CONESTOGA-ROVERS & ASSOCIATES

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# TRANSMITTAL

DATE: February 27, 2015

REFERENCE NO.: 241501

PROJECT NAME: 461 8th Street, Oakland

TO: Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577



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| QUANTITY | DESCRIPTION |
|---|---|
| 1 | Limited Human Health Risk Assessment Report |
| | |

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

**COMMENTS:**
If you have any questions regarding the contents of this document, please call the CRA project manager Peter Schaefer at (510) 420-3319 or the Shell program manager Perry Pineda at (425) 413-1164.

Copy to: Perry Pineda, Shell Oil Products US (electronic copy)
Leroy Griffin, Fire Prevention Bureau, 250 Frank Ogawa Plaza, 3rd Floor, Suite 3341, Oakland, CA 94612
Signature Land Advisors, Inc. (property owners, electronic copy)

Completed by: Peter Schaefer Signed: Aubrey Cool

**Filing:** Correspondence File

**Shell Oil Products US**
Soil and Groundwater Focus Delivery Group
20945 S. Wilmington Avenue
Carson, CA 90810
**Tel** (425) 413 1164
**Fax** (425) 413 0988
**Email** perry.pineda@shell.com
**Internet** http://www.shell.com

Mr. Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: 461 8th Street
Oakland, California
SAP Code 129453
Incident No. 97093399
ACEH Case No. RO0000343

Dear Mr. Wickham:

The attached document is provided for your review and comment. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

As always, please feel free to contact me directly at (425) 413-1164 with any questions or concerns.

Sincerely,
Shell Oil Products US

Perry Pineda
Senior Environmental Program Manager

# LIMITED HUMAN HEALTH RISK ASSESSMENT REPORT

## FORMER SHELL SERVICE STATION
## 461 8TH STREET
## OAKLAND, CALIFORNIA

| | |
|---|---|
| **SAP CODE** | **129453** |
| **INCIDENT NO.** | **97093399** |
| **AGENCY NO.** | **RO0000343** |


**Prepared by:**
**Conestoga-Rovers & Associates**

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**FEBRUARY 27, 2015**
**REF. NO. 241501 (38)**
This report is printed on recycled paper.

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LIST OF FIGURES
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## EXECUTIVE SUMMARY

- CRA assessed the potential for soil vapor intrusion to indoor air based on approved plans for site redevelopment. The approved building will be completed at or near current grade, with the exception of two bays of car stackers, which will be installed at approximately 14 fbg.
- Potential receptors identified were on-site residents and on-site commercial workers.
- CRA evaluated the soil vapor intrusion to indoor air exposure pathway.
- Based on on-site shallow soil vapor data and groundwater and soil data from the wells and borings located closest to the car stacker bays, CRA's human health risk assessment did not identify any COPCs.
- CRA concludes that soil vapor intrusion to indoor air does not pose an unacceptable risk to future residents or commercial workers in the approved building.
- No soil vapor mitigation or remediation is needed to address soil vapor intrusion concerns associated with the approved building.

## 1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) to detail our soil vapor intrusion to indoor air assessment based on approved redevelopment plans for the subject site. CRA is submitting this assessment as requested during CRA's November 13, 2014 meeting with Shell, Alameda County Environmental Health, and Signature Land Advisors, Inc.'s representative.

The site is a paved parking lot located at the southwestern corner of the intersection of 8th Street and Broadway in a primarily commercial area of Oakland, California (Figure 1). The former station layout included an underground storage tank complex and dispenser islands (Figure 2).

Redevelopment plans approved by the City of Oakland call for construction of a five-story building with a garage and commercial spaces on the ground floor and residential units on the upper floors. The approved building will be complete at or near current grade, with the exception of two bays of parking structures (car stackers) to be located in the western-central and southwestern portions of the site (Figure 3), which will be installed to approximately 14 feet below grade (fbg).

A summary of previous work performed at the site and additional background information is presented in CRA's August 28, 2014 *Separate-Phase Hydrocarbon Removal Work Plan* and is not repeated herein. Historical soil vapor analytical data are presented in Table 1, and historical soil analytical data are presented in Table 2 and on Figure 4. Historical groundwater data is presented in Table 3, and total petroleum hydrocarbons as gasoline (TPHg) and benzene data from second quarter 2014 are presented on Figure 5.

## 2.0 SITE BACKGROUND AND REMEDIATION HISTORY

There were previous plans for development of the subject site during 2008. At that time, to help facilitate the planned development, Shell conducted an excavation of the source area, shown on Figure 2, and removed approximately 1,340 tons of impacted soil. Following the excavation, five in situ chemical oxidation injection events were conducted also in the source area.

## 3.0 LIMITED HUMAN HEALTH RISK ASSESSMENT (HHRA)

CRA conducted an HHRA to evaluate whether the residual petroleum hydrocarbons in the site subsurface could pose risks or hazards that are above acceptable levels to human health for the prospective approved building occupants. The detailed HHRA is presented in Appendix A. A summary is presented below.

### 3.1 POTENTIAL RECPTORS

CRA identified on-site residents and on-site commercial workers as potential receptors for the HHRA.

### 3.2 POTENTIAL EXPOSURE PATHWAY

In the HHRA, CRA reviewed the potentially-completed soil vapor intrusion to indoor air exposure pathway to potential future on-site commercial workers and residents based on soil vapor analytical data collected at 5 and 10 fbg in 2011 and 2012, groundwater monitoring, and historical soil data.

### 3.3 CHEMICALS OF POTENTIAL CONCERN (COPCs)

CRA initially considered all detected soil vapor concentrations in soil vapor samples collected at 5 and 10 fbg in 2011 and 2012 (post-remediation) as potential COPCs. Only ethylbenzene and total xylenes were detected in these samples, and none of the concentrations exceeded San Francisco Bay Regional Water Quality Control Board (RWQCB) environmental screening levels (ESLs)[1] for soil gas for evaluating vapor intrusion concerns, so no further COPC screening was undertaken for the portion of the building to completed at-grade (Figure 3).

As discussed above, two car stacker bays will be completed at approximately 14 fbg. The bays are located up or cross gradient of the source area (Figures 2 and 3). As there are no soil vapor samples deeper than 10 fbg, CRA initially considered all constituents detected in groundwater from wells S-10 and S-12, which are closest in proximity to the car stacker bays and are down or cross gradient of the source area, during 2014 as possible COPCs. Well S-12 is located within the southern bay, and well S-10 is located within 10 feet of the northern bay. TPHg, benzene, toluene, ethylbenzene, and total

[1] *User's Guide: Derivation and Application of Environmental Screening Levels,* RWQCB, Interim Final – 2013

xylenes (BTEX) were detected in these samples, and none of the concentrations exceeded RWQCB groundwater screening levels for evaluation of potential vapor intrusion (Table E-1 of the ESL document). CRA also initially considered constituents detected in soil from the car stacker bay locations as possible COPCs. The soil data from borings B-2, B-6, B-14, B-15, B-19, B-20, B-21, and S-12, drilled within the bays prior to remediation, contained BTEX detections that were below soil ESLs, further demonstrating that the car stacker bays will be located outside of the source area. Because none of the possible COPCs in representative groundwater or soil exceeded the screening levels, no further COPC screening was undertaken for the car stacker bays. We also note that no personnel will be occupying the car stacker bays so there is not a completed exposure pathway for soil vapor intrusion in this portion of the building.

### 3.4 HHRA RESULTS

The limited HHRA assessed the potentially-completed soil vapor intrusion to indoor air human health risk pathway. All COPCs in on-site soil vapor samples collected at 5 and 10 fbg in 2011 and 2012 are below residential ESLs, all COPCs in groundwater from wells near the car stackers are below RWQCB groundwater screening criteria, and all COPCs in soil from the area beneath the car stacker bays are below ESLs. Therefore, there is no reasonable risk of soil vapor intrusion to indoor air in the approved building.

## 4.0 CONCLUSIONS AND RECOMMENDATIONS

No additional soil vapor investigation is warranted.

The HHRA concludes that it is unlikely that residual petroleum hydrocarbon concentrations pose an unacceptable risk or hazard to on-site receptors.

No soil vapor mitigation or remediation is needed to address soil vapor intrusion concerns associated with the approved building.

All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES

Aubrey K Cool

for: Peter Schaefer, CEG, CHG


April Gowing

April Gowing, PhD

FIGURES

11/10/08

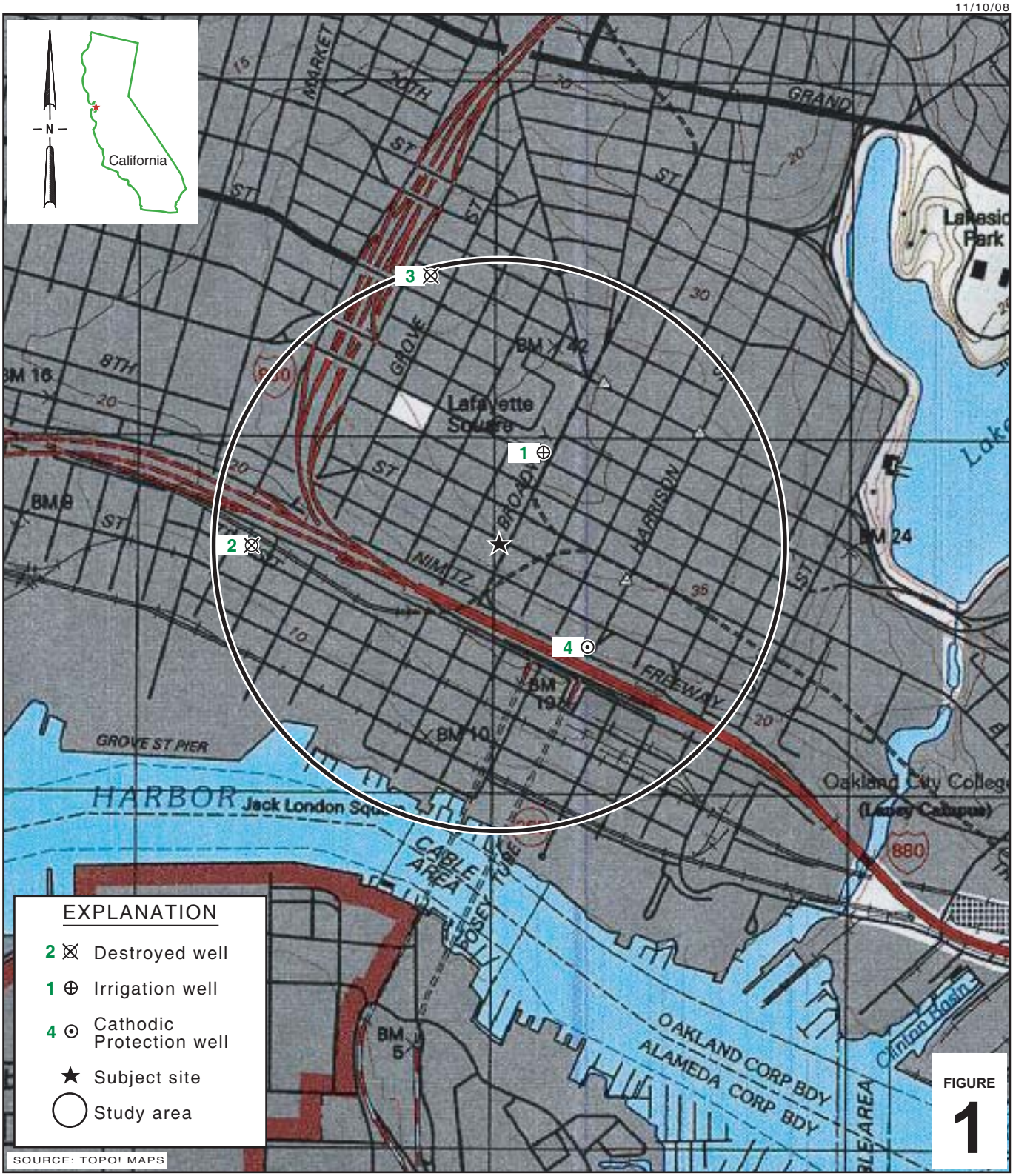


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FIGURE
1

0 1/8 1/4 1/2 1

SCALE (MILES)

**Former Shell Service Station**
461 8th Street
Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

**Vicinity Map**

02/26/2015

## EXPLANATION

- B-28 — Soil boring location
- SVP-1 — Subslab soil vapor probe location
- S-4 — Monitoring well location
- S-21B — Deeper monitoring well location
- OW-1 — Observation well location
- IP-1 — Injection point
- B-25/ VP-2 — Soil boring/vapor probe location
- B-24/ VP-1 — Destroyed soil boring/ vapor probe location
- S-1 — Destroyed well location
- B-1 — Soil boring location
- TR-V1 — Soil vapor boring location

8TH STREET

BROADWAY

Former Shell Station
*461 8th St.*

Former USTs

Former Dispenser Islands

Former Fuel Lines

2008 Excavation Area

S-1, S-10, B-3, B-17, TR-V4, B-16, B-4, B-18, TR-V3, B-15, B-6, B-19, TR-2, B-14, B-2, B-8, S-8, B-5, TR-V1, B-20, S-23, S-16, B-13, B-24/ VP-1, IP-1, B-12, B-7, S-15, IP-2, S-21A, AS-1, B-28, B-10, S-21B, IP-3, S-14, TR-1, S-12, OW-1, S-17, B-1, S-22A, B-23, S-14R, B-27/ VP-4, TR-V2, B-11, B-21, B-29, S-22B, S-18, S-19, S-13, B-26/ VP-3, TR-3, SVP-2, B-22, B-9, S-20, B-25/ VP-2, S-9, TR-4, SVP-1

N

0 10 20 40

Scale (ft)

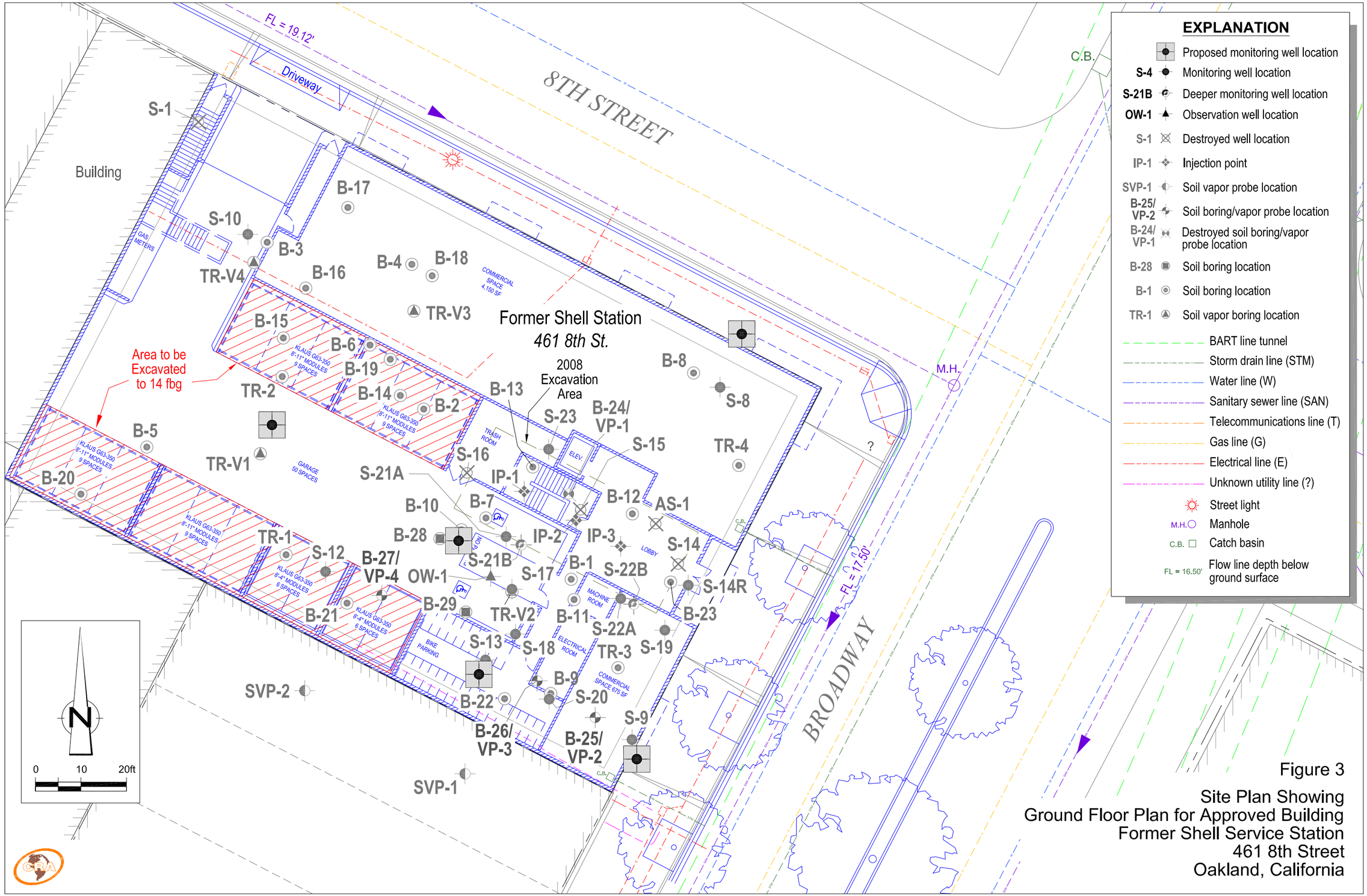
I:\Shell\6-chars\2415--\241501-Oakland 461 8th\241501-FIGURES\241501 SITE PLAN.DWG

**Site Plan**

CONESTOGA-ROVERS & ASSOCIATES

**Former Shell Service Station**
461 8th Street
Oakland, California

FIGURE
**2**




## EXPLANATION

- Proposed monitoring well location
- S-4 — Monitoring well location
- S-21B — Deeper monitoring well location
- OW-1 — Observation well location
- S-1 — Destroyed well location
- IP-1 — Injection point
- SVP-1 — Soil vapor probe location
- B-25/ VP-2 — Soil boring/vapor probe location
- B-24/ VP-1 — Destroyed soil boring/vapor probe location
- B-28 — Soil boring location
- B-1 — Soil boring location
- TR-1 — Soil vapor boring location
- BART line tunnel
- Storm drain line (STM)
- Water line (W)
- Sanitary sewer line (SAN)
- Telecommunications line (T)
- Gas line (G)
- Electrical line (E)
- Unknown utility line (?)
- Street light
- M.H. — Manhole
- C.B. — Catch basin
- FL = 16.50' — Flow line depth below ground surface

Figure 3

Site Plan Showing
Ground Floor Plan for Approved Building
Former Shell Service Station
461 8th Street
Oakland, California

I:\Shell\6-chars\2415--\241501-Oakland 461 8th St\241501-FIGURES\241501 SITE PLAN.DWG (02/27/2015)

02/11/2015

# Historical Vadose-Zone Soil Analytical Data

## EXPLANATION

- B-28 — Soil boring location
- SVP-1 — Subslab soil vapor probe location
- S-4 — Monitoring well location
- S-21B — Deeper monitoring well location
- OW-1 — Observation well location
- IP-1 — Injection point
- B-25/ VP-2 — Soil boring/vapor probe location
- B-24/ VP-1 — Destroyed soil boring/ vapor probe location
- S-1 — Destroyed well location
- B-1 — Soil boring location
- TR-V1 — Soil vapor boring location

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-1-5.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| B-1-10.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |

**Notes:**
Soil sample ID and concentrations in milligrams per kilogram
**TPHg =** Total petroleum hydrocarbons as gasoline
**Eth. =** Ethylbenzene
**Xylenes =** Total xylenes
**<X =** Not detected at reporting limit X
**NA =** Not analyzed

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-16-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-16-10 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-16-15 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-3-10.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| B-3-15.0 | <1 | <0.0025 | <0.0025 | <0.0025 | 0.025 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-10-6.5 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| S-10-11.5 | 760 | 0.0032 | 0.028 | 6.4 | 6.9 |
| S-10-16.5 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-15-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-15-10 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-15-15 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| TR-2-0.5 | <1.0 | NA | NA | NA | NA |
| TR-2-5.0 | <0.97 | NA | NA | NA | NA |
| TR-2-8.0 | <1.1 | NA | NA | NA | NA |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-2-5.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| B-2-15.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-23-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-23-10.5 | 1.3 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-23-15.5 | <0.50 | 0.0078 | <0.0050 | <0.0050 | 0.0082 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-13-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-13-10 | <1.0 | 0.022 | <0.0050 | <0.0050 | <0.010 |
| B-13-15 | <1.0 | 0.028 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-16-4.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-16-9.5 | <0.50 | 0.048 | 0.013 | <0.0050 | 0.0171 |
| S-16-14.5 | 1.6 | 0.31 | 0.25 | 0.039 | 0.233 |
| S-16-19.5 | 230 | 0.042 | 0.21 | 0.18 | 1.28 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-5-5.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| B-5-9.75 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-20-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-20-10 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-20-15 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-7-5.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| B-7-10.0 | 14 | 0.24 | 0.89 | 0.31 | 2.0 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-10-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-10-10 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-10-15 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-28-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-28-10.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-28-15.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| OW-1-6.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| OW-1-11 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| OW-1-16 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| OW-1-19.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-17-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-17-10 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-17-15 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-6-5.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| B-6-18.5 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-19-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-19-10 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-19-15 | <1.0 | 0.028 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-14-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-14-10 | <2.0 | <0.010 | <0.010 | <0.010 | <0.020 |
| B-14-15 | <1.0 | 0.039 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-4-5.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| B-4-10.0 | 15 | <0.0025 | 0.037 | 0.027 | 0.21 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-18-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-18-10 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-18-15 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-24-5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-24-11.5 | 0.51 | 0.043 | 0.021 | 0.0094 | 0.116 |
| B-24-15 | <0.50 | 0.020 | 0.0064 | <0.0050 | 0.0140 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-15-4.5 | 6.5 | <0.0050 | 0.0058 | <0.0050 | 0.044 |
| S-15-9.5 | 5,000 | 93 | 350 | 100 | 660 |
| S-15-14.5 | 1,900 | 34 | 290 | 72 | 460 |
| S-15-19.5 | 220 | 4.0 | 19 | 5.8 | 33.8 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-21A-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-21A-10.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-21A-15.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | 0.041 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-21B-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-21B-15.5 | 1.9 | 0.028 | 0.11 | 0.030 | 0.38 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-12-5 | <1.0 | 0.028 | 0.018 | <0.0050 | <0.010 |
| B-12-10 | 2,300 | 0.54 | 7.5 | <0.50 | 180 |
| B-12-15 | 1,700 | 2.9 | 35 | 22 | 190 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-8-5.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| B-8-9.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-8-6.5 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| S-8-11.5 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| TR-4-0.5 | <1.0 | NA | NA | NA | NA |
| TR-4-5.0 | <1.0 | NA | NA | NA | NA |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| AS-1-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| AS-1-9.5 | 1,800 | <0.0050 | 0.59 | 0.88 | 29 |
| AS-1-14.5 | 150 | <0.12 | 0.27 | 0.29 | 1.93 |
| AS-1-19.5 | 3,400 | 38 | 210 | 110 | 610 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-14-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-14-10 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-14-15.5 | 0.014 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-23-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-23-10 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-23-15 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-14R-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-14R-10.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-14R-15.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-22A-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-22A-10.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-22A-15.5 | 3.5 | <0.0050 | <0.0050 | <0.0050 | 0.013 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-22B-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-22B-10.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-22B-15.5 | 1.9 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-19-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-19-10.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-19-15.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-1-5.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| B-1-10.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-11-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-11-10 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-11-15 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-17-6 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-17-11 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-17-16 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-18-6 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-18-11 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-18-15.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| TR-3-0.5 | <0.93 | NA | NA | NA | NA |
| TR-3-5.0 | <1.0 | NA | NA | NA | NA |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-26-5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-26-10 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-26-15 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-27-5 | <0.50 | <0.0050 | 0.015 | <0.0050 | <0.010 |
| B-27-10 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| TR-1-0.5 | <0.98 | NA | NA | NA | NA |
| TR-1-5.0 | <1.1 | NA | NA | NA | NA |
| TR-1-8.0 | <1.1 | NA | NA | NA | NA |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-12-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-12-9.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-12-14.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-12-19.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-21-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-21-10 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-21-15 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-29-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-29-10.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-29-15.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-13-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-13-10 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-13-15 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

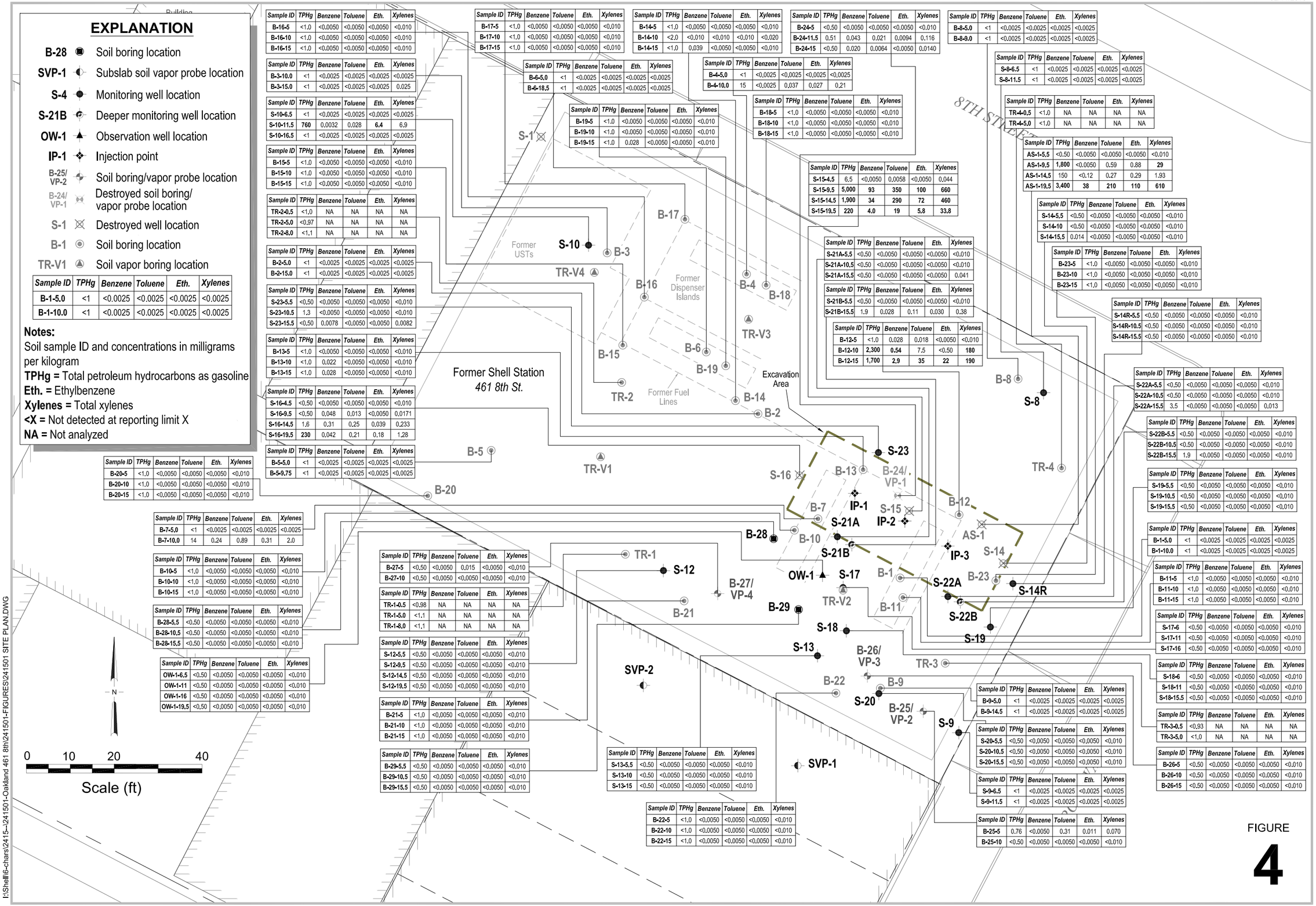
| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-22-5 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-22-10 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| B-22-15 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-9-5.0 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| B-9-14.5 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-20-5.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-20-10.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |
| S-20-15.5 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| S-9-6.5 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |
| S-9-11.5 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 |

| Sample ID | TPHg | Benzene | Toluene | Eth. | Xylenes |
|---|---|---|---|---|---|
| B-25-5 | 0.76 | <0.0050 | 0.31 | 0.011 | 0.070 |
| B-25-10 | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 |




FIGURE

**4**

**Former Shell Service Station**
461 8th Street
Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

I:\Shell\6-chars\2415--\241501-Oakland 461 8th\241501-FIGURES\241501 SITE PLAN.DWG

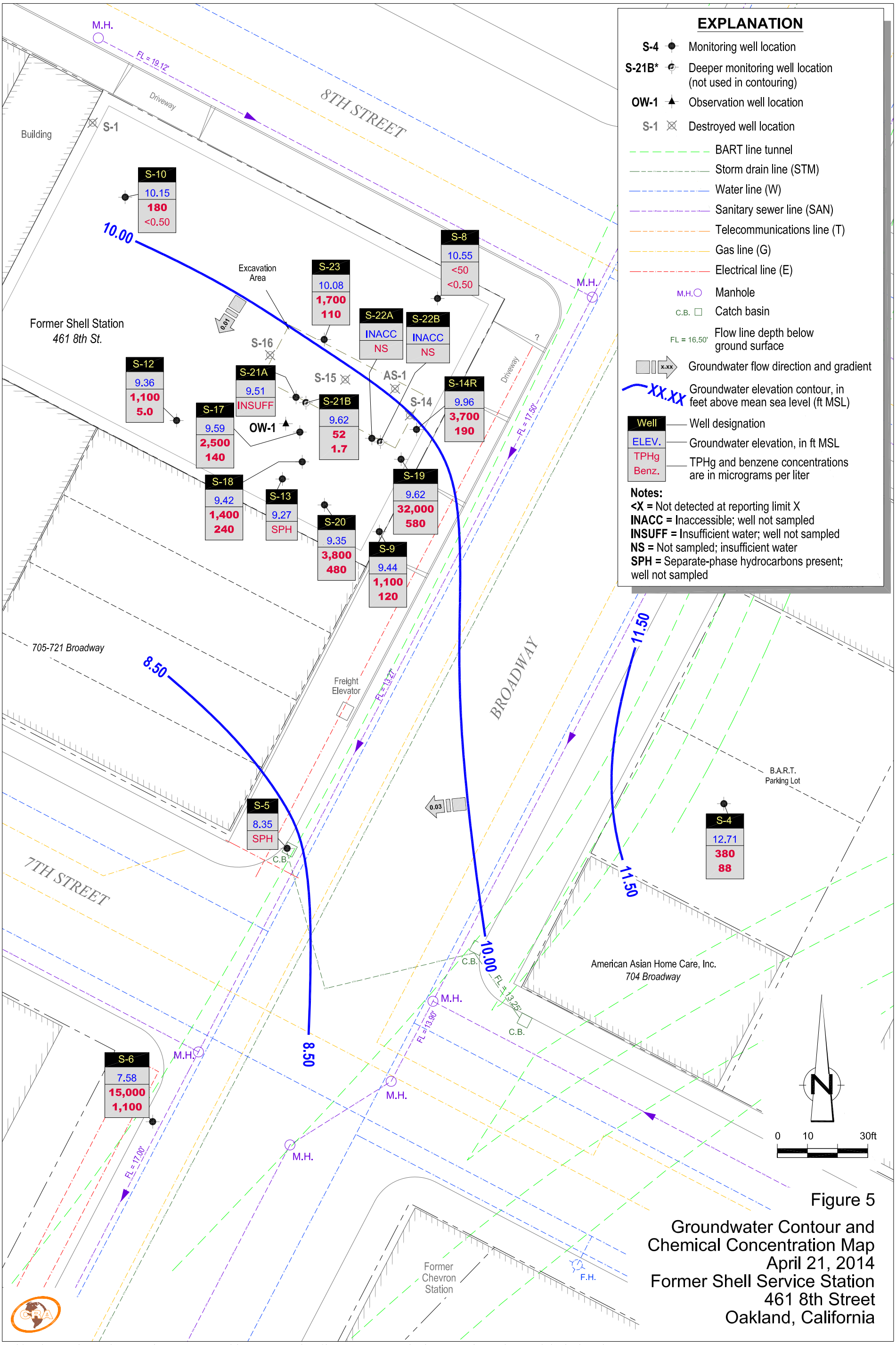



Figure 5

Groundwater Contour and Chemical Concentration Map
April 21, 2014
Former Shell Service Station
461 8th Street
Oakland, California

I:\Shell\6-chars\2415--\241501-Oakland 461 8th St\241501-REPORTS\241501-RPT35-2Q14\241501 2QM14-GW.DWG (02/12/2015)

TABLES

**TABLE 1**

**HISTORICAL SOIL VAPOR ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHg (µg/m3)* | *B (µg/m3)* | *T (µg/m3)* | *E (µg/m3)* | *X (µg/m3)* | *Isobutane (µg/m3)* | *Butane (µg/m3)* | *Propane (µg/m3)* | *Methane (%v)* | *Carbon Dioxide (%v)* | *Oxygen + Argon (%v)* | *Helium (%v)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TR-V1 a | 05/20/2005 | 4.5 | --- | <1,000 | <1,000 | <1,000 | <1,000 | --- | --- | --- | --- | --- | --- | --- |
| TR-V1 b | 05/20/2005 | 4.5 | --- | <1,000 | <1,000 | <1,000 | <1,000 | --- | --- | --- | --- | --- | --- | --- |
| TR-V1 c | 05/20/2005 | 4.5 | --- | <1,000 | <1,000 | <1,000 | <1,000 | --- | --- | --- | --- | --- | --- | --- |
| TR-V2 b | 05/20/2005 | 5 | --- | <1,000 | <1,000 | <1,000 | <1,000 | --- | --- | --- | --- | --- | --- | --- |
| TR-V3 b | 05/20/2005 | 5 | --- | <1,000 | <1,000 | <1,000 | <1,000 | --- | --- | --- | --- | --- | --- | --- |
| TR-V4 b | 05/20/2005 | 5 | --- | <1,000 | <1,000 | <1,000 | <1,000 | --- | --- | --- | --- | --- | --- | --- |
| VP-1-5 d | 12/11/2007 | 5 | <19,000 | 170 | 150 | 56 | 613 | --- | --- | --- | --- | --- | --- | --- |
| VP-1-9.5 d | 12/11/2007 | 9.5 | 160,000 | **9,600** | 4,400 | 1,200 | 12,700 | --- | --- | --- | --- | --- | --- | --- |
| VP-2-5 | 12/11/2007 | 5 | <20,000 | <2.7 | 6.4 | <3.7 | <18.7 | --- | --- | --- | --- | --- | --- | --- |
| VP-2-5 | 12/08/2008 | 5 | <9,700 | 3.3 | <3.2 | 5.1 | <15 | <20 | <20 | <46 | --- | --- | --- | --- |
| VP-2-5 | 01/05/2009 | 5 | <9,500 | 5.7 | 3.3 | <3.6 | <14 | <20 | <20 | <45 | --- | --- | --- | --- |
| VP-2-5 | 03/12/2009 | 5 | <8,700 | <2.4 | <2.9 | <3.3 | <13 | <18 | <18 | <41 | --- | --- | --- | --- |
| VP-2-5-DUP | 03/12/2009 | 5 | <9,200 | 5.1 | <3.0 | <3.5 | <14 | <19 | <19 | <44 | --- | --- | --- | --- |
| VP-2-5 | 04/27/2009 | 5 | <8,000 | <2.2 | <2.6 | <3.0 | <12 | <17 | <17 | <38 | --- | --- | --- | --- |
| VP-2-5-DUP | 04/27/2009 | 5 | <8,000 | <2.2 | <2.6 | <3.0 | <12 | <17 | <17 | <38 | --- | --- | --- | --- |
| VP-2-9.5 | 12/08/2008 | 9.5 | <9,500 | 13 | <3.1 | 7.0 | <14 | <20 | <20 | <45 | --- | --- | --- | --- |
| VP-2-9.5 | 01/05/2009 | 9.5 | <8,900 | <2.5 | <2.9 | <3.4 | <14 | <19 | <19 | <42 | --- | --- | --- | --- |
| VP-2-9 | 03/12/2009 | 9.5 | <8,500 | <2.4 | <2.8 | <3.2 | <13 | <18 | <18 | <40 | --- | --- | --- | --- |
| VP-2-9 | 04/27/2009 | 9.5 | <8,000 | <2.2 | <2.6 | <3.0 | <12 | <17 | <17 | <38 | --- | --- | --- | --- |
| VP-3-5 | 12/11/2007 | 5 | <17,000 | <2.4 | 5 | <3.3 | <16.3 | 30 | 10 | ND | --- | --- | --- | --- |
| VP-3-5 | 12/08/2008 | 5 | <9,900 | <2.7 | <3.2 | <3.7 | <15 | 77 | <20 | <47 | --- | --- | --- | --- |
| VP-3-5 | 01/05/2009 | 5 | <8,400 | <2.3 | 5.0 | <3.2 | <13 | 160 | <17 | <40 | --- | --- | --- | --- |
| VP-3-5 | 03/12/2009 | 5 | <9,200 | <2.6 | <3.0 | <3.5 | <14 | <19 | <19 | <44 | --- | --- | --- | --- |
| VP-3-5 | 04/27/2009 | 5 | <8,800 | <2.5 | <2.9 | <3.3 | <13 | <18 | <18 | <42 | --- | --- | --- | --- |
| VP-3-9.5 | 12/11/2007 | 9.5 | <18,000 | 5 | 20 | 4 | 36 | 348 | --- | --- | --- | --- | --- | --- |
| VP-3-9.5 | 12/08/2008 | 9.5 | <10,000 | <2.8 | <3.4 | <3.9 | <15 | <21 | <21 | <48 | --- | --- | --- | --- |
| VP-3-9.5 | 01/05/2009 | 9.5 | <9,900 | <2.8 | 5.5 | <3.8 | <15 | 560 | 21 | <47 | --- | --- | --- | --- |
| VP-3-9 | 03/12/2009 | 9.5 | <9,300 | <2.6 | <3.1 | <3.5 | <14 | <19 | <19 | <44 | --- | --- | --- | --- |
| VP-3-9 | 04/27/2009 | 9.5 | <8,600 | <2.4 | <2.8 | <3.3 | <13 | <18 | <18 | <41 | --- | --- | --- | --- |

**TABLE 1**

**HISTORICAL SOIL VAPOR ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHg (µg/m3)* | *B (µg/m3)* | *T (µg/m3)* | *E (µg/m3)* | *X (µg/m3)* | *Isobutane (µg/m3)* | *Butane (µg/m3)* | *Propane (µg/m3)* | *Methane (%v)* | *Carbon Dioxide (%v)* | *Oxygen + Argon (%v)* | *Helium (%v)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VP-4-5 | 12/11/2007 | 5 | <18,000 | <2.6 | 35 | <3.5 | 14 | --- | 6.9 | --- | --- | --- | --- | --- |
| VP-4-5 | 12/08/2008 | 5 | 170,000 | <11 | <13 | <15 | <60 | 55,000 | 1,200 | 7,900 | --- | --- | --- | --- |
| VP-4-5 DUP | 12/08/2008 | 5 | 170,000 | <11 | <13 | <15 | <61 | 84,000 | 1,200 | 8,600 | --- | --- | --- | --- |
| VP-4-5 | 01/05/2009 | 5 | <8,300 | <2.3 | 4.8 | <3.1 | <13 | 61 | <17 | <39 | --- | --- | --- | --- |
| VP-4-5 | 03/12/2009 | 5 | <8,800 | <2.5 | <2.9 | <3.3 | <13 | <18 | <18 | <42 | --- | --- | --- | --- |
| VP-4-5 | 04/27/2009 | 5 | <8,400 | <2.3 | <2.8 | <3.2 | <13 | <17 | <17 | <40 | --- | --- | --- | --- |
| VP-4-9.5 | 12/11/2007 | 9.5 | <16,000 | <2.2 | 79 | 4.3 | 40.4 | ND | ND | ND | --- | --- | --- | --- |
| VP-4-9.5 | 12/08/2008 | 9.5 | 26,000 | <2.6 | 4.2 | <3.5 | <14 | 8,800 | 120 | 94 | --- | --- | --- | --- |
| VP-4-9.5 | 01/05/2009 | 9.5 | <10,000 | <2.8 | 4.3 | <3.8 | <15 | 1,900 | <21 | 120 | --- | --- | --- | --- |
| VP-4-9.5-DUP | 01/05/2009 | 9.5 | <8,900 | <2.5 | 4.4 | <3.4 | <14 | 1,600 | 19 | <42 | --- | --- | --- | --- |
| VP-4-9 | 03/12/2009 | 9.5 | <8,500 | <2.4 | <2.8 | <3.2 | <13 | <18 | <18 | <40 | --- | --- | --- | --- |
| VP-4-9 | 04/27/2009 | 9.5 | <8,600 | <2.4 | <2.8 | <3.3 | <13 | <18 | <18 | <41 | --- | --- | --- | --- |
| Outdoor Ambient | 05/29/2003 | | <19,000 | 16 | 16 | <3.1 | <9.2 | --- | --- | --- | --- | --- | --- | --- |
| Outdoor Ambient | 01/05/2009 | | <8,700 | 2.5 | 5.4 | <3.3 | <13 | <18 | <18 | <41 | --- | --- | --- | --- |
| Outdoor Ambient | 03/12/2009 | | <8,900 | <2.5 | <2.9 | <3.4 | <13 | <18 | <18 | <42 | --- | --- | --- | --- |
| Outdoor Ambient | 04/27/2009 | | <8,700 | <2.4 | <2.9 | <3.3 | <13 | <18 | <18 | <41 | | | | |
| SVP-1 | 11/21/2008 | | <230 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SVP-1-DUP | 11/21/2008 | | 460 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SVP-1 | 01/05/2009 | | <9,300 | <2.6 | <3.1 | <3.5 | <14 | <19 | <19 | <44 | --- | --- | --- | --- |
| SVP-1 | 03/12/2009 | | <8,500 | <2.4 | <2.8 | <3.2 | <13 | <18 | <18 | <40 | --- | --- | --- | --- |
| SVP-1-DUP | 03/12/2009 | | <11,000 | <3.0 | <3.5 | <4.0 | <16 | <22 | <22 | <50 | --- | --- | --- | --- |
| SVP-1 | 04/27/2009 | | <8,400 | <2.3 | <2.8 | <3.2 | <13 | <17 | <17 | <40 | | | | |
| SVP-2 | 11/21/2008 | | 360 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SVP-2 | 01/05/2009 | | 13,000 | <2.6 | 4.4 | <3.6 | <14 | 1,800 | 51 | 90 | --- | --- | --- | --- |
| SVP-2 | 03/13/2009 | | <10,000 | <2.9 | <3.4 | <3.9 | <16 | <21 | <21 | <48 | --- | --- | --- | --- |
| SVP-2 | 04/27/2009 | | <9,200 | <2.6 | <3.0 | <3.5 | <14 | 25 | <19 | <44 | --- | --- | --- | --- |
| SVP-3 | 11/21/2008 | | <230 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SVP-3 | 01/05/2009 | | <8,100 | <2.4 | <2.9 | <3.3 | <13 | <18 | 130 | <41 | --- | --- | --- | --- |
| SVP-3-DUP | 01/05/2009 | | <10,000 | <3.2 | <3.8 | <4.4 | <17 | <24 | 150 | <54 | --- | --- | --- | --- |
| SVP-3 | 03/12/2009 | | <9,200 | <2.6 | <3.0 | <3.5 | <14 | <19 | <19 | <43 | --- | --- | --- | --- |
| SVP-3 | 04/27/2009 | | <9,900 | <11 | <13 | <15 | <60 | <82 | <82 | <190 | --- | --- | --- | --- |
| SVP-3-DUP | 04/27/2009 | | <8,300 | <9.3 | <11 | <13 | <50 | <69 | <69 | <160 | --- | --- | --- | --- |
| Indoor Ambient Air | 11/21/2008 | | 510 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

**TABLE 1**

**HISTORICAL SOIL VAPOR ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHg (µg/m3)* | *B (µg/m3)* | *T (µg/m3)* | *E (µg/m3)* | *X (µg/m3)* | *Isobutane (µg/m3)* | *Butane (µg/m3)* | *Propane (µg/m3)* | *Methane (%v)* | *Carbon Dioxide (%v)* | *Oxygen + Argon (%v)* | *Helium (%v)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Indoor Ambient Air DUP | 11/22/2008 | | 510 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Indoor Ambient Air | 12/08/2008 | | <9,900 | <2.7 | 4.2 | <3.7 | <15 | <20 | <20 | <47 | --- | --- | --- | --- |
| Indoor Ambient Air | 01/05/2009 | | <9,300 | <2.6 | 4.9 | <3.5 | <14 | <19 | <19 | <44 | --- | --- | --- | --- |
| Indoor Ambient Air | 03/12/2009 | | <8,500 | <2.4 | 3.2 | <3.2 | <13 | 28 | <18 | <40 | --- | --- | --- | --- |
| Indoor Ambient Air | 04/27/2009 | | <7,900 | 3.2 | 12 | <3.0 | <12 | 62 | 63 | <37 | --- | --- | --- | --- |
| VP-5 | 12/01/2011 | 5 | <3,800 | <16 e | <19 e | 57 e | 54 e | --- | --- | --- | <0.500 | 7.46 | 16.2 | <0.0100 |
| VP-5 | 12/01/2011 | 10 | <3,800 | <16 e | <19 e | 28 e | <43 e | --- | --- | --- | <0.500 | 19.9 | 5.06 | <0.0100 |
| VP-6 | 01/05/2012 | 5 | <3,800 | <16 e | <19 e | 88 e | 120 e | --- | --- | --- | <0.500 | 3.51 | 19.0 | 0.276 |
| VP-6 | 01/05/2012 | 10 | <3,800 | <16 e | <19 e | 48 e | 55 e | --- | --- | --- | <0.500 | 14.2 | 9.40 | 0.792 |
| VP-7 | 12/01/2011 | 5 | <3,800 | <16 e | <19 e | 29 e | <43 e | --- | --- | --- | <0.500 | 10.3 | 13.6 | <0.0100 |
| VP-7 | 12/01/2011 | 10 | <3,800 | <16 e | <19 e | 55 e | 54 e | --- | --- | --- | <0.500 | 20.8 | 4.42 | <0.0100 |
| VP-8 | 12/01/2011 | 5 | <3,800 | <16 e | <19 e | 32 e | <43 e | --- | --- | --- | <0.500 | 1.80 | 21.2 | <0.0100 |
| VP-8 | 12/01/2011 | 10 | <3,800 | <16 e | <19 e | 31 e | <43 e | --- | --- | --- | <0.500 | 5.98 | 17.1 | <0.0100 |
| VP-9 | 12/01/2011 | 5 | <3,800 | <16 e | <19 e | <22 e | <43 e | --- | --- | --- | <0.500 | 8.19 | 15.9 | 0.0221 |
| VP-9 | 12/01/2011 | 10 | <3,800 | <16 e | <19 e | <22 e | <43 e | --- | --- | --- | <0.500 | 17.1 | 9.78 | <0.0100 |
| VP-10 | 12/01/2011 | 5 | <3,800 | <16 e | <19 e | 57 e | 58 e | --- | --- | --- | <0.500 | 3.66 | 19.1 | <0.0100 |
| VP-10 | 12/01/2011 | 10 | <3,800 | <16 e | <19 e | <22 e | <43 e | --- | --- | --- | <0.500 | 6.63 | 16.3 | <0.0100 |
| VP-11 | 12/01/2011 | 5 | <3,800 | <16 e | <19 e | <22 e | <43 e | --- | --- | --- | <0.500 | 1.72 | 21.4 | <0.0100 |
| VP-11 | 12/01/2011 | 10 | <3,800 | <16 e | <19 e | 30 e | <43 e | --- | --- | --- | <0.500 | 3.53 | 19.7 | <0.0100 |
| VP-12 | 12/01/2011 | 5 | <3,800 | <16 e | <19 e | <22 e | <43 e | --- | --- | --- | <0.500 | 5.00 | 18.2 | <0.0100 |
| VP-12 | 12/01/2011 | 10 | <3,800 | <16 e | <19 e | 35 e | <43 e | --- | --- | --- | <0.500 | 12.9 | 9.62 | <0.0100 |
| ***Commercial/Industrial Land Use ESL[f]:*** | | | ***2,500,000*** | ***420*** | ***1,300,000*** | ***4,900*** | ***440,000*** | ***NA*** | ***NA*** | ***NA*** | ***NA*** | ***NA*** | ***NA*** | ***NA*** |
| ***Residential Land Use ESL[f]:*** | | | ***300,000*** | ***42*** | ***160,000*** | ***490*** | ***52,000*** | ***NA*** | ***NA*** | ***NA*** | ***NA*** | ***NA*** | ***NA*** | ***NA*** |

Notes:
TPHg = Total petroleum hydrocarbons as gasoline analyzed by Modified EPA Method TO-3 GC/FID or EPA Method TO-3M.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by Modified EPA Method TO-15 or EPA Method TO-15 unless otherwise noted
Isobutane, butane, and propane analyzed by EPA Method TO-15.
Methane, carbon dioxide, and oxygen + argon analyzed by ASTM D-1946
fbg = Feet below grade

**TABLE 1**

**HISTORICAL SOIL VAPOR ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHg (µg/m3)* | *B (µg/m3)* | *T (µg/m3)* | *E (µg/m3)* | *X (µg/m3)* | *Isobutane (µg/m3)* | *Butane (µg/m3)* | *Propane (µg/m3)* | *Methane (%v)* | *Carbon Dioxide (%v)* | *Oxygen + Argon (%v)* | *Helium (%v)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

µg/m3 = Micrograms per cubic meter
%v = Percentage by volume
<x = Not detected at reporting limit x
--- = Not analyzed
VP = Vapor probe
SVP = Sub slab vapor probe
ESL = Environmental screening level
NA = No applicable ESL
Results in **bold** exceed ESL.
Shading indicates that the soil vapor probe location was subsequently excavated; results are likely not representative of current soil vapor conditions.

a = Sample collected after 1 purge volume; BTEX analyzed by EPA Method 8260B
b = Sample collected after 3 purge volumes; BTEX analyzed by EPA Method 8260B
c = Sample collected after 7 purge volumes; BTEX analyzed by EPA Method 8260B
d = VP-1 destroyed
e = BTEX analyzed by Modified EPA Method 8260B
f = San Francisco Bay Regional Water Quality Control Board (RWQCB) ESLs for shallow soil gas (Table E of User's Guide: Derivation and Application of Environmental Screening Levels, RWQCB, Interim Final - 2013)

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1-5.0 | 07/06/1994 | 5 | 28 a | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B1-10.0 | 07/06/1994 | 10 | <2 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B2-5.0 | 07/06/1994 | 5 | <2 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B2-15.0 | 07/06/1994 | 15 | <2 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B2-20.0 | 07/06/1994 | 20 | <2 | <1 | <0.0025 | 0.0028 | <0.0025 | 0.003 | --- | --- | --- | --- | --- | --- | --- |
| B3-10.0 | 07/06/1994 | 10 | 50 a | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B3-15.0 | 07/06/1994 | 15 | 4.1 | <1 | <0.0025 | <0.0025 | <0.0025 | 0.025 | --- | --- | --- | --- | --- | --- | --- |
| B4-5.0 | 07/06/1994 | 5 | <2 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B4-10.0 | 07/06/1994 | 10 | 13 b | 15 | <0.0025 | 0.037 | 0.027 | 0.21 | --- | --- | --- | --- | --- | --- | --- |
| B5-5.0 | 07/07/1994 | 5 | <2 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B5-9.75 | 07/07/1994 | 9.75 | <2 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B6-5.0 | 07/07/1994 | 5 | <2 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B6-18.5 | 07/07/1994 | 18.5 | <2 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B7-5.0 | 07/07/1994 | 5 | 31 a | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B7-10.0 | 07/07/1994 | 10 | **410 b** | 14 | 0.24 | 0.89 | 0.31 | 2.0 | --- | --- | --- | --- | --- | --- | --- |
| B8-5.0 | 07/07/1994 | 5 | <2 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B8-9.0 | 07/07/1994 | 9 | <4 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B9-5.0 | 07/07/1994 | 5 | <1 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| B9-14.5 | 07/07/1994 | 14.5 | <2 | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| S-8-6.5 | 12/07/1994 | 6.5 | --- | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-8-11.5 | 12/07/1994 | 11.5 | --- | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| S-8-21.5 | 12/07/1994 | 21.5 | --- | <1 | 0.014 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| S-9-6.5 | 12/07/1994 | 6.5 | --- | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| S-9-11.5 | 12/07/1994 | 11.5 | --- | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| S-9-21.5 | 12/07/1994 | 21.5 | --- | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| S-10-6.5 | 12/07/1994 | 6.5 | --- | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| S-10-11.5 | 12/07/1994 | 11.5 | --- | 760 | 0.0032 | 0.028 | **6.4** | 6.9 | --- | --- | --- | --- | --- | --- | --- |
| S-10-16.5 | 12/07/1994 | 16.5 | --- | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| S-10-21.5 | 12/07/1994 | 21.5 | --- | <1 | <0.0025 | <0.0025 | <0.0025 | <0.0025 | --- | --- | --- | --- | --- | --- | --- |
| HA-1-10.0 | 10/14/2003 | 10.0 | --- | < 1.0 d | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | --- | --- | --- | --- | --- | --- |
| HA-1-16.5 | 10/14/2003 | 16.5 | --- | < 1.0 d | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | --- | --- | --- | --- | --- | --- |
| TR-1-0.5 | 05/20/2005 | 0.5 | --- | <0.98 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TR-1-5.0 | 05/20/2005 | 5 | --- | <1.1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TR-1-8.0 | 05/20/2005 | 8 | --- | <1.1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TR-2-0.5 | 05/20/2005 | 0.5 | --- | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TR-2-5.0 | 05/20/2005 | 5 | --- | <0.97 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TR-2-8.0 | 05/20/2005 | 8 | --- | <1.1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TR-3-0.5 | 05/20/2005 | 0.5 | --- | <0.93 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TR-3-5.0 | 05/20/2005 | 5 | --- | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TR-4-0.5 | 05/20/2005 | 0.5 | --- | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TR-4-5.0 | 05/20/2005 | 5 | --- | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-10-5 | 12/13/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-10-10 | 12/13/2006 | 10 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-10-15 | 12/13/2006 | 15 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-10-20 | 12/13/2006 | 20 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-10-25 | 12/13/2006 | 25 | --- | **7,800** | **49** | **290** | **160** | **800** | <0.50 | <5.0 | <2.0 | <2.0 | <2.0 | <0.50 | <0.50 |
| B-11-5 | 12/13/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-11-10 | 12/13/2006 | 10 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-11-15 | 12/13/2006 | 15 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-11-20 | 12/13/2006 | 20 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-11-25 | 12/13/2006 | 25 | --- | **3,500** | **30** | **200** | **97** | **510** | <0.50 | <5.0 | <2.0 | <2.0 | <2.0 | <0.50 | <0.50 |
| B-12-5 | 12/11/2006 | 5 | --- | <1.0 | 0.028 | 0.018 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-12-10 | 12/11/2006 | 10 | --- | **2,300** | 0.54 | 7.5 | <0.50 | **180** | <0.50 | <5.0 | <2.0 | <2.0 | <2.0 | <0.50 | <0.50 |
| B-12-15 | 12/11/2006 | 15 | --- | **1,700** | **2.9** | **35** | **22** | **190** | <0.50 | <5.0 | <2.0 | <2.0 | <2.0 | <0.50 | <0.50 |
| B-12-20 | 12/11/2006 | 20 | --- | **5,900** | **30** | **250** | **100** | **570** | <0.50 | <5.0 | <2.0 | <2.0 | <2.0 | <0.50 | <0.50 |
| B-12-25 | 12/11/2006 | 25 | --- | 750 | 0.70 | 8.3 | **13** | **73** | <0.12 | <1.2 | <0.50 | <0.50 | <0.50 | <0.12 | <0.12 |
| B-13-5 | 12/11/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-13-10 | 12/11/2006 | 10 | --- | <1.0 | 0.022 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-13-15 | 12/11/2006 | 15 | --- | <1.0 | 0.028 | <0.0050 | <0.0050 | <0.010 | <0.0050 | 0.053 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-13-20 | 12/11/2006 | 20 | --- | 4.5 | 0.12 | 0.18 | 0.070 | 0.54 | <0.0050 | 0.083 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-13-25 | 12/11/2006 | 25 | --- | **1,400** | **1.2** | **19** | **17** | **97** | <0.12 | <1.2 | <0.50 | <0.50 | <0.50 | <0.12 | <0.12 |
| B-14-5 | 12/11/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-14-10 | 12/11/2006 | 10 | --- | <2.0 | <0.010 | <0.010 | <0.010 | <0.020 | <0.010 | <0.10 | <0.020 | <0.010 | <0.010 | <0.010 | <0.010 |
| B-14-15 | 12/11/2006 | 15 | --- | <1.0 | 0.039 | <0.0050 | <0.0050 | <0.010 | <0.0050 | 0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-14-20 | 12/11/2006 | 20 | --- | <2.0 | 0.019 | <0.010 | <0.010 | <0.020 | <0.010 | <0.10 | <0.020 | <0.010 | <0.010 | <0.010 | <0.010 |
| B-14-25 | 12/11/2006 | 25 | --- | <2.0 | 0.017 | <0.010 | 0.016 | 0.023 | <0.010 | <0.10 | <0.020 | <0.010 | <0.010 | <0.010 | <0.010 |

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-15-5 | 12/12/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-15-10 | 12/12/2006 | 10 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-15-15 | 12/12/2006 | 15 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-15-20 | 12/12/2006 | 20 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-15-25 | 12/12/2006 | 25 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-16-5 | 12/12/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-16-10 | 12/12/2006 | 10 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-16-15 | 12/12/2006 | 15 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-16-20 | 12/12/2006 | 20 | --- | 1.6 | 0.054 | 0.11 | 0.043 | 0.26 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-16-25 | 12/12/2006 | 25 | --- | 2.5 | 0.19 | 0.17 | 0.12 | 0.54 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-17-5 | 12/12/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-17-10 | 12/12/2006 | 10 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-17-15 | 12/12/2006 | 15 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-17-20 | 12/12/2006 | 20 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-17-25 | 12/12/2006 | 25 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-18-5 | 12/12/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-18-10 | 12/12/2006 | 10 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-18-15 | 12/12/2006 | 15 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-18-20 | 12/12/2006 | 20 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-18-25 | 12/12/2006 | 25 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-19-5 | 12/12/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-19-10 | 12/12/2006 | 10 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-19-15 | 12/12/2006 | 15 | --- | <1.0 | 0.028 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-19-20 | 12/12/2006 | 20 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-19-25 | 12/12/2006 | 25 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-20-5 | 12/11/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-20-10 | 12/11/2006 | 10 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-20-15 | 12/11/2006 | 15 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-20-20 | 12/11/2006 | 20 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-20-25 | 12/11/2006 | 25 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-21-5 | 12/11/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-21-10 | 12/11/2006 | 10 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-21-15 | 12/11/2006 | 15 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-21-20 | 12/11/2006 | 20 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-21-24 | 12/11/2006 | 24 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-21-28 | 12/11/2006 | 28 | --- | <1.0 | <0.0050 | 0.0087 | 0.011 | 0.060 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-22-5 | 12/13/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-22-10 | 12/13/2006 | 10 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-22-15 | 12/13/2006 | 15 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-22-20 | 12/13/2006 | 20 | --- | **1,800** | 0.81 | **10** | **26** | **180** | <0.50 | <5.0 | <2.0 | <2.0 | <2.0 | <0.50 | <0.50 |
| B-22-25 | 12/13/2006 | 25 | --- | **3,000** | **14** | **140** | **85** | **470** | <0.50 | <5.0 | <2.0 | <2.0 | <2.0 | <0.50 | <0.50 |
| B-23-5 | 12/12/2006 | 5 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-23-10 | 12/12/2006 | 10 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-23-15 | 12/12/2006 | 15 | --- | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-23-20 | 12/12/2006 | 20 | --- | 1.7 | <0.0050 | 0.0053 | 0.010 | 0.075 | <0.0050 | <0.050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B-23-25 | 12/12/2006 | 25 | --- | **4,900** | **7.0** | **78** | **60** | **450** | <0.25 | <2.5 | <1.0 | <1.0 | <1.0 | <0.25 | <0.25 |
| B-24-5 | 11/30/2007 | 5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| B-24-11.5 | 11/30/2007 | 11.5 | --- | 0.51 | 0.043 | 0.021 | 0.0094 | 0.116 | --- | --- | --- | --- | --- | --- | --- |

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-24-15 | 11/30/2007 | 15 | --- | <0.50 | 0.020 | 0.0064 | <0.0050 | 0.0140 | --- | --- | --- | --- | --- | --- | --- |
| B-24-20 | 11/30/2007 | 20 | --- | 1.3 | 0.036 | 0.049 | 0.016 | 0.102 | --- | --- | --- | --- | --- | --- | --- |
| B-24-25 | 11/30/2007 | 25 | --- | 12 | <0.0050 | 0.039 | 0.040 | 0.308 | --- | --- | --- | --- | --- | --- | --- |
| B-24-30 | 11/30/2007 | 30 | --- | **3,000** | **2.2** | **23** | **26** | **140** | --- | --- | --- | --- | --- | --- | --- |
| B-24-32 | 11/30/2007 | 32 | --- | 220 | <0.12 | 0.73 | 1.3 | 6.14 | --- | --- | --- | --- | --- | --- | --- |
| B-25-5 | 12/03/2007 | 5 | --- | 0.76 e | <0.0050 | 0.31 | 0.011 | 0.070 | --- | --- | --- | --- | --- | --- | --- |
| B-25-10 | 12/03/2007 | 10 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| B-26-5 | 11/30/2007 | 5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| B-26-10 | 11/30/2007 | 10 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| B-26-15 | 11/30/2007 | 15 | | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| B-27-5 | 12/03/2007 | 5 | --- | <0.50 | <0.0050 | 0.015 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| B-27-10 | 12/03/2007 | 10 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-12-5.5 | 12/13/2007 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-12-9.5 | 12/13/2007 | 9.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-12-14.5 | 12/13/2007 | 14.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-12-19.5 | 12/13/2007 | 19.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-12-24.5 | 12/13/2007 | 24.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-12-29.5 | 12/13/2007 | 29.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-12-34.5 | 12/13/2007 | 34.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-13-5.5 | 12/12/2007 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-13-10 | 12/12/2007 | 10 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-13-15 | 12/12/2007 | 15 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-13-20.5 | 12/12/2007 | 20.5 | --- | 340 | <0.0050 | 0.48 | 1.1 | 8.7 | --- | --- | --- | --- | --- | --- | --- |
| S-13-25 | 12/12/2007 | 25 | --- | 62 | 0.017 | 0.053 | 0.030 | 0.146 | --- | --- | --- | --- | --- | --- | --- |

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-13-31 | 12/12/2007 | 31 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-13-35 | 12/12/2007 | 35 | --- | 1.2 | <0.0050 | 0.0069 | <0.0050 | 0.0077 | --- | --- | --- | --- | --- | --- | --- |
| S-14-5 | 12/12/2007 | 5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-14-10 | 12/12/2007 | 10 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-14-15.5 | 12/12/2007 | 15.5 | --- | <0.50 | 0.014 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-14-20 | 12/12/2007 | 20 | --- | **3,100** | **6.7** | **42** | **66** | **308** | --- | --- | --- | --- | --- | --- | --- |
| S-14-25.5 | 12/12/2007 | 25.5 | --- | 2.9 | 0.0050 | 0.0074 | 0.037 | 0.091 | --- | --- | --- | --- | --- | --- | --- |
| S-14-30 | 12/12/2007 | 30 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-14-35 | 12/12/2007 | 35 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-15-4.5* | 12/11/2007 | 4.5 | --- | 6.5 | <0.0050 | 0.0058 | <0.0050 | 0.044 | --- | --- | --- | --- | --- | --- | --- |
| S-15-9.5 | 12/11/2007 | 9.5 | --- | **5,000** | **93** | **350** | **100** | **660** | --- | --- | --- | --- | --- | --- | --- |
| S-15-14.5 | 12/11/2007 | 14.5 | --- | **1,900** | **34** | **290** | **72** | **460** | --- | --- | --- | --- | --- | --- | --- |
| S-15-19.5 | 12/11/2007 | 19.5 | --- | 220 | **4.0** | **19** | **5.8** | **33.8** | --- | --- | --- | --- | --- | --- | --- |
| S-15-24.5 | 12/11/2007 | 24.5 | --- | 66 | 0.020 | 0.054 | 0.027 | 0.163 | --- | --- | --- | --- | --- | --- | --- |
| S-15-29.5 | 12/11/2007 | 29.5 | --- | 1.6 | <0.0050 | 0.0062 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-15-34.5 | 12/11/2007 | 34.5 | --- | 1.6 | <0.0050 | 0.0062 | <0.0050 | 0.0078 | --- | --- | --- | --- | --- | --- | --- |
| S-16-4.5* | 12/11/2007 | 4.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-16-9.5 | 12/11/2007 | 9.5 | --- | <0.50 | 0.048 | 0.013 | <0.0050 | 0.0171 | --- | --- | --- | --- | --- | --- | --- |
| S-16-14.5 | 12/11/2007 | 14.5 | --- | 1.6 | 0.31 | 0.25 | 0.039 | 0.233 | --- | --- | --- | --- | --- | --- | --- |
| S-16-19.5 | 12/11/2007 | 19.5 | --- | 230 | 0.042 | 0.21 | 0.18 | 1.28 | --- | --- | --- | --- | --- | --- | --- |
| S-16-24.5 | 12/11/2007 | 24.5 | --- | 0.59 | <0.0050 | 0.017 | 0.014 | 0.083 | --- | --- | --- | --- | --- | --- | --- |
| S-16-29.5 | 12/11/2007 | 29.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| S-16-34.5 | 12/11/2007 | 34.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| AS-1-5.5 | 12/13/2007 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| AS-1-9.5 | 12/13/2007 | 9.5 | --- | **1,800** | <0.0050 | 0.59 | 0.88 | **29** | --- | --- | --- | --- | --- | --- | --- |

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AS-1-14.5 | 12/13/2007 | 14.5 | --- | 150 | <0.12 | 0.27 | 0.29 | 1.93 | --- | --- | --- | --- | --- | --- | --- |
| AS-1-19.5 | 12/13/2007 | 19.5 | --- | **3,400** | **38** | **210** | **110** | **610** | --- | --- | --- | --- | --- | --- | --- |
| AS-1-25.5 | 12/13/2007 | 25.5 | --- | 91 | 0.26 | 0.99 | 1.1 | 5.1 | --- | --- | --- | --- | --- | --- | --- |
| AS-1-30 | 12/13/2007 | 30 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.0100 | --- | --- | --- | --- | --- | --- | --- |
| AS-1-34.5 | 12/13/2007 | 34.5 | --- | 7.6 | 0.099 | 0.16 | 0.058 | 0.220 | --- | --- | --- | --- | --- | --- | --- |
| S-17-6 | 05/30/2008 | 6 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-17-11 | 05/30/2008 | 11 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-17-16 | 05/30/2008 | 16 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-17-21 | 05/30/2008 | 21 | --- | 0.63 | <0.0050 | 0.008 | 0.0086 | 0.043 | --- | --- | --- | --- | --- | --- | --- |
| S-17-26 | 05/30/2008 | 26 | --- | **3,000** | **3.7** | **40** | **40** | **193** | --- | --- | --- | --- | --- | --- | --- |
| S-17-31 | 05/30/2008 | 31 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-17-34.5 | 05/30/2008 | 34.5 | --- | 210 | 0.83 | 6.3 | 3.1 | **17.5** | --- | --- | --- | --- | --- | --- | --- |
| S-18-6 | 05/30/2008 | 6 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-18-11 | 05/30/2008 | 11 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-18-15.5 | 05/30/2008 | 15.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-18-21 | 05/30/2008 | 21 | --- | **5,200** | **5.3** | **96** | **120** | **630** | --- | --- | --- | --- | --- | --- | --- |
| S-18-26 | 05/30/2008 | 26 | --- | 1.3 | 0.021 | 0.080 | 0.026 | 0.158 | --- | --- | --- | --- | --- | --- | --- |
| S-18-31 | 05/30/2008 | 31 | --- | <0.50 | <0.0050 | 0.0055 | 0.0234 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-18-34.5 | 05/30/2008 | 34.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| OW-1-6.5 | 05/30/2008 | 6.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| OW-1-11 | 05/30/2008 | 11 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| OW-1-16 | 05/30/2008 | 16 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| OW-1-19.5 | 05/30/2008 | 19.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| EB-1 | 06/11/2008 | 23 | --- | 190 | <0.12 | <0.12 | <0.12 | 1.17 | --- | --- | --- | --- | --- | --- | --- |
| EB-2 | 06/11/2008 | 23 | --- | **2,500** | **5.0** | **48** | **41** | **220** | --- | --- | --- | --- | --- | --- | --- |

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EB-3 | 06/11/2008 | 23 | --- | 13 | 0.42 | 2.5 | 0.33 | 2.26 | --- | --- | --- | --- | --- | --- | --- |
| EB-4 | 06/11/2008 | 23 | --- | **2,900** | **11** | **170** | **69** | **430** | --- | --- | --- | --- | --- | --- | --- |
| EB-5 | 06/11/2008 | 23 | --- | **2,100** | **7.4** | **98** | **47** | **298** | --- | --- | --- | --- | --- | --- | --- |
| EB-6 | 06/11/2008 | 23 | --- | **3,300** | **4.7** | **62** | **56** | **339** | --- | --- | --- | --- | --- | --- | --- |
| EB-7 | 06/11/2008 | 23 | --- | 100 | 0.90 | 2.6 | 1.2 | 7.7 | --- | --- | --- | --- | --- | --- | --- |
| EB-8 | 06/11/2008 | 23 | --- | **3,300** | **22** | **230** | **63** | **470** | --- | --- | --- | --- | --- | --- | --- |
| EB-9 | 06/11/2008 | 23 | --- | **3,900** | **16** | **230** | **85** | **540** | --- | --- | --- | --- | --- | --- | --- |
| EB-10 | 06/11/2008 | 23 | --- | **3,600** | **6.3** | **120** | **74** | **470** | --- | --- | --- | --- | --- | --- | --- |
| B-28-5.5 | 09/26/2008 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| B-28-10.5 | 09/26/2008 | 10.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| B-28-15.5 | 09/26/2008 | 15.5 | --- | <0.50 | 0.0059 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| B-28-20.5 | 09/26/2008 | 20.5 | --- | <0.50 | 0.0051 | 0.0054 | <0.0050 | 0.013 | --- | --- | --- | --- | --- | --- | --- |
| B-28-25.5 | 09/26/2008 | 25.5 | --- | **1,500** | <2.5 | 7.0 | **17** | **72** | --- | --- | --- | --- | --- | --- | --- |
| B-28-30.5 | 09/26/2008 | 30.5 | --- | 62 | <0.50 | <0.50 | <0.50 | 2.6 | --- | --- | --- | --- | --- | --- | --- |
| B-28-35.5 | 09/26/2008 | 35.5 | --- | <50 | <0.50 | 0.51 | <0.50 | 1.4 | --- | --- | --- | --- | --- | --- | --- |
| B-28-40.5 | 09/26/2008 | 40.5 | --- | <0.50 | <0.0050 | 0.013 | 0.0074 | 0.044 | --- | --- | --- | --- | --- | --- | --- |
| B-28-45.5 | 09/26/2008 | 45.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| B-29-5.5 | 09/26/2008 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| B-29-10.5 | 09/26/2008 | 10.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| B-29-15.5 | 09/26/2008 | 15.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| B-29-20.5 | 09/26/2008 | 20.5 | --- | <0.50 | <0.0050 | 0.0055 | <0.0050 | 0.020 | --- | --- | --- | --- | --- | --- | --- |
| B-29-25.5 | 09/26/2008 | 25.5 | --- | **5,800** | **14** | **260** | **82** | **600** | --- | --- | --- | --- | --- | --- | --- |
| B-29-30.5 | 09/26/2008 | 30.5 | --- | 0.69 | 0.0063 | 0.033 | 0.0087 | 0.058 | --- | --- | --- | --- | --- | --- | --- |
| B-29-35.5 | 09/26/2008 | 35.5 | --- | <0.50 | <0.0050 | 0.0089 | <0.0050 | 0.030 | --- | --- | --- | --- | --- | --- | --- |
| B-29-40.5 | 09/26/2008 | 40.5 | --- | <0.50 | <0.0050 | 0.031 | 0.011 | 0.073 | --- | --- | --- | --- | --- | --- | --- |
| B-29-45.5 | 09/26/2008 | 45.5 | --- | <0.50 | <0.0050 | 0.0064 | <0.0050 | 0.020 | --- | --- | --- | --- | --- | --- | --- |

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-14R-5.5 | 09/23/2008 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-14R-10.5 | 09/23/2008 | 10.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-14R-15.5 | 09/23/2008 | 15.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-14R-20.5 | 09/23/2008 | 20.5 | --- | 99 | <0.50 | <0.50 | 0.66 | 2.8 | --- | --- | --- | --- | --- | --- | --- |
| S-14R-25.5 | 09/23/2008 | 25.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | 0.023 | --- | --- | --- | --- | --- | --- | --- |
| S-14R-30.5 | 09/23/2008 | 30.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-14R-34.5 | 09/23/2008 | 34.5 | --- | 56 | <0.50 | 0.73 | 0.60 | 3.2 | --- | --- | --- | --- | --- | --- | --- |
| S-19-5.5 | 09/22/2008 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-19-10.5 | 09/22/2008 | 10.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-19-15.5 | 09/22/2008 | 15.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-19-20.5 | 09/22/2008 | 20.5 | --- | <0.50 | 0.019 | <0.0050 | <0.0050 | 0.0064 | --- | --- | --- | --- | --- | --- | --- |
| S-19-25.5 | 09/22/2008 | 25.5 | --- | <0.50 | 0.0086 | 0.028 | 0.014 | 0.073 | --- | --- | --- | --- | --- | --- | --- |
| S-19-30.5 | 09/22/2008 | 30.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-19-35.5 | 09/22/2008 | 35.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | 0.0054 | --- | --- | --- | --- | --- | --- | --- |
| S-19-40.5 | 09/22/2008 | 40.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-19-45.5 | 09/22/2008 | 45.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-20-5.5 | 09/22/2008 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-20-10.5 | 09/22/2008 | 10.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-20-15.5 | 09/22/2008 | 15.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-20-20.5 | 09/22/2008 | 20.5 | --- | 28 f | 0.0088 | 0.018 | 0.15 | 0.66 f | --- | --- | --- | --- | --- | --- | --- |
| S-20-25.5 | 09/22/2008 | 25.5 | --- | 0.58 | 0.012 | 0.023 | 0.015 | 0.073 | --- | --- | --- | --- | --- | --- | --- |
| S-20-30.5 | 09/22/2008 | 30.5 | --- | 58 | <0.50 | <0.50 | <0.50 | 1.4 | --- | --- | --- | --- | --- | --- | --- |
| S-20-35.5 | 09/22/2008 | 35.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-20-40.5 | 09/22/2008 | 40.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-20-45.5 | 09/22/2008 | 45.5 | --- | <0.50 | <0.0050 | 0.0067 | <0.0050 | 0.012 | --- | --- | --- | --- | --- | --- | --- |
| S-21A-5.5 | 09/25/2008 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-21A-10.5 | 09/25/2008 | 10.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-21A-15.5 | 09/25/2008 | 15.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | 0.041 | --- | --- | --- | --- | --- | --- | --- |
| S-21A-20.5 | 09/25/2008 | 20.5 | --- | **3,000** | **12** | **140** | **61** | **360** | --- | --- | --- | --- | --- | --- | --- |
| S-21A-26.5 | 09/25/2008 | 26.5 | --- | **3,500** | **4.8** | **29** | **38** | **170** | --- | --- | --- | --- | --- | --- | --- |
| S-21B-5.5 | 09/23/2008 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-21B-15.5 | 09/23/2008 | 15.5 | --- | 1.9 | 0.028 | 0.11 | 0.030 | 0.38 | --- | --- | --- | --- | --- | --- | --- |
| S-21B-20.5 | 09/23/2008 | 20.5 | --- | **2,300** | <5.0 | **88** | **52** | **360** | --- | --- | --- | --- | --- | --- | --- |
| S-21B-25.5 | 09/23/2008 | 25.5 | --- | **7,100** | **37** | **250** | **130** | **760** | --- | --- | --- | --- | --- | --- | --- |
| S-21B-30.5 | 09/23/2008 | 30.5 | --- | 0.51 | <0.0050 | <0.0050 | <0.0050 | 0.028 | --- | --- | --- | --- | --- | --- | --- |
| S-21B-35.5 | 09/23/2008 | 35.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-21B-40.5 | 09/23/2008 | 40.5 | --- | <0.50 | <0.0050 | 0.012 | <0.0050 | 0.028 | --- | --- | --- | --- | --- | --- | --- |
| S-21B-45.5 | 09/23/2008 | 45.5 | --- | <0.50 | <0.0050 | 0.013 | 0.0063 | 0.039 | --- | --- | --- | --- | --- | --- | --- |
| S-22A-5.5 | 09/25/2008 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-22A-10.5 | 09/25/2008 | 10.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-22A-15.5 | 09/25/2008 | 15.5 | --- | 3.5 | <0.0050 | <0.0050 | <0.0050 | 0.013 | --- | --- | --- | --- | --- | --- | --- |
| S-22A-20.5 | 09/25/2008 | 20.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-22A-26.5 | 09/25/2008 | 26.5 | --- | **3,900** | **11** | **70** | **55** | **310** | --- | --- | --- | --- | --- | --- | --- |
| S-22B-5.5 | 09/22/2008 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-22B-10.5 | 09/22/2008 | 10.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-22B-15.5 | 09/22/2008 | 15.5 | --- | 1.9 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-22B-20.5 | 09/22/2008 | 20.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-22B-25.5 | 09/22/2008 | 25.5 | --- | **1,200** | **2.6** | **13** | **17** | **81** | --- | --- | --- | --- | --- | --- | --- |
| S-22B-30.5 | 09/22/2008 | 30.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | 0.0063 | --- | --- | --- | --- | --- | --- | --- |
| S-22B-35.5 | 09/22/2008 | 35.5 | --- | 56 | <0.50 | 0.83 | 0.69 | 3.7 | --- | --- | --- | --- | --- | --- | --- |
| S-22B-40.5 | 09/22/2008 | 40.5 | --- | 14 f | 0.012 | <0.0050 | <0.0050 | 0.29 f | --- | --- | --- | --- | --- | --- | --- |
| S-22B-45.5 | 09/22/2008 | 45.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | 0.0079 | --- | --- | --- | --- | --- | --- | --- |

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-23-5.5 | 09/24/2008 | 5.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-23-10.5 | 09/24/2008 | 10.5 | --- | 1.3 | <0.0050 | <0.0050 | <0.0050 | <0.010 | --- | --- | --- | --- | --- | --- | --- |
| S-23-15.5 | 09/24/2008 | 15.5 | --- | <0.50 | 0.0078 | <0.0050 | <0.0050 | 0.0082 | --- | --- | --- | --- | --- | --- | --- |
| S-23-20.5 | 09/24/2008 | 20.5 | --- | **3,700** | **17** | **170** | **86** | **480** | --- | --- | --- | --- | --- | --- | --- |
| S-23-25.5 | 09/24/2008 | 25.5 | --- | **1,600** | **1.5** | **15** | **16** | **87** | --- | --- | --- | --- | --- | --- | --- |
| S-23-30.5 | 09/24/2008 | 30.5 | --- | <0.50 | <0.0050 | <0.0050 | <0.0050 | 0.0072 | --- | --- | --- | --- | --- | --- | --- |
| S-23-34.5 | 09/24/2008 | 34.5 | --- | 68 | <0.0050 | <0.0050 | <0.0050 | 0.014 | --- | --- | --- | --- | --- | --- | --- |
| ***Shallow Soil (≤10 fbg) ESL [g]:*** | | | ***110*** | ***500*** | ***1.2*** | ***9.3*** | ***4.7*** | ***11*** | ***8.4*** | ***110*** | ***NA*** | ***NA*** | ***NA*** | ***0.91*** | ***0.51*** |
| ***Deep Soil (>10 fbg) ESL [g]:*** | | | ***110*** | ***1,000*** | ***1.2*** | ***9.3*** | ***4.7*** | ***11*** | ***8.4*** | ***110*** | ***NA*** | ***NA*** | ***NA*** | ***0.91*** | ***0.51*** |

Notes:
fbg = Feet below grade
mg/kg = Milligrams per kilogram
TPHd = Total petroleum hydrocarbons as diesel analyzed by EPA Method 8015
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; before 12/11/06, analyzed by EPA Method 8015 unless otherwise n
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; before 10/14/2003, analyzed by EPA Method 8020
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B
TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B
DIPE = Di-isopropyl ether analyzed by EPA Method 8260B
ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B
TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B
1,2-DCA = 1,2-Dichloroethane analyzed by EPA Method 8260B
EDB = 1,2-Dibromoethane analyzed by EPA Method 8260B
<x = Not detected at reporting limit x
--- = Not analyzed
ESL = Environmental screening level
* = Sample may have contained backfilled soil fgrom air-knife clearance activities.

**TABLE 2**

**HISTORICAL SOIL ANALYTICAL DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Sample ID* | *Date* | *Depth (fbg)* | *TPHd (mg/kg)* | *TPHg (mg/kg)* | *B (mg/kg)* | *T (mg/kg)* | *E (mg/kg)* | *X (mg/kg)* | *MTBE (mg/kg)* | *TBA (mg/kg)* | *DIPE (mg/kg)* | *ETBE (mg/kg)* | *TAME (mg/kg)* | *1,2-DCA (mg/kg)* | *EDB (mg/kg)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

NA = No applicable ESL
Results in **bold** equal or exceed applicable ESL
Shading indicates that soil sample location was subsequently excavated; results are not representative of residual soil.

a = Positive result appears to be a heavier hydrocarbon than diesel
b = Positive result appears to be a lighter hydrocarbon than diesel
c = Analyzed by EPA Method 7421
d = Analyzed by EPA Method 8260B
e = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based on the specified standard.
f = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
g = San Francisco Bay Regional Water Quality Control Board (RWQCB) commercial/industrial ESL for soil where groundwater is not a source of drinking water (Tables B and D of *User's Guide: Derivation and Application of Environmental Screening Levels,* RWQCB, Interim Final - 2013).

**TABLE 3**

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-4 | 10/26/1988 | 130 | 3.8 | 13 | 4.0 | 30 | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | --- | --- | --- | --- | --- |
| S-4 | 02/14/1989 | <50 | 0.50 | <1.0 | <1.0 | 3.0 | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 12.82 | --- | 80.69 | --- | --- |
| S-4 | 05/01/1989 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 16.48 | --- | 77.03 | --- | --- |
| S-4 | 07/27/1989 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 15.84 | --- | 77.67 | --- | --- |
| S-4 | 10/05/1989 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 15.98 | --- | 77.53 | --- | --- |
| S-4 | 01/09/1990 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 15.86 | --- | 77.65 | --- | --- |
| S-4 | 04/30/1990 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 14.48 | --- | 79.03 | --- | --- |
| S-4 | 07/31/1990 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | --- | --- | --- | --- | --- |
| S-4 | 10/30/1990 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | --- | --- | --- | --- | --- |
| S-4 | 05/06/1991 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 15.23 | --- | 78.28 | --- | --- |
| S-4 | 06/27/1991 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 13.54 | --- | 79.97 | --- | --- |
| S-4 | 09/24/1991 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 15.85 | --- | 77.66 | --- | --- |
| S-4 | 11/07/1991 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 15.60 | --- | 77.91 | --- | --- |
| S-4 | 02/13/1992 | <50 | <0.50 | <0.50 | <0.50 | 3.0 | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 14.27 | --- | 79.24 | --- | --- |
| S-4 | 05/11/1992 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | --- | --- | --- | --- | --- |
| S-4 | 12/03/1992 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | --- | --- | --- | --- | --- |
| S-4 | 05/13/1993 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 14.81 | --- | 78.70 | --- | --- |
| S-4 | 07/22/1993 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 14.42 | --- | 79.09 | --- | --- |
| S-4 | 10/20/1993 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | --- | --- | --- | --- | --- |
| S-4 | 01/25/1994 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 14.60 | --- | 78.91 | --- | --- |
| S-4 | 04/25/1994 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 14.39 | --- | 79.12 | --- | --- |
| S-4 | 07/21/1994 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 22.29 | --- | 71.22 | --- | --- |
| S-4 | 10/24/1994 | <500 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | --- | 93.51 | 22.72 | --- | 70.79 | --- | --- |
| S-4 | 12/22/1994 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 22.25 | --- | 3.52 | --- | --- |
| S-4 | 04/20/1995 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 21.16 | --- | 4.61 | --- | --- |
| S-4 | 10/04/1995 | <50 | 1.2 | 0.70 | <0.50 | <0.50 | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 22.25 | --- | 3.52 | --- | --- |
| S-4 | 01/03/1996 | <50 | 0.60 | <0.50 | <0.50 | 1.7 | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 23.28 | --- | 2.49 | --- | --- |
| S-4 | 04/11/1996 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 21.58 | --- | 4.19 | --- | --- |
| S-4 | 07/11/1996 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 21.60 | --- | 4.17 | --- | --- |
| S-4 | 10/02/1996 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | 2.6 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 22.46 | --- | 3.31 | --- | --- |
| S-4 | 01/22/1997 | <50 | 0.73 | <0.50 | <0.50 | 0.63 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 20.06 | --- | 5.71 | --- | --- |
| S-4 | 07/21/1997 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 22.10 | --- | 3.67 | --- | --- |
| S-4 | 01/22/1998 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 20.50 | --- | 5.27 | --- | --- |
| S-4 | 07/08/1998 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 20.86 | --- | 4.91 | --- | --- |
| S-4 | 10/26/1998 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 21.41 | --- | 4.36 | --- | --- |
| S-4 | 01/28/1999 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 22.34 | --- | 3.43 | --- | --- |
| S-4 | 04/23/1999 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 21.43 | --- | 4.34 | --- | --- |
| S-4 | 07/29/1999 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | <5.00 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 21.45 | --- | 4.32 | --- | --- |
| S-4 | 11/01/1999 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 22.08 | --- | 3.69 | --- | --- |
| S-4 | 01/07/2000 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 22.29 | --- | 3.48 | --- | --- |
| S-4 | 04/11/2000 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 21.11 | --- | 4.66 | --- | --- |
| S-4 | 07/19/2000 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | <2.50 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 21.19 | --- | 4.58 | --- | --- |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-4 | 10/12/2000 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 22.22 | --- | 3.55 | --- | --- |
| S-4 | 01/09/2001 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | <2.50 | --- | --- | --- | --- | --- | --- | --- | 25.77 | 22.17 | --- | 3.60 | --- | --- |
| S-4 | 04/06/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 21.50 | --- | 4.27 | --- | --- |
| S-4 | 07/25/2001 | <50 | 2.0 | 0.52 | <0.50 | 1.0 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 25.77 | 21.50 | --- | 4.27 | --- | --- |
| S-4 | 11/01/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 21.95 | --- | 3.82 | --- | --- |
| S-4 | 01/17/2002 | <50 d | <0.50 d | <0.50 d | <0.50 d | <0.50 d | --- | <5.0 d | --- | --- | --- | --- | --- | --- | 25.77 | 21.13 | --- | 4.64 | --- | --- |
| S-4 | 05/08/2002 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 25.77 | 21.35 | --- | 4.42 | --- | --- |
| S-4 | 07/18/2002 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 34.41 | 21.19 | --- | 13.22 | --- | --- |
| S-4 | 10/15/2002 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.42 | --- | 12.99 | --- | --- |
| S-4 | 01/02/2003 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 34.41 | 20.75 | --- | 13.66 | --- | --- |
| S-4 | 04/15/2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.08 | --- | 13.33 | --- | --- |
| S-4 | 07/14/2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 19.93 | --- | 14.48 | --- | --- |
| S-4 | 10/20/2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 19.56 | --- | 14.85 | --- | --- |
| S-4 | 01/22/2004 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 34.41 | 19.12 | --- | 15.29 | --- | --- |
| S-4 | 04/19/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 19.15 | --- | 15.26 | --- | --- |
| S-4 | 07/13/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 20.48 | --- | 13.93 | --- | --- |
| S-4 | 10/28/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.00 | --- | 13.41 | --- | --- |
| S-4 | 01/17/2005 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 34.41 | 20.17 | --- | 14.24 | --- | --- |
| S-4 | 04/14/2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 19.82 | --- | 14.59 | --- | --- |
| S-4 | 07/28/2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 20.71 | --- | 13.70 | --- | --- |
| S-4 | 10/05/2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 20.85 | --- | 13.56 | --- | --- |
| S-4 | 02/09/2006 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | --- | --- | --- | --- | --- | --- | 34.41 | 19.47 | --- | 14.94 | --- | --- |
| S-4 | 05/15/2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 19.52 | --- | 14.89 | --- | --- |
| S-4 | 08/23/2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 20.75 | --- | 13.66 | --- | --- |
| S-4 | 11/15/2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 20.03 | --- | 14.38 | --- | --- |
| S-4 | 01/30/2007 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 34.41 | 21.30 | --- | 13.11 | --- | --- |
| S-4 | 05/29/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.15 | --- | 13.26 | --- | --- |
| S-4 | 08/15/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.38 | --- | 13.03 | --- | --- |
| S-4 | 11/28/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.55 | --- | 12.86 | --- | --- |
| S-4 | 02/08/2008 | 64 f | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 34.41 | 22.75 | --- | 11.66 | --- | --- |
| S-4 | 05/08/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 22.18 | --- | 12.23 | --- | --- |
| S-4 | 08/14/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.77 | --- | 12.64 | --- | --- |
| S-4 | 11/11/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 20.68 | --- | 13.73 | --- | --- |
| S-4 | 01/05/2009 | 250 | 1.8 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 34.41 | 20.92 | --- | 13.49 | --- | --- |
| S-4 | 04/09/2009 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.10 | --- | 13.31 | --- | --- |
| S-4 | 07/23/2009 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.76 | --- | 12.65 | --- | --- |
| S-4 | 10/01/2009 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 22.10 | --- | 12.31 | --- | --- |
| S-4 | 01/28/2010 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.75 | --- | 12.66 | --- | --- |
| S-4 | 05/20/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.44 | --- | 12.97 | --- | --- |
| S-4 | 08/31/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.72 | --- | 12.69 | --- | --- |
| S-4 | 12/29/2010 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 20.91 | --- | 13.50 | --- | --- |
| S-4 | 02/01/2011 | <50 | <0.50 | <0.50 | <0.50 | 1.1 | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.19 | --- | 13.22 | 1.84 | 157 |

**TABLE 3**

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-4 | 04/25/2011 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 17.32 | --- | 17.09 | --- | --- |
| S-4 | 07/28/2011 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 20.92 | --- | 13.49 | --- | --- |
| S-4 | 10/28/2011 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.35 | --- | 13.06 | --- | --- |
| S-4 | 05/07/2012 | 240 | 86 | 22 | 9.5 | 25 | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 20.65 | --- | 13.76 | 2.52 | 119 |
| S-4 | 05/02/2013 | 55 | <0.50 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.45 | --- | 12.96 | --- | --- |
| S-4 | 04/21/2014 | 380 | 88 | 58 | 14 | 42 | --- | --- | --- | --- | --- | --- | --- | --- | 34.41 | 21.70 | --- | 12.71 | --- | --- |
| S-5 | 04/16/1987 | 130,000 | 15,000 | 16,000 | a | 14,000 | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | --- | --- | --- | --- | --- |
| S-5 | 10/26/1988 | 110,000 | 20,000 | 25,000 | 2,300 | 10,000 | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | --- | --- | --- | --- | --- |
| S-5 | 02/14/1989 | 94,000 | 16,000 | 21,000 | 1,800 | 10,000 | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 19.87 | --- | 79.49 | --- | --- |
| S-5 | 05/01/1989 | 120,000 | 29,000 | 35,000 | 3,100 | 15,000 | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 21.23 | --- | 78.13 | --- | --- |
| S-5 | 07/27/1989 | 110,000 | 20,000 | 29,000 | 2,400 | 14,000 | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 20.41 | --- | 78.95 | --- | --- |
| S-5 | 10/05/1989 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 20.43 | 0.01 | 78.94 | --- | --- |
| S-5 | 01/09/1990 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 21.16 | 0.01 | 78.21 | --- | --- |
| S-5 | 04/30/1990 | 100,000 | 13,000 | 22,000 | 2,100 | 11,000 | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 20.96 | --- | 78.40 | --- | --- |
| S-5 | 07/31/1990 | 53,000 | 8,300 | 14,000 | 1,200 | 7,400 | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 20.88 | --- | 78.48 | --- | --- |
| S-5 | 10/30/1990 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 21.96 | 0.03 | 77.42 | --- | --- |
| S-5 | 05/06/1991 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 23.00 | 0.13 | 76.46 | --- | --- |
| S-5 | 06/27/1991 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 20.53 | 0.03 | 78.85 | --- | --- |
| S-5 | 09/24/1991 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 21.40 | 0.06 | 78.01 | --- | --- |
| S-5 | 11/07/1991 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 21.33 | 0.25 | 78.23 | --- | --- |
| S-5 | 02/13/1992 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 22.52 | 0.31 | 77.09 | --- | --- |
| S-5 | 05/11/1992 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 22.46 | 0.58 | 77.36 | --- | --- |
| S-5 | 12/03/1992 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | --- | --- | --- | --- | --- |
| S-5 | 05/13/1993 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 22.22 | 0.27 | 77.36 | --- | --- |
| S-5 | 07/22/1993 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 21.68 | 0.25 | 77.88 | --- | --- |
| S-5 | 10/20/1993 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 20.51 | 0.23 | 79.03 | --- | --- |
| S-5 | 01/25/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 21.93 | 0.18 | 77.57 | --- | --- |
| S-5 | 04/25/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 21.97 | 0.35 | 77.67 | --- | --- |
| S-5 | 05/26/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 20.84 | 0.35 | 78.80 | --- | --- |
| S-5 | 06/10/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 21.01 | 0.32 | 78.61 | --- | --- |
| S-5 | 07/21/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 22.18 | 0.47 | 77.56 | --- | --- |
| S-5 | 08/25/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 22.01 | 0.44 | 77.70 | --- | --- |
| S-5 | 09/22/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 22.00 | 0.15 | 77.48 | --- | --- |
| S-5 | 10/24/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 99.36 | 22.28 | 0.56 | 77.53 | --- | --- |
| S-5 | 12/22/1994 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 22.88 | 0.99 | 0.85 | --- | --- |
| S-5 | 04/20/1995 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 21.66 | 0.33 | 1.54 | --- | --- |
| S-5 | 10/04/1995 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 22.18 | --- | 0.76 | --- | --- |
| S-5 | 01/03/1996 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 22.80 | 0.83 | 0.80 | --- | --- |
| S-5 | 04/11/1996 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 21.15 | 0.67 | 2.33 | --- | --- |
| S-5 | 07/11/1996 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 22.62 | 0.90 | 1.04 | --- | --- |
| S-5 | 10/02/1996 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 23.07 | 0.64 | 0.38 | --- | --- |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-5 | 01/22/1997 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 20.83 | 0.16 | 2.24 | --- | --- |
| S-5 | 07/21/1997 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 21.16 | 0.05 | 1.82 | --- | --- |
| S-5 | 01/22/1998 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 20.04 | 0.04 | 2.93 | --- | --- |
| S-5 | 07/08/1998 | 220 | 14 | 40 | 5.8 | 34 | 3.3 | --- | --- | --- | --- | --- | --- | --- | 22.94 | 18.61 | --- | 4.33 | --- | --- |
| S-5 | 10/26/1998 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 17.31 | --- | 5.63 | --- | --- |
| S-5 | 01/28/1999 | 51,000 | 13,000 | 1,200 | 1,200 | 2,400 | 2,400 | --- | --- | --- | --- | --- | --- | --- | 22.94 | 20.11 | --- | 2.83 | --- | --- |
| S-5 | 04/23/1999 | 65,600 | 2,540 | 7,300 | 1,790 | 9,840 | <1,000 | --- | --- | --- | --- | --- | --- | --- | 22.94 | 19.21 | --- | 3.73 | --- | --- |
| S-5 | 07/29/1999 | 61,400 | 3,320 | 6,980 | 1,520 | 7,700 | <1,000 | --- | --- | --- | --- | --- | --- | --- | 22.94 | 14.77 | --- | 8.17 | --- | --- |
| S-5 | 11/01/1999 | 48,200 | 2,700 | 5,740 | 1,290 | 7,850 | <500 | <40.0 | --- | --- | --- | --- | --- | --- | 22.94 | 15.56 | --- | 7.38 | --- | --- |
| S-5 | 01/07/2000 | 39,000 | 3,900 | 8,500 | 790 | 8,300 | 1,500 | --- | --- | --- | --- | --- | --- | --- | 22.94 | 15.82 | --- | 7.12 | --- | --- |
| S-5 | 04/11/2000 | 29,300 | 1,680 | 5,060 | 1,130 | 6,220 | <250 | --- | --- | --- | --- | --- | --- | --- | 22.94 | 18.19 | --- | 4.75 | --- | --- |
| S-5 | 07/19/2000 | 6,420 | 2,110 | 207 | 252 | 681 | 355 | 253 b | --- | --- | --- | --- | --- | --- | 22.94 | 19.01 | --- | 3.93 | --- | --- |
| S-5 | 10/12/2000 | 41,500 | 2,940 | 4,940 | 1,520 | 7,770 | <250 | <66.7 | --- | --- | --- | --- | --- | --- | 22.94 | 19.62 | --- | 3.32 | --- | --- |
| S-5 | 01/09/2001 | 142,000 | 7,030 | 9,550 | 2,340 | 12,600 | 779 | --- | --- | --- | --- | --- | --- | --- | 22.94 | 19.94 | --- | 3.00 | --- | --- |
| S-5 | 04/06/2001 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | --- | --- | --- | --- | --- |
| S-5 | 04/13/2001 | 59,800 | 4,810 | 10,800 | 1,950 | 10,100 | 842 | <10.0 | --- | --- | --- | --- | --- | --- | 22.94 | 14.72 | --- | 8.22 | --- | --- |
| S-5 | 07/25/2001 | 71,000 | 2,900 | 6,800 | 1,700 | 9,100 | --- | <250 | --- | --- | --- | --- | --- | --- | 22.94 | 14.91 | --- | 8.03 | --- | --- |
| S-5 | 08/13/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | 19.43 | --- | 3.51 | --- | --- |
| S-5 | 11/01/2001 | Unable to locate | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.94 | --- | --- | --- | --- | --- |
| S-5 | 01/17/2002 | 58,000 d | 460 d | 3,300 d | 1,900 d | 8,400 d | --- | <200 d | --- | --- | --- | --- | --- | --- | c | 14.27 | --- | --- | --- | --- |
| S-5 | 05/08/2002 | 60,000 d | d | 2,700 d | 1,800 d | 8,800 d | --- | <100 d | --- | --- | --- | --- | --- | --- | 22.94 | 18.40 | --- | 4.54 | --- | --- |
| S-5 | 07/18/2002 | 53,000 | 240 | 1,200 | 1,500 | 6,400 | --- | <100 | --- | --- | --- | --- | --- | --- | 27.36 | 14.25 | --- | 13.11 | --- | --- |
| S-5 | 10/15/2002 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 27.36 | --- | --- | --- | --- | --- |
| S-5 | 10/17/2002 | 42,000 | 420 | 1,100 | 1,200 | 5,500 | --- | <10 | --- | --- | --- | --- | --- | --- | 27.36 | 14.90 | --- | 12.46 | --- | --- |
| S-5 | 01/02/2003 | 26,000 | 680 | 1,500 | 780 | 3,800 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 27.36 | 14.72 | --- | 12.64 | --- | --- |
| S-5 | 04/15/2003 | 3,600 | 29 | 38 | 65 | 370 | --- | <5.0 | --- | --- | --- | --- | --- | --- | e | 14.45 | --- | --- | --- | --- |
| S-5 | 07/14/2003 | 21,000 | 210 | 460 | 650 | 2,900 | --- | <10 | --- | --- | --- | --- | --- | --- | e | 14.10 | --- | --- | --- | --- |
| S-5 | 10/20/2003 | 37,000 | 390 | 590 | 870 | 3,500 | --- | <13 | --- | --- | --- | --- | --- | --- | e | 14.63 | --- | --- | --- | --- |
| S-5 | 01/22/2004 | 29,000 | 200 | 210 | 710 | 2,400 | --- | <13 | --- | --- | --- | --- | --- | --- | e | 14.08 | --- | --- | --- | --- |
| S-5 | 04/19/2004 | 25,000 | 490 | 460 | 750 | 2,400 | --- | 19 | --- | --- | --- | --- | --- | --- | e | 13.43 | --- | --- | --- | --- |
| S-5 | 07/13/2004 | 28,000 | 300 | 280 | 690 | 2,400 | --- | <13 | --- | --- | --- | --- | --- | --- | e | 14.88 | --- | --- | --- | --- |
| S-5 | 08/14/2008 | 31,000 | 1,700 | 1,600 | 1,400 | 3,350 | --- | <10 | --- | --- | --- | --- | <5.0 | <10 | e | 16.65 | --- | --- | --- | --- |
| S-5 | 11/11/2008 | 37,000 i | 2,500 i | 1,300 i | 2,000 i | 3,490 i | --- | <50 i | --- | --- | --- | --- | <25 i | <50 i | e | 16.81 | --- | --- | --- | --- |
| S-5 | 11/11/2008 | 40,000 j | 2,300 j | 1,400 j | 1,900 j | 3,630 j | --- | <50 j | --- | --- | --- | --- | <25 j | <50 j | e | 16.81 | --- | --- | --- | --- |
| S-5 | 01/05/2009 | 57,000 | 2,300 | 1,400 | 1,500 | 2,900 | --- | <10 | --- | --- | --- | --- | <5.0 | <10 | e | 16.71 | --- | --- | --- | --- |
| S-5 | 04/09/2009 | 52,000 | 2,100 | 3,500 | 1,900 | 5,400 | --- | <20 | --- | --- | --- | --- | <10 | <20 | e | 16.31 | --- | --- | 0.3 | 163 |
| S-5 | 07/23/2009 | 37,000 | 1,800 | 1,900 | 1,400 | 3,800 | --- | --- | --- | --- | --- | --- | --- | --- | e | 16.62 | --- | --- | 1.48 | -84 |
| S-5 | 10/01/2009 | 36,000 | 1,800 | 1,900 | 1,400 | 3,700 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 16.35 | --- | 10.89 | 0.86 | -52 |
| S-5 | 01/28/2010 | 35,000 | 1,200 | 1,900 | 1,500 | 3,600 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 16.35 | --- | 10.89 | --- | --- |
| S-5 | 05/20/2010 | 36,000 | 1,600 | 2,500 | 1,700 | 4,500 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 16.50 | --- | 10.74 | 1.22 | 227 |
| S-5 | 08/31/2010 | 32,000 | 1,300 | 1,100 | 1,600 | 3,400 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 16.95 | --- | 10.29 | 0.58 | -102 |
| S-5 | 12/29/2010 | 26,000 | 970 | 1,500 | 1,500 | 3,200 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 16.25 | --- | 10.99 | 1.18 | 233 |

**TABLE 3**

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Well ID* | *Date* | *TPHg (µg/L)* | *B (µg/L)* | *T (µg/L)* | *E (µg/L)* | *X (µg/L)* | *MTBE 8020 (µg/L)* | *MTBE 8260 (µg/L)* | *TBA (µg/L)* | *DIPE (µg/L)* | *ETBE (µg/L)* | *TAME (µg/L)* | *EDC (µg/L)* | *EDB (µg/L)* | *TOC (ft MSL)* | *Depth to Water (ft TOC)* | *SPH Thickness (ft)* | *GW Elevation (ft MSL)* | *DO (mg/L)* | *ORP (mV)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-5 | 02/01/2011 | 27,000 | 1,100 | 1,500 | 1,400 | 3,100 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 15.38 | --- | 11.86 | 1.65 | -83 |
| S-5 | 04/25/2011 | 70,000 | 380 | 440 | 720 | 1,200 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 13.98 | --- | 13.26 | 0.95 | -109 |
| S-5 | 07/28/2011 | 21,000 | 340 | 430 | 570 | 1,000 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 13.80 | --- | 13.44 | 0.71 | -95 |
| S-5 | 10/28/2011 | 23,000 | 430 | 480 | 570 | 1,300 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 14.28 | --- | 12.96 | 6.05 | 190 |
| S-5 | 05/07/2012 | 16,000 | 150 | 200 | 350 | 760 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 13.82 | --- | 13.42 | 3.61 | 120 |
| S-5 | 08/31/2012 | 12,000 | 330 | 300 | 330 | 850 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 14.68 | --- | 12.56 | 1.38 | 253 |
| S-5 | 12/11/2012 | 14,000 | 420 | 700 | 550 | 1,500 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 16.00 | --- | 11.24 | 1.07/1.29 | 162/63 |
| S-5 | 01/24/2013 | 29,000 | 910 | 1,700 | 1,200 | 2,700 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 16.46 | --- | 10.78 | --- | --- |
| S-5 | 05/02/2013 | 35,000 | 650 | 1,500 | 1,400 | 4,500 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 18.59 | --- | 8.65 | --- | --- |
| S-5 | 08/09/2013 | 350,000 | 820 | 9,800 | 6,900 | 34,000 | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 19.12 | --- | 8.12 | --- | --- |
| S-5 | 11/07/2013 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | k | k | k | --- | --- |
| S-5 | 01/31/2014 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 19.87 | 0.91 | 8.10 | --- | --- |
| S-5 | 03/14/2014 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 19.98 | 1.15 | 8.18 | --- | --- |
| S-5 | 04/21/2014 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 27.24 | 19.80 | 1.14 | 8.35 | --- | --- |
| **S-5** | **07/31/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **27.24** | **18.58** | **0.29** | **8.89** | **---** | **---** |
| **S-5** | **09/22/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **27.24** | **18.55** | **0.15** | **8.81** | **---** | **---** |
| **S-5** | **10/03/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **27.24** | **18.45** | **---** | **8.79** | **---** | **---** |
| **S-5** | **10/10/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **27.24** | **10.48** | **---** | **16.76** | **---** | **---** |
| **S-5** | **10/17/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **27.24** | **18.44** | **---** | **8.80** | **---** | **---** |
| **S-5** | **10/24/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **27.24** | **18.54** | **---** | **8.70** | **---** | **---** |
| **S-5** | **11/21/2014** | **34,000** | **350** | **830** | **1,400** | **14,000** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **27.24** | **18.58** | **---** | **8.66** | **---** | **---** |
| **S-5** | **12/23/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **27.24** | **25.19** | **---** | **2.05** | **---** | **---** |
| S-6 | 04/16/1987 | 81,000 | 16,000 | 9,000 | a | 6,400 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | --- | --- | --- | --- | --- |
| S-6 | 10/26/1988 | 110,000 | 29,000 | 18,000 | 2,500 | 8,200 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | --- | --- | --- | --- | --- |
| S-6 | 02/14/1989 | 54,000 | 18,000 | 4,500 | 1,400 | 4,000 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 20.87 | --- | 79.71 | --- | --- |
| S-6 | 05/01/1989 | 93,000 | 43,000 | 9,900 | 3,000 | 8,000 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 20.49 | --- | 80.09 | --- | --- |
| S-6 | 07/27/1989 | 52,000 | 20,000 | 3,200 | 1,700 | 5,500 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 21.01 | --- | 79.57 | --- | --- |
| S-6 | 10/05/1989 | 55,000 | 20,000 | 2,900 | 1,600 | 5,500 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 21.24 | --- | 79.34 | --- | --- |
| S-6 | 01/09/1990 | 76,000 | 35,000 | 9,100 | 2,300 | 8,600 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.62 | Sheen | 77.96 | --- | --- |
| S-6 | 04/30/1990 | 39,000 | 13,000 | 2,300 | 900 | 2,800 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.10 | --- | 78.48 | --- | --- |
| S-6 | 07/31/1990 | 48,000 | 20,000 | 4,600 | 1,500 | 4,900 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.00 | --- | 78.58 | --- | --- |
| S-6 | 10/30/1990 | 27,000 | 7,400 | 900 | 600 | 1,400 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.14 | --- | 78.44 | --- | --- |
| S-6 | 05/06/1991 | 35,000 | 3,900 | 2,700 | 2,300 | 3,500 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.40 | --- | 78.18 | --- | --- |
| S-6 | 06/27/1991 | 51,000 | 19,000 | 5,600 | 1,700 | 6,300 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 21.21 | --- | 79.37 | --- | --- |
| S-6 | 09/24/1991 | 42,000 | 14,000 | 4,300 | 1,200 | 4,000 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.26 | --- | 78.32 | --- | --- |
| S-6 | 11/07/1991 | 39,000 | 11,000 | 2,000 | 800 | 2,300 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.35 | --- | 78.23 | --- | --- |
| S-6 | 02/13/1992 | 64,000 | 21,000 | 6,200 | 1,600 | 5,100 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.28 | --- | 78.30 | --- | --- |
| S-6 | 05/11/1992 | 57,000 | 22,000 | 7,600 | 2,200 | 7,700 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.10 | --- | 78.48 | --- | --- |
| S-6 | 12/03/1992 | 110,000 | 26,000 | 9,400 | 2,100 | 8,700 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.14 | --- | 78.44 | --- | --- |
| S-6 | 05/13/1993 | 58,000 | 21,000 | 6,800 | 2,500 | 9,800 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.16 | --- | 78.42 | --- | --- |
| S-6 | 07/22/1993 | 70,000 | 31,000 | 14,000 | 3,000 | 13,000 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 21.64 | --- | 78.94 | --- | --- |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-6 | 10/20/1993 | 48,000 | 28,000 | 9,800 | 3,200 | 12,000 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 21.62 | --- | 78.96 | --- | --- |
| S-6 | 01/25/1994 | 70,000 | 23,000 | 7,500 | 2,500 | 8,000 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 21.80 | --- | 78.78 | --- | --- |
| S-6 | 04/25/1994 | 61,000 | 16,000 | 4,000 | 1,800 | 5,100 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 21.68 | --- | 78.90 | --- | --- |
| S-6 | 07/21/1994 | 44,000 | 8,200 | 3,600 | 1,400 | 3,900 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 21.78 | --- | 78.80 | --- | --- |
| S-6 (D) | 07/21/1994 | 32,000 | 7,800 | 3,400 | 1,300 | 3,700 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | --- | --- | --- | --- | --- |
| S-6 | 10/24/1994 | 2,936 | 1,184 | 440.6 | 163.4 | 648.4 | --- | --- | --- | --- | --- | --- | --- | --- | 100.58 | 22.06 | --- | 78.52 | --- | --- |
| S-6 (D) | 10/24/1994 | 2,968 | 770.8 | 325.3 | 144.1 | 622 | --- | --- | --- | --- | --- | --- | --- | --- | 22.08* | --- | --- | --- | --- | --- |
| S-6 | 12/22/1994 | 32,000 | 7,000 | 2,900 | 790 | 2,400 | --- | --- | --- | --- | --- | --- | --- | --- | 22.08 | 21.91 | --- | 0.17 | --- | --- |
| S-6 (D) | 12/22/1994 | 32,000 | 8,000 | 3,800 | 1,100 | 3,400 | --- | --- | --- | --- | --- | --- | --- | --- | 22.08 | --- | --- | --- | --- | --- |
| S-6 | 04/20/1995 | 56,000 | 15,000 | 3,800 | 1,900 | 4,900 | --- | --- | --- | --- | --- | --- | --- | --- | 22.08 | 21.38 | --- | 0.70 | --- | --- |
| S-6 (D) | 04/20/1995 | 49,000 | 13,000 | 3,500 | 1,800 | 4,700 | --- | --- | --- | --- | --- | --- | --- | --- | 22.08 | --- | --- | --- | --- | --- |
| S-6 | 10/04/1995 | 49,000 | 8,400 | 4,700 | 1,800 | 4,800 | --- | --- | --- | --- | --- | --- | --- | --- | 22.08 | 21.80 | --- | 0.28 | --- | --- |
| S-6 (D) | 10/04/1995 | 41,000 | 8,400 | 4,100 | 1,400 | 4,400 | --- | --- | --- | --- | --- | --- | --- | --- | 22.08 | --- | --- | --- | --- | --- |
| S-6 | 01/03/1996 | 52,000 | 9,100 | 7,100 | 1,800 | 5,800 | --- | --- | --- | --- | --- | --- | --- | --- | 22.08 | 21.70 | --- | 0.38 | --- | --- |
| S-6 | 04/11/1996 | 59,000 | 11,000 | 7,100 | 2,100 | 6,400 | <500 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 21.62 | --- | 0.46 | --- | --- |
| S-6 (D) | 04/11/1996 | 59,000 | 11,000 | 6,800 | 1,900 | 6,400 | <500 | --- | --- | --- | --- | --- | --- | --- | 22.08 | --- | --- | --- | --- | --- |
| S-6 | 07/11/1996 | 72,000 | 18,000 | 6,600 | 2,500 | 8,400 | <1,000 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 21.65 | --- | 0.43 | --- | --- |
| S-6 | 10/02/1996 | 57,000 | 11,000 | 6,500 | 1,500 | 5,100 | <500 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 21.80 | --- | 0.28 | --- | --- |
| S-6 | 01/22/1997 | 67,000 | 15,000 | 5,000 | 1,800 | 5,400 | <1,000 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 19.95 | --- | 2.13 | --- | --- |
| S-6 (D) | 01/22/1997 | 63,000 | 15,000 | 4,800 | 1,800 | 5,200 | <1,000 | --- | --- | --- | --- | --- | --- | --- | 22.08 | --- | --- | --- | --- | --- |
| S-6 | 07/21/1997 | 61,000 | 15,000 | 2,100 | 1,100 | 3,500 | 1,900 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 20.61 | --- | 1.47 | --- | --- |
| S-6 | 01/22/1998 | 46,000 | 14,000 | 3,200 | 1,300 | 3,400 | <500 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 19.82 | --- | 2.26 | --- | --- |
| S-6 | 07/08/1998 | 74,000 | 26,000 | 7,500 | 2,200 | 6,200 | <1,000 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 18.20 | --- | 3.88 | --- | --- |
| S-6 | 10/26/1998 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.08 | 18.81 | --- | 3.27 | --- | --- |
| S-6 | 01/28/1999 | 120,000 | 9,000 | 14,000 | 2,700 | 14,000 | 3,700 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 19.73 | --- | 2.35 | --- | --- |
| S-6 | 04/23/1999 | 58,500 | 15,900 | 1,360 | 1,640 | 3,030 | <2500 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 17.58 | --- | 4.50 | --- | --- |
| S-6 | 07/29/1999 | 36,200 | 10,300 | 760 | 930 | 1,360 | <1,000 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 21.35 | --- | 0.73 | --- | --- |
| S-6 | 11/01/1999 | 36,000 | 11,700 | 767 | 865 | 1,670 | <1,250 | <40.0 | --- | --- | --- | --- | --- | --- | 22.08 | 19.23 | --- | 2.85 | --- | --- |
| S-6 | 01/07/2000 | 36,000 | 7,600 | 4,600 | 840 | 3,600 | <1,000 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 19.53 | --- | 2.55 | --- | --- |
| S-6 | 04/11/2000 | 14,600 | 7,540 | 205 | 306 | 609 | 621 | --- | --- | --- | --- | --- | --- | --- | 22.08 | 18.16 | --- | 3.92 | --- | --- |
| S-6 | 07/19/2000 | 2,590 | 629 | 63.9 | 99.6 | 267 | 124 | 72.7 b | --- | --- | --- | --- | --- | --- | 22.08 | 18.40 | --- | 3.68 | --- | --- |
| S-6 | 10/12/2000 | 32,900 | 14,200 | 966 | 1,060 | 1,790 | <500 | <100 | --- | --- | --- | --- | --- | --- | 22.08 | 19.52 | --- | 2.56 | --- | --- |
| S-6 | 01/09/2001 | 27,600 | 11,200 | 675 | 666 | 1,580 | 1,430 | <10.0 b | --- | --- | --- | --- | --- | --- | 22.08 | 19.69 | --- | 2.39 | --- | --- |
| S-6 | 02/05/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 22.08 | 19.20 | --- | 2.88 | --- | --- |
| S-6 | 04/06/2001 | 16,900 | 7,800 | 343 | 172 | 966 | 809 | <20.0 | --- | --- | --- | --- | --- | --- | 22.08 | 18.25 | --- | 3.83 | --- | --- |
| S-6 | 07/25/2001 | 29,000 | 9,800 | 1,700 | 1,000 | 1,800 | --- | <250 | --- | --- | --- | --- | --- | --- | 22.08 | 18.27 | --- | 3.81 | --- | --- |
| S-6 | 11/01/2001 | 41,000 | 15,000 | 2,400 | 1,100 | 2,500 | --- | <500 | --- | --- | --- | --- | --- | --- | 22.08 | 19.30 | --- | 2.78 | --- | --- |
| S-6 | 01/17/2002 | 38,000 d | 11,000 d | 1,700 d | 990 d | 2,200 d | --- | <500 d | --- | --- | --- | --- | --- | --- | 22.08 | 18.51 | --- | 3.57 | --- | --- |
| S-6 | 05/08/2002 | 72,000 | 21,000 | 4,400 | 2,200 | 5,300 | --- | <1,000 | --- | --- | --- | --- | --- | --- | 22.08 | 18.30 | --- | 3.78 | --- | --- |
| S-6 | 07/18/2002 | 71,000 | 17,000 | 4,300 | 1,700 | 4,800 | --- | <1,000 | --- | --- | --- | --- | --- | --- | 30.56 | 18.19 | --- | 12.37 | --- | --- |
| S-6 | 10/15/2002 | 55,000 | 16,000 | 4,600 | 1,500 | 4,600 | --- | <100 | --- | --- | --- | --- | --- | --- | 30.56 | 18.77 | --- | 11.79 | --- | --- |
| S-6 | 01/02/2003 | 75,000 | 21,000 | 5,000 | 2,400 | 6,400 | --- | <50 | --- | --- | --- | --- | --- | --- | 30.56 | 18.60 | --- | 11.96 | --- | --- |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-6 | 04/15/2003 | 64,000 | 29,000 | 6,400 | 2,700 | 5,600 | --- | <1,000 | --- | --- | --- | --- | --- | --- | 30.56 | 18.27 | --- | 12.29 | --- | --- |
| S-6 | 07/14/2003 | 47,000 | 19,000 | 4,300 | 1,500 | 4,300 | --- | <100 | --- | --- | --- | --- | --- | --- | 30.56 | 18.05 | --- | 12.51 | --- | --- |
| S-6 | 10/20/2003 | 63,000 | 21,000 | 5,800 | 1,900 | 5,200 | --- | <130 | --- | --- | --- | --- | --- | --- | 30.56 | 18.55 | Sheen | 12.01 | --- | --- |
| S-6 | 01/22/2004 | 41,000 | 21,000 | 4,300 | 1,800 | 4,000 | --- | <130 | --- | --- | --- | --- | --- | --- | 30.56 | 18.18 | Sheen | 12.38 | --- | --- |
| S-6 | 04/19/2004 | 58,000 | 23,000 | 4,200 | 2,200 | 3,900 | --- | <130 | --- | --- | --- | --- | --- | --- | 30.56 | 17.32 | --- | 13.24 | --- | --- |
| S-6 | 05/03/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 17.30 | --- | 13.26 | --- | --- |
| S-6 | 06/17/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 17.70 | --- | 12.86 | --- | --- |
| S-6 | 07/13/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 17.85 | --- | 12.71 | --- | --- |
| S-6 | 10/28/2004 | 45,000 | 21,000 | 3,600 | 1,700 | 3,300 | --- | <130 | --- | --- | --- | --- | --- | --- | 30.56 | 18.45 | --- | 12.11 | --- | --- |
| S-6 | 01/17/2005 | 61,000 | 21,000 | 3,500 | 1,600 | 3,200 | --- | <130 | --- | --- | --- | --- | --- | --- | 30.56 | 17.52 | --- | 13.04 | --- | --- |
| S-6 | 04/14/2005 | 36,000 | 12,000 | 6,200 | 850 | 4,800 | --- | <50 | --- | --- | --- | --- | --- | --- | 30.56 | 22.49 | --- | 8.07 | --- | --- |
| S-6 | 07/28/2005 | 54,000 | 16,000 | 9,100 | 1,800 | 5,900 | --- | <130 | --- | --- | --- | --- | --- | --- | 30.56 | 19.38 | --- | 11.18 | --- | --- |
| S-6 | 10/05/2005 | 59,000 | 14,000 | 7,500 | 1,400 | 5,000 | --- | <50 | --- | --- | --- | --- | --- | --- | 30.56 | 18.32 | --- | 12.24 | --- | --- |
| S-6 | 02/09/2006 | 41,100 | 7,060 | 3,900 | 673 | 2,380 | --- | <0.500 | --- | --- | --- | --- | --- | --- | 30.56 | 17.11 | --- | 13.45 | --- | --- |
| S-6 | 05/15/2006 | 188,000 | 24,800 | 20,700 | 2,540 | 12,400 | --- | <25.0 | --- | --- | --- | --- | --- | --- | 30.56 | 19.80 | --- | 10.76 | --- | --- |
| S-6 | 08/23/2006 | 133,000 | 24,900 | 16,100 | 2,280 | 10,500 | --- | <0.500 | --- | --- | --- | --- | --- | --- | 30.56 | 20.45 | --- | 10.11 | --- | --- |
| S-6 | 11/15/2006 | 66,000 | 19,000 | 8,400 | 1,900 | 7,400 | --- | <400 | --- | --- | --- | --- | --- | --- | 30.56 | 20.41 | --- | 10.15 | --- | --- |
| S-6 | 01/30/2007 | 88,000 | 18,000 | 9,600 | 1,900 | 7,200 | --- | <100 | --- | --- | --- | --- | --- | --- | 30.56 | 20.47 | --- | 10.09 | --- | --- |
| S-6 | 05/29/2007 | 56,000 f | 17,000 | 6,700 | 1,700 | 5,400 | --- | <20 | --- | --- | --- | --- | --- | --- | 30.56 | 20.40 | --- | 10.16 | --- | --- |
| S-6 | 08/15/2007 | 57,000 f,g | 15,000 | 6,800 | 1,600 | 6,100 | --- | <100 | --- | --- | --- | --- | --- | --- | 30.56 | 20.49 | --- | 10.07 | --- | --- |
| S-6 | 11/28/2007 | 42,000 f | 13,000 | 5,000 | 1,300 | 5,000 | --- | <100 | --- | --- | --- | --- | --- | --- | 30.56 | 20.65 | --- | 9.91 | --- | --- |
| S-6 | 02/08/2008 | 35,000 f | 12,000 | 5,000 | 1,200 | 4,050 | --- | <100 | --- | --- | --- | --- | <50 | <100 | 30.56 | 20.31 | --- | 10.25 | --- | --- |
| S-6 | 05/08/2008 | 45,000 f | 15,000 | 6,100 | 1,400 | 5,000 | --- | <100 | --- | --- | --- | --- | <50 | <100 | 30.56 | 20.63 | --- | 9.93 | --- | --- |
| S-6 | 08/14/2008 | 37,000 | 11,000 | 5,200 | 1,200 | 4,600 | --- | <100 | --- | --- | --- | --- | <50 | <100 | 30.56 | 20.65 | --- | 9.91 | --- | --- |
| S-6 | 11/11/2008 | 37,000 i | 15,000 i | 6,200 i | 1,200 i | 3,390 i | --- | <10 i | --- | --- | --- | --- | <5.0 i | <10 i | 30.56 | 20.79 | --- | 9.77 | --- | --- |
| S-6 | 11/11/2008 | 14,000 j | 5,200 j | 680 j | 400 j | 1,060 j | --- | <50 j | --- | --- | --- | --- | <25 j | <50 j | 30.56 | 20.79 | --- | 9.77 | --- | --- |
| S-6 | 01/05/2009 | 53,000 | 9,400 | 3,600 | 890 | 3,100 | --- | <100 | --- | --- | --- | --- | <50 | <100 | 30.56 | 21.66 | --- | 8.90 | --- | --- |
| S-6 | 04/09/2009 | Unable to sample | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | --- | --- | --- | --- | --- |
| S-6 | 04/21/2009 | 13,000 | 3,700 | 1,100 | 270 | 750 | --- | <100 | --- | --- | --- | --- | <50 | <100 | 30.56 | 20.20 | --- | 10.36 | --- | --- |
| S-6 | 07/23/2009 | 15,000 | 4,400 | 1,100 | 360 | 1,000 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 20.66 | --- | 9.90 | 1.13 | -73 |
| S-6 | 10/01/2009 | 21,000 | 5,100 | 1,300 | 420 | 1,200 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 20.86 | --- | 9.70 | 0.58 | 16 |
| S-6 | 01/28/2010 | 8,700 | 2,600 | 250 | 200 | 400 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 20.36 | --- | 10.20 | --- | --- |
| S-6 | 05/20/2010 | 4,400 | 1,600 | 82 | 85 | 150 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 20.68 | --- | 9.88 | 1.08 | 64 |
| S-6 | 08/31/2010 | 19,000 | 4,700 | 1,300 | 560 | 1,600 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 20.78 | --- | 9.78 | 1.55 | -88 |
| S-6 | 12/29/2010 | 15,000 | 3,900 | 1,500 | 520 | 1,800 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 19.92 | --- | 10.64 | 2.35 | 123 |
| S-6 | 02/01/2011 | 16,000 | 4,000 | 1,700 | 600 | 1,800 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 19.05 | --- | 11.51 | 0.61 | -143 |
| S-6 | 04/25/2011 | 23,000 | 7,800 | 3,500 | 960 | 3,000 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 17.73 | --- | 12.83 | 0.76 | -112 |
| S-6 | 07/28/2011 | 17,000 | 5,500 | 1,500 | 600 | 1,600 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 17.62 | --- | 12.94 | 0.77 | -26 |
| S-6 | 10/28/2011 | 42,000 | 11,000 | 4,500 | 1,600 | 5,900 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 18.12 | --- | 12.44 | 4.64 | -9 |
| S-6 | 05/07/2012 | 38,000 | 14,000 | 4,800 | 1,300 | 4,400 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 17.50 | --- | 13.06 | 2.32 | 116 |
| S-6 | 08/31/2012 | 96,000 | 6,700 | 2,500 | 1,900 | 6,200 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 18.42 | --- | 12.14 | 0.62 | 146 |
| S-6 | 12/11/2012 | 31,000 | 8,300 | 3,700 | 1,000 | 3,700 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 20.00 | --- | 10.56 | 0.92/0.65 | 102/-16 |

**TABLE 3**

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-6 | 01/24/2013 | 29,000 | 9,100 | 2,500 | 950 | 2,600 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 20.43 | --- | 10.13 | --- | --- |
| S-6 | 05/02/2013 | 10,000 | 1,800 | 1,100 | 430 | 1,100 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 22.98 | --- | 7.58 | --- | --- |
| S-6 | 08/09/2013 | 45,000 | 3,800 | 8,000 | 1,800 | 6,500 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 23.21 | --- | 7.35 | --- | --- |
| S-6 | 11/07/2013 | 33,000 | 3,600 | 3,800 | 1,000 | 3,700 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 25.24 | --- | 5.32 | --- | --- |
| S-6 | 01/31/2014 | 16,000 | 1,200 | 2,700 | 710 | 2,500 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 23.30 | --- | 7.26 | --- | --- |
| S-6 | 04/21/2014 | 15,000 | 1,100 | 3,100 | 650 | 2,300 | --- | --- | --- | --- | --- | --- | --- | --- | 30.56 | 22.98 | --- | 7.58 | --- | --- |
| **S-6** | **07/31/2014** | **40,000 1** | **4,200** | **7,300** | **1,300** | **5,400** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **30.56** | **22.49** | **---** | **8.07** | **---** | **---** |
| **S-6** | **11/21/2014** | **48,000** | **3,600** | **8,900** | **1,700** | **7,000** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **30.56** | **22.49** | **---** | **8.07** | **---** | **---** |
| S-8 | 12/22/1994 | 600 | 120 | 32 | 5.2 | 34 | --- | --- | --- | --- | --- | --- | --- | --- | 27.21 | 24.87 | --- | 2.34 | --- | --- |
| S-8 | 04/20/1995 | 460 | 180 | 23 | 5.2 | 21 | --- | --- | --- | --- | --- | --- | --- | --- | 27.21 | 23.90 | --- | 3.31 | --- | --- |
| S-8 | 10/04/1995 | 830 | 210 | 38 | 11 | 42 | --- | --- | --- | --- | --- | --- | --- | --- | 27.21 | 24.48 | --- | 2.73 | --- | --- |
| S-8 | 01/03/1996 | 350 | 61 | 12 | 2.5 | 12 | --- | --- | --- | --- | --- | --- | --- | --- | 27.21 | 24.62 | --- | 2.59 | --- | --- |
| S-8 (D) | 01/03/1996 | 340 | 54 | 12 | 2.4 | 12 | --- | --- | --- | --- | --- | --- | --- | --- | 27.21 | --- | --- | --- | --- | --- |
| S-8 | 04/11/1996 | 570 | 140 | 37 | 12 | 47 | <6.2 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 24.32 | --- | 2.89 | --- | --- |
| S-8 | 07/11/1996 | 980 | 98 | 32 | 9.1 | 160 | <12 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 24.10 | --- | 3.11 | --- | --- |
| S-8 | 10/02/1996 | 280 | 62 | 13 | 3.3 | 25 | 15 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 25.38 | --- | 1.83 | --- | --- |
| S-8 (D) | 10/02/1996 | 490 | 110 | 24 | 7.0 | 45 | 22 | <2.0 | --- | --- | --- | --- | --- | --- | 27.21 | --- | --- | --- | --- | --- |
| S-8 | 01/22/1997 | 400 | 90 | 13 | 4.9 | 25 | 12 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 23.91 | --- | 3.30 | --- | --- |
| S-8 | 07/21/1997 | 2,900 | 380 | 110 | 26 | 260 | 85 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 23.62 | --- | 3.59 | --- | --- |
| S-8 (D) | 07/21/1997 | 3,200 | 420 | 120 | 32 | 300 | 130 | --- | --- | --- | --- | --- | --- | --- | 27.21 | --- | --- | --- | --- | --- |
| S-8 | 01/22/1998 | 3,800 | 790 | 140 | 42 | 330 | 160 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 23.52 | --- | 3.69 | --- | --- |
| S-8 (D) | 01/22/1998 | 3,500 | 780 | 120 | 33 | 300 | 160 | --- | --- | --- | --- | --- | --- | --- | 27.21 | --- | --- | --- | --- | --- |
| S-8 | 07/08/1998 | 3,600 | 1,800 | <25 | <25 | <25 | <125 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 21.52 | --- | 5.69 | --- | --- |
| S-8 (D) | 07/08/1998 | 4,000 | 1,800 | <25 | <25 | 31 | <125 | --- | --- | --- | --- | --- | --- | --- | 27.21 | --- | --- | --- | --- | --- |
| S-8 | 10/26/1998 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 27.21 | 22.01 | --- | 5.20 | --- | --- |
| S-8 | 01/28/1999 | 2,000 | 630 | 6.2 | 24 | 51 | 43 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 23.03 | --- | 4.18 | --- | --- |
| S-8 | 04/23/1999 | 1,050 | 408 | <5.00 | <5.00 | 6.65 | <50.0 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 22.15 | --- | 5.06 | --- | --- |
| S-8 | 07/29/1999 | 955 | 344 | <2.50 | 6.90 | 16.2 | <25.0 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 21.95 | --- | 5.26 | --- | --- |
| S-8 | 11/01/1999 | 1,800 | 550 | 6.45 | 15.0 | 40.4 | <50.0 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 22.55 | --- | 4.66 | --- | --- |
| S-8 | 01/07/2000 | 1,300 | 600 | 11 | 29 | 48 | <13 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 22.87 | --- | 4.34 | --- | --- |
| S-8 | 04/11/2000 | 342 | 101 | 4.42 | 4.24 | 14.7 | 21.4 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 21.86 | --- | 5.35 | --- | --- |
| S-8 | 07/19/2000 | 579 | 228 | 6.37 | 6.45 | 25 | <12.5 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 21.93 | --- | 5.28 | --- | --- |
| S-8 | 10/12/2000 | 947 | 340 | 8.64 | 3.26 | 38.3 | <12.5 | <2.00 | --- | --- | --- | --- | --- | --- | 27.21 | 22.92 | --- | 4.29 | --- | --- |
| S-8 | 01/09/2001 | 1,090 | 394 | <10.0 | <10.0 | 33.3 | 57.6 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 23.19 | --- | 4.02 | --- | --- |
| S-8 | 04/06/2001 | 671 | 182 | 12.5 | 16.4 | 47.1 | 42.5 | --- | --- | --- | --- | --- | --- | --- | 27.21 | 22.46 | --- | 4.75 | --- | --- |
| S-8 | 07/25/2001 | 500 | 70 | 6.7 | 11 | 23 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 27.21 | 22.50 | --- | 4.71 | --- | --- |
| S-8 | 11/01/2001 | 1,900 | 250 | 28 | 39 | 180 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 27.21 | 22.44 | --- | 4.77 | --- | --- |
| S-8 | 01/17/2002 | 830 d | 140 d | 11 d | 12 d | 89 d | --- | <5.0 d | --- | --- | --- | --- | --- | --- | 27.21 | 21.82 | --- | 5.39 | --- | --- |
| S-8 | 05/08/2002 | 210 d | 34 d | 1.7 d | 4.1 d | 15 d | --- | <5.0 d | --- | --- | --- | --- | --- | --- | 27.21 | 21.35 | --- | 5.86 | --- | --- |
| S-8 | 07/18/2002 | 650 | 68 | 2.8 | 9.7 | 42 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 35.85 | 21.53 | --- | 14.32 | --- | --- |
| S-8 | 10/15/2002 | 1,000 | 160 | 4.2 | 7.7 | 74 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 35.85 | 21.97 | --- | 13.88 | --- | --- |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-8 | 01/02/2003 | 440 | 55 | 1.8 | 2.9 | 31 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 35.85 | 21.95 | --- | 13.90 | --- | --- |
| S-8 | 04/15/2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 21.73 | --- | 14.12 | --- | --- |
| S-8 | 07/14/2003 | 60 | 6.8 | <0.50 | 0.98 | 4.9 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 35.85 | 21.40 | --- | 14.45 | --- | --- |
| S-8 | 10/20/2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 21.94 | --- | 13.91 | --- | --- |
| S-8 | 01/22/2004 | 210 | 19 | 0.52 | 3.6 | 17 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 35.85 | 21.40 | --- | 14.45 | --- | --- |
| S-8 | 04/19/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 20.83 | --- | 15.02 | --- | --- |
| S-8 | 07/13/2004 | 420 | 77 | 0.82 | 14 | 31 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 35.85 | 21.05 | --- | 14.80 | --- | --- |
| S-8 | 10/28/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 21.77 | --- | 14.08 | --- | --- |
| S-8 | 01/17/2005 | 490 | 85 | 0.89 | 13 | 28 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 35.85 | 20.92 | --- | 14.93 | --- | --- |
| S-8 | 04/14/2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 21.57 | --- | 14.28 | --- | --- |
| S-8 | 07/28/2005 | 64 | 12 | <0.50 | 1.5 | 1.6 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 35.85 | 21.62 | --- | 14.23 | --- | --- |
| S-8 | 10/05/2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 21.11 | --- | 14.74 | --- | --- |
| S-8 | 02/09/2006 | <50.0 | 2.79 | <0.500 | <0.500 | <0.500 | --- | <0.500 | --- | --- | --- | --- | --- | --- | 35.85 | 20.18 | --- | 15.67 | --- | --- |
| S-8 | 05/15/2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 20.53 | --- | 15.32 | --- | --- |
| S-8 | 08/23/2006 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | --- | <0.500 | --- | --- | --- | --- | --- | --- | 35.85 | 21.49 | --- | 14.36 | --- | --- |
| S-8 | 11/15/2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 22.05 | --- | 13.80 | --- | --- |
| S-8 | 01/30/2007 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 35.85 | 22.41 | --- | 13.44 | --- | --- |
| S-8 | 05/29/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 22.65 | --- | 13.20 | --- | --- |
| S-8 | 08/15/2007 | 65 f,g | 7.4 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | --- | --- | --- | 35.85 | 22.88 | --- | 12.97 | --- | --- |
| S-8 | 11/28/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 23.20 | --- | 12.65 | --- | --- |
| S-8 | 02/08/2008 | 350 f | 22 | <1.0 | 4.8 | 2.6 | --- | 1.2 | --- | --- | --- | --- | <0.50 | <1.0 | 35.85 | 22.72 | --- | 13.13 | --- | --- |
| S-8 | 05/08/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 22.91 | --- | 12.94 | --- | --- |
| S-8 | 08/14/2008 | 420 | 28 | <1.0 | 6.3 | 1.4 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 35.85 | 23.12 | --- | 12.73 | --- | --- |
| S-8 | 11/11/2008 | 330 i | 37 i | <1.0 i | 5.1 i | <1.0 i | --- | <1.0 i | --- | --- | --- | --- | <0.50 i | <1.0 i | 35.85 | 23.37 | --- | 12.48 | 1.6 | 28 |
| S-8 | 11/11/2008 | 480 j | 29 j | <1.0 j | 5.4 j | <1.0 j | --- | --- | --- | --- | --- | --- | --- | --- | 35.85 | 23.37 | --- | 12.48 | 2.2 | 103 |
| S-8 | 12/18/2008 | 340 | 38 | <1.0 | 5.4 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 23.31 | --- | 12.52 | --- | --- |
| S-8 | 01/05/2009 | 170 | 15 | <1.0 | 1.2 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 23.28 | --- | 12.55 | --- | --- |
| S-8 | 01/15/2009 | 260 | 45 | <1.0 | 3.2 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 23.05 | --- | 12.78 | --- | --- |
| S-8 | 02/12/2009 | 88 | 7.2 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 23.34 | --- | 12.49 | --- | --- |
| S-8 | 03/12/2009 | 12,000 | 1,700 | 2,100 | 200 | 2,400 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 22.90 | --- | 12.93 | --- | --- |
| S-8 | 04/09/2009 | 170 | <0.50 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 23.10 | --- | 12.73 | --- | 594 |
| S-8 | 07/23/2009 | 140 | 0.55 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 23.02 | --- | 12.81 | 2.38 | -54 |
| S-8 | 10/01/2009 | 140 | 0.68 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 23.31 | --- | 12.52 | 4.34 | 359 |
| S-8 | 01/28/2010 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 22.80 | --- | 13.03 | --- | --- |
| S-8 | 05/20/2010 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 23.55 | --- | 12.28 | 0.64 | 42 |
| S-8 | 08/31/2010 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 23.48 | --- | 12.35 | 0.54 | -72 |
| S-8 | 12/29/2010 | 79 | 0.83 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 23.18 | --- | 12.65 | 0.74 | 133 |
| S-8 | 02/01/2011 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 22.57 | --- | 13.26 | 1.68 | 104 |
| S-8 | 04/25/2011 | <50 | 1.1 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 21.26 | --- | 14.57 | 1.78 | 12 |
| S-8 | 07/28/2011 | 50 | 2.4 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 20.94 | --- | 14.89 | 0.89 | 186 |
| S-8 | 10/28/2011 | <50 | 0.61 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 21.09 | --- | 14.74 | 2.78 | 349 |
| S-8 | 05/07/2012 | <50 | 4.3 | 1.4 | 0.59 | 1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 21.23 | --- | 14.60 | 2.42 | 209 |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-8 | 05/02/2013 | 53 | <0.50 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 24.65 | --- | 11.18 | --- | --- |
| S-8 | 04/21/2014 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.83 | 25.28 | --- | 10.55 | --- | --- |
| S-9 | 12/22/1994 | 2,600 | 400 | 150 | 42 | 310 | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | 24.37 | --- | 1.69 | --- | --- |
| S-9 | 04/20/1995 | 1,900 | 400 | 130 | 51 | 200 | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | 23.49 | --- | 2.57 | --- | --- |
| S-9 | 10/04/1995 | 3,200 | 590 | 260 | 68 | 280 | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | 24.01 | --- | 2.05 | --- | --- |
| S-9 | 01/03/1996 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | --- | --- | --- | --- | --- |
| S-9 | 04/11/1996 | 2,100 | 440 | 1,500 | 42 | 210 | <25 | --- | --- | --- | --- | --- | --- | --- | 26.06 | 23.61 | --- | 2.45 | --- | --- |
| S-9 | 07/11/1996 | 5,200 | 940 | 450 | 120 | 520 | <50 | --- | --- | --- | --- | --- | --- | --- | 26.06 | 23.78 | --- | 2.28 | --- | --- |
| S-9 (D) | 07/11/1996 | 4,800 | 890 | 430 | 110 | 500 | <50 | --- | --- | --- | --- | --- | --- | --- | 26.06 | --- | --- | --- | --- | --- |
| S-9 | 10/02/1996 | 3,000 | 680 | 220 | 56 | 270 | <62 | --- | --- | --- | --- | --- | --- | --- | 26.06 | 24.31 | --- | 1.75 | --- | --- |
| S-9 | 01/22/1997 | 1,500 | 230 | 71 | 36 | 130 | <12 | --- | --- | --- | --- | --- | --- | --- | 26.06 | 23.08 | --- | 2.98 | --- | --- |
| S-9 | 07/21/1997 | 3,400 | 590 | 57 | 19 | 210 | 96 | --- | --- | --- | --- | --- | --- | --- | 26.06 | 22.83 | --- | 3.23 | --- | --- |
| S-9 | 01/22/1998 | 2,600 | 300 | 46 | <10 | 270 | 62 | --- | --- | --- | --- | --- | --- | --- | 26.06 | 21.96 | --- | 4.10 | --- | --- |
| S-9 | 07/08/1998 | 820 | 150 | 6.2 | 7.5 | 57 | <10 | --- | --- | --- | --- | --- | --- | --- | 26.06 | 20.85 | --- | 5.21 | --- | --- |
| S-9 | 10/26/1998 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | 21.39 | --- | 4.67 | --- | --- |
| S-9 | 01/28/1999 | <50 | 1.0 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 26.06 | 22.32 | --- | 3.74 | --- | --- |
| S-9 | 04/23/1999 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | 21.41 | --- | 4.65 | --- | --- |
| S-9 | 07/29/1999 | 117 | 7.77 | 0.817 | 0.683 | 5.05 | <5.00 | --- | --- | --- | --- | --- | --- | --- | 26.06 | 21.25 | --- | 4.81 | --- | --- |
| S-9 | 11/01/1999 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | 21.92 | --- | 4.14 | --- | --- |
| S-9 | 01/07/2000 | <50 | 1.2 | <0.50 | <0.50 | <0.50 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 26.06 | 22.11 | --- | 3.95 | --- | --- |
| S-9 | 04/11/2000 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | 21.14 | --- | 4.92 | --- | --- |
| S-9 | 07/19/2000 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | --- | --- | --- | --- | --- |
| S-9 | 10/12/2000 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | 22.24 | --- | 3.82 | --- | --- |
| S-9 | 01/09/2001 | <50.0 | 1.45 | <0.500 | <0.500 | <0.500 | <2.50 | --- | --- | --- | --- | --- | --- | --- | 26.06 | 22.52 | --- | 3.54 | --- | --- |
| S-9 | 04/06/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | 23.61 | --- | 2.45 | --- | --- |
| S-9 | 07/25/2001 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | --- | --- | --- | --- | --- |
| S-9 | 08/13/2001 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | --- | --- | --- | --- | --- |
| S-9 | 11/01/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | 21.78 | --- | 4.28 | --- | --- |
| S-9 | 01/17/2002 | <50 d | <0.50 d | <0.50 d | <0.50 d | <0.50 d | --- | <5.0 d | --- | --- | --- | --- | --- | --- | 26.06 | 21.15 | --- | 4.91 | --- | --- |
| S-9 | 05/08/2002 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 26.06 | 20.56 | --- | 5.50 | --- | --- |
| S-9 | 07/18/2002 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 34.70 | 20.88 | --- | 13.82 | --- | --- |
| S-9 | 10/15/2002 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 21.41 | --- | 13.29 | --- | --- |
| S-9 | 01/02/2003 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 34.70 | 21.35 | --- | 13.35 | --- | --- |
| S-9 | 04/15/2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 21.14 | --- | 13.56 | --- | --- |
| S-9 | 07/14/2003 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 34.70 | 20.80 | --- | 13.90 | --- | --- |
| S-9 | 10/20/2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 21.33 | --- | 13.37 | --- | --- |
| S-9 | 01/22/2004 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 34.70 | 20.77 | --- | 13.93 | --- | --- |
| S-9 | 04/19/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 20.06 | --- | 14.64 | --- | --- |
| S-9 | 07/13/2004 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 34.70 | 20.44 | --- | 14.26 | --- | --- |
| S-9 | 10/28/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 21.02 | --- | 13.68 | --- | --- |
| S-9 | 01/17/2005 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 34.70 | 20.18 | --- | 14.52 | --- | --- |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-9 | 04/14/2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 21.85 | --- | 12.85 | --- | --- |
| S-9 | 07/28/2005 | 360 | 190 | 1.8 | 1.1 | 3.9 | --- | <0.50 | <5.0 | <2.0 | <2.0 | <2.0 | --- | --- | 34.70 | 21.22 | --- | 13.48 | --- | --- |
| S-9 | 10/05/2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 20.63 | --- | 14.07 | --- | --- |
| S-9 | 02/09/2006 | <50.0 | 0.94 | <0.500 | <0.500 | <0.500 | --- | <0.500 | --- | --- | --- | --- | --- | --- | 34.70 | 19.23 | --- | 15.47 | --- | --- |
| S-9 | 05/15/2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 20.28 | --- | 14.42 | --- | --- |
| S-9 | 08/23/2006 | 7,000 | 1,740 | 55.6 | 193 | 278 | --- | <0.500 | <10.0 | <0.500 | <0.500 | <0.500 | --- | --- | 34.70 | 21.31 | --- | 13.39 | --- | --- |
| S-9 | 11/15/2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 21.79 | --- | 12.91 | --- | --- |
| S-9 | 01/30/2007 | 12,000 | 2,200 | 250 | 480 | 980 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 34.70 | 22.08 | --- | 12.62 | --- | --- |
| S-9 | 05/29/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 22.22 | --- | 12.48 | --- | --- |
| S-9 | 08/15/2007 | 9,800 f,g | 2,400 | 100 | 410 | 602 | --- | <10 | <100 | <20 | <20 | <20 | --- | --- | 34.70 | 22.43 | --- | 12.27 | --- | --- |
| S-9 | 11/28/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 22.75 | --- | 11.95 | --- | --- |
| S-9 | 02/08/2008 | 69 f | 2.2 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 34.70 | 22.31 | --- | 12.39 | --- | --- |
| S-9 | 05/08/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 22.49 | --- | 12.21 | --- | --- |
| S-9 | 08/14/2008 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 34.70 | 22.70 | --- | 12.00 | --- | --- |
| S-9 | 11/11/2008 | <50 i | 2.4 i | <1.0 i | <1.0 i | <1.0 i | --- | <1.0 i | --- | --- | --- | --- | <0.50 i | <1.0 i | 34.70 | 22.90 | --- | 11.80 | 1.1 | 92 |
| S-9 | 11/11/2008 | 550 j | 74 j | 12 j | 22 j | 55.3 j | --- | --- | --- | --- | --- | --- | --- | --- | 34.70 | 22.90 | --- | 11.80 | 3.6 | 98 |
| S-9 | 12/18/2008 | 1,500 | 280 | 43 | 71 | 182 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.81 | --- | 11.53 | --- | --- |
| S-9 | 01/05/2009 | 1,000 | 230 | 24 | 45 | 64 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.75 | --- | 11.59 | --- | --- |
| S-9 | 01/15/2009 | 2,100 | 560 | 75 | 100 | 245 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.37 | --- | 11.97 | --- | --- |
| S-9 | 02/12/2009 | 500 | 120 | 19 | 26 | 50 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.61 | --- | 11.73 | --- | --- |
| S-9 | 03/12/2009 | 810 | 200 | 30 | 50 | 110 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.22 | --- | 12.12 | --- | --- |
| S-9 | 04/09/2009 | 2,300 | 450 | 60 | 110 | 260 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.12 | --- | 12.22 | 0.65 | 79 |
| S-9 | 05/18/2009 | 1,500 | 200 | 35 | 61 | 180 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.09 | --- | 12.25 | 2.71 | 173 |
| S-9 | 07/23/2009 | 1,700 | 430 | 49 | 110 | 190 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.48 | --- | 11.86 | 0.21 | 346 |
| S-9 | 10/01/2009 | 1,200 | 180 | 12 | 58 | 93 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.84 | --- | 11.50 | 1.37 | 146 |
| S-9 | 11/09/2009 | 1,400 | 260 | 21 | 67 | 81 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.63 | --- | 11.71 | 0.42 | --- |
| S-9 | 12/01/2009 | 1,100 | 110 | 11 | 26 | 59 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.44 | --- | 11.90 | 1.09 | 133 |
| S-9 | 01/28/2010 | 860 | 130 | 9.3 | 38 | 79 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.35 | --- | 11.99 | 1.95 | --- |
| S-9 | 05/20/2010 | 1,900 | 340 | 27 | 100 | 210 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.40 | --- | 11.94 | 0.17 | 138 |
| S-9 | 06/22/2010 | 1,400 | 240 | 30 | 65 | 130 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.64 | --- | 11.70 | 2.16 | 577 |
| S-9 | 08/31/2010 | 760 | 130 | 13 | 54 | 110 | --- | <1.0 | <10 | <2.0 | <2.0 | <2.0 | --- | --- | 34.34 | 22.92 | --- | 11.42 | 1.53 | 415 |
| S-9 | 12/29/2010 | 290 | 55 | 3.3 | 18 | 41 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.62 | --- | 11.72 | 1.64 | 163 |
| S-9 | 02/01/2011 | 640 | 99 | 7.8 | 38 | 72 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 21.88 | --- | 12.46 | 1.34 | 0 |
| S-9 | 04/25/2011 | 590 | 120 | 9.1 | 29 | 77 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 20.34 | --- | 14.00 | 0.62 | 98 |
| S-9 | 07/28/2011 | 1,700 | 280 | 47 | 88 | 230 | --- | <1.0 | <10 | <1.0 | <1.0 | <1.0 | --- | --- | 34.34 | 20.10 | --- | 14.24 | 2.17 | 73 |
| S-9 | 10/28/2011 | 1,900 | 370 | 32 | 110 | 260 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 20.54 | --- | 13.80 | 2.18 | 122 |
| S-9 | 05/07/2012 | 970 | 200 | 14 | 46 | 100 | --- | <2.5 | <50 | <2.5 | <2.5 | <2.5 | --- | --- | 34.34 | 20.49 | --- | 13.85 | 0.91 | 78 |
| S-9 | 12/11/2012 | 610 | 160 | 22 | 32 | 95 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 22.28 | --- | 12.06 | 1.28/1.53 | 93/76 |
| S-9 | 05/02/2013 | 1,400 | 230 | 53 | 65 | 160 | --- | <2.5 | <50 | <2.5 | <2.5 | <2.5 | --- | --- | 34.34 | 24.36 | --- | 9.98 | --- | --- |
| S-9 | 11/07/2013 | 1,200 | 150 | 15 | 32 | 84 | --- | --- | --- | --- | --- | --- | --- | --- | 34.34 | 24.92 | --- | 9.42 | --- | --- |
| S-9 | 04/21/2014 | 1,100 | 120 | 25 | 33 | 83 | --- | <1.3 | <25 | <1.3 | <1.3 | <1.3 | --- | --- | 34.34 | 24.90 | --- | 9.44 | --- | --- |
| **S-9** | **11/21/2014** | **1,600** | **250** | **15** | **64** | **89** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **34.34** | **24.55** | **---** | **9.79** | **---** | **---** |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-10 | 12/22/1994 | 420 | 27 | 8.0 | 18 | 45 | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 25.84 | --- | 2.20 | --- | --- |
| S-10 | 04/20/1995 | 820 | 49 | 3.7 | 97 | 52 | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 24.92 | --- | 3.12 | --- | --- |
| S-10 | 10/04/1995 | 240 | 6.5 | 1.1 | 16 | 12 | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 25.47 | --- | 2.57 | --- | --- |
| S-10 | 01/03/1996 | 1,100 | 27 | 4.9 | 110 | 70 | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 25.60 | --- | 2.44 | --- | --- |
| S-10 | 04/11/1996 | 530 | 19 | 1.6 | 82 | 52 | <5.0 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 25.27 | --- | 2.77 | --- | --- |
| S-10 | 07/11/1996 | 570 | 16 | 3.2 | 53 | 53 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 25.46 | --- | 2.58 | --- | --- |
| S-10 | 10/02/1996 | 270 | 8.2 | 0.77 | 24 | 23 | 3.3 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 25.81 | --- | 2.23 | --- | --- |
| S-10 | 01/22/1997 | 160 | 4.8 | 0.73 | 16 | 11 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 24.74 | --- | 3.30 | --- | --- |
| S-10 | 07/21/1997 | 530 | 5.7 | 0.70 | 29 | 69 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 24.50 | --- | 3.54 | --- | --- |
| S-10 | 01/22/1998 | 1,500 | 15 | <5.0 | 88 | 130 | <25 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 24.44 | --- | 3.60 | --- | --- |
| S-10 | 07/08/1998 | 530 | 4.8 | 1.1 | 47 | 51 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 22.36 | --- | 5.68 | --- | --- |
| S-10 | 10/26/1998 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 22.81 | --- | 5.23 | --- | --- |
| S-10 | 01/28/1999 | 630 | 4.6 | 0.98 | <0.50 | 59 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 23.82 | --- | 4.22 | --- | --- |
| S-10 | 04/23/1999 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 22.96 | --- | 5.08 | --- | --- |
| S-10 | 07/29/1999 | 728 | 3.4 | <1.00 | 41.8 | 38.0 | <10.0 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 22.63 | --- | 5.41 | --- | --- |
| S-10 | 11/01/1999 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 23.02 | --- | 5.02 | --- | --- |
| S-10 | 01/07/2000 | 870 | 8.5 | 1.3 | 110 | 110 | <2.5 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 23.33 | --- | 4.71 | --- | --- |
| S-10 | 04/11/2000 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 22.64 | --- | 5.40 | --- | --- |
| S-10 | 07/19/2000 | 612 | 3.75 | <0.500 | 41.6 | 43.6 | <2.50 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 23.04 | --- | 5.00 | --- | --- |
| S-10 | 10/12/2000 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 23.92 | --- | 4.12 | --- | --- |
| S-10 | 01/09/2001 | 647 | 7.62 | 1.01 | 66.2 | 42.4 | <2.50 | --- | --- | --- | --- | --- | --- | --- | 28.04 | 24.13 | --- | 3.91 | --- | --- |
| S-10 | 04/06/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 25.37 | --- | 2.67 | --- | --- |
| S-10 | 07/25/2001 | 340 | 1.5 | <0.50 | 42 | 19 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 28.04 | 25.35 | --- | 2.69 | --- | --- |
| S-10 | 11/01/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 23.22 | --- | 4.82 | --- | --- |
| S-10 | 01/17/2002 | 1,100 d | 3.5 d | <0.50 d | 55 d | 46 d | --- | <5.0 d | --- | --- | --- | --- | --- | --- | 28.04 | 22.72 | --- | 5.32 | --- | --- |
| S-10 | 05/08/2002 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 28.04 | 22.35 | --- | 5.69 | --- | --- |
| S-10 | 07/18/2002 | 750 | 1.8 | <0.50 | 42 | 26 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 36.35 | 22.05 | --- | 14.30 | --- | --- |
| S-10 | 10/15/2002 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 22.51 | --- | 13.84 | --- | --- |
| S-10 | 01/02/2003 | 440 | 1.8 | <0.50 | 14 | 24 | --- | <5.0 | --- | --- | --- | --- | --- | --- | 36.35 | 22.50 | --- | 13.85 | --- | --- |
| S-10 | 04/15/2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 22.32 | --- | 14.03 | --- | --- |
| S-10 | 07/14/2003 | 210 | 0.86 | <0.50 | 13 | 12 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 36.35 | 21.99 | --- | 14.36 | --- | --- |
| S-10 | 10/20/2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 22.53 | --- | 13.82 | --- | --- |
| S-10 | 01/22/2004 | 280 | 0.88 | <0.50 | 10 | 11 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 36.35 | 22.02 | --- | 14.33 | --- | --- |
| S-10 | 04/19/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 21.43 | --- | 14.92 | --- | --- |
| S-10 | 07/13/2004 | 770 | 1.5 | <0.50 | 70 | 42 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 36.35 | 21.68 | --- | 14.67 | --- | --- |
| S-10 | 10/28/2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 22.37 | --- | 13.98 | --- | --- |
| S-10 | 01/17/2005 | 1,100 | 1.5 | <0.50 | 73 | 51 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 36.35 | 21.45 | --- | 14.90 | --- | --- |
| S-10 | 04/14/2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 22.18 | --- | 14.17 | --- | --- |
| S-10 | 07/28/2005 | 260 | <0.50 | <0.50 | 19 | 9.7 | --- | <0.50 | <5.0 | <2.0 | <2.0 | <2.0 | --- | --- | 36.35 | 22.25 | --- | 14.10 | --- | --- |
| S-10 | 10/05/2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 21.70 | --- | 14.65 | --- | --- |
| S-10 | 02/09/2006 | 630 | <0.500 | <0.500 | 13.8 | 13.8 | --- | <0.500 | --- | --- | --- | --- | --- | --- | 36.35 | 20.37 | --- | 15.98 | --- | --- |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-10 | 05/15/2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 21.31 | --- | 15.04 | --- | --- |
| S-10 | 08/23/2006 | <50.0 | <0.500 | <0.500 | 14.5 | 3.4 | --- | <0.500 | <10.0 | <0.500 | <0.500 | <0.500 | --- | --- | 36.35 | 22.12 | --- | 14.23 | --- | --- |
| S-10 | 11/15/2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 22.68 | --- | 13.67 | --- | --- |
| S-10 | 01/30/2007 | 120 | <0.50 | <0.50 | 7.0 | 3.3 | --- | <0.50 | --- | --- | --- | --- | --- | --- | 36.35 | 23.09 | --- | 13.26 | --- | --- |
| S-10 | 05/29/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.20 | --- | 13.15 | --- | --- |
| S-10 | 08/15/2007 | 64 f,g | 0.15 h | <1.0 | 1.4 | 0.72 h | --- | <1.0 | <10 | <2.0 | <2.0 | <2.0 | --- | --- | 36.35 | 23.48 | --- | 12.87 | --- | --- |
| S-10 | 11/28/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.82 | --- | 12.53 | --- | --- |
| S-10 | 02/08/2008 | 61 f | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 36.35 | 23.31 | --- | 13.04 | --- | --- |
| S-10 | 05/08/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.55 | --- | 12.80 | --- | --- |
| S-10 | 08/14/2008 | 58 | <0.50 | <1.0 | 2.7 | <1.0 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 36.35 | 23.75 | --- | 12.60 | --- | --- |
| S-10 | 11/11/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.08 | --- | 13.27 | --- | --- |
| S-10 | 12/18/2008 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 24.00 | --- | 12.35 | --- | --- |
| S-10 | 01/05/2009 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.87 | --- | 12.48 | --- | --- |
| S-10 | 01/15/2009 | <50 | <0.50 | <1.0 | 1.1 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.66 | --- | 12.69 | --- | --- |
| S-10 | 02/12/2009 | 56 | <0.50 | <1.0 | 3.4 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.96 | --- | 12.39 | --- | --- |
| S-10 | 03/12/2009 | 53 | <0.50 | <1.0 | 4.9 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.44 | --- | 12.91 | --- | --- |
| S-10 | 04/09/2009 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.26 | --- | 13.09 | --- | --- |
| S-10 | 07/23/2009 | 66 | <0.50 | <1.0 | 5.7 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.56 | --- | 12.79 | 0.06 | 112 |
| S-10 | 10/01/2009 | 76 | <0.50 | <1.0 | 4.6 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.80 | --- | 12.55 | 1.26 | 206 |
| S-10 | 01/28/2010 | 100 | <0.50 | <1.0 | 3.6 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.30 | --- | 13.05 | --- | --- |
| S-10 | 05/20/2010 | 52 | <0.50 | <1.0 | 1.9 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 24.04 | --- | 12.31 | 0.68 | 59 |
| S-10 | 08/31/2010 | <50 | 0.69 | <1.0 | 1.4 | <1.0 | --- | <1.0 | <10 | <2.0 | <2.0 | <2.0 | --- | --- | 36.35 | 24.24 | --- | 12.11 | 0.51 | -3 |
| S-10 | 12/29/2010 | 95 | <0.50 | <1.0 | 3.4 | 1.4 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.89 | --- | 12.46 | 0.43 | 87 |
| S-10 | 02/01/2011 | 69 | <0.50 | <0.50 | 2.2 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 23.25 | --- | 13.10 | 2.08 | 117 |
| S-10 | 04/25/2011 | 55 | 0.51 | <0.50 | 2.9 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 21.87 | --- | 14.48 | 1.32 | 21 |
| S-10 | 07/28/2011 | <50 | <0.50 | <1.0 | 0.92 | <1.0 | --- | <1.0 | <10 | <1.0 | <1.0 | <1.0 | --- | --- | 36.35 | 21.39 | --- | 14.96 | 0.32 | 227 |
| S-10 | 10/28/2011 | 52 | <0.50 | <0.50 | 2.7 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.35 | 21.68 | --- | 14.67 | 2.68 | 327 |
| S-10 | 05/07/2012 | 50 | 0.84 | <0.50 | 1.5 | <1.0 | --- | <0.50 | <10 | <0.50 | <0.50 | <0.50 | --- | --- | 36.35 | 22.00 | --- | 14.35 | 2.51 | 220 |
| S-10 | 05/02/2013 | 100 | <0.50 | <0.50 | 0.77 | <1.0 | --- | <0.50 | <10 | <0.50 | <0.50 | <0.50 | --- | --- | 36.35 | 25.53 | --- | 10.82 | --- | --- |
| S-10 | 04/21/2014 | 180 | <0.50 | <0.50 | 0.71 | <1.0 | --- | <0.50 | <10 | <0.50 | <0.50 | <0.50 | --- | --- | 36.35 | 26.20 | --- | 10.15 | --- | --- |
| S-12 | 12/17/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.58 | --- | 11.86 | --- | --- |
| S-12 | 02/08/2008 | 55 f | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 36.44 | 24.32 | --- | 12.12 | --- | --- |
| S-12 | 05/08/2008 | <50 f | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 36.44 | 24.51 | --- | 11.93 | --- | --- |
| S-12 | 08/14/2008 | <50 | 1.0 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 36.44 | 24.63 | --- | 11.81 | --- | --- |
| S-12 | 11/11/2008 | <50 i | 0.95 i | <1.0 i | <1.0 i | <1.0 i | --- | <1.0 i | --- | --- | --- | --- | <0.50 i | <1.0 i | 36.44 | 24.85 | --- | 11.59 | 0.2 | 37 |
| S-12 | 11/11/2008 | 65 j | 8.1 j | 2.2 j | 4.8 j | 1.5 j | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.85 | --- | 11.59 | 0.2 | 45 |
| S-12 | 12/18/2008 | <50 | 8.3 | <1.0 | 1.8 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.81 | --- | 11.63 | --- | --- |
| S-12 | 01/05/2009 | 95 | 16 | <1.0 | 3.2 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.75 | --- | 11.69 | --- | --- |
| S-12 | 01/15/2009 | 140 | 36 | <1.0 | 12 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.54 | --- | 11.90 | --- | --- |
| S-12 | 02/12/2009 | <50 | 5.0 | <1.0 | 1.6 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.81 | --- | 11.63 | --- | --- |
| S-12 | 03/12/2009 | <50 | 4.8 | <1.0 | 1.5 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.41 | --- | 12.03 | --- | --- |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-12 | 04/09/2009 | 59 | 6.0 | <1.0 | 1.6 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.23 | --- | 12.21 | 0.50 | -3 |
| S-12 | 07/23/2009 | 130 | 29 | <1.0 | 13 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.50 | --- | 11.94 | 0.07 | 142 |
| S-12 | 10/01/2009 | 130 | 25 | <1.0 | 15 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.76 | --- | 11.68 | 0.74 | 135 |
| S-12 | 01/28/2010 | 110 | 14 | <1.0 | 19 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.28 | --- | 12.16 | --- | --- |
| S-12 | 05/20/2010 | 75 | 8.5 | <1.0 | 7.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.71 | --- | 11.73 | 0.14 | 740 |
| S-12 | 08/31/2010 | <50 | 0.56 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 25.08 | --- | 11.36 | 1.18 | 180 |
| S-12 | 12/29/2010 | <50 | 0.98 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 24.60 | --- | 11.84 | 1.27 | 121 |
| S-12 | 02/01/2011 | <50 | 1.8 | <0.50 | 2.8 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 23.94 | --- | 12.50 | 2.06 | -2 |
| S-12 | 04/25/2011 | <50 | 0.82 | <0.50 | 1.7 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 22.53 | --- | 13.91 | 0.28 | 196 |
| S-12 | 07/28/2011 | <50 | 0.96 | <0.50 | 2.8 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 22.05 | --- | 14.39 | 3.01 | 163 |
| S-12 | 10/28/2011 | 99 | 15 | <0.50 | 14 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 22.50 | --- | 13.94 | 3.67 | 91 |
| S-12 | 05/07/2012 | 180 | 25 | <0.50 | 19 | 1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 22.50 | --- | 13.94 | 0.88 | 66 |
| S-12 | 05/02/2013 | 190 | 1.2 | 0.64 | 0.71 | 3.8 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 26.48 | --- | 9.96 | --- | --- |
| S-12 | 04/21/2014 | 1,100 | 5.0 | 3.3 | 9.5 | 38 | --- | --- | --- | --- | --- | --- | --- | --- | 36.44 | 27.08 | --- | 9.36 | --- | --- |
| S-13 | 12/17/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.16 | 23.33 | --- | 11.83 | --- | --- |
| S-13 | 02/08/2008 | 14,000 f | 1,900 | 1,300 | 280 | 3,000 | --- | <10 | --- | --- | --- | --- | <5.0 | <10 | 35.16 | 23.01 | --- | 12.15 | --- | --- |
| S-13 | 05/08/2008 | 18,000 f | 2,800 | 3,400 | 550 | 3,500 | --- | <10 | --- | --- | --- | --- | <5.0 | <10 | 35.16 | 23.31 | --- | 11.85 | --- | --- |
| S-13 | 08/14/2008 | 16,000 | 2,400 | 3,100 | 580 | 3,100 | --- | <20 | --- | --- | --- | --- | <10 | <20 | 35.16 | 23.31 | --- | 11.85 | --- | --- |
| S-13 | 11/11/2008 | 16,000 i | 2,400 i | 2,800 i | 270 i | 2,500 i | --- | <50 i | --- | --- | --- | --- | <25 i | <50 i | 35.16 | 23.60 | --- | 11.56 | 0.8 | -48 |
| S-13 | 11/11/2008 | 4,400 j | 560 j | 630 j | 88 j | 530 j | --- | --- | --- | --- | --- | --- | --- | --- | 35.16 | 23.60 | --- | 11.56 | 1.2 | -60 |
| S-13 | 12/18/2008 | 3,900 | 530 | 560 | 76 | 510 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.61 | --- | 11.44 | --- | --- |
| S-13 | 01/05/2009 | 8,200 | 700 | 670 | 67 | 1,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.54 | --- | 11.51 | --- | --- |
| S-13 | 01/15/2009 | 5,400 | 610 | 610 | 48 | 950 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.10 | --- | 11.95 | --- | --- |
| S-13 | 02/12/2009 | 6,300 | 800 | 1,000 | 110 | 870 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 22.36 | --- | 12.69 | --- | --- |
| S-13 | 03/12/2009 | 14,000 | 1,700 | 2,300 | 190 | 2,400 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.20 | --- | 11.85 | --- | --- |
| S-13 | 04/09/2009 | 35,000 | 510 | 7,800 | 1,000 | 4,300 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.02 | --- | 12.03 | 25.9 | 433 |
| S-13 | 05/18/2009 | 35,000 | 820 | 7,000 | 1,100 | 6,600 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.07 | --- | 11.98 | 5.21 | 83 |
| S-13 | 07/23/2009 | 18,000 | 1,800 | 3,000 | 480 | 2,500 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.51 | --- | 11.54 | 1.23 | 148 |
| S-13 | 10/01/2009 | 2,000 | 330 | 87 | 33 | 5.2 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.61 | --- | 11.44 | 1.23 | 413 |
| S-13 | 11/09/2009 | 15,000 | 1,100 | 1,500 | 300 | 1,800 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.41 | --- | 11.64 | 0.71 | --- |
| S-13 | 12/01/2009 | 1,600 | 210 | 190 | 34 | 36 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.15 | --- | 11.90 | 16.3 | 231 |
| S-13 | 01/28/2010 | 5,900 | 370 | 930 | 100 | 680 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 22.94 | --- | 12.11 | 2.18 | --- |
| S-13 | 05/20/2010 | 400 | 35 | 120 | 9.5 | 52 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.36 | --- | 11.69 | 0.31 | 211 |
| S-13 | 06/22/2010 | 16,000 | 570 | 3,000 | 260 | 2,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.20 | --- | 11.85 | 1.10 | 412 |
| S-13 | 08/31/2010 | 3,000 | 140 | 490 | 83 | 540 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 24.00 | --- | 11.05 | 0.90 | 400 |
| S-13 | 12/29/2010 | 8,700 | 600 | 1,700 | 260 | 1,700 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 23.48 | --- | 11.57 | 0.69 | 231 |
| S-13 | 02/01/2011 | 2,100 | 170 | 390 | 75 | 410 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 22.71 | --- | 12.34 | 1.10 | 248 |
| S-13 | 04/25/2011 | 6,000 | 600 | 1,800 | 270 | 1,300 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 21.15 | --- | 13.90 | 0.19 | 69 |
| S-13 | 07/28/2011 | 3,700 | 320 | 430 | 160 | 790 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 20.64 | --- | 14.41 | 2.65 | 44 |
| S-13 | 10/28/2011 | 8,100 | 600 | 830 | 380 | 1,700 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 21.47 | --- | 13.58 | 3.67 | 1 |
| S-13 | 05/07/2012 | 5,100 | 540 | 670 | 320 | 1,100 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 21.35 | --- | 13.70 | 0.60 | -176 |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-13 | 12/11/2012 | 5,900 | 420 | 580 | 260 | 950 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 22.91 | --- | 12.14 | 1.07/0.80 | -70/-63 |
| S-13 | 05/02/2013 | 1,300 | 130 | 95 | 49 | 85 | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 25.24 | --- | 9.81 | --- | --- |
| S-13 | 11/07/2013 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | k | k | k | --- | --- |
| S-13 | 03/14/2014 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 26.22 | 0.25 | 9.03 | --- | --- |
| S-13 | 04/21/2014 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.05 | 26.09 | 0.39 | 9.27 | --- | --- |
| **S-13** | **07/31/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **35.05** | **25.25** | **---** | **9.80** | **---** | **---** |
| **S-13** | **09/22/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **35.05** | **25.31** | **---** | **9.74** | **---** | **---** |
| **S-13** | **10/03/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **35.05** | **25.35** | **---** | **9.70** | **---** | **---** |
| **S-13** | **10/10/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **35.05** | **25.33** | **---** | **9.72** | **---** | **---** |
| **S-13** | **10/17/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **35.05** | **25.31** | **---** | **9.74** | **---** | **---** |
| **S-13** | **10/24/2014** | **Well inaccessible** | | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **35.05** | **---** | **---** | **---** | **---** | **---** |
| **S-13** | **11/21/2014** | **7,000** | **330** | **270** | **120** | **590** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **35.05** | **25.35** | **---** | **9.70** | **---** | **---** |
| **S-13** | **11/21/2014** | **7,000** | **330** | **270** | **120** | **590** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **35.05** | **18.33** | **---** | **16.72** | **---** | **---** |
| S-14 | 12/17/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.94 | 22.68 | --- | 12.26 | --- | --- |
| S-14 | 02/08/2008 | 5,300 f | 380 | 300 | 34 | 970 | --- | <10 | --- | --- | --- | --- | <5.0 | <10 | 34.94 | 22.82 | --- | 12.12 | --- | --- |
| S-14 | 05/08/2008 | 4,300 f | 750 | 270 | 30 | 520 | --- | <10 | --- | --- | --- | --- | <5.0 | <10 | 34.94 | 22.41 | --- | 12.53 | --- | --- |
| S-14 | Well destroyed | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S-14R | 11/07/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.19 | 22.91 | --- | 12.28 | --- | --- |
| S-14R | 11/11/2008 | 8,500 i | 680 i | 270 i | <25 i | 1,110 i | --- | --- | --- | --- | --- | --- | --- | --- | 35.19 | 23.13 | --- | 12.06 | 0.60 | 115 |
| S-14R | 11/11/2008 | 4,300 j | 270 j | 190 j | 43 j | 470 j | --- | --- | --- | --- | --- | --- | --- | --- | 35.19 | 23.13 | --- | 12.06 | 1.5 | 116 |
| S-14R | 12/18/2008 | 7,800 | 530 | 640 | 79 | 1,010 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.80 | --- | 12.15 | --- | --- |
| S-14R | 01/05/2009 | 2,100 | 89 | 86 | 19 | 140 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.80 | --- | 12.15 | --- | --- |
| S-14R | 01/15/2009 | 4,800 | 430 | 540 | 83 | 730 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.57 | --- | 12.38 | --- | --- |
| S-14R | 02/12/2009 | 1,000 | 40 | 29 | 7.3 | 55 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.89 | --- | 12.06 | --- | --- |
| S-14R | 03/12/2009 | 350 | 22 | 18 | 3.3 | 29 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.39 | --- | 12.56 | --- | --- |
| S-14R | 04/09/2009 | 2,300 | 230 | 240 | 47 | 250 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.35 | --- | 12.60 | 0.30 | 430 |
| S-14R | 05/18/2009 | 750 | 51 | 48 | 17 | 67 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.20 | --- | 12.75 | 5.63 | 93 |
| S-14R | 07/23/2009 | 600 | 81 | 57 | 19 | 47 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.56 | --- | 12.39 | 0.05 | 246 |
| S-14R | 10/01/2009 | 230 | 12 | 10 | 5.3 | 23 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.90 | --- | 12.05 | 2.22 | 201 |
| S-14R | 11/09/2009 | 330 | 47 | 21 | 11 | 39 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.68 | --- | 12.27 | 0.75 | --- |
| S-14R | 12/01/2009 | 420 | 38 | 27 | 12 | 39 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.62 | --- | 12.33 | 0.45 | 110 |
| S-14R | 01/28/2010 | 270 | 45 | 27 | 11 | 32 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.38 | --- | 12.57 | 3.75 | --- |
| S-14R | 05/20/2010 | 330 | 17 | 10 | 2.7 | 13 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.72 | --- | 12.23 | 0.96 | 102 |
| S-14R | 08/31/2010 | 130 | 5.8 | 3.5 | 1.4 | 6.1 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 23.12 | --- | 11.83 | 1.55 | -13 |
| S-14R | 12/29/2010 | 480 | 56 | 30 | 13 | 52 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.75 | --- | 12.20 | 0.48 | 375 |
| S-14R | 02/01/2011 | 570 | 56 | 32 | 20 | 59 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 22.10 | --- | 12.85 | 0.58 | 143 |
| S-14R | 04/25/2011 | 860 | 100 | 59 | 41 | 97 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 20.80 | --- | 14.15 | 0.81 | -37 |
| S-14R | 07/28/2011 | 970 | 100 | 80 | 51 | 110 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 20.36 | --- | 14.59 | 0.56 | 151 |
| S-14R | 10/28/2011 | 420 | 47 | 38 | 25 | 67 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 20.68 | --- | 14.27 | 3.97 | 321 |
| S-14R | 05/07/2012 | 630 | 68 | 62 | 40 | 120 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 20.77 | --- | 14.18 | 2.47 | 238 |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-14R | 05/02/2013 | 3,200 | 200 | 130 | 95 | 200 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 24.49 | --- | 10.46 | --- | --- |
| S-14R | 04/21/2014 | 3,700 | 190 | 160 | 99 | 290 | --- | --- | --- | --- | --- | --- | --- | --- | 34.95 | 24.99 | --- | 9.96 | --- | --- |
| S-15 | 12/17/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.34 | 23.00 | --- | 12.34 | --- | --- |
| S-15 | 02/08/2008 | 55,000 f | 6,700 | 13,000 | 1,100 | 9,800 | --- | <10 | --- | --- | --- | --- | <5.0 | <10 | 35.34 | 22.71 | --- | 12.63 | --- | --- |
| S-15 | 05/08/2008 | 53,000 f | 6,300 | 13,000 | 1,500 | 7,500 | --- | <200 | --- | --- | --- | --- | <100 | <200 | 35.34 | 22.91 | --- | 12.43 | --- | --- |
| S-15 | Well destroyed | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S-16 | 12/17/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 36.08 | 23.88 | --- | 12.20 | --- | --- |
| S-16 | 02/08/2008 | 6,000 f | 670 | 730 | 88 | 1,290 | --- | <5.0 | --- | --- | --- | --- | <2.5 | <5.0 | 36.08 | 23.52 | --- | 12.56 | --- | --- |
| S-16 | 05/08/2008 | 3,200 f | 670 | 320 | 18 | 580 | --- | <10 | --- | --- | --- | --- | <5.0 | <10 | 36.08 | 23.69 | --- | 12.39 | --- | --- |
| S-16 | Well destroyed | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S-17 | 06/19/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.49 | 23.30 | --- | 12.19 | --- | --- |
| S-17 | 06/25/2008 | 21,000 | 1,300 | 1,300 | 160 | 2,850 | --- | <5.0 | --- | --- | --- | --- | <2.5 | <5.0 | 35.49 | 23.33 | --- | 12.16 | --- | --- |
| S-17 | 08/14/2008 | 14,000 | 1,700 | 1,700 | 310 | 2,250 | --- | <10 | --- | --- | --- | --- | <5.0 | <10 | 35.49 | 23.50 | --- | 11.99 | --- | --- |
| S-17 | 11/11/2008 | 7,200 i | 1,600 i | 820 i | 140 i | 760 i | --- | <5.0 i | --- | --- | --- | --- | <2.5 i | <5.0 i | 35.49 | 23.70 | --- | 11.79 | --- | --- |
| S-17 | 11/11/2008 | 32,000 j | 2,500 j | 3,100 j | 820 j | 4,000 j | --- | <25 j | --- | --- | --- | --- | <12 j | <25 j | 35.49 | 23.70 | --- | 11.79 | --- | --- |
| S-17 | 01/05/2009 | 15,000 | 790 | 700 | 150 | 1,200 | --- | <10 | --- | --- | --- | --- | <5.0 | <10 | 35.50 | 23.66 | --- | 11.84 | --- | --- |
| S-17 | 01/15/2009 | 2,300 | 220 | 170 | 19 | 300 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.37 | --- | 12.13 | --- | --- |
| S-17 | 02/12/2009 | 4,700 | 750 | 200 | 37 | 23 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.66 | --- | 11.84 | --- | --- |
| S-17 | 03/12/2009 | 3,300 | 640 | 370 | 81 | 290 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.24 | --- | 12.26 | --- | --- |
| S-17 | 04/09/2009 | 1,300 | 200 | 110 | 37 | 100 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.20 | --- | 12.30 | 0.69 | 429 |
| S-17 | 05/18/2009 | 630 | 97 | 44 | 17 | 25 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.21 | --- | 12.29 | 5.93 | 442 |
| S-17 | 07/23/2009 | 3,900 | 480 | 410 | 160 | 480 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.70 | --- | 11.80 | 0.15 | 34 |
| S-17 | 10/01/2009 | 1,300 | 32 | 24 | 3.1 | 72 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.64 | --- | 11.86 | 1.30 | 204 |
| S-17 | 11/09/2009 | 5,300 | 260 | 330 | 56 | 500 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.52 | --- | 11.98 | 0.18 | --- |
| S-17 | 12/01/2009 | 3,300 | 190 | 210 | 52 | 240 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.41 | --- | 12.09 | 0.95 | 450 |
| S-17 | 01/28/2010 | 3,500 | 260 | 250 | 85 | 310 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.21 | --- | 12.29 | 1.93 | --- |
| S-17 | 05/20/2010 | 370 | 18 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.65 | --- | 11.85 | 1.31 | 544 |
| S-17 | 08/31/2010 | 1,900 | 120 | 110 | 52 | 260 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.92 | --- | 11.58 | 1.32 | 370 |
| S-17 | 12/29/2010 | 2,600 | 200 | 150 | 91 | 280 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 23.60 | --- | 11.90 | 1.37 | 131 |
| S-17 | 02/01/2011 | 950 | 100 | 72 | 47 | 130 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 22.91 | --- | 12.59 | 1.40 | 136 |
| S-17 | 04/25/2011 | 2,000 | 150 | 71 | 77 | 210 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 21.44 | --- | 14.06 | 0.23 | 82 |
| S-17 | 07/28/2011 | 3,400 | 270 | 98 | 170 | 370 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 21.06 | --- | 14.44 | 1.45 | 70 |
| S-17 | 10/28/2011 | 270 | 58 | 5.3 | 23 | 28 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 21.51 | --- | 13.99 | 1.19 | 221 |
| S-17 | 05/07/2012 | 980 | 110 | 3.6 | 66 | 100 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 21.50 | --- | 14.00 | 0.62 | 84 |
| S-17 | 05/02/2013 | 570 | 62 | 20 | 19 | 49 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 25.49 | --- | 10.01 | --- | --- |
| S-17 | 04/21/2014 | 2,500 | 140 | 120 | 98 | 310 | --- | --- | --- | --- | --- | --- | --- | --- | 35.50 | 25.91 | --- | 9.59 | --- | --- |
| S-18 | 06/19/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.04 | 22.94 | --- | 12.10 | --- | --- |
| S-18 | 06/25/2008 | 58,000 | 2,200 | 5,600 | 880 | 10,200 | --- | <10 | --- | --- | --- | --- | <5.0 | <10 | 35.04 | 22.92 | --- | 12.12 | --- | --- |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-18 | 08/14/2008 | 25,000 | 2,500 | 4,500 | 860 | 5,800 | --- | <50 | --- | --- | --- | --- | <25 | <50 | 35.04 | 23.08 | --- | 11.96 | --- | --- |
| S-18 | 11/11/2008 | 24,000 i | 2,400 i | 3,300 i | 820 i | 3,800 i | --- | <25 i | --- | --- | --- | --- | <12 i | <25 i | 35.04 | 23.30 | --- | 11.74 | --- | --- |
| S-18 | 11/11/2008 | 43,000 j | 3,900 j | 5,500 j | 1,300 j | 6,500 j | --- | <50 j | --- | --- | --- | --- | <25 j | <50 j | 35.04 | 23.30 | --- | 11.74 | --- | --- |
| S-18 | 01/05/2009 | 20,000 | 830 | 1,000 | 290 | 1,400 | --- | <50 | --- | --- | --- | --- | <25 | <50 | 35.03 | 23.16 | --- | 11.87 | --- | --- |
| S-18 | 01/15/2009 | 8,200 | 690 | 790 | 150 | 1,230 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 22.97 | --- | 12.06 | --- | --- |
| S-18 | 02/12/2009 | 13,000 | 1,200 | 1,400 | 330 | 940 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 23.29 | --- | 11.74 | --- | --- |
| S-18 | 03/12/2009 | 52,000 | 5,300 | 9,000 | 1,600 | 10,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 22.85 | --- | 12.18 | --- | --- |
| S-18 | 04/09/2009 | Insufficient water | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 22.79 | --- | 12.24 | --- | --- |
| S-18 | 05/18/2009 | 6,700 | 320 | 1,100 | 200 | 1,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 22.81 | --- | 12.22 | 6.51 | 377 |
| S-18 | 07/23/2009 | 8,900 | 500 | 890 | 290 | 1,600 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 22.91 | --- | 12.12 | 0.20 | --- |
| S-18 | 10/01/2009 | 1,800 | 49 | 5.5 | 5.3 | <5.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 23.65 | --- | 11.38 | 6.25 | 557 |
| S-18 | 11/09/2009 | 1,100 | 79 | 8.9 | 5.3 | 1.1 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 23.19 | --- | 11.84 | 0.26 | --- |
| S-18 | 12/01/2009 | 570 | 50 | 7.5 | 2.7 | 1.2 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 23.12 | --- | 11.91 | 4.07 | 460 |
| S-18 | 01/28/2010 | 1,200 | 170 | 91 | 18 | 68 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 22.86 | --- | 12.17 | 1.90 | --- |
| S-18 | 05/20/2010 | 3,900 | 500 | 690 | 79 | 240 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 23.12 | --- | 11.91 | 1.77 | 169 |
| S-18 | 06/22/2010 | 13,000 | 1,700 | 2,800 | 200 | 1,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 23.10 | --- | 11.93 | 0.58 | 499 |
| S-18 | 08/31/2010 | 6,600 | 970 | 1,100 | 230 | 1,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 23.55 | --- | 11.48 | 1.23 | 258 |
| S-18 | 12/29/2010 | 8,500 | 1,000 | 750 | 410 | 1,800 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 23.23 | --- | 11.80 | 0.79 | 70 |
| S-18 | 02/01/2011 | 2,100 | 210 | 190 | 87 | 180 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 22.52 | --- | 12.51 | 1.13 | 220 |
| S-18 | 04/25/2011 | 13,000 | 2,100 | 2,000 | 470 | 2,300 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 21.00 | --- | 14.03 | 0.52 | 85 |
| S-18 | 07/28/2011 | 8,200 | 1,200 | 1,000 | 290 | 1,200 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 20.56 | --- | 14.47 | 1.57 | 27 |
| S-18 | 10/28/2011 | 9,000 | 1,200 | 480 | 430 | 1,900 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 21.11 | --- | 13.92 | 1.45 | 147 |
| S-18 | 05/07/2012 | 4,700 | 710 | 310 | 310 | 870 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 21.20 | --- | 13.83 | 0.55 | -68 |
| S-18 | 05/02/2013 | 5,000 | 720 | 280 | 220 | 480 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 24.95 | --- | 10.08 | --- | --- |
| S-18 | 04/21/2014 | 1,400 | 240 | 190 | 70 | 230 | --- | --- | --- | --- | --- | --- | --- | --- | 35.03 | 25.61 | --- | 9.42 | --- | --- |
| S-19 | 11/07/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.78 | 22.73 | --- | 12.05 | --- | --- |
| S-19 | 11/11/2008 | 7,100 i | 500 i | 600 i | 25 i | 1,010 i | --- | --- | --- | --- | --- | --- | --- | --- | 34.78 | 22.87 | --- | 11.91 | 1.0 | 62 |
| S-19 | 11/11/2008 | 2,300 j | 110 j | 160 j | 43 j | 280 j | --- | --- | --- | --- | --- | --- | --- | --- | 34.78 | 22.87 | --- | 11.91 | 1.3 | 71 |
| S-19 | 12/18/2008 | 2,900 | 190 | 300 | 41 | 420 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.60 | --- | 11.97 | --- | --- |
| S-19 | 01/05/2009 | 3,400 | 230 | 250 | 50 | 380 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.56 | --- | 12.01 | --- | --- |
| S-19 | 01/15/2009 | 3,100 | 340 | 540 | 70 | 440 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.31 | --- | 12.26 | --- | --- |
| S-19 | 02/12/2009 | 1,300 | 130 | 180 | 37 | 190 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.58 | --- | 11.99 | --- | --- |
| S-19 | 03/12/2009 | 880 | 110 | 150 | 30 | 160 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.44 | --- | 12.13 | --- | --- |
| S-19 | 04/09/2009 | 1,300 | 140 | 190 | 32 | 190 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.02 | --- | 12.55 | 0.57 | 106 |
| S-19 | 05/18/2009 | 780 | 69 | 87 | 17 | 100 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.04 | --- | 12.53 | 6.47 | 75 |
| S-19 | 07/23/2009 | 400 | 77 | 59 | 15 | 38 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.40 | --- | 12.17 | 0.06 | 31 |
| S-19 | 10/01/2009 | 1,500 | 160 | 170 | 33 | 120 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.66 | --- | 11.91 | 0.52 | 301 |
| S-19 | 11/09/2009 | 1,600 | 140 | 160 | 41 | 160 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.44 | --- | 12.13 | 0.26 | --- |
| S-19 | 12/01/2009 | 1,600 | 150 | 180 | 45 | 170 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.62 | --- | 11.95 | 0.79 | 161 |
| S-19 | 01/28/2010 | 2,600 | 230 | 280 | 71 | 300 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.29 | --- | 12.28 | 1.71 | --- |
| S-19 | 05/20/2010 | 850 | 110 | 55 | 11 | 4.6 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.49 | --- | 12.08 | 1.77 | 118 |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-19 | 08/31/2010 | 580 | 79 | 92 | 22 | 50 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.86 | --- | 11.71 | 1.02 | 297 |
| S-19 | 12/29/2010 | 920 | 120 | 120 | 54 | 150 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.48 | --- | 12.09 | 1.12 | 150 |
| S-19 | 02/01/2011 | 1,800 | 210 | 270 | 100 | 320 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 21.78 | --- | 12.79 | 1.08 | 21 |
| S-19 | 04/25/2011 | 2,100 | 290 | 360 | 140 | 470 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 20.42 | --- | 14.15 | 0.25 | 115 |
| S-19 | 07/28/2011 | 2,400 | 240 | 380 | 140 | 450 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 20.16 | --- | 14.41 | 1.17 | 80 |
| S-19 | 10/28/2011 | 3,600 | 210 | 420 | 190 | 750 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 20.41 | --- | 14.16 | 1.73 | 160 |
| S-19 | 05/07/2012 | 3,400 | 220 | 480 | 210 | 880 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 20.51 | --- | 14.06 | 2.54 | 244 |
| S-19 | 12/11/2012 | 1,700 | 110 | 240 | 100 | 440 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 22.05 | --- | 12.52 | 0.89/2.21 | 81/52 |
| S-19 | 05/02/2013 | 1,500 | 88 | 89 | 55 | 160 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 24.15 | --- | 10.42 | --- | --- |
| S-19 | 11/07/2013 | 170,000 | 1,200 | 7,300 | 3,800 | 22,000 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | k | k | k | --- | --- |
| S-19 | 04/21/2014 | 32,000 | 580 | 1,400 | 940 | 4,300 | --- | --- | --- | --- | --- | --- | --- | --- | 34.57 | 24.95 | --- | 9.62 | --- | --- |
| **S-19** | **07/31/2014** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **34.57** | **24.22** | **0.20** | **10.51** | **---** | **---** |
| **S-19** | **11/21/2014** | **25,000** | **420** | **880** | **550** | **2,500** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **34.57** | **24.40** | **---** | **10.17** | **---** | **---** |
| S-20 | 11/07/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.80 | --- | 11.70 | --- | --- |
| S-20 | 11/11/2008 | 13,000 i | 1,300 i | 1,600 i | 80 i | 1,920 i | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.90 | --- | 11.60 | 0.8 | -39 |
| S-20 | 11/11/2008 | 16,000 j | 1,100 j | 1,800 j | 220 j | 1,930 j | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.90 | --- | 11.60 | 2.6 | -64 |
| S-20 | 01/05/2009 | 17,000 | 1,500 | 1,700 | 320 | 1,900 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.78 | --- | 11.72 | --- | --- |
| S-20 | 02/12/2009 | 11,000 | 1,300 | 1,400 | 230 | 1,600 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.80 | --- | 11.70 | 2.6 | -64 |
| S-20 | 03/12/2009 | 19,000 | 2,700 | 3,200 | 390 | 3,100 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.40 | --- | 12.10 | --- | --- |
| S-20 | 04/09/2009 | 8,200 | 80 | 480 | 220 | 490 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.90 | --- | 11.60 | 13.80 | 578 |
| S-20 | 05/18/2009 | 21,000 | 970 | 1,500 | 630 | 4,800 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.42 | --- | 12.08 | 4.58 | 197 |
| S-20 | 07/23/2009 | 41,000 | 4,900 | 2,900 | 990 | 7,300 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.73 | --- | 11.77 | 0.27 | 419 |
| S-20 | 10/01/2009 | 1,800 | 140 | 39 | 33 | 39 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 23.00 | --- | 11.50 | 0.85 | 533 |
| S-20 | 11/09/2009 | 21,000 | 1,600 | 740 | 300 | 2,500 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.72 | --- | 11.78 | 1.67 | --- |
| S-20 | 12/01/2009 | 12,000 | 1,100 | 450 | 160 | 1,200 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.61 | --- | 11.89 | 1.38 | 347 |
| S-20 | 01/28/2010 | 20,000 | 2,000 | 1,600 | 260 | 2,000 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.51 | --- | 11.99 | 4.40 | --- |
| S-20 | 05/20/2010 | 4,300 | 1,100 | 110 | 26 | 61 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.90 | --- | 11.60 | 8.96 | 555 |
| S-20 | 06/22/2010 | 7,100 | 1,300 | 550 | 120 | 550 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 23.19 | --- | 11.31 | 11.64 | 637 |
| S-20 | 08/31/2010 | 9,600 | 1,800 | 1,400 | 230 | 580 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 23.13 | --- | 11.37 | 0.94 | 529 |
| S-20 | 12/29/2010 | 19,000 | 2,000 | 3,100 | 860 | 3,200 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.72 | --- | 11.78 | 0.92 | 193 |
| S-20 | 02/01/2011 | 26,000 | 3,900 | 7,100 | 1,300 | 5,800 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.04 | --- | 12.46 | 1.03 | 390 |
| S-20 | 04/25/2011 | 41,000 | 6,600 | 11,000 | 2,000 | 9,800 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 20.60 | --- | 13.90 | 0.43 | 156 |
| S-20 | 07/28/2011 | 34,000 | 4,200 | 5,300 | 1,400 | 6,300 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 20.30 | --- | 14.20 | 1.25 | -15 |
| S-20 | 10/28/2011 | 17,000 | 1,500 | 1,900 | 1,000 | 3,400 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 20.78 | --- | 13.72 | 1.28 | 431 |
| S-20 | 05/07/2012 | 9,900 | 760 | 1,200 | 790 | 2,000 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 20.54 | --- | 13.96 | 1.92 | -106 |
| S-20 | 12/11/2012 | 9,700 | 630 | 1,000 | 720 | 1,500 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 22.29 | --- | 12.21 | 0.82/1.67 | -11/-43 |
| S-20 | 05/02/2013 | 4,500 | 380 | 220 | 240 | 300 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 24.50 | --- | 10.00 | --- | --- |
| S-20 | 11/07/2013 | 4,000 | 420 | 290 | 60 | 330 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 25.24 | --- | 9.26 | --- | --- |
| S-20 | 04/21/2014 | 3,800 | 480 | 350 | 50 | 350 | --- | --- | --- | --- | --- | --- | --- | --- | 34.50 | 25.15 | --- | 9.35 | --- | --- |
| **S-20** | **11/21/2014** | **4,800** | **560** | **340** | **98** | **430** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **34.50** | **24.54** | **---** | **9.96** | **---** | **---** |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-21A | 11/07/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.81 | 23.73 | --- | 12.08 | --- | --- |
| S-21A | 11/11/2008 | 96,000 i | 6,100 i | 11,000 i | 1,700 i | 10,500 i | --- | --- | --- | --- | --- | --- | --- | --- | 35.81 | 23.86 | --- | 11.95 | 1.6 | -42 |
| S-21A | 11/11/2008 | 87,000 j | 6,300 j | 13,000 j | 1,700 j | 10,300 j | --- | --- | --- | --- | --- | --- | --- | --- | 35.81 | 23.86 | --- | 11.95 | 1.8 | -51 |
| S-21A | 12/18/2008 | 17,000 | 3,700 | 1,200 | 170 | 47 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.91 | --- | 11.89 | --- | --- |
| S-21A | 01/05/2009 | 28,000 | 3,100 | 2,900 | 450 | 1,100 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.78 | --- | 12.02 | --- | --- |
| S-21A | 01/15/2009 | 9,700 | 2,100 | 290 | 45 | <25 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.53 | --- | 12.27 | --- | --- |
| S-21A | 02/12/2009 | 19,000 | 3,100 | 2,500 | 330 | 500 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.83 | --- | 11.97 | --- | --- |
| S-21A | 03/12/2009 | 31,000 | 2,600 | 3,800 | 810 | 3,700 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.35 | --- | 12.45 | --- | --- |
| S-21A | 04/09/2009 | 7,800 | 700 | 750 | 130 | <25 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 24.00 | --- | 11.80 | 0.91 | 304 |
| S-21A | 05/18/2009 | 15,000 | 1,800 | 2,200 | 390 | 1,900 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.46 | --- | 12.34 | 2.37 | 529 |
| S-21A | 07/23/2009 | 51,000 | 4,800 | 7,100 | 1,100 | 7,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.85 | --- | 11.95 | 0.14 | -3 |
| S-21A | 10/01/2009 | 18,000 | 2,300 | 2,200 | 310 | 2,400 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 24.06 | --- | 11.74 | 7.92 | 575 |
| S-21A | 11/09/2009 | 41,000 | 3,500 | 5,800 | 600 | 4,800 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.73 | --- | 12.07 | 0.34 | --- |
| S-21A | 12/01/2009 | 43,000 | 3,100 | 6,700 | 640 | 4,900 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.60 | --- | 12.20 | 2.55 | 350 |
| S-21A | 01/28/2010 | 65,000 | 3,900 | 9,900 | 970 | 6,600 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.54 | --- | 12.26 | 1.43 | --- |
| S-21A | 05/20/2010 | 6,000 | 670 | 760 | 110 | 150 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.92 | --- | 11.88 | 1.37 | 541 |
| S-21A | 06/22/2010 | 16,000 | 690 | 2,000 | 370 | 2,300 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.87 | --- | 11.93 | 2.33 | 439 |
| S-21A | 08/31/2010 | 5,000 | 230 | 420 | 190 | 990 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 24.13 | --- | 11.67 | 0.73 | 392 |
| S-21A | 12/29/2010 | 5,100 | 500 | 430 | 230 | 810 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.84 | --- | 11.96 | 0.95 | 464 |
| S-21A | 02/01/2011 | 9,200 | 840 | 750 | 370 | 1,300 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 23.18 | --- | 12.62 | 0.84 | 110 |
| S-21A | 04/25/2011 | 22,000 | 3,800 | 4,000 | 960 | 4,800 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 21.71 | --- | 14.09 | 0.36 | 336 |
| S-21A | 07/28/2011 | 27,000 | 3,400 | 3,600 | 1,000 | 4,300 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 21.48 | --- | 14.32 | 1.02 | 223 |
| S-21A | 10/28/2011 | 20,000 | 2,400 | 3,000 | 840 | 3,600 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 21.65 | --- | 14.15 | 2.06 | 213 |
| S-21A | 05/07/2012 | 12,000 | 2,200 | 1,900 | 510 | 2,100 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 21.90 | --- | 13.90 | 1.01 | 107 |
| S-21A | 12/11/2012 | 13,000 | 3,300 | 2,200 | 610 | 1,300 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 22.60 | --- | 13.20 | 1.35/1.49 | 82/80 |
| S-21A | 05/02/2013 | 6,800 | 1,000 | 470 | 270 | 480 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 25.48 | --- | 10.32 | --- | --- |
| S-21A | 11/07/2013 | 32,000 | 4,100 | 3,000 | 940 | 2,900 | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 26.28 | --- | 9.52 | --- | --- |
| S-21A | 04/21/2014 | Insufficient water | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.80 | 26.29 | --- | 9.51 | --- | --- |
| **S-21A** | **11/21/2014** | **37,000** | **6,000** | **3,900** | **1,100** | **3,500** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **35.80** | **25.81** | **---** | **9.99** | **---** | **---** |
| S-21B | 11/07/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.79 | 23.68 | --- | 12.11 | --- | --- |
| S-21B | 11/11/2008 | 3,200 i | 49 i | 300 i | 93 i | 510 i | --- | --- | --- | --- | --- | --- | --- | --- | 35.79 | 23.80 | --- | 11.99 | 0.4 | -108 |
| S-21B | 11/11/2008 | 7,500 j | 67 j | 470 j | 150 j | 960 j | --- | --- | --- | --- | --- | --- | --- | --- | 35.79 | 23.80 | --- | 11.99 | 5.6 | -135 |
| S-21B | 12/18/2008 | 5,300 | 36 | 310 | 120 | 770 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.72 | --- | 12.04 | --- | --- |
| S-21B | 01/05/2009 | 5,400 | 35 | 200 | 93 | 600 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.70 | --- | 12.06 | --- | --- |
| S-21B | 01/15/2009 | 3,300 | 30 | 150 | 78 | 470 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.43 | --- | 12.33 | --- | --- |
| S-21B | 02/12/2009 | 2,800 | 12 | 100 | 69 | 450 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.81 | --- | 11.95 | --- | --- |
| S-21B | 03/12/2009 | 2,300 | 9.4 | 72 | 50 | 320 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.32 | --- | 12.44 | --- | --- |
| S-21B | 04/09/2009 | 890 | 14 | 55 | 19 | 140 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.20 | --- | 12.56 | 0.56 | 453 |
| S-21B | 05/18/2009 | 390 | 6.8 | 14 | 12 | 27 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.24 | --- | 12.52 | 1.62 | 458 |
| S-21B | 06/17/2009 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.40 | --- | 12.36 | --- | --- |
| S-21B | 07/23/2009 | 920 | 5.0 | 17 | 28 | 120 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.52 | --- | 12.24 | 0.26 | 37 |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Well ID* | *Date* | *TPHg (µg/L)* | *B (µg/L)* | *T (µg/L)* | *E (µg/L)* | *X (µg/L)* | *MTBE 8020 (µg/L)* | *MTBE 8260 (µg/L)* | *TBA (µg/L)* | *DIPE (µg/L)* | *ETBE (µg/L)* | *TAME (µg/L)* | *EDC (µg/L)* | *EDB (µg/L)* | *TOC (ft MSL)* | *Depth to Water (ft TOC)* | *SPH Thickness (ft)* | *GW Elevation (ft MSL)* | *DO (mg/L)* | *ORP (mV)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-21B | 10/01/2009 | 820 | 2.6 | 10 | 17 | 89 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.95 | --- | 11.81 | 0.96 | 353 |
| S-21B | 01/28/2010 | 810 | 11 | 6.2 | 10 | 51 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.30 | --- | 12.46 | --- | --- |
| S-21B | 05/20/2010 | 120 | 1.4 | 2.6 | 2.0 | 2.7 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.46 | --- | 12.30 | 1.63 | 206 |
| S-21B | 08/31/2010 | 500 | 0.81 | 3.4 | 6.9 | 32 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 24.04 | --- | 11.72 | 0.72 | 45 |
| S-21B | 12/29/2010 | 310 | <0.50 | 1.9 | 4.5 | 21 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.59 | --- | 12.17 | 0.40 | 191 |
| S-21B | 02/01/2011 | 270 | <0.50 | 2.0 | 4.0 | 16 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 23.08 | --- | 12.68 | 0.51 | 10 |
| S-21B | 04/25/2011 | 250 | <0.50 | 1.9 | 4.6 | 16 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 21.86 | --- | 13.90 | 1.43 | 72 |
| S-21B | 07/28/2011 | 270 | <0.50 | 0.84 | 3.0 | 11 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 21.32 | --- | 14.44 | 2.86 | 127 |
| S-21B | 10/28/2011 | 220 | <0.50 | 0.53 | 2.3 | 9.2 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 21.52 | --- | 14.24 | 0.96 | 153 |
| S-21B | 05/07/2012 | 170 | <0.50 | 0.62 | 1.5 | 7.6 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 22.04 | --- | 13.72 | 0.75 | 100 |
| S-21B | 05/02/2013 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 25.59 | --- | 10.17 | --- | --- |
| S-21B | 04/21/2014 | 52 | 1.7 | 2.4 | 0.80 | 4.7 | --- | --- | --- | --- | --- | --- | --- | --- | 35.76 | 26.14 | --- | 9.62 | --- | --- |
| S-22A | 11/07/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.08 | 22.91 | --- | 12.17 | --- | --- |
| S-22A | 11/11/2008 | 84,000 i | 8,500 i | 11,000 i | 2,200 i | 13,900 i | --- | --- | --- | --- | --- | --- | --- | --- | 35.08 | 23.15 | --- | 11.93 | 1.0 | 117 |
| S-22A | 11/11/2008 | 85,000 j | 7,600 j | 10,000 j | 2,500 j | 12,400 j | --- | --- | --- | --- | --- | --- | --- | --- | 35.08 | 23.15 | --- | 11.93 | 1.6 | 100 |
| S-22A | 12/18/2008 | 42,000 | 6,300 | 6,600 | 1,200 | 4,400 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.03 | --- | 12.03 | --- | --- |
| S-22A | 01/05/2009 | 56,000 | 4,500 | 5,300 | 1,200 | 6,400 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.03 | --- | 12.03 | --- | --- |
| S-22A | 01/15/2009 | 25,000 | 5,900 | 4,400 | 740 | 1,570 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 22.84 | --- | 12.22 | --- | --- |
| S-22A | 02/12/2009 | 43,000 | 6,700 | 6,600 | 1,200 | 5,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.15 | --- | 11.91 | --- | --- |
| S-22A | 03/12/2009 | 35,000 | 4,600 | 4,600 | 980 | 4,600 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 22.65 | --- | 12.41 | --- | --- |
| S-22A | 04/09/2009 | 22,000 | 120 | 1,900 | 680 | 3,400 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 22.88 | --- | 12.18 | 8.41 | 556 |
| S-22A | 05/18/2009 | 25,000 | 4,700 | 1,300 | 590 | 3,700 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 22.83 | --- | 12.23 | 2.46 | 539 |
| S-22A | 07/23/2009 | 40,000 | 5,100 | 4,800 | 700 | 4,900 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.01 | --- | 12.05 | 0.18 | 167 |
| S-22A | 10/01/2009 | 12,000 | 1,400 | 600 | 88 | 500 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.06 | --- | 12.00 | 4.08 | 523 |
| S-22A | 11/09/2009 | 18,000 | 2,700 | 2,000 | 190 | 1,300 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.14 | --- | 11.92 | 1.74 | --- |
| S-22A | 12/01/2009 | 24,000 | 2,300 | 2,300 | 270 | 2,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.10 | --- | 11.96 | 1.06 | 393 |
| S-22A | 01/28/2010 | 44,000 | 3,600 | 5,000 | 620 | 4,300 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 22.92 | --- | 12.14 | 1.40 | --- |
| S-22A | 05/20/2010 | 3,100 | 38 | <10 | <10 | <10 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.22 | --- | 11.84 | 0.48 | 423 |
| S-22A | 06/22/2010 | 2,400 | 110 | 15 | 4.3 | 6.6 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.51 | --- | 11.55 | 6.10 | 542 |
| S-22A | 08/31/2010 | 5,000 | 690 | 600 | 78 | 350 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.52 | --- | 11.54 | 1.03 | 553 |
| S-22A | 12/29/2010 | 13,000 | 1,300 | 1,800 | 490 | 2,100 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.17 | --- | 11.89 | 0.70 | 476 |
| S-22A | 02/01/2011 | 13,000 | 1,800 | 3,100 | 640 | 2,800 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 22.45 | --- | 12.61 | 0.89 | 453 |
| S-22A | 04/25/2011 | 23,000 | 2,600 | 5,500 | 1,200 | 6,200 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 21.37 | --- | 13.69 | 0.40 | 506 |
| S-22A | 07/28/2011 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | --- | --- | --- | --- | --- |
| S-22A | 10/28/2011 | 31,000 | 1,800 | 4,700 | 1,600 | 8,100 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 20.98 | --- | 14.08 | 1.33 | 342 |
| S-22A | 05/07/2012 | 40,000 | 2,000 | 7,200 | 2,000 | 12,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 20.96 | --- | 14.10 | 2.50 | 230 |
| S-22A | 12/11/2012 | 54,000 | 1,800 | 8,900 | 2,400 | 14,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 23.42 | --- | 11.64 | 0.99/1.96 | -14/-21 |
| S-22A | 05/02/2013 | 53,000 | 1,800 | 6,800 | 2,200 | 11,000 | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | 24.71 | --- | 10.35 | --- | --- |
| S-22A | 11/07/2013 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | --- | --- | --- | --- | --- |
| S-22A | 04/21/2014 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.06 | --- | --- | --- | --- | --- |
| **S-22A** | **11/21/2014** | **Well inaccessible** | | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **---** | **35.06** | **---** | **---** | **---** | **---** | **---** |

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| Well ID | Date | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE 8020 (µg/L) | MTBE 8260 (µg/L) | TBA (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | EDC (µg/L) | EDB (µg/L) | TOC (ft MSL) | Depth to Water (ft TOC) | SPH Thickness (ft) | GW Elevation (ft MSL) | DO (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-22B | 11/07/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.15 | 23.06 | --- | 12.09 | --- | --- |
| S-22B | 11/11/2008 | <50 i | <0.50 i | <1.0 i | <1.0 i | 1.2 i | --- | --- | --- | --- | --- | --- | --- | --- | 35.15 | 23.20 | --- | 11.95 | 0.9 | 92 |
| S-22B | 11/11/2008 | 360 j | 3.3 j | 12 j | 5.8 j | 38 j | --- | --- | --- | --- | --- | --- | --- | --- | 35.15 | 23.20 | --- | 11.95 | 1.6 | 90 |
| S-22B | 12/18/2008 | 150 | 2.9 | 6.1 | 2.9 | 17.5 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 23.26 | --- | 11.98 | --- | --- |
| S-22B | 01/05/2009 | 110 | 1.9 | 5.0 | 2.6 | 11 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 28.12 | --- | 7.12 | --- | --- |
| S-22B | 01/15/2009 | 59 | 1.3 | 1.9 | 1.6 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 22.90 | --- | 12.34 | --- | --- |
| S-22B | 02/12/2009 | 290 | 11 | 6.8 | 7.9 | 19 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 23.02 | --- | 12.22 | --- | --- |
| S-22B | 03/12/2009 | 390 | 4.4 | 4.6 | 3.8 | 12 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 22.86 | --- | 12.38 | --- | --- |
| S-22B | 04/09/2009 | 280 | 5.3 | 2.5 | 4.0 | 6.8 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 22.62 | --- | 12.62 | 2.24 | 164 |
| S-22B | 05/18/2009 | 170 | 3.7 | 2.9 | 2.4 | 8.6 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 22.62 | --- | 12.62 | 1.42 | -171 |
| S-22B | 07/23/2009 | 160 | 8.9 | 5.7 | 3.8 | 12 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 22.65 | --- | 12.59 | 0.15 | 28 |
| S-22B | 10/01/2009 | 300 | 2.4 | 1.0 | 1.2 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 23.18 | --- | 12.06 | 2.62 | 173 |
| S-22B | 01/28/2010 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 22.73 | --- | 12.51 | --- | --- |
| S-22B | 05/20/2010 | 230 | <0.50 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 22.88 | --- | 12.36 | 6.14 | 584 |
| S-22B | 08/31/2010 | <50 | 0.57 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 23.51 | --- | 11.73 | 0.92 | 377 |
| S-22B | 12/29/2010 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 23.04 | --- | 12.20 | 1.07 | 391 |
| S-22B | 02/01/2011 | <50 | 0.55 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 22.70 | --- | 12.54 | 1.07 | -3 |
| S-22B | 04/25/2011 | <50 | <0.50 | 0.62 | <0.50 | 1.1 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 21.38 | --- | 13.86 | 1.37 | 416 |
| S-22B | 07/28/2011 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | --- | --- | --- | --- | --- |
| S-22B | 10/28/2011 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 20.62 | --- | 14.62 | 4.83 | -12 |
| S-22B | 05/07/2012 | <50 | 1.4 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 21.08 | --- | 14.16 | 2.84 | 127 |
| S-22B | 05/02/2013 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | 24.68 | --- | 10.56 | --- | --- |
| S-22B | 04/21/2014 | Well inaccessible | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.24 | --- | --- | --- | --- | --- |
| S-23 | 11/07/2008 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.77 | 23.28 | --- | 12.49 | --- | --- |
| S-23 | 11/11/2008 | 8,800 i | 640 i | 610 i | 82 i | 1,260 i | --- | --- | --- | --- | --- | --- | --- | --- | 35.77 | 23.58 | --- | 12.19 | --- | --- |
| S-23 | 11/11/2008 | 6,400 j | 520 j | 640 j | 34 j | 760 j | --- | --- | --- | --- | --- | --- | --- | --- | 35.77 | 23.58 | --- | 12.19 | --- | --- |
| S-23 | 01/05/2009 | 830 | 63 | 98 | 14 | 58 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.51 | --- | 12.24 | --- | --- |
| S-23 | 02/12/2009 | 3,400 | 160 | 320 | 55 | 430 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.62 | --- | 12.13 | --- | --- |
| S-23 | 03/12/2009 | 4,600 | 210 | 460 | 71 | 610 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.03 | --- | 12.72 | --- | --- |
| S-23 | 04/09/2009 | 2,700 | 180 | 95 | 33 | <5.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 22.98 | --- | 12.77 | 1.24 | 567 |
| S-23 | 05/18/2009 | 3,000 | 350 | 440 | 79 | 300 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.18 | --- | 12.57 | 19.77 | 503 |
| S-23 | 07/23/2009 | 2,900 | 180 | 400 | 67 | 340 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.48 | --- | 12.27 | 0.21 | 133 |
| S-23 | 10/01/2009 | 790 | 40 | 24 | 5.4 | <1.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.82 | --- | 11.93 | 8.64 | 428 |
| S-23 | 11/09/2009 | 3,200 | 84 | 330 | 90 | 400 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.51 | --- | 12.24 | 0.28 | --- |
| S-23 | 12/01/2009 | 1,800 | 47 | 180 | 50 | 190 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.31 | --- | 12.44 | 2.49 | 472 |
| S-23 | 01/28/2010 | 3,000 | 100 | 450 | 110 | 650 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.25 | --- | 12.50 | 1.74 | --- |
| S-23 | 05/20/2010 | 900 | 8.2 | <5.0 | <5.0 | <5.0 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.80 | --- | 11.95 | 3.76 | 607 |
| S-23 | 06/22/2010 | 640 | 11 | 22 | 9.0 | 11 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 24.40 | --- | 11.35 | 12.96 | 572 |
| S-23 | 08/31/2010 | 710 | 14 | 45 | 34 | 110 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.95 | --- | 11.80 | 1.25 | 322 |
| S-23 | 12/29/2010 | 1,300 | 45 | 82 | 56 | 240 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 23.61 | --- | 12.14 | 1.39 | 313 |

**TABLE 3**

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Well ID* | *Date* | *TPHg (µg/L)* | *B (µg/L)* | *T (µg/L)* | *E (µg/L)* | *X (µg/L)* | *MTBE 8020 (µg/L)* | *MTBE 8260 (µg/L)* | *TBA (µg/L)* | *DIPE (µg/L)* | *ETBE (µg/L)* | *TAME (µg/L)* | *EDC (µg/L)* | *EDB (µg/L)* | *TOC (ft MSL)* | *Depth to Water (ft TOC)* | *SPH Thickness (ft)* | *GW Elevation (ft MSL)* | *DO (mg/L)* | *ORP (mV)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-23 | 02/01/2011 | 1,300 | 51 | 110 | 72 | 270 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 22.92 | --- | 12.83 | 1.30 | 107 |
| S-23 | 04/25/2011 | 1,300 | 53 | 110 | 81 | 400 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 21.62 | --- | 14.13 | 0.96 | 321 |
| S-23 | 07/28/2011 | 1,400 | 43 | 79 | 74 | 320 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 21.28 | --- | 14.47 | 0.92 | 209 |
| S-23 | 10/28/2011 | 1,600 | 43 | 83 | 92 | 370 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 21.50 | --- | 14.25 | 1.82 | 161 |
| S-23 | 05/07/2012 | 870 | 50 | 40 | 66 | 220 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 21.59 | --- | 14.16 | 2.20 | 254 |
| S-23 | 05/02/2013 | 540 | 24 | 15 | 5.6 | 25 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 25.04 | --- | 10.71 | --- | --- |
| S-23 | 04/21/2014 | 1,700 | 110 | 47 | 8.4 | 95 | --- | --- | --- | --- | --- | --- | --- | --- | 35.75 | 25.67 | --- | 10.08 | --- | --- |
| AS-1 | 12/17/2007 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.33 | 22.91 | --- | 12.42 | --- | --- |
| AS-1 | 02/08/2008 | 130 f | 1.1 | 3.4 | <1.0 | 5.4 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 35.33 | 22.62 | --- | 12.71 | --- | --- |
| AS-1 | 05/08/2008 | <50 f | <0.50 | <1.0 | <1.0 | <1.0 | --- | <1.0 | --- | --- | --- | --- | <0.50 | <1.0 | 35.33 | 27.78 | --- | 7.55 | --- | --- |
| OW-1 | 04/09/2009 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| OW-1 | 05/18/2009 | Well dry | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

Notes:
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B; prior to July 25, 2001, analyzed by EPA Method 8015 unless otherwise noted.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B; prior to July 25, 2001, analyzed by EPA Method 8020.
MTBE = Methyl tertiary-butyl ether analyzed by method noted
TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B
DIPE = Di-isopropyl ether analyzed by EPA Method 8260B
ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B
TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B
EDC = 1,2-Dichloroethane analyzed by EPA Method 8260B.
EDB = 1,2-Dibromoethane analyzed by EPA Method 8260B.
TOC = Top of casing elevation, in feet relative to mean sea level
SPH = Separate-phase hydrocarbon
GW = Groundwater
DO = Dissolved oxygen (pre-purge/post purge reading)
ORP = Oxygen redox potential (pre-purge/post purge reading)
µg/L = Micrograms per liter
ft = Feet
MSL = Mean sea level
mg/L = Milligrams per liter
mV = Millivolts
<x = Not detected at reporting limit x
--- = Not analyzed or available
(D) = Duplicate sample

a = Included in xylenes analysis
b = Analyzed outside of EPA recommended holding time
c = Depth to water measured from TOC; elevation unknown.

**TABLE 3**

**GROUNDWATER DATA**
**FORMER SHELL SERVICE STATION**
**461 8TH STREET, OAKLAND, CALIFORNIA**

| *Well ID* | *Date* | *TPHg (µg/L)* | *B (µg/L)* | *T (µg/L)* | *E (µg/L)* | *X (µg/L)* | *MTBE 8020 (µg/L)* | *MTBE 8260 (µg/L)* | *TBA (µg/L)* | *DIPE (µg/L)* | *ETBE (µg/L)* | *TAME (µg/L)* | *EDC (µg/L)* | *EDB (µg/L)* | *TOC (ft MSL)* | *Depth to Water (ft TOC)* | *SPH Thickness (ft)* | *GW Elevation (ft MSL)* | *DO (mg/L)* | *ORP (mV)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

d = Grab sampled
e = Casing broken; TOC unknown.
f = Analyzed by EPA Method 8015B (M)
g = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.
h = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
i = Pre-purge sample
j = Post-purge sample
k = SPH present; well purged prior to gauging with interface probe
l = Concentration reported is partially due to the presence of discrete peak of toluene.

When SPHs are present, groundwater elevation is adjusted using the relation: Corrected groundwater elevation = TOC - Depth to Water + (0.8 x Hydrocarbon Thickness).
Beginning July 18, 2002, well elevations measured from TOC
Site wells surveyed March 5, 2002 by Virgil Chavez Land Surveying
Site wells surveyed December 18, 2007 by Virgil Chavez Land Surveying
Wells S-14R and S-19 through S-23 surveyed on November 11, 2008 by Virgil Chavez Land Surveying
Well S-5 surveyed on November 11, 2008 by Virgil Chavez Land Surveying
Well S-5 surveyed on October 8, 2009 by Virgil Chavez Land Surveying

# APPENDIX A

# HUMAN HEALTH RISK ASSESSMENT

CONESTOGA-ROVERS & ASSOCIATES

651 Colby Drive, Waterloo, Ontario, Canada N2V 1C2
Telephone: (519) 884-0510 Fax: (519) 884-0525
www.CRAworld.com

# MEMORANDUM

| | | | |
|---|---|---|---|
| TO: | Peter Schaefer | REF. NO.: | 241501 |
| FROM: | Tina LePage/April Gowing/kf/1 | DATE: | February 25, 2015 |
| **RE:** | **Human Health Risk Assessment<br>Former Shell Service Station<br>461 8th Street, Oakland, California** | | |

## 1.0 Introduction

On behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell), Conestoga Rovers & Associates (CRA) conducted a human health risk assessment (HHRA) for the former Shell service station located at 461 8th Street, Oakland, California. Soil sampling and groundwater monitoring have been conducted at the site since 1981, following the detection of petroleum hydrocarbons in the subsurface. The HHRA evaluated whether the chemicals detected in site soil vapor could pose risks/hazards that are above acceptable levels to human health.

This former Shell service station is located at 461 8th Street, in a mixed residential and commercial use area of Oakland, California. The Shell-branded station discontinued operations in May 1980, and all existing improvements, tanks, and associated piping were removed. The property is currently a parking lot, but redevelopment for commercial and residential has been approved by the City of Oakland. The new building will be completed at current grade with the exception of two rows of car stackers which will be installed at 14 feet below grade (fbg). There will be commercial units in addition to the garage on the first floor. The garage portion of the bottom floor where the car stackers will be located will be an "open" plan with substantial ventilation.

## 2.0 Site-Specific HHRA

The basis of this HHRA was to evaluate the potential for risks to human health due to residual petroleum hydrocarbons at the site. An HHRA consists of the following four components:

1. Problem formulation
2. Exposure assessment
3. Toxicity assessment
4. Risk characterization

These four components are presented below.

## 2.1 Problem Formulation

In December 2011 and January 2012, soil vapor samples were collected from the eight nested soil vapor probes (VP-5 through VP-12) installed in November 2011, to evaluate the potential for the vapor intrusion exposure pathway. Soil vapor data provides a better estimate of the potential for vapor intrusion than soil or groundwater quality; as a result, soil and groundwater data will not be considered further in this HHRA. The post-remediation soil vapor data, from December 2011 and January 2012, are presented in Table A-1. Note that we did not include the data from VP-1 as that area was subsequently excavated and remediated, so they do not represent current soil vapor conditions.

### 2.1.1 Selection of Chemicals of Potential Concern (COPCs)

Soil vapor COPCs were identified by comparing analytical results to conservative screening criteria. No chemicals were detected at concentrations above these screening criteria. Chemicals that were not detected were not considered to be COPCs for the HHRA. Chemicals that were detected but do not have available screening criteria were retained as COPCs, unless they had a low detection frequency (less than 5 percent [%] of samples). A summary of the screening criteria that were considered in the identification of the COPCs and the COPCs identified for soil vapor are presented below.

#### 2.1.1.1 Soil Vapor Chemicals of Potential Concern

***Soil Vapor***

For the soil vapor to indoor air exposure pathway, the screening criteria applied were the San Francisco Bay Region Water Quality Control Board (RWQCB) shallow soil gas screening levels (RWQCB, 2013). Since the Site is in a mixed residential and commercial use area, soil vapor data were screened to both the residential and commercial shallow soil gas screening levels (RWQCB, 2013; Table E-2).

As indicated in Tables A-2 and A-3, no parameters in soil vapor data were identified at a concentration above either the residential or commercial screening levels, respectively.

### 2.1.2 Human Health Conceptual Site Model

The human health conceptual site model is developed based on the potential routes of exposure posed by the presence of COPCs. The property is currently a parking lot but redevelopment for commercial and residential use has been approved by the City of Oakland.

Based on the anticipated land use of the site, the CSM assumes the following potential human receptors may be exposed to site media:

- Resident and commercial worker exposure to soil vapor migrating to indoor air (inhalation).

There were no identified COPCs in the soil vapor above the screening criteria; as a result, any potential exposure to the soil vapor by a resident or commercial worker are not expected to result in health risks/hazards above unacceptable levels.

### 2.1.3 Risk Assessment Objectives

The objective of the HHRA is to quantify the potential health risks or hazards to the human receptors associated with the presence of COPCs identified in soil vapor in Section 2.1.1. No COPCs were identified in the soil vapor; therefore the potential health risks or hazards to the residents and commercial workers that may be exposed to the soil vapor have not been quantified. Therefore, an exposure assessment, toxicity assessment, and risk characterization of the COPCs was not required.

## 3.0 Summary and Conclusions

The property is currently a parking lot but redevelopment for commercial and residential use has been approved by the City of Oakland. The proposed new building will be completed at current grade with the exception of two rows of car stackers which will be installed at 14 fbg. The garage portion of the bottom floor will be an "open" plan with substantial ventilation and there will be some commercial units on the first floor.

The only potential exposure associated with the residual petroleum impacts at the site is exposure to soil vapor. However, there was no soil vapor COPCs identified, as all concentrations were below the residential and commercial screening levels. Therefore, any potential exposure by the resident or commercial worker is below acceptable risk and hazard levels.

## 4.0 References

RWQCB, 2013. User's Guide: Derivation and Application of Environmental Screening Levels, RWQCB, Interim Final.

**TABLE A-1**

**SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS**
**FORMER SHELL SERVICE STATION**
**461 8th STREET, OAKLAND CALIFORNIA**

| | VP-5 | VP-5 | VP-6 | VP-6 | VP-7 | VP-7 | VP-8 | VP-8 | VP-9 | VP-9 | VP-10 | VP-10 | VP-11 | VP-11 | VP-12 | VP-12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Date*** | ***12/01/11*** | ***12/01/11*** | ***01/05/12*** | ***01/05/12*** | ***12/01/11*** | ***12/01/11*** | ***12/01/11*** | ***12/01/11*** | ***12/01/11*** | ***12/01/11*** | ***12/01/11*** | ***12/01/11*** | ***12/01/11*** | ***12/01/11*** | ***12/01/11*** | ***12/01/11*** |
| ***Depth (feet below grade)*** | ***5*** | ***10*** | ***5*** | ***10*** | ***5*** | ***10*** | ***5*** | ***10*** | ***5*** | ***10*** | ***5*** | ***10*** | ***5*** | ***10*** | ***5*** | ***10*** |
| | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** | ***(µg/m³)*** |
| ***Parameters*** | | | | | | | | | | | | | | | | |
| ***Petroleum Hydrocarbons*** | | | | | | | | | | | | | | | | |
| TPHg | <3800 | <3800 | <3800 | <3800 | <3800 | <3800 | <3800 | <3800 | <3800 | <3800 | <3800 | <3800 | <3800 | <3800 | <3800 | <3800 |
| ***BTEX*** | | | | | | | | | | | | | | | | |
| Benzene | <16 | <16 | <16 | <16 | <16 | <16 | <16 | <16 | <16 | <16 | <16 | <16 | <16 | <16 | <16 | <16 |
| Toluene | <19 | <19 | <19 | <19 | <19 | <19 | <19 | <19 | <19 | <19 | <19 | <19 | <19 | <19 | <19 | <19 |
| Ethylbenzene | **57** | **28** | **88** | **48** | **29** | **55** | **32** | **31** | <22 | <22 | **57** | <22 | <22 | **30** | <22 | **35** |
| Total xylenes | **54** | <43 | **120** | **55** | <43 | **54** | <43 | <43 | <43 | <43 | **58** | <43 | <43 | <43 | <43 | <43 |

Notes
µg/m³ = micrograms per cubic meter
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method TO-3
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260

**TABLE A-2**

**OCCURRENCE, DISTRIBUTION, AND IDENTIFICATION OF CHEMICALS OF POTENTIAL CONCERN IN SOIL VAPOR**
**FORMER SHELL SERVICE STATION**
**461 8th STREET, OAKLAND, CALIFORNIA**

Medium: Soil Vapor
Exposure Medium: Residential Indoor Air

| CAS Number | Chemical | Minimum (1,2) Concentration | Minimum Qualifer | Maximum (1,2) Concentration | Maximum Qualifer | Units | Location of Maximum Concentration | Detection Frequency (2) | Range of Detection Limits (2) | Concentration Used for Screening (3) | Screening Criteria (4) | | COPC Flag Y - yes N - no | Rationale for Contaminant Deletion or Selection (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Petroleum Hydrocarbons*** | | | | | | | | | | | | | |
| -- | TPHg | ND | | ND | | µg/m$^3$ | -- | 0/16 | 3800 | ND | 300,000 | N | N | ND |
| | ***BTEX*** | | | | | | | | | | | | | |
| 71-43-2 | Benzene | ND | | ND | | µg/m$^3$ | -- | 0/16 | 16 | ND | 42 | C | N | ND |
| 108-88-3 | Toluene | ND | | ND | | µg/m$^3$ | -- | 0/16 | 19 | ND | 160,000 | N | N | ND |
| 100-41-4 | Ethylbenzene | 28 | | 88 | | µg/m$^3$ | VP-6; 5 fbg (01/05/12) | 11/16 | 22 | 88 | 490 | C | N | BSC |
| 1330-20-7 | Total xylenes | 54 | | 120 | | µg/m$^3$ | VP-6; 5 fbg (01/05/12) | 5/16 | 43 | 120 | 52,000 | N | N | BSC |

Notes:

COPC = Chemicals of potential concer
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method TO-3
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260
ND = Not detected
fbg = Feet below grade
µg/m$^3$ = micrograms per cubic meter
C = Denotes that the reported screening criterion is based on a carcinogenic potency factor
N = Denotes that the reported screening criterion is based on chronic toxic effects other than cancer
BSC = Below screeening criterion

(1) Minimum/maximum detected concentration.
(2) Based on data collected from sampling locations: VP-5, VP-6, VP-7, VP-8, VP-9, VP-10, VP-11, VP-12.
(3) Maximum concentration is used for chemicals of potential concern (COPC) selection.
(4) SFBRWQCB, 2013, *User's Guide: Derivation and Application of Environmental Screening Levels* , San Francisco Bay Regional Water Quality Control Board, Interim Final. Lookup Tables, Table E-2: Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion (volatile chemicals only), Residential Exposure.
(5) Rationale Codes
Selection Reason : Maximum detected above Screening Criterion (ASC)
Deletion Reason : Maximum detected below Screening Criterion (BSC)
Analyte Not Detected (ND)

**TABLE A-3**

**OCCURRENCE, DISTRIBUTION, AND IDENTIFICATION OF CHEMICALS OF POTENTIAL CONCERN (COPCs) IN SOIL VAPOR**
**FORMER SHELL SERVICE STATION**
**461 8th STREET, OAKLAND, CALIFORNIA**

Medium: Soil Vapor
Exposure Medium: Commercial Indoor Air

| *CAS Number* | *Chemical* | *Minimum (1,2) Concentration* | *Minimum Qualifer* | *Maximum (1,2) Concentration* | *Maximum Qualifer* | *Units* | *Location of Maximum Concentration* | *Detection Frequency (2)* | *Range of Detection Limits (2)* | *Concentration Used for Screening (3)* | *Screening Criteria (4)* | | *COPC Flag Y - yes N - no* | *Rationale for Contaminant Deletion or Selection (5)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Petroleum Hydrocarbons*** | | | | | | | | | | | | | |
| -- | TPHg | ND | | ND | | µg/m$^3$ | -- | 0/16 | 3800 | ND | 2,500,000 | N | N | ND |
| | ***BTEX*** | | | | | | | | | | | | | |
| 71-43-2 | Benzene | ND | | ND | | µg/m$^3$ | -- | 0/16 | 16 | ND | 420 | C | N | ND |
| 108-88-3 | Toluene | ND | | ND | | µg/m$^3$ | -- | 0/16 | 19 | ND | 1,300,000 | N | N | ND |
| 100-41-4 | Ethylbenzene | 28 | | 88 | | µg/m$^3$ | VP-6; 5 fbg (01/05/12) | 11/16 | 22 | 88 | 4,900 | C | N | BSC |
| 1330-20-7 | Xylenes (total) | 54 | | 120 | | µg/m$^3$ | VP-6; 5 fbg (01/05/12) | 5/16 | 43 | 120 | 440,000 | N | N | BSC |

Notes:

COPC = Chemicals of potential concer
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method TO-3
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260
ND = Not detected
fbg = Feet below grade
µg/m$^3$ = micrograms per cubic meter
C = Denotes that the reported screening criterion is based on a carcinogenic potency factor
N = Denotes that the reported screening criterion is based on chronic toxic effects other than cancer
BSC = Below screeening criterion

(1) Minimum/maximum detected concentration.
(2) Based on data collected from sampling locations: VP-5, VP-6, VP-7, VP-8, VP-9, VP-10, VP-11, VP-12.
(3) Maximum concentration is used for chemicals of potential concern (COPC) selection.
(4) SFBRWQCB, 2013, *User's Guide: Derivation and Application of Environmental Screening Levels* , San Francisco Bay Regional Water Quality Control Board, Interim Final. Lookup Tables, Table E-2: Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion (volatile chemicals only), Commercial/Industrial Land Use.
(5) Rationale Codes
Selection Reason : Maximum detected above Screening Criterion (ASC)
Deletion Reason : Maximum detected below Screening Criterion (BSC)
Analyte Not Detected (ND)