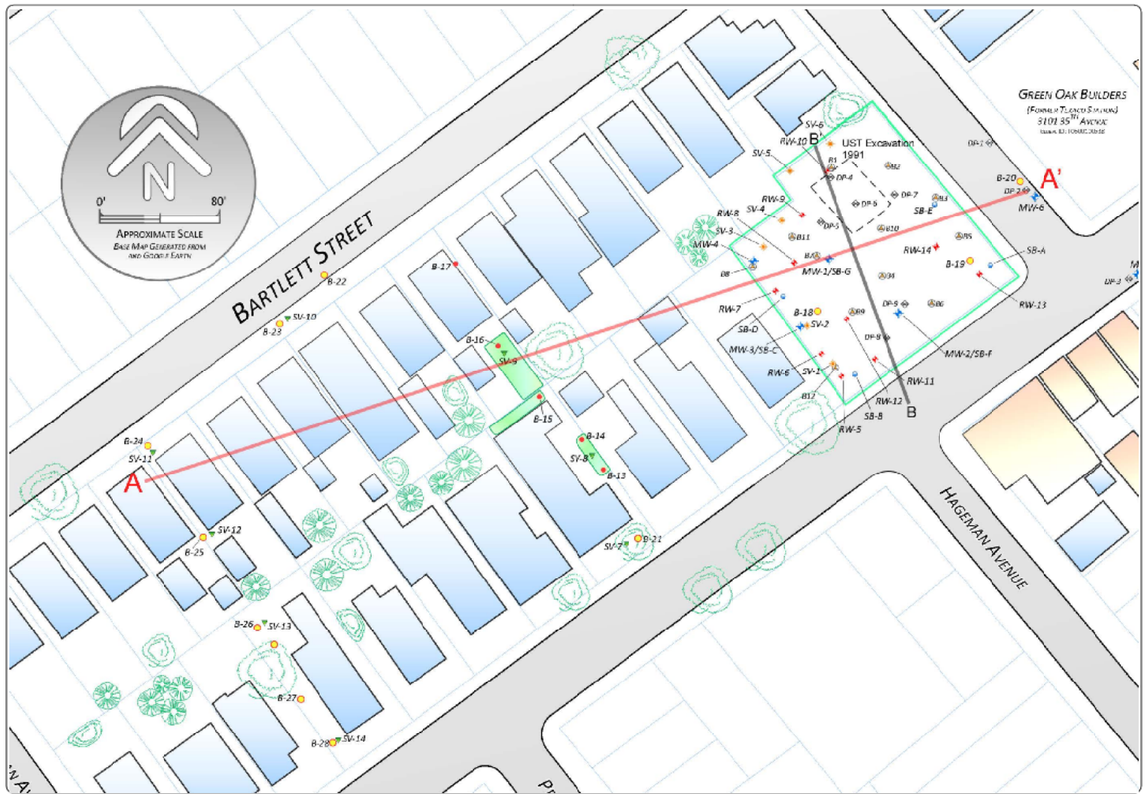
## Geologic Cross Sections A-A'

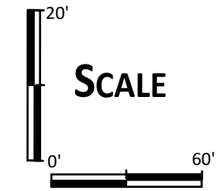
Site: Former Exxon Station
Address: 3055 35th Avenue, Oakland, CA

Revisions/Notes:

Date: May 2016




Horizontal Scale = 1 inch = 60 feet
Vertical Scale = 1 inch = 20 feet
(3x vertical exaggeration)

### 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.*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*Hydrogeology and Environmental Engineering*
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

# Figure 19

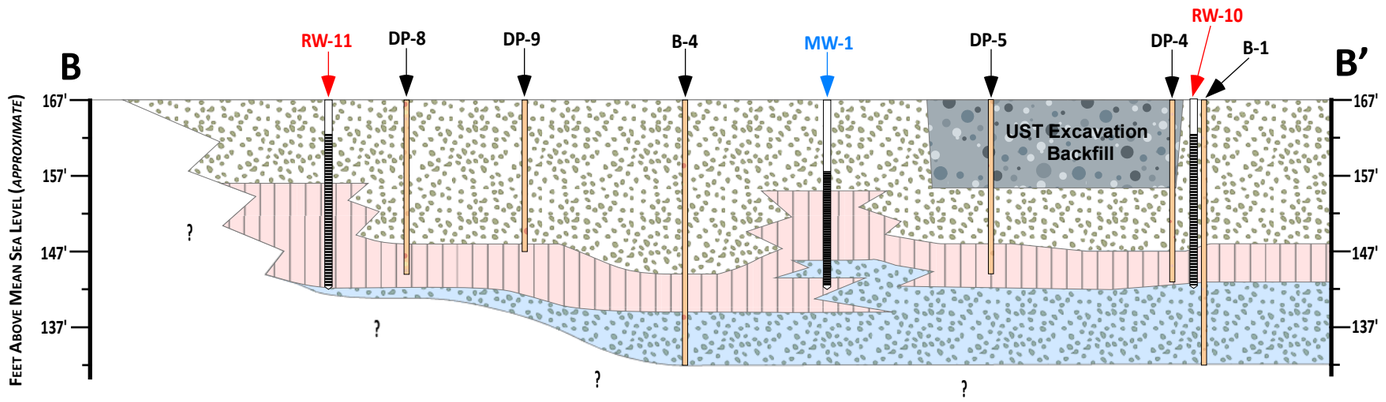
*Project 2X103.C*

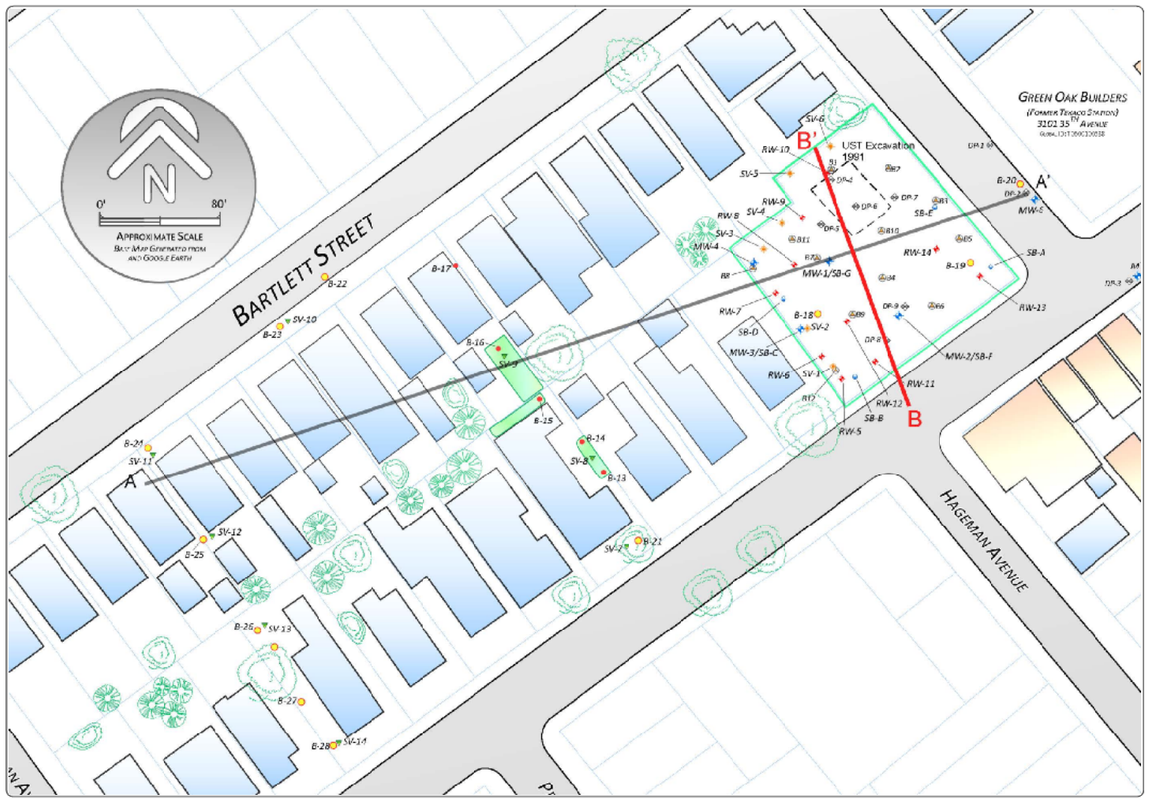
## Geologic Cross Sections B-B'

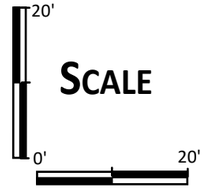
Site: Former Exxon Station
Address: 3055 35th Avenue, Oakland, CA

Revisions/Notes:

Date: May 2016




Horizontal Scale = 1 inch = 20 feet
Vertical Scale = 1 inch = 20 feet
(No vertical exaggeration)

## 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.*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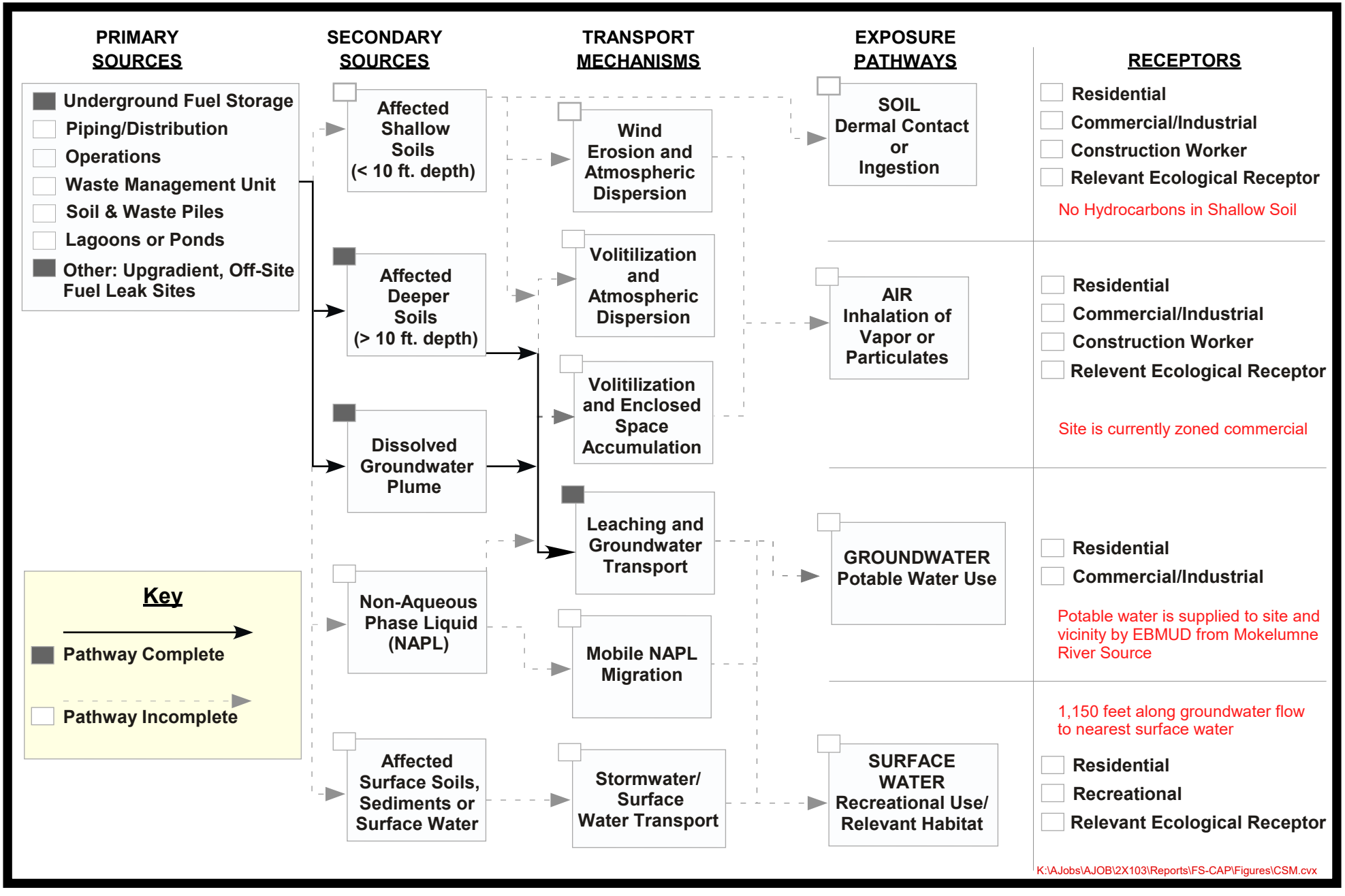


**Weber, Hayes & Associates**
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www.weber-hayes.com

# Conceptual Site Model
# Former Exxon Station
3055 35th Avenue
Oakland, California

**FIGURE 20**
**Project 2X103.C**

NORTH

0' 30'

Approximate Scale (in feet)

Base Map from Cosentoga-Roberts & Associates & Google Earth 2011

SCHOOL STREET

RW-10
DP-4
Former Gasoline UST Location (two 4,000-gallon & two 6,500-gallon gasoline USTs removed in 1991) Backfilled w/ Pea Gravel 2-12 feet bgs Area = 1,750 square feet (~35' X 50')
RW-9
MW-4
DP-5
DP-6
Former Dispenser Island
DP-7
RW-8
RW-7
MW-3 (SB-C)
MW-1 (SB-G)
Former 500 gallon Waste Oil UST Location
RW-14
RW-12
RW-6
DP-9
Former Dispenser Island
MW-2 (SB-F)
Site Entrance
RW-5
RW-11
DP-8
RW-13
Former Exxon Station

DP-1
DP-2
Abandoned Texaco Station

35TH AVENUE

DP-2
QuikStop Station
Canopy / Dispenser Islands

**Previous Subsurface Investigation Locations**

- Approximate Soil Boring Location - DP-1 through DP-9, Weber, Hayes and Associates, May 2012
- Approximate Soil Boring Location - B1 through B12, Consolidated Technologies, Nov. 1991
- Approximate Soil Boring Location - SB-A through SB-G, Cambria, May 1994
- Groundwater Remediation Well Location - Cambria, Aug. 1998, Oct.
- Approximate Monitoring Well Location - MW-1 through MW-3, Cambria, May 1994 & MW-4, Cambria, May 1997
- Soil Vapor Sampling Location Location - CRA, May 2007
- Approximate Soil Boring Location - CRA, Oct. 2008

2X103.Oakland-35th WP\Reports\Reports (& QM)\FS-CAP\Figures\Soil Ex UST .cwx

Figure 21
Project 2X103

**Focused Excavation Below Former USTs**
**Former Exxon Station**
3055 35th Avenue
Oakland, California

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120 Westgate Drive, Watsonville, CA
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NORTH

0' 30'

Approximate Scale (in feet)

Base Map from Cosestoga-Rovers & Associates & Google Earth 2011

18 x 6-foot diameter augers to 20 feet

SCHOOL STREET

Former Gasoline UST Location (two 4,000-gallon & two 6,500-gallon gasoline USTs removed in 1991)

B1

DP-4

DP-5

DP-6

B2

Former Pump Island

DP-7

MW-4

B8

B11

SB-D

B7

MW-1 (SB-G)

MW-3 (SB-C)

Former 500 gallon Waste Oil UST Location

B10

B3

SB-E

B4

B9

DP-9

Former Pump Island

MW-2 (SB-F)

B12

B6

DP-8

SB-B

B5

Site Entrance

SB-A

DP-1

Abandoned Texaco Station

DP-2

Former Exxon Station

35TH AVENUE

DP-2

QuikStop Station

Canopy / Dispenser Islands

**Previous Subsurface Investigation Locations**

- Approximate Soil Boring Location - DP-1 through DP-9, Weber, Hayes and Associates, May 2012
- Approximate Soil Boring Location - B1 through B12, Consolidated Technologies, Nov. 1991
- Approximate Soil Boring Location - SB-A through SB-G, Cambria, May 1994
- Groundwater Remediation Well Location - Cambria, Aug. 1998, Oct.
- Approximate Monitoring Well Location - MW-1 through MW-3, Cambria, May 1994 & MW-4, Cambria, May 1997
- Soil Vapor Sampling Location Location - CRA, May 2007
- Approximate Soil Boring Location - CRA, Oct. 2008

2X103.Oakland-35th WP\Reports\Reports (& QM)\FS-CAP\Figures\Soil Boring Locs.CNV

Figure 22
Project 2X103

**Soil Removal by Large Diameter Augers**
**Former Exxon Station**
3055 35th Avenue
Oakland, California

**Weber, Hayes & Associates**
*Hydrogeology and Environmental Engineering*
120 Westgate Drive, Watsonville, CA
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NORTH

0' 30'

Approximate Scale (in feet)

Base Map from Cosestoga-Rovers & Associates & Google Earth 2011

SCHOOL STREET

Excavation at Former Gasoline UST Location (Backfilled w/ Pea Gravel 2-12 feet bgs)

RW-10 DP-4 RW-9 MW-4 DP-5 DP-6 RW-8 RW-7 DP-7

Former Dispenser Island

MW-3 (SB-C) MW-1 (SB-G) B-18

Former 500 gallon Waste Oil UST Location

RW-14

Excavation at Former East Dispenser Island Area = 600 square feet (~12' X 50')

RW-12 RW-6 Former Dispenser Island DP-9 B-19 MW-2 (SB-F) RW-5 RW-11 DP-8 RW-13

Site Entrance

Former Exxon Station

DP-1

Abandoned Texaco Station

B-20 DP-2

35TH AVENUE

DP-2

QuikStop Station

Canopy / Dispenser Islands

**Previous Subsurface Investigation Locations**

- Approximate Soil Boring Location - DP-1 through DP-9, Weber, Hayes and Associates, May 2012
- Approximate Soil Boring Location - B1 through B12, Consolidated Technologies, Nov. 1991
- Approximate Soil Boring Location - SB-A through SB-G, Cambria, May 1994
- Groundwater Remediation Well Location - Cambria, Aug. 1998, Oct.
- Approximate Monitoring Well Location - MW-1 through MW-3, Cambria, May 1994 & MW-4, Cambria, May 1997
- Soil Vapor Sampling Location Location - CRA, May 2007
- Approximate Soil Boring Location - CRA, Oct. 2008

2X103.Oakland-35th WP\Reports\Reports (& QM)\FS-CAP\Figures\Soil Ex UST .cwx

Figure 23
Project 2X103

**Dual Phase Extraction Well Layout**
**Former Exxon Station**
3055 35th Avenue
Oakland, California

**Weber, Hayes & Associates**
*Hydrogeology and Environmental Engineering*
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

# 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) | |
| *Offsite Soil Borings - 2007* | | | | | | | | | | | |
| 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) | |
| *Offsite Soil Borings - 2008* | | | | | | | | | | | |
| 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 paratheses
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 Sampled | Sample Depth (ft) | TPHg | Benzene | Toluene | Ethyl-benzene | Xylenes | MTBE | Carbon Dioxide | Oxygen | Methane | Butane | Isobutane | Propane | Butane as Hexane | Isobutane as Hexane | Propane as Propene |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ← µg/m³ → | | | | | | ← µL/L → | | | ← ppbV → | | | ← µg/L → | | |
| *Onsite Soil Gas* | | | | | | | | | | | | | | | | | |
| 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 | -- | -- | -- |
| *Offiste Soil Gas* | | | | | | | | | | | | | | | | | |
| 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 Sampled | Sample Depth (ft) | TPHg | Benzene | Toluene | Ethyl-benzene | Xylenes | MTBE | Carbon Dioxide | Oxygen | Methane | Butane | Isobutane | Propane | Butane as Hexane | Isobutane as Hexane | Propane as Propene |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ← | | | $\mu g/m^3$ | | → | ← | $\mu L/L$ | → | ← | $ppbV$ | → | ← | $\mu g/L$ | → |

**Abbreviations:**

ft = feet
$\mu g/m^3$ = 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 Depth (ft)* | *GW Depth (ft)* | *TPHg* | *TPHd* | *Benzene* | *Toluene* | *Ethyl-benzene* | *Xylenes* | *MTBE* | *TAME* | *TBA* | *EDB* | *1,2- DCA* | *DIPE* | *ETBE* | *Methanol* | *Ethanol* | *Notes* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | *Concentrations in micrograms per liter (µg/L)* | | | | | | | | | | | | | | | |
| *Offsite Borings - 2007* | | | | | | | | | | | | | | | | | | | |
| 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 | |
| *Offsite Borings - 2008* | | | | | | | | | | | | | | | | | | | |
| 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 |
| *Onsite Borings - 2008* | | | | | | | | | | | | | | | | | | | |
| 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 parantheses 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) Diesel | Gasoline | Benzene | Toluene | Ethylbenzene | Xylene | MTBE | TBA | Naphthalene |
| 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 | 0.025J | < 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) Diesel | Gasoline | Benzene | Toluene | Ethylbenzene | Xylene | MTBE | TBA | Naphthalene |
| 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* | 0.024J | 0.043J | 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** | 0.63J | **21** | **63** | < 0.26 | < 2.1 | **11** |
| | 20' | -- | 69* | 0.81J | < 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 | 0.013J | 0.42 | 0.111J | < 0.0065 | < 0.052 | 0.22 |
| | 20' | -- | 1.7✱ | 0.16 | < 0.0020 | 0.065 | 0.0437J | < 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/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,f,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,f,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,f,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,f,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,f,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,f,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,f,k] | -- | **8,700** [d] | **1,200** | 99 | 140 | 770 | < 500 | -- | -- | -- | -- | 0.91 | Not operating |
| | | 100.85 | 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,f,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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/L) | | |
| Continued | | | 5/30/2003 | -- | | 16.65 | 84.20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Not operating |
| MW-1 | | | 4/25/2003 | -- | | 20.90 | 79.95 | 320[e] | -- | **4,200**[d] | **580** | 81 | 59 | 470 | < 50 | -- | -- | -- | -- | -- | Operating |
| | | | 1/13/2003 | -- | | 14.80 | 86.05 | **5,300**[e,f] | -- | **20,000**[d] | **2,300** | **480** | **300** | **2,100** | < 500 | -- | -- | -- | -- | 0.33 | Not operating |
| | | | 11/21/2002 | -- | | 21.55 | 79.30 | **200,000**[e,g] | -- | **83,000**[d,g] | **7,100** | **1,700** | **3,000** | **13,000** | < 1,000 | -- | -- | -- | -- | 0.49 | Operating |
| | | | 9/26/2002 | -- | | 20.30 | 80.55 | **1,300**[e,f,k] | -- | **7,000**[d] | **1,300** | **190** | 200 | 760 | < 100 | -- | -- | -- | -- | 0.70 | Operating |
| | | | 6/10/2002 | -- | | 24.10 | 76.75 | 900[e,k] | -- | **4,200**[d] | **830** | **170** | 110 | 460 | < 100 | -- | -- | -- | -- | -- | Operating |
| | | | 3/11/2002 | -- | | 17.13 | 83.72 | **1,400**[e] | -- | **9,400**[d] | **2,100** | **200** | 74 | 470 | < 20 | -- | -- | -- | -- | 0.39 | Operating |
| | | | 12/7/2001 | -- | | 26.55 | 74.30 | **1,900**[e,f] | -- | **8,700**[d] | **1,300** | **160** | 38 | 730 | < 20 | -- | -- | -- | -- | 0.59 | Operating |
| | | | 8/30/2001 | -- | | 21.70 | 79.15 | **1,400**[d] | -- | **8,800**[a] | **2,100** | 45 | 91 | 240 | < 130 | -- | -- | -- | -- | 0.27 | Operating |
| | | | 6/6/2001 | -- | | 18.47 | 82.38 | **4,000** | -- | **19,000** | **4,500** | 130 | 270 | 430 | < 400 | -- | -- | -- | -- | 0.39 | Not operating |
| | | | 3/7/2001 | -- | | 16.19 | 84.66 | **2,400** | -- | **13,000** | **2,700** | 43 | 69 | 300 | < 100 | -- | -- | -- | -- | 0.49 | Not operating |
| | | | 12/5/2000 | -- | | 18.60 | 82.25 | **3,400**[e] | -- | **26,000**[a] | **7,900** | **150** | **580** | 810 | < 300 | -- | -- | -- | -- | 0.35 | Not operating |
| | | | 9/7/2000 | -- | | 19.45 | 81.40 | **12,000**[e,g] | -- | **40,000**[d,g] | **3,700** | **1,400** | **910** | **4,900** | < 50 | -- | -- | -- | -- | 0.17 | |
| | | | 3/23/2000 | -- | | 12.76 | 88.09 | **3,300**[f] | -- | **21,000**[d] | **4,700** | 140 | **470** | 1,100 | < 350 | -- | -- | -- | -- | -- | |
| | | | 12/10/1999 | -- | | 17.02 | 83.83 | **2,900**[e,f] | -- | **25,000**[d] | **5,400** | 130 | **620** | 1,400 | < 1,000 | -- | -- | -- | -- | 1.03 | |
| | | | 9/28/1999 | -- | | 19.68 | 81.17 | **3,600**[e,f] | -- | **13,000**[d] | **3,200** | 130 | **320** | 1,100 | < 210 | -- | -- | -- | -- | 0.55 | |
| | | | 6/29/1999 | -- | | 20.77 | 80.08 | **3,500**[e] | -- | **28,000**[d] | **7,300** | **420** | **810** | 1,700 | < 1,300 | -- | -- | -- | -- | 0.10 | |
| | | | 3/29/1999 | -- | | 11.98 | 88.87 | **6,800**[e] | -- | **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**[e,f] | -- | **41,000**[d] | **8,200** | **1,100** | **1,200** | **3,000** | < 200 | -- | -- | -- | -- | 1.8 | |
| | | | 3/18/1998 | Sheen | | 12.34 | 88.51 | **4,200**[e,f] | -- | **30,000**[d] | **7,800** | **820** | **840** | **2,000** | < 1,100 | -- | -- | -- | -- | 1.3 | |
| | | | 12/22/1997 | -- | | 12.95 | 87.90 | **5,800**[e] | -- | **26,000**[d] | **7,900** | **370** | **920** | 1,500 | < 790 | -- | -- | -- | -- | 0.7 | |
| | | | 9/17/1997 | -- | | 20.12 | 80.73 | **3,500**[e] | -- | **32,000**[d] | **9,100** | **550** | **1,000** | **2,000** | < 1,000 | -- | -- | -- | -- | 2.1 | |
| | | | 6/25/1997 | -- | | 19.77 | 81.08 | **7,400**[a] | -- | **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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/L) | | |
| **MW-2** *4-inch* | 10 - 25 | 166.14 | | | | | | | | | | | | | | | | | | | |
| | | | 7/15/2015 | -- | | 18.10 | 148.04 | **1,700*** ** | -- | **2,900*** | **700** | 2.6J | 33 | 2.7J | **16** | **46** | < 4.2 | < 4.2 | < 4.2 | 0.33 | -113 |
| | | | 1/9/2014 | -- | | 19.37 | 146.77 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.17 | -78 |
| | | | 9/20/2013 | -- | | 19.35 | 146.79 | **2,300*** ** | -- | **4,200★** | **1,800** | 11 | **300** | 8.7 | < 1.4 | **120** | < 0.57 | < 0.95 | < 0.80 - 1.3 | 0.44 | -100 |
| | | | 6/25/2013 | -- | | 18.47 | 147.67 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.56 | -94 |
| | | | 3/13/2013 | -- | | 15.58 | 150.56 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.41 | -82 |
| | | | 11/9/2012 | -- | | 17.41 | 148.73 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | | 9/28/2012 | Sheen [Field] | | 18.95 | 147.19 | **1,500*** ** | -- | **2,900*** | **1,900** | 12 | 270 | 12J | **42** | **300** | < 0.59 | < 0.99 | < 1.1 - 1.5 | 4.27 | -101 |
| | | | 3/30/2012 | -- | | 9.84 | 156.30 | **1,800*** ** | -- | **4,100★** | **620** | 5.0 | 140 | 8.6J | **21** | < 9.7 | < 0.43 | < 0.71 | < 6.0 - 0.97 | 2.66 | -104 |
| | | | 9/22/2011 | -- | | 17.94 | 148.20 | 690** | -- | **7,100*** | **1,900** | < 8.4 | **350** | < 14.4 | **39** | < 66 | < 8.6 | < 12 | < 14 - 17 | 0.76 | -106 |
| | | | 3/17/2011 | -- | | 10.51 | 155.63 | **2,200** [e,f] | -- | **5,500** [d] | **380** | 12 | 1.8 | 15 | **(35)** | -- | -- | -- | -- | 0.68 | Not operating |
| | | | 9/10/2010 | -- | (Z[TPHd]) | 18.84 | 147.30 | **2,400** [e,f] **(2,200)** [e,f] | -- | **11,000** [d] | **1,900** | 40 | **380** | 110 | **(81)** | -- | -- | -- | -- | 0.40 | Not operating |
| | | | 3/14/2010 | Sheen [Lab] | (Z[TPHd]) | 9.82 | 156.32 | **20,000** [e,f,k,g] **(2,900)** [e,f] | -- | **8,800** [d,g] | **840** | 18 | 67 | 92 | **(65)** | -- | -- | -- | -- | 0.81 | Not operating |
| | | | 9/5/2009 | Sheen [Lab] | (Z[TPHd]) | 19.41 | 146.73 | **11,000** [e,f,k,g] **(4,800)** [e,f,k] | -- | **12,000** [d,g] | **1,500** | 30 | 170 | 220 | **(77)** | -- | -- | -- | -- | 0.95 | Not operating |
| | | | 6/7/2009 | Sheen [Field & Lab] | (Z[TPHd]) | 16.64 | 149.50 | **13,000** [m,f] **(2,500)** [e] | -- | **15,000** [d] | **710** | 37 | 210 | 180 | **(88)** | -- | -- | -- | -- | 0.71 | Not operating |
| | | | 3/14/2009 | Sheen [Field] | (Z[TPHd]) | 10.52 | 155.62 | **3,300** [e,f,k] **(2,700** [e]**)** | -- | **11,000** [d] | **1,100** | 23 | 23 | 250 | **(120)** | -- | -- | -- | -- | 0.67 | Not operating |
| | | | 12/28/2008 | Sheen [Field] | (Z[TPHd]) | 15.73 | 150.41 | **(2,400** [e]**)** | < 250 | **9,800** [d] | **690** | 19 | 250 | 180 | **(120)** | -- | -- | -- | -- | 0.63 | Not operating |
| | | | 9/6/2008 | Sheen [Field & Lab] | (Z[TPHd]) | 19.41 | 146.73 | **(2,500** [e,g]**)** | -- | **10,000** [d,g] | **430** | 17 | 270 | 370 | < 180 | -- | -- | -- | -- | 0.81 | Not operating |
| | | | 6/14/2008 | Sheen [Field] | (Z) | 18.66 | 147.48 | **(2,500** [e]**)** | (< 250) | **(10,000** [d]**)** | **(520)** | (18) | (200) | (370) | (< 350) | -- | -- | -- | -- | 0.97 | Not operating |
| | | | 3/9/2008 | Sheen [Field] | (Z) | 12.09 | 154.05 | **(3,100** [e]**)** | (< 250) | **(7,900** [d]**)** | **(840)** | (24) | (280) | (380) | (< 380) | -- | -- | -- | -- | 0.68 | Not operating |
| | | | 12/8/2007 | Sheen [Field & Lab] | | 17.72 | 148.42 | **3,600** [e,f,g] | -- | **14,000** [d,g] | **640** | 13 | 220 | 520 | < 300 | -- | -- | -- | -- | 0.80 | Not operating |
| | | | 9/6/2007 | Sheen [Field & Lab] | | 19.28 | 146.86 | **8,400** [e,f,g] | -- | **17,000** [a,h] | **1,000** | 53 | **450** | 1,100 | < 700 | -- | -- | -- | -- | 0.72 | Not operating |
| | | | 6/15/2007 | Sheen [Field & lab] | | 17.31 | 148.83 | **21,000** [e,k,f,g] | -- | **18,000** [d,g] | **700** | 22 | 290 | 740 | < 650 | -- | -- | -- | -- | 0.68 | Not operating |
| | | | 3/16/2007 | Sheen [Field & Lab] | | 12.31 | 153.83 | **49,000** [e,f,k,g] | -- | **44,000** [d,g] | **1,800** | 71 | **670** | **2,200** | < 900 | -- | -- | -- | -- | 0.52 | Not operating |
| | | | 12/6/2006 | Sheen [Field & Lab] | | 18.01 | 148.13 | **31,000** [e,f,k,g] | -- | **27,000** [d,g] | **1,100** | 51 | **420** | 1,600 | < 900 | -- | -- | -- | -- | 0.48 | Not operating |
| | | | 9/5/2006 | Sheen [Lab] | | 18.96 | 147.18 | **19,000** [e,f,k,g] | -- | **15,000** [d,g] | **680** | 70 | 260 | 1,400 | < 1,000 | -- | -- | -- | -- | 0.79 | Not operating |
| | | | 6/30/2006 | Sheen [Field & Lab] | | 16.78 | 149.36 | **55,000** [e,f,k,g] | -- | **18,000** [d,g] | **1,100** | 71 | 270 | 1,400 | **1,200** | -- | -- | -- | -- | 0.84 | Not operating |
| | | | 3/22/2006 | Sheen [Lab] | | 9.15 | 156.99 | **23,000** [e,f,k,g] | -- | **21,000** [d,g] | **2,300** | **200** | **550** | **2,800** | **1,200** | -- | -- | -- | -- | 0.91 | Not operating |
| | | | 12/14/2005 | Sheen [Field & Lab] | | 16.40 | 149.74 | **49,000** [e,f,k,g] | -- | **29,000** [d,g] | **1,700** | **260** | **600** | **3,700** | **1,000** | -- | -- | -- | -- | 0.99 | Not operating |
| | | | 9/21/2005 | Sheen [Field] | | 18.50 | 147.64 | **1,100** [e,f] | -- | **4,600** [d] | **370** | 62 | 110 | 740 | **1,100** | -- | -- | -- | -- | 0.86 | Not operating |
| | | | 6/21/2005 | Sheen [Lab] | | 13.42 | 152.72 | **15,000** [e,f,g] | -- | **36,000** [d,g] | **1,700** | **310** | **460** | **3,100** | **1,200** | -- | -- | -- | -- | -- | Not operating |
| | | | 3/7/2005 | Sheen [Field & Lab] | | 9.31 | 156.83 | **8,300** [e,f,k,g] | -- | **20,000** [d,g] | **1,400** | **330** | **430** | **2,600** | **1,100** | -- | -- | -- | -- | 0.88 | Not operating |
| | | | 12/27/2004 | -- | | 16.81 | 149.33 | **3,800** [e,f] | -- | **17,000** [d] | **1,300** | **370** | **540** | **3,800** | **620** | -- | -- | -- | -- | 0.94 | Not operating |
| | | | 9/27/2004 | -- | ** | 27.55 | 138.59 | **1,000** [e,f,k] | -- | 770 [d] | **20** | 7.9 | 10 | 140 | **1,600** | -- | -- | -- | -- | 0.79 | Operating |
| | | | 6/16/2004 | -- | | 18.15 | 147.99 | **9,800** [e,f] | -- | **15,000** [d] | **800** | **210** | 290 | **1,800** | **2,000** | -- | -- | -- | -- | -- | Not operating |
| Well box) | | 100.00 | 3/18/2004 | -- | | 15.78 | 84.22 | 870 [e,f] | -- | **4,200** [d] | **730** | 89 | < 5.0 | 480 | **2,300** | -- | -- | -- | -- | -- | Operating |
| (Monument | | | 12/2/2003 | Sheen [Lab] | | 23.17 | 76.83 | **3,300** [e,f,g] | -- | **2,400** [d,g] | **91** | 20 | 14 | 250 | **890** | -- | -- | -- | -- | -- | Operating |
| | | | 9/3/2003 | -- | | 23.57 | 76.43 | **2,300** [e] | -- | **2,900** [d] | **240** | 57 | 68 | 380 | **770** | -- | -- | -- | -- | -- | Operating |
| | | | 5/30/2003 | -- | | 15.23 | 84.77 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/L) | | |
| Continued | | | 4/25/2003 | -- | | 19.05 | 80.95 | 310[e] | -- | **3,800**[d] | **460** | 78 | 72 | 410 | **310** | -- | -- | -- | -- | -- | Operating |
| MW-2 | | | 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[e] | -- | **4,800**[d] | **770** | **200** | 140 | 740 | < 50 | -- | -- | -- | -- | 0.29 | Operating |
| | | | 6/10/2002 | -- | | 18.59 | 81.41 | **2,000**[e] | -- | **14,000**[d] | **2,600** | **710** | 150 | **2,000** | < 800 | -- | -- | -- | -- | -- | Operating |
| | | | 3/11/2002 | -- | | 16.95 | 83.05 | 590[e] | -- | **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**[d,h] | -- | **43,000**[a,h] | **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**[i] | -- | **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** | **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 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | Date | SPH (feet) | Note | Depth to Groundwater (feet, TOC) | Groundwater Elevation (feet, MSL) | Petroleum Hydrocarbon Concentration Data | | | | | | | | | | | | | | Field Measurements | Oxidation Reduction Potential (mV) |
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | | | |
| | | | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/L) | Dissolved Oxygen (mg/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 [e] | -- | **17,000** [d] | **5,600** | 43 | **660** | 210 | **(83)** | -- | -- | -- | -- | 0.83 | Not operating |
| | | | 9/10/2010 | -- | (Z[TPHd]) | 16.14 | 146.80 | **2,500** [e,f] **(2,200)** [e,f] | -- | **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** [e,f,g,k] **(4,300)** [e] | -- | **21,000** [d,g] | **4,300** | 76 | **530** | 710 | **(97)** | -- | -- | -- | -- | 1.07 | Not operating |
| | | | 9/5/2009 | Sheen [Lab] | (Z[TPHd]) | 16.67 | 146.27 | **31000** [e,f,k,m,g] **(11,000)** [e,f,k] | -- | **32,000** [d,g] | **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** [e,f,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** [e,f,k,g] **(8,100** [e,g]**)** | -- | **41,000** [d,g] | **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** [e,g]**)** | < 250 | **24,000** [d,g] | **4,100** | 91 | **380** | 960 | **(91)** | -- | -- | -- | -- | 0.91 | Not operating |
| | | | 9/6/2008 | Sheen [Field & Lab] | (Z[TPHd]) | 16.65 | 146.29 | **(7,900** [e,f,g]**)** | -- | **42,000** [d,g] | **5,800** | **190** | **1,100** | 2,400 | < 800 | -- | -- | -- | -- | 1.03 | Not operating |
| | | | 6/14/2008 | Sheen [Field] | (Z) | 15.92 | 147.02 | **(4,900** [e]**)** | (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** [e]**)** | (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** [e,f,g] | -- | **33,000** [d,g] | **4,300** | 120 | **370** | **2,200** | < 250 | -- | -- | -- | -- | 0.77 | Not operating |
| | | | 9/6/2007 | Sheen [Field & Lab] | | 16.55 | 146.39 | **14,000** [e,f,g] | -- | **41,000** [d,g] | **4,400** | **180** | **1,000** | **3,800** | < 700 | -- | -- | -- | -- | 0.70 | Not operating |
| | | | 6/15/2007 | Sheen [Field & Lab] | | 14.57 | 148.37 | **25,000** [e,k,f,g] | -- | **56,000** [d,g] | **5,100** | **200** | **1,100** | **3,200** | < 1000 | -- | -- | -- | -- | 0.48 | Not operating |
| | | | 3/16/2007 | Sheen [Field & Lab] | | 10.25 | 152.69 | **5,300** [e,f,k,g] | -- | **72,000** [d,g] | **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** [e,f,k,g] | -- | **44,000** [d,g] | **4,500** | 110 | **930** | **3,600** | < 500 | -- | -- | -- | -- | 0.70 | Not operating |
| | | | 9/5/2006 | Sheen [Field & Lab] | | 16.25 | 146.69 | **16,000** [e,f,k,g] | -- | **56,000** [d,g] | **5,400** | **300** | **1,200** | **6,200** | < 500 | -- | -- | -- | -- | 0.55 | Not operating |
| | | | 6/30/2006 | Sheen [Field & Lab] | | 14.10 | 148.84 | **15,000** [e,f,k,g] | -- | **44,000** [d,g] | **4,000** | **160** | **550** | **4,000** | < 450 | -- | -- | -- | -- | 0.81 | Not operating |
| | | | 3/22/2006 | Sheen [Field & Lab] | | 8.10 | 154.84 | **15,000** [e,f,k,g] | -- | **45,000** [d,g] | **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** [e,f,k,g] | -- | **53,000** [d,g] | **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** [e,f,k,g] | -- | **41,000** [d,g] | **3,700** | **480** | **930** | **5,700** | < 500 | -- | -- | -- | -- | 0.90 | Not operating |
| | | | 6/21/2005 | Sheen [Field & Lab] | | 10.79 | 152.15 | **12,000** [e,g] | -- | **44,000** [d,g] | **4,900** | **870** | **1,100** | **6,500** | < 1,200 | -- | -- | -- | -- | -- | Not operating |
| | | | 3/7/2005 | Sheen [Field & Lab] | | 6.91 | 156.03 | **14,000** [e,f,g] | -- | **50,000** [d,g] | **6,100** | **2,100** | **1,300** | **7,400** | < 500 | -- | -- | -- | -- | 0.62 | Not operating |
| | | | 12/27/2004 | Sheen [Lab] | | 14.58 | 148.36 | **24,000** [e,f,g,k] | -- | **32,000** [d,g] | **4,400** | **2,800** | **650** | **4,800** | < 250 | -- | -- | -- | -- | 0.71 | Not operating |
| | | | 9/27/2004 | -- | | 23.65 | 139.29 | **1,700** [e,f] | -- | **5,200** [d] | **430** | **220** | 100 | 680 | **250** | -- | -- | -- | -- | 0.55 | Operating |
| | | 96.87 | 6/16/2004 | -- | | 15.40 | 81.47 | **8,800** [e,f] | -- | **23,000** [d] | **2,100** | **1,300** | **360** | **2,800** | < 1,000 | -- | -- | -- | -- | -- | Operating |
| | | | 3/18/2004 | -- | | 16.49 | 80.38 | **2,300** [e,f] | -- | **15,000** [d] | **2,600** | **990** | 260 | 1,700 | < 300 | -- | -- | -- | -- | -- | Operating |
| | | | 12/2/2003 | Sheen [Lab] | | 17.70 | 79.17 | **8,400** [e,f,g] | -- | **30,000** [d,g] | **2,900** | **2,100** | **530** | **3,600** | < 500 | -- | -- | -- | -- | -- | Operating |
| | | | 9/3/2003 | -- | | 21.65 | 75.22 | **3,300** [e] | -- | **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** [e] | -- | **12,000** [d] | **1,800** | **850** | 150 | 1,200 | < 500 | -- | -- | -- | -- | -- | Operating |
| | | | 1/13/2003 | Sheen [Lab] | | 11.43 | 85.44 | **6,300** [e,f,g,k] | -- | **21,000** [d,g] | **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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/L) | | |
| Continued | | | 11/21/2002 | 0.05 | | 17.85 | 79.02 | **120,000**[e,g] | -- | **37,000**[d,g] | **4,000** | **660** | **1,200** | **5,100** | < 1,700 | -- | -- | -- | -- | 0.28 | Operating |
| MW-3 | | | 9/26/2002 | -- | | 18.85 | 78.02 | **130,000**[e,g] | -- | **50,000**[d,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**[f,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**[e,f] | -- | **25,000**[d] | **2,500** | **1,700** | 64 | **2,200** | < 200 | -- | -- | -- | -- | 0.19 | Operating |
| | | | 8/30/2001 | -- | | 12.43 | 84.44 | **190,000**[d,h] | -- | **95,000**[a,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**[e,g] | -- | **110,000**[d,g] | **17,000** | **11,000** | **1,900** | **12,000** | < 750 | -- | -- | -- | -- | 0.37 | Not operating |
| | | | 9/7/2000 | -- | | 15.61 | 81.26 | **19,000**[e,f,g] | -- | **100,000**[d,g] | **17,000** | **12,000** | **1,600** | **11,000** | < 500 | -- | -- | -- | -- | -- | |
| | | | 3/23/2000 | -- | | 8.98 | 87.89 | **11,000**[g,,j] | -- | **77,000**[d,g] | **10,000** | **9,400** | **1,600** | **11,000** | < 430 | -- | -- | -- | -- | -- | |
| | | | 12/10/1999 | -- | | 13.31 | 83.56 | **5,300**[e,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,f,g] | -- | **94,000**[d,g] | **18,000** | **14,000** | **1,900** | **11,000** | < 1,400 | -- | -- | -- | -- | 1.8 | |
| | | | 3/18/1998 | Sheen | | 8.41 | 88.46 | **20,000**[e,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**[b] | -- | **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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/L) | Dissolved Oxygen (mg/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** [e] | -- | **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)** [e,f] | -- | **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,g,k] | -- | **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 |
| | | 97.34 | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/L) | | |
| Continued | | | 1/13/2003 | Sheen [Lab] | | 11.75 | 85.59 | **15,000**[e,f,g,k] | -- | **35,000**[d,g] | **5,100** | **1,500** | **510** | **4,500** | < 800 | -- | -- | -- | -- | 0.28 | Not operating |
| MW-4 | | | 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 | **2,600**[e,g] | -- | **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] | -- | **43,000**[d] | **10,000** | **1,100** | **1,100** | **3,400** | < 450 | -- | -- | -- | -- | 1.04 | |
| | | | 3/23/2000 | -- | | 10.22 | 87.12 | **3,100**[e,f] | -- | **40,000**[d] | **11,000** | **1,600** | **910** | **3,100** | **690** | -- | -- | -- | -- | -- | |
| | | | 12/10/1999 | -- | | 13.99 | 83.35 | **3,100**[e,f] | -- | **47,000**[d] | **12,000** | **1,800** | **1,000** | **4,400** | < 100 | -- | -- | -- | -- | 0.62 | |
| | | | 9/28/1999 | -- | | 16.58 | 80.76 | **3,200**[e,f] | -- | **24,000**[d] | **7,500** | **1,200** | 190 | **2,200** | **210** | -- | -- | -- | -- | 14.29[g] | |
| | | * | 6/29/1999 | -- | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | | | 3/29/1999 | -- | | 9.10 | 88.24 | **2,400**[e,f,h] | -- | **48,000**[d] | **15,000** | **3,000** | **1,300** | **5,000** | **1,300** | -- | -- | -- | -- | 1.32 | |
| | | | 12/8/1998 | -- | | 13.45 | 83.89 | **1,600** | -- | **27,000** | **8,900** | **1,600** | **730** | **2,300** | < 1,500 | -- | -- | -- | -- | -- | |
| | | | 9/30/1998 | -- | | 16.84 | 80.50 | **2,100** | -- | **39,000** | **12,000** | **2,700** | **1,000** | **3,400** | **510** | -- | -- | -- | -- | 1.1 | |
| | | | 7/14/1998 | -- | | 14.15 | 83.19 | **2,900**[e,f] | -- | **73,000**[d] | **22,000** | **7,000** | **1,800** | **7,300** | < 200 | -- | -- | -- | -- | 1.0 | |
| | | | 3/18/1998 | -- | | 9.54 | 87.80 | **5,500**[e,f] | -- | **58,000**[d] | **14,000** | **4,700** | **1,400** | **5,700** | < 1,200 | -- | -- | -- | -- | 0.8 | |
| | | | 12/22/1997 | -- | | 9.21 | 88.13 | **3,100**[e] | -- | **43,000**[d] | **13,000** | **3,900** | **1,100** | **4,200** | < 960 | -- | -- | -- | -- | 3.7 | |
| | | | 9/17/1997 | -- | | 17.10 | 80.24 | **4,400**[e] | -- | **60,000**[d] | **17,000** | **4,900** | **1,500** | **5,700** | < 1,500 | -- | -- | -- | -- | 1.5 | |
| | | | 6/25/1997 | -- | | 16.15 | 81.19 | **5,800**[b] | -- | **61,000** | **16,000** | **6,100** | **1,500** | **5,900** | **780**[c] | -- | -- | -- | -- | 1.4 | |
| | | | 3/20/1997 | -- | | 13.75 | 83.59 | **3,100** | -- | **47,000** | **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*** | -- | **3000*** | **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[g] | -- | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/L) | Dissolved Oxygen (mg/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 | 0.73 | -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 | 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] | -- | **1,600 [d]** | **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] | -- | 970 [d] | **210** | 5.2 | 12.0 | 13.0 | **(41)** | -- | -- | -- | -- | 1.03 | Not operating |
| | | | 9/5/2009 | -- | (Z[TPHd]) | 16.00 | 146.34 | **1,700 [f,k,m] (600) [f,m]** | -- | **2,200 [n,p]** | **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,f] (210) [e] | -- | **870 [d]** | **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 [f,k,m] (750 [e])** | -- | **2,000 [d]** | **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 [e] | -- | **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** | -- | **14,000** | **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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/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 | Oxidation Reduction Potential (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/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 | -- | -- | -- | 250 | **66** | 4.8 | 3.2 | 10 | < 15 | -- | -- | -- | -- | -- | |
| | | | 1/13/2003 | -- | | 10.95 | -- | 67 | -- | < 50 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 5.0 | -- | -- | -- | -- | 0.22 | |
| | | | 3/11/2002 | -- | | -- | -- | < 50 | -- | < 50 | < 0.5 | < 0.5 | < 0.5 | < 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/L) | |
| **RW-8** *4-inch* | 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 | -- | 56 | -- | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/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 [▽] | **980** | 5.6 | 2.2 | 2.5 | **7.4** | **110** | < 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 | 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 [e,f] (210) [e,f] | -- | **5,700** [d] | **2,800** | 16 | < 2.5 | 37 | **(20)** | -- | -- | -- | -- | 0.70 | Not operating |
| | | | 3/14/2010 | -- | (Z[TPHd]) | 8.15 | 155.71 | 770 [e] (700) [e] | -- | **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** [f,m] **(1,100)** [e,f,m] | -- | **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** [m,f] **(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 [e] (440 [e]) | -- | **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 [e]) | < 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** [e,g]**)** | -- | **13,000** [d,g] | **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 [e]) | (< 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** [e,f] | -- | **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** [e,f,g] | -- | **13,000** [d,g] | **2,700** | 61 | 240 | 350 | < 400 | -- | -- | -- | -- | 0.66 | Not operating |
| | | | 6/15/2007 | -- | | 15.48 | 148.38 | 670 [e] | -- | **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** [d,g] | **3,700** | 76 | 230 | 340 | < 350 | -- | -- | -- | -- | 0.71 | Not operating |
| | | | 12/6/2006 | Sheen [Lab] | | 16.04 | 147.82 | 660 [e,g] | -- | **13,000** [d,g] | **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[e] | -- | **7,600**[d] | **2,900** | 59 | 190 | 310 | < 200 | -- | -- | -- | -- | 0.95 | Not operating |
| | | | 12/14/2005 | -- | | 14.52 | 149.34 | **1,100**[e,f] | -- | **6,300**[d] | **1,900** | 29 | 150 | 260 | < 50 | -- | -- | -- | -- | 0.98 | Not operating |
| | | | 9/21/2005 | Sheen [Lab] | | 16.62 | 147.24 | 820[e,f,g] | -- | **8,300**[d,g] | **2,500** | 36 | 190 | 310 | < 170 | -- | -- | -- | -- | 1.04 | Not operating |
| | | | 6/21/2005 | -- | | 11.90 | 151.96 | 630[e] | -- | **9,400**[d] | **2,400** | 69 | 210 | 470 | < 350 | -- | -- | -- | -- | -- | Not operating |
| | | | 3/7/2005 | -- | | 7.87 | 155.99 | 510[e] | -- | **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 | -- | -- | -- | -- | -- | |
| | | | 1/13/2003 | -- | | 11.85 | -- | **2,000** | -- | **23,000** | **7,700** | **610** | **310** | 310 | < 500 | -- | -- | -- | -- | 0.39 | |
| | | | 3/11/2002 | -- | | -- | -- | **880** | -- | **12,000** | **3,400** | **230** | 78 | 1,300 | < 240 | -- | -- | -- | -- | -- | |
| **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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | 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 | -- | -- | -- | < 3.5 - 4.4 | 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** | **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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/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 | 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** | **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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/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** | -- | -- | -- | -- | -- | |
| | | | 1/13/2003 | -- | | 10.90 | -- | **1,800** | -- | **4,100** | **1,000** | 130 | 99 | 99 | < 100 | -- | -- | -- | -- | 0.21 | |
| | | | 3/11/2002 | -- | | -- | -- | 900 | -- | **13,000** | **4,500** | 130 | 130 | 270 | < 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/L) | | |
| **RW-13** *4-inch* | 5 - 25 | 164.34 | | | | | | | | | | | | | | | | | | | |
| | | | 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 |
| | | (Split) | 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 | -- | -- | -- | -- | -- | |
| | | | 1/13/2003 | -- | | 11.20 | -- | 92 | -- | 210 | **54** | 2.0 | 2.7 | 2.7 | < 5.0 | -- | -- | -- | -- | 0.35 | |
| | | | 3/11/2002 | -- | | -- | -- | 79 | -- | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/L) | |
| **RW-14** *4-inch* | 5 - 25 | 163.76 | | | | | | | | | | | | | | | | | | |
| | | | 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 |
| | | (Split) | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total Petroleum Hydrocarbons | | | Volatile Organic Compounds | | | | | | | | Dissolved Oxygen (mg/L) | |
| Well Identification # *Casing Diameter* | Screen Interval (feet) | TOC Elevation (feet) | | | | | | Diesel | Fuel Oil | Gasoline | Benzene | Toluene | Ethylbenzene | Xylenes | MTBE | TBA | EDB | 1,2-DCE | DIPE,ETBE,TAME (µg/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 | -- | **6,800** | -- | **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 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

**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

**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 naptha 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.

## Table 6: Estimated Cost for Focused Excavation of Secondary Source Hydrocarbons Below Former USTs
### Former Exxon Station, 3055 35th Avenue, Oakland, CA
### Weber, Hayes and Associates Project 2X103

***Refer to Figure 21***

| *ITEM / DESCRIPTION* | *UNIT* | *UNIT COST* | *NUMBER OF UNITS* | *ITEM COST* |
|---|---|---|---|---|
| 4 Direct Push Borings with Soil Samples & Laboratory Analyses and Landfill Acceptance Coordination | Lump | $12,100 | 1 | $12,100 |
| Properly Destroy All Monitoring and Remediation Wells (including Permits, assume pressure grout) | Lump | $10,750 | 1 | $10,750 |
| Soil Excavation Contractor - Excavate, Segregate, & Load Contaminated Soil. Place Gravel/Backfill & Compact | cubic yard | $160 | 1,400 | $224,000 |
| Backfill for Contaminated Soil/Non-Reusable Pea Gravel (Assume 850 Cubic Yards = 1,200 tons) | ton | $12 | 1,200 | $14,400 |
| Compaction Testing | Lump | $6,500 | 1 | $6,500 |
| Trucking/Hauling Soil to Kirby Landfill | ton | $20 | 850 | $17,000 |
| Soil Disposal | ton | $85 | 850 | $72,250 |
| Post-Excavation Soil Gas and Groundwater Sampling | Lump | $12,250 | 1 | $12,250 |
| Project Management, Documentation and Technical Reporting | Lump | $50,000 | 1 | $50,000 |

***Total:*** ***$419,250***

## Table 7: Estimated Cost for Excavation of Secondary Source Hydrocarbons by Large Diameter Auger
### Former Exxon Station, 3055 35th Avenue, Oakland, CA
### Weber, Hayes and Associates Project 2X103

| ITEM / DESCRIPTION | UNIT | UNIT COST | NUMBER OF UNITS | ITEM COST | TOTAL |
|---|---|---|---|---|---|
| ***Refer to Figure 22*** | | | | | |
| 8 Direct Push Borings with Soil Samples & Laboratory Analyses and Landfill Acceptance Coordination | Lump | $14,300 | 1 | $14,300 | |
| Properly Destroy All Monitoring and Remediation Wells (including Permits, assume pressure grout) | Lump | $10,750 | 1 | $10,750 | |
| Large Diameter Auger Contractor - Excavate Contaminated Soil: 18 6-ft dia. Holes to 20 feet = 670 cubic yards | Lump | $98,000 | 1 | $98,000 | |
| On-Site Soil Management / Load Contaminated Soil | Cubic Yard | $55 | 670 | $36,850 | |
| 2-Sack Sand Slurry Backfill to Allow LDA | Cubic Yard | $180 | 670 | $120,600 | |
| Backfill for op two Feet of Each Hole (Assume 70 Cubic Yards = 100 tons) | ton | $12 | 100 | $1,200 | |
| Compaction Testing | Lump | $6,500 | 1 | $6,500 | |
| Trucking/Hauling Soil to Kirby Landfill | ton | $20 | 938 | $18,760 | |
| Soil Disposal | ton | $75 | 938 | $70,350 | |
| Post-Excavation Soil Gas and Groundwater Sampling | Lump | $12,250 | 1 | $12,250 | |
| Project Management, Documentation and Technical Reporting | Lump | $50,000 | 1 | $50,000 | |
| | | | | ***Total:*** | ***$439,560*** |

# Table 8: Estimated Cost for Dual Phase Extraction at Former USTs
## Former Exxon Station, 3055 35th Avenue, Oakland, CA
## Weber, Hayes and Associates Project 2X103

| ITEM / DESCRIPTION | UNIT | UNIT COST | NUMBER OF UNITS | ITEM COST | TOTAL |
|---|---|---|---|---|---|
| ***Refer to Figure 23*** | | | | | |
| Dual Phase Extraction Pilot Test to Determine zones of influence | Lump | $17,500 | 1 | $17,500 | |
| DPE System Design and Engineering | Lump | $45,000 | 1 | $45,000 | |
| Reconnect Electrical Service, Obtain Building, Air, and Treated Water Disposal Permits | Lump | $25,000 | 1 | $25,000 | |
| Install 12 new, properly screened Remediation Wells and connect wells to remediation system compound | Lump | $38,000 | 1 | $38,000 | |
| Remediation System Equipment and Installation | Lump | $125,000 | 1 | $125,000 | |
| Remediation System Commissioning including start up samples and report | Lump | $15,000 | 1 | $15,000 | |
| Remediation System Operations and Maintenance including electrical power costs | Month | $5,500 | 24 | $132,000 | |
| Semi-Annual Groundwater Monitoring | Each | $5,000 | 4 | $20,000 | |
| One-Year Remediation Progress Assessment and Report | Lump | $5,000 | 1 | $5,000 | |
| Post-Remediation Groundwater Monitoring and Soil Gas Sampling - Request for Closure (as appropriate) | Lump | $7,500 | 1 | $7,500 | |
| Remediation System Demobilization, Well Destruction and Site Restoration | Lump | $60,000 | 1 | $60,000 | |
| | | | | ***Total:*** | ***$490,000*** |

# APPENDIX A

## PHYSICAL AND CHEMICAL CHARACTERISTICS OF THE CHEMICALS OF CONCERN

## Appendix A

## Physical and Chemical Characteristics of the Chemicals of Concern

This appendix describes the physical and chemical characteristics of the Chemicals of Concern (COCs) at the fuel release site at 3055 35th Avenue, Oakland, California.

The Chemicals of Concern at the site are: benzene, ethylbenzene, methyl tert butyl ether (MTBE), and naphthalene. The physical and chemical characteristics of these substances, including their toxicity, persistence, and potential for migration in water, soil, and air are described below.

A release of petroleum hydrocarbons or other chemicals to the environment can result in an acute (immediate) or a chronic (long-term) hazard to life or health (Lessenger, 1996). In general, chronic hazards are associated with long-term exposure to relatively low levels of chemicals, whereas acute hazards involve high concentrations sufficient to pose an immediate risk of fire, explosion or health impairment.

Protection from chronic health hazards associated with long term ingestion of a chemical via drinking water is regulated by Maximum Contaminant Level Goals (MCLGs) and Maximum Contaminant Levels (MCLs). Maximum Contaminant Level Goals are non-enforceable levels, based solely on possible health risks and exposure, such that consumption of a chemical at concentrations below these levels throughout one's lifetime will cause no adverse health effects. The Safe Drinking Water Act requires the U.S. Environmental Protection Agency (EPA) to determine MCLGs for chemicals in drinking water, which do or may cause health problems.

Maximum Contaminant Levels (MCLs) are enforceable standards set as close to the MCLGs as possible, considering the ability of public water systems to detect and remove contaminants using suitable treatment technologies. The EPA sets national MCLs based on health and economic criteria (the cost of meeting the MCLs). States may set more rigid (lower) MCLs.

**BENZENE**

Benzene is a clear, colorless aromatic liquid. It is highly flammable. The greatest use of benzene is as a building block for making plastics, rubber, resins and synthetic fabrics like nylon and polyester. Other uses include: as a solvent in printing, paints, dry cleaning, etc. Benzene is found in crude oil and is a constituent of gasoline, which is refined from crude oil. Gasoline usually contains two to seven percent benzene.

**Drinking Water Standards**

The MCLG for benzene has been set at zero because EPA believes this level of protection would not cause any of the health effects described below.

The U.S. MCL for benzene has been set at 5 micrograms per liter (µg/L, parts per billion, ppb) because EPA believes, given present technology and resources, this is the lowest level to which water systems can reasonably be required to remove this contaminant should it occur in drinking water.

The state of California (Department of Public Health [DPH]) has set the MCL for benzene in drinking water in California of 1 ppb. The Central Coast Regional Water Quality Control Board's Basin Plan has identified all groundwater in the Central Coast Region as a potential source of drinking water, and the groundwater quality objective for benzene is 1 ppb.

**Health Effects**

Short-term: EPA has found benzene to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: temporary nervous system disorders, immune system depression, and anemia.

Breathing very high levels of benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death.

Long-term: Benzene has the potential to cause the following effects from a lifetime exposure at levels above the MCL: chromosome aberrations, cancer.

The major effect of benzene from long-term exposure is on the blood. Benzene causes harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection.

Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.

The U.S. Department of Health and Human Services (DHHS) has determined that benzene is a known human carcinogen. Long-term exposure to high levels of benzene in the air can cause leukemia, cancer of the blood-forming organs.

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit of 1 part of benzene per million parts of air (1 ppm) in the workplace during an 8-hour workday, 40-hour workweek.

**Movement / Persistence in the Environment**

Air: If benzene is released to the atmosphere it will exist primarily in the vapor phase. Vapor phase benzene is not subject to direct photolysis, but will react with photochemically produced hydroxyl radicals. Because benzene is soluble in water, it will be removed from the atmosphere by rain.

Soil: If benzene is released to soil, it will either evaporate or leach to groundwater because it is extremely mobile in soil. Microbes in soil may degrade benzene, but this is a slow process.

Surface Water: If benzene is released to surface water, most of it should evaporate within a few hours. Though it does not degrade by reacting with water, microbes may degrade it. It is not likely to accumulate in aquatic organisms.

Groundwater: Benzene moves with the advective flow of groundwater, but its' movement is retarded by interaction with soil particles and organic material in the subsurface. Hence, benzene does not move at the full advective velocity of groundwater. Microbes in groundwater can break down benzene. However, it has been found to persist for years in groundwater.

**ETHYLBENZENE**

Ethylbenzene is a colorless organic liquid with a sweet, gasoline-like odor. The greatest use - over 99 percent - of ethylbenzene is to make styrene, another organic liquid used as a building block for many plastics. It is also used as a solvent for coatings, and in making rubber and plastic wrap.

**Drinking Water Standards**

The U.S. MCLG for ethylbenzene is 700 ppb.

The U.S. MCL for ethylbenzene has been set at 700 ppb.

The state of California (DPH) has set the MCL for ethylbenzene in drinking water in California of 700 ppb. The Central Coast Regional Water Quality Control Board's Basin Plan has identified all groundwater in the Central Coast Region as a potential source of drinking water, and the groundwater quality objective for ethylbenzene is 700 ppb.

**Health Effects**

Short-term: EPA has found ethylbenzene to potentially cause drowsiness, fatigue, headache and mild eye and respiratory irritation from short-term exposures at levels above the MCL.

Long-term: Ethylbenzene has the potential to cause damage to the liver, kidneys, central nervous system and eyes from long-term exposure at levels above the MCL.

Cancer: There is inadequate evidence to state whether or not ethylbenzene has the potential to cause cancer from a lifetime exposure in drinking water.

**Movement / Persistence in the Environment**

Air: If ethylbenzene is released to the atmosphere it will exist primarily in the vapor phase. Vapor phase ethylbenzene is not subject to direct photolysis, but will react with photochemically produced hydroxyl radicals at a moderate rate. Because ethylbenzene is soluble in water, it will be removed from the atmosphere by rain.

Soil: If ethylbenzene is released to soil, it will either evaporate or leach to groundwater because it is mobile in soil. Ethylbenzene may be degraded by microbes in soil, but this is a slow process.

Surface Water: If ethylbenzene is released to surface water, it will evaporate within a few days. Though ethylbenzene does not degrade by reacting with water (hydrolysis), it is degraded by microbes. It is not likely to accumulate in aquatic organisms.

Groundwater: Ethylbenzene moves with the advective flow of groundwater, but its' movement is retarded by interaction with soil particles and organic material in the subsurface. Hence, ethylbenzene does not move at the full advective velocity of groundwater. Ethylbenzene can be broken down by microbes in groundwater.

**METHYL TERT BUTYL ETHER (MTBE)**

MTBE is a member of a group of chemicals commonly known as fuel oxygenates. Oxygenates are added to fuel to increase its oxygen content. MTBE is used in gasoline throughout the United States to reduce carbon monoxide and ozone levels caused by auto emissions. MTBE replaces the use of lead as an octane enhancer since 1979.

**Drinking Water Standards**

The EPA has not set an MCLG for MTBE. MTBE is on the EPA drinking water Contaminant Candidate List (CCL) for further evaluation to determine whether or not regulation with a National Primary Drinking Water Regulation (NPDWR) is necessary. The CCL divided the contaminants among those which are priorities for additional research, those which need additional occurrence data, and those which are priorities for consideration for rulemaking. The Agency determined that MTBE needs more health effects research and occurrence data before a regulatory determination can be made.

The EPA has not set an MCL for MTBE.

The state of California Department of Public Health (DPH) has set a primary MCL for MTBE in drinking water in California of 13 ppb. The DPH has set a secondary MCL of 5 ppb for MTBE based on taste and odor criteria.

**Health Effects**

Short-term: MTBE has been found to cause headaches, nausea, dizziness, and breathing difficulties. Existing studies of the acute health risks do not support claims that the use of MTBE in gasoline causes significant increases in acute symptoms.

Some research shows that humans can begin to smell MTBE in water at concentrations less than 20 ppb, and to taste MTBE in water at concentrations of about 40 ppb.

Long-term: There are no studies of MTBE's carcinogenicity in humans, but studies indicate that MTBE is a carcinogen in rats and mice. The EPA has classified MTBE as a group C Chemical, a possible human carcinogen.

**Movement / Persistence in the Environment**

Air: If MTBE is released to the atmosphere it will exist primarily in the vapor phase. Vapor phase MTBE is not subject to direct photolysis, but will react with photochemically produced hydroxyl radicals at a moderate rate (estimated at 4 to 11 days). Because MTBE is extremely soluble in water, it will be removed from the atmosphere by rain.

Soil: If MTBE is released to soil, it will either evaporate or leach to groundwater because it is extremely mobile in soil. MTBE may be degraded by microbes in soil, but this is a very slow process.

Surface Water: If MTBE is released to surface water, it will evaporate, but the evaporation process depends heavily on the movement and turbulence of the water. MTBE may remain in a deep slow moving body of water for several months, while it may be removed within a few days from fast moving shallow water

Groundwater: MTBE moves with the advective flow of groundwater, and its' movement is not significantly retarded by interaction with soil particles and organic material in the subsurface. Hence, MTBE moves at the full advective velocity of groundwater. MTBE may be broken down by microbes in groundwater.

**NAPHTHALENE**

Naphthalene is a white crystalline solid. It is the simplest polycyclic aromatic hydrocarbon (PAH). Naphthalene is the most abundant single component of coal tar. Naphthalene is naturally present in fossil fuels such as petroleum and coal. Most of the naphthalene produced in the United States comes from petroleum by the dealkylation of methylnaphthalenes in the presence of hydrogen at high temperature and pressure. Another common production method is the distillation and fractionation of coal tar.

**Drinking Water Standards**

The California Drinking Water Notification Level for naphthalene is 17 ppb.

**Health Effects**

Short-term: Exposure to naphthalene has the potential to cause eye irritation, gastrointestinal affects (nausea and diarrhea), and headaches from short-term exposures.

Long-term: Naphthalene has the potential to cause cataracts and hemolytic anemia from long-term exposure at levels above the MCL.

Cancer: There is inadequate evidence to state whether or not naphthalene has the potential to cause cancer from a lifetime exposure in drinking water.

**Movement / Persistence in the Environment**

Direct releases to the air account for more than 90% of the naphthalene entering environmental media (ATSDR, 1997). The primary discharge source is residential combustion of wood and fossil fuels. Other residential sources of naphthalene include tobacco smoke and the vaporization of moth repellants.

Naphthalene may also be released to air during coal tar production and distillation, aeration processes in water treatment plants, and from use of naphthalene during chemical manufacturing (ATSDR, 1997).

About 5% of environmental naphthalene is released into water, primarily from coal tar production and distillation processes (ATSDR, 1997). Other contributors to water releases include effluents from wood preserving facilities and oil spills. More than half of these releases are to surface water (ATSDR, 1997). According to ATSDR (1997), only about 2.7% of naphthalene releases are discharged to land, but that number increased to 37% in the most recent year for which data are available (Table 3-1). Sources for release to land include coal tar production, naphthalene production, publicly operated treatment works (POTWs) sludge disposal, and the use of naphthalene-containing organic chemicals.

The primary removal process for naphthalene in air is through reactions with hydroxyl radicals. Naphthalene will also react with atmospheric $N_2O_5$, nitrate radicals, and ozone. The major products of these reactions are 1- and 2-naphthol and 1- and 2-nitronaphthalene. The half-life of atmospheric naphthalene is less than 1 day (ATSDR, 1997).

Naphthalene is lost from surface water via several mechanisms. Volatilization into the air is the most important route of loss from surface water (ATSDR, 1997).

A small fraction (less than 10%) of naphthalene in water will be associated with particulate matter and will settle into sediments (ATSDR, 1997). Naphthalene that remains in surface water will be degraded through photolysis and biodegradation processes. Naphthalene undergoing photolysis has a half-life of about 71 hours (ATSDR, 1997). Biodegradation of this chemical also occurs quite rapidly, although degradation time will vary with naphthalene concentration, water temperature, and the availability of nutrients (U.S. EPA, 1986d). In general, the rate of biodegradation increases as the concentration of naphthalene increases. The half-life Naphthalene — February 2003 3-4 of naphthalene in oil-polluted water versus unpolluted water is approximately 7 and 1,700 days, respectively (ATSDR, 1997).

Volatilization from soil surfaces and biodegradation are important processes for the removal of naphthalene from soil (U.S. EPA, 1986). The estimated volatilization half-lives for naphthalene from soil containing 1.25% were 1.1 day from soil 1 cm deep and 14 days from soil 10 cm deep. Maximum biodegradation is reported to occur at a pH of 8 and in the presence of a positive redox potential (U.S. EPA, 1986). Naphthalene is degraded to carbon dioxide and salicylate by aerobic microorganisms (ATSDR, 1997). Therefore, soil aerobic conditions strongly influence the half-life of the chemical. In

addition, soil organic matter is an important factor in degradation time because the adsorption of naphthalene to organic matter significantly decreases its bioavailability to microorganisms.

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# APPENDIX B

## SITE DESCRIPTION AND SUMMARY OF PREVIOUS INVESTIGATIONS AND CORRECTIVE ACTIONS

**Appendix B: 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 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. An active Quick Stop fueling station is operating east of the site, on the other side of 35th Street. A Vicinity Map is presented on Figure 2.

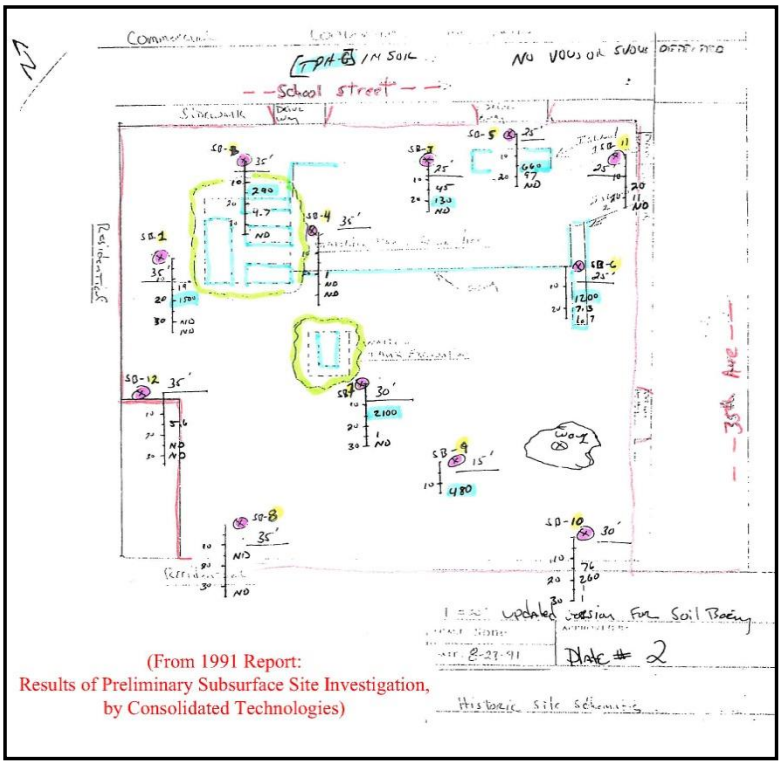
Site information is summarized in the Table below.

| Site Information Details | | |
|---|---|---|
| Site Address: | 3055 35th Avenue, Oakland<br>-- currently a vacant lot | APN No. 027-0890-006-02 |
| Owner: | Golden Empire Properties, Inc | Mr. Lynn Worthington |
| Agency Contacts: | Alameda County Environmental Health<br>(Case #RO 0000271[1])<br>San Francisco Bay RWQCB<br>(Case #: 01-0585 [2]) | Keith Nowell<br>keith.nowell@acgov.org<br>Cherie McCaulou<br>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 (in the groundwater fluctuation, or "smear" zone). Laboratory analyses confirmed the presence of Total Petroleum Hydrocarbons as gasoline (TPH-g) in samples collected from eleven of the twelve soil borings. The maximum concentration of




(From 1991 Report:
Results of Preliminary Subsurface Site Investigation,
by Consolidated Technologies)

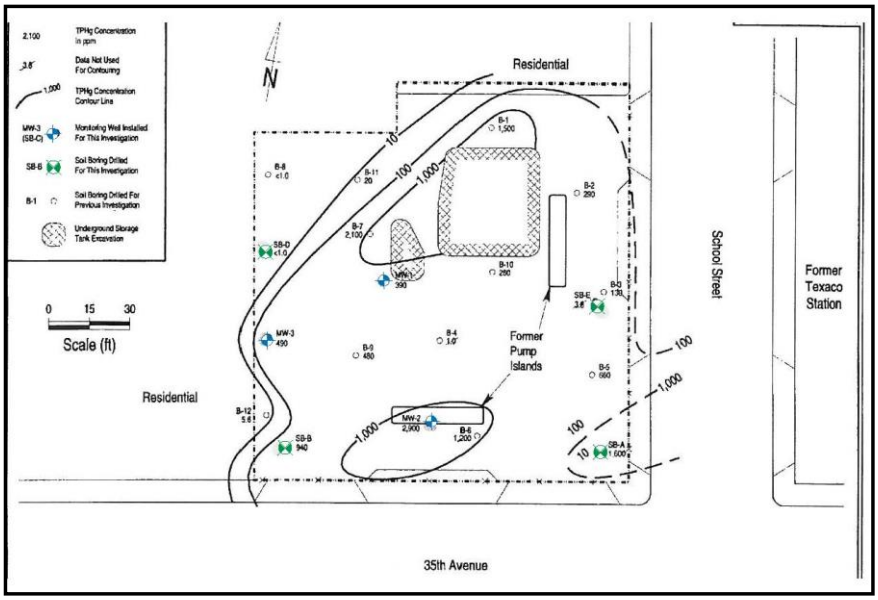
[1]: ACEH Site website: http://ehgis.acgov.org/dehpublic/dehpublic.jsp

[2]: RWQCB Site website: http://geotracker.swrcb.ca.gov/profile_report.asp?global_id=T0600100538

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.



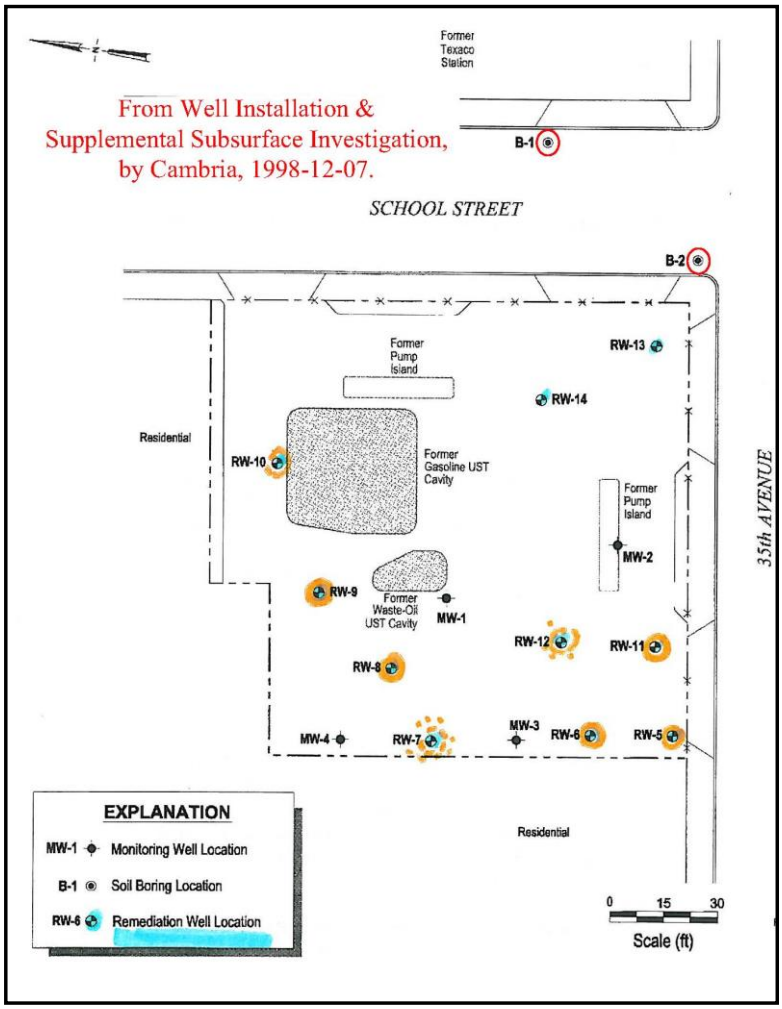

- Soil Sample Analytical Results: TPH-g was detected in soil samples collected from six of the seven soil borings. The maximum concentration detected was 2,900 ppm in SB-F/MW-2 at a depth of 15 feet bgs.

- 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 (µg/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.

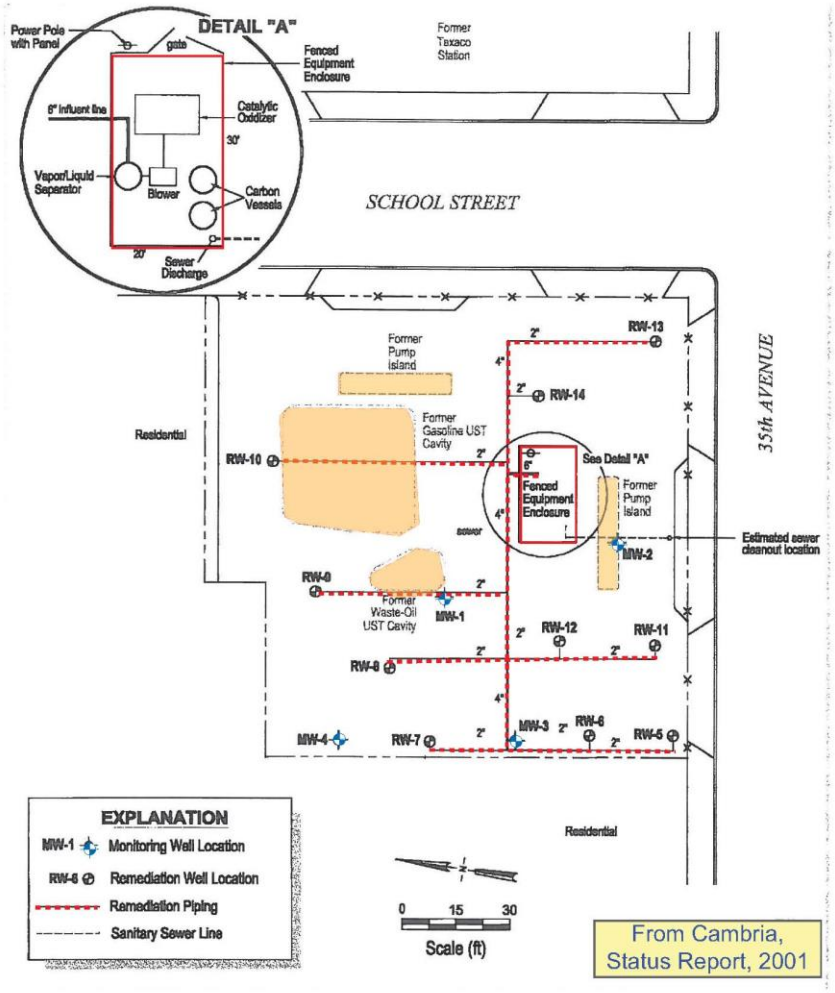



**1998, Remediation Well Installation** (see adjacent figure): In August 1998 Cambria installed ten (10), 4-inch diameter, DPE remediation wells (RW-5 through RW-14) at the Site. Soil samples for logging were obtained from the hollow-stem augers on 5-foot intervals (5 borings) or directly from augured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

logs (low permeability clayey sands/gravels, and sandy clays having strong to moderate petroleum hydrocarbon odors in the groundwater fluctuation, smear zone). 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 in an attempt 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 though 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 in order 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 though 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 in order 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 in the vicinity of 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)

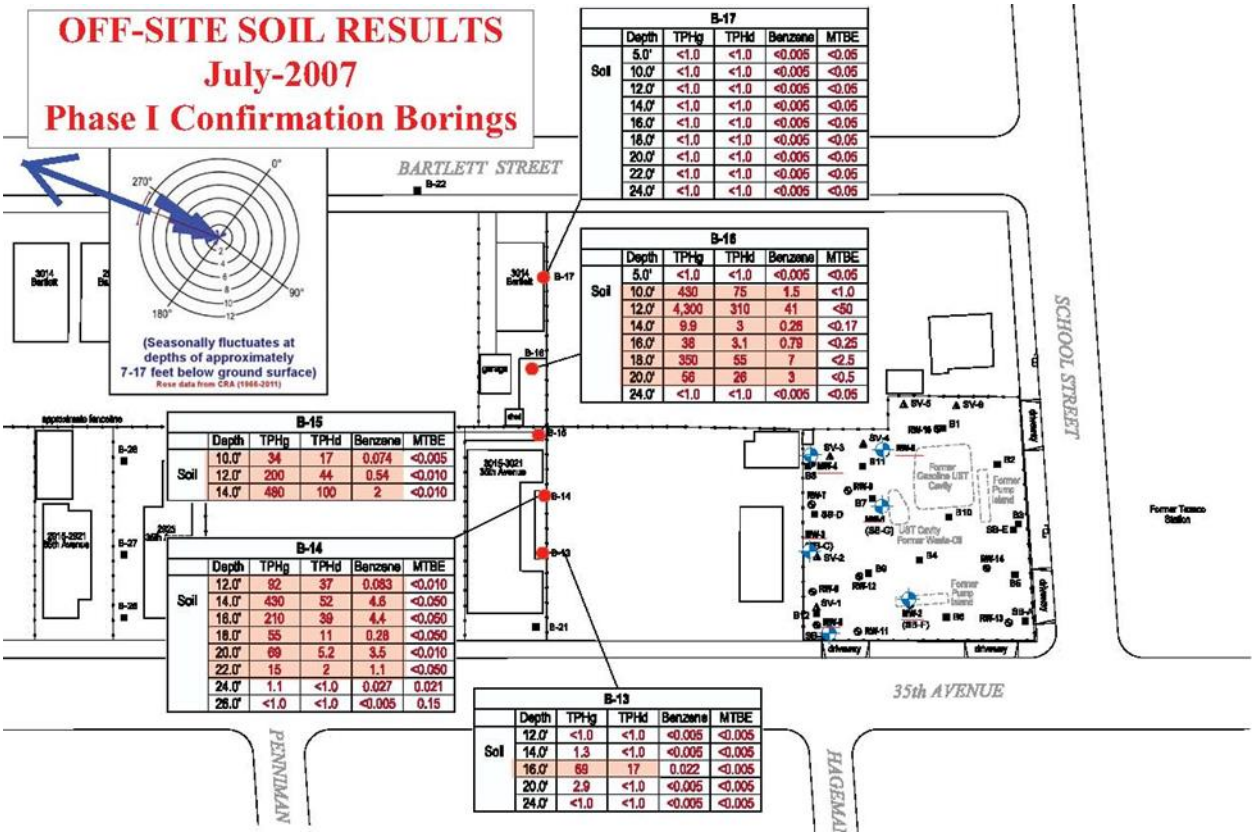
**Phase I Soil Sampling Results**

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 375 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***

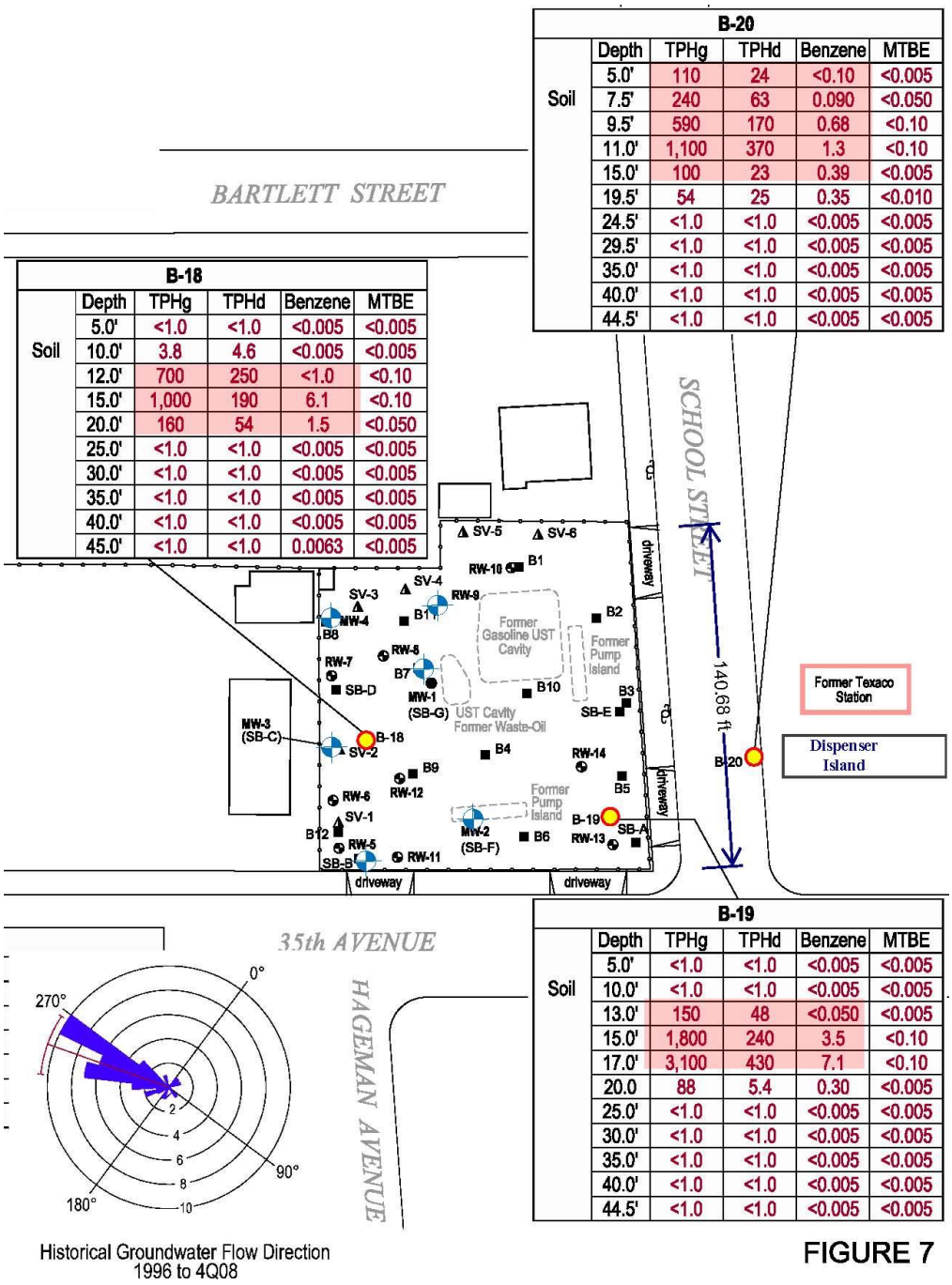
Off-site Soils: No additional off-site, smear zone gasoline contamination was observed during continuous core logging of the second, downgradient boring transect, which indicated smear zone impacts from lateral plume transport/fluctuating groundwater did not extended as far as the second transect. Laboratory 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 within the smear zone created by fluctuating groundwater, 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 spaces 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).




**B-18**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 10.0' | 3.8 | 4.6 | <0.005 | <0.005 |
| | 12.0' | 700 | 250 | <1.0 | <0.10 |
| | 15.0' | 1,000 | 190 | 6.1 | <0.10 |
| | 20.0' | 160 | 54 | 1.5 | <0.050 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 30.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 35.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 40.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 45.0' | <1.0 | <1.0 | 0.0063 | <0.005 |

**B-20**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.0' | 110 | 24 | <0.10 | <0.005 |
| | 7.5' | 240 | 63 | 0.090 | <0.050 |
| | 9.5' | 590 | 170 | 0.68 | <0.10 |
| | 11.0' | 1,100 | 370 | 1.3 | <0.10 |
| | 15.0' | 100 | 23 | 0.39 | <0.005 |
| | 19.5' | 54 | 25 | 0.35 | <0.010 |
| | 24.5' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 29.5' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 35.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 40.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 44.5' | <1.0 | <1.0 | <0.005 | <0.005 |

**B-19**

| | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| Soil | 5.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 10.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 13.0' | 150 | 48 | <0.050 | <0.005 |
| | 15.0' | 1,800 | 240 | 3.5 | <0.10 |
| | 17.0' | 3,100 | 430 | 7.1 | <0.10 |
| | 20.0 | 88 | 5.4 | 0.30 | <0.005 |
| | 25.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 30.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 35.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 40.0' | <1.0 | <1.0 | <0.005 | <0.005 |
| | 44.5' | <1.0 | <1.0 | <0.005 | <0.005 |

Historical Groundwater Flow Direction
1996 to 4Q08

FIGURE 7

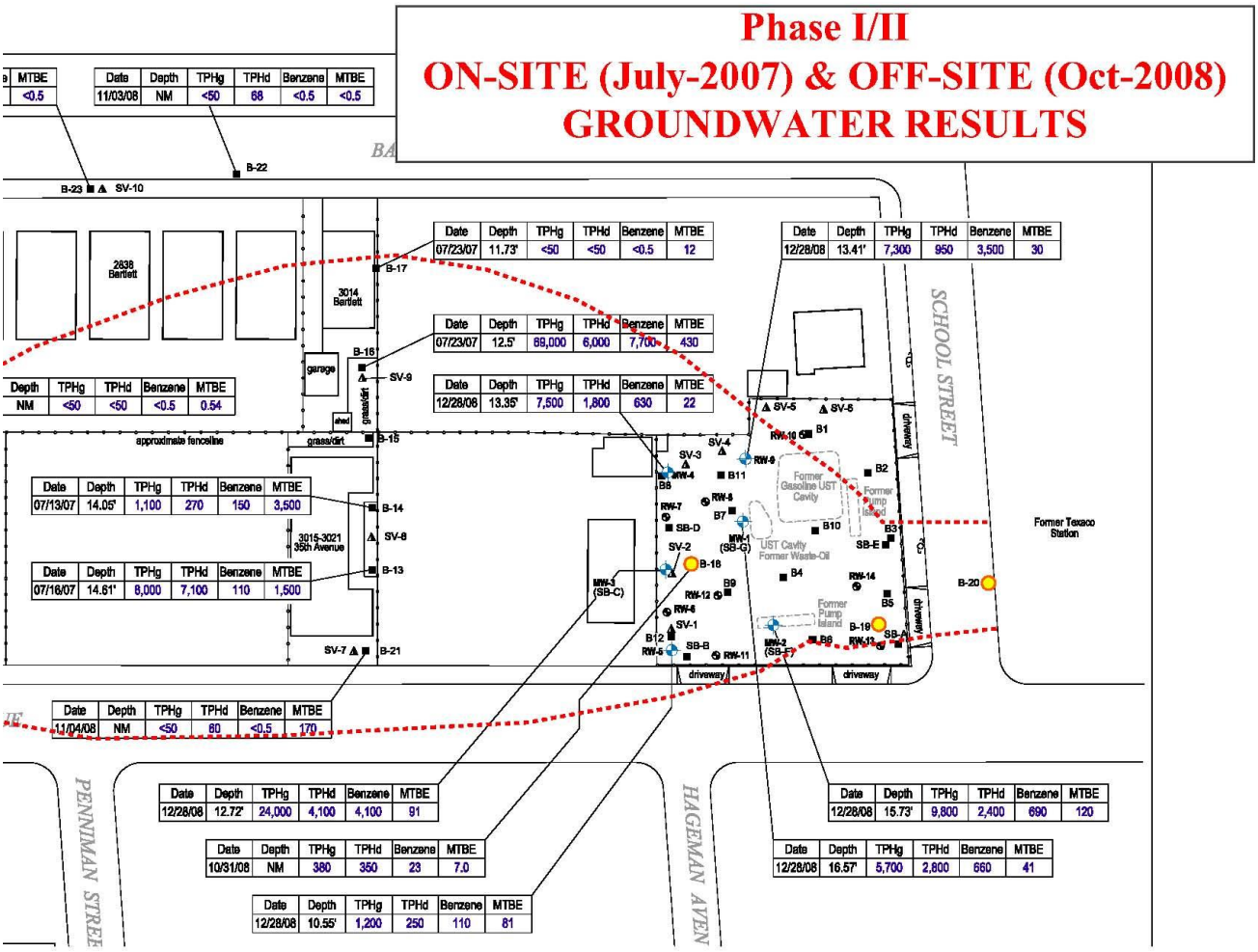
PHASE II HYDROCARBON CONCENTRATIONS in SOIL

**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)**




| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 11/03/08 | NM | <50 | 68 | <0.5 | <0.5 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 07/23/07 | 11.73' | <50 | <50 | <0.5 | 12 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 13.41' | 7,300 | 950 | 3,500 | 30 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 07/23/07 | 12.5' | 69,000 | 6,000 | 7,700 | 430 |

| Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|
| NM | <50 | <50 | <0.5 | 0.54 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 13.35' | 7,500 | 1,800 | 630 | 22 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 07/13/07 | 14.05' | 1,100 | 270 | 150 | 3,500 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 07/16/07 | 14.61' | 8,000 | 7,100 | 110 | 1,500 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 11/04/08 | NM | <50 | 80 | <0.5 | 170 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 12.72' | 24,000 | 4,100 | 4,100 | 91 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 10/31/08 | NM | 380 | 350 | 23 | 7.0 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 10.55' | 1,200 | 250 | 110 | 81 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 15.73' | 9,800 | 2,400 | 690 | 120 |

| Date | Depth | TPHg | TPHd | Benzene | MTBE |
|---|---|---|---|---|---|
| 12/28/08 | 16.57' | 5,700 | 2,800 | 660 | 41 |

- 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 375 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 375 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 375 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. 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 (375 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 in close proximity to 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 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 375 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-feet bgs: 8,400-53,000 micrograms per cubic meter (ug/$m^3$), with the maximum at SV-5; and increasing at the 10-feet

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/$m^3$, respectively[3].

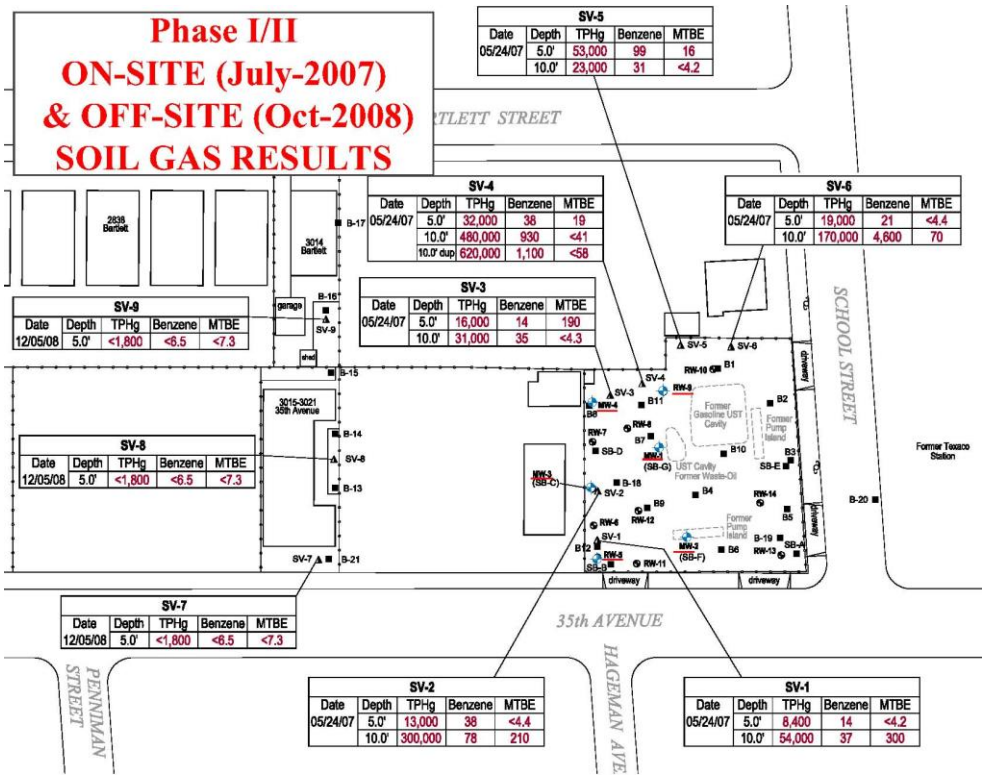
- MTBE was detected in all on-site, soil gas samples but in only three of the shallow sampling intervals (concentrations at 5 feet: "not detected" to 190 ug/$m^3$, with the maximum at SV-3; the 10 feet bgs sampling interval concentrations ranged from not detected in three of the soil gas samples to 300 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/$m^3$, respectively[4].

- 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-feet bgs) soil gas (grpahic on page B-15) and groundwater samples (grpahic on page B-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 thought 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 in order 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 releases.

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 C

## UPDATED CONCEPTUAL SITE MODEL - 2015

## Appendix C: Updated Conceptual Site Model - 2015

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 in the vicinity of 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 in the vicinity of the Site have been logged during the installation of twenty-four (24) on-site borings and seventeen (17) off-site borings drilled to a maximum depth of 45 feet below ground surface (bgs). First-encountered groundwater beneath the Site fluctuates seasonally, roughly between the depths of 8 and 18 feet bgs. Exploratory borings have been logged by a number of 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 feet[1] bgs. The survey-based calculated groundwater flow direction beneath the Site is primarily towards the west, as shown by the 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,

[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

and xylenes [BTEX], and Methyl tert Butyl Ether [MTBE]) were found in the vicinity of 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 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 or not 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 Levels[2] 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 COCs for gasoline release sites are: benzene ethylbenzene, and naphthalene. Their respective screening/cleanup levels are summarized in the table below.

[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

**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 the smear zone created by fluctuating groundwater, which is found 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 the smear zone (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.**

Despite the removal of over 6,500 pounds of gasoline during four years of Dual Phase Extraction (DPE 2000-2004), residual hydrocarbons remained in deeper (12 to 21 feet bgs) on-site soils as secondary source hydrocarbons, 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 secondary source 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 375 feet from the Site. Laboratory analyses of 91 discrete soil samples collected from these borings indicated hydrocarbons were present in the smear zone 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 375 feet downgradient of the Site, indicating that transport of hydrocarbons by groundwater did not extend to this distance. See Figures 3 and 4.

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 6.

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.

**Groundwater Quality Objectives for Gasoline Constituents**

| Chemical of Concern | Groundwater Quality Objective (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. The upward trends may also be the result of post remediation rebound or the lateral transport of source-zone mass (residual fuel release contaminants), or a combination of these processes. 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 400 feet from site, current length estimated to be 250 feet), we do not expect the off-site upgradient plume to "push" the existing plume beyond its' current limit, a maximum of 250 feet from the site.

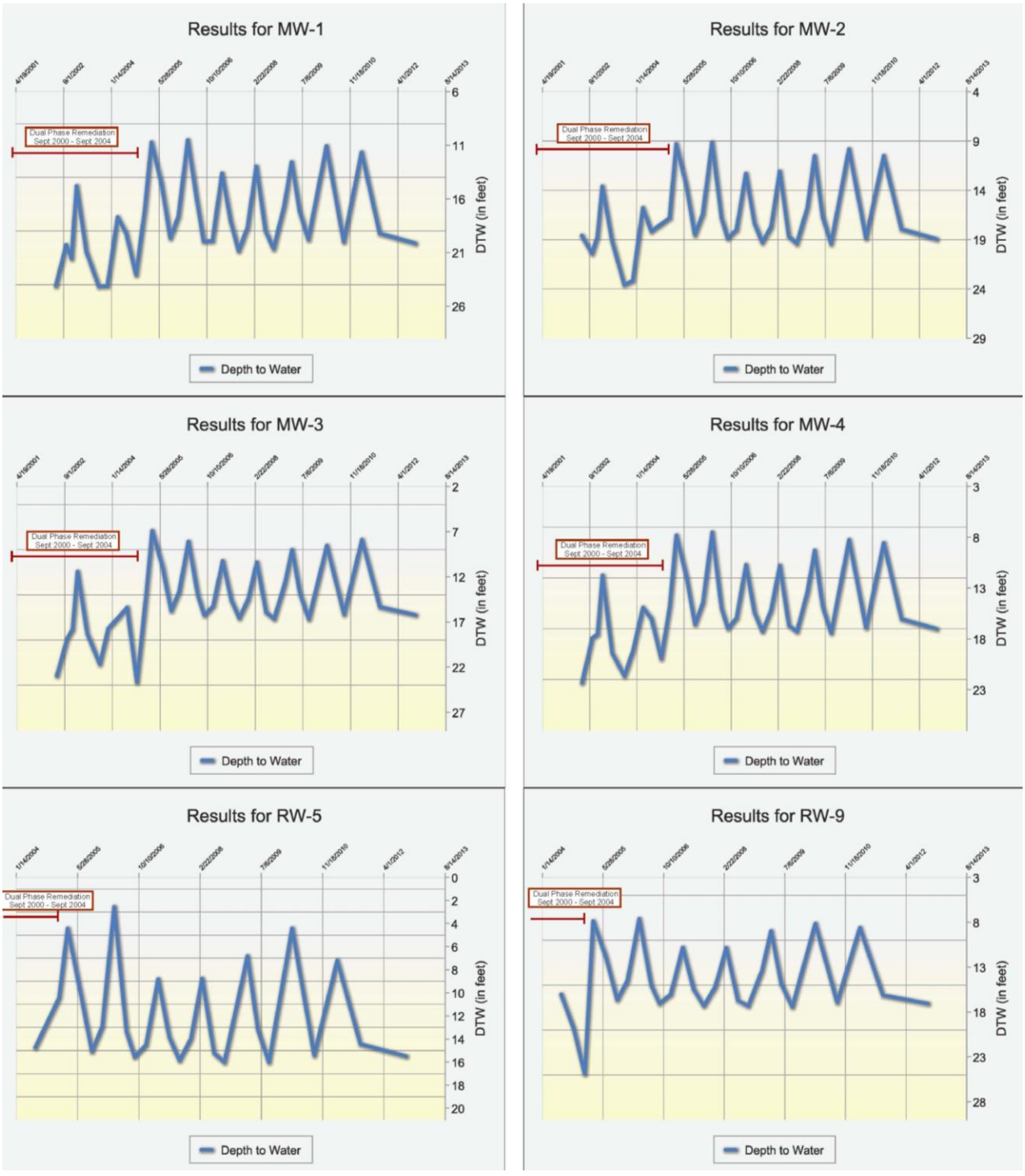



**Chart 1: Depth to Groundwater (MW-1 and 2 have monument casings, so the reference point is two feet above the ground surface)**

The groundwater analytical data from the site indicates:

- Seasonal fluctuations in groundwater 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 375 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 in close proximity to 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/$m^3$ = 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

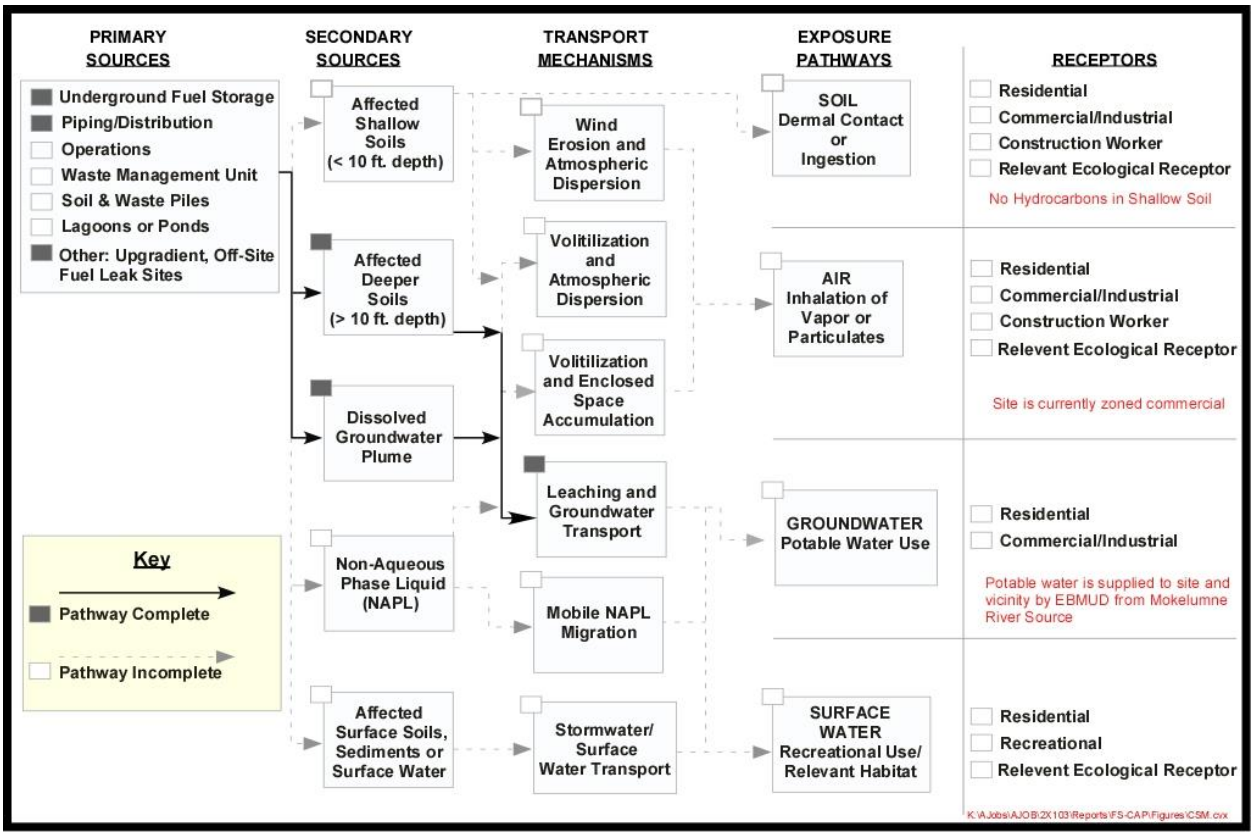
this process the hydrocarbon mass will partition into different phases. It can: 1) be adsorbed onto soil particles, 2) be dispersed into soil gas, 3) remain as free phase gasoline ("light non-aqueous phase liquid", LNAPL, or free product/separate phase hydrocarbons/sheen) in soil interstices or floating 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 (375 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 in close proximity to 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 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 in the vicinity of 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. Removal of secondary source hydrocarbons from the site and natural attenuation will restore groundwater quality in a reasonable amount of time at this site.

**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**.

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 400 feet from the site in 2008, estimated to be approximately 250 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 (maximum limit 650 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 650 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 D

## *2012 LABORATORY ANALYTICAL REPORTS WITH NAPHTHALENE DATA FOR SOIL SAMPLES*

Weber, Hayes & Associates
120 Westgate Dr
Watsonville, CA 95076
Tel: 831-722-3580
Fax: 831-662-3100

RE: Oakland / 2X103.B

Work Order No.: 1205066 Rev: 2

Dear Jered Chaney:

Torrent Laboratory, Inc. received 14 sample(s) on May 10, 2012 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.

Patti Sandrock
QA Officer

October 29, 2015
Date

**Date:** 10/29/2015

**Client:** Weber, Hayes & Associates

**Project:** Oakland / 2X103.B

**Work Order:** 1205066

## CASE NARRATIVE

No issues encountered with the preparation, analysis or reporting of the results associated with this work order.

Unless otherwise indicated in the following narrative, no results have been method and/or field blank corrected.

Reported results relate only to the items/samples tested by the laboratory.

Although sample DP-3-d17 (-006A) was listed on the CoC, no sample was received. The client was informed and the sample was submitted under a separate work order.

REVISIONS:

Report revised to identify TPH as Gasoline result for sample -014A as "not typical". No final reported values or QC data was affected byt his revision.

Rev 1 (12/12/12)

Per client request, report revised to report Napthalene data for all soil samples.

Rev. 2 (8/29/15)

Torrent LABORATORY, INC.

## Sample Result Summary

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

**DP-1** 1205066-001

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|

**All compounds were non-detectable for this sample.**

**DP-2** 1205066-002

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Benzene | SW8260B | 1 | 0.087 | 0.50 | 72 | ug/L |
| Toluene | SW8260B | 1 | 0.059 | 0.50 | 24 | ug/L |
| Ethyl Benzene | SW8260B | 1 | 0.074 | 0.50 | 130 | ug/L |
| m,p-Xylene | SW8260B | 1 | 0.13 | 1.0 | 140 | ug/L |
| o-Xylene | SW8260B | 1 | 0.076 | 0.50 | 5.9 | ug/L |
| TPH as Gasoline | 8260TPH | 11 | 350 | 550 | 3800 | ug/L |
| TPH DRO (C9-C23) | SW8015B | 1 | 0.0440 | 0.10 | 0.31 | mg/L |

**DP-3** 1205066-003

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Benzene | SW8260B | 1 | 0.087 | 0.50 | 92 | ug/L |
| Toluene | SW8260B | 1 | 0.059 | 0.50 | 1.7 | ug/L |
| Ethyl Benzene | SW8260B | 1 | 0.074 | 0.50 | 63 | ug/L |
| m,p-Xylene | SW8260B | 1 | 0.13 | 1.0 | 21 | ug/L |
| MTBE | SW8260B | 1 | 0.17 | 0.50 | 97 | ug/L |
| tert-Butanol | SW8260B | 1 | 1.5 | 5.0 | 55 | ug/L |
| TPH as Gasoline | 8260TPH | 1 | 31 | 50 | 1400 | ug/L |

**DP-1-d8** 1205066-004

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|

**All compounds were non-detectable for this sample.**

## Sample Result Summary

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

**DP-1-d14** 1205066-005

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 5 | 0.15 | 0.50 | 8.4 | mg/Kg |

**DP-1-d17-A** 1205066-006

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|

**All compounds were non-detectable for this sample.**

**DP-3-d8** 1205066-007

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|

**All compounds were non-detectable for this sample.**

**DP-3-d11** 1205066-008

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 1 | 0.030 | 0.10 | 0.33 | mg/Kg |

**DP-3-d14** 1205066-009

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Ethyl Benzene | SW8260B | 5 | 0.0043 | 0.050 | 0.30 | mg/Kg |
| Naphthalene | SW8260B | 5 | 0.015 | 0.050 | 0.024 | mg/Kg |
| TPH as Gasoline | 8260TPH | 5 | 0.15 | 0.50 | 10 | mg/Kg |

Torrent LABORATORY, INC.

## Sample Result Summary

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

**DP-3-d20** 1205066-011

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Benzene | SW8260B | 5 | 0.0075 | 0.050 | 0.060 | mg/Kg |
| Ethyl Benzene | SW8260B | 5 | 0.0043 | 0.050 | 0.22 | mg/Kg |
| m,p-Xylene | SW8260B | 5 | 0.0093 | 0.050 | 0.17 | mg/Kg |
| Naphthalene | SW8260B | 5 | 0.015 | 0.050 | 0.094 | mg/Kg |
| TPH as Gasoline | 8260TPH | 5 | 0.15 | 0.50 | 6.4 | mg/Kg |

**DP-3-d23** 1205066-012

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 1 | 0.030 | 0.10 | 0.93 | mg/Kg |
| Benzene | SW8260B | 2.5 | 0.0038 | 0.025 | 0.17 | mg/Kg |
| Ethyl Benzene | SW8260B | 2.5 | 0.0022 | 0.025 | 0.046 | mg/Kg |
| MTBE | SW8260B | 2.5 | 0.0065 | 0.025 | 0.0080 | mg/Kg |

**DP-4-d12** 1205066-013

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|

**All compounds were non-detectable for this sample.**

**DP-4-d18** 1205066-014

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 100 | 3.0 | 10 | 96 | mg/Kg |
| TPH as Diesel (SG) | SW8015B(M) | 1 | 0.87 | 2.0 | 12 | mg/Kg |
| Benzene | SW8260B | 5 | 0.0075 | 0.050 | 0.22 | mg/Kg |
| Ethyl Benzene | SW8260B | 5 | 0.0043 | 0.050 | 0.91 | mg/Kg |
| m,p-Xylene | SW8260B | 5 | 0.0093 | 0.050 | 1.4 | mg/Kg |
| o-Xylene | SW8260B | 5 | 0.0033 | 0.025 | 0.046 | mg/Kg |
| Naphthalene | SW8260B | 5 | 0.015 | 0.050 | 1.6 | mg/Kg |

## Sample Result Summary

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

**DP-1-d17-B** 1205066-015

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Ethyl Benzene | SW8260B | 1 | 0.00086 | 0.010 | 0.064 | mg/Kg |
| TPH as Gasoline | 8260TPH | 1 | 0.030 | 0.10 | 0.80 | mg/Kg |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-1 | **Lab Sample ID:** | 1205066-001A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Aqueous |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/11/12 | 1 | 0.087 | 0.50 | ND | | ug/L | 409732 | NA |
| Toluene | SW8260B | NA | 05/11/12 | 1 | 0.059 | 0.50 | ND | | ug/L | 409732 | NA |
| Ethyl Benzene | SW8260B | NA | 05/11/12 | 1 | 0.074 | 0.50 | ND | | ug/L | 409732 | NA |
| m,p-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.13 | 1.0 | ND | | ug/L | 409732 | NA |
| o-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.076 | 0.50 | ND | | ug/L | 409732 | NA |
| MTBE | SW8260B | NA | 05/11/12 | 1 | 0.17 | 0.50 | ND | | ug/L | 409732 | NA |
| tert-Butanol | SW8260B | NA | 05/11/12 | 1 | 1.5 | 5.0 | ND | | ug/L | 409732 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/11/12 | 1 | 61.2 | 131 | 93.1 | | % | 409732 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/11/12 | 1 | 75.1 | 127 | 88.3 | | % | 409732 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/11/12 | 1 | 64.1 | 120 | 91.6 | | % | 409732 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 5/11/12 | 05/11/12 | 1 | 31 | 50 | ND | | ug/L | 409732 | 5495 |
| (S) 4-Bromofluorobenzene | 8260TPH | 5/11/12 | 05/11/12 | 1 | 41.5 | 125 | 108 | | % | 409732 | 5495 |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-1 | **Lab Sample ID:** | 1205066-001B |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Aqueous |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH DRO (C9-C23) | SW8015B | NA | 05/16/12 | 1 | 0.0440 | 0.10 | ND | | mg/L | 409779 | NA |
| Pentacosane (S) | SW8015B | NA | 05/16/12 | 1 | 64.2 | 123 | 88.9 | | % | 409779 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-2 | **Lab Sample ID:** | 1205066-002A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Aqueous |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/11/12 | 1 | 0.087 | 0.50 | 72 | | ug/L | 409732 | NA |
| Toluene | SW8260B | NA | 05/11/12 | 1 | 0.059 | 0.50 | 24 | | ug/L | 409732 | NA |
| Ethyl Benzene | SW8260B | NA | 05/11/12 | 1 | 0.074 | 0.50 | 130 | | ug/L | 409732 | NA |
| m,p-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.13 | 1.0 | 140 | | ug/L | 409732 | NA |
| o-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.076 | 0.50 | 5.9 | | ug/L | 409732 | NA |
| MTBE | SW8260B | NA | 05/11/12 | 1 | 0.17 | 0.50 | ND | | ug/L | 409732 | NA |
| tert-Butanol | SW8260B | NA | 05/11/12 | 1 | 1.5 | 5.0 | ND | | ug/L | 409732 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/11/12 | 1 | 61.2 | 131 | 94.5 | | % | 409732 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/11/12 | 1 | 75.1 | 127 | 94.8 | | % | 409732 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/11/12 | 1 | 64.1 | 120 | 92.1 | | % | 409732 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 5/11/12 | 05/11/12 | 11 | 350 | 550 | 3800 | x | ug/L | 409732 | 5495 |
| (S) 4-Bromofluorobenzene | 8260TPH | 5/11/12 | 05/11/12 | 11 | 41.5 | 125 | 126 | S | % | 409732 | 5495 |

**NOTE:** x-Not typical of Gasoline Standard pattern. Result is elevated due to contribution from non-target hydrocarbons in C5-C12 gasoline range. S - High surrogate recovery due to interference (heavy end hydrocarbons).

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-2 | **Lab Sample ID:** | 1205066-002B |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Aqueous |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH DRO (C9-C23) | SW8015B | NA | 05/16/12 | 1 | 0.0440 | 0.10 | 0.31 | | mg/L | 409779 | NA |
| Pentacosane (S) | SW8015B | NA | 05/16/12 | 1 | 64.2 | 123 | 89.6 | | % | 409779 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-3 | **Lab Sample ID:** | 1205066-003A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Aqueous |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/11/12 | 1 | 0.087 | 0.50 | 92 | | ug/L | 409732 | NA |
| Toluene | SW8260B | NA | 05/11/12 | 1 | 0.059 | 0.50 | 1.7 | | ug/L | 409732 | NA |
| Ethyl Benzene | SW8260B | NA | 05/11/12 | 1 | 0.074 | 0.50 | 63 | | ug/L | 409732 | NA |
| m,p-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.13 | 1.0 | 21 | | ug/L | 409732 | NA |
| o-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.076 | 0.50 | ND | | ug/L | 409732 | NA |
| MTBE | SW8260B | NA | 05/11/12 | 1 | 0.17 | 0.50 | 97 | | ug/L | 409732 | NA |
| tert-Butanol | SW8260B | NA | 05/11/12 | 1 | 1.5 | 5.0 | 55 | | ug/L | 409732 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/11/12 | 1 | 61.2 | 131 | 93.3 | | % | 409732 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/11/12 | 1 | 75.1 | 127 | 87.4 | | % | 409732 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/11/12 | 1 | 64.1 | 120 | 87.4 | | % | 409732 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 5/11/12 | 05/11/12 | 1 | 31 | 50 | 1400 | x | ug/L | 409732 | 5495 |
| (S) 4-Bromofluorobenzene | 8260TPH | 5/11/12 | 05/11/12 | 1 | 41.5 | 125 | 114 | | % | 409732 | 5495 |

**NOTE:** x-Not typical of Gasoline Standard pattern. Result is elevated due to contribution from non-target hydrocarbons in C5-C12 range quantified as Gasoline.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-3 | **Lab Sample ID:** | 1205066-003B |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Aqueous |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH DRO (C9-C23) | SW8015B | NA | 05/16/12 | 1 | 0.0440 | 0.10 | ND | | mg/L | 409779 | NA |
| Pentacosane (S) | SW8015B | NA | 05/16/12 | 1 | 64.2 | 123 | 89.0 | | % | 409779 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-1-d8 | **Lab Sample ID:** | 1205066-004A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/14/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Toluene | SW8260B | NA | 05/14/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Ethyl Benzene | SW8260B | NA | 05/14/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409737 | NA |
| m,p-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409737 | NA |
| o-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409737 | NA |
| MTBE | SW8260B | NA | 05/14/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409737 | NA |
| tert-Butanol | SW8260B | NA | 05/14/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409737 | NA |
| Naphthalene | SW8260B | NA | 05/14/12 | 1 | 0.0030 | 0.010 | ND | | mg/Kg | 409737 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/14/12 | 1 | 59.8 | 148 | 114 | | % | 409737 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/14/12 | 1 | 55.2 | 133 | 110 | | % | 409737 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/14/12 | 1 | 55.8 | 141 | 114 | | % | 409737 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/14/12 | 1 | 0.030 | 0.10 | ND | | mg/Kg | 409737 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/14/12 | 1 | 43.9 | 127 | 73.8 | | % | 409737 | NA |

Torrent LABORATORY, INC.

# SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-1-d14 | **Lab Sample ID:** | 1205066-005A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/17/12 | 5 | 0.0075 | 0.050 | ND | | mg/Kg | 409796 | NA |
| Toluene | SW8260B | NA | 05/17/12 | 5 | 0.0049 | 0.050 | ND | | mg/Kg | 409796 | NA |
| Ethyl Benzene | SW8260B | NA | 05/17/12 | 5 | 0.0043 | 0.050 | ND | | mg/Kg | 409796 | NA |
| m,p-Xylene | SW8260B | NA | 05/17/12 | 5 | 0.0093 | 0.050 | ND | | mg/Kg | 409796 | NA |
| o-Xylene | SW8260B | NA | 05/17/12 | 5 | 0.0033 | 0.025 | ND | | mg/Kg | 409796 | NA |
| MTBE | SW8260B | NA | 05/17/12 | 5 | 0.013 | 0.050 | ND | | mg/Kg | 409796 | NA |
| tert-Butanol | SW8260B | NA | 05/17/12 | 5 | 0.10 | 0.25 | ND | | mg/Kg | 409796 | NA |
| Naphthalene | SW8260B | NA | 05/17/12 | 5 | 0.015 | 0.050 | ND | | mg/Kg | 409796 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/17/12 | 5 | 59.8 | 148 | 103 | | % | 409796 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/17/12 | 5 | 55.2 | 133 | 114 | | % | 409796 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/17/12 | 5 | 55.8 | 141 | 112 | | % | 409796 | NA |

**NOTE:** Reporting limits were raised due to high level of non-target hydrocarbons.

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | 5/17/12 | 05/17/12 | 5 | 0.15 | 0.50 | 8.4 | x | mg/Kg | 409796 | 5531 |
| (S) 4-Bromofluorobenzene | 8260TPH | 5/17/12 | 05/17/12 | 5 | 43.9 | 127 | 128 | S | % | 409796 | 5531 |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Hydrocarbons in the range of C5-C12 quantified as Gasoline. S - High surrogate recovery attributed to matrix interference (heavy end hydrocarbons).

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (SG) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 0.87 | 2.0 | ND | | mg/Kg | 409762 | 5506 |
| TPH as Motor Oil (SG) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 1.3 | 10 | ND | | mg/Kg | 409762 | 5506 |
| Pentacosane (S) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 61.5 | 133 | 81.7 | | % | 409762 | 5506 |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-1-d17-A | **Lab Sample ID:** | 1205066-006A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/14/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Toluene | SW8260B | NA | 05/14/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Ethyl Benzene | SW8260B | NA | 05/14/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409737 | NA |
| m,p-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409737 | NA |
| o-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409737 | NA |
| MTBE | SW8260B | NA | 05/14/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409737 | NA |
| tert-Butanol | SW8260B | NA | 05/14/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409737 | NA |
| Naphthalene | SW8260B | NA | 05/14/12 | 1 | 0.0030 | 0.010 | ND | | mg/Kg | 409737 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/14/12 | 1 | 59.8 | 148 | 141 | | % | 409737 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/14/12 | 1 | 55.2 | 133 | 110 | | % | 409737 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/14/12 | 1 | 55.8 | 141 | 124 | | % | 409737 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/14/12 | 1 | 30 | 100 | ND | | mg/Kg | 409737 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/14/12 | 1 | 43.9 | 127 | 64.6 | | % | 409737 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-3-d8 | **Lab Sample ID:** | 1205066-007A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/14/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Toluene | SW8260B | NA | 05/14/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Ethyl Benzene | SW8260B | NA | 05/14/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409737 | NA |
| m,p-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409737 | NA |
| o-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409737 | NA |
| MTBE | SW8260B | NA | 05/14/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409737 | NA |
| tert-Butanol | SW8260B | NA | 05/14/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409737 | NA |
| Naphthalene | SW8260B | NA | 05/14/12 | 1 | 0.0030 | 0.010 | ND | | mg/Kg | 409737 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/14/12 | 1 | 59.8 | 148 | 141 | | % | 409737 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/14/12 | 1 | 55.2 | 133 | 112 | | % | 409737 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/14/12 | 1 | 55.8 | 141 | 125 | | % | 409737 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/14/12 | 1 | 0.030 | 0.10 | ND | | mg/Kg | 409737 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/14/12 | 1 | 43.9 | 127 | 62.9 | | % | 409737 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-3-d11 | **Lab Sample ID:** | 1205066-008A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/14/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Toluene | SW8260B | NA | 05/14/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Ethyl Benzene | SW8260B | NA | 05/14/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409737 | NA |
| m,p-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409737 | NA |
| o-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409737 | NA |
| MTBE | SW8260B | NA | 05/14/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409737 | NA |
| tert-Butanol | SW8260B | NA | 05/14/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409737 | NA |
| Naphthalene | SW8260B | NA | 05/14/12 | 1 | 0.0030 | 0.010 | ND | | mg/Kg | 409737 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/14/12 | 1 | 59.8 | 148 | 139 | | % | 409737 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/14/12 | 1 | 55.2 | 133 | 113 | | % | 409737 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/14/12 | 1 | 55.8 | 141 | 116 | | % | 409737 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/14/12 | 1 | 0.030 | 0.10 | 0.33 | x | mg/Kg | 409737 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/14/12 | 1 | 43.9 | 127 | 64.6 | | % | 409737 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Hydrocarbons in the range of C5-C12 quantified as Gasoline.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-3-d14 | **Lab Sample ID:** | 1205066-009A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0075 | 0.050 | ND | | mg/Kg | 409759 | NA |
| Toluene | SW8260B | NA | 05/15/12 | 5 | 0.0049 | 0.050 | ND | | mg/Kg | 409759 | NA |
| Ethyl Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0043 | 0.050 | 0.30 | | mg/Kg | 409759 | NA |
| m,p-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0093 | 0.050 | ND | | mg/Kg | 409759 | NA |
| o-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0033 | 0.025 | ND | | mg/Kg | 409759 | NA |
| MTBE | SW8260B | NA | 05/15/12 | 5 | 0.013 | 0.050 | ND | | mg/Kg | 409759 | NA |
| tert-Butanol | SW8260B | NA | 05/15/12 | 5 | 0.10 | 0.25 | ND | | mg/Kg | 409759 | NA |
| Naphthalene | SW8260B | NA | 05/15/12 | 5 | 0.015 | 0.050 | 0.024 | J | mg/Kg | 409759 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/15/12 | 5 | 59.8 | 148 | 126 | | % | 409759 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/15/12 | 5 | 55.2 | 133 | 113 | | % | 409759 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/15/12 | 5 | 55.8 | 141 | 109 | | % | 409759 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | NA | 05/15/12 | 5 | 0.15 | 0.50 | 10 | x | mg/Kg | 409759 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/15/12 | 5 | 43.9 | 127 | 68.5 | | % | 409759 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Hydrocarbons in the range of C5-C12 quantified as Gasoline.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-3-d20 | **Lab Sample ID:** | 1205066-011A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0075 | 0.050 | 0.060 | | mg/Kg | 409759 | NA |
| Toluene | SW8260B | NA | 05/15/12 | 5 | 0.0049 | 0.050 | ND | | mg/Kg | 409759 | NA |
| Ethyl Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0043 | 0.050 | 0.22 | | mg/Kg | 409759 | NA |
| m,p-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0093 | 0.050 | 0.17 | | mg/Kg | 409759 | NA |
| o-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0033 | 0.025 | ND | | mg/Kg | 409759 | NA |
| MTBE | SW8260B | NA | 05/15/12 | 5 | 0.013 | 0.050 | ND | | mg/Kg | 409759 | NA |
| tert-Butanol | SW8260B | NA | 05/15/12 | 5 | 0.10 | 0.25 | ND | | mg/Kg | 409759 | NA |
| Naphthalene | SW8260B | NA | 05/15/12 | 5 | 0.015 | 0.050 | 0.094 | | mg/Kg | 409759 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/15/12 | 5 | 59.8 | 148 | 109 | | % | 409759 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/15/12 | 5 | 55.2 | 133 | 112 | | % | 409759 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/15/12 | 5 | 55.8 | 141 | 103 | | % | 409759 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | NA | 05/15/12 | 5 | 0.15 | 0.50 | 6.4 | | mg/Kg | 409759 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/15/12 | 5 | 43.9 | 127 | 78.1 | | % | 409759 | NA |

**NOTE:** Result is elevated due to significant contribution from non-target heavy hydrocarbons in the C5-C12 range quantified as Gasoline.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-3-d23 | **Lab Sample ID:** | 1205066-012A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/15/12 | 2.5 | 0.0038 | 0.025 | 0.17 | | mg/Kg | 409759 | NA |
| Toluene | SW8260B | NA | 05/15/12 | 2.5 | 0.0025 | 0.025 | ND | | mg/Kg | 409759 | NA |
| Ethyl Benzene | SW8260B | NA | 05/15/12 | 2.5 | 0.0022 | 0.025 | 0.046 | | mg/Kg | 409759 | NA |
| m,p-Xylene | SW8260B | NA | 05/15/12 | 2.5 | 0.0046 | 0.025 | ND | | mg/Kg | 409759 | NA |
| o-Xylene | SW8260B | NA | 05/15/12 | 2.5 | 0.0017 | 0.013 | ND | | mg/Kg | 409759 | NA |
| MTBE | SW8260B | NA | 05/15/12 | 2.5 | 0.0065 | 0.025 | 0.0080 | J | mg/Kg | 409759 | NA |
| tert-Butanol | SW8260B | NA | 05/15/12 | 2.5 | 0.052 | 0.13 | ND | | mg/Kg | 409759 | NA |
| Naphthalene | SW8260B | NA | 05/15/12 | 2.5 | 0.0075 | 0.025 | ND | | mg/Kg | 409759 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/15/12 | 2.5 | 59.8 | 148 | 114 | | % | 409759 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/15/12 | 2.5 | 55.2 | 133 | 113 | | % | 409759 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/15/12 | 2.5 | 55.8 | 141 | 103 | | % | 409759 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/14/12 | 1 | 0.030 | 0.10 | 0.93 | x | mg/Kg | 409737 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/14/12 | 1 | 43.9 | 127 | 64.9 | | % | 409737 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported value is the result of discrete peaks and non-target compounds within range of C5-C12 quantified as Gasoline.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-4-d12 | **Lab Sample ID:** | 1205066-013A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/14/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Toluene | SW8260B | NA | 05/14/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Ethyl Benzene | SW8260B | NA | 05/14/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409737 | NA |
| m,p-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409737 | NA |
| o-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409737 | NA |
| MTBE | SW8260B | NA | 05/14/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409737 | NA |
| tert-Butanol | SW8260B | NA | 05/14/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409737 | NA |
| Naphthalene | SW8260B | NA | 05/14/12 | 1 | 0.0030 | 0.010 | ND | | mg/Kg | 409737 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/14/12 | 1 | 59.8 | 148 | 134 | | % | 409737 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/14/12 | 1 | 55.2 | 133 | 114 | | % | 409737 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/14/12 | 1 | 55.8 | 141 | 131 | | % | 409737 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/14/12 | 1 | 0.030 | 0.10 | ND | | mg/Kg | 409737 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/14/12 | 1 | 43.9 | 127 | 64.6 | | % | 409737 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-4-d18 | **Lab Sample ID:** | 1205066-014A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0075 | 0.050 | 0.22 | | mg/Kg | 409759 | NA |
| Toluene | SW8260B | NA | 05/15/12 | 5 | 0.0049 | 0.050 | ND | | mg/Kg | 409759 | NA |
| Ethyl Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0043 | 0.050 | 0.91 | | mg/Kg | 409759 | NA |
| m,p-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0093 | 0.050 | 1.4 | | mg/Kg | 409759 | NA |
| o-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0033 | 0.025 | 0.046 | | mg/Kg | 409759 | NA |
| MTBE | SW8260B | NA | 05/15/12 | 5 | 0.013 | 0.050 | ND | | mg/Kg | 409759 | NA |
| tert-Butanol | SW8260B | NA | 05/15/12 | 5 | 0.10 | 0.25 | ND | | mg/Kg | 409759 | NA |
| Naphthalene | SW8260B | NA | 05/15/12 | 5 | 0.015 | 0.050 | 1.6 | E | mg/Kg | 409759 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/15/12 | 5 | 59.8 | 148 | 135 | | % | 409759 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/15/12 | 5 | 55.2 | 133 | 112 | | % | 409759 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/15/12 | 5 | 55.8 | 141 | 114 | | % | 409759 | NA |

**NOTE:** E-reported value outside of calibration range but within linear range.

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | NA | 05/14/12 | 100 | 3.0 | 10 | 96 | x | mg/Kg | 409737 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/14/12 | 100 | 43.9 | 127 | 78.3 | | % | 409737 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported TPH value includes contribution from heavy end hydrocarbons (possibly aged gasoline).

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (SG) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 0.87 | 2.0 | 12 | x | mg/Kg | 409762 | 5506 |
| TPH as Motor Oil (SG) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 1.3 | 10 | ND | | mg/Kg | 409762 | 5506 |
| Pentacosane (S) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 61.5 | 133 | 93.8 | | % | 409762 | 5506 |

**NOTE:** x-Not typical of TPH as Diesel Standard pattern (lighter than Diesel). Hydrocarbons with TPH as Diesel range are quantiated as Diesel.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/29/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-1-d17-B | **Lab Sample ID:** | 1205066-015A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/14/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Toluene | SW8260B | NA | 05/14/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409737 | NA |
| Ethyl Benzene | SW8260B | NA | 05/14/12 | 1 | 0.00086 | 0.010 | 0.064 | | mg/Kg | 409737 | NA |
| m,p-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409737 | NA |
| o-Xylene | SW8260B | NA | 05/14/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409737 | NA |
| MTBE | SW8260B | NA | 05/14/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409737 | NA |
| tert-Butanol | SW8260B | NA | 05/14/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409737 | NA |
| Naphthalene | SW8260B | NA | 05/14/12 | 1 | 0.0030 | 0.010 | ND | | mg/Kg | 409737 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/14/12 | 1 | 59.8 | 148 | 141 | | % | 409737 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/14/12 | 1 | 55.2 | 133 | 110 | | % | 409737 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/14/12 | 1 | 55.8 | 141 | 117 | | % | 409737 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/14/12 | 1 | 0.030 | 0.10 | 0.80 | x | mg/Kg | 409737 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/14/12 | 1 | 43.9 | 127 | 60.2 | | % | 409737 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Hydrocarbons in the range of C5-C12 quantified as Gasoline.

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Water | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/11/12 | **Analytical Batch:** | 409732 |
| **Units:** | ug/L | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| Dichlorodifluoromethane | 0.18 | 0.50 | ND | |
| Chloromethane | 0.16 | 0.50 | ND | |
| Vinyl Chloride | 0.16 | 0.50 | ND | |
| Bromomethane | 0.18 | 0.50 | ND | |
| Trichlorofluoromethane | 0.18 | 0.50 | ND | |
| 1,1-Dichloroethene | 0.15 | 0.50 | ND | |
| Freon 113 | 0.19 | 0.50 | ND | |
| Methylene Chloride | 0.23 | 5.0 | ND | |
| trans-1,2-Dichloroethene | 0.19 | 0.50 | ND | |
| MTBE | 0.17 | 0.50 | ND | |
| tert-Butanol | 1.5 | 5.0 | ND | |
| Diisopropyl ether (DIPE) | 0.13 | 0.50 | ND | |
| 1,1-Dichloroethane | 0.13 | 0.50 | ND | |
| ETBE | 0.17 | 0.50 | ND | |
| cis-1,2-Dichloroethene | 0.19 | 0.50 | ND | |
| 2,2-Dichloropropane | 0.15 | 0.50 | ND | |
| Bromochloromethane | 0.20 | 0.50 | ND | |
| Chloroform | 0.13 | 0.50 | ND | |
| Carbon Tetrachloride | 0.15 | 0.50 | ND | |
| 1,1,1-Trichloroethane | 0.097 | 0.50 | ND | |
| 1,1-Dichloropropene | 0.15 | 0.50 | ND | |
| Benzene | 0.13 | 0.50 | ND | |
| TAME | 0.17 | 0.50 | ND | |
| 1,2-Dichloroethane | 0.14 | 0.50 | ND | |
| Trichloroethylene | 0.13 | 0.50 | ND | |
| Dibromomethane | 0.15 | 0.50 | ND | |
| 1,2-Dichloropropane | 0.17 | 0.50 | ND | |
| Bromodichloromethane | 0.13 | 0.50 | ND | |
| cis-1,3-Dichloropropene | 0.096 | 0.50 | ND | |
| Toluene | 0.14 | 0.50 | ND | |
| Tetrachloroethylene | 0.14 | 0.50 | ND | |
| trans-1,3-Dichloropropene | 0.23 | 0.50 | ND | |
| 1,1,2-Trichloroethane | 0.14 | 0.50 | ND | |
| Dibromochloromethane | 0.096 | 0.50 | ND | |
| 1,3-Dichloropropane | 0.10 | 0.50 | ND | |
| 1,2-Dibromoethane | 0.19 | 0.50 | ND | |
| Chlorobenzene | 0.14 | 0.50 | ND | |
| Ethyl Benzene | 0.15 | 0.50 | ND | |
| 1,1,1,2-Tetrachloroethane | 0.096 | 0.50 | ND | |
| m,p-Xylene | 0.13 | 1.0 | 0.19 | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Water | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/11/12 | **Analytical Batch:** | 409732 |
| **Units:** | ug/L | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| o-Xylene | 0.15 | 0.50 | ND | | |
| Styrene | 0.21 | 0.50 | ND | | |
| Bromoform | 0.21 | 1.0 | ND | | |
| Isopropyl Benzene | 0.097 | 0.50 | ND | | |
| Bromobenzene | 0.15 | 0.50 | ND | | |
| 1,1,2,2-Tetrachloroethane | 0.11 | 0.50 | ND | | |
| n-Propylbenzene | 0.078 | 0.50 | ND | | |
| 2-Chlorotoluene | 0.076 | 0.50 | ND | | |
| 1,3,5,-Trimethylbenzene | 0.074 | 0.50 | ND | | |
| 4-Chlorotoluene | 0.088 | 0.50 | ND | | |
| tert-Butylbenzene | 0.081 | 0.50 | ND | | |
| 1,2,3-Trichloropropane | 0.14 | 0.50 | ND | | |
| 1,2,4-Trimethylbenzene | 0.083 | 0.50 | 0.10 | | |
| sec-Butyl Benzene | 0.092 | 0.50 | ND | | |
| p-Isopropyltoluene | 0.093 | 0.50 | 0.11 | | |
| 1,3-Dichlorobenzene | 0.10 | 0.50 | ND | | |
| 1,4-Dichlorobenzene | 0.069 | 0.50 | ND | | |
| n-Butylbenzene | 0.081 | 0.50 | ND | | |
| 1,2-Dichlorobenzene | 0.057 | 0.50 | ND | | |
| 1,2-Dibromo-3-Chloropropane | 0.15 | 0.50 | ND | | |
| Hexachlorobutadiene | 0.19 | 0.50 | ND | | |
| 1,2,4-Trichlorobenzene | 0.12 | 0.50 | ND | | |
| Naphthalene | 0.14 | 0.50 | ND | | |
| 1,2,3-Trichlorobenzene | 0.23 | 0.50 | ND | | |
| (S) Dibromofluoromethane | | | 95.8 | | |
| (S) Toluene-d8 | | | 88.6 | | |
| (S) 4-Bromofluorobenzene | | | 92.6 | | |
| Ethanol | 0.21 | 0.50 | ND | TIC | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/14/12 | **Analytical Batch:** | 409737 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 4.4 | 10 | ND | | |
| Isopropyl Alcohol | 4.6 | 10 | ND | | |
| Vinyl Chloride | 2.6 | 10 | ND | | |
| Bromomethane | 4.7 | 10 | ND | | |
| Trichlorofluoromethane | 2.9 | 10 | ND | | |
| 1,1-Dichloroethene | 1.5 | 10 | ND | | |
| Freon 113 | 3.7 | 10 | ND | | |
| Methylene Chloride | 2.0 | 50 | ND | | |
| trans-1,2-Dichloroethene | 1.1 | 10 | ND | | |
| MTBE | 2.6 | 10 | ND | | |
| tert-Butanol | 21 | 50 | ND | | |
| Diisopropyl ether (DIPE) | 2.2 | 10 | ND | | |
| 1,1-Dichloroethane | 1.3 | 10 | ND | | |
| ETBE | 2.4 | 10 | ND | | |
| cis-1,2-Dichloroethene | 1.8 | 10 | ND | | |
| 2,2-Dichloropropane | 1.2 | 10 | ND | | |
| Bromochloromethane | 2.3 | 10 | ND | | |
| Chloroform | 1.2 | 10 | ND | | |
| Carbon Tetrachloride | 1.6 | 10 | ND | | |
| 1,1,1-Trichloroethane | 1.2 | 10 | ND | | |
| 1,1-Dichloropropene | 1.4 | 10 | ND | | |
| Benzene | 1.5 | 10 | ND | | |
| TAME | 2.1 | 10 | ND | | |
| 1,2-Dichloroethane | 1.9 | 10 | ND | | |
| Trichloroethylene | 3.9 | 10 | ND | | |
| Dibromomethane | 2.2 | 10 | ND | | |
| 1,2-Dichloropropane | 1.3 | 10 | ND | | |
| Bromodichloromethane | 1.1 | 10 | ND | | |
| cis-1,3-Dichloropropene | 1.4 | 10 | ND | | |
| Toluene | 0.98 | 10 | ND | | |
| Tetrachloroethylene | 1.8 | 10 | ND | | |
| trans-1,3-Dichloropropene | 1.2 | 10 | ND | | |
| 1,1,2-Trichloroethane | 1.8 | 10 | ND | | |
| Dibromochloromethane | 1.1 | 10 | ND | | |
| 1,3-Dichloropropane | 2.1 | 10 | ND | | |
| Naphthalene | 1.7 | 10 | ND | | |
| Ethyl Benzene | 0.86 | 10 | ND | | |
| Chlorobenzene | 4.2 | 10 | ND | | |
| 1,1,1,2-Tetrachloroethane | 0.86 | 10 | ND | | |
| m,p-Xylene | 1.9 | 10 | ND | | |
| o-Xylene | 0.66 | 5.0 | ND | | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/14/12 | **Analytical Batch:** | 409737 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| Styrene | 0.77 | 10 | ND | | |
| Bromoform | 1.9 | 10 | ND | | |
| Isopropyl Benzene | 1.2 | 10 | ND | | |
| n-Propylbenzene | 1.4 | 10 | ND | | |
| Bromobenzene | 1.2 | 10 | ND | | |
| 1,1,2,2-Tetrachloroethane | 3.0 | 10 | ND | | |
| 1,3,5-Trimethylbenzene | 1.1 | 10 | ND | | |
| 1,2,3-Trichloropropane | 3.3 | 10 | ND | | |
| 4-Chlorotoluene | 1.6 | 10 | ND | | |
| 2-Chlorotoluene | 1.6 | 10 | ND | | |
| tert-Butylbenzene | 1.4 | 10 | ND | | |
| 1,2,4-Trimethylbenzene | 1.1 | 10 | ND | | |
| sec-Butyl Benzene | 1.6 | 10 | ND | | |
| p-Isopropyltoluene | 1.5 | 10 | ND | | |
| 1,3-Dichlorobenzene | 1.8 | 10 | ND | | |
| 1,4-Dichlorobenzene | 1.5 | 10 | ND | | |
| n-Butylbenzene | 2.2 | 10 | ND | | |
| 1,2-Dichlorobenzene | 1.3 | 10 | ND | | |
| 1,2-Dibromo-3-Chloropropane | 4.2 | 10 | ND | | |
| Hexachlorobutadiene | 2.6 | 10 | ND | | |
| 1,2,4-Trichlorobenzene | 2.1 | 10 | ND | | |
| Naphthalene | 3.0 | 10 | ND | | |
| 1,2,3-Trichlorobenzene | 2.9 | 10 | ND | | |
| (S) Dibromofluoromethane | | | 115 | | |
| (S) Toluene-d8 | | | 101 | | |
| (S) 4-Bromofluorobenzene | | | 106 | | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409759 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| Dichlorodifluoromethane | 4.4 | 10 | ND | |
| Isopropyl Alcohol | 4.6 | 10 | ND | |
| Vinyl Chloride | 2.6 | 10 | ND | |
| Bromomethane | 4.7 | 10 | ND | |
| Trichlorofluoromethane | 2.9 | 10 | ND | |
| 1,1-Dichloroethene | 1.5 | 10 | ND | |
| Freon 113 | 3.7 | 10 | ND | |
| Methylene Chloride | 2.0 | 50 | ND | |
| trans-1,2-Dichloroethene | 1.1 | 10 | ND | |
| MTBE | 2.6 | 10 | ND | |
| tert-Butanol | 21 | 50 | ND | |
| Diisopropyl ether (DIPE) | 2.2 | 10 | ND | |
| 1,1-Dichloroethane | 1.3 | 10 | ND | |
| ETBE | 2.4 | 10 | ND | |
| cis-1,2-Dichloroethene | 1.8 | 10 | ND | |
| 2,2-Dichloropropane | 1.2 | 10 | ND | |
| Bromochloromethane | 2.3 | 10 | ND | |
| Chloroform | 1.2 | 10 | ND | |
| Carbon Tetrachloride | 1.6 | 10 | ND | |
| 1,1,1-Trichloroethane | 1.2 | 10 | ND | |
| 1,1-Dichloropropene | 1.4 | 10 | ND | |
| Benzene | 1.5 | 10 | ND | |
| TAME | 2.1 | 10 | ND | |
| 1,2-Dichloroethane | 1.9 | 10 | ND | |
| Trichloroethylene | 3.9 | 10 | ND | |
| Dibromomethane | 2.2 | 10 | ND | |
| 1,2-Dichloropropane | 1.3 | 10 | ND | |
| Bromodichloromethane | 1.1 | 10 | ND | |
| cis-1,3-Dichloropropene | 1.4 | 10 | ND | |
| Toluene | 0.98 | 10 | ND | |
| Tetrachloroethylene | 1.8 | 10 | ND | |
| trans-1,3-Dichloropropene | 1.2 | 10 | ND | |
| 1,1,2-Trichloroethane | 1.8 | 10 | ND | |
| Dibromochloromethane | 1.1 | 10 | ND | |
| 1,3-Dichloropropane | 2.1 | 10 | ND | |
| Naphthalene | 1.7 | 10 | ND | |
| Ethyl Benzene | 0.86 | 10 | ND | |
| Chlorobenzene | 4.2 | 10 | ND | |
| 1,1,1,2-Tetrachloroethane | 0.86 | 10 | ND | |
| m,p-Xylene | 1.9 | 10 | ND | |
| o-Xylene | 0.66 | 5.0 | ND | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409759 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| Styrene | 0.77 | 10 | ND | |
| Bromoform | 1.9 | 10 | ND | |
| Isopropyl Benzene | 1.2 | 10 | ND | |
| n-Propylbenzene | 1.4 | 10 | ND | |
| Bromobenzene | 1.2 | 10 | ND | |
| 1,1,2,2-Tetrachloroethane | 3.0 | 10 | ND | |
| 1,3,5-Trimethylbenzene | 1.1 | 10 | ND | |
| 1,2,3-Trichloropropane | 3.3 | 10 | ND | |
| 4-Chlorotoluene | 1.6 | 10 | ND | |
| 2-Chlorotoluene | 1.6 | 10 | ND | |
| tert-Butylbenzene | 1.4 | 10 | ND | |
| 1,2,4-Trimethylbenzene | 1.1 | 10 | ND | |
| sec-Butyl Benzene | 1.6 | 10 | ND | |
| p-Isopropyltoluene | 1.5 | 10 | ND | |
| 1,3-Dichlorobenzene | 1.8 | 10 | ND | |
| 1,4-Dichlorobenzene | 1.5 | 10 | ND | |
| n-Butylbenzene | 2.2 | 10 | ND | |
| 1,2-Dichlorobenzene | 1.3 | 10 | ND | |
| 1,2-Dibromo-3-Chloropropane | 4.2 | 10 | ND | |
| Hexachlorobutadiene | 2.6 | 10 | ND | |
| 1,2,4-Trichlorobenzene | 2.1 | 10 | ND | |
| Naphthalene | 3.0 | 10 | ND | |
| 1,2,3-Trichlorobenzene | 2.9 | 10 | ND | |
| (S) Dibromofluoromethane | | | 108 | |
| (S) Toluene-d8 | | | 104 | |
| (S) 4-Bromofluorobenzene | | | 110 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Water | **Analytical Method:** | SW8015B | **Analyzed Date:** | 05/16/12 | **Analytical Batch:** | 409779 |
| **Units:** | mg/L | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH DRO (C9-C23) | 0.0440 | 0.10 | ND | |
| Pentacosane (S) | | | 88.5 | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/17/12 | **Analytical Batch:** | 409796 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 4.4 | 10 | ND | | |
| Isopropyl Alcohol | 4.6 | 10 | ND | | |
| Vinyl Chloride | 2.6 | 10 | ND | | |
| Bromomethane | 4.7 | 10 | ND | | |
| Trichlorofluoromethane | 2.9 | 10 | ND | | |
| 1,1-Dichloroethene | 1.5 | 10 | ND | | |
| Freon 113 | 3.7 | 10 | ND | | |
| Methylene Chloride | 2.0 | 50 | ND | | |
| trans-1,2-Dichloroethene | 1.1 | 10 | ND | | |
| MTBE | 2.6 | 10 | ND | | |
| tert-Butanol | 21 | 50 | ND | | |
| Diisopropyl ether (DIPE) | 2.2 | 10 | ND | | |
| 1,1-Dichloroethane | 1.3 | 10 | ND | | |
| ETBE | 2.4 | 10 | ND | | |
| cis-1,2-Dichloroethene | 1.8 | 10 | ND | | |
| 2,2-Dichloropropane | 1.2 | 10 | ND | | |
| Bromochloromethane | 2.3 | 10 | ND | | |
| Chloroform | 1.2 | 10 | ND | | |
| Carbon Tetrachloride | 1.6 | 10 | ND | | |
| 1,1,1-Trichloroethane | 1.2 | 10 | ND | | |
| 1,1-Dichloropropene | 1.4 | 10 | ND | | |
| Benzene | 1.5 | 10 | ND | | |
| TAME | 2.1 | 10 | ND | | |
| 1,2-Dichloroethane | 1.9 | 10 | ND | | |
| Trichloroethylene | 3.9 | 10 | ND | | |
| Dibromomethane | 2.2 | 10 | ND | | |
| 1,2-Dichloropropane | 1.3 | 10 | ND | | |
| Bromodichloromethane | 1.1 | 10 | ND | | |
| cis-1,3-Dichloropropene | 1.4 | 10 | ND | | |
| Toluene | 0.98 | 10 | ND | | |
| Tetrachloroethylene | 1.8 | 10 | ND | | |
| trans-1,3-Dichloropropene | 1.2 | 10 | ND | | |
| 1,1,2-Trichloroethane | 1.8 | 10 | ND | | |
| Dibromochloromethane | 1.1 | 10 | ND | | |
| 1,3-Dichloropropane | 2.1 | 10 | ND | | |
| Naphthalene | 1.7 | 10 | ND | | |
| Ethyl Benzene | 0.86 | 10 | ND | | |
| Chlorobenzene | 4.2 | 10 | ND | | |
| 1,1,1,2-Tetrachloroethane | 0.86 | 10 | ND | | |
| m,p-Xylene | 1.9 | 10 | ND | | |
| o-Xylene | 0.66 | 5.0 | ND | | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/17/12 | **Analytical Batch:** | 409796 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| Styrene | 0.77 | 10 | ND | |
| Bromoform | 1.9 | 10 | ND | |
| Isopropyl Benzene | 1.2 | 10 | ND | |
| n-Propylbenzene | 1.4 | 10 | ND | |
| Bromobenzene | 1.2 | 10 | ND | |
| 1,1,2,2-Tetrachloroethane | 3.0 | 10 | ND | |
| 1,3,5-Trimethylbenzene | 1.1 | 10 | ND | |
| 1,2,3-Trichloropropane | 3.3 | 10 | ND | |
| 4-Chlorotoluene | 1.6 | 10 | ND | |
| 2-Chlorotoluene | 1.6 | 10 | ND | |
| tert-Butylbenzene | 1.4 | 10 | ND | |
| 1,2,4-Trimethylbenzene | 1.1 | 10 | ND | |
| sec-Butyl Benzene | 1.6 | 10 | ND | |
| p-Isopropyltoluene | 1.5 | 10 | ND | |
| 1,3-Dichlorobenzene | 1.8 | 10 | ND | |
| 1,4-Dichlorobenzene | 1.5 | 10 | ND | |
| n-Butylbenzene | 2.2 | 10 | ND | |
| 1,2-Dichlorobenzene | 1.3 | 10 | ND | |
| 1,2-Dibromo-3-Chloropropane | 4.2 | 10 | ND | |
| Hexachlorobutadiene | 2.6 | 10 | ND | |
| 1,2,4-Trichlorobenzene | 2.1 | 10 | ND | |
| Naphthalene | 3.0 | 10 | ND | |
| 1,2,3-Trichlorobenzene | 2.9 | 10 | ND | |
| (S) Dibromofluoromethane | | | 99.2 | |
| (S) Toluene-d8 | | | 113 | |
| (S) 4-Bromofluorobenzene | | | 104 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | 5035 | **Prep Date:** | 05/14/12 | **Prep Batch:** | 5491 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/14/12 | **Analytical Batch:** | 409737 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | |
| (S) 4-Bromofluorobenzene | | | 75.1 | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | 5030 | **Prep Date:** | 05/11/12 | **Prep Batch:** | 5495 |
| **Matrix:** | Water | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/11/12 | **Analytical Batch:** | 409732 |
| **Units:** | ug/L | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH as Gasoline | 31 | 50 | ND | |
| (S) 4-Bromofluorobenzene | | | 96.9 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | 3545_TPHSG | **Prep Date:** | 05/15/12 | **Prep Batch:** | 5506 |
| **Matrix:** | Soil | **Analytical Method:** | SW8015B(M) | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409762 |
| **Units:** | mg/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH as Diesel (SG) | 0.87 | 2.0 | ND | |
| TPH as Motor Oil (SG) | 1.3 | 10 | 1.9 | |
| Pentacosane (S) | | | 85.2 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | 5035 | **Prep Date:** | 05/14/12 | **Prep Batch:** | 5511 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409759 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | |
| (S) 4-Bromofluorobenzene | | | 69.2 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | 5035 | **Prep Date:** | 05/17/12 | **Prep Batch:** | 5531 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/17/12 | **Analytical Batch:** | 409796 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | 98 | |
| (S) 4-Bromofluorobenzene | | | 123 | |

Torrent LABORATORY, INC.

# LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Water | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/11/12 | **Analytical Batch:** | 409732 |
| **Units:** | ug/L | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.14 | 0.50 | ND | 17.04 | 91.6 | 111 | 19.3 | 61.4 - 129 | 30 | |
| Benzene | 0.087 | 0.50 | ND | 17.04 | 98.2 | 114 | 14.8 | 66.9 - 140 | 30 | |
| Trichloroethylene | 0.057 | 0.50 | ND | 17.04 | 91.4 | 101 | 9.46 | 69.3 - 144 | 30 | |
| Toluene | 0.059 | 0.50 | ND | 17.04 | 96.7 | 104 | 6.99 | 76.6 - 123 | 30 | |
| Chlorobenzene | 0.068 | 0.50 | ND | 17.04 | 95.2 | 101 | 5.80 | 73.9 - 137 | 30 | |
| (S) Dibromofluoromethane | | | ND | 11.36 | 88.9 | 87.2 | | 61.2 - 131 | | |
| (S) Toluene-d8 | | | ND | 11.36 | 91.3 | 86.9 | | 75.1 - 127 | | |
| (S) 4-Bromofluorobenzene | | | ND | 11.36 | 91.9 | 91.0 | | 64.1 - 120 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/14/12 | **Analytical Batch:** | 409737 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.5 | 10 | ND | 50 | 118 | 124 | 5.01 | 53.7 - 139 | 30 | |
| Benzene | 1.5 | 10 | ND | 50 | 95.3 | 93.5 | 2.03 | 66.5 - 135 | 30 | |
| Trichloroethylene | 3.9 | 10 | ND | 50 | 85.7 | 89.8 | 4.83 | 57.5 - 150 | 30 | |
| Toluene | 0.98 | 10 | ND | 50 | 97.7 | 104 | 6.55 | 56.8 - 134 | 30 | |
| Chlorobenzene | 4.2 | 10 | ND | 50 | 114 | 121 | 5.45 | 57.4 - 134 | 30 | |
| (S) Dibromofluoromethane | | | ND | 50 | 114 | 102 | | 59.8 - 148 | | |
| (S) Toluene-d8 | | | ND | 50 | 108 | 110 | | 55.2 - 133 | | |
| (S) 4-Bromofluorobenzene | | | ND | 50 | 105 | 106 | | 55.8 - 141 | | |

Torrent LABORATORY, INC.

# LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409759 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.5 | 10 | ND | 50 | 80.8 | 102 | 23.5 | 53.7 - 139 | 30 | |
| Benzene | 1.5 | 10 | ND | 50 | 90.6 | 99.0 | 8.86 | 66.5 - 135 | 30 | |
| Trichloroethylene | 3.9 | 10 | ND | 50 | 85.2 | 89.3 | 4.74 | 57.5 - 150 | 30 | |
| Toluene | 0.98 | 10 | ND | 50 | 91.6 | 104 | 12.9 | 56.8 - 134 | 30 | |
| Chlorobenzene | 4.2 | 10 | ND | 50 | 101 | 96.9 | 3.99 | 57.4 - 134 | 30 | |
| (S) Dibromofluoromethane | | | ND | 50 | 115 | 114 | | 59.8 - 148 | | |
| (S) Toluene-d8 | | | ND | 50 | 100 | 107 | | 55.2 - 133 | | |
| (S) 4-Bromofluorobenzene | | | ND | 50 | 99.1 | 101 | | 55.8 - 141 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Water | **Analytical Method:** | SW8015B | **Analyzed Date:** | 05/16/12 | **Analytical Batch:** | 409779 |
| **Units:** | mg/L | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH DRO (C9-C23) | 0.0440 | 0.10 | ND | 15 | 87.8 | 86.4 | 1.52 | 70.0 - 130 | 30 | |
| Pentacosane (S) | | | 88.5 | 200 | 107 | 106 | | 70.0 - 130 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/17/12 | **Analytical Batch:** | 409796 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.5 | 10 | ND | 50 | 87.8 | 114 | 25.8 | 53.7 - 139 | 30 | |
| Benzene | 1.5 | 10 | ND | 50 | 89.5 | 115 | 24.5 | 66.5 - 135 | 30 | |
| Trichloroethylene | 3.9 | 10 | ND | 50 | 87.2 | 117 | 29.0 | 57.5 - 150 | 30 | |
| Toluene | 0.98 | 10 | ND | 50 | 94.7 | 121 | 24.2 | 56.8 - 134 | 30 | |
| Chlorobenzene | 4.2 | 10 | ND | 50 | 90.4 | 118 | 26.5 | 57.4 - 134 | 30 | |
| (S) Dibromofluoromethane | | | ND | 50 | 99.1 | 97.8 | | 59.8 - 148 | | |
| (S) Toluene-d8 | | | ND | 50 | 111 | 111 | | 55.2 - 133 | | |
| (S) 4-Bromofluorobenzene | | | ND | 50 | 103 | 107 | | 55.8 - 141 | | |

Torrent LABORATORY, INC.

# LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | 5035 | **Prep Date:** | 05/14/12 | **Prep Batch:** | 5491 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/14/12 | **Analytical Batch:** | 409737 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | 1000 | 81.1 | 80.8 | 0.398 | 64.0 - 133.2 | 30 | |
| (S) 4-Bromofluorobenzene | | | 75.1 | 50 | 78.2 | 74.9 | | 43.9 - 127 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | 5030 | **Prep Date:** | 05/11/12 | **Prep Batch:** | 5495 |
| **Matrix:** | Water | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/11/12 | **Analytical Batch:** | 409732 |
| **Units:** | ug/L | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 31 | 50 | ND | 227.27 | 97.5 | 94.5 | 3.20 | 52.4 - 127 | 30 | |
| (S) 4-Bromofluorobenzene | | | 96.9 | 11.36 | 80.2 | 90.7 | | 41.5 - 125 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | 3545_TPHSG | **Prep Date:** | 05/15/12 | **Prep Batch:** | 5506 |
| **Matrix:** | Soil | **Analytical Method:** | SW8015B(M) | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409762 |
| **Units:** | mg/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (SG) | 0.87 | 2.0 | ND | 33.33 | 65.6 | 67.7 | 3.02 | 50.8 - 111 | 30 | |
| Pentacosane (S) | | | 1.9 | 100 | 92.9 | 97.5 | | 61.5 - 133 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | 5035 | **Prep Date:** | 05/14/12 | **Prep Batch:** | 5511 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409759 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | 1000 | 80.3 | 80.5 | 0.307 | 64.0 - 133.2 | 30 | |
| (S) 4-Bromofluorobenzene | | | 69.2 | 50 | 73.1 | 74.7 | | 43.9 - 127 | | |

Torrent LABORATORY, INC.

# LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | 5035 | **Prep Date:** | 05/17/12 | **Prep Batch:** | 5531 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/17/12 | **Analytical Batch:** | 409796 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | 98 | 1000 | 113 | 104 | 8.23 | 64.0 - 133.2 | 30 | |
| (S) 4-Bromofluorobenzene | | | 123 | 50 | 117 | 113 | | 43.9 - 127 | | |

Torrent LABORATORY, INC.

# MS/MSD Summary Report

*Raw values are used in quality control assessment.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205066 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | **Soil** | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/14/12 | **Analytical Batch:** | 409737 |
| **Spiked Sample:** | 1205066-006A | | | | | | |
| **Units:** | mg/Kg | | | | | | |

| Parameters | MDL | PQL | Sample Conc. | Spike Conc. | MS % Recovery | MSD % Recovery | MS/MSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0015 | 0.010 | 0 | 0.05 | 120 | 119 | 0.969 | 66.5 - 135 | 30 | |
| Toluene | 0.00098 | 0.010 | 0 | 0.05 | 119 | 116 | 2.75 | 56.8 - 134 | 30 | |
| (S) Dibromofluoromethane | | | | 50 | 134 | 135 | | 59.8 - 148 | | |
| (S) Toluene-d8 | | | | 50 | 110 | 113 | | 55.2 - 133 | | |
| (S) 4-Bromofluorobenzene | | | | 50 | 122 | 117 | | 55.8 - 141 | | |

# Laboratory Qualifiers and Definitions

## DEFINITIONS:

| |
|---|
| **Accuracy/Bias (% Recovery)** - The closeness of agreement between an observed value and an accepted reference value. |
| **Blank (Method/Preparation Blank)** -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process. |
| **Duplicate** - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD) |
| **Laboratory Control Sample (LCS ad LCSD)** - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance. |
| **Matrix** - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc) |
| **Matrix Spike (MS/MSD)** - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix. |
| **Method Detection Limit (MDL)** - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero |
| **Practical Quantitation Limit (PQL)** - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes. |
| **Precision (%RPD)** - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates |
| **Surrogate (S) or (Surr)** - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis |
| **Tentatively Identified Compound (TIC) -** A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation. |
| **Units:** the unit of measure used to express the reported result - **mg/L** and ***mg/Kg*** (equivalent to PPM - parts per million in **liquid** and ***solid***), **ug/L** and ***ug/Kg*** (equivalent to PPB - parts per billion in **liquid** and ***solid***), **ug/m3**, ***mg.m3***, **ppbv** and ***ppmv*** (all units of measure for reporting concentrations in air), **%** ( equivalent to 10000 ppm or 1,000,000 ppb), **ug/Wipe** ( concentration found on the surface of a single Wipe usually taken over a 100cm2 surface) |

## LABORATORY QUALIFIERS:

**B** - Indicates when the anlayte is found in the associated method or preparation blank
**D** - Surrogate is not recoverable due to the necessary dilution of the sample
**E** - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.
**H**- Indicates that the recommended holding time for the analyte or compound has been exceeded
**J**- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative
**NA** - Not Analyzed
**N/A** - Not Applicable
**NR** - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added
**R**- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts
**S**- Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative
**X** -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.

# Sample Receipt Checklist

Client Name: Weber, Hayes & Associates

Project Name: Oakland / 2X103.B

Work Order No.: 1205066

Date and Time Received: 5/10/2012 17:30

Received By: NG

Physically Logged By: NG

Checklist Completed By: YB

Carrier Name: Streetwise Courier

**Chain of Custody (COC) Information**

| | |
|---|---|
| Chain of custody present? | Yes |
| Chain of custody signed when relinquished and received? | Yes |
| Chain of custody agrees with sample labels? | Yes |
| Custody seals intact on sample bottles? | No |

**Sample Receipt Information**

| | |
|---|---|
| Custody seals intact on shipping container/cooler? | No |
| Shipping Container/Cooler In Good Condition? | Yes |
| Samples in proper container/bottle? | Yes |
| Samples containers intact? | Yes |
| Sufficient sample volume for indicated test? | Yes |

**Sample Preservation and Hold Time (HT) Information**

| | |
|---|---|
| All samples received within holding time? | Yes |
| Container/Temp Blank temperature in compliance? | Temperature: 12 °C |
| Water-VOA vials have zero headspace? | |
| Water-pH acceptable upon receipt? | |
| pH Checked by: | pH Adjusted by: |

Chilling has begun. We received 2 samples with same id-DP-1-d17(006A) and did not receive sample DP-3-d17 (010A).

Torrent LABORATORY, INC.

# Login Summary Report

**Client ID:** TL5105 Weber, Hayes & Associates

**Project Name:** Oakland / 2X103.B

**Project # :**

**Report Due Date:** 10/26/2015

**QC Level:**

**TAT Requested:** 5+ day:0

**Date Received:** 5/10/2012

**Time Received:** 17:30

**Comments:** 5 Day TAT. Samples originally received on 3 CoCs. Broken into two work orders in order to facilitate batch preparation and reporting. Page 1 samples on WO#1205066 and page 2-3 on WO#1205067.

**Work Order # :** ***1205066***

| WO Sample ID | Client Sample ID | Collection Date/Time | Matrix | Scheduled Disposal | Sample On Hold | Test On Hold | Requested Tests | Subbed |
|---|---|---|---|---|---|---|---|---|
| 1205066-001A | DP-1 | 05/09/12 0:00 | Water | 06/24/12 | | | W_GCMS-GRO<br>W_8260PetWHA | |
| **Sample Note:** | For petr - BTEX, MTBE and TBA only. Use MDL for any diluted samples. | | | | | | | |
| 1205066-001B | DP-1 | 05/09/12 0:00 | Water | 06/24/12 | | | W_DRO | |
| 1205066-002A | DP-2 | 05/09/12 0:00 | Water | 06/24/12 | | | W_GCMS-GRO<br>W_8260PetWHA | |
| 1205066-002B | DP-2 | 05/09/12 0:00 | Water | 06/24/12 | | | W_DRO | |
| 1205066-003A | DP-3 | 05/09/12 0:00 | Water | 06/24/12 | | | W_GCMS-GRO<br>W_8260PetWHA | |
| 1205066-003B | DP-3 | 05/09/12 0:00 | Water | 06/24/12 | | | W_DRO | |
| 1205066-004A | DP-1-d8 | 05/09/12 0:00 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| **Sample Note:** | For petr - BTEX, MTBE and TBA only. Use MDL for any diluted samples. | | | | | | | |
| 1205066-005A | DP-1-d14 | 05/09/12 0:00 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_GCMS-GRO<br>S_8260PetWHA<br>S_8260PetWHA<br>S_TPHDOSG | |
| 1205066-006A | DP-1-d17-A | 05/09/12 0:00 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205066-007A | DP-3-d8 | 05/09/12 0:00 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205066-008A | DP-3-d11 | 05/09/12 0:00 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |

# Login Summary Report

**Client ID:** TL5105 Weber, Hayes & Associates

**Project Name:** Oakland / 2X103.B

**Project # :**

**Report Due Date:** 10/26/2015

**QC Level:**

**TAT Requested:** 5+ day:0

**Date Received:** 5/10/2012

**Time Received:** 17:30

**Comments:** 5 Day TAT. Samples originally received on 3 CoCs. Broken into two work orders in order to facilitate batch preparation and reporting. Page 1 samples on WO#1205066 and page 2-3 on WO#1205067.

**Work Order # :** ***1205066***

| WO Sample ID | Client Sample ID | Collection Date/Time | Matrix | Scheduled Disposal | Sample On Hold | Test On Hold | Requested Tests | Subbed |
|---|---|---|---|---|---|---|---|---|
| 1205066-009A | DP-3-d14 | 05/09/12 0:00 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205066-010A | DP-3-d17 | 05/09/12 0:00 | Soil | 11/06/12 | | | DUMMY | |
| **Sample Note:** | We did not receive his sample DP-3-d17. | | | | | | | |
| 1205066-011A | DP-3-d20 | 05/09/12 0:00 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205066-012A | DP-3-d23 | 05/09/12 0:00 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205066-013A | DP-4-d12 | 05/09/12 0:00 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205066-014A | DP-4-d18 | 05/09/12 0:00 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_TPHDOSG<br>S_8260PetWHA | |
| 1205066-015A | DP-1-d17-B | 05/09/12 0:00 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |

Torrent LABORATORY, INC.

**Weber, Hayes & Associates**
**Hydrogeology and Environmental Engineering**
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax: (831) 722-1159

# CHAIN -OF-CUSTODY RECORD

1205066
1 OF 3

PROJECT NAME AND JOB #: Oakland / 2X103.B
SEND CERTIFIED RESULTS TO: Weber, Hayes & Associates - Attention: Jered Chaney
ELECTRONIC DELIVERABLE FORMAT: ☐ YES ☒ NO

LABORATORY: Torrent
TURNAROUND TIME: (Standard) 48hr Rush
GLOBAL I.D.: --

Sampler: Jered Chaney
Date: 5/8+9/12

| | Sample Identification | Date Sampled | Matrix | SAMPLE CONTAINERS: 40 mL VOAs (preserved) | 60 mL VOAs | Terra Core Prep Kit VOAs (preserved) | Liner Acetate or Brass | REQUESTED ANALYSIS: Total Petroleum Hydrocarbons: TPH-diesel w/ silica gel cleanup EPA Method# 8015M | TPH-Diesel EPA Method 8015M | TPH-Gas by EPA Method 8260B | Volatile Organics: BTEX EPA Method# 8260B | MtBE & TBA EPA Method# 8260B | 1,2-DCA & EDB EPA Method# 8260B | Additional Analysis: Luft 5 Metals | PCBs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001A/B | DP-1 | 5/9/12 | Ag | 3 | 2 | | | | X | X | X | X | | | |
| 002A/B | DP-2 | | ↓ | 3 | 2 | | | | X | | | | | | |
| 003A/B | DP-3 | | | 3 | 2 | | | | X | | | | | | |
| 004A | DP-1-d8 | | Soil | | | | 1 | | | | | | | | |
| 005A | DP-1-d14 | | | | | | 1 | X | | | | | | | |
| 006A | DP-1-d17 | | | | | | 1 | | | | | | | | |
| 007A | DP-3-d8 | | | | | | 1 | | | | | | | | |
| 008A | DP-3-d11 | | | | | | 1 | | | | | | | | |
| 009A | DP-3-d14 | | | | | | 1 | | | | | | | | |
| 010A | DP-3-d17 | | | | | | 1 | X | | | | | | | |
| 011A | DP-3-d20 | | | | | | 1 | | | | | | | | |
| 012A | DP-3-d23 | | | | | | 1 | | | | | | | | |
| 013A | DP-4-d12 | | | | | | 1 | | | | | | | | |
| 014A | DP-4-d18 | | | | | | 1 | X | | | | | | | |

Temp. 12 °C
Chilling has begun.

| | RELEASED BY: | Date & Time | | RECEIVED BY: | Date & Time | SAMPLE CONDITION: (circle 1) | | |
|---|---|---|---|---|---|---|---|---|
| 1.) | | 5/10/12 1350 | → | | 5-10-12 1350 | Ambient | Refrigerated | Frozen |
| 2.) | | 5/10/12 455 | → | | 4:55 | Ambient | Refrigerated | Frozen |
| 3.) | | 5/10/12 5:30 | → | | 5/10/12 5:30 p.m. | Ambient | Refrigerated | Frozen |
| 4.) | | | → | | | Ambient | Refrigerated | Frozen |
| 5.) | | | → | | | Ambient | Refrigerated | Frozen |

**NOTES:**
☒ Please use MDL (Minimum Detection Limit) for any diluted samples.

**ADDITIONAL COMMENTS**

S.W.

JC\Fieldog\FORMS.xls - COC 1 of 1 Weber, Hayes and Associates

Torrent LABORATORY, INC.

Torrent LABORATORY, INC.

## Change Order

**Work Order:** 1205066 **Serial #:** CO15-0284 **Print Date:** 10/23/2015

**Project Name:** Oakland / 2X103.B

**Client:** Weber, Hayes & Associates **Requested By:** Craig Drizin

| | Requested Date | Requested Time | Extended Price |
|---|---|---|---|
| Report Napthalene data for samples 004-015; report on "B" fractions in mg/kg | 10/23/2015 | 1:00:00PM | |



483 Sinclair Frontage Rd., Milpitas, CA 95035 | *tel:* 408.263.5258 | *fax:* 408.263.8293 | www.torrentlab.com

Weber, Hayes & Associates
120 Westgate Dr
Watsonville, CA 95076
Tel: 831-722-3580
Fax: 831-662-3100

RE: Oakland / 2X103.B

Work Order No.: 1205067 Rev: 2

Dear Jered Chaney:

Torrent Laboratory, Inc. received 20 sample(s) on May 10, 2012 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.

Patti Sandrock
QA Officer

October 19, 2015
Date

**Date:** 10/19/2015

**Client:** Weber, Hayes & Associates

**Project:** Oakland / 2X103.B

**Work Order:** 1205067

## CASE NARRATIVE

No issues encountered with the receiving, preparation, analysis or reporting of the results associated with this work order.

Unless otherwise indicated in the following narrative, no results have been method and/or field blank corrected.

Reported results relate only to the items/samples tested by the laboratory.

REVISIONS

Per client request, report revised to include Naphthalene data for all samples.

Rev. 1 (10/16/15)

Report revised to report Napthalene data in mg/kg.

Rev. 2 (10/19/15)

Torrent LABORATORY, INC.

## Sample Result Summary

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

**DP-4-d24** 1205067-001

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Benzene | SW8260B | 10 | 0.015 | 0.10 | 0.30 | mg/Kg |
| Ethyl Benzene | SW8260B | 10 | 0.0086 | 0.10 | 0.025 | mg/Kg |
| TPH as Gasoline | 8260TPH | 1 | 0.030 | 0.10 | 0.83 | mg/Kg |

**DP-5-d8** 1205067-002

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|

**All compounds were non-detectable for this sample.**

**DP-5-d11** 1205067-003

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Ethyl Benzene | SW8260B | 100 | 0.086 | 1.0 | 1.8 | mg/Kg |
| m,p-Xylene | SW8260B | 100 | 0.19 | 1.0 | 3.1 | mg/Kg |
| TPH as Gasoline | 8260TPH | 100 | 3.0 | 10 | 130 | mg/Kg |
| Naphthalene | SW8260B | 100 | 0.28 | 1.0 | 1.2 | mg/Kg |

**DP-5-d17** 1205067-004

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 1000 | 30 | 100 | 1000 | mg/Kg |
| Benzene | SW8260B | 400 | 0.60 | 4.0 | 6.2 | mg/Kg |
| Toluene | SW8260B | 400 | 0.39 | 4.0 | 2.1 | mg/Kg |
| Ethyl Benzene | SW8260B | 400 | 0.34 | 4.0 | 37 | mg/Kg |
| m,p-Xylene | SW8260B | 400 | 0.74 | 4.0 | 150 | mg/Kg |
| o-Xylene | SW8260B | 400 | 0.26 | 2.0 | 47 | mg/Kg |
| Naphthalene | SW8260B | 400 | 1.1 | 4.0 | 16 | mg/Kg |

Torrent LABORATORY, INC.

## Sample Result Summary

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

**DP-5-d23** 1205067-005

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Benzene | SW8260B | 5 | 0.0075 | 0.050 | 0.55 | mg/Kg |
| Toluene | SW8260B | 5 | 0.0049 | 0.050 | 0.015 | mg/Kg |
| Ethyl Benzene | SW8260B | 5 | 0.0043 | 0.050 | 0.14 | mg/Kg |
| m,p-Xylene | SW8260B | 5 | 0.0093 | 0.050 | 0.37 | mg/Kg |
| o-Xylene | SW8260B | 5 | 0.0033 | 0.025 | 0.13 | mg/Kg |
| TPH as Gasoline | 8260TPH | 5 | 0.15 | 0.50 | 1.5 | mg/Kg |
| Naphthalene | SW8260B | 5 | 0.014 | 0.050 | 0.17 | mg/Kg |

**DP-6-d12** 1205067-006

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 100 | 3.0 | 10 | 13 | mg/Kg |
| Benzene | SW8260B | 5 | 0.0075 | 0.050 | 0.010 | mg/Kg |
| Toluene | SW8260B | 5 | 0.0049 | 0.050 | 0.020 | mg/Kg |
| Ethyl Benzene | SW8260B | 5 | 0.0043 | 0.050 | 0.67 | mg/Kg |
| m,p-Xylene | SW8260B | 5 | 0.0093 | 0.050 | 1.2 | mg/Kg |
| o-Xylene | SW8260B | 5 | 0.0033 | 0.025 | 0.13 | mg/Kg |
| Naphthalene | SW8260B | 5 | 0.014 | 0.050 | 0.55 | mg/Kg |

**DP-6-d23** 1205067-008

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Benzene | SW8260B | 5 | 0.0075 | 0.050 | 0.47 | mg/Kg |
| Toluene | SW8260B | 5 | 0.0049 | 0.050 | 0.064 | mg/Kg |
| Ethyl Benzene | SW8260B | 5 | 0.0043 | 0.050 | 0.096 | mg/Kg |
| m,p-Xylene | SW8260B | 5 | 0.0093 | 0.050 | 0.19 | mg/Kg |
| o-Xylene | SW8260B | 5 | 0.0033 | 0.025 | 0.056 | mg/Kg |
| TPH as Gasoline | 8260TPH | 5 | 0.15 | 0.50 | 1.3 | mg/Kg |
| Naphthalene | SW8260B | 5 | 0.014 | 0.050 | 0.12 | mg/Kg |

## Sample Result Summary

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

**DP-7-d4** 1205067-009

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|

**All compounds were non-detectable for this sample.**

**DP-7-d8** 1205067-010

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 1 | 0.030 | 0.10 | 0.23 | mg/Kg |

**DP-7-d11** 1205067-011

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Benzene | SW8260B | 1 | 0.0015 | 0.010 | 0.11 | mg/Kg |
| TPH as Diesel (SG) | SW8015B(M) | 1 | 0.87 | 2.0 | 5.8 | mg/Kg |
| TPH as Gasoline | 8260TPH | 5 | 0.15 | 0.50 | 2.8 | mg/Kg |

**DP-7-d17** 1205067-012

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 100 | 3.0 | 10 | 15 | mg/Kg |
| Benzene | SW8260B | 5 | 0.0075 | 0.050 | 0.024 | mg/Kg |
| Toluene | SW8260B | 5 | 0.0049 | 0.050 | 0.043 | mg/Kg |
| Ethyl Benzene | SW8260B | 5 | 0.0043 | 0.050 | 0.89 | mg/Kg |
| m,p-Xylene | SW8260B | 5 | 0.0093 | 0.050 | 1.5 | mg/Kg |
| o-Xylene | SW8260B | 5 | 0.0033 | 0.025 | 0.068 | mg/Kg |
| Naphthalene | SW8260B | 5 | 0.014 | 0.050 | 1.1 | mg/Kg |

Torrent LABORATORY, INC.

## Sample Result Summary

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

**DP-7-d23** 1205067-013

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 1 | 30 | 100 | 1200 | ug/Kg |
| Benzene | SW8260B | 2 | 0.0030 | 0.020 | 0.069 | mg/Kg |
| Ethyl Benzene | SW8260B | 2 | 0.0017 | 0.020 | 0.042 | mg/Kg |
| m,p-Xylene | SW8260B | 2 | 0.0037 | 0.020 | 0.0039 | mg/Kg |
| Naphthalene | SW8260B | 2 | 0.0057 | 0.020 | 0.032 | mg/Kg |

**DP-8-d8** 1205067-014

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|

**All compounds were non-detectable for this sample.**

**DP-8-d17** 1205067-015

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Benzene | SW8260B | 100 | 0.15 | 1.0 | 2.6 | mg/Kg |
| Toluene | SW8260B | 100 | 0.098 | 1.0 | 0.63 | mg/Kg |
| Ethyl Benzene | SW8260B | 100 | 0.086 | 1.0 | 21 | mg/Kg |
| m,p-Xylene | SW8260B | 100 | 0.19 | 1.0 | 45 | mg/Kg |
| o-Xylene | SW8260B | 100 | 0.066 | 0.50 | 18 | mg/Kg |
| TPH as Gasoline | 8260TPH | 500 | 15 | 50 | 970 | mg/Kg |
| Naphthalene | SW8260B | 100 | 0.28 | 1.0 | 11 | mg/Kg |

## Sample Result Summary

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

**DP-8-d20** 1205067-016

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Benzene | SW8260B | 100 | 0.15 | 1.0 | 0.81 | mg/Kg |
| Ethyl Benzene | SW8260B | 100 | 0.086 | 1.0 | 1.4 | mg/Kg |
| m,p-Xylene | SW8260B | 100 | 0.19 | 1.0 | 3.9 | mg/Kg |
| o-Xylene | SW8260B | 100 | 0.066 | 0.50 | 1.6 | mg/Kg |
| TPH as Gasoline | 8260TPH | 100 | 3.0 | 10 | 69 | mg/Kg |
| Naphthalene | SW8260B | 100 | 0.28 | 1.0 | 1.4 | mg/Kg |

**DP-8-d23** 1205067-017

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|

**All compounds were non-detectable for this sample.**

**DP-9-d4** 1205067-018

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|

**All compounds were non-detectable for this sample.**

## Sample Result Summary

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

**DP-9-d18** 1205067-019

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Benzene | SW8260B | 2.5 | 0.0038 | 0.025 | 0.22 | mg/Kg |
| Toluene | SW8260B | 2.5 | 0.0025 | 0.025 | 0.013 | mg/Kg |
| Ethyl Benzene | SW8260B | 2.5 | 0.0022 | 0.025 | 0.42 | mg/Kg |
| m,p-Xylene | SW8260B | 2.5 | 0.0046 | 0.025 | 0.10 | mg/Kg |
| o-Xylene | SW8260B | 2.5 | 0.0017 | 0.013 | 0.011 | mg/Kg |
| TPH as Gasoline | 8260TPH | 2.5 | 0.074 | 0.25 | 5.8 | mg/Kg |
| TPH as Diesel (SG) | SW8015B(M) | 1 | 0.87 | 2.0 | 4.8 | mg/Kg |
| Naphthalene | SW8260B | 2.5 | 0.0071 | 0.025 | 0.22 | mg/Kg |

**DP-9-d20** 1205067-020

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | 1 | 0.030 | 0.10 | 1.7 | mg/Kg |
| Benzene | SW8260B | 2 | 0.0030 | 0.020 | 0.16 | mg/Kg |
| Ethyl Benzene | SW8260B | 2 | 0.0017 | 0.020 | 0.065 | mg/Kg |
| m,p-Xylene | SW8260B | 2 | 0.0037 | 0.020 | 0.042 | mg/Kg |
| o-Xylene | SW8260B | 2 | 0.0013 | 0.010 | 0.0017 | mg/Kg |
| Naphthalene | SW8260B | 2 | 0.0057 | 0.020 | 0.069 | mg/Kg |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-4-d24 | **Lab Sample ID:** | 1205067-001A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/17/12 | 10 | 0.015 | 0.10 | 0.30 | | mg/Kg | 409792 | NA |
| Toluene | SW8260B | NA | 05/17/12 | 10 | 0.0098 | 0.10 | ND | | mg/Kg | 409792 | NA |
| Ethyl Benzene | SW8260B | NA | 05/17/12 | 10 | 0.0086 | 0.10 | 0.025 | J | mg/Kg | 409792 | NA |
| m,p-Xylene | SW8260B | NA | 05/17/12 | 10 | 0.019 | 0.10 | ND | | mg/Kg | 409792 | NA |
| o-Xylene | SW8260B | NA | 05/17/12 | 10 | 0.0066 | 0.050 | ND | | mg/Kg | 409792 | NA |
| MTBE | SW8260B | NA | 05/17/12 | 10 | 0.026 | 0.10 | ND | | mg/Kg | 409792 | NA |
| tert-Butanol | SW8260B | NA | 05/17/12 | 10 | 0.21 | 0.50 | ND | | mg/Kg | 409792 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/17/12 | 10 | 59.8 | 148 | 109 | | % | 409792 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/17/12 | 10 | 55.2 | 133 | 107 | | % | 409792 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/17/12 | 10 | 55.8 | 141 | 104 | | % | 409792 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/16/12 | 1 | 0.030 | 0.10 | 0.83 | x | mg/Kg | 409788 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/16/12 | 1 | 43.9 | 127 | 71.8 | | % | 409788 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported value is the result of discrete peak and contribution from non-fuel hydrocarbons to range of C5-C12 quantified as gasoline.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-4-d24 | **Lab Sample ID:** | 1205067-001C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/17/12 | 10 | 0.028 | 0.10 | ND | | mg/Kg | 427324 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-5-d8 | **Lab Sample ID:** | 1205067-002A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/17/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409792 | NA |
| Toluene | SW8260B | NA | 05/17/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409792 | NA |
| Ethyl Benzene | SW8260B | NA | 05/17/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409792 | NA |
| m,p-Xylene | SW8260B | NA | 05/17/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409792 | NA |
| o-Xylene | SW8260B | NA | 05/17/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409792 | NA |
| MTBE | SW8260B | NA | 05/17/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409792 | NA |
| tert-Butanol | SW8260B | NA | 05/17/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409792 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/17/12 | 1 | 59.8 | 148 | 105 | | % | 409792 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/17/12 | 1 | 55.2 | 133 | 106 | | % | 409792 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/17/12 | 1 | 55.8 | 141 | 109 | | % | 409792 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/17/12 | 1 | 0.030 | 0.10 | ND | | mg/Kg | 409792 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/17/12 | 1 | 43.9 | 127 | 84.3 | | % | 409792 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-5-d8 | **Lab Sample ID:** | 1205067-002C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/17/12 | 1 | 0.0028 | 0.010 | ND | | mg/Kg | 427324 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-5-d11 | **Lab Sample ID:** | 1205067-003A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/17/12 | 100 | 0.15 | 1.0 | ND | | mg/Kg | 409792 | NA |
| Toluene | SW8260B | NA | 05/17/12 | 100 | 0.098 | 1.0 | ND | | mg/Kg | 409792 | NA |
| Ethyl Benzene | SW8260B | NA | 05/17/12 | 100 | 0.086 | 1.0 | 1.8 | | mg/Kg | 409792 | NA |
| m,p-Xylene | SW8260B | NA | 05/17/12 | 100 | 0.19 | 1.0 | 3.1 | | mg/Kg | 409792 | NA |
| o-Xylene | SW8260B | NA | 05/17/12 | 100 | 0.066 | 0.50 | ND | | mg/Kg | 409792 | NA |
| MTBE | SW8260B | NA | 05/17/12 | 100 | 0.26 | 1.0 | ND | | mg/Kg | 409792 | NA |
| tert-Butanol | SW8260B | NA | 05/17/12 | 100 | 2.1 | 5.0 | ND | | mg/Kg | 409792 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/17/12 | 100 | 59.8 | 148 | 107 | | % | 409792 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/17/12 | 100 | 55.2 | 133 | 100 | | % | 409792 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/17/12 | 100 | 55.8 | 141 | 106 | | % | 409792 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | 5/17/12 | 05/17/12 | 100 | 3.0 | 10 | 130 | x | mg/Kg | 409792 | 5529 |
| (S) 4-Bromofluorobenzene | 8260TPH | 5/17/12 | 05/17/12 | 100 | 43.9 | 127 | 107 | | % | 409792 | 5529 |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported TPH value includes contribution from heavy end hydrocarbons (possibly aged gasoline).

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-5-d11 | **Lab Sample ID:** | 1205067-003C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/17/12 | 100 | 0.28 | 1.0 | 1.2 | | mg/Kg | 427324 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-5-d17 | **Lab Sample ID:** | 1205067-004A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/14/12 | 400 | 0.60 | 4.0 | 6.2 | | mg/Kg | 409737 | NA |
| Toluene | SW8260B | NA | 05/14/12 | 400 | 0.39 | 4.0 | 2.1 | J | mg/Kg | 409737 | NA |
| Ethyl Benzene | SW8260B | NA | 05/14/12 | 400 | 0.34 | 4.0 | 37 | | mg/Kg | 409737 | NA |
| m,p-Xylene | SW8260B | NA | 05/14/12 | 400 | 0.74 | 4.0 | 150 | | mg/Kg | 409737 | NA |
| o-Xylene | SW8260B | NA | 05/14/12 | 400 | 0.26 | 2.0 | 47 | | mg/Kg | 409737 | NA |
| MTBE | SW8260B | NA | 05/14/12 | 400 | 1.0 | 4.0 | ND | | mg/Kg | 409737 | NA |
| tert-Butanol | SW8260B | NA | 05/14/12 | 400 | 8.3 | 20 | ND | | mg/Kg | 409737 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/14/12 | 400 | 59.8 | 148 | 105 | | % | 409737 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/14/12 | 400 | 55.2 | 133 | 109 | | % | 409737 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/14/12 | 400 | 55.8 | 141 | 105 | | % | 409737 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | NA | 05/15/12 | 1000 | 30 | 100 | 1000 | | mg/Kg | 409759 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/15/12 | 1000 | 43.9 | 127 | 70.7 | | % | 409759 | NA |

**NOTE:** Result is elevated due to contribution from heavy end hydrocarbons (possibly aged gasoline).

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-5-d17 | **Lab Sample ID:** | 1205067-004C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/14/12 | 400 | 1.1 | 4.0 | 16 | | mg/Kg | 427325 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-5-d23 | **Lab Sample ID:** | 1205067-005A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0075 | 0.050 | 0.55 | | mg/Kg | 409759 | NA |
| Toluene | SW8260B | NA | 05/15/12 | 5 | 0.0049 | 0.050 | 0.015 | J | mg/Kg | 409759 | NA |
| Ethyl Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0043 | 0.050 | 0.14 | | mg/Kg | 409759 | NA |
| m,p-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0093 | 0.050 | 0.37 | | mg/Kg | 409759 | NA |
| o-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0033 | 0.025 | 0.13 | | mg/Kg | 409759 | NA |
| MTBE | SW8260B | NA | 05/15/12 | 5 | 0.013 | 0.050 | ND | | mg/Kg | 409759 | NA |
| tert-Butanol | SW8260B | NA | 05/15/12 | 5 | 0.10 | 0.25 | ND | | mg/Kg | 409759 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/15/12 | 5 | 59.8 | 148 | 130 | | % | 409759 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/15/12 | 5 | 55.2 | 133 | 109 | | % | 409759 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/15/12 | 5 | 55.8 | 141 | 119 | | % | 409759 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | NA | 05/15/12 | 5 | 0.15 | 0.50 | 1.5 | x | mg/Kg | 409759 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/15/12 | 5 | 43.9 | 127 | 67.3 | | % | 409759 | NA |

**NOTE:** x - Not typical of Gasoline standard pattern. Reported value due to discrete peaks of aromatic compounds and non-target heavy hydrocarbons within range of C5-C12 quantified as Gasoline.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-5-d23 | **Lab Sample ID:** | 1205067-005C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/16/12 | 5 | 0.014 | 0.050 | 0.17 | | mg/Kg | 427327 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-6-d12 | **Lab Sample ID:** | 1205067-006A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/16/12 | 5 | 0.0075 | 0.050 | 0.010 | J | mg/Kg | 409788 | NA |
| Toluene | SW8260B | NA | 05/16/12 | 5 | 0.0049 | 0.050 | 0.020 | J | mg/Kg | 409788 | NA |
| Ethyl Benzene | SW8260B | NA | 05/16/12 | 5 | 0.0043 | 0.050 | 0.67 | | mg/Kg | 409788 | NA |
| m,p-Xylene | SW8260B | NA | 05/16/12 | 5 | 0.0093 | 0.050 | 1.2 | | mg/Kg | 409788 | NA |
| o-Xylene | SW8260B | NA | 05/16/12 | 5 | 0.0033 | 0.025 | 0.13 | | mg/Kg | 409788 | NA |
| MTBE | SW8260B | NA | 05/16/12 | 5 | 0.013 | 0.050 | ND | | mg/Kg | 409788 | NA |
| tert-Butanol | SW8260B | NA | 05/16/12 | 5 | 0.10 | 0.25 | ND | | mg/Kg | 409788 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/16/12 | 5 | 59.8 | 148 | 118 | | % | 409788 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/16/12 | 5 | 55.2 | 133 | 104 | | % | 409788 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/16/12 | 5 | 55.8 | 141 | 107 | | % | 409788 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | NA | 05/14/12 | 100 | 3.0 | 10 | 13 | x | mg/Kg | 409737 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/14/12 | 100 | 43.9 | 127 | 67.9 | | % | 409737 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported TPH value includes contribution from heavy end hydrocarbons (possibly aged gasoline).

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-6-d12 | **Lab Sample ID:** | 1205067-006C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/16/12 | 5 | 0.014 | 0.050 | 0.55 | | mg/Kg | 427328 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-6-d23 | **Lab Sample ID:** | 1205067-008A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0075 | 0.050 | 0.47 | | mg/Kg | 409759 | NA |
| Toluene | SW8260B | NA | 05/15/12 | 5 | 0.0049 | 0.050 | 0.064 | | mg/Kg | 409759 | NA |
| Ethyl Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0043 | 0.050 | 0.096 | | mg/Kg | 409759 | NA |
| m,p-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0093 | 0.050 | 0.19 | | mg/Kg | 409759 | NA |
| o-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0033 | 0.025 | 0.056 | | mg/Kg | 409759 | NA |
| MTBE | SW8260B | NA | 05/15/12 | 5 | 0.013 | 0.050 | ND | | mg/Kg | 409759 | NA |
| tert-Butanol | SW8260B | NA | 05/15/12 | 5 | 0.10 | 0.25 | ND | | mg/Kg | 409759 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/15/12 | 5 | 59.8 | 148 | 135 | | % | 409759 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/15/12 | 5 | 55.2 | 133 | 107 | | % | 409759 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/15/12 | 5 | 55.8 | 141 | 116 | | % | 409759 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | NA | 05/15/12 | 5 | 0.15 | 0.50 | 1.3 | x | mg/Kg | 409759 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/15/12 | 5 | 43.9 | 127 | 65.9 | | % | 409759 | NA |

**NOTE:** x - Not typical of Gasoline standard pattern. Reported value due to discrete peaks of aromatic compounds and non-target heavy hydrocarbons within range of C5-C12 quantified as Gasoline.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-6-d23 | **Lab Sample ID:** | 1205067-008C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/16/12 | 5 | 0.014 | 0.050 | 0.12 | | mg/Kg | 427327 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-7-d4 | **Lab Sample ID:** | 1205067-009A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/11/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409731 | NA |
| Toluene | SW8260B | NA | 05/11/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409731 | NA |
| Ethyl Benzene | SW8260B | NA | 05/11/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409731 | NA |
| m,p-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409731 | NA |
| o-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409731 | NA |
| MTBE | SW8260B | NA | 05/11/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409731 | NA |
| tert-Butanol | SW8260B | NA | 05/11/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409731 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/11/12 | 1 | 59.8 | 148 | 131 | | % | 409731 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/11/12 | 1 | 55.2 | 133 | 113 | | % | 409731 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/11/12 | 1 | 55.8 | 141 | 122 | | % | 409731 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/11/12 | 1 | 0.030 | 0.10 | ND | | mg/Kg | 409731 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/11/12 | 1 | 43.9 | 127 | 75.2 | | % | 409731 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-7-d4 | **Lab Sample ID:** | 1205067-009C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/11/12 | 1 | 0.0028 | 0.010 | ND | | mg/Kg | 427298 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-7-d8 | **Lab Sample ID:** | 1205067-010A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/11/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409731 | NA |
| Toluene | SW8260B | NA | 05/11/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409731 | NA |
| Ethyl Benzene | SW8260B | NA | 05/11/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409731 | NA |
| m,p-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409731 | NA |
| o-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409731 | NA |
| MTBE | SW8260B | NA | 05/11/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409731 | NA |
| tert-Butanol | SW8260B | NA | 05/11/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409731 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/11/12 | 1 | 59.8 | 148 | 116 | | % | 409731 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/11/12 | 1 | 55.2 | 133 | 104 | | % | 409731 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/11/12 | 1 | 55.8 | 141 | 110 | | % | 409731 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/11/12 | 1 | 0.030 | 0.10 | 0.23 | x | mg/Kg | 409731 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/11/12 | 1 | 43.9 | 127 | 66.8 | | % | 409731 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Hydrocarbons in the range of C5-C12 quantified as Gasoline.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-7-d8 | **Lab Sample ID:** | 1205067-010C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / 0:00 | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/11/12 | 1 | 0.0028 | 0.010 | ND | | mg/Kg | 427298 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-7-d11 | **Lab Sample ID:** | 1205067-011A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/11/12 | 1 | 0.0015 | 0.010 | 0.11 | | mg/Kg | 409731 | NA |
| Toluene | SW8260B | NA | 05/11/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409731 | NA |
| Ethyl Benzene | SW8260B | NA | 05/11/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409731 | NA |
| m,p-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409731 | NA |
| o-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409731 | NA |
| MTBE | SW8260B | NA | 05/11/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409731 | NA |
| tert-Butanol | SW8260B | NA | 05/11/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409731 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/11/12 | 1 | 59.8 | 148 | 119 | | % | 409731 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/11/12 | 1 | 55.2 | 133 | 108 | | % | 409731 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/11/12 | 1 | 55.8 | 141 | 0.000 | S | % | 409731 | NA |

**NOTE:** S - Surrogate (BFB) out of limits. No corrective action required: surrogate not associated with reported compounds.

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | NA | 05/17/12 | 5 | 0.15 | 0.50 | 2.8 | x | mg/Kg | 409792 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/17/12 | 5 | 43.9 | 127 | 105 | | % | 409792 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Hydrocarbons in the range of C5-C12 quantified as Gasoline.

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (SG) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 0.87 | 2.0 | 5.8 | x | mg/Kg | 409762 | 5506 |
| TPH as Motor Oil (SG) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 1.3 | 10 | ND | | mg/Kg | 409762 | 5506 |
| Pentacosane (S) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 61.5 | 133 | 89.0 | | % | 409762 | 5506 |

**NOTE:** x-Not typical of TPH as Diesel Standard pattern (lighter than Diesel). Hydrocarbons with TPH as Diesel range are quantiated as Diesel.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-7-d11 | **Lab Sample ID:** | 1205067-011C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/11/12 | 1 | 0.0028 | 0.010 | ND | | mg/Kg | 427298 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-7-d17 | **Lab Sample ID:** | 1205067-012A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0075 | 0.050 | 0.024 | J | mg/Kg | 409759 | NA |
| Toluene | SW8260B | NA | 05/15/12 | 5 | 0.0049 | 0.050 | 0.043 | J | mg/Kg | 409759 | NA |
| Ethyl Benzene | SW8260B | NA | 05/15/12 | 5 | 0.0043 | 0.050 | 0.89 | | mg/Kg | 409759 | NA |
| m,p-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0093 | 0.050 | 1.5 | | mg/Kg | 409759 | NA |
| o-Xylene | SW8260B | NA | 05/15/12 | 5 | 0.0033 | 0.025 | 0.068 | | mg/Kg | 409759 | NA |
| MTBE | SW8260B | NA | 05/15/12 | 5 | 0.013 | 0.050 | ND | | mg/Kg | 409759 | NA |
| tert-Butanol | SW8260B | NA | 05/15/12 | 5 | 0.10 | 0.25 | ND | | mg/Kg | 409759 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/15/12 | 5 | 59.8 | 148 | 129 | | % | 409759 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/15/12 | 5 | 55.2 | 133 | 117 | | % | 409759 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/15/12 | 5 | 55.8 | 141 | 111 | | % | 409759 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | NA | 05/14/12 | 100 | 3.0 | 10 | 15 | x | mg/Kg | 409737 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/14/12 | 100 | 43.9 | 127 | 70.0 | | % | 409737 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported TPH value includes contribution from heavy end hydrocarbons (possibly aged gasoline).

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-7-d17 | **Lab Sample ID:** | 1205067-012C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/16/12 | 5 | 0.014 | 0.050 | 1.1 | | mg/Kg | 427327 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-7-d23 | **Lab Sample ID:** | 1205067-013A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/15/12 | 2 | 0.0030 | 0.020 | 0.069 | | mg/Kg | 409759 | NA |
| Toluene | SW8260B | NA | 05/15/12 | 2 | 0.0020 | 0.020 | ND | | mg/Kg | 409759 | NA |
| Ethyl Benzene | SW8260B | NA | 05/15/12 | 2 | 0.0017 | 0.020 | 0.042 | | mg/Kg | 409759 | NA |
| m,p-Xylene | SW8260B | NA | 05/15/12 | 2 | 0.0037 | 0.020 | 0.0039 | J | mg/Kg | 409759 | NA |
| o-Xylene | SW8260B | NA | 05/15/12 | 2 | 0.0013 | 0.010 | ND | | mg/Kg | 409759 | NA |
| MTBE | SW8260B | NA | 05/15/12 | 2 | 0.0052 | 0.020 | ND | | mg/Kg | 409759 | NA |
| tert-Butanol | SW8260B | NA | 05/15/12 | 2 | 0.042 | 0.10 | ND | | mg/Kg | 409759 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/15/12 | 2 | 59.8 | 148 | 136 | | % | 409759 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/15/12 | 2 | 55.2 | 133 | 107 | | % | 409759 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/15/12 | 2 | 55.8 | 141 | 119 | | % | 409759 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/11/12 | 1 | 30 | 100 | 1200 | x | ug/Kg | 409731 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/11/12 | 1 | 43.9 | 127 | 88.2 | | % | 409731 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported value due to discrete peaks and non-target hydrocarbons within range of C5-C12 quantified as gasoline.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-7-d23 | **Lab Sample ID:** | 1205067-013C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/16/12 | 2 | 0.0057 | 0.020 | 0.032 | | mg/Kg | 427327 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-8-d8 | **Lab Sample ID:** | 1205067-014A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/11/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409731 | NA |
| Toluene | SW8260B | NA | 05/11/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409731 | NA |
| Ethyl Benzene | SW8260B | NA | 05/11/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409731 | NA |
| m,p-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409731 | NA |
| o-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409731 | NA |
| MTBE | SW8260B | NA | 05/11/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409731 | NA |
| tert-Butanol | SW8260B | NA | 05/11/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409731 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/11/12 | 1 | 59.8 | 148 | 128 | | % | 409731 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/11/12 | 1 | 55.2 | 133 | 104 | | % | 409731 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/11/12 | 1 | 55.8 | 141 | 118 | | % | 409731 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/11/12 | 1 | 0.030 | 0.10 | ND | | mg/Kg | 409731 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/11/12 | 1 | 43.9 | 127 | 81.3 | | % | 409731 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-8-d8 | **Lab Sample ID:** | 1205067-014C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/11/12 | 1 | 0.0028 | 0.010 | ND | | mg/Kg | 427298 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-8-d17 | **Lab Sample ID:** | 1205067-015A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/11/12 | 100 | 0.15 | 1.0 | 2.6 | | mg/Kg | 409731 | NA |
| Toluene | SW8260B | NA | 05/11/12 | 100 | 0.098 | 1.0 | 0.63 | J | mg/Kg | 409731 | NA |
| Ethyl Benzene | SW8260B | NA | 05/11/12 | 100 | 0.086 | 1.0 | 21 | | mg/Kg | 409731 | NA |
| m,p-Xylene | SW8260B | NA | 05/11/12 | 100 | 0.19 | 1.0 | 45 | | mg/Kg | 409731 | NA |
| o-Xylene | SW8260B | NA | 05/11/12 | 100 | 0.066 | 0.50 | 18 | | mg/Kg | 409731 | NA |
| MTBE | SW8260B | NA | 05/11/12 | 100 | 0.26 | 1.0 | ND | | mg/Kg | 409731 | NA |
| tert-Butanol | SW8260B | NA | 05/11/12 | 100 | 2.1 | 5.0 | ND | | mg/Kg | 409731 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/11/12 | 100 | 59.8 | 148 | 128 | | % | 409731 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/11/12 | 100 | 55.2 | 133 | 112 | | % | 409731 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/11/12 | 100 | 55.8 | 141 | 104 | | % | 409731 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | 5/16/12 | 05/16/12 | 500 | 15 | 50 | 970 | x | mg/Kg | 409788 | 5526 |
| (S) 4-Bromofluorobenzene | 8260TPH | 5/16/12 | 05/16/12 | 500 | 43.9 | 127 | 103 | | % | 409788 | 5526 |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported TPH value includes contribution from non-target hydrocarbons (possibly aged gasoline).

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-8-d17 | **Lab Sample ID:** | 1205067-015C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/11/12 | 100 | 0.28 | 1.0 | 11 | | mg/Kg | 427298 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-8-d20 | **Lab Sample ID:** | 1205067-016A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/11/12 | 100 | 0.15 | 1.0 | 0.81 | J | mg/Kg | 409731 | NA |
| Toluene | SW8260B | NA | 05/11/12 | 100 | 0.098 | 1.0 | ND | | mg/Kg | 409731 | NA |
| Ethyl Benzene | SW8260B | NA | 05/11/12 | 100 | 0.086 | 1.0 | 1.4 | | mg/Kg | 409731 | NA |
| m,p-Xylene | SW8260B | NA | 05/11/12 | 100 | 0.19 | 1.0 | 3.9 | | mg/Kg | 409731 | NA |
| o-Xylene | SW8260B | NA | 05/11/12 | 100 | 0.066 | 0.50 | 1.6 | | mg/Kg | 409731 | NA |
| MTBE | SW8260B | NA | 05/11/12 | 100 | 0.26 | 1.0 | ND | | mg/Kg | 409731 | NA |
| tert-Butanol | SW8260B | NA | 05/11/12 | 100 | 2.1 | 5.0 | ND | | mg/Kg | 409731 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/11/12 | 100 | 59.8 | 148 | 138 | | % | 409731 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/11/12 | 100 | 55.2 | 133 | 111 | | % | 409731 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/11/12 | 100 | 55.8 | 141 | 108 | | % | 409731 | NA |

**NOTE:** Reporting limit raised due to significant amount of hydrocarbons.

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | NA | 05/11/12 | 100 | 3.0 | 10 | 69 | x | mg/Kg | 409731 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/11/12 | 100 | 43.9 | 127 | 86.5 | | % | 409731 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported TPH value includes contribution from heavy end hydrocarbons (possibly aged gasoline).

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-8-d20 | **Lab Sample ID:** | 1205067-016C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/11/12 | 100 | 0.28 | 1.0 | 1.4 | | mg/Kg | 427298 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-8-d23 | **Lab Sample ID:** | 1205067-017A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/11/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409731 | NA |
| Toluene | SW8260B | NA | 05/11/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409731 | NA |
| Ethyl Benzene | SW8260B | NA | 05/11/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409731 | NA |
| m,p-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409731 | NA |
| o-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409731 | NA |
| MTBE | SW8260B | NA | 05/11/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409731 | NA |
| tert-Butanol | SW8260B | NA | 05/11/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409731 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/11/12 | 1 | 59.8 | 148 | 127 | | % | 409731 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/11/12 | 1 | 55.2 | 133 | 107 | | % | 409731 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/11/12 | 1 | 55.8 | 141 | 115 | | % | 409731 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/11/12 | 1 | 0.030 | 0.10 | ND | | mg/Kg | 409731 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/11/12 | 1 | 43.9 | 127 | 85.8 | | % | 409731 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-8-d23 | **Lab Sample ID:** | 1205067-017C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/11/12 | 1 | 0.0028 | 0.010 | ND | | mg/Kg | 427298 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-9-d4 | **Lab Sample ID:** | 1205067-018A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | SW8260B | NA | 05/11/12 | 1 | 0.0015 | 0.010 | ND | | mg/Kg | 409731 | NA |
| Toluene | SW8260B | NA | 05/11/12 | 1 | 0.00098 | 0.010 | ND | | mg/Kg | 409731 | NA |
| Ethyl Benzene | SW8260B | NA | 05/11/12 | 1 | 0.00086 | 0.010 | ND | | mg/Kg | 409731 | NA |
| m,p-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.0019 | 0.010 | ND | | mg/Kg | 409731 | NA |
| o-Xylene | SW8260B | NA | 05/11/12 | 1 | 0.00066 | 0.0050 | ND | | mg/Kg | 409731 | NA |
| MTBE | SW8260B | NA | 05/11/12 | 1 | 0.0026 | 0.010 | ND | | mg/Kg | 409731 | NA |
| tert-Butanol | SW8260B | NA | 05/11/12 | 1 | 0.021 | 0.050 | ND | | mg/Kg | 409731 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/11/12 | 1 | 59.8 | 148 | 123 | | % | 409731 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/11/12 | 1 | 55.2 | 133 | 98.3 | | % | 409731 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/11/12 | 1 | 55.8 | 141 | 108 | | % | 409731 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/11/12 | 1 | 0.030 | 0.10 | ND | | mg/Kg | 409731 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/11/12 | 1 | 43.9 | 127 | 86.5 | | % | 409731 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-9-d4 | **Lab Sample ID:** | 1205067-018C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/11/12 | 1 | 0.0028 | 0.010 | ND | | mg/Kg | 427298 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-9-d18 | **Lab Sample ID:** | 1205067-019A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/16/12 | 2.5 | 0.0038 | 0.025 | 0.22 | | mg/Kg | 409788 | NA |
| Toluene | SW8260B | NA | 05/16/12 | 2.5 | 0.0025 | 0.025 | 0.013 | J | mg/Kg | 409788 | NA |
| Ethyl Benzene | SW8260B | NA | 05/16/12 | 2.5 | 0.0022 | 0.025 | 0.42 | | mg/Kg | 409788 | NA |
| m,p-Xylene | SW8260B | NA | 05/16/12 | 2.5 | 0.0046 | 0.025 | 0.10 | | mg/Kg | 409788 | NA |
| o-Xylene | SW8260B | NA | 05/16/12 | 2.5 | 0.0017 | 0.013 | 0.011 | J | mg/Kg | 409788 | NA |
| MTBE | SW8260B | NA | 05/16/12 | 2.5 | 0.0065 | 0.025 | ND | | mg/Kg | 409788 | NA |
| tert-Butanol | SW8260B | NA | 05/16/12 | 2.5 | 0.052 | 0.13 | ND | | mg/Kg | 409788 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/16/12 | 2.5 | 59.8 | 148 | 126 | | % | 409788 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/16/12 | 2.5 | 55.2 | 133 | 102 | | % | 409788 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/16/12 | 2.5 | 55.8 | 141 | 114 | | % | 409788 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | 5/16/12 | 05/16/12 | 2.5 | 0.074 | 0.25 | 5.8 | x | mg/Kg | 409788 | 5526 |
| (S) 4-Bromofluorobenzene | 8260TPH | 5/16/12 | 05/16/12 | 2.5 | 43.9 | 127 | 68.0 | | % | 409788 | 5526 |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported TPH value includes contribution from non-target hydrocarbons (possibly aged gasoline).

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (SG) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 0.87 | 2.0 | 4.8 | x | mg/Kg | 409762 | 5506 |
| TPH as Motor Oil (SG) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 1.3 | 10 | ND | | mg/Kg | 409762 | 5506 |
| Pentacosane (S) | SW8015B(M) | 5/15/12 | 05/15/12 | 1 | 61.5 | 133 | 87.3 | | % | 409762 | 5506 |

**NOTE:** x-Not typical of TPH as Diesel Standard pattern (lighter than Diesel). Hydrocarbons with TPH as Diesel range are quantiated as Diesel.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-9-d18 | **Lab Sample ID:** | 1205067-019C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/16/12 | 2.5 | 0.0071 | 0.025 | 0.22 | | mg/Kg | 427328 | NA |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-9-d20 | **Lab Sample ID:** | 1205067-020A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/08/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/15/12 | 2 | 0.0030 | 0.020 | 0.16 | | mg/Kg | 409759 | NA |
| Toluene | SW8260B | NA | 05/15/12 | 2 | 0.0020 | 0.020 | ND | | mg/Kg | 409759 | NA |
| Ethyl Benzene | SW8260B | NA | 05/15/12 | 2 | 0.0017 | 0.020 | 0.065 | | mg/Kg | 409759 | NA |
| m,p-Xylene | SW8260B | NA | 05/15/12 | 2 | 0.0037 | 0.020 | 0.042 | | mg/Kg | 409759 | NA |
| o-Xylene | SW8260B | NA | 05/15/12 | 2 | 0.0013 | 0.010 | 0.0017 | J | mg/Kg | 409759 | NA |
| MTBE | SW8260B | NA | 05/15/12 | 2 | 0.0052 | 0.020 | ND | | mg/Kg | 409759 | NA |
| tert-Butanol | SW8260B | NA | 05/15/12 | 2 | 0.042 | 0.10 | ND | | mg/Kg | 409759 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/15/12 | 2 | 59.8 | 148 | 135 | | % | 409759 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/15/12 | 2 | 55.2 | 133 | 111 | | % | 409759 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/15/12 | 2 | 55.8 | 141 | 118 | | % | 409759 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 8260TPH | NA | 05/11/12 | 1 | 0.030 | 0.10 | 1.7 | x | mg/Kg | 409731 | NA |
| (S) 4-Bromofluorobenzene | 8260TPH | NA | 05/11/12 | 1 | 43.9 | 127 | 86.3 | | % | 409731 | NA |

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported value due to discrete peaks and non-target hydrocarbons within range of C5-C12 quantified as gasoline.

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/10/12
**Date Reported:** 10/19/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-9-d20 | **Lab Sample ID:** | 1205067-020C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/16/12 | 2 | 0.0057 | 0.020 | 0.069 | | mg/Kg | 427327 | NA |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/11/12 | **Analytical Batch:** | 409731 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| Dichlorodifluoromethane | 4.4 | 10 | ND | |
| Isopropyl Alcohol | 4.6 | 10 | ND | |
| Vinyl Chloride | 2.6 | 10 | ND | |
| Bromomethane | 4.7 | 10 | ND | |
| Trichlorofluoromethane | 2.9 | 10 | ND | |
| 1,1-Dichloroethene | 1.5 | 10 | ND | |
| Freon 113 | 3.7 | 10 | ND | |
| Methylene Chloride | 2.0 | 50 | ND | |
| trans-1,2-Dichloroethene | 1.1 | 10 | ND | |
| MTBE | 2.6 | 10 | ND | |
| tert-Butanol | 21 | 50 | ND | |
| Diisopropyl ether (DIPE) | 2.2 | 10 | ND | |
| 1,1-Dichloroethane | 1.3 | 10 | ND | |
| ETBE | 2.4 | 10 | ND | |
| cis-1,2-Dichloroethene | 1.8 | 10 | ND | |
| 2,2-Dichloropropane | 1.2 | 10 | ND | |
| Bromochloromethane | 2.3 | 10 | ND | |
| Chloroform | 1.2 | 10 | ND | |
| Carbon Tetrachloride | 1.6 | 10 | ND | |
| 1,1,1-Trichloroethane | 1.2 | 10 | ND | |
| 1,1-Dichloropropene | 1.4 | 10 | ND | |
| Benzene | 1.5 | 10 | ND | |
| TAME | 2.1 | 10 | ND | |
| 1,2-Dichloroethane | 1.9 | 10 | ND | |
| Trichloroethylene | 3.9 | 10 | ND | |
| Dibromomethane | 2.2 | 10 | ND | |
| 1,2-Dichloropropane | 1.3 | 10 | ND | |
| Bromodichloromethane | 1.1 | 10 | ND | |
| cis-1,3-Dichloropropene | 1.4 | 10 | ND | |
| Toluene | 0.98 | 10 | ND | |
| Tetrachloroethylene | 1.8 | 10 | ND | |
| trans-1,3-Dichloropropene | 1.2 | 10 | ND | |
| 1,1,2-Trichloroethane | 1.8 | 10 | ND | |
| Dibromochloromethane | 1.1 | 10 | ND | |
| 1,3-Dichloropropane | 2.1 | 10 | ND | |
| 1,2-Dibromoethane | 1.7 | 10 | ND | |
| Ethyl Benzene | 0.86 | 10 | ND | |
| Chlorobenzene | 4.2 | 10 | ND | |
| 1,1,1,2-Tetrachloroethane | 0.86 | 10 | ND | |
| m,p-Xylene | 1.9 | 10 | ND | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/11/12 | **Analytical Batch:** | 409731 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| o-Xylene | 0.66 | 5.0 | ND | | |
| Styrene | 0.77 | 10 | ND | | |
| Bromoform | 1.9 | 10 | ND | | |
| Isopropyl Benzene | 1.2 | 10 | ND | | |
| n-Propylbenzene | 1.4 | 10 | ND | | |
| Bromobenzene | 1.2 | 10 | ND | | |
| 1,1,2,2-Tetrachloroethane | 3.0 | 10 | ND | | |
| 1,3,5-Trimethylbenzene | 1.1 | 10 | ND | | |
| 1,2,3-Trichloropropane | 3.3 | 10 | ND | | |
| 4-Chlorotoluene | 1.6 | 10 | ND | | |
| 2-Chlorotoluene | 1.6 | 10 | ND | | |
| tert-Butylbenzene | 1.4 | 10 | ND | | |
| 1,2,4-Trimethylbenzene | 1.1 | 10 | ND | | |
| sec-Butyl Benzene | 1.6 | 10 | ND | | |
| p-Isopropyltoluene | 1.5 | 10 | ND | | |
| 1,3-Dichlorobenzene | 1.8 | 10 | ND | | |
| 1,4-Dichlorobenzene | 1.5 | 10 | ND | | |
| n-Butylbenzene | 2.2 | 10 | ND | | |
| 1,2-Dichlorobenzene | 1.3 | 10 | ND | | |
| 1,2-Dibromo-3-Chloropropane | 4.2 | 10 | ND | | |
| Hexachlorobutadiene | 2.6 | 10 | ND | | |
| 1,2,4-Trichlorobenzene | 2.1 | 10 | ND | | |
| Naphthalene | 2.8 | 10 | ND | | |
| 1,2,3-Trichlorobenzene | 2.9 | 10 | ND | | |
| (S) Dibromofluoromethane | | | 109 | | |
| (S) Toluene-d8 | | | 106 | | |
| (S) 4-Bromofluorobenzene | | | 110 | | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/14/12 | **Analytical Batch:** | 409737 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 4.4 | 10 | ND | | |
| Isopropyl Alcohol | 4.6 | 10 | ND | | |
| Vinyl Chloride | 2.6 | 10 | ND | | |
| Bromomethane | 4.7 | 10 | ND | | |
| Trichlorofluoromethane | 2.9 | 10 | ND | | |
| 1,1-Dichloroethene | 1.5 | 10 | ND | | |
| Freon 113 | 3.7 | 10 | ND | | |
| Methylene Chloride | 2.0 | 50 | ND | | |
| trans-1,2-Dichloroethene | 1.1 | 10 | ND | | |
| MTBE | 2.6 | 10 | ND | | |
| tert-Butanol | 21 | 50 | ND | | |
| Diisopropyl ether (DIPE) | 2.2 | 10 | ND | | |
| 1,1-Dichloroethane | 1.3 | 10 | ND | | |
| ETBE | 2.4 | 10 | ND | | |
| cis-1,2-Dichloroethene | 1.8 | 10 | ND | | |
| 2,2-Dichloropropane | 1.2 | 10 | ND | | |
| Bromochloromethane | 2.3 | 10 | ND | | |
| Chloroform | 1.2 | 10 | ND | | |
| Carbon Tetrachloride | 1.6 | 10 | ND | | |
| 1,1,1-Trichloroethane | 1.2 | 10 | ND | | |
| 1,1-Dichloropropene | 1.4 | 10 | ND | | |
| Benzene | 1.5 | 10 | ND | | |
| TAME | 2.1 | 10 | ND | | |
| 1,2-Dichloroethane | 1.9 | 10 | ND | | |
| Trichloroethylene | 3.9 | 10 | ND | | |
| Dibromomethane | 2.2 | 10 | ND | | |
| 1,2-Dichloropropane | 1.3 | 10 | ND | | |
| Bromodichloromethane | 1.1 | 10 | ND | | |
| cis-1,3-Dichloropropene | 1.4 | 10 | ND | | |
| Toluene | 0.98 | 10 | ND | | |
| Tetrachloroethylene | 1.8 | 10 | ND | | |
| trans-1,3-Dichloropropene | 1.2 | 10 | ND | | |
| 1,1,2-Trichloroethane | 1.8 | 10 | ND | | |
| Dibromochloromethane | 1.1 | 10 | ND | | |
| 1,3-Dichloropropane | 2.1 | 10 | ND | | |
| 1,2-Dibromoethane | 1.7 | 10 | ND | | |
| Ethyl Benzene | 0.86 | 10 | ND | | |
| Chlorobenzene | 4.2 | 10 | ND | | |
| 1,1,1,2-Tetrachloroethane | 0.86 | 10 | ND | | |
| m,p-Xylene | 1.9 | 10 | ND | | |
| o-Xylene | 0.66 | 5.0 | ND | | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/14/12 | **Analytical Batch:** | 409737 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| Styrene | 0.77 | 10 | ND | | |
| Bromoform | 1.9 | 10 | ND | | |
| Isopropyl Benzene | 1.2 | 10 | ND | | |
| n-Propylbenzene | 1.4 | 10 | ND | | |
| Bromobenzene | 1.2 | 10 | ND | | |
| 1,1,2,2-Tetrachloroethane | 3.0 | 10 | ND | | |
| 1,3,5-Trimethylbenzene | 1.1 | 10 | ND | | |
| 1,2,3-Trichloropropane | 3.3 | 10 | ND | | |
| 4-Chlorotoluene | 1.6 | 10 | ND | | |
| 2-Chlorotoluene | 1.6 | 10 | ND | | |
| tert-Butylbenzene | 1.4 | 10 | ND | | |
| 1,2,4-Trimethylbenzene | 1.1 | 10 | ND | | |
| sec-Butyl Benzene | 1.6 | 10 | ND | | |
| p-Isopropyltoluene | 1.5 | 10 | ND | | |
| 1,3-Dichlorobenzene | 1.8 | 10 | ND | | |
| 1,4-Dichlorobenzene | 1.5 | 10 | ND | | |
| n-Butylbenzene | 2.2 | 10 | ND | | |
| 1,2-Dichlorobenzene | 1.3 | 10 | ND | | |
| 1,2-Dibromo-3-Chloropropane | 4.2 | 10 | ND | | |
| Hexachlorobutadiene | 2.6 | 10 | ND | | |
| 1,2,4-Trichlorobenzene | 2.1 | 10 | ND | | |
| Naphthalene | 2.8 | 10 | ND | | |
| 1,2,3-Trichlorobenzene | 2.9 | 10 | ND | | |
| (S) Dibromofluoromethane | | | 115 | | |
| (S) Toluene-d8 | | | 101 | | |
| (S) 4-Bromofluorobenzene | | | 106 | | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409759 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 4.4 | 10 | ND | | |
| Isopropyl Alcohol | 4.6 | 10 | ND | | |
| Vinyl Chloride | 2.6 | 10 | ND | | |
| Bromomethane | 4.7 | 10 | ND | | |
| Trichlorofluoromethane | 2.9 | 10 | ND | | |
| 1,1-Dichloroethene | 1.5 | 10 | ND | | |
| Freon 113 | 3.7 | 10 | ND | | |
| Methylene Chloride | 2.0 | 50 | ND | | |
| trans-1,2-Dichloroethene | 1.1 | 10 | ND | | |
| MTBE | 2.6 | 10 | ND | | |
| tert-Butanol | 21 | 50 | ND | | |
| Diisopropyl ether (DIPE) | 2.2 | 10 | ND | | |
| 1,1-Dichloroethane | 1.3 | 10 | ND | | |
| ETBE | 2.4 | 10 | ND | | |
| cis-1,2-Dichloroethene | 1.8 | 10 | ND | | |
| 2,2-Dichloropropane | 1.2 | 10 | ND | | |
| Bromochloromethane | 2.3 | 10 | ND | | |
| Chloroform | 1.2 | 10 | ND | | |
| Carbon Tetrachloride | 1.6 | 10 | ND | | |
| 1,1,1-Trichloroethane | 1.2 | 10 | ND | | |
| 1,1-Dichloropropene | 1.4 | 10 | ND | | |
| Benzene | 1.5 | 10 | ND | | |
| TAME | 2.1 | 10 | ND | | |
| 1,2-Dichloroethane | 1.9 | 10 | ND | | |
| Trichloroethylene | 3.9 | 10 | ND | | |
| Dibromomethane | 2.2 | 10 | ND | | |
| 1,2-Dichloropropane | 1.3 | 10 | ND | | |
| Bromodichloromethane | 1.1 | 10 | ND | | |
| cis-1,3-Dichloropropene | 1.4 | 10 | ND | | |
| Toluene | 0.98 | 10 | ND | | |
| Tetrachloroethylene | 1.8 | 10 | ND | | |
| trans-1,3-Dichloropropene | 1.2 | 10 | ND | | |
| 1,1,2-Trichloroethane | 1.8 | 10 | ND | | |
| Dibromochloromethane | 1.1 | 10 | ND | | |
| 1,3-Dichloropropane | 2.1 | 10 | ND | | |
| 1,2-Dibromoethane | 1.7 | 10 | ND | | |
| Ethyl Benzene | 0.86 | 10 | ND | | |
| Chlorobenzene | 4.2 | 10 | ND | | |
| 1,1,1,2-Tetrachloroethane | 0.86 | 10 | ND | | |
| m,p-Xylene | 1.9 | 10 | ND | | |
| o-Xylene | 0.66 | 5.0 | ND | | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409759 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| Styrene | 0.77 | 10 | ND | | |
| Bromoform | 1.9 | 10 | ND | | |
| Isopropyl Benzene | 1.2 | 10 | ND | | |
| n-Propylbenzene | 1.4 | 10 | ND | | |
| Bromobenzene | 1.2 | 10 | ND | | |
| 1,1,2,2-Tetrachloroethane | 3.0 | 10 | ND | | |
| 1,3,5-Trimethylbenzene | 1.1 | 10 | ND | | |
| 1,2,3-Trichloropropane | 3.3 | 10 | ND | | |
| 4-Chlorotoluene | 1.6 | 10 | ND | | |
| 2-Chlorotoluene | 1.6 | 10 | ND | | |
| tert-Butylbenzene | 1.4 | 10 | ND | | |
| 1,2,4-Trimethylbenzene | 1.1 | 10 | ND | | |
| sec-Butyl Benzene | 1.6 | 10 | ND | | |
| p-Isopropyltoluene | 1.5 | 10 | ND | | |
| 1,3-Dichlorobenzene | 1.8 | 10 | ND | | |
| 1,4-Dichlorobenzene | 1.5 | 10 | ND | | |
| n-Butylbenzene | 2.2 | 10 | ND | | |
| 1,2-Dichlorobenzene | 1.3 | 10 | ND | | |
| 1,2-Dibromo-3-Chloropropane | 4.2 | 10 | ND | | |
| Hexachlorobutadiene | 2.6 | 10 | ND | | |
| 1,2,4-Trichlorobenzene | 2.1 | 10 | ND | | |
| Naphthalene | 2.8 | 10 | ND | | |
| 1,2,3-Trichlorobenzene | 2.9 | 10 | ND | | |
| (S) Dibromofluoromethane | | | 108 | | |
| (S) Toluene-d8 | | | 104 | | |
| (S) 4-Bromofluorobenzene | | | 110 | | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/16/12 | **Analytical Batch:** | 409788 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| Dichlorodifluoromethane | 4.4 | 10 | ND | |
| Isopropyl Alcohol | 4.6 | 10 | ND | |
| Vinyl Chloride | 2.6 | 10 | ND | |
| Bromomethane | 4.7 | 10 | ND | |
| Trichlorofluoromethane | 2.9 | 10 | ND | |
| 1,1-Dichloroethene | 1.5 | 10 | ND | |
| Freon 113 | 3.7 | 10 | ND | |
| Methylene Chloride | 2.0 | 50 | ND | |
| trans-1,2-Dichloroethene | 1.1 | 10 | ND | |
| MTBE | 2.6 | 10 | ND | |
| tert-Butanol | 21 | 50 | ND | |
| Diisopropyl ether (DIPE) | 2.2 | 10 | ND | |
| 1,1-Dichloroethane | 1.3 | 10 | ND | |
| ETBE | 2.4 | 10 | ND | |
| cis-1,2-Dichloroethene | 1.8 | 10 | ND | |
| 2,2-Dichloropropane | 1.2 | 10 | ND | |
| Bromochloromethane | 2.3 | 10 | ND | |
| Chloroform | 1.2 | 10 | ND | |
| Carbon Tetrachloride | 1.6 | 10 | ND | |
| 1,1,1-Trichloroethane | 1.2 | 10 | ND | |
| 1,1-Dichloropropene | 1.4 | 10 | ND | |
| Benzene | 1.5 | 10 | ND | |
| TAME | 2.1 | 10 | ND | |
| 1,2-Dichloroethane | 1.9 | 10 | ND | |
| Trichloroethylene | 3.9 | 10 | ND | |
| Dibromomethane | 2.2 | 10 | ND | |
| 1,2-Dichloropropane | 1.3 | 10 | ND | |
| Bromodichloromethane | 1.1 | 10 | ND | |
| cis-1,3-Dichloropropene | 1.4 | 10 | ND | |
| Toluene | 0.98 | 10 | ND | |
| Tetrachloroethylene | 1.8 | 10 | ND | |
| trans-1,3-Dichloropropene | 1.2 | 10 | ND | |
| 1,1,2-Trichloroethane | 1.8 | 10 | ND | |
| Dibromochloromethane | 1.1 | 10 | ND | |
| 1,3-Dichloropropane | 2.1 | 10 | ND | |
| 1,2-Dibromoethane | 1.7 | 10 | ND | |
| Ethyl Benzene | 0.86 | 10 | ND | |
| Chlorobenzene | 4.2 | 10 | ND | |
| 1,1,1,2-Tetrachloroethane | 0.86 | 10 | ND | |
| m,p-Xylene | 1.9 | 10 | ND | |
| o-Xylene | 0.66 | 5.0 | ND | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/16/12 | **Analytical Batch:** | 409788 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| Styrene | 0.77 | 10 | ND | | |
| Bromoform | 1.9 | 10 | ND | | |
| Isopropyl Benzene | 1.2 | 10 | ND | | |
| n-Propylbenzene | 1.4 | 10 | ND | | |
| Bromobenzene | 1.2 | 10 | ND | | |
| 1,1,2,2-Tetrachloroethane | 3.0 | 10 | ND | | |
| 1,3,5-Trimethylbenzene | 1.1 | 10 | ND | | |
| 1,2,3-Trichloropropane | 3.3 | 10 | ND | | |
| 4-Chlorotoluene | 1.6 | 10 | ND | | |
| 2-Chlorotoluene | 1.6 | 10 | ND | | |
| tert-Butylbenzene | 1.4 | 10 | ND | | |
| 1,2,4-Trimethylbenzene | 1.1 | 10 | ND | | |
| sec-Butyl Benzene | 1.6 | 10 | ND | | |
| p-Isopropyltoluene | 1.5 | 10 | ND | | |
| 1,3-Dichlorobenzene | 1.8 | 10 | ND | | |
| 1,4-Dichlorobenzene | 1.5 | 10 | ND | | |
| n-Butylbenzene | 2.2 | 10 | ND | | |
| 1,2-Dichlorobenzene | 1.3 | 10 | ND | | |
| 1,2-Dibromo-3-Chloropropane | 4.2 | 10 | ND | | |
| Hexachlorobutadiene | 2.6 | 10 | ND | | |
| 1,2,4-Trichlorobenzene | 2.1 | 10 | ND | | |
| Naphthalene | 2.8 | 10 | ND | | |
| 1,2,3-Trichlorobenzene | 2.9 | 10 | ND | | |
| (S) Dibromofluoromethane | | | 99.8 | | |
| (S) Toluene-d8 | | | 104 | | |
| (S) 4-Bromofluorobenzene | | | 109 | | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/17/12 | **Analytical Batch:** | 409792 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 4.4 | 10 | ND | | |
| Isopropyl Alcohol | 4.6 | 10 | ND | | |
| Vinyl Chloride | 2.6 | 10 | ND | | |
| Bromomethane | 4.7 | 10 | ND | | |
| Trichlorofluoromethane | 2.9 | 10 | ND | | |
| 1,1-Dichloroethene | 1.5 | 10 | ND | | |
| Freon 113 | 3.7 | 10 | ND | | |
| Methylene Chloride | 2.0 | 50 | ND | | |
| trans-1,2-Dichloroethene | 1.1 | 10 | ND | | |
| MTBE | 2.6 | 10 | ND | | |
| tert-Butanol | 21 | 50 | ND | | |
| Diisopropyl ether (DIPE) | 2.2 | 10 | ND | | |
| 1,1-Dichloroethane | 1.3 | 10 | ND | | |
| ETBE | 2.4 | 10 | ND | | |
| cis-1,2-Dichloroethene | 1.8 | 10 | ND | | |
| 2,2-Dichloropropane | 1.2 | 10 | ND | | |
| Bromochloromethane | 2.3 | 10 | ND | | |
| Chloroform | 1.2 | 10 | ND | | |
| Carbon Tetrachloride | 1.6 | 10 | ND | | |
| 1,1,1-Trichloroethane | 1.2 | 10 | ND | | |
| 1,1-Dichloropropene | 1.4 | 10 | ND | | |
| Benzene | 1.5 | 10 | ND | | |
| TAME | 2.1 | 10 | ND | | |
| 1,2-Dichloroethane | 1.9 | 10 | ND | | |
| Trichloroethylene | 3.9 | 10 | ND | | |
| Dibromomethane | 2.2 | 10 | ND | | |
| 1,2-Dichloropropane | 1.3 | 10 | ND | | |
| Bromodichloromethane | 1.1 | 10 | ND | | |
| cis-1,3-Dichloropropene | 1.4 | 10 | ND | | |
| Toluene | 0.98 | 10 | ND | | |
| Tetrachloroethylene | 1.8 | 10 | ND | | |
| trans-1,3-Dichloropropene | 1.2 | 10 | ND | | |
| 1,1,2-Trichloroethane | 1.8 | 10 | ND | | |
| Dibromochloromethane | 1.1 | 10 | ND | | |
| 1,3-Dichloropropane | 2.1 | 10 | ND | | |
| 1,2-Dibromoethane | 1.7 | 10 | ND | | |
| Ethyl Benzene | 0.86 | 10 | ND | | |
| Chlorobenzene | 4.2 | 10 | ND | | |
| 1,1,1,2-Tetrachloroethane | 0.86 | 10 | ND | | |
| m,p-Xylene | 1.9 | 10 | ND | | |
| o-Xylene | 0.66 | 5.0 | ND | | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/17/12 | **Analytical Batch:** | 409792 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| Styrene | 0.77 | 10 | ND | |
| Bromoform | 1.9 | 10 | ND | |
| Isopropyl Benzene | 1.2 | 10 | ND | |
| n-Propylbenzene | 1.4 | 10 | ND | |
| Bromobenzene | 1.2 | 10 | ND | |
| 1,1,2,2-Tetrachloroethane | 3.0 | 10 | ND | |
| 1,3,5-Trimethylbenzene | 1.1 | 10 | ND | |
| 1,2,3-Trichloropropane | 3.3 | 10 | ND | |
| 4-Chlorotoluene | 1.6 | 10 | ND | |
| 2-Chlorotoluene | 1.6 | 10 | ND | |
| tert-Butylbenzene | 1.4 | 10 | ND | |
| 1,2,4-Trimethylbenzene | 1.1 | 10 | ND | |
| sec-Butyl Benzene | 1.6 | 10 | ND | |
| p-Isopropyltoluene | 1.5 | 10 | ND | |
| 1,3-Dichlorobenzene | 1.8 | 10 | ND | |
| 1,4-Dichlorobenzene | 1.5 | 10 | ND | |
| n-Butylbenzene | 2.2 | 10 | ND | |
| 1,2-Dichlorobenzene | 1.3 | 10 | ND | |
| 1,2-Dibromo-3-Chloropropane | 4.2 | 10 | ND | |
| Hexachlorobutadiene | 2.6 | 10 | ND | |
| 1,2,4-Trichlorobenzene | 2.1 | 10 | ND | |
| Naphthalene | 2.8 | 10 | ND | |
| 1,2,3-Trichlorobenzene | 2.9 | 10 | ND | |
| (S) Dibromofluoromethane | | | 111 | |
| (S) Toluene-d8 | | | 110 | |
| (S) 4-Bromofluorobenzene | | | 106 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 5035 | **Prep Date:** | 05/11/12 | **Prep Batch:** | 5486 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/11/12 | **Analytical Batch:** | 409731 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | |
| (S) 4-Bromofluorobenzene | | | 91.7 | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 5035 | **Prep Date:** | 05/14/12 | **Prep Batch:** | 5491 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/14/12 | **Analytical Batch:** | 409737 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | |
| (S) 4-Bromofluorobenzene | | | 75.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 3545_TPHSG | **Prep Date:** | 05/15/12 | **Prep Batch:** | 5506 |
| **Matrix:** | Soil | **Analytical Method:** | SW8015B(M) | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409762 |
| **Units:** | mg/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH as Diesel (SG) | 0.87 | 2.0 | ND | |
| TPH as Motor Oil (SG) | 1.3 | 10 | 1.9 | |
| Pentacosane (S) | | | 85.2 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 5035 | **Prep Date:** | 05/14/12 | **Prep Batch:** | 5511 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409759 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | |
| (S) 4-Bromofluorobenzene | | | 69.2 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 5035 | **Prep Date:** | 05/16/12 | **Prep Batch:** | 5526 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/16/12 | **Analytical Batch:** | 409788 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | |
| (S) 4-Bromofluorobenzene | | | 72.1 | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 5035 | **Prep Date:** | 05/17/12 | **Prep Batch:** | 5529 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/17/12 | **Analytical Batch:** | 409792 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier | |
|---|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | 92 | | |
| (S) 4-Bromofluorobenzene | | | 95.7 | | |

Torrent LABORATORY, INC.

# LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/11/12 | **Analytical Batch:** | 409731 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.5 | 10 | ND | 50 | 132 | 128 | 3.48 | 53.7 - 139 | 30 | |
| Benzene | 1.5 | 10 | ND | 50 | 97.6 | 96.6 | 1.07 | 66.5 - 135 | 30 | |
| Trichloroethylene | 3.9 | 10 | ND | 50 | 97.0 | 96.9 | 0.0825 | 57.5 - 150 | 30 | |
| Toluene | 0.98 | 10 | ND | 50 | 107 | 107 | 0.616 | 56.8 - 134 | 30 | |
| Chlorobenzene | 4.2 | 10 | ND | 50 | 123 | 110 | 11.4 | 57.4 - 134 | 30 | |
| (S) Dibromofluoromethane | | | ND | 50 | 105 | 108 | | 59.8 - 148 | | |
| (S) Toluene-d8 | | | ND | 50 | 103 | 105 | | 55.2 - 133 | | |
| (S) 4-Bromofluorobenzene | | | ND | 50 | 99.8 | 107 | | 55.8 - 141 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/14/12 | **Analytical Batch:** | 409737 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.5 | 10 | ND | 50 | 118 | 124 | 5.01 | 53.7 - 139 | 30 | |
| Benzene | 1.5 | 10 | ND | 50 | 95.3 | 93.5 | 2.03 | 66.5 - 135 | 30 | |
| Trichloroethylene | 3.9 | 10 | ND | 50 | 85.7 | 89.8 | 4.83 | 57.5 - 150 | 30 | |
| Toluene | 0.98 | 10 | ND | 50 | 97.7 | 104 | 6.55 | 56.8 - 134 | 30 | |
| Chlorobenzene | 4.2 | 10 | ND | 50 | 114 | 121 | 5.45 | 57.4 - 134 | 30 | |
| (S) Dibromofluoromethane | | | ND | 50 | 114 | 102 | | 59.8 - 148 | | |
| (S) Toluene-d8 | | | ND | 50 | 108 | 110 | | 55.2 - 133 | | |
| (S) 4-Bromofluorobenzene | | | ND | 50 | 105 | 106 | | 55.8 - 141 | | |

Torrent LABORATORY, INC.

# LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409759 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.5 | 10 | ND | 50 | 80.8 | 102 | 23.5 | 53.7 - 139 | 30 | |
| Benzene | 1.5 | 10 | ND | 50 | 90.6 | 99.0 | 8.86 | 66.5 - 135 | 30 | |
| Trichloroethylene | 3.9 | 10 | ND | 50 | 85.2 | 89.3 | 4.74 | 57.5 - 150 | 30 | |
| Toluene | 0.98 | 10 | ND | 50 | 91.6 | 104 | 12.9 | 56.8 - 134 | 30 | |
| Chlorobenzene | 4.2 | 10 | ND | 50 | 101 | 96.9 | 3.99 | 57.4 - 134 | 30 | |
| (S) Dibromofluoromethane | | | ND | 50 | 115 | 114 | | 59.8 - 148 | | |
| (S) Toluene-d8 | | | ND | 50 | 100 | 107 | | 55.2 - 133 | | |
| (S) 4-Bromofluorobenzene | | | ND | 50 | 99.1 | 101 | | 55.8 - 141 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/16/12 | **Analytical Batch:** | 409788 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.5 | 10 | ND | 50 | 80.2 | 87.6 | 8.84 | 53.7 - 139 | 30 | |
| Benzene | 1.5 | 10 | ND | 50 | 95.7 | 93.4 | 2.29 | 66.5 - 135 | 30 | |
| Trichloroethylene | 3.9 | 10 | ND | 50 | 85.4 | 92.0 | 7.46 | 57.5 - 150 | 30 | |
| Toluene | 0.98 | 10 | ND | 50 | 96.3 | 103 | 7.06 | 56.8 - 134 | 30 | |
| Chlorobenzene | 4.2 | 10 | ND | 50 | 108 | 123 | 12.6 | 57.4 - 134 | 30 | |
| (S) Dibromofluoromethane | | | ND | 50 | 123 | 105 | | 59.8 - 148 | | |
| (S) Toluene-d8 | | | ND | 50 | 102 | 106 | | 55.2 - 133 | | |
| (S) 4-Bromofluorobenzene | | | ND | 50 | 100 | 109 | | 55.8 - 141 | | |

Torrent LABORATORY, INC.

# LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/17/12 | **Analytical Batch:** | 409792 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.5 | 10 | ND | 50 | 114 | 111 | 2.86 | 53.7 - 139 | 30 | |
| Benzene | 1.5 | 10 | ND | 50 | 91.2 | 111 | 19.9 | 66.5 - 135 | 30 | |
| Trichloroethylene | 3.9 | 10 | ND | 50 | 93.6 | 114 | 19.7 | 57.5 - 150 | 30 | |
| Toluene | 0.98 | 10 | ND | 50 | 105 | 112 | 6.04 | 56.8 - 134 | 30 | |
| Chlorobenzene | 4.2 | 10 | ND | 50 | 109 | 104 | 4.65 | 57.4 - 134 | 30 | |
| (S) Dibromofluoromethane | | | ND | 50 | 102 | 106 | | 59.8 - 148 | | |
| (S) Toluene-d8 | | | ND | 50 | 109 | 103 | | 55.2 - 133 | | |
| (S) 4-Bromofluorobenzene | | | ND | 50 | 103 | 110 | | 55.8 - 141 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 5035 | **Prep Date:** | 05/11/12 | **Prep Batch:** | 5486 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/11/12 | **Analytical Batch:** | 409731 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | 1000 | 87.3 | 87.7 | 0.536 | 64.0 - 133.2 | 30 | |
| (S) 4-Bromofluorobenzene | | | 91.7 | 50 | 91.2 | 93.8 | | 43.9 - 127 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 5035 | **Prep Date:** | 05/14/12 | **Prep Batch:** | 5491 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/14/12 | **Analytical Batch:** | 409737 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | 1000 | 81.1 | 80.8 | 0.398 | 64.0 - 133.2 | 30 | |
| (S) 4-Bromofluorobenzene | | | 75.1 | 50 | 78.2 | 74.9 | | 43.9 - 127 | | |

Torrent LABORATORY, INC.

# LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 3545_TPHSG | **Prep Date:** | 05/15/12 | **Prep Batch:** | 5506 |
| **Matrix:** | Soil | **Analytical Method:** | SW8015B(M) | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409762 |
| **Units:** | mg/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (SG) | 0.87 | 2.0 | ND | 33.33 | 65.6 | 67.7 | 3.02 | 50.8 - 111 | 30 | |
| Pentacosane (S) | | | 1.9 | 100 | 92.9 | 97.5 | | 61.5 - 133 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 5035 | **Prep Date:** | 05/14/12 | **Prep Batch:** | 5511 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/15/12 | **Analytical Batch:** | 409759 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | 1000 | 80.3 | 80.5 | 0.307 | 64.0 - 133.2 | 30 | |
| (S) 4-Bromofluorobenzene | | | 69.2 | 50 | 73.1 | 74.7 | | 43.9 - 127 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 5035 | **Prep Date:** | 05/16/12 | **Prep Batch:** | 5526 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/16/12 | **Analytical Batch:** | 409788 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | ND | 1000 | 87.9 | 80.7 | 8.52 | 64.0 - 133.2 | 30 | |
| (S) 4-Bromofluorobenzene | | | 72.1 | 50 | 76.3 | 68.5 | | 43.9 - 127 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205067 | **Prep Method:** | 5035 | **Prep Date:** | 05/17/12 | **Prep Batch:** | 5529 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/17/12 | **Analytical Batch:** | 409792 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | 92 | 1000 | 86.1 | 88.3 | 2.61 | 64.0 - 133.2 | 30 | |
| (S) 4-Bromofluorobenzene | | | 95.7 | 50 | 102 | 99.4 | | 43.9 - 127 | | |

# Laboratory Qualifiers and Definitions

## DEFINITIONS:

| |
|---|
| **Accuracy/Bias (% Recovery)** - The closeness of agreement between an observed value and an accepted reference value. |
| **Blank (Method/Preparation Blank)** -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process. |
| **Duplicate** - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD) |
| **Laboratory Control Sample (LCS ad LCSD)** - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance. |
| **Matrix** - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc) |
| **Matrix Spike (MS/MSD)** - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix. |
| **Method Detection Limit (MDL)** - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero |
| **Practical Quantitation Limit (PQL)** - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes. |
| **Precision (%RPD)** - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates |
| **Surrogate (S) or (Surr)** - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis |
| **Tentatively Identified Compound (TIC) -** A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation. |
| **Units:** the unit of measure used to express the reported result - **mg/L** and ***mg/Kg*** (equivalent to PPM - parts per million in **liquid** and ***solid***), **ug/L** and ***ug/Kg*** (equivalent to PPB - parts per billion in **liquid** and ***solid***), **ug/m3**, ***mg.m3***, **ppbv** and ***ppmv*** (all units of measure for reporting concentrations in air), **%** ( equivalent to 10000 ppm or 1,000,000 ppb), **ug/Wipe** ( concentration found on the surface of a single Wipe usually taken over a 100cm2 surface) |

## LABORATORY QUALIFIERS:

**B** - Indicates when the anlayte is found in the associated method or preparation blank
**D** - Surrogate is not recoverable due to the necessary dilution of the sample
**E** - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.
**H**- Indicates that the recommended holding time for the analyte or compound has been exceeded
**J**- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative
**NA** - Not Analyzed
**N/A** - Not Applicable
**NR** - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added
**R**- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts
**S**- Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative
**X** -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.

# Sample Receipt Checklist

Client Name: Weber, Hayes & Associates

Project Name: Oakland / 2X103.B

Work Order No.: 1205067

Date and Time Received: 5/10/2012 17:30

Received By: NG

Physically Logged By: NG

Checklist Completed By: YB

Carrier Name: Streetwise Courier

**Chain of Custody (COC) Information**

| | |
|---|---|
| Chain of custody present? | Yes |
| Chain of custody signed when relinquished and received? | Yes |
| Chain of custody agrees with sample labels? | Yes |
| Custody seals intact on sample bottles? | No |

**Sample Receipt Information**

| | |
|---|---|
| Custody seals intact on shipping container/cooler? | No |
| Shipping Container/Cooler In Good Condition? | Yes |
| Samples in proper container/bottle? | Yes |
| Samples containers intact? | Yes |
| Sufficient sample volume for indicated test? | Yes |

**Sample Preservation and Hold Time (HT) Information**

| | |
|---|---|
| All samples received within holding time? | Yes |
| Container/Temp Blank temperature in compliance? | Temperature: 12 °C |
| Water-VOA vials have zero headspace? | |
| Water-pH acceptable upon receipt? | |
| pH Checked by: | pH Adjusted by: |

Chilling has begun. Did not receive sample DP-6-d21(1205067-007A)

# Login Summary Report

**Client ID:** TL5105 Weber, Hayes & Associates
**QC Level:**
**Project Name:** Oakland / 2X103.B
**TAT Requested:** 5+ day:0
**Project # :**
**Date Received:** 5/10/2012
**Report Due Date:** 5/17/2012
**Time Received:** 17:30

**Comments:** 5 Day TAT. Samples originally received on 3 CoCs. Broken into two work orders in order to facilitate batch preparation and reporting. Page 1 samples on WO#1205066.

**Work Order # :** ***1205067***

| WO Sample ID | Client Sample ID | Collection Date/Time | Matrix | Scheduled Disposal | Sample On Hold | Test On Hold | Requested Tests | Subbed |
|---|---|---|---|---|---|---|---|---|
| 1205067-001A | DP-4-d24 | 05/09/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| **Sample Note:** | For petr - BTEX, MTBE and TBA only. Use MDL for any diluted samples. | | | | | | | |
| 1205067-001C | DP-4-d24 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-002A | DP-5-d8 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-002C | DP-5-d8 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-003A | DP-5-d11 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-003C | DP-5-d11 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-004A | DP-5-d17 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-004C | DP-5-d17 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-005A | DP-5-d23 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-005C | DP-5-d23 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-006A | DP-6-d12 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-006C | DP-6-d12 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-007A | DP-6-d21 | 05/09/12 | Soil | 11/06/12 | On-Hold | | S_GCMS-GRO<br>S_8260PetWHA | |
| **Sample Note:** | We did not receive his sample -DP-6-d21. | | | | | | | |

Torrent LABORATORY, INC.

# Login Summary Report

**Client ID:** TL5105 Weber, Hayes & Associates

**Project Name:** Oakland / 2X103.B

**Project # :**

**Report Due Date:** 5/17/2012

**QC Level:**

**TAT Requested:** 5+ day:0

**Date Received:** 5/10/2012

**Time Received:** 17:30

**Comments:** 5 Day TAT. Samples originally received on 3 CoCs. Broken into two work orders in order to facilitate batch preparation and reporting. Page 1 samples on WO#1205066.

**Work Order # :** ***1205067***

| WO Sample ID | Client Sample ID | Collection Date/Time | Matrix | Scheduled Disposal | Sample On Hold | Test On Hold | Requested Tests | Subbed |
|---|---|---|---|---|---|---|---|---|
| 1205067-007C | DP-6-d21 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-008A | DP-6-d23 | 05/09/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-008C | DP-6-d23 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-009A | DP-7-d4 | 05/09/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-009C | DP-7-d4 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-010A | DP-7-d8 | 05/09/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-010C | DP-7-d8 | 05/09/12 0:00 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-011A | DP-7-d11 | 05/09/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA<br>S_TPHDOSG | |
| 1205067-011C | DP-7-d11 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-012A | DP-7-d17 | 05/09/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-012C | DP-7-d17 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-013A | DP-7-d23 | 05/09/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-013C | DP-7-d23 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-014A | DP-8-d8 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |

# Login Summary Report

**Client ID:** TL5105 Weber, Hayes & Associates

**Project Name:** Oakland / 2X103.B

**Project # :**

**Report Due Date:** 5/17/2012

**QC Level:**

**TAT Requested:** 5+ day:0

**Date Received:** 5/10/2012

**Time Received:** 17:30

**Comments:** 5 Day TAT. Samples originally received on 3 CoCs. Broken into two work orders in order to facilitate batch preparation and reporting. Page 1 samples on WO#1205066.

**Work Order # :** ***1205067***

| WO Sample ID | Client Sample ID | Collection Date/Time | Matrix | Scheduled Disposal | Sample On Hold | Test On Hold | Requested Tests | Subbed |
|---|---|---|---|---|---|---|---|---|
| 1205067-014C | DP-8-d8 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-015A | DP-8-d17 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-015C | DP-8-d17 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-016A | DP-8-d20 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-016C | DP-8-d20 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-017A | DP-8-d23 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-017C | DP-8-d23 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-018A | DP-9-d4 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-018C | DP-9-d4 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-019A | DP-9-d18 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_TPHDOSG<br>S_8260PetWHA | |
| 1205067-019C | DP-9-d18 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |
| 1205067-020A | DP-9-d20 | 05/08/12 | Soil | 11/06/12 | | | S_GCMS-GRO<br>S_8260PetWHA | |
| 1205067-020C | DP-9-d20 | 05/09/12 | Soil | 11/06/12 | | | S_8260PetE | |

Torrent LABORATORY, INC.

**Weber, Hayes & Associates**
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax: (831) 722-1159

# CHAIN -OF-CUSTODY RECORD

1 of 2

1205067

2 OF 3

PROJECT NAME AND JOB #: Oakland / 2X103.B

SEND CERTIFIED RESULTS TO: Weber, Hayes & Associates - Attention: Jered Chaney

ELECTRONIC DELIVERABLE FORMAT: ☐ YES ☒ NO

LABORATORY: Torrent

TURNAROUND TIME: Standard 48hr Rush

GLOBAL I.D.: --

Sampler: Jered Chaney

Date: 5/8+9/12

| | Sample Identification | Date Sampled | Matrix | SAMPLE CONTAINERS: 40 mL VOAs (preserved) | 60 mL VOAs | Terra Core Prep Kit VOAs (preserved) | Liner Acetate or Brass | REQUESTED ANALYSIS: Total Petroleum Hydrocarbons: TPH-diesel w/ silica gel cleanup EPA Method# 8015M | TPH-Diesel EPA Method 8015M | TPH-Gas by EPA Method 8260B | Volatile Organics: BTEX EPA Method# 8260B | MtBE & TBA EPA Method# 8260B | 1,2-DCA & EDB EPA Method# 8260B | Additional Analysis: Luft 5 Metals | PCBs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001A | DP-4-d24 | 5/9/12 | So.l | | | | 1 | | | X | X | X | | | |
| 002A | DP-5-d8 | 5/8/12 | | | | | 1 | | | | | | | | |
| 003A | DP-5-d11 | | | | | | 1 | | | | | | | | |
| 004A | DP-5-d17 | | | | | | 1 | | | | | | | | |
| 005A | DP-5-d23 | | | | | | 1 | | | | | | | | |
| 006A | DP-6-d12 | | | | | | 1 | | | | | | | | |
| 007A | DP-6-d21 | 5/9/12 | | | | | 1 | | | | | | | | |
| 008A | DP-6-d23 | | | | | | 1 | | | | | | | | |
| 009A | DP-7-d4 | | | | | | 1 | | | | | | | | |
| 010A | DP-7-d8 | | | | | | 1 | | | | | | | | |
| 011A | DP-7-d11 | | | | | | 1 | X | | | | | | | |
| 012A | DP-7-d17 | | | | | | 1 | | | | | | | | |
| 013A | DP-7-d23 | | | | | | 1 | | | | | | | | |
| 014A | DP-8-d8 | 5/8/12 | | | | | 1 | | | | | | | | |

Temp 12 °C
Ice in cooler

| | RELEASED BY: | Date & Time | | RECEIVED BY: | Date & Time |
|---|---|---|---|---|---|
| 1.) | | 5/10/12 1350 | → | | 5/10/12 1350 |
| 2.) | | 5/10/12 1455 | → | | 05/10/12 16:47 |
| 3.) | | 5/10/12 5:30pm | → | | 5/10/12 5:30 P.M |
| 4.) | | | → | | |
| 5.) | | | → | | |

SAMPLE CONDITION: (circle 1)

| | | | |
|---|---|---|---|
| Ambient | Refrigerated | Frozen | |
| Ambient | Refrigerated | Frozen | |
| Ambient | Refrigerated | Frozen | |
| Ambient | Refrigerated | Frozen | |
| Ambient | Refrigerated | Frozen | |

**NOTES:**

☒ Please use MDL (Minimum Detection Limit) for any diluted samples.

**ADDITIONAL COMMENTS**

SW

JC\Fieldlog\FORMS.xls - COC 1 of 1 Weber, Hayes and Associates

Torrent LABORATORY, INC.

**Weber, Hayes & Associates**
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax: (831) 722-1159

# CHAIN -OF-CUSTODY RECORD

2 of 2

1205067

3 OF 3

PROJECT NAME AND JOB #: Oakland / 2X103.B

SEND CERTIFIED RESULTS TO: Weber, Hayes & Associates - Attention: Jered Chaney

ELECTRONIC DELIVERABLE FORMAT: ☐ YES ☒ NO

LABORATORY: Torrent

TURNAROUND TIME: (Standard) 48hr Rush

GLOBAL I.D.: --

Sampler: Jered Chaney

Date: 5/8+9/12

| | Sample Identification | Date Sampled | Matrix | SAMPLE CONTAINERS: 40 mL VOAs (preserved) | 60 mL VOAs | Terra Core Prep Kit VOAs (preserved) | Liner Acetate or Brass | REQUESTED ANALYSIS: Total Petroleum Hydrocarbons: TPH-diesel w/ silica gel cleanup EPA Method# 8015M | TPH-Diesel EPA Method 8015M | TPH-Gas by EPA Method 8260B | Volatile Organics: BTEX EPA Method# 8260B | MtBE & TBA EPA Method# 8260B | 1,2-DCA & EDB EPA Method# 8260B | Additional Analysis: Luft 5 Metals | PCBs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 015A | DP-8-d17 | 5/8/12 | So.1 | | | | 1 | | | X | X | X | | | |
| 016A | DP-8-d20 | | | | | | 1 | | | X | X | X | | | |
| 017A | DP-8-d23 | | | | | | 1 | | | X | X | X | | | |
| 018A | DP-9-d4 | | | | | | 1 | | | X | X | X | | | |
| 019A | DP-9-d18 | | | | | | 1 | X | | X | X | X | | | |
| 020A | DP-9-d20 | ↓ | ↓ | | | | 1 | | | X | X | X | | | |

Temp. in ice chilling has begun

| | RELEASED BY: | Date & Time | | RECEIVED BY: | Date & Time |
|---|---|---|---|---|---|
| 1.) | | 5/10/12 1350 | → | | 5/10/12 1350 |
| 2.) | | 5/10/12 1455 | → | | 5/10/12 14:59 |
| 3.) | | 5/10/12 5:30PM | → | | 5/10/12 5:30PM |
| 4.) | | | → | | |
| 5.) | | | → | | |

SAMPLE CONDITION: (circle 1)

| | | | |
|---|---|---|---|
| Ambient | (Refrigerated) | Frozen |
| Ambient | ~~Refrigerated~~ | Frozen |
| Ambient | (Refrigerated) | Frozen |
| Ambient | Refrigerated | Frozen |
| Ambient | Refrigerated | Frozen |

**NOTES:**

☒ Please use MDL (Minimum Detection Limit) for any diluted samples.

**ADDITIONAL COMMENTS**

S.W

JC\Fieldog\FORMS.xls - COC 1 of 1 Weber, Hayes and Associates

Torrent LABORATORY, INC.

Torrent LABORATORY, INC.

## Change Order

**Work Order**: 1205067 **Serial #:** CO15-0272 **Print Date:** 10/16/2015

**Project Name:** Oakland / 2X103.B

**Client:** Weber, Hayes & Associates **Requested By:** Craig Drizin

| | Requested Date | Requested Time | Extended Price |
|---|---|---|---|
| Report Napthalene data for all samples | 10/12/2015 | | |



483 Sinclair Frontage Rd., Milpitas, CA 95035 | *tel:* 408.263.5258 | *fax:* 408.263.8293 | www.torrentlab.com

Weber, Hayes & Associates
120 Westgate Dr
Watsonville, CA 95076
Tel: 831-722-3580
Fax: 831-662-3100

RE: Oakland / 2X103.B

Work Order No.: 1205092 Rev: 1

Dear Jered Chaney:

Torrent Laboratory, Inc. received 1 sample(s) on May 15, 2012 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.

Patti Sandrock
QA Officer

October 16, 2015
Date

**Date:** 10/16/2015

**Client:** Weber, Hayes & Associates

**Project:** Oakland / 2X103.B

**Work Order:** 1205092

## CASE NARRATIVE

No issues encountered with the receiving, preparation, analysis or reporting of the results associated with this work order.

Unless otherwise indicated in the following narrative, no results have been method and/or field blank corrected.

Reported results relate only to the items/samples tested by the laboratory.

REVISIONS:

Per client request, report re-issued to include Naphthalene data.

Rev 1 (10/16/15)

Torrent LABORATORY, INC.

## Sample Result Summary

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/15/12
**Date Reported:** 10/16/15

**DP-6-d21** 1205092-001

| Parameters: | Analysis Method | DF | MDL | PQL | Results | Unit |
|---|---|---|---|---|---|---|
| Benzene | SW8260B | 2000 | 3.0 | 20 | 36 | mg/Kg |
| Toluene | SW8260B | 2000 | 2.0 | 20 | 37 | mg/Kg |
| Ethyl Benzene | SW8260B | 2000 | 1.7 | 20 | 81 | mg/Kg |
| m,p-Xylene | SW8260B | 2000 | 3.7 | 20 | 330 | mg/Kg |
| o-Xylene | SW8260B | 2000 | 1.3 | 10 | 120 | mg/Kg |
| TPH as Gasoline | 8260TPH | 2000 | 59 | 200 | 4600 | mg/Kg |
| Naphthalene | SW8260B | 2000 | 5.7 | 20 | 25 | mg/Kg |

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/15/12
**Date Reported:** 10/16/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-6-d21 | **Lab Sample ID:** | 1205092-001A |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | 2X103.B | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| Benzene | SW8260B | NA | 05/21/12 | 2000 | 3.0 | 20 | 36 | | mg/Kg | 409833 | NA |
| Toluene | SW8260B | NA | 05/21/12 | 2000 | 2.0 | 20 | 37 | | mg/Kg | 409833 | NA |
| Ethyl Benzene | SW8260B | NA | 05/21/12 | 2000 | 1.7 | 20 | 81 | | mg/Kg | 409833 | NA |
| m,p-Xylene | SW8260B | NA | 05/21/12 | 2000 | 3.7 | 20 | 330 | | mg/Kg | 409833 | NA |
| o-Xylene | SW8260B | NA | 05/21/12 | 2000 | 1.3 | 10 | 120 | | mg/Kg | 409833 | NA |
| MTBE | SW8260B | NA | 05/21/12 | 2000 | 5.2 | 20 | ND | | mg/Kg | 409833 | NA |
| tert-Butanol | SW8260B | NA | 05/21/12 | 2000 | 42 | 100 | ND | | mg/Kg | 409833 | NA |
| (S) Dibromofluoromethane | SW8260B | NA | 05/21/12 | 2000 | 59.8 | 148 | 80.2 | | % | 409833 | NA |
| (S) Toluene-d8 | SW8260B | NA | 05/21/12 | 2000 | 55.2 | 133 | 96.7 | | % | 409833 | NA |
| (S) 4-Bromofluorobenzene | SW8260B | NA | 05/21/12 | 2000 | 55.8 | 141 | 103 | | % | 409833 | NA |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***The results shown below are reported using their MDL.*** | | | | | | | | | | | |
| TPH as Gasoline | 8260TPH | 5/21/12 | 05/21/12 | 2000 | 59 | 200 | 4600 | x | mg/Kg | 409833 | 5550 |
| (S) 4-Bromofluorobenzene | 8260TPH | 5/21/12 | 05/21/12 | 2000 | 43.9 | 127 | 105 | | % | 409833 | 5550 |

**NOTE:** x-Although TPH as Gasoline is present, pattern does not match TPH as Gaoline standard. Results are elevated due to heavy end hydrocarbons (possibly aged gasoline).

Torrent LABORATORY, INC.

## SAMPLE RESULTS

**Report prepared for:** Jered Chaney
Weber, Hayes & Associates

**Date Received:** 05/15/12
**Date Reported:** 10/16/15

| | | | |
|---|---|---|---|
| **Client Sample ID:** | DP-6-d21 | **Lab Sample ID:** | 1205092-001C |
| **Project Name/Location:** | Oakland / 2X103.B | **Sample Matrix:** | Soil |
| **Project Number:** | 2X103.B | | |
| **Date/Time Sampled:** | 05/09/12 / | | |
| **Tag Number:** | Oakland / 2X103.B | | |

| Parameters: | Analysis Method | Prep Date | Date Analyzed | DF | MDL | PQL | Results | Lab Qualifier | Unit | Analytical Batch | Prep Batch |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | SW8260B | NA | 05/21/12 | 2000 | 5.7 | 20 | 25 | | mg/Kg | 427329 | NA |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205092 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/21/12 | **Analytical Batch:** | 409833 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| Dichlorodifluoromethane | 4.4 | 10 | ND | |
| Isopropyl Alcohol | 4.6 | 10 | ND | |
| Vinyl Chloride | 2.6 | 10 | ND | |
| Bromomethane | 4.7 | 10 | ND | |
| Trichlorofluoromethane | 2.9 | 10 | ND | |
| 1,1-Dichloroethene | 1.5 | 10 | ND | |
| Freon 113 | 3.7 | 10 | ND | |
| Methylene Chloride | 2.0 | 50 | ND | |
| trans-1,2-Dichloroethene | 1.1 | 10 | ND | |
| MTBE | 2.6 | 10 | ND | |
| tert-Butanol | 21 | 50 | ND | |
| Diisopropyl ether (DIPE) | 2.2 | 10 | ND | |
| 1,1-Dichloroethane | 1.3 | 10 | ND | |
| ETBE | 2.4 | 10 | ND | |
| cis-1,2-Dichloroethene | 1.8 | 10 | ND | |
| 2,2-Dichloropropane | 1.2 | 10 | ND | |
| Bromochloromethane | 2.3 | 10 | ND | |
| Chloroform | 1.2 | 10 | ND | |
| Carbon Tetrachloride | 1.6 | 10 | ND | |
| 1,1,1-Trichloroethane | 1.2 | 10 | ND | |
| 1,1-Dichloropropene | 1.4 | 10 | ND | |
| Benzene | 1.5 | 10 | ND | |
| TAME | 2.1 | 10 | ND | |
| 1,2-Dichloroethane | 1.9 | 10 | ND | |
| Trichloroethylene | 3.9 | 10 | ND | |
| Dibromomethane | 2.2 | 10 | ND | |
| 1,2-Dichloropropane | 1.3 | 10 | ND | |
| Bromodichloromethane | 1.1 | 10 | ND | |
| cis-1,3-Dichloropropene | 1.4 | 10 | ND | |
| Toluene | 0.98 | 10 | ND | |
| Tetrachloroethylene | 1.8 | 10 | ND | |
| trans-1,3-Dichloropropene | 1.2 | 10 | ND | |
| 1,1,2-Trichloroethane | 1.8 | 10 | ND | |
| Dibromochloromethane | 1.1 | 10 | ND | |
| 1,3-Dichloropropane | 2.1 | 10 | ND | |
| 1,2-Dibromoethane | 1.7 | 10 | ND | |
| Ethyl Benzene | 0.86 | 10 | ND | |
| Chlorobenzene | 4.2 | 10 | ND | |
| 1,1,1,2-Tetrachloroethane | 0.86 | 10 | ND | |
| m,p-Xylene | 1.9 | 10 | ND | |

Torrent LABORATORY, INC.

# MB Summary Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205092 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/21/12 | **Analytical Batch:** | 409833 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| o-Xylene | 0.66 | 5.0 | ND | |
| Styrene | 0.77 | 10 | ND | |
| Bromoform | 1.9 | 10 | ND | |
| Isopropyl Benzene | 1.2 | 10 | ND | |
| n-Propylbenzene | 1.4 | 10 | ND | |
| Bromobenzene | 1.2 | 10 | ND | |
| 1,1,2,2-Tetrachloroethane | 3.0 | 10 | ND | |
| 1,3,5-Trimethylbenzene | 1.1 | 10 | ND | |
| 1,2,3-Trichloropropane | 3.3 | 10 | ND | |
| 4-Chlorotoluene | 1.6 | 10 | ND | |
| 2-Chlorotoluene | 1.6 | 10 | ND | |
| tert-Butylbenzene | 1.4 | 10 | ND | |
| 1,2,4-Trimethylbenzene | 1.1 | 10 | ND | |
| sec-Butyl Benzene | 1.6 | 10 | ND | |
| p-Isopropyltoluene | 1.5 | 10 | ND | |
| 1,3-Dichlorobenzene | 1.8 | 10 | ND | |
| 1,4-Dichlorobenzene | 1.5 | 10 | ND | |
| n-Butylbenzene | 2.2 | 10 | ND | |
| 1,2-Dichlorobenzene | 1.3 | 10 | ND | |
| 1,2-Dibromo-3-Chloropropane | 4.2 | 10 | ND | |
| Hexachlorobutadiene | 2.6 | 10 | ND | |
| 1,2,4-Trichlorobenzene | 2.1 | 10 | ND | |
| Naphthalene | 2.8 | 10 | ND | |
| 1,2,3-Trichlorobenzene | 2.9 | 10 | ND | |
| (S) Dibromofluoromethane | | | 80.7 | |
| (S) Toluene-d8 | | | 96.7 | |
| (S) 4-Bromofluorobenzene | | | 115 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205092 | **Prep Method:** | 5035 | **Prep Date:** | 05/21/12 | **Prep Batch:** | 5550 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/21/12 | **Analytical Batch:** | 409833 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Lab Qualifier |
|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | 58 | |
| (S) 4-Bromofluorobenzene | | | 92.7 | |

Torrent LABORATORY, INC.

# LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205092 | **Prep Method:** | NA | **Prep Date:** | NA | **Prep Batch:** | NA |
| **Matrix:** | Soil | **Analytical Method:** | SW8260B | **Analyzed Date:** | 05/21/12 | **Analytical Batch:** | 409833 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.5 | 10 | ND | 50 | 103 | 93.9 | 9.63 | 53.7 - 139 | 30 | |
| Benzene | 1.5 | 10 | ND | 50 | 84.9 | 85.0 | 0.000 | 66.5 - 135 | 30 | |
| Trichloroethylene | 3.9 | 10 | ND | 50 | 96.6 | 89.9 | 7.21 | 57.5 - 150 | 30 | |
| Toluene | 0.98 | 10 | ND | 50 | 97.1 | 81.4 | 17.5 | 56.8 - 134 | 30 | |
| Chlorobenzene | 4.2 | 10 | ND | 50 | 98.8 | 99.4 | 0.585 | 57.4 - 134 | 30 | |
| (S) Dibromofluoromethane | | | ND | 50 | 77.1 | 96.9 | | 59.8 - 148 | | |
| (S) Toluene-d8 | | | ND | 50 | 94.6 | 96.9 | | 55.2 - 133 | | |
| (S) 4-Bromofluorobenzene | | | ND | 50 | 101 | 113 | | 55.8 - 141 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Work Order:** | 1205092 | **Prep Method:** | 5035 | **Prep Date:** | 05/21/12 | **Prep Batch:** | 5550 |
| **Matrix:** | Soil | **Analytical Method:** | 8260TPH | **Analyzed Date:** | 05/21/12 | **Analytical Batch:** | 409833 |
| **Units:** | ug/Kg | | | | | | |

| Parameters | MDL | PQL | Method Blank Conc. | Spike Conc. | LCS % Recovery | LCSD % Recovery | LCS/LCSD % RPD | % Recovery Limits | % RPD Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 30 | 100 | 58 | 1000 | 86.9 | 96.0 | 9.95 | 64.0 - 133.2 | 30 | |
| (S) 4-Bromofluorobenzene | | | 92.7 | 50 | 100 | 99.8 | | 43.9 - 127 | | |

# Laboratory Qualifiers and Definitions

## DEFINITIONS:

| |
|---|
| **Accuracy/Bias (% Recovery)** - The closeness of agreement between an observed value and an accepted reference value. |
| **Blank (Method/Preparation Blank)** -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process. |
| **Duplicate** - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD) |
| **Laboratory Control Sample (LCS ad LCSD)** - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance. |
| **Matrix** - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc) |
| **Matrix Spike (MS/MSD)** - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix. |
| **Method Detection Limit (MDL)** - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero |
| **Practical Quantitation Limit (PQL)** - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes. |
| **Precision (%RPD)** - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates |
| **Surrogate (S) or (Surr)** - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis |
| **Tentatively Identified Compound (TIC) -** A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation. |
| **Units:** the unit of measure used to express the reported result - **mg/L** and ***mg/Kg*** (equivalent to PPM - parts per million in **liquid** and ***solid***), **ug/L** and ***ug/Kg*** (equivalent to PPB - parts per billion in **liquid** and ***solid***), **ug/m3**, ***mg.m3***, **ppbv** and ***ppmv*** (all units of measure for reporting concentrations in air), **%** ( equivalent to 10000 ppm or 1,000,000 ppb), **ug/Wipe** ( concentration found on the surface of a single Wipe usually taken over a 100cm2 surface) |

## LABORATORY QUALIFIERS:

**B** - Indicates when the anlayte is found in the associated method or preparation blank
**D** - Surrogate is not recoverable due to the necessary dilution of the sample
**E** - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.
**H**- Indicates that the recommended holding time for the analyte or compound has been exceeded
**J**- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative
**NA** - Not Analyzed
**N/A** - Not Applicable
**NR** - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added
**R**- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts
**S**- Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative
**X** -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.

# Sample Receipt Checklist

Client Name: Weber, Hayes & Associates

Project Name: Oakland / 2X103.B

Work Order No.: 1205092

Date and Time Received: 5/15/2012 10:40

Received By: NG

Physically Logged By: NG

Checklist Completed By: NG

Carrier Name: First Courier

**Chain of Custody (COC) Information**

| | |
|---|---|
| Chain of custody present? | Yes |
| Chain of custody signed when relinquished and received? | Yes |
| Chain of custody agrees with sample labels? | Yes |
| Custody seals intact on sample bottles? | Not Present |

**Sample Receipt Information**

| | |
|---|---|
| Custody seals intact on shipping container/cooler? | Not Present |
| Shipping Container/Cooler In Good Condition? | Yes |
| Samples in proper container/bottle? | Yes |
| Samples containers intact? | Yes |
| Sufficient sample volume for indicated test? | Yes |

**Sample Preservation and Hold Time (HT) Information**

| | |
|---|---|
| All samples received within holding time? | Yes |
| Container/Temp Blank temperature in compliance? | Temperature: 6 °C |
| Water-VOA vials have zero headspace? | No VOA vials submitted |
| Water-pH acceptable upon receipt? | N/A |
| pH Checked by: | pH Adjusted by: |

All samples present and correct.

# Login Summary Report

| | | | | | |
|---|---|---|---|---|---|
| **Client ID:** | TL5105 | Weber, Hayes & Associates | **QC Level:** | | |
| **Project Name:** | Oakland / 2X103.B | | **TAT Requested:** | 5+ day:0 | |
| **Project # :** | 2X103.B | | **Date Received:** | 5/15/2012 | |
| **Report Due Date:** | 5/22/2012 | | **Time Received:** | 10:40 | |

**Comments:** 5 Day TAT! TPHGas/BTEX/MTBE/TBA! Report to Jered!

**Work Order # :** ***1205092***

| WO Sample ID | Client Sample ID | Collection Date/Time | Matrix | Scheduled Disposal | Sample On Hold | Test On Hold | Requested Tests | Subbed |
|---|---|---|---|---|---|---|---|---|
| 1205092-001A | DP-6-d21 | 05/09/12 | Soil | 11/11/12 | | | S_8260PetWHA<br>S_GCMS-GRO | |
| **Sample Note:** | Please use MDL for any diluted samples.<br>The sample was inadvertantly not picked up with batch of samples. | | | | | | | |
| 1205092-001C | DP-6-d21 | 05/09/12 | Soil | 11/11/12 | | | S_8260PetE | |

Torrent LABORATORY, INC.

**Weber, Hayes & Associates**
**Hydrogeology and Environmental Engineering**
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax: (831) 722-1159

# CHAIN -OF-CUSTODY RECORD

1205092

1 OF 1

PROJECT NAME AND JOB #: Oakland / 2X103.B

LABORATORY: Torrent

SEND CERTIFIED RESULTS TO: Weber, Hayes & Associates - Attention: Jered Chaney

TURNAROUND TIME: (Standard) 48hr Rush

ELECTRONIC DELIVERABLE FORMAT: [ ] YES [X] NO

GLOBAL I.D.: --

Sampler: Jered Chaney

Date: 5/9/12

| | Sample Identification | Date Sampled | Matrix | SAMPLE CONTAINERS: 40 mL VOAs (preserved) | 60 mL VOAs | Terra Core Prep Kit VOAs (preserved) | Liner Acetate or Brass | REQUESTED ANALYSIS: Total Petroleum Hydrocarbons: TPH-diesel w/ silica gel cleanup EPA Method# 8015M | TPH-Diesel EPA Method 8015M | TPH-Gas by EPA Method 8260B | Volatile Organics: BTEX EPA Method# 8260B | MtBE & TBA EPA Method# 8260B | 1,2-DCA & EDB EPA Method# 8260B | Additional Analysis: Luft 5 Metals | PCBs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001A | DP-6-d21 | 5/9/12 | Soil | | | | 1 | | | X | X | X | | | |

Temp 6°C

| RELEASED BY: | Date & Time | | RECEIVED BY: | Date & Time | SAMPLE CONDITION: (circle 1) | | |
|---|---|---|---|---|---|---|---|
| 1.) | 5/10/12 1350 | → | LuHA Frazer | 5/10/12 1350 | Ambient | Refrigerated | Frozen |
| 2.) LuHA Frazer | 5/14/12 1730 | → | | 5/14/12 1730 | Ambient | Refrigerated | Frozen |
| 3.) | 5/15/12 0926 | → | Carl Jacobsen | 5/15/12 926 | Ambient | Refrigerated | Frozen |
| 4.) Carl Jacobsen | 5/15/12 1040 | → | 90. K. Khodasara | 5/15/12 10:40 | Ambient | Refrigerated | Frozen |
| 5.) | | → | | | Ambient | Refrigerated | Frozen |

**NOTES:**

1

[X] Please use MDL (Minimum Detection Limit) for any diluted samples.

**ADDITIONAL COMMENTS**

- Sample DP-6-d21 inadvertently not picked up w/ initial batch of samples.

F. C.

JC\Fieldog\FORMS.xls - COC 1 of 1 Weber, Hayes and Associates

Torrent LABORATORY, INC.

Torrent LABORATORY, INC.

## Change Order

**Work Order**: 1205092 **Serial #:** CO15-0273 **Print Date:** 10/16/2015

**Project Name:** Oakland / 2X103.B

**Client:** Weber, Hayes & Associates **Requested By:** Craig Drizin

| | Requested Date | Requested Time | Extended Price |
|---|---|---|---|
| Report Napthalene data for sample 001 | 10/12/2015 | | |



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