| | |
|---|---|
| **From:** | Yusufzai, Abdul@Waterboards |
| **To:** | Roe, Dilan, Env. Health |
| **Cc:** | Trommer, Bob@Waterboards; Cullen, Pat@Waterboards |
| **Subject:** | RE: ACEH Response to 3rd Five-Year Review Summary Report - USTCF Claim No. 5518 |
| **Date:** | Wednesday, February 13, 2013 9:27:15 AM |

Hi: Thank you for returning my phone call. The Fund received your response to the 3rd 5-Year Review Recommendation, and will be responded in the UST Case Closure Review Summary Report, which is in process. Should you have any question, please email us. Regards

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**From:** Roe, Dilan, Env. Health [mailto:Dilan.Roe@acgov.org]
**Sent:** Wednesday, February 13, 2013 9:03 AM
**To:** Yusufzai, Abdul@Waterboards
**Cc:** Trommer, Bob@Waterboards; Cullen, Pat@Waterboards
**Subject:** FW: ACEH Response to 3rd Five-Year Review Summary Report - USTCF Claim No. 5518

Hi Abdul:

Attached is a copy of Alameda County's response dated May 5, 2012 to the USTCF regarding the draft 3rd Five Year Review provided to us for comment. As I mentioned on the phone, we have not yet received a response to our comments and would like clarification on whether the Fund finalized the 3rd 5-Year Review.

Thank-you

**Dilan Roe, P.E.**
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*http://www.acgov.org/aceh/lop/ust.htm*

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**From:** Roe, Dilan, Env. Health
**Sent:** Monday, May 14, 2012 3:39 PM
**To:** 'PCullen@waterboards.ca.gov'; 'RTrommer@waterboards.ca.gov'
**Cc:** Drogos, Donna, Env. Health
**Subject:** ACEH Response to 3rd Five-Year Review Summary Report - USTCF Claim No. 5518

Dear Mr. Cullen & Mr. Trommer

We have received the 3rd 5-Year Review Summary Report dated March 28, 2012 from the Underground Storage Tank Cleanup Fund (Fund) for the site listed below. This Summary Report represents the 3rd 5-year review of Alameda County Environmental Health (ACEH) Local Oversight

Program case by the Fund. The Fund correspondence requests that ACEH respond to the Fund correspondence within 45 days of the date of the letter. Responses to the Fund recommendations for the site for which Dilan Roe is the case worker, are presented below. We have reviewed the contents of the correspondence as well as the USTCF 2nd Five Year Review Summary dated May 27, 2010 in the context of the appropriateness of recommendations. However, we have not reviewed the reports for accuracy of all information presented.

ACEH Case No.: RO000456
USTCF Claim No.: 5518
Global ID No.: T0600100908
Site Address: 100 MacArthur Blvd, Oakland, CA 94610

USTCF Recommendation in 2nd Five-Year Review Summary:
The Fund staff offers these suggestions for LOP consideration.

- It appears the focus of this project has shifted from the waste oil tank to gasoline. Fund staff recommends closure of the waste oil UST and continued focus on the gasoline contamination now present at the Site.
- Fund staff recommend the LOP direct the claimant to prepare a comprehensive corrective action plan that includes schedules for implementation while he investigation west of the Site progresses.

USTCF Recommendation in 3rd Five-Year Review Summary:
The staff recommends the LOP consider this Site for closure for the following reasons:

- The hydrology, geology and other factors at and in the vicinity of the Site;
- The residual petroleum hydrocarbon characteristics that remain in the soil and groundwater pose a low risk to public health, safety and the environment;
- The remaining mass of residual petroleum hydrocarbons in soil and groundwater is limited in the area of the former USTs and is degrading. The exception is MTBE in well MW-3 and TBA in well MW-2. The TBA concentrations in well MW-2 are the daughter product of biodegradation of MTBE;
- If the MTBE in groundwater were to migrate off site it would have to travel approximately 400 feet beneath the Interstate 580 and Oakland Avenue interchange before reaching residential land use. Even the MTBE does not pose a threat for vapor intrusion;
- Affected groundwater is not used for a drinking water source and is very unlikely to be used in the foreseeable future;
- No sensitive receptors are likely to be impacted, including surface water bodies, supply wells, drinking water sources, or humans.

ACEH Response: **ACEH is not in agreement with these recommendations.**

ACEH has reviewed the 3rd 5-Year Review Summary Report in conjunction with the case files and the Recommendation for Case Closure report dated March 12, 2012, prepared by ARCADIS for the Site. ACEH has the following concerns regarding the data, assumptions, and recommendations presented in these reports:

**Maximum Contaminant Concentrations.** There are significant errors in the concentrations reported on USTCF's "Maximum Documented Contaminant Concentrations" Table of the 3/28/2012 letter. Of most noteworthy is the maximum concentration of MTBE in water reported as

43 micrograms per liter (ug/L) rather than 49,000 ug/L as reported in the historical data. ACEH is also concerned about the concentrations in groundwater samples reported in the Recommendation for Case Closure report dated March 12, 2012. A review of the analytical data indicates frequent use of laboratory detection limits in excess of the contaminant's corresponding ESLs and thus misleading statements with respect to sample exceedances of ESLs.

**MTBE Groundwater Concentrations.** In the 3rd 5-Year Review Summary Report dated March 28, 2012, USTCF staff state that remediation through site upgrades, equipment removal and associated over-excavations, and natural attenuation have proven to be effective for substantially removing on-site contamination sources, and that it has been demonstrated by declining petroleum hydrocarbon concentration trends in site monitoring wells that natural attenuation is occurring. However, based on historical TPHg and MTBE concentrations in well MW-2, there appears to be evidence of multiple releases in the vicinity of the gasoline UST tank pit in 1995, 1999, 2001, and again in 2003. Similar spikes can also be observed in historic data of concentrations of TPHg and MTBE in groundwater samples collected from MW-1 and MW-3, in locations both upgradient and crossgradient from the tank pit (please see attached Table 2 – Historical Groundwater Results).

**Source Areas/Releases**. Based on the recurring concentration spikes in the historic groundwater data, ACEH is concerned that the source area(s) have not been adequately characterized and the cause(s), date(s), and type of release(s) not adequately addressed. The Recommendation for Case Closure report indicates that three gasoline USTs were removed in 1990 and replaced with one 12,000 gallon capacity regular unleaded gasoline UST, one 10,000 gallon capacity unleaded plus gasoline UST, and one 6,000 gallon super unleaded gasoline UST. Historic analytic data suggest multiple releases subsequent to the site renovations, however no assessment of the data is presented. ARCADIS has identified a TPHg hot spot in the vadose zone soil at the Site in the vicinity of soil boring SB-7, however, the source of contamination in the vicinity of the boring has not been addressed. Also, the isoconcentration contours presented in the report are highly speculative and not supported by site data (please see attached Figure 3 – Historical Lateral Extent of TPHg Soil Impacts).

**Characterization of Residual Hydrocarbon Contamination in Soils and Groundwater Downgradient of the Source**: In a letter dated May 27, 2010, ACEH approved of proposed additional site characterization activities presented in the Rider to the Addendum to Soil and Groundwater Investigation Work Plan dated March 9, 2010 and prepared by ARCADIS. The approved work plan included installation of two monitoring wells MW-4 and MW-5 and advancement of a soil boring (SB-9) and collection of soil and groundwater samples to further delineate soil and groundwater contamination and the MTBE plume. The field investigation activities were documented in the Monitoring Well Installation Report dated November 30, 2010 prepared by ARCADIS. However, although ARCADIS states that the site assessment activities were conducted in accordance with the approved work plan, the report only documents installation of one groundwater monitoring well, MW-4. This well was installed northwest of the site where the plume has already been delineated based on non-detects in an adjacent active fuel leak case site (Former Unocal Station No. 1871) borings B-4 and B-9, and groundwater monitoring well MW-11. The proposed location, as presented in the approved work plan, was to the south of the Site where impacts to groundwater and the extent of the MTBE plume has not been defined. The approved work plan also included requirements for the installation of monitoring well MW-5 and advancement of soil boring SB-9 to define the extent of the plume downgradient and southeast of the Site. This work was not completed nor was it addressed by ARCADIS in the Monitoring Well Installation Report. Thus, the MTBE plume has still not been delineated to the south and southwest of the site. Obtaining soil and groundwater data from the locations proposed in the work plan to

delineate the extent of the MTBE plume is appropriate. Please see attached Figure 1 – Site Map for the proposed monitoring wells MW-4 and MW-5 and soil boring SB-9.

**MTBE Plume Delineation.** ACEH does not concur with the MTBE plume delineation presented in the Recommendation for Case Closure report which does not include MTBE concentrations detected in monitoring well MW-4 in the MTBE isocentration contours (please see attached Figure 9 - Extent of MTBE Groundwater Impacts (February 2012) and Figure 13 - Extent of MTBE Groundwater Impacts (February 2011)). In the 3rd 5-Year Review Summary Report dated March 28, 2012, USTCF staff state that as a result of the source removal, residual MTBE and TBA in soil and groundwater at the Site do not pose a threat to groundwater resources, human health, or the environment, and that based on the calculated rate of groundwater flow it would take more than 100 years for the MTBE to migrate beneath the freeway interchange to potentially reach residential land use more than 400 feet down gradient. However, results from samples collected from monitoring well MW-4 indicate MTBE has already migrated beneath the freeway interchange to the northwest. Additionally, as stated above, the MTBE plume has still not been delineated downgradient of the site in the south and southwest direction.

**Preferential Pathway Investigation:** ACEH is concerned that the potential for the storm drains in the vicinity of the Site to act as preferential pathways for contaminant migration has not been adequately assessed. In the Monitoring Well Installation report dated November 2010, ARCADIS states that field crews attempted to clear the soil boring at the proposed off-site location of MW-4 down to 5 feet bgs and found utilities, possibly a storm drain. Although the location of the boring was moved to a new location, ACEH recommends that underground utilities in the vicinity of the site be investigated as a potential preferential pathway (please see attached Figure 3 – Conduit Study). Given the uncertainty in source release(s) and dates of occurrence(s), ACEH remains concerned that the potential for impacted groundwater to enter the storm drain or migrate via higher permeability trench material has not been adequately evaluated. The storm drain flows to Lake Merit (a tidal estuary) or the San Francisco Bay.

**Selection of Environmental Screening Levels**: In the Recommendation for Case Closure report, ARCADIS presents historical soil results and states that they used ESL values obtained from Table A – Shallow Soils (<3m bgs); Groundwater IS a Current or Potential Source of Drinking Water (RWQCB 2008) to screen sample results. However, the ESL values actually used in the table were obtained from Table K-2 – Direct Contact to a Commercial/Industrial Receptor (Water Board 2008), resulting in an incorrect conclusion that the only samples to exceed the ESLs were TPHg collected from two and five feet bgs at SB-7. Use of the correct ESLs and laboratory detection limits results in significantly different conclusions (see Attached Table 1 – Historical Soil Results).

**Potential Sources of Exposure and Pathways:** In the Recommendation for Case Closure, ARCADIS presents the potential sources of exposure and the status of the corresponding pathways. Based on concentrations of contaminants in the soil and use of laboratory detection limits in excess of the contaminant's corresponding ESLs, ACEH recommends that the pathway for groundwater contamination due to leaching of contaminated soil is included in the proposed scenario.

**Geotracker Compliance:** The Site is in non-compliance status with GeoTracker requirements for uploading survey data for monitoring well MW-4.

Thank you for providing ACEH with the opportunity to comment on this subject site. We would like to arrange a conference call with you to discuss this review. Please let us know when you are available for a call.
Sincerely,

**Confidentiality Notice**: This e-mail message, including any attachments, is for the sole use of intended recipient(s) and may contain confidential and protected information. Any unauthorized review, use, disclosure, or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message.

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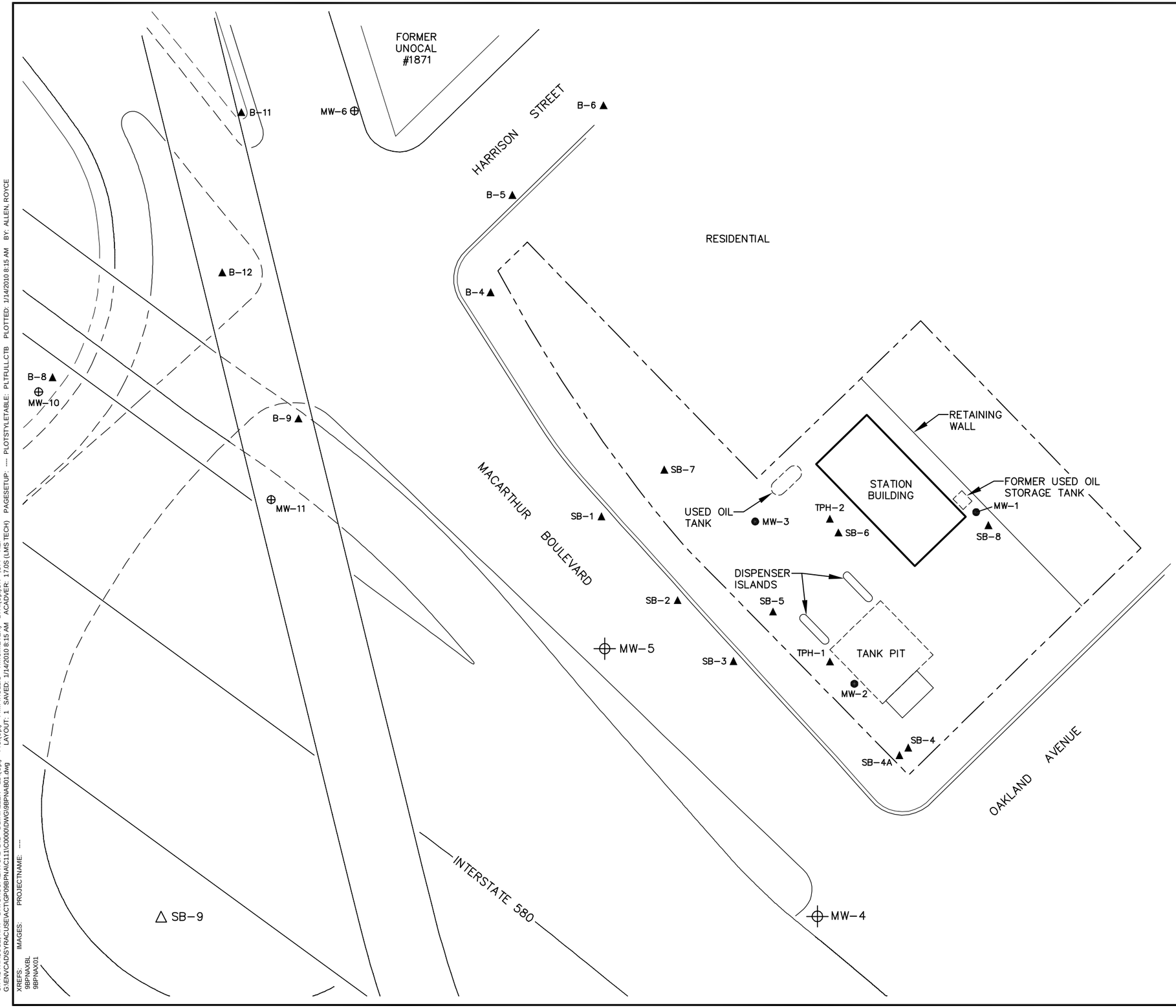
*http://www.acgov.org/aceh/lop/ust.htm*




**LEGEND:**

- PROPOSED MONITORING WELL LOCATION
- PROPOSED GRAB GROUNDWATER LOCATION
- BP MONITORING WELL LOCATION
- UNOCAL MONITORING WELL LOCATION
- FORMER SOIL BORING LOCATION

**NOTES:**

1. BASE MAP PREPARED BY DIGITIZING A HARD COPY OF A DRAWING BY "BROADBENT AND ASSOCIATES, INC"., TITLED "SITE LAYOUT PLAN WITH PROPOSED SOIL BORING AND WELL LOCATIONS", DATED 3/9/09, AT A SCALE OF 1'=40'.
2. ALL LOCATIONS ARE APPROXIMATE.

0 40' 80'

GRAPHIC SCALE

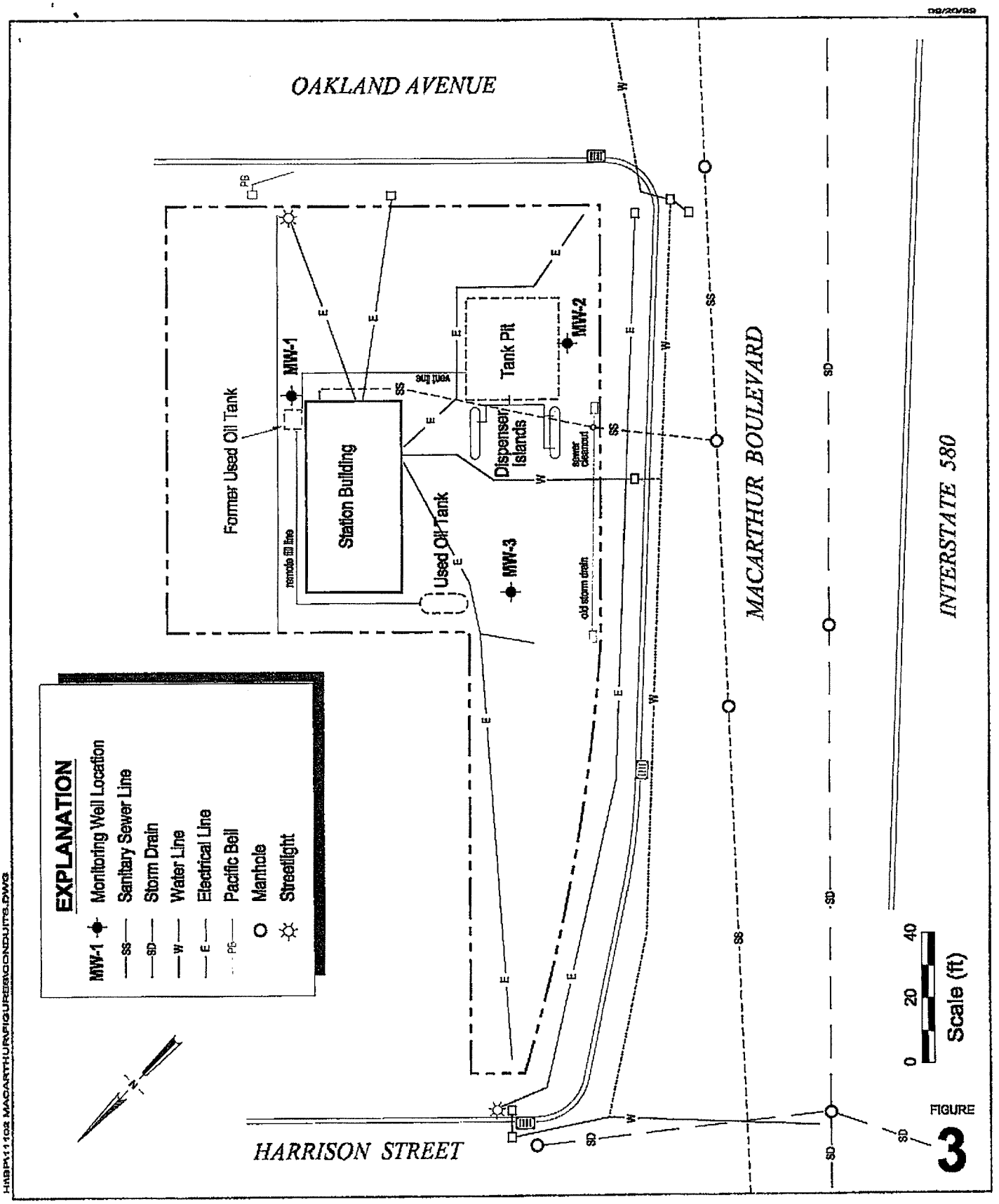
FORMER STATION # 11102
100 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

**SITE MAP**

ARCADIS

FIGURE
**1**

CITY:SYRACUSE, N.Y. DIV/GROUP:ENVCAD-141 DB:R.ALLEN LD:(Opt) PIC:(Opt) PM:P.HOLLIS TM:C.MEYER) LYR:(Opt)ON=*;OFF=REF*
G:\ENVCAD\SYRACUSE\ACT\GP09BPNA\C111C0000\DWG\09BPNAB01.dwg LAYOUT: 1 SAVED: 1/14/2010 8:15 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 1/14/2010 8:15 AM BY: ALLEN, ROYCE
XREFS: IMAGES: PROJECTNAME: ----
9BPNAXBL
9BPNAX01




**BP Oil Service Station No. 11102**

100 MacArthur Boulevard

Oakland, California

CAMBRIA

**Conduit Study Map**

**Table 1; Historical Soil Results**
**Former BP Service Station No. 11102**
**100 MacAurthur Blvd, Oakland, CA**
**Local Case #RO456**

| Location | Sample Depth (ft bgs) | Sample Date | TPHg | | TPHd | | Benzene | | Toluene | | Ethylbenzene | | Xylene | | MTBE | | TBA | | Total O & G | | Lead | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Commercial ESLs (mg/Kg)[1]** | | | **450** | | **450** | | **0.27** | | **210** | | **5.0** | | **100** | | **65** | | **--** | | **--** | | **--** | |
| WO | 9 | 9/19/1988 | -- | -- | 2.0 | mg/Kg | <100 | µg/Kg | <100 | µg/Kg | <100 | µg/Kg | <100 | µg/Kg | -- | -- | -- | -- | **24** | mg/Kg | -- | -- |
| Comp WO | -- | 9/19/1988 | -- | -- | **1,700** | mg/Kg | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | **65,000** | mg/Kg | -- | -- |
| MW-1 | 5 | 10/26/1989 | -- | -- | <10 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | <30 | mg/Kg | -- | -- |
| MW-1 | 10 | 10/26/1989 | -- | -- | <10 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | <30 | mg/Kg | -- | -- |
| MW-1 | 15 | 10/26/1989 | -- | -- | <10 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | <30 | mg/Kg | -- | -- |
| MW-2 | 5 | 10/25/1989 | <1.0 | mg/Kg | -- | -- | 0.006 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | -- | -- | -- | -- |
| MW-2 | 10 | 10/25/1989 | <1.0 | mg/Kg | -- | -- | 0.008 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | -- | -- | -- | -- |
| MW-2 | 15 | 10/25/1989 | <1.0 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | -- | -- | -- | -- |
| MW-3 | 5 | 10/26/1989 | <1.0 | mg/Kg | -- | -- | <0.005 | mg/Kg | 0.006 | mg/Kg | <0.005 | mg/Kg | 0.013 | mg/Kg | -- | -- | -- | -- | -- | -- | -- | -- |
| MW-3 | 10 | 10/26/1989 | <1.0 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | -- | -- | -- | -- |
| MW-3 | 15 | 10/26/1989 | <1.0 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | -- | -- | -- | -- |
| MW-4 | 6.5 | 10/6/2010 | <0.3 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.01 | mg/Kg | <0.005 | mg/Kg | <0.01 | mg/Kg | -- | -- | -- | -- |
| MW-4 | 11.5 | 10/6/2010 | <0.3 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.01 | mg/Kg | <0.005 | mg/Kg | <0.01 | mg/Kg | -- | -- | -- | -- |
| TD-1 | 0.5 | 11/22/1994 | 1.4 | mg/Kg | **2,100** | mg/Kg | <0.005 | mg/Kg | 0.006 | mg/Kg | <0.005 | mg/Kg | 0.04 | mg/Kg | -- | -- | -- | -- | <1.0 | mg/Kg | -- | -- |
| TD-3 | 0.5 | 11/22/1994 | <1.0 | mg/Kg | **470** | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | <1.0 | mg/Kg | -- | -- |
| THP-1 | 13 | 11/22/1994 | 1.2 | mg/Kg | <1.0 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | <1.0 | mg/Kg | -- | -- |
| THP-1 | 15.5 | 11/22/1994 | <1.0 | mg/Kg | <1.0 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | <1.0 | mg/Kg | -- | -- |
| THP-2 | 7 | 11/22/1994 | <1.0 | mg/Kg | <1.0 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | <1.0 | mg/Kg | -- | -- |
| THP-2 | 10 | 11/22/1994 | <1.0 | mg/Kg | <1.0 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | -- | -- | -- | -- | <1.0 | mg/Kg | -- | -- |
| SB-1 | -- | 10/7/2005 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SB-2 | -- | 10/7/2005 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SB-3 | -- | 10/7/2005 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SB-4 | 5 | 7/14/2005 | <1.0 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-4 | 9.5 | 7/14/2005 | <0.50 | mg/Kg | -- | -- | <0.025 | mg/Kg | <0.025 | mg/Kg | <0.025 | mg/Kg | <0.025 | mg/Kg | 0.37 | mg/Kg | <0.10 | mg/Kg | -- | -- | -- | -- |
| SB-4 | 14.5 | 7/14/2005 | 3.5 | mg/Kg | -- | -- | <0.050 | mg/Kg | <0.050 | mg/Kg | <0.050 | mg/Kg | <0.050 | mg/Kg | 1.1 | mg/Kg | <5.0 | mg/Kg | -- | -- | -- | -- |
| SB-4 | 19.5 | 7/14/2005 | 3.8 | mg/Kg | -- | -- | <0.050 | mg/Kg | <0.050 | mg/Kg | <0.050 | mg/Kg | <0.050 | mg/Kg | 2.4 | mg/Kg | <5.0 | mg/Kg | -- | -- | -- | -- |
| SB-4 | 20 | 7/14/2005 | <12 | mg/Kg | -- | -- | <0.25 | mg/Kg | <0.25 | mg/Kg | <0.25 | mg/Kg | <0.25 | mg/Kg | 3.4 | mg/Kg | <25 | mg/Kg | -- | -- | -- | -- |
| SB-4 | 25 | 7/14/2005 | <25 | mg/Kg | -- | -- | <0.50 | mg/Kg | <0.50 | mg/Kg | <0.50 | mg/Kg | <0.50 | mg/Kg | 3.5 | mg/Kg | <25 | mg/Kg | -- | -- | -- | -- |
| SB-4 | 29 | 7/14/2005 | <25 | mg/Kg | -- | -- | <0.50 | mg/Kg | <0.50 | mg/Kg | <0.50 | mg/Kg | <0.50 | mg/Kg | 3.7 | mg/Kg | <50 | mg/Kg | -- | -- | -- | -- |
| SB-4A | 6 | 10/7/2005 | <0.25 | mg/Kg | -- | -- | <0.012 | mg/Kg | <0.012 | mg/Kg | <0.012 | mg/Kg | <0.012 | mg/Kg | 0.073 | mg/Kg | <0.050 | mg/Kg | -- | -- | -- | -- |
| SB-4A | 10 | 10/7/2005 | <2.5 | mg/Kg | -- | -- | <0.050 | mg/Kg | <0.050 | mg/Kg | <0.050 | mg/Kg | <0.050 | mg/Kg | 0.2 | mg/Kg | <5.0 | mg/Kg | -- | -- | -- | -- |
| SB-4A | 20 | 10/7/2005 | <5.0 | mg/Kg | -- | -- | <0.10 | mg/Kg | <0.10 | mg/Kg | <0.10 | mg/Kg | <0.10 | mg/Kg | 5.0 | mg/Kg | <10 | mg/Kg | -- | -- | -- | -- |
| SB-4A | 25 | 10/7/2005 | <2.5 | mg/Kg | -- | -- | <0.050 | mg/Kg | <0.050 | mg/Kg | <0.050 | mg/Kg | <0.050 | mg/Kg | 0.84 | mg/Kg | <5.0 | mg/Kg | -- | -- | -- | -- |
| SB-4A | 30 | 10/7/2005 | <0.010 | mg/Kg | -- | -- | <0.0050 | mg/Kg | <0.0050 | mg/Kg | <0.0050 | mg/Kg | <0.0050 | mg/Kg | 0.024 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-4A | 35 | 10/7/2005 | <0.10 | mg/Kg | -- | -- | <0.0050 | mg/Kg | <0.0050 | mg/Kg | <0.0050 | mg/Kg | <0.0050 | mg/Kg | 0.057 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-5 | 5 | 7/14/2005 | <0.099 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-5 | 9.5 | 7/14/2005 | 0.15 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-5 | 14.5 | 7/14/2005 | 0.25 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-5 | 19.5 | 7/14/2005 | 61 | mg/Kg | -- | -- | <0.025 | mg/Kg | <0.025 | mg/Kg | 0.14 | mg/Kg | <0.025 | mg/Kg | <0.025 | mg/Kg | <5.0 | mg/Kg | -- | -- | -- | -- |
| SB-5 | 29 | 7/14/2005 | 0.1 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | 0.053 | mg/Kg | 0.65 | mg/Kg | -- | -- | -- | -- |
| SB-6 | 5 | 7/13/2005 | <0.10 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-6 | 8.5 | 7/13/2005 | <0.10 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-6 | 9.5 | 7/13/2005 | 0.14 | mg/Kg | -- | -- | <0.0048 | mg/Kg | <0.0048 | mg/Kg | <0.0048 | mg/Kg | <0.0048 | mg/Kg | <0.0048 | mg/Kg | <0.019 | mg/Kg | -- | -- | -- | -- |
| SB-6 | 14.5 | 7/13/2005 | <0.097 | mg/Kg | -- | -- | <0.0048 | mg/Kg | <0.0048 | mg/Kg | <0.0048 | mg/Kg | 0.0082 | mg/Kg | <0.0048 | mg/Kg | <0.019 | mg/Kg | -- | -- | -- | -- |
| SB-6 | 16.5 | 7/13/2005 | <0.098 | mg/Kg | -- | -- | <0.0049 | mg/Kg | <0.0049 | mg/Kg | <0.0049 | mg/Kg | 0.0054 | mg/Kg | <0.0049 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-6 | 19.5 | 7/13/2005 | <0.50 | mg/Kg | -- | -- | <0.025 | mg/Kg | <0.025 | mg/Kg | <0.025 | mg/Kg | <0.025 | mg/Kg | 0.15 | mg/Kg | 0.13 | mg/Kg | -- | -- | -- | -- |
| SB-6 | 27.5 | 7/13/2005 | <0.10 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-7 | 2 | 7/14/2005 | **1300** | mg/Kg | -- | -- | <1.0 | mg/Kg | <1.0 | mg/Kg | 3.0 | mg/Kg | 3.0 | mg/Kg | <0.50 | mg/Kg | <100 | mg/Kg | -- | -- | -- | -- |
| SB-7 | 5 | 7/14/2005 | **730** | mg/Kg | -- | -- | <1.0 | mg/Kg | <1.0 | mg/Kg | 2.4 | mg/Kg | 3.9 | mg/Kg | <0.50 | mg/Kg | <100 | mg/Kg | -- | -- | -- | -- |
| SB-7 | 9.5 | 7/14/2005 | 340 | mg/Kg | -- | -- | <2.5 | mg/Kg | <2.5 | mg/Kg | <2.5 | mg/Kg | <2.5 | mg/Kg | <1.2 | mg/Kg | <250 | mg/Kg | -- | -- | -- | -- |
| SB-7 | 14.5 | 7/14/2005 | 0.11 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-7 | 19.5 | 7/14/2005 | <0.099 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-7 | 25.5 | 7/14/2005 | <0.099 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-7 | 28.5 | 7/14/2005 | <0.10 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-7 | 30.5 | 7/14/2005 | <0.10 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.020 | mg/Kg | -- | -- | -- | -- |
| SB-8 | 5 | 7/13/2005 | <0.099 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.20 | mg/Kg | -- | -- | -- | -- |
| SB-8 | 7 | 7/13/2005 | <0.10 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.20 | mg/Kg | -- | -- | -- | -- |
| SB-8 | 9.5 | 7/13/2005 | <0.099 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.20 | mg/Kg | -- | -- | -- | -- |
| SB-8 | 11 | 7/13/2005 | <0.10 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.20 | mg/Kg | -- | -- | -- | -- |
| SB-8 | 14.5 | 7/13/2005 | <0.099 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.20 | mg/Kg | -- | -- | -- | -- |
| SB-8 | 17.5 | 7/13/2005 | <0.10 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.20 | mg/Kg | -- | -- | -- | -- |
| SB-8 | 19.5 | 7/13/2005 | <0.10 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | 0.066 | mg/Kg | <0.20 | mg/Kg | -- | -- | -- | -- |
| SB-8 | 20.5 | 7/13/2005 | <0.10 | mg/Kg | -- | -- | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | <0.005 | mg/Kg | 0.022 | mg/Kg | <0.20 | mg/Kg | -- | -- | -- | -- |

**Notes:**
ft bgs = feet below ground surface
TPHg = Total Petroleum Hydrocarbons as Gasoline
TPHd = Total Petroleum Hydrocarbons as Diesel
mg/kg = milligrams per kilogram
µg/Kg = micrigrams per Kilogram
ppm = parts per million
MTBE = Methyl tert-butyl ether
- = not analyzed
< = analyte not detected, result is less than value provided
SB-1, SB-2 and SB-3 not sampled for soil
1 = Soil ESLs values are listed from Table K-2

**Table 2: Historical Groundwater Results**
**Former BP Service Station No. 11102**
**100 MacArthur Blvd, Oakland, CA**
**Local Case # RO456**

| Location | Sample Date | Notes | TOC Elevation (ft) | DTW (ft btoc) | Product Thickness (ft) | Water Level Elevation (ft) | TPHg | Benzene | Toluene | Ethylbenzene | Xylene | MTBE | TBA | TPHd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | µg/L | | | | | | | |
| **MW-1** | 11/4/1989 | GW | 90.20 | 13.21 | | 76.99 | <500 | 3.4 | 0.6 | <0.3 | <0.3 | | | <50 |
| | 4/3/1990 | GW | 90.20 | 12.46 | | 77.74 | 820 | 64 | 1.9 | 23 | 34 | | | |
| | 7/30/1990 | GW | 90.20 | 12.92 | | 77.28 | 190 | 11 | <5 | <5 | <5 | | | <50 |
| | 11/20/1990 | GW | 90.20 | 14.08 | | 76.12 | 50 | 2.4 | <0.3 | <0.3 | <0.3 | | | 79 |
| | 3/1/1991 | GW | 90.20 | 13.61 | | 76.59 | <100 | 0.9 | <0.3 | <0.3 | 0.3 | | | <1,000 |
| | 8/19/1991 | GW | 90.20 | 15.74 | | 74.46 | 370 | 35 | 0.73 | 6.4 | 5.6 | | | <50 |
| | 11/13/1991 | GW | 90.20 | 14.08 | | 76.12 | 60 | 0.68 | <0.3 | <0.3 | <0.3 | | | <50 |
| | 2/24/1992 | GW | 90.20 | 12.52 | | 77.68 | 140 | 3.9 | 0.66 | 1.2 | 3.8 | | | 100 |
| | 5/19/1992 | GW | 90.20 | 11.80 | | 78.40 | 4,200 | 440 | 21 | 250 | 37 | | | 910 |
| | 6/17/1992 | GW | 90.20 | 12.01 | | 78.19 | 4,000 | 350 | 14 | 150 | 17 | | | 560 |
| | 7/22/1992 | GW | 90.20 | 12.42 | | 77.78 | 4,000 | <5 | 19 | 210 | 61 | | | |
| | 8/14/1992 | GW | 90.20 | 12.75 | | 77.45 | 2,400 | 330 | 20 | 150 | 47 | | | 1,700 |
| | 11/11/1992 | GW | 90.20 | 13.69 | | 76.51 | 260 | 30 | 3.4 | 7.6 | 6.8 | | | 92 |
| | 6/7/1993 | GW | 90.20 | 10.93 | | 79.27 | 3,400 | 98 | 11 | 21 | 7.6 | | | 440 |
| | 12/2/1993 | GW | 90.20 | 12.72 | | 77.48 | 1,100 | 8.3 | 3.6 | 0.6 | 1.5 | | | 120 |
| | 6/22/1994 | GW | 90.20 | 11.81 | | 78.39 | 2,100 | 32 | 3.8 | 2.2 | 17 | 4,000 | | <50 |
| | 1/10/1995 | GW | 90.20 | 10.97 | | 79.23 | <500 | 120 | <5 | <5 | <10 | | | 420 |
| | 6/21/1995 | GW | 90.20 | 9.38 | | 80.82 | 4,700 | 16 | <5 | <5 | <10 | | | 1,300 |
| | 12/27/1995 | GW | 90.20 | 11.55 | | 78.65 | 430 | <2.5 | <2.5 | <2.5 | <5 | 1,200 | | 2,100 |
| | 6/13/1996 | GW | 90.20 | 9.28 | | 80.92 | 3,200 | 51 | <12 | <12 | <12 | 4,000 | | 920 |
| | 12/4/1996 | GW | 90.20 | 11.91 | | 78.29 | 1,400 | 6.2 | <5 | <5 | <5 | 2,600 | | 280 |
| | 6/10/1997 | GW | 90.20 | 8.97 | | 81.23 | 7,900 | 12 | <10 | <10 | <10 | 15,000 | | 1,700 |
| | 12/12/1997 | GW | 90.20 | 11.37 | | 78.83 | 440 | 8.8 | <1 | 2.6 | 9.4 | 6,700 | | 760 |
| | 6/18/1998 | GW | 90.20 | 8.02 | | 82.18 | 7,500 | <2.5 | <5 | <5 | <5 | 5,600 | | 2,900 |
| | 3/9/1999 | GW | 90.20 | 9.80 | | 80.40 | 32,000 | 100 | 16 | 72 | 110 | 49,000 | | |
| | 9/28/1999 | GW | 90.20 | 10.78 | | 79.42 | 1,000 | <5 | <5 | <5 | <5 | 730 | | |
| | 10/14/1999 | GW | 90.20 | 10.84 | | 79.36 | | | | | | | | 660 |
| | 3/27/2000 | GW | 90.20 | 9.83 | | 80.37 | 4,300 | 160 | 19 | 37 | 43 | 28,000 | | |
| | 9/28/2000 | GW | 90.20 | 11.33 | | 78.87 | 2,700 | 10 | 2.6 | 1.1 | 2.7 | 28,000 | | |
| | 3/8/2001 | GW | 90.20 | 10.96 | | 79.24 | 8,200 | 23.5 | 6.09 | 5.23 | 8.97 | 11,600 | | |
| | 9/21/2001 | GW | 90.20 | 12.07 | | 78.13 | 6,000 | 37.9 | <0.5 | <0.5 | <1.5 | 7,370 | | |
| | 2/28/2002 | GW | 90.20 | 10.48 | | 79.72 | 6,400 | 60.8 | <5 | 6.43 | <10 | 7,750 | | |
| | 9/6/2002 | GW | 90.20 | 11.20 | | 79.00 | 1,400 | <5 | <5 | <5 | <5 | 6,000 | | |
| | 2/19/2003 | GW | 90.20 | 11.29 | | 78.91 | <10,000 | <100 | 110 | <100 | <100 | 4,500 | | |
| | 7/14/2003 | GW | 90.20 | 11.18 | | 79.02 | 710 | 11 | <10 | <10 | <10 | 940 | 2,700 | |
| | 1/14/2004 | GW | 90.20 | 11.74 | | 78.46 | <500 | <5 | <5 | <5 | <5 | 220 | 2,500 | |
| | 4/23/2004 | GW | 90.20 | 11.95 | | 78.25 | 470 | 3.4 | <2.5 | <2.5 | <2.5 | 150 | 2,500 | |
| | 7/1/2004 | GW | 90.20 | 11.52 | | 78.68 | 360 | <2.5 | <2.5 | <2.5 | <2.5 | 96 | 2,000 | |
| | 10/28/2004 | GW | 90.20 | 12.56 | | 77.64 | 390 | 0.94 | <0.5 | <0.5 | <0.5 | 43 | 1,500 | |
| | 1/10/2005 | GW | 90.20 | 11.85 | | 78.35 | 490 | 17 | <2.5 | 5.8 | 5.4 | 85 | 1,900 | |
| | 4/13/2005 | GW | 90.20 | 10.00 | | 80.20 | 1,000 | 27 | <2.5 | <2.5 | 25 | 48 | 1,400 | |
| | 7/11/2005 | GW | 90.20 | 9.27 | | 80.93 | 180 | <0.5 | <0.5 | <0.5 | <0.5 | 36 | 550 | |
| | 10/17/2005 | GW | 90.20 | 10.96 | | 79.24 | 140 | <0.5 | <0.5 | <0.5 | <0.5 | 20 | 450 | |
| | 1/17/2006 | GW | 90.20 | 10.81 | | 79.39 | 120 | 0.64 | <0.5 | <0.5 | 0.56 | 38 | 260 | |
| | 4/21/2006 | GW | 90.20 | 9.28 | | 80.92 | 410 | 1.4 | 1 | <0.5 | <0.5 | 17 | 320 | |
| | 7/17/2006 | GW | 90.20 | 9.25 | | 80.95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 5.5 | 32 | |
| | 7/26/2006 | GW | 90.20 | 8.57 | | 81.63 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 4.4 | 22 | |
| | 10/31/2006 | GW | 90.20 | 9.80 | | 80.40 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 2.8 | <20 | |
| | 1/8/2007 | GW | 90.20 | 10.36 | | 79.84 | <50 | 2.2 | <0.5 | <0.5 | <0.5 | 6.2 | 110 | |
| | 4/10/2007 | GW | 90.20 | 10.65 | | 79.55 | 160 | 1.4 | <0.5 | <0.5 | <0.5 | 9 | 210 | |
| | 7/10/2007 | GW | 90.20 | 10.52 | | 79.68 | 120 | <0.5 | <0.5 | <0.5 | <0.5 | 4.9 | 110 | 160 |
| | 10/24/2007 | GW | 90.20 | 11.23 | | 78.97 | 100 | <0.5 | <0.5 | <0.5 | <0.5 | 4.9 | 94 | |
| | 1/22/2008 | GW | 90.20 | 11.22 | | 78.98 | 240 | <0.5 | <0.5 | 0.83 | 1.7 | 7.2 | 110 | |
| | 4/15/2008 | GW | 90.20 | 10.26 | | 79.94 | 240 | <0.5 | <0.5 | <0.5 | 0.73 | 5.5 | 84 | |
| | 7/8/2008 | GW | 90.20 | 11.10 | | 79.10 | 78 | <0.5 | <0.5 | <0.5 | <0.5 | 5.8 | 64 | |
| | 11/19/2008 | GW | 90.20 | 12.51 | | 77.69 | 150 | <0.5 | <0.5 | <0.5 | <0.5 | 3.4 | 110 | |
| | 2/10/2009 | GW | 90.20 | 12.71 | | 77.49 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 5.3 | 110 | |
| | 5/7/2009 | GW | 90.20 | 10.90 | | 79.30 | <50 | 1.6 | <0.5 | <0.5 | <0.5 | 13 | 17 | |
| | 9/3/2009 | GW | 90.20 | 11.91 | | 78.29 | 120 | <0.5 | <0.5 | <0.5 | 0.89 | 3.8 | 260 | |
| | 10/29/2009 | GW | 90.20 | 12.54 | | 77.66 | <50 | <0.5 | <0.5 | <0.5 | <1 | 22 | 210 | |
| | 2/26/2010 | GW | 90.20 | 10.61 | | 79.59 | <50 | <0.5 | <0.5 | <0.5 | <1 | 8.1 | 240 | |
| | 8/16/2010 | GW | 90.20 | 10.12 | | 80.08 | <50 | <0.5 | <0.5 | <0.5 | <1 | 8.1 | 35 | |
| | 11/12/2010 | | 90.20 | 10.53 | | 79.67 | | | | | | | | |

**Table 2: Historical Groundwater Results**
**Former BP Service Station No. 11102**
**100 MacArthur Blvd, Oakland, CA**
**Local Case # RO456**

| Location | Sample Date | Notes | TOC Elevation (ft) | DTW (ft btoc) | Product Thickness (ft) | Water Level Elevation (ft) | TPHg | Benzene | Toluene | Ethylbenzene | Xylene | MTBE | TBA | TPHd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | µg/L | | | | | | | |
| | 2/3/2011 | GW | 90.20 | 11.88 | | 78.32 | <50 | <0.5 | <0.5 | <0.5 | <1 | 14 | <250 | |
| | 6/23/2011 | | 90.20 | 9.78 | | 80.42 | | | | | | | | |
| | 8/22/2011 | GW | 90.20 | 10.39 | | 79.81 | <50 | <0.5 | <0.5 | <0.5 | <1 | 1.1 | <250 | |
| | 2/20/2012 | GW | 90.20 | 11.53 | | 78.67 | <50 | <0.5 | <0.5 | <0.5 | <1 | 14 | 6.5 | |
| **MW-2** | 11/4/1989 | GW | 87.91 | 15.84 | | 72.07 | <500 | 6.5 | <0.3 | <0.3 | <0.3 | | | |
| | 4/3/1990 | GW | 87.91 | 15.25 | | 72.66 | <500 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| | 7/30/1990 | GW | 87.91 | 15.59 | | 72.32 | 61 | 6.5 | <0.5 | <0.5 | <0.5 | | | |
| | 11/20/1990 | GW | 87.91 | 17.81 | | 70.10 | <50 | 0.3 | <0.3 | <0.3 | <0.3 | | | |
| | 3/1/1991 | GW | 87.91 | 17.11 | | 70.80 | <100 | 0.4 | <0.3 | <0.3 | <0.3 | | | |
| | 8/19/1991 | GW | 87.91 | 17.97 | | 69.94 | <30 | <0.3 | <0.3 | <0.3 | <0.3 | | | |
| | 11/13/1991 | GW | 87.91 | 16.76 | | 71.15 | 38 | 0.32 | <0.3 | <0.3 | <0.3 | | | |
| | 2/24/1992 | GW | 87.91 | 15.07 | | 72.84 | <50 | <0.5 | <0.5 | <0.5 | 0.58 | | | |
| | 5/19/1992 | GW | 87.91 | 14.70 | | 73.21 | <50 | 0.55 | <0.5 | <0.5 | <0.5 | | | |
| | 7/22/1992 | GW | 87.91 | 15.60 | | 72.31 | 90 | 1.3 | 0.6 | 0.9 | 1.9 | | | |
| | 11/11/1992 | GW | 87.91 | 16.19 | | 71.72 | 52 | 2.8 | <0.5 | <0.5 | 0.9 | | | |
| | 6/7/1993 | GW | 87.91 | 14.42 | | 73.49 | 1,200 | 14 | 2.8 | 1.9 | 1.71 | | | |
| | 12/2/1993 | GW | 87.91 | 14.94 | | 72.97 | 790 | 3.4 | 0.5 | 10 | <0.5 | 3,700 | | |
| | 6/22/1994 | GW | 87.91 | 14.25 | | 73.66 | 110 | <0.5 | <0.5 | <0.5 | <0.5 | 120 | | |
| | 1/10/1995 | GW | 87.91 | 13.64 | | 74.27 | <50 | <0.5 | <0.5 | 0.6 | 1 | | | |
| | 6/21/1995 | GW | 87.91 | 11.66 | | 76.25 | 4,700 | <10 | <10 | <10 | <20 | | | |
| | 12/27/1995 | GW | 87.91 | 13.11 | | 74.80 | 6,100 | <25 | <25 | <25 | <50 | 20,000 | | |
| | 6/13/1996 | GW | 87.91 | 10.86 | | 77.05 | 8,300 | <2.5 | <2.5 | <2.5 | <2.5 | 13,000 | | |
| | 12/4/1996 | GW | 87.91 | 13.03 | | 74.88 | 5,900 | <2.5 | <5 | <5 | <5 | 11,000 | | |
| | 6/10/1997 | GW | 87.91 | 10.04 | | 77.87 | <50 | <0.5 | <1 | <1 | <1 | <10 | | |
| | 12/12/1997 | GW | 87.91 | 12.44 | | 75.47 | <50 | <0.5 | <1 | <1 | <1 | <10 | | |
| | 6/18/1998 | GW | 87.91 | 8.89 | | 79.02 | 50 | <0.5 | <1 | <1 | <1 | <10 | | |
| | 3/9/1999 | GW | 87.91 | 10.20 | | 77.71 | 15,000 | <5 | <5 | <5 | <5 | 23,000 | | |
| | 9/28/1999 | GW | 87.91 | 11.81 | | 76.10 | 36,000 | <5 | 12 | 7 | 26 | 35,000 | | |
| | 10/14/1999 | GW | 87.91 | 10.27 | | 77.64 | | | | | | | | 100 |
| | 3/27/2000 | GW | 87.91 | 9.98 | | 77.93 | 1,300 | <0.5 | <0.5 | 0.51 | <0.5 | 5,800 | | |
| | 9/28/2000 | GW | 87.91 | 11.40 | | 76.51 | 1,600 | 1.8 | 1.7 | 0.54 | 2.2 | 15,000 | | |
| | 3/8/2001 | GW | 87.91 | 11.16 | | 76.75 | 20,000 | <0.5 | <0.5 | <0.5 | <0.5 | 29,100 | | |
| | 9/21/2001 | GW | 87.91 | 11.65 | | 76.26 | 5,000 | <0.5 | <0.5 | <0.5 | <1.5 | 6,110 | | |
| | 2/28/2002 | GW | 87.91 | 9.86 | | 78.05 | 3,200 | 35.1 | <0.5 | <0.5 | <1 | 4,620 | | |
| | 9/6/2002 | GW | 87.91 | 12.32 | | 75.59 | 1,900 | <10 | <10 | <10 | <10 | 15,000 | | |
| | 2/19/2003 | GW | 87.91 | 11.63 | | 76.28 | 45,000 | <250 | <250 | <250 | <250 | 32,000 | | |
| | 7/14/2003 | GW | 87.91 | 12.07 | | 75.84 | 9,300 | <500 | <500 | <500 | <500 | 24,000 | <20,000 | |
| | 1/14/2004 | GW | 87.91 | 11.45 | | 76.46 | <50,000 | <500 | <500 | <500 | <500 | 21,000 | <20,000 | |
| | 4/23/2004 | GW | 87.91 | 11.45 | | 76.46 | 5,100 | <250 | <250 | <250 | <250 | 22,000 | 11,000 | |
| | 7/1/2004 | GW | 87.91 | 12.32 | | 75.59 | <5,000 | <50 | <50 | <50 | <50 | 5,200 | 2,900 | |
| | 10/28/2004 | GW | 87.91 | 13.02 | | 74.89 | 8,500 | <50 | <50 | <50 | <50 | 6,800 | 6,700 | |
| | 1/10/2005 | GW | 87.91 | 14.38 | | 73.53 | <25,000 | <250 | <250 | <250 | <250 | 7,100 | <10,000 | |
| | 4/13/2005 | GW | 87.91 | 14.03 | | 73.88 | <5,000 | <50 | <50 | <50 | <50 | 5,300 | 5,300 | |
| | 7/11/2005 | GW | 87.91 | 11.25 | | 76.66 | <5,000 | <50 | <50 | <50 | <50 | 5,300 | 9,000 | |
| | 10/17/2005 | GW | 87.91 | 12.48 | | 75.43 | <5,000 | <50 | <50 | <50 | <50 | 2,500 | 5,200 | |
| | 1/17/2006 | GW | 87.91 | 10.70 | | 77.21 | <5,000 | <50 | <50 | <50 | <50 | 2,200 | 8,400 | |
| | 7/26/2006 | GW | 87.91 | 10.47 | | 77.44 | 2,700 | <50 | <50 | <50 | <50 | 2,900 | 4,500 | |
| | 10/31/2006 | GW | 87.91 | 12.02 | | 75.89 | 2,300 | <25 | <25 | <25 | <25 | 2,300 | 9,300 | |
| | 1/8/2007 | GW | 87.91 | 11.68 | | 76.23 | 1,500 | <12 | <12 | <12 | <12 | 1,700 | 7,700 | |
| | 4/10/2007 | GW | 87.91 | 11.45 | | 76.46 | 1,300 | <50 | <50 | <50 | <50 | 1,500 | 6,400 | |
| | 7/10/2007 | GW | 87.91 | 11.97 | | 75.94 | 2,300 | <25 | <25 | <25 | <25 | 2,600 | 8,700 | 120 |
| | 10/24/2007 | GW | 87.91 | 12.91 | | 75.00 | 2,800 | <25 | <25 | <25 | <25 | 2,800 | 9,500 | |
| | 1/22/2008 | GW | 87.91 | 12.00 | | 75.91 | <2,500 | <25 | <25 | <25 | <25 | 1,400 | 6,000 | |
| | 4/15/2008 | GW | 87.91 | 11.77 | | 76.14 | 73 | <2.5 | <2.5 | <2.5 | <2.5 | 2,400 | 6,800 | |
| | 7/8/2008 | GW | 87.91 | 12.65 | | 75.26 | 93 | <50 | <50 | <50 | <50 | 2,800 | 7,600 | |
| | 11/19/2008 | GW | 87.91 | 13.98 | | 73.93 | 130 | <50 | <50 | <50 | <50 | 1,900 | 7,100 | |
| | 2/10/2009 | GW | 87.91 | 13.64 | | 74.27 | <50 | <50 | <50 | <50 | <50 | 940 | 2,700 | |
| | 5/7/2009 | GW | 87.91 | 12.00 | | 75.91 | 350 | <20 | <20 | <20 | <20 | 1,900 | 3,900 | |
| | 9/3/2009 | GW | 87.91 | 13.68 | | 74.23 | 890 | <40 | <40 | <40 | <40 | 1,300 | 7,500 | |
| | 10/29/2009 | GW | 87.91 | 13.88 | | 74.03 | 530 | <0.50 | <0.50 | <0.50 | <1.0 | 690 | 3,900 | |
| | 2/26/2010 | GW | 87.91 | 11.65 | | 76.26 | 1,100 | <10 | <10 | <10 | <20 | 1,100 | 4,100 | |
| | 8/16/2010 | GW | 87.91 | 12.82 | | 75.09 | 1,000 | <10 | <10 | <10 | <20 | 1,100 | 4,800 | |
| | 11/12/2010 | | 87.91 | 12.98 | | 74.93 | | | | | | | | |
| | 2/3/2011 | GW | 87.91 | 12.38 | | 75.53 | <1000 | <10 | <10 | <10 | <20 | 860 | 3,200 | |
| | 6/23/2011 | | 87.91 | 11.37 | | 76.54 | | | | | | | | |
| | 8/22/2011 | GW | 87.91 | 12.29 | | 75.62 | <250 | <2.5 | <2.5 | <2.5 | <5.0 | 170 | 3,100 | |
| | 2/20/2012 | GW | 87.91 | 13.09 | | 74.82 | <250 | <2.5 | <2.5 | <2.5 | <5.0 | 300 | 2,600 | |
| **MW-3** | 11/4/1989 | GW | 87.02 | 15.4 | | 71.62 | <500 | <0.3 | <0.3 | <0.3 | <0.3 | | | |
| | 4/3/1990 | GW | 87.02 | 13.9 | | 73.12 | <100 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| | 7/30/1990 | GW | 87.02 | 13.77 | | 73.25 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| | 11/20/1990 | GW | 87.02 | 14.67 | | 72.35 | <50 | 0.3 | 0.8 | 0.4 | 1.5 | | | |
| | 3/1/1991 | GW | 87.02 | 15.22 | | 71.80 | <100 | 0.4 | <0.3 | <0.3 | <0.3 | | | |
| | 8/19/1991 | GW | 87.02 | 13.15 | | 73.87 | <30 | <0.3 | <0.3 | <0.3 | <0.3 | | | |

**Table 2: Historical Groundwater Results**
**Former BP Service Station No. 11102**
**100 MacArthur Blvd, Oakland, CA**
**Local Case # RO456**

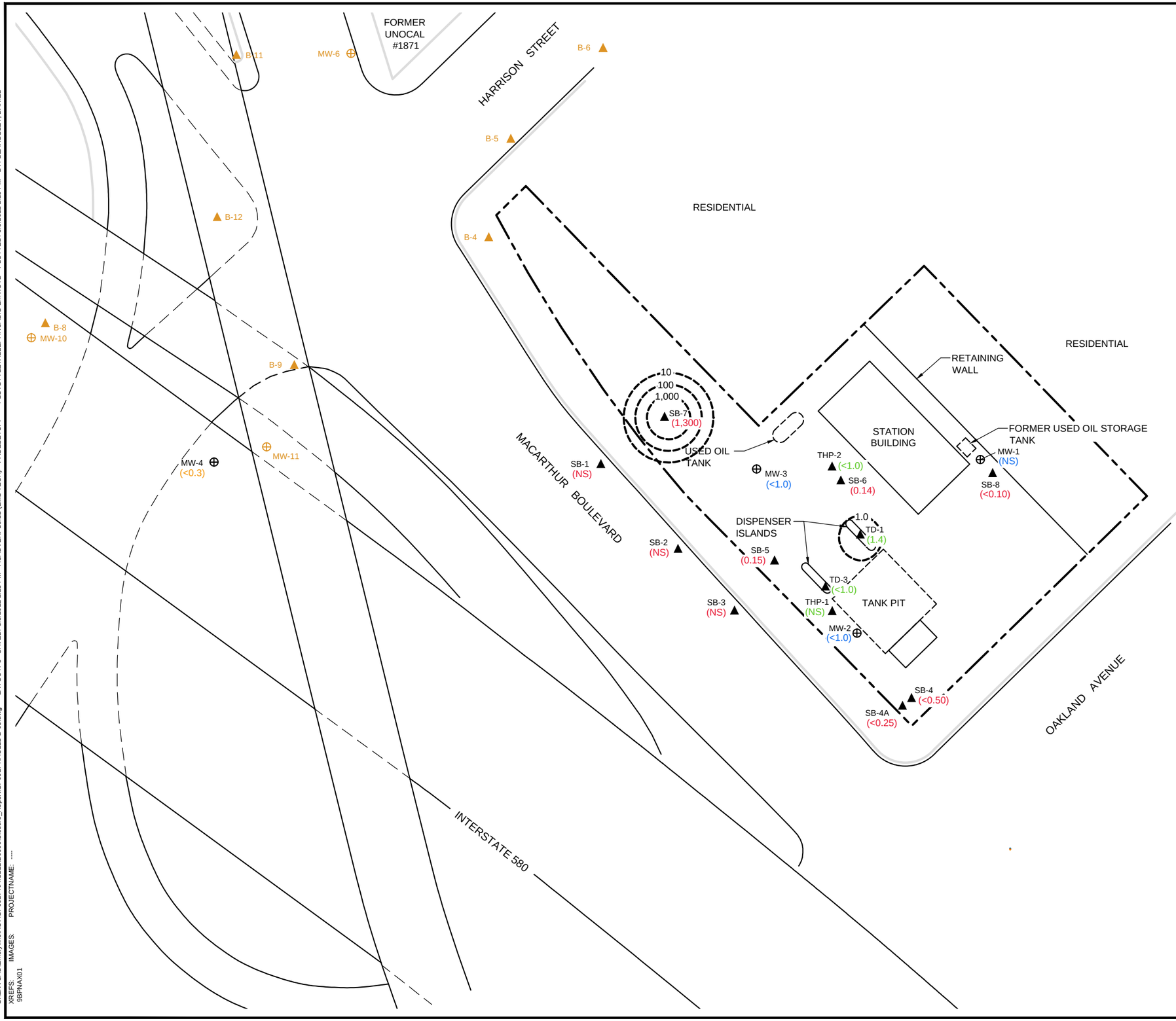
| Location | Sample Date | Notes | TOC Elevation (ft) | DTW (ft btoc) | Product Thickness (ft) | Water Level Elevation (ft) | TPHg | Benzene | Toluene | Ethylbenzene | Xylene | MTBE | TBA | TPHd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | µg/L | | | | | | | |
| | 11/13/1991 | GW | 87.02 | 15.66 | | 71.36 | <30 | <0.3 | <0.3 | <0.3 | <0.3 | | | |
| | 2/24/1992 | GW | 87.02 | 15.01 | | 72.01 | <50 | 0.65 | 1.4 | 0.66 | 4.4 | | | |
| | 5/19/1992 | GW | 87.02 | 15.52 | | 71.50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| | 7/22/1992 | GW | 87.02 | 15.63 | | 71.39 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | | | <50 |
| | 11/11/1992 | GW | 87.02 | 14.13 | | 72.89 | <50 | <0.5 | 0.7 | <0.5 | 1.3 | | | |
| | 6/7/1993 | GW | 87.02 | 12.13 | | 74.89 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| | 12/2/1993 | GW | 87.02 | 13.29 | | 73.73 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| | 6/22/1994 | GW | 87.02 | 12.78 | | 74.24 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| | 1/10/1995 | GW | 87.02 | 12.01 | | 75.01 | <50 | <0.5 | <0.5 | <0.5 | <1 | | | |
| | 6/21/1995 | GW | 87.02 | 11.57 | | 75.45 | <50 | <0.5 | <0.5 | <0.5 | <1 | | | |
| | 12/27/1995 | GW | 87.02 | 13.47 | | 73.55 | <50 | <0.5 | <0.5 | <0.5 | <1 | 5.7 | | |
| | 6/13/1996 | GW | 87.02 | 11.22 | | 75.80 | 60 | <0.5 | <0.5 | <0.5 | <0.5 | <10 | | |
| | 12/4/1996 | GW | 87.02 | 13.28 | | 73.74 | <50 | <0.5 | <1 | <1 | <1 | <10 | | |
| | 6/10/1997 | GW | 87.02 | 10.22 | | 76.80 | <50 | <0.5 | <1 | <1 | <1 | <10 | | |
| | 12/12/1997 | GW | 87.02 | 12.61 | | 74.41 | <50 | <0.5 | <1 | <1 | <1 | <10 | | |
| | 6/18/1998 | GW | 87.02 | 9.07 | | 77.95 | 50 | <0.5 | <1 | <1 | <1 | <10 | | |
| | 3/27/2000 | GW | 87.02 | 13.77 | | 73.25 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 1.6 | | |
| | 9/28/2000 | GW | 87.02 | 11.28 | | 75.74 | <50 | <0.5 | 7.4 | <0.5 | 1.3 | 2 | | |
| | 3/8/2001 | GW | 87.02 | 11.75 | | 75.27 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 60.4 | | |
| | 9/21/2001 | GW | 87.02 | 11.33 | | 75.69 | <50 | <0.5 | <0.5 | <0.5 | <1.5 | 8.18 | | |
| | 2/28/2002 | GW | 87.02 | 10.86 | | 76.16 | <50 | <0.5 | <0.5 | <0.5 | <1 | 25.5 | | |
| | 9/6/2002 | GW | 87.02 | 12.73 | | 74.29 | <50 | 1.2 | <0.5 | <0.5 | 1 | 16 | | |
| | 2/19/2003 | GW | 87.02 | 11.72 | | 75.30 | <500 | <5 | <5 | <5 | <5 | 110 | | |
| | 7/14/2003 | GW | 87.02 | 13.76 | | 73.26 | <50 | <0.5 | <0.5 | <0.5 | 0.67 | 28 | <20 | |
| | 1/14/2004 | GW | 87.02 | 14.83 | | 72.19 | 550 | <5 | <5 | <5 | <5 | 380 | <200 | |
| | 4/23/2004 | GW | 87.02 | 13.17 | | 73.85 | <200 | <25 | <25 | <25 | <25 | 560 | <1,000 | |
| | 7/1/2004 | GW | 87.02 | 15.19 | | 71.83 | <50 | <0.5 | <0.5 | <0.5 | 0.5 | 48 | <20 | |
| | 10/28/2004 | GW | 87.02 | 15.50 | | 71.52 | <500 | <5 | <5 | <5 | <5 | 290 | <200 | |
| | 1/10/2005 | GW | 87.02 | 15.00 | | 72.02 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 18 | <20 | |
| | 4/13/2005 | GW | 87.02 | 14.34 | | 72.68 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 9 | <20 | |
| | 7/11/2005 | GW | 87.02 | 10.82 | | 76.20 | 130 | <1 | <1 | <1 | <1 | 120 | <40 | |
| | 10/17/2005 | GW | 87.02 | 11.84 | | 75.18 | <250 | <2.5 | <2.5 | <2.5 | <2.5 | 260 | <100 | |
| | 1/17/2006 | GW | 87.02 | 11.59 | | 75.43 | 800 | <5 | <5 | <5 | <5 | 980 | 200 | |
| | 4/21/2006 | GW | 87.02 | 10.00 | | 77.02 | <500 | <5 | <5 | <5 | <5 | 48 | <200 | |
| | 7/17/2006 | GW | 87.02 | 10.80 | | 76.22 | 910 | <5 | <5 | <5 | <5 | 1,400 | <200 | |
| | 7/26/2006 | GW | 87.02 | 9.67 | | 77.35 | 810 | <10 | <10 | <10 | <10 | 1,300 | <400 | |
| | 10/31/2006 | GW | 87.02 | 10.85 | | 76.17 | 1,600 | <10 | <10 | <10 | <10 | 2,300 | <400 | |
| | 1/8/2007 | GW | 87.02 | 12.73 | | 74.29 | 520 | <5 | <5 | <5 | <5 | 760 | <200 | |
| | 4/10/2007 | GW | 87.02 | 11.93 | | 75.09 | 630 | <5 | <5 | <5 | <5 | 750 | <200 | |
| | 7/10/2007 | GW | 87.02 | 11.30 | | 75.72 | 1,800 | <5 | <5 | <5 | <5 | 2,400 | <200 | 66 |
| | 10/24/2007 | GW | 87.02 | 13.77 | | 73.25 | 2,000 | <25 | <25 | <25 | <25 | 3,500 | <1,000 | |
| | 1/22/2008 | GW | 87.02 | 12.92 | | 74.10 | 1,600 | <12 | <12 | <12 | <12 | 2,800 | <500 | |
| | 4/15/2008 | GW | 87.02 | 15.25 | | 71.77 | <50 | <2.5 | <2.5 | <2.5 | <2.5 | 960 | <50 | |
| | 7/8/2008 | GW | 87.02 | 12.27 | | 74.75 | <50 | <50 | <50 | <50 | <50 | 2,200 | <1,000 | |
| | 11/19/2008 | GW | 87.02 | 15.27 | | 71.75 | <50 | <50 | <50 | <50 | <50 | 2,700 | <1,000 | |
| | 2/10/2009 | GW | 87.02 | 13.61 | | 73.41 | <50 | <50 | <50 | <50 | <50 | 1,800 | <1,000 | |
| | 5/7/2009 | GW | 87.02 | 11.75 | | 75.27 | 140 | <10 | <10 | <10 | <10 | 780 | <200 | |
| | 9/3/2009 | GW | 87.02 | 13.47 | | 73.55 | 1,100 | <10 | <10 | <10 | <10 | 2,400 | <200 | |
| | 10/29/2009 | GW | 87.02 | 13.04 | | 73.98 | 1,000 | <10 | <10 | <10 | <20 | 1,500 | 110 | |
| | 2/26/2010 | GW | 87.02 | 12.44 | | 74.58 | 1,500 | <10 | <10 | <10 | <20 | 1,500 | <80 | |
| | 8/16/2010 | GW | 87.02 | 11.43 | | 75.59 | 1,900 | <0.50 | <0.50 | <0.50 | <1.0 | 2,400 | 20 | |
| | 11/12/2010 | | 87.02 | 12.05 | | 74.97 | | | | | | | | |
| | 2/3/2011 | GW | 87.02 | 12.31 | | 74.71 | <1000 | <10 | <10 | <10 | <20 | 1,500 | 150 | |
| | 6/23/2011 | | 87.02 | 11.08 | | 75.94 | | | | | | | | |
| | 8/22/2011 | GW | 87.02 | 11.54 | | 75.48 | <1000 | <10 | <10 | <10 | <20 | 2,600 | <80 | |
| | 2/20/2012 | GW | 87.02 | 12.81 | | 74.21 | <1000 | <10 | <10 | <10 | <20 | 1,700 | 110 | |
| MW-4 | 11/12/2010 | GW | 78.06 | | | | <50 | <0.50 | <0.50 | <0.50 | <1.0 | 95 | 6.9 | |
| | 2/3/2011 | GW | 78.06 | 12.09 | | 65.97 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | 110 | 12 | |
| | 6/23/2011 | GW | 78.06 | 11.33 | | 66.73 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | 36 | <4.0 | |
| | 8/22/2011 | GW | 78.06 | 12.09 | | 65.97 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | 3.7 | <4.0 | |
| | 2/20/2012 | GW | 78.06 | 12.61 | | 65.45 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | 12 | <4.0 | |
| QC-2 | 11/11/1992 | | | | | | <50 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| | 6/7/1993 | | | | | | <50 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| | 12/2/1993 | | | | | | <50 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| | 6/22/1994 | | | | | | <50 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| | 1/10/1995 | | | | | | <50 | <0.5 | <0.5 | <0.5 | <1 | | | |
| | 6/21/1995 | | | | | | <50 | <0.5 | <0.5 | <0.5 | <1 | | | |
| | 12/27/1995 | | | | | | <50 | <0.5 | <0.5 | <0.5 | <1 | <5 | | |
| | 6/13/1996 | | | | | | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <10 | | |

Notes:
P = well purged prior to sampling
NP = well not purged prior to sampling
TOC = Top of Casing

**Table 2: Historical Groundwater Results**
**Former BP Service Station No. 11102**
**100 MacArthur Blvd, Oakland, CA**
**Local Case # RO456**

| Location | Sample Date | Notes | TOC Elevation (ft) | DTW (ft btoc) | Product Thickness (ft) | Water Level Elevation (ft) | TPHg | Benzene | Toluene | Ethylbenzene | Xylene | MTBE | TBA | TPHd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | µg/L | | | | | | | |

DTW = Depth to Water
ft = feet
TPHg = Total Petroleum Hydrocarbons as Gasoline
MTBE = Methyl tert-butyl ether
TPHd = Total Petroleum Hydrocarbons as Diesel
µg/L = micrograms per liter
- = not analyzed
< = analyte not detected, result is less than value provided




## LEGEND:

- PROPERTY BOUNDARY
- ⊕ BP MONITORING WELL LOCATION
- ▲ BP SOIL BORING LOCATION
- ⊕ UNOCAL MONITORING WELL LOCATION
- ▲ UNOCAL SOIL BORING LOCATION
- 100 TPHg ISOCONCENTRATION CONTOUR (mg/Kg) (DASHED WHERE INFERRED)
- (<1.0) TPHg CONCENTRATION IN mg/Kg in 1989
- (<1.0) TPHg CONCENTRATION IN mg/Kg in 1994
- (<1.0) TPHg CONCENTRATION IN mg/Kg in 2005
- (<1.0) TPHg CONCENTRATION IN mg/Kg in 2010
- TPHg TPHg TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- (mg/Kg) MILLIGRAMS PER KILOGRAM
- (NS) NOT SAMPLED AT THE SPECIFIC INTERVAL

## NOTES:

1. BASE MAP PREPARED BY DIGITIZING A HARD COPY OF A DRAWING BY "BROADBENT AND ASSOCIATES, INC"., TITLED "SITE LAYOUT PLAN WITH PROPOSED SOIL BORING AND WELL LOCATIONS", DATED 3/9/09, AT A SCALE OF 1'=40'
2. ALL LOCATIONS ARE APPROXIMATE.

0 40' 80'

GRAPHIC SCALE

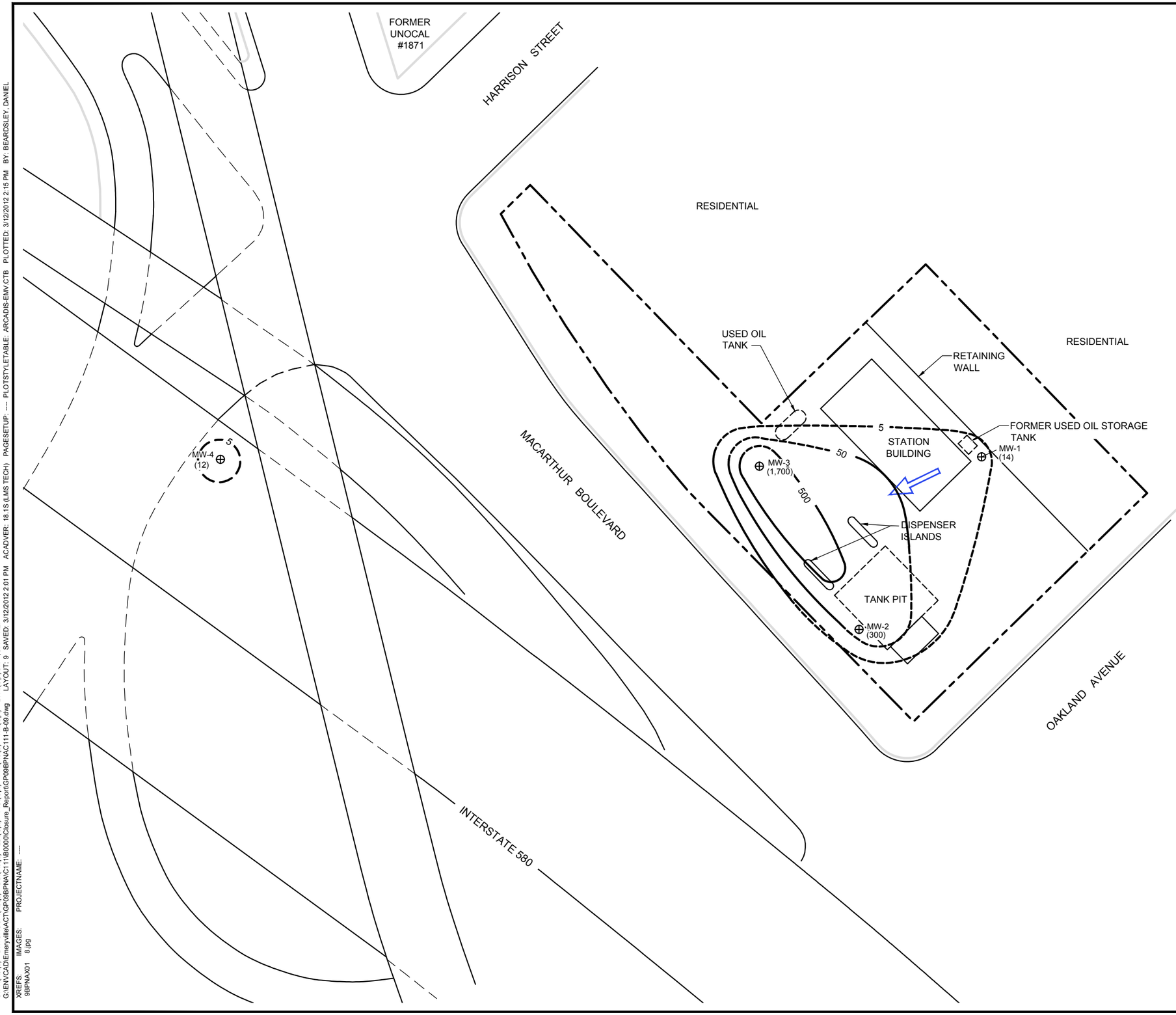
FORMER BP SERVICE STATION #11102
100 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA
**RECOMMENDATION FOR CASE CLOSURE**

# HISTORICAL LATERAL EXTENT OF TPHg SOIL IMPACTS

ARCADIS

FIGURE
**3**

CTY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Emeryville\ACT\GP09BPNA\C111\B0000\Closure_Report\GP09BPNAC111-B-03.dwg LAYOUT: 3 SAVED: 3/8/2012 2:25 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS-EMV.CTB PLOTTED: 3/8/2012 2:25 PM BY: BEARDSLEY, DANIEL
XREFS: IMAGES: PROJECTNAME: ----
9BPNAX01




**LEGEND:**

- PROPERTY BOUNDARY
- ⊕ BP MONITORING WELL LOCATION
- (14) MTBE CONCENTRATION IN MICROGRAMS PER LITER ( µg/L)
- MTBE METHYL TERTIARY BUTYL ETHER
- 10 MTBE ISOCONCENTRATION CONTOUR ( µg/L) (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. BASE MAP PREPARED BY DIGITIZING A HARD COPY OF A DRAWING BY "BROADBENT AND ASSOCIATES, INC"., TITLED "SITE LAYOUT PLAN WITH PROPOSED SOIL BORING AND WELL LOCATIONS", DATED 3/9/09, AT A SCALE OF 1'=40'

0 40' 80'

GRAPHIC SCALE

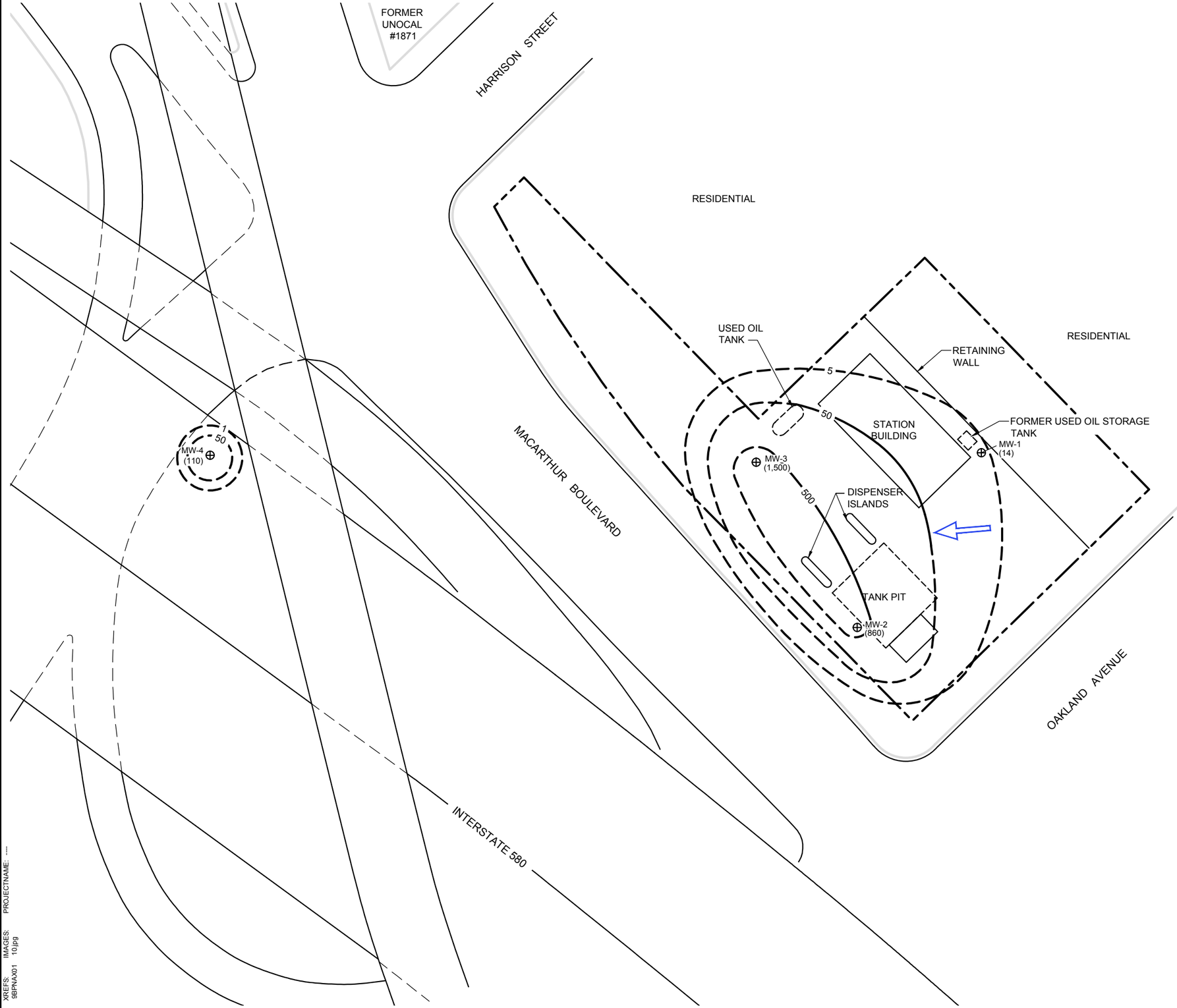
FORMER BP SERVICE STATION #11102
100 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA
**RECOMMENDATION FOR CASE CLOSURE**

# EXTENT OF MTBE GROUNDWATER IMPACTS (FEBRUARY 2012)

ARCADIS

FIGURE
**9**

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Emeryville\ACT\GP09BPNA\C111\B0000\Closure_Report\GP09BPNAC111-B-09.dwg LAYOUT: 9 SAVED: 3/12/2012 2:01 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: ARCADIS-EMV.CTB PLOTTED: 3/12/2012 2:15 PM BY: BEARDSLEY, DANIEL
XREFS: IMAGES: PROJECTNAME: ---
9BPNAX01 8.jpg




**LEGEND:**

- PROPERTY BOUNDARY
- ⊕ BP MONITORING WELL LOCATION
- (14) MTBE CONCENTRATION IN MICROGRAMS PER LITER ( µg/L)
- MTBE METHYL TERTIARY-BUTYL ETHER
- 10 MTBE ISOCONCENTRATION CONTOUR ( µg/L) (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. BASE MAP PREPARED BY DIGITIZING A HARD COPY OF A DRAWING BY "BROADBENT AND ASSOCIATES, INC"., TITLED "SITE LAYOUT PLAN WITH PROPOSED SOIL BORING AND WELL LOCATIONS", DATED 3/9/09, AT A SCALE OF 1'=40'

0 40' 80'

GRAPHIC SCALE

FORMER BP SERVICE STATION #11102
100 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA
**RECOMMENDATION FOR CASE CLOSURE**

# EXTENT OF MTBE GROUNDWATER IMPACTS (FEBRUARY 2011)

ARCADIS

FIGURE
**13**

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(OptION=*;OFF=*REF*
G:\ENVCAD\Emeryville\ACT\GP08BPNA\C111B0000\Closure_Report\GP09BPNAC111-B-13.dwg LAYOUT: 13 SAVED: 3/12/2012 12:49 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: ARCADIS-EMV.CTB PLOTTED: 3/12/2012 12:50 PM BY: BEARDSLEY, DANIEL
XREFS: IMAGES: PROJECTNAME: ---
98PNAX01 10.jpg