EAST BAY ASIAN LOCAL DEVELOPMENT CORPORATION
BUILDING HEALTHY AND VIBRANT NEIGHBORHOODS SINCE 1975

**RECEIVED**
*By Alameda County Environmental Health 12:08 pm, Jul 17, 2015*



July 7, 2015

Karel Detterman, P.G.
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502
karel.detterman@acgov.org

**RE:** Work Plan, Additional Subsurface Investigation, Properties at 760 22nd Street and 2201 Brush Street, Oakland, California 94612

Dear Alameda County Environmental Health:

Please find attached for your review the following document:

- Results of Geophysical Survey and Additional Subsurface Investigation, 760 22nd Street Site, Oakland, California. (ACEH Document No. RO3153_MISC_R_2011-11-09)

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Please call Everett Cleveland Jr., Senior Project Manager at (510) 287-5353 ext. 339 if you have any questions.

Sincerely,

Jason Vargas
Associate Director, Real Estate Development

CC: Nik Lahari, Esseltek

PES Environmental, Inc.
Engineering & Environmental Services

November 9, 2011

**1284.001.02.004**

East Bay Asian Local Development Corporation
310 8th Street, Suite 200
Oakland, CA 94607

Attention: Mr. Kevin Kawashita

**RESULTS OF GEOPHYSICAL SURVEY AND ADDITIONAL SUBSURFACE INVESTIGATION**
**760 22nd STREET SITE**
**OAKLAND, CALIFORNIA**

Dear Mr. Kawashita:

This report presents the results of a geophysical survey and additional subsurface investigation conducted at 760 22nd Street in Oakland, California (site or subject property; Plates 1 and 2). The investigation was performed by PES Environmental, Inc. (PES) in accordance with our proposal to East Bay Asian Local Development Corporation (EBALDC) dated August 24, 2011. It is PES' understanding that EBALDC owns the subject property and that redevelopment plans for the site include excavation of soil to approximately 10 to 12 feet below ground surface (bgs) in preparation for site redevelopment for residential purposes.

As you are aware, PES previously conducted Phase I Environmental Site Assessments (ESAs) at this site in 2005[1] and 2007[2] for AGI Capital Group (AGI) and most recently for EBALDC in August 2011[3]. Additionally, PES conducted a Phase II soil and groundwater investigation of the site on behalf of AGI in 2005[4]. Based on the findings of the most recent Phase I ESA and the previous subsurface investigation, PES recommended performing an additional soil investigation to define the lateral and vertical limits of the total petroleum hydrocarbon (TPH)-affected soil present in the vicinity of the former underground storage tanks (USTs)

[1] PES, 2005. *Phase I Environmental Site Assessment, 777 W. Grand Avenue, 760 22nd Street, 756 21st Street, and 2116 and 2201 Brush Street, Oakland, California*. August 18.
[2] PES, 2007. *Phase I Environmental Site Assessment, 760 22nd Street, 756 21st Street, and 2116 and 2201 Brush Street, Oakland, California*. May 25.
[3] PES, 2011. *Phase I Environmental Site Assessment, 760 22nd Street, 756 21st Street, and 2116 and 2201 Brush Street, Oakland, California*. August 30.
[4] PES, 2005. *Soil and Groundwater Investigation Results, 760 22nd Street, Oakland, California*. September 16.

and associated pump island on the eastern portion of the property. Additionally, PES recommended performing a geophysical survey to assess accessible areas of the site for metallic anomalies, including piping potentially associated with former USTs. As shown on the map included in Appendix A, a 7,000-gallon diesel UST was located on the subject property and a gasoline UST was located beneath the Brush Street sidewalk adjacent to the subject property diesel UST. The tanks were removed in October 1986.

## GEOPHYSICAL SURVEY

To evaluate the presence of unknown subsurface metallic features potentially located beneath the site, PES' subcontractor, C. Cruz Sub-Surface Locators, Inc. (C. Cruz) of Milpitas, California, performed a geophysical survey on October 20, 2011. Survey activities were performed under PES' oversight. With the exception of the interior area of the oil change building and a 5-foot wide strip along the exterior perimeter of the building, the survey was performed on a 5-foot by 5-foot grid over accessible areas of the site using geophysical equipment. The oil change building was not accessible on the day of the survey.

The results of the geophysical survey are shown on Plate 3. As indicated on this plate, the survey located the following features:

- Water lines;
- A sewer line;
- An electric line;
- Three horizontal steel pipes. Because of the access issue discussed above, it could not be determined whether the two steel pipes found on the eastern side of the oil change building extended into it;
- A 1.5 inch diameter steel pipe located just north of the former pump island, which is protruding about 2 feet above the ground surface. This pipe could not be traced in the subsurface, which suggests that it may have been cut; and
- A triangular-shaped metallic anomaly located approximately 10 feet west of the former pump island. As indicated on Plate 3, two edges of the triangular shaped feature are straight with lengths of about 10 feet and the third edge is jagged with a length of about 15 feet. Although the metallic anomaly is not rectangular shaped like a UST, additional investigation will be required to further evaluate this feature.

## SUBSURFACE SOIL INVESTIGATION ACTIVITIES AND METHODS

The scope of work for the investigation included the following: (1) field preparation activities; (2) implementation of field activities; (3) laboratory analysis of soil samples; and (4) data evaluation and reporting. The investigation was conducted under direct supervision of a California registered Professional Geologist. These tasks are described in detail below.

### Field Preparation Activities

Prior to conducting field activities, PES obtained a drilling permit from the Alameda County Public Works Agency (ACPWA), the local groundwater oversight agency for properties in Oakland. A copy of the drilling permit is included in Appendix B of this report. PES contacted Underground Service Alert more than 48 hours before beginning drilling activities to schedule visits by public and private utility companies and C. Cruz cleared the boring locations for subsurface utilities during the geophysical survey discussed above. Additionally, PES coordinated with ResonantSonic International (RSI), a licensed drilling contractor possessing a valid C-57 water well contractor's license issued by the State of California, to schedule the sampling event. A site-specific Health and Safety Plan was prepared by PES for the sampling activities.

### Collection of Soil Samples

Soil sampling was conducted on October 20, 2011. Drilling and sampling services were provided by RSI. As shown on Plate 2, RSI advanced six soil borings (identified as SB1 through SB6) in the vicinity of the former USTs and associated pump island on the eastern portion of the property to attempt to define the lateral limits of the previously encountered TPH-affected soil.

Each soil boring was continuously cored using a truck-mounted direct push Geoprobe drilling rig equipped with a dual-wall sampling system. A 4-foot long sampler lined with a polyvinyl chloride (PVC) sample sleeve was advanced to each desired sampling depth using Geoprobe direct push technology. Soil samples for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and total petroleum hydrocarbons quantified as gasoline (TPHg) analysis were collected with an Encore™ sampling device in accordance with U.S. Environmental Protection Agency (USEPA) Method 5035. The samples were submitted under Chain of Custody (COC) protocol to an offsite analytical laboratory for chemical analysis.

PES observed the borehole drilling and prepared a lithologic log of the borings using the Unified Soil Classification System (USCS). Lithologic logs are presented in Appendix C. The soil cores were screened for VOCs using a photoionization detector (PID). With the exception of boring SB1, three soil samples were collected from the borings at depths of

2 to 2.5, 4 to 4.5, and 8 to 8.5 feet bgs. Two soil samples were collected from boring SB1 at depths of 4 to 4.5 and 10 to 10.5 feet bgs. As shown on Plate 2, this boring was advanced adjacent to 2005 boring location B-4. The sample depths for boring SB1 were selected to fill the data gaps for the samples collected from boring B-4 (i.e., sampled at 8 and 12 feet bgs).

### Sample Handling, Decontamination, and Boring Abandonment Methods

Following soil sample collection, sample containers were labeled to indicate project location, job number, sample number, time and date collected, and immediately placed in a chilled, thermally insulated cooler containing bagged ice. The coolers containing the samples were then delivered under COC protocol to the analytical laboratory.

To minimize the potential for cross-contamination between sampling locations, downhole drilling equipment and soil sampling equipment was thoroughly cleaned prior to initiating work and between each sampling location. Direct-push drilling and soil sampling equipment was decontaminated with a high-pressure hot water wash between sampling locations.

Upon completion of sampling activities, each borehole was tremmie-grouted with cement in accordance with ACPWA requirements. Mr. Steve Miller of ACPWA was present on site to observe grouting activities. Soil cuttings and decontamination fluids generated during the investigation are temporarily being stored on-site pending characterization and proper off-site disposal.

### Chemical Analysis Methods

Selected soil and groundwater samples were submitted to Kiff Analytical LLC (Kiff) in Davis, California, a State of California-certified laboratory. The samples were analyzed for BTEX and TPHg by U.S. EPA Test Method 8260B. The samples were also analyzed for total petroleum hydrocarbons as diesel (TPHd) by U.S. EPA Test Method 8015-modified. All samples were submitted to Kiff under proper COC protocol.

## SUBSURFACE INVESTIGATION RESULTS

### Subsurface Conditions

Soil borings B-2 and B-5 were advanced to 16 feet bgs and soil borings B-3 and B-4 were advanced to depths of either 10 or 11 feet bgs. Lithologic logs are presented in Appendix C. Soil encountered in soil borings SB1 through SB4 primarily consisted of dark gray to olive gray silt with sand (ML) or sandy clay (CL) with some interbedded clay sand or poorly graded sand below 6 feet bgs. In borings SB5 and SB6, similar fine-grained units were encountered to

depths of 7 and 4 feet bgs, respectively. Below these depths, olive gray clayey sand was present in both borings to the total depth explored. PID headspace readings from encountered soil ranged from 0 parts per million by volume (ppmv) to 0.2 ppmv.

Wet soil was not encountered during this investigation. Specific lithologies encountered at each boring are described in the attached lithologic logs (Appendix C).

**Soil Analytical Results**

Analytical results for the soil samples are summarized in Table 1 and a copy of the laboratory analytical report and COC forms are provided in Appendix D.

The soil results presented on Table 1 were compared to California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) risk-based Environmental Screening Level (ESL) concentrations for shallow soil (less than 3 meters [9.84 feet] bgs) or deep soil (greater than 3 meters [9.84 feet] bgs) in a residential setting where groundwater is a current or potential drinking water source. ESL concentrations for soil are provided in the RWQCB's *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*[5]. The ESLs were developed by the RWQCB to be protective of human health and the environment for potentially complete exposure pathways.

BTEX and TPHg were not detected above the respective laboratory method reporting limits in any of the soil samples analyzed. TPHd was detected 10 of the 17 soil samples at concentrations ranging from 1.2 milligrams per kilogram (mg/kg; 4 to 4.5 feet bgs sample from boring SB4) to 12 mg/kg (2 to 2.5 feet bgs sample from boring SB6). None of the detected TPHd concentrations exceed the soil ESLs presented on Table 1.

## SUMMARY AND RECOMMENDATIONS

An investigation and geophysical survey were performed at the 760 22nd Street site in Oakland in October 2011 to: (1) define the lateral and vertical limits of the TPH-affected soil present in the vicinity of the former USTs and associated pump island; and (2) to assess accessible areas of the site for metallic anomalies, including piping potentially associated with former USTs.

[5] California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), 2008. *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final – November 2007* (Revised May 2008).

The geophysical survey located the following features (see Plate 3):

- Water lines;
- A sewer line;
- An electric line;
- Three horizontal steel pipes;
- A 1.5 inch diameter steel pipe located just north of the former pump island, which protruding about 2 feet above the ground surface. This pipe could not be traced in the subsurface, which suggests that it may have been cut; and
- A triangular shaped metallic anomaly located approximately 10 feet west of the former pump island.

As discussed previously, because the interior of the oil change building was not accessible it could not be determined whether the two steel pipes found on the eastern side of this building extended into it. Also, although the metallic anomaly is not rectangular shaped like a UST, additional investigation would be required to further evaluate this feature. Therefore, PES recommends performing a second geophysical survey of the two steel pipes and metallic anomaly using a combination of total field magnetic intensity (TF), hand-held metal detection (MD), and ground penetrating radar (GPR) methods. TF is used to detect magnetic metal objects buried in the shallow subsurface, MD is used to delineate the locations and general outlines of subsurface metallic objects, and GPR is used to image the shallow subsurface for evidence of USTs, buried debris, or backfilled areas. As shown on Plates 2 and 3, three soil borings in the immediate vicinity of the metallic anomaly were drilled and sampled. No observations of soil contamination were noted during the sampling and only low to non-detect levels of petroleum hydrocarbons were encountered during the laboratory analysis. This suggests if an UST(s) is present significant releases of petroleum hydrocarbons likely did not occur.

PES advanced six soil borings (i.e., SB1 through SB6) to define the lateral and vertical limits of the TPH-affected soil present in the vicinity of the former USTs and associated pump island on the eastern portion of the property. Analytical results of soil samples collected and analyzed during this investigation indicate that the residual TPHg and TPHd soil concentrations in excess of RWQCB ELSs, which were identified during PES September 2005 investigation, remain on site in the vicinity of the existing former fuel pumping island and extend to a maximum depth of approximately 10 feet bgs. However, it is PES' understanding that redevelopment of the site includes plans for excavating the upper 10 to 12 feet of soil from the entire property. As such, soil containing concentrations of contaminants above ESLs will be

removed prior to site development and should not be an environmental concern for re use of the property. Soil containing TPHg or TPHd contamination should be handlec disposed of offsite in accordance with state and/or federal regulations. Based on the concentrations of TPHg (190 mg/kg) and TPHd (230 mg/kg) detected previously this would likely be classified as non-hazardous waste. Additionally, a soil management should be prepared for the site to advise the earthwork contractor of: (1) procedures handling and disposing of the known soil containing TPHg and TPHd; and (2) the po encountering hydrocarbon-affected soil during redevelopment and procedures for han soil if encountered.

We trust this report satisfies the EBALDC's requirements at this time. Please contac (415) 899-1600 with any questions.

Very truly yours,

**PES ENVIRONMENTAL, INC**

Gary D. Thomas, P.G. 8278
Senior Geologist

Kyle S. Flory, P.G. 6472
Principal Geologist

Attachments: Table 1 – Summary of Soil Sample Analytical Results
Plate 1 – Site Location Map
Plate 2 – Site Plan and Boring Location Map
Plate 3 – Geophysical Survey Results
Appendix A – UST Location Map
Appendix B – ACPWA Drilling Permit
Appendix C – Lithologic Logs
Appendix D – Laboratory Analytical Report and Chain-of-Custody Fo

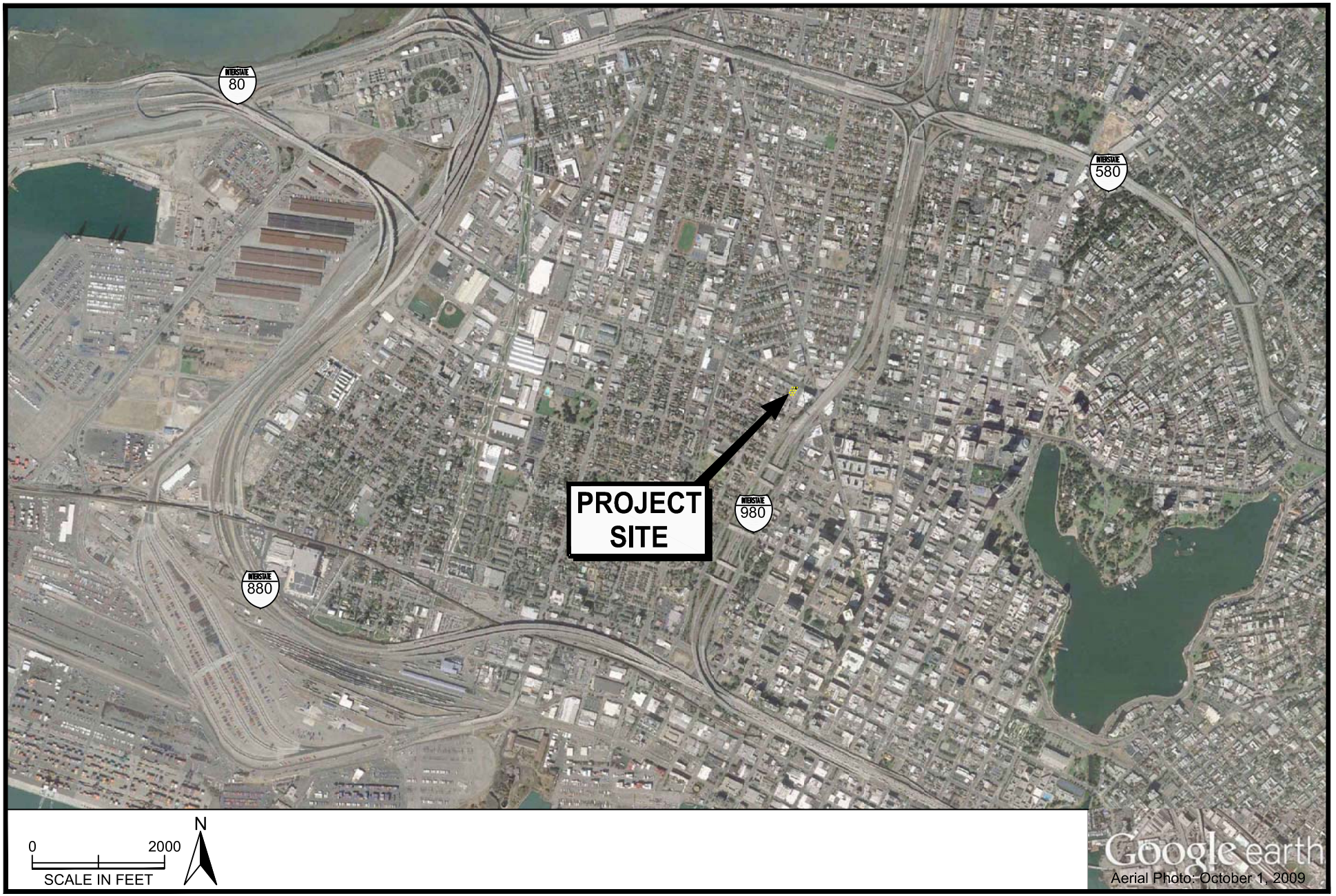
# TABLES

**Table 1**
**Summary of Soil Sample Analytical Results**
**760 22nd Street**
**Oakland, California**

| Boring ID | Sample ID | Sample Depth (ft-bgs) | Sample Date | TPHg | TPHd | Benzene | Toluene | Ethylbenzene | Total Xylenes |
|---|---|---|---|---|---|---|---|---|---|
| SB1 | SB1-4.0 | 4 to 4.5 | 10/20/11 | <1.0 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | SB1-10.0 | 10 to 10.5 | 10/20/11 | <1.0 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| SB2 | SB2-2.0 | 2 to 2.5 | 10/20/11 | <1.0 | **1.7** | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | SB2-4.0 | 4 to 4.5 | 10/20/11 | <1.0 | **4.3** | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | SB2-8.0 | 8 to 8.5 | 10/20/11 | <1.0 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| SB3 | SB3-2.0 | 2 to 2.5 | 10/20/11 | <1.0 | **3.1** | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | SB3-4.0 | 4 to 4.5 | 10/20/11 | <1.0 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | SB3-8.0 | 8 to 8.5 | 10/20/11 | <1.0 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| SB4 | SB4-2.0 | 2 to 2.5 | 10/20/11 | <1.0 | **2.1** | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | SB4-4.0 | 4 to 4.5 | 10/20/11 | <1.0 | **1.2** | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | SB4-8.0 | 8 to 8.5 | 10/20/11 | <1.0 | **5.0** | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| SB5 | SB5-2.0 | 2 to 2.5 | 10/20/11 | <1.0 | **1.9** | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | SB5-4.0 | 4 to 4.5 | 10/20/11 | <1.0 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | SB5-8.0 | 8 to 8.5 | 10/20/11 | <1.0 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| SB6 | SB6-2.0 | 2 to 2.5 | 10/20/11 | <1.0 | **12** | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | SB6-4.0 | 4 to 4.5 | 10/20/11 | <1.0 | **2.2** | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | SB6-8.0 | 8 to 8.5 | 10/20/11 | <1.0 | **9.3** | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Shallow (<3 meters bgs) Soil ESL[(1)] | | | | **83** | **83** | **0.044** | **2.9** | **2.3** | **2.3** |
| Deep (>3 meters bgs) Soil ESL[(1)] | | | | **83** | **83** | **0.044** | **2.9** | **3.3** | **2.3** |

**Notes:**
All results in milligrams per kilogram (mg/kg).
ft-bgs = Feet below ground surface.
<0.0050 = Not detected at or above the indicated laboratory method reporting limit.
TPHg = Total Petroleum Hydrocarbons quantified as gasoline.
TPHd = Total Petroleum Hydrocarbons quantified as diesel.
TPHg and benzene, toluene, ethylbenzene, and xylenes (BTEX) analyzed using U.S. Environmental Protection Agency (U.S. EPA) Test Method 8260B.
TPHd analyzed using U.S. EPA Test Method 8015M , with silica gel cleanup (SGC) Method 3630.
ESL[(1)] = San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL) for residential land use where potentially impacted groundwater is a current or potential source of drinking water.
= Concentration exceeds soil ESL.

# PLATES

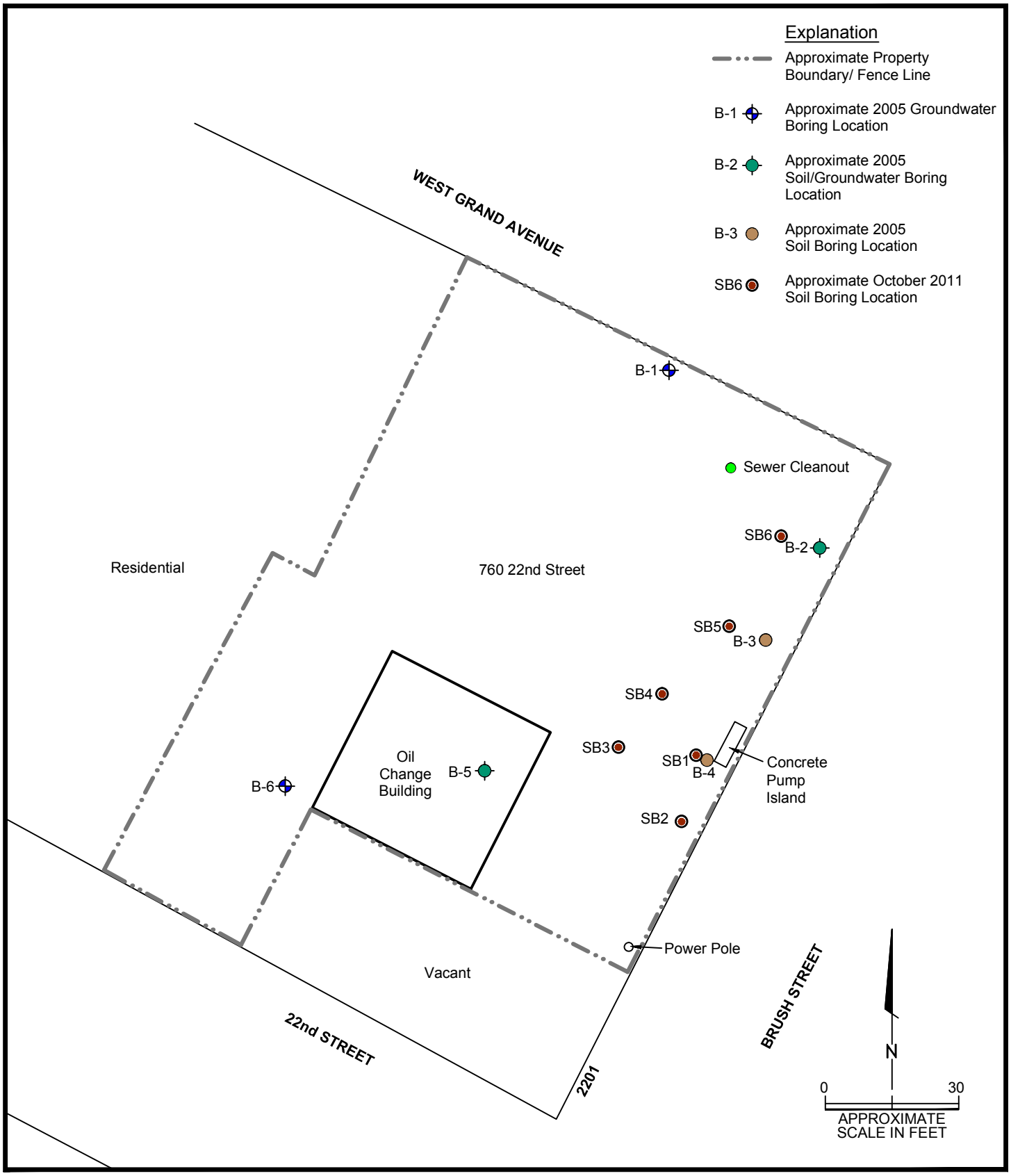



**PES Environmental, Inc.**
Engineering & Environmental Services

**Site Location Map**
760 22nd Street
Oakland, California

PLATE
1

| 1284.001.02.004 | 128400102004_1-3 | *GDT* | 11/11 |
|---|---|---|---|
| JOB NUMBER | DRAWING NUMBER | REVIEWED BY | DATE |

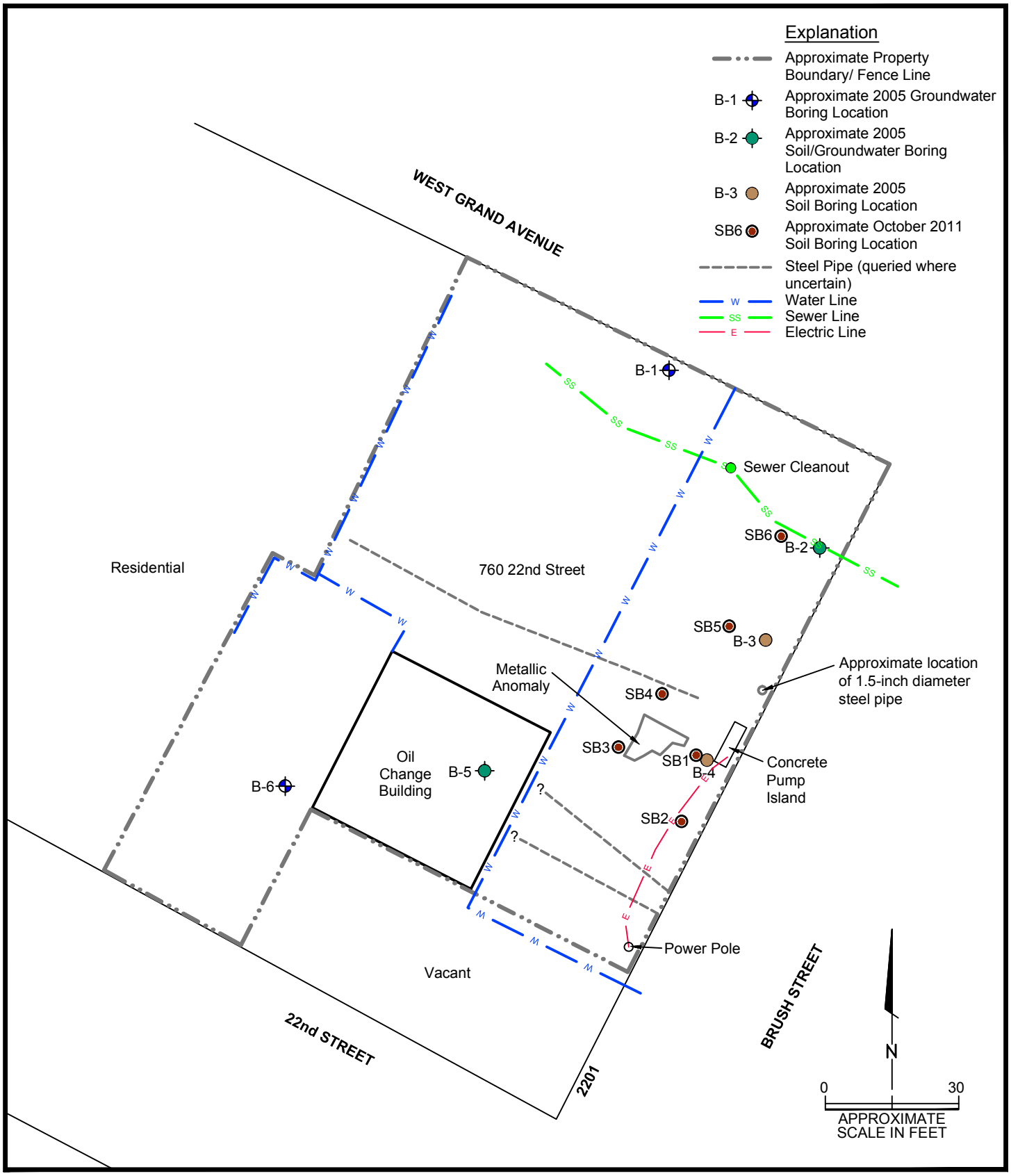



**PES Environmental, Inc.**
Engineering & Environmental Services

**Site Plan and Boring Location Map**
760 22nd Street
Oakland, California

PLATE
2

| 1284.001.02.004 | 128400102004_1-3 | GDT | 11/11 |
|---|---|---|---|
| JOB NUMBER | DRAWING NUMBER | REVIEWED BY | DATE |




**PES Environmental, Inc.**
Engineering & Environmental Services

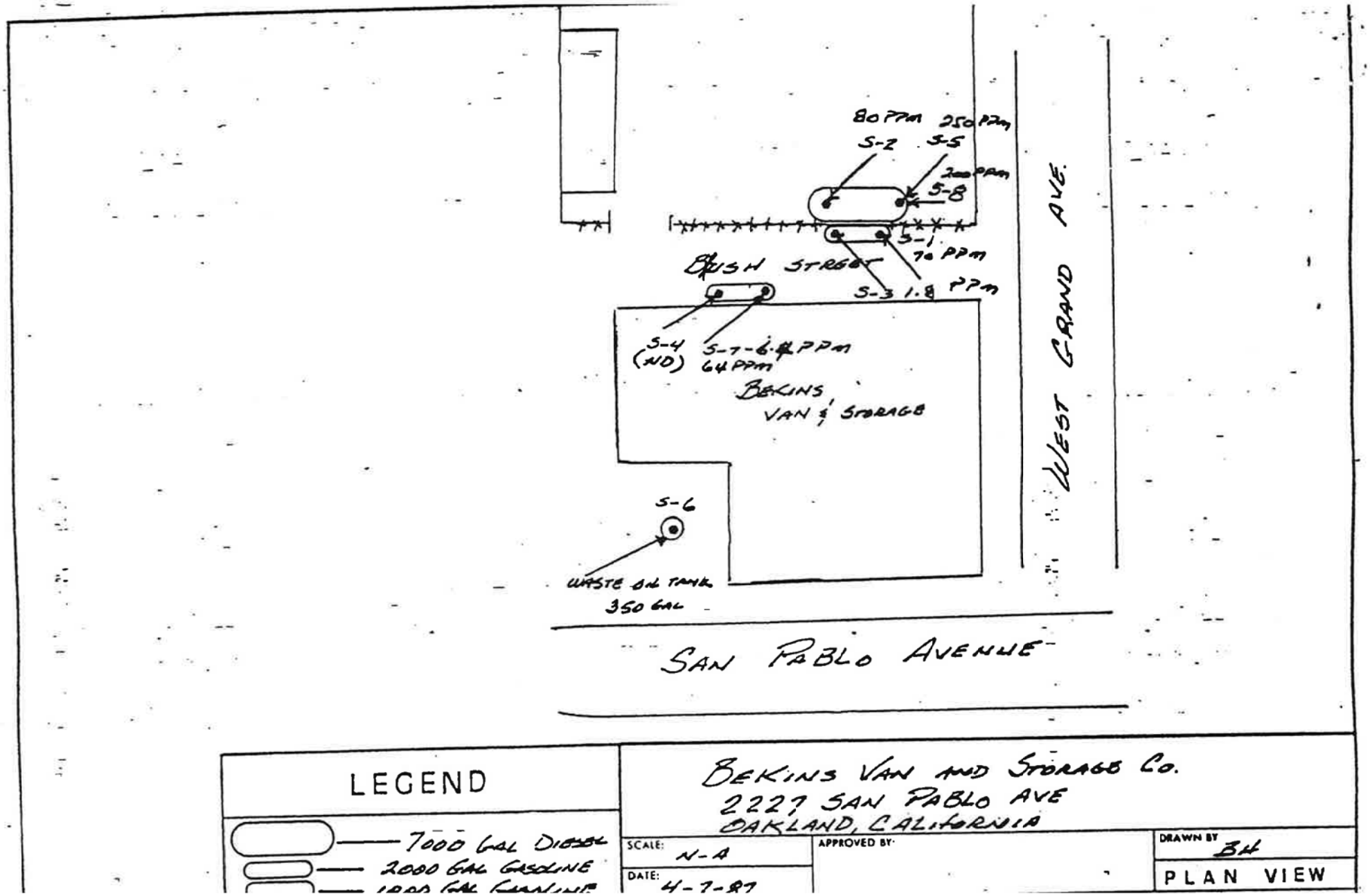
**Geophysical Survey Results**
760 22nd Street
Oakland, California

PLATE
3

| 1284.001.02.004 | 128400102004_1-3 | GDT | 11/11 |
|---|---|---|---|
| JOB NUMBER | DRAWING NUMBER | REVIEWED BY | DATE |

# APPENDIX A

# UST LOCATION MAP


80 PPM
S-2
250 PPM
S-5
200 PPM
S-8
S-1
70 PPM
BUSH STREET
S-3 1.8 PPM
S-4
(ND)
S-7 6.4 PPM
64 PPM
BEKINS
VAN & STORAGE
S-6
WASTE OIL TANK
350 GAL
WEST GRAND AVE.
SAN PABLO AVENUE
LEGEND
7000 GAL DIESEL
2000 GAL GASOLINE
BEKINS VAN AND STORAGE CO.
2227 SAN PABLO AVE
OAKLAND, CALIFORNIA
SCALE: N-A
DATE: 4-7-87
APPROVED BY:
DRAWN BY BH
PLAN VIEW

# APPENDIX B

# ACPWA DRILLING PERMIT

# Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

**Application Approved on: 10/06/2011 By jamesy**

**Permit Numbers: W2011-0618**
**Permits Valid from 10/20/2011 to 10/20/2011**

**Application Id:** 1317849674367 **City of Project Site:** Oakland
**Site Location:** 760 22nd St, Oakland, CA
**Project Start Date:** 10/20/2011 **Completion Date:** 10/20/2011
**Assigned Inspector:** Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

**Applicant:** PES Environmental - Gary Thomas **Phone:** 415-899-1600
1682 Novato Blvd, Ste 100, Novato, CA 94947
**Property Owner:** East Bay Asian Local Dev't Corp **Phone:** 510-287-5353
310 8th St, Ste. 200, Oakland, CA 94607
**Client:** ** same as Property Owner **

**Total Due:** $265.00
**Receipt Number: WR2011-0293** **Total Amount Paid:** $265.00
**Payer Name : PES** Paid By: CHECK **PAID IN FULL**

**Works Requesting Permits:**

Borehole(s) for Investigation-Environmental/Monitorinig Study - 6 Boreholes
Driller: RSI - Lic #: 802334 - Method: other **Work Total: $265.00**

**Specifications**

| Permit Number | Issued Dt | Expire Dt | # Boreholes | Hole Diam | Max Depth |
|---|---|---|---|---|---|
| W2011-0618 | 10/06/2011 | 01/18/2012 | 6 | 2.00 in. | 10.00 ft |

**Specific Work Permit Conditions**

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact Steve Miller for an inspection time at (510) 670-5517 or email to stevem@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

6. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and

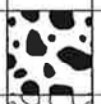
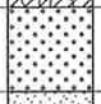
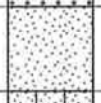
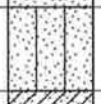
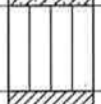
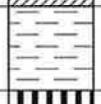
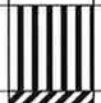
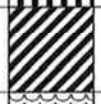
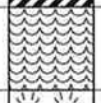
coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

7. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

# APPENDIX C

# LITHOLOGIC LOGS

GrfcText!USCS CHART 11/2/2011 1:38:29 PM

| MAJOR DIVISIONS | | | | | TYPICAL NAMES |
|---|---|---|---|---|---|
| COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN NO. 200 SIEVE | GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE | CLEAN GRAVELS WITH LESS THAN 15% FINES | GW |  | WELL-GRADED GRAVELS WITH OR WIT SAND |
| | | | GP |  | POORLY-GRADED GRAVELS WITH OR WITHOUT SAND |
| | | GRAVELS WITH 15% OR MORE FINES | GM |  | SILTY GRAVELS WITH OR WITHOUT SA |
| | | | GC |  | CLAYEY GRAVELS WITH OR WITHOUT |
| | SANDS MORE THAN HALF COARSE FRACTION IS FINER THAN NO. 4 SIEVE SIZE | CLEAN SANDS WITH LESS THAN 15% FINES | SW |  | WELL-GRADED SANDS WITH OR WITHO GRAVEL |
| | | | SP |  | POORLY-GRADED SANDS WITH OR WI GRAVEL |
| | | SANDS WITH 15% OR MORE FINES | SM |  | SILTY SANDS WITH OR WITHOUT GRA |
| | | | SC |  | CLAYEY SANDS WITH OR WITHOUT GR |
| FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN NO. 200 SIEVE | SILTS AND CLAYS LIQUID LIMIT 50% OR LESS | | ML |  | INORGANIC SILTS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOUT SAND GRAVEL |
| | | | CL |  | INORGANIC CLAYS OF LOW TO MEDIU PLASTICITY WITH OR WITHOUT SAND GRAVEL |
| | | | OL |  | ORGANIC SILTS OR CLAYS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOU OR GRAVEL |
| | SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50% | | MH |  | INORGANIC SILTS OF HIGH PLASTICITY OR WITHOUT SAND OR GRAVEL |
| | | | CH |  | INORGANIC CLAYS OF HIGH PLASTICI OR WITHOUT SAND OR GRAVEL |
| | | | OH |  | ORGANIC SILTS OR CLAYS OF HIGH PLASTICITY WITH OR WITHOUT SAND GRAVEL |
| HIGHLY ORGANIC SOILS | | | PT |  | PEAT AND OTHER HIGHLY ORGANIC S |

## ABBREVIATION KEY

| | |
|---|---|
| PID (PPM) | - Photo Ionization Detector readings in parts per million from field headspace sample screening. |
| BLOWS/6IN | - Blows required to drive sampler 6 inches as indicated on the logs using sample drive hammer weight of 140 pounds falling 30 inches. |
| (10,60,30) | - Percent gravel, percent sand, percent silt/clay |
| 2.5YR 6/2 | - Soil Color according to Munsell Soil Color Charts (1994 Revised Edition) |
| feet MSL | - feet above Mean Sea Level |
| feet BGS | - feet below ground surface |

## SYMBOLS KEY

- ☐ - No Soil Sample Recovered
- ☒ - Partial Soil Sample Recovered
- ☒ - Undisturbed Soil Sample Recovered
- ■ - Soil Sample Submitted for Laboratory Analy
- ⊞ - Hydropunch Sample
- ▽ - First Encountered Wet Soil
- ▼ - Piezometric Groundwater level

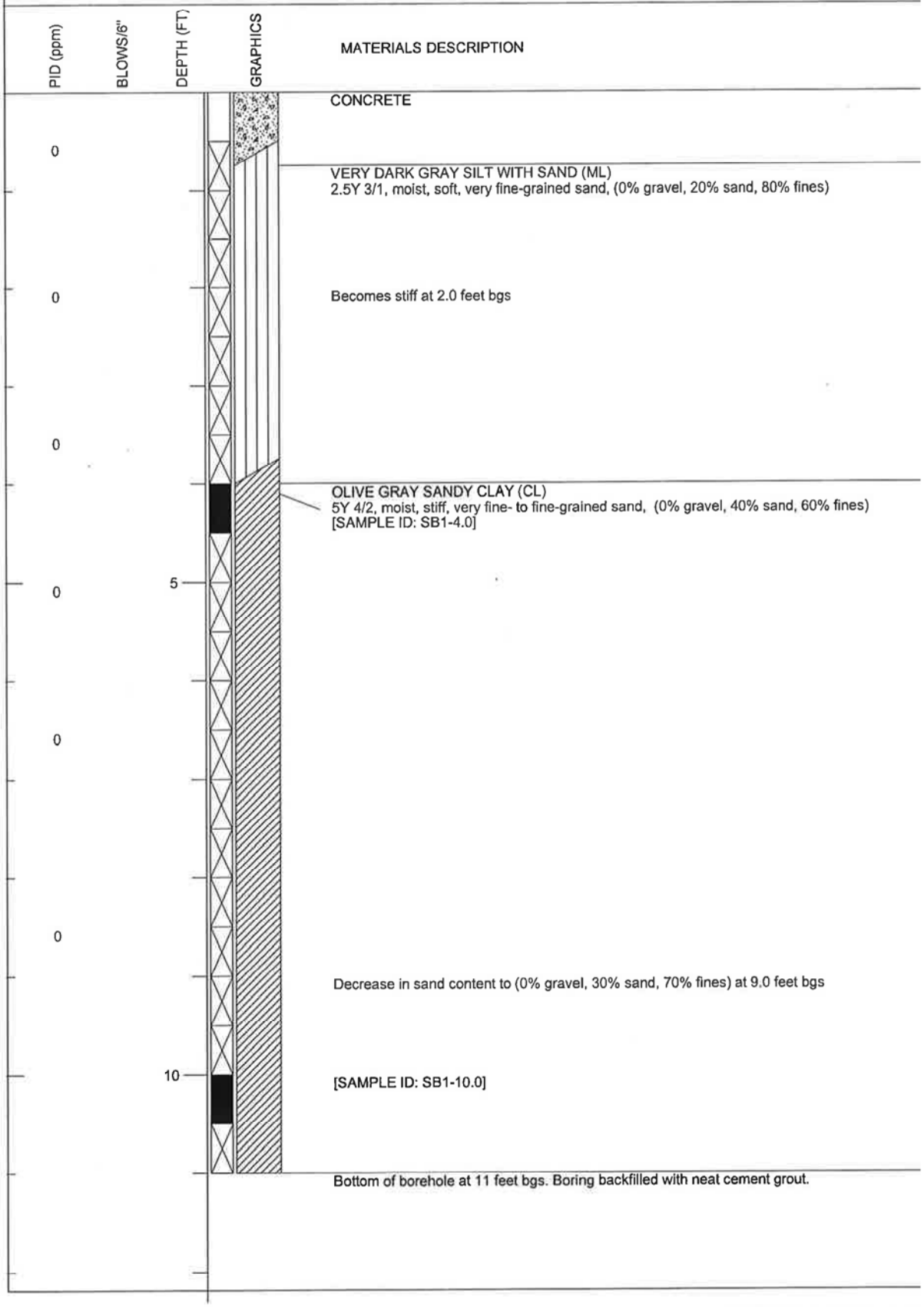
**PES Environmental, Inc.**
Engineering & Environmental Services

**Unified Soil Classification System C**
**760 22nd Street**
**Oakland, California**

| 1248.001.02.004 | USCS Chart | GDT |
|---|---|---|
| JOB NUMBER | DRAWING NUMBER | REVIEWED BY |

# PES Environmental, Inc.
Engineering & Environmental Services

LC




| | | | |
|---|---|---|---|
| PROJECT | 760 22nd St. | REVIEWED BY | GDT |
| LOCATION | Oakland, California | DIAMETER OF HOLE | 2.25 |
| JOB NUMBER | 1248.001.02.004 | TOTAL DEPTH OF HOLE | 11 feet |
| LOGGED BY | M. Buttress | DATE STARTED | 10/20/11 |
| DRILL RIG | GeoProbe 6620 DT | DATE COMPLETED | 10/20/11 |

# PES Environmental, Inc.

Engineering & Environmental Services

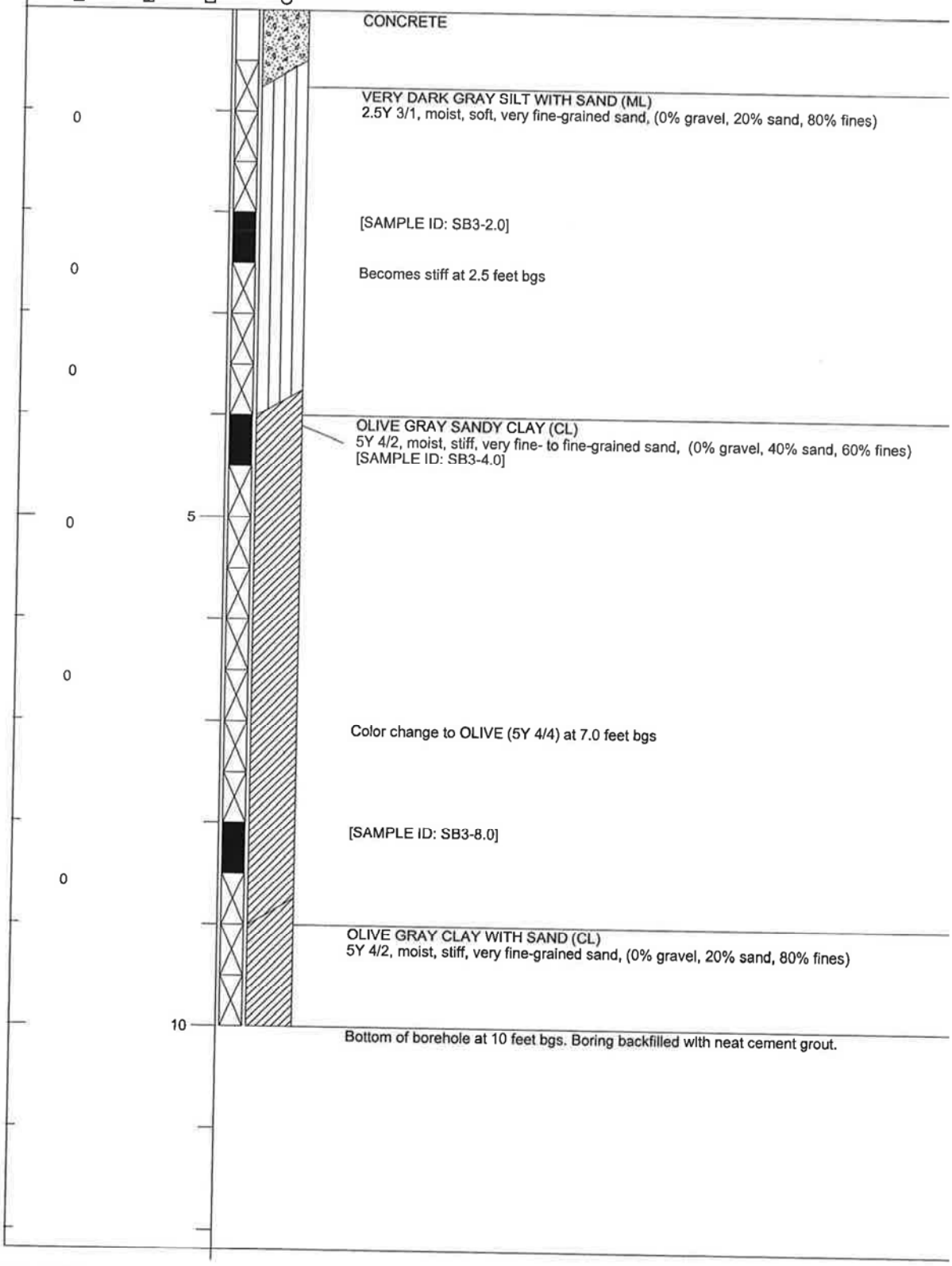
L

| PID (ppm) | BLOWS/6" | DEPTH (FT) | GRAPHICS | MATERIALS DESCRIPTION |
|---|---|---|---|---|
| | | | | CONCRETE |
| | | | | VERY DARK GRAY SILT WITH SAND (ML)<br>2.5Y 3/1, moist, soft, very fine-grained sand, (0% gravel, 20% sand, 80% fines) |
| | | | | [SAMPLE ID: SB2-2.0] |
| | | | | OLIVE GRAY SANDY CLAY (CL)<br>5Y 4/2, moist, stiff, very fine- to fine-grained sand, (0% gravel, 40% sand, 60% fines)<br>[SAMPLE ID: SB2-4.0] |
| | | 5 | | |
| | | | | OLIVE CLAYEY SAND (SC)<br>5Y 4/4, moist, dense, very fine- to medium-grained sand, (0% gravel, 80% sand, 20% fines)<br>[SAMPLE ID: SB2-8.0] |
| | | | | OLIVE GRAY CLAY WITH SAND (CL)<br>5Y 4/2, moist, stiff, very fine-grained sand, (0% gravel, 20% sand, 80% fines) |
| | | 10 | | Bottom of borehole at 10 feet bgs. Boring backfilled with neat cement grout. |

| | | | |
|---|---|---|---|
| PROJECT | 760 22nd St. | REVIEWED BY | GDT |
| LOCATION | Oakland, California | DIAMETER OF HOLE | 2.25 |
| JOB NUMBER | 1248.001.02.004 | TOTAL DEPTH OF HOLE | 10 feet |
| LOGGED BY | M. Buttress | DATE STARTED | 10/20/11 |
| DRILL RIG | GeoProbe 6620 DT | DATE COMPLETED | 10/20/11 |

# PES Environmental, Inc.

Engineering & Environmental Services




| | | | |
|---|---|---|---|
| PROJECT | 760 22nd St. | REVIEWED BY | GDT |
| LOCATION | Oakland, California | DIAMETER OF HOLE | 2.25 |
| JOB NUMBER | 1248.001.02.004 | TOTAL DEPTH OF HOLE | 10 feet |
| LOGGED BY | M. Buttress | DATE STARTED | 10/20/11 |
| DRILL RIG | GeoProbe 6620 DT | DATE COMPLETED | 10/20/11 |

# PES Environmental, Inc.

Engineering & Environmental Services

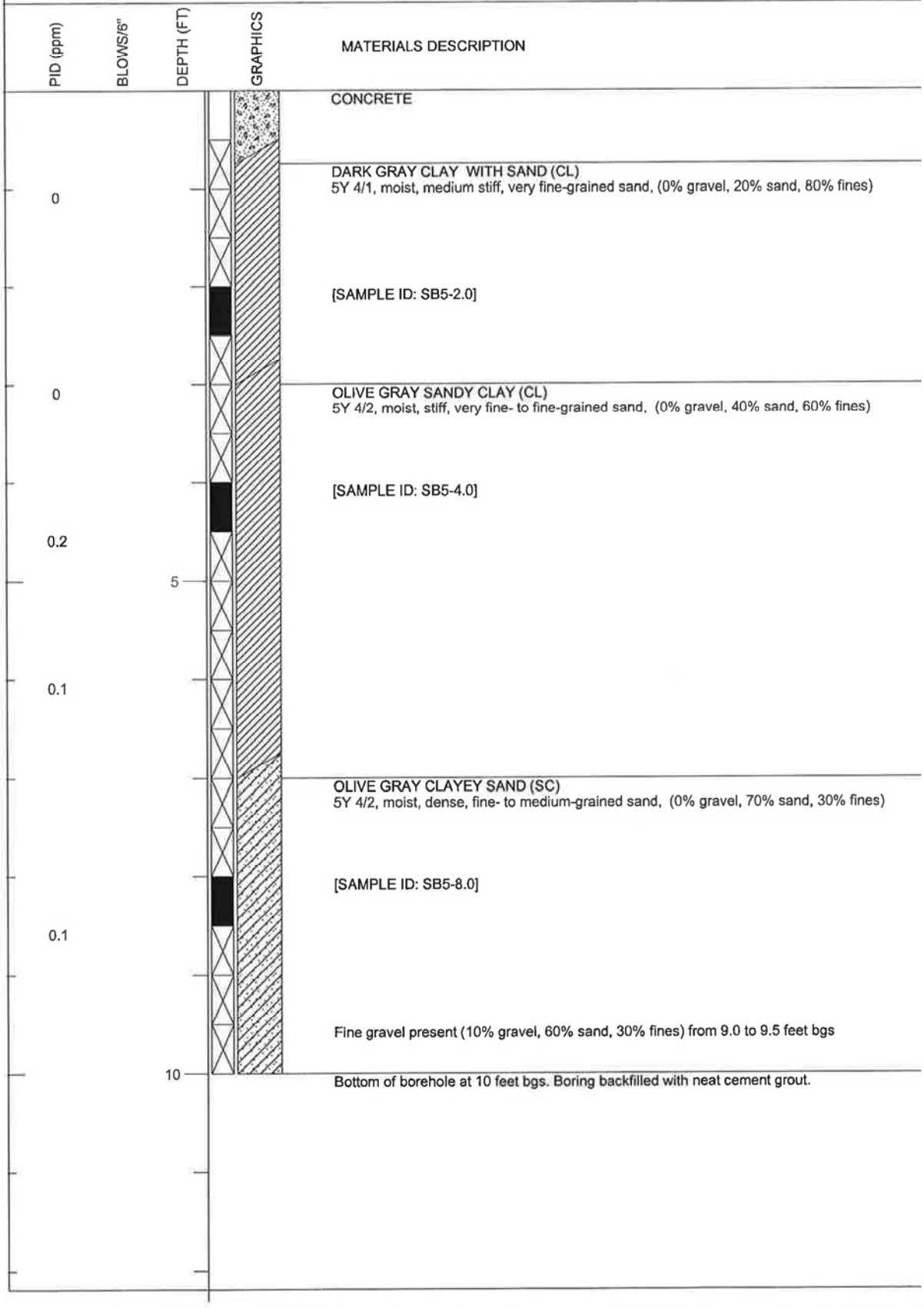
L

| PID (ppm) | BLOWS/6" | DEPTH (FT) | GRAPHICS | MATERIALS DESCRIPTION |
|---|---|---|---|---|
| | | | | CONCRETE |
| | | | | VERY DARK GRAY SILT WITH SAND (ML)<br>2.5Y 3/1, moist, soft to medium stiff, very fine-grained sand, (0% gravel, 20% sand, 80% fine |
| 0 | | | | |
| | | | | [SAMPLE ID: SB4-2.0] |
| 0.1 | | | | |
| | | | | OLIVE GRAY SANDY CLAY (CL)<br>5Y 4/2, moist, stiff, very fine- to fine-grained sand, (0% gravel, 40% sand, 60% fines) |
| | | | | [SAMPLE ID: SB4-4.0] |
| 0.1 | | 5 | | |
| 0.2 | | | | OLIVE GRAY CLAYEY SAND (SC)<br>5Y 4/2, moist, dense, fine- to medium-grained sand, (0% gravel, 70% sand, 30% fines) |
| 0 | | | | |
| | | | | [SAMPLE ID: SB4-8.0] |
| | | | | OLIVE GRAY SAND (SP)<br>5Y 4/2, moist, dense, very fine- to fine-grained sand, (0% gravel, 100% sand, 0% fines) |
| 0 | | | | |
| | | | | OLIVE GRAY CLAY WITH SAND (CL)<br>5Y 4/2, moist, stiff, very fine-grained sand, (0% gravel, 20% sand, 80% fines) |
| | | 10 | | Bottom of borehole at 10 feet bgs. Boring backfilled with neat cement grout. |

| | | | |
|---|---|---|---|
| PROJECT | 760 22nd St. | REVIEWED BY | GDT |
| LOCATION | Oakland, California | DIAMETER OF HOLE | 2.25 |
| JOB NUMBER | 1248.001.02.004 | TOTAL DEPTH OF HOLE | 10 feet |
| LOGGED BY | M. Buttress | DATE STARTED | 10/20/11 |
| DRILL RIG | GeoProbe 6620 DT | DATE COMPLETED | 10/20/11 |

# PES Environmental, Inc.
Engineering & Environmental Services

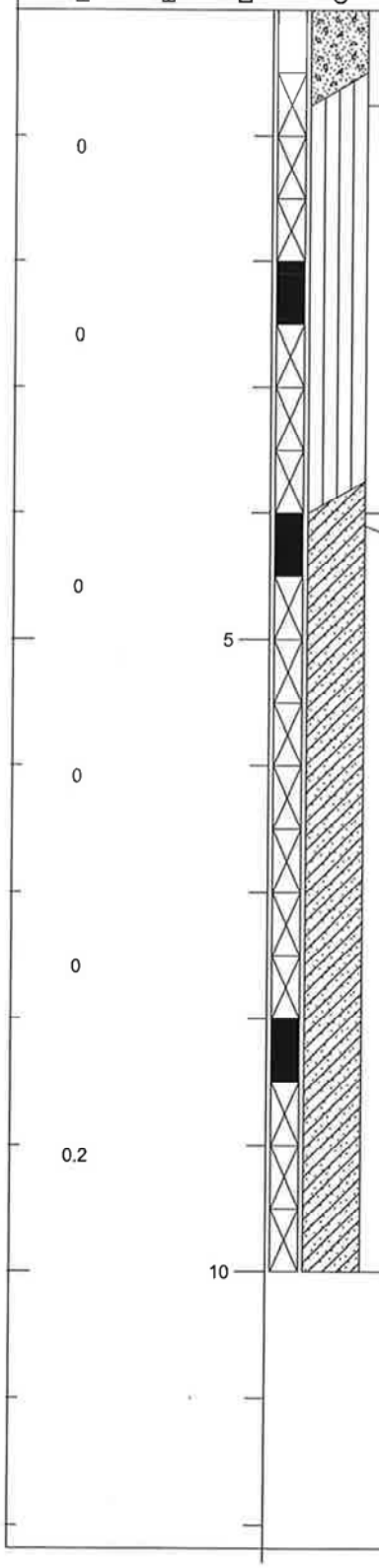
LC




| | | | |
|---|---|---|---|
| PROJECT | 760 22nd St. | REVIEWED BY | GDT |
| LOCATION | Oakland, California | DIAMETER OF HOLE | 2.25 |
| JOB NUMBER | 1248.001.02.004 | TOTAL DEPTH OF HOLE | 10 feet |
| LOGGED BY | M. Buttress | DATE STARTED | 10/20/11 |
| DRILL RIG | GeoProbe 6620 DT | DATE COMPLETED | 10/20/11 |

# PES Environmental, Inc.

Engineering & Environmental Services




MATERIALS DESCRIPTION

CONCRETE

VERY DARK GRAY SILT WITH SAND (ML)
2.5Y 3/1, moist, soft to medium stiff, very fine-grained sand, (0% gravel, 20% sand, 80% fin

[SAMPLE ID: SB6-2.0]

OLIVE GRAY CLAYEY SAND (SC)
5Y 4/2, moist, dense, fine- to medium-grained sand, (0% gravel, 60% sand, 40% fines)
[SAMPLE ID: SB6-4.0]

Increase in sand content to (0% gravel, 80% sand, 20% fines) at 7.0 feet bgs

[SAMPLE ID: SB6-8.0]

Presence of fine gravel and coarse-grained sand (10% gravel, 70% sand, 20% fines) at 9.0 f

Bottom of borehole at 10 feet bgs. Boring backfilled with neat cement grout.

| | | | |
|---|---|---|---|
| PROJECT | 760 22nd St. | REVIEWED BY | GDT |
| LOCATION | Oakland, California | DIAMETER OF HOLE | 2.25 |
| JOB NUMBER | 1248.001.02.004 | TOTAL DEPTH OF HOLE | 10 feet |
| LOGGED BY | M. Buttress | DATE STARTED | 10/20/11 |
| DRILL RIG | GeoProbe 6620 DT | DATE COMPLETED | 10/20/11 |

# APPENDIX D

## LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY FORMS

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

# Laboratory Results

Kyle Flory
PES Environmental Inc.
1682 Novato Boulevard, Suite 100
Novato, CA 94947

Subject : 17 Soil Samples
Project Name : 760 22nd Street Site/Oakland, CA
Project Number : 1284.001.02.003

Dear Mr. Flory,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC standard. All soil samples are reported on a total weight (wet weight) basis unless noted otherwise in the case narrative. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the National Environmental Laboratory Accreditation Program (NELAP), lab # 08263CA. If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB6-2.0** Matrix : Soil Lab Number : 79204-01
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 04:10 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 04:10 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 04:10 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 04:10 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 04:10 |
| 1,2-Dichloroethane-d4 (Surr) | 108 | | % Recovery | EPA 8260B | 10/22/11 04:10 |
| Toluene - d8 (Surr) | 98.3 | | % Recovery | EPA 8260B | 10/22/11 04:10 |
| **TPH as Diesel (Silica Gel)** | **12** | 1.0 | mg/Kg | M EPA 8015 | 10/27/11 19:53 |
| Octacosane (Silica Gel Surr) | 102 | | % Recovery | M EPA 8015 | 10/27/11 19:53 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB6-4.0** Matrix : Soil Lab Number : 79204-02
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 04:21 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 04:21 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 04:21 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 04:21 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 04:21 |
| 1,2-Dichloroethane-d4 (Surr) | 110 | | % Recovery | EPA 8260B | 10/22/11 04:21 |
| Toluene - d8 (Surr) | 102 | | % Recovery | EPA 8260B | 10/22/11 04:21 |
| **TPH as Diesel (Silica Gel)** | **2.2** | 1.0 | mg/Kg | M EPA 8015 | 10/27/11 00:57 |
| (Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Silica Gel Surr) | 125 | | % Recovery | M EPA 8015 | 10/27/11 00:57 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB6-8.0** Matrix : Soil Lab Number : 79204-03
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/11 16:42 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/11 16:42 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/11 16:42 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/11 16:42 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/26/11 16:42 |
| 1,2-Dichloroethane-d4 (Surr) | 111 | | % Recovery | EPA 8260B | 10/26/11 16:42 |
| Toluene - d8 (Surr) | 100 | | % Recovery | EPA 8260B | 10/26/11 16:42 |
| **TPH as Diesel (Silica Gel)** | **9.3** | 1.0 | mg/Kg | M EPA 8015 | 10/27/11 01:31 |
| (Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Silica Gel Surr) | 127 | | % Recovery | M EPA 8015 | 10/27/11 01:31 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB5-2.0** Matrix : Soil Lab Number : 79204-04
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:00 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:00 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:00 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:00 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 05:00 |
| 1,2-Dichloroethane-d4 (Surr) | 110 | | % Recovery | EPA 8260B | 10/22/11 05:00 |
| Toluene - d8 (Surr) | 102 | | % Recovery | EPA 8260B | 10/22/11 05:00 |
| **TPH as Diesel (Silica Gel)** | **1.9** | 1.0 | mg/Kg | M EPA 8015 | 10/27/11 20:28 |
| (Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Silica Gel Surr) | 104 | | % Recovery | M EPA 8015 | 10/27/11 20:28 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB5-4.0** Matrix : Soil Lab Number : 79204-05
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:36 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:36 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:36 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:36 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 05:36 |
| 1,2-Dichloroethane-d4 (Surr) | 109 | | % Recovery | EPA 8260B | 10/22/11 05:36 |
| Toluene - d8 (Surr) | 102 | | % Recovery | EPA 8260B | 10/22/11 05:36 |
| TPH as Diesel (Silica Gel) | < 1.0 | 1.0 | mg/Kg | M EPA 8015 | 10/27/11 02:40 |
| Octacosane (Silica Gel Surr) | 127 | | % Recovery | M EPA 8015 | 10/27/11 02:40 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB5-8.0** Matrix : Soil Lab Number : 79204-06
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/11 17:20 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/11 17:20 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/11 17:20 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/11 17:20 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/26/11 17:20 |
| 1,2-Dichloroethane-d4 (Surr) | 111 | | % Recovery | EPA 8260B | 10/26/11 17:20 |
| Toluene - d8 (Surr) | 100 | | % Recovery | EPA 8260B | 10/26/11 17:20 |
| TPH as Diesel (Silica Gel) | < 1.0 | 1.0 | mg/Kg | M EPA 8015 | 10/27/11 00:22 |
| Octacosane (Silica Gel Surr) | 128 | | % Recovery | M EPA 8015 | 10/27/11 00:22 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB4-2.0** Matrix : Soil Lab Number : 79204-07
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:55 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:55 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:55 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:55 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 05:55 |
| 1,2-Dichloroethane-d4 (Surr) | 108 | | % Recovery | EPA 8260B | 10/22/11 05:55 |
| Toluene - d8 (Surr) | 99.0 | | % Recovery | EPA 8260B | 10/22/11 05:55 |
| **TPH as Diesel (Silica Gel)** | **2.1** | 1.0 | mg/Kg | M EPA 8015 | 10/26/11 23:48 |
| Octacosane (Silica Gel Surr) | 115 | | % Recovery | M EPA 8015 | 10/26/11 23:48 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB4-4.0** Matrix : Soil Lab Number : 79204-08
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:16 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:16 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:16 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:16 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 05:16 |
| 1,2-Dichloroethane-d4 (Surr) | 108 | | % Recovery | EPA 8260B | 10/22/11 05:16 |
| Toluene - d8 (Surr) | 101 | | % Recovery | EPA 8260B | 10/22/11 05:16 |
| **TPH as Diesel (Silica Gel)** | **1.2** | 1.0 | mg/Kg | M EPA 8015 | 10/29/11 11:19 |
| Octacosane (Silica Gel Surr) | 114 | | % Recovery | M EPA 8015 | 10/29/11 11:19 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB4-8.0** Matrix : Soil Lab Number : 79204-09
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:53 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:53 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:53 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 05:53 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 05:53 |
| 1,2-Dichloroethane-d4 (Surr) | 110 | | % Recovery | EPA 8260B | 10/22/11 05:53 |
| Toluene - d8 (Surr) | 101 | | % Recovery | EPA 8260B | 10/22/11 05:53 |
| **TPH as Diesel (Silica Gel)** | **5.0** | 1.0 | mg/Kg | M EPA 8015 | 10/29/11 10:44 |
| (Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Silica Gel Surr) | 115 | | % Recovery | M EPA 8015 | 10/29/11 10:44 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB3-2.0** Matrix : Soil Lab Number : 79204-10
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 06:23 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 06:23 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 06:23 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 06:23 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 06:23 |
| 1,2-Dichloroethane-d4 (Surr) | 110 | | % Recovery | EPA 8260B | 10/22/11 06:23 |
| Toluene - d8 (Surr) | 102 | | % Recovery | EPA 8260B | 10/22/11 06:23 |
| **TPH as Diesel (Silica Gel)** | **3.1** | 1.0 | mg/Kg | M EPA 8015 | 10/29/11 11:54 |
| (Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Silica Gel Surr) | 121 | | % Recovery | M EPA 8015 | 10/29/11 11:54 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB3-4.0** Matrix : Soil Lab Number : 79204-11
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:36 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:36 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:36 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:36 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 07:36 |
| 1,2-Dichloroethane-d4 (Surr) | 112 | | % Recovery | EPA 8260B | 10/22/11 07:36 |
| Toluene - d8 (Surr) | 102 | | % Recovery | EPA 8260B | 10/22/11 07:36 |
| TPH as Diesel (Silica Gel) | < 1.0 | 1.0 | mg/Kg | M EPA 8015 | 10/29/11 17:09 |
| Octacosane (Silica Gel Surr) | 118 | | % Recovery | M EPA 8015 | 10/29/11 17:09 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB3-8.0** Matrix : Soil Lab Number : 79204-12
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 08:13 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 08:13 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 08:13 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 08:13 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 08:13 |
| 1,2-Dichloroethane-d4 (Surr) | 108 | | % Recovery | EPA 8260B | 10/22/11 08:13 |
| Toluene - d8 (Surr) | 101 | | % Recovery | EPA 8260B | 10/22/11 08:13 |
| TPH as Diesel (Silica Gel) | < 1.0 | 1.0 | mg/Kg | M EPA 8015 | 10/29/11 12:29 |
| Octacosane (Silica Gel Surr) | 119 | | % Recovery | M EPA 8015 | 10/29/11 12:29 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB2-2.0** Matrix : Soil Lab Number : 79204-13
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 06:30 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 06:30 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 06:30 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 06:30 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 06:30 |
| 1,2-Dichloroethane-d4 (Surr) | 108 | | % Recovery | EPA 8260B | 10/22/11 06:30 |
| Toluene - d8 (Surr) | 102 | | % Recovery | EPA 8260B | 10/22/11 06:30 |
| **TPH as Diesel (Silica Gel)** | **1.7** | 1.0 | mg/Kg | M EPA 8015 | 10/29/11 17:45 |
| (Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Silica Gel Surr) | 119 | | % Recovery | M EPA 8015 | 10/29/11 17:45 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB2-4.0** Matrix : Soil Lab Number : 79204-14
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:45 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:45 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:45 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:45 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 07:45 |
| 1,2-Dichloroethane-d4 (Surr) | 109 | | % Recovery | EPA 8260B | 10/22/11 07:45 |
| Toluene - d8 (Surr) | 102 | | % Recovery | EPA 8260B | 10/22/11 07:45 |
| **TPH as Diesel (Silica Gel)** | **4.3** | 1.0 | mg/Kg | M EPA 8015 | 10/29/11 14:50 |
| Octacosane (Silica Gel Surr) | 113 | | % Recovery | M EPA 8015 | 10/29/11 14:50 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB2-8.0** Matrix : Soil Lab Number : 79204-15
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:05 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:05 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:05 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:05 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 07:05 |
| 1,2-Dichloroethane-d4 (Surr) | 112 | | % Recovery | EPA 8260B | 10/22/11 07:05 |
| Toluene - d8 (Surr) | 98.9 | | % Recovery | EPA 8260B | 10/22/11 07:05 |
| TPH as Diesel (Silica Gel) | < 1.0 | 1.0 | mg/Kg | M EPA 8015 | 10/29/11 16:34 |
| Octacosane (Silica Gel Surr) | 109 | | % Recovery | M EPA 8015 | 10/29/11 16:34 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB1-4.0** Matrix : Soil Lab Number : 79204-16
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:40 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:40 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:40 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 07:40 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 07:40 |
| 1,2-Dichloroethane-d4 (Surr) | 107 | | % Recovery | EPA 8260B | 10/22/11 07:40 |
| Toluene - d8 (Surr) | 99.0 | | % Recovery | EPA 8260B | 10/22/11 07:40 |
| TPH as Diesel (Silica Gel) | < 1.0 | 1.0 | mg/Kg | M EPA 8015 | 10/29/11 15:59 |
| Octacosane (Silica Gel Surr) | 110 | | % Recovery | M EPA 8015 | 10/29/11 15:59 |

KIFF Analytical LLC

Report Number : 79204
Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**
Project Number : **1284.001.02.003**

Sample : **SB1-10.0** Matrix : Soil Lab Number : 79204-17
Sample Date :10/20/2011

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|---|---|---|---|---|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 08:24 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 08:24 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 08:24 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/11 08:24 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/11 08:24 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | | % Recovery | EPA 8260B | 10/22/11 08:24 |
| Toluene - d8 (Surr) | 102 | | % Recovery | EPA 8260B | 10/22/11 08:24 |
| TPH as Diesel (Silica Gel) | < 1.0 | 1.0 | mg/Kg | M EPA 8015 | 10/28/11 15:08 |
| Octacosane (Silica Gel Surr) | 130 | | % Recovery | M EPA 8015 | 10/28/11 15:08 |

Report Number : 79204

Date : 10/31/2011

**QC Report : Method Blank Data**

Project Name : **760 22nd Street Site/Oakland, CA**

Project Number : **1284.001.02.003**

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|---|---|---|---|---|---|
| TPH as Diesel (Silica Gel) | < 1.0 | 1.0 | mg/Kg | M EPA 8015 | 10/26/2011 |
| Octacosane (Silica Gel Surr) | 85.8 | | % | M EPA 8015 | 10/26/2011 |
| TPH as Diesel (Silica Gel) | < 1.0 | 1.0 | mg/Kg | M EPA 8015 | 10/28/2011 |
| Octacosane (Silica Gel Surr) | 107 | | % | M EPA 8015 | 10/28/2011 |
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/2011 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/2011 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/2011 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/22/2011 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/22/2011 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | | % | EPA 8260B | 10/22/2011 |
| Toluene - d8 (Surr) | 101 | | % | EPA 8260B | 10/22/2011 |
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/2011 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/2011 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/2011 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 10/26/2011 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 10/26/2011 |
| 1,2-Dichloroethane-d4 (Surr) | 109 | | % | EPA 8260B | 10/26/2011 |
| Toluene - d8 (Surr) | 102 | | % | EPA 8260B | 10/26/2011 |

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|---|---|---|---|---|---|



KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 79204

**QC Report : Matrix Spike/ Matrix Spike Duplicate**

Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**

Project Number : **1284.001.02.003**

| Parameter | Spiked Sample | Sample Value | Spike Level | Spike Dup. Level | Spiked Sample Value | Duplicate Spiked Sample Value | Units | Analysis Method | Date Analyzed | Spiked Sample Percent Recov. | Duplicate Spiked Sample Percent Recov. | Relative Percent Diff. | Spiked Sample Percent Recov. Limit | Relative Percent Diff. Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH-D (Si Gel) | | | | | | | | | | | | | | |
| | 79196-03 | 4.7 | 20.0 | 20.0 | 23.5 | 25.1 | mg/Kg | M EPA 8015 | 10/26/11 | 94.1 | 102 | 7.91 | 60-140 | 25 |
| TPH-D (Si Gel) | | | | | | | | | | | | | | |
| | 79213-15 | <1.0 | 19.4 | 19.4 | 18.7 | 19.6 | mg/Kg | M EPA 8015 | 10/28/11 | 96.2 | 101 | 4.99 | 60-140 | 25 |
| Benzene | | | | | | | | | | | | | | |
| | 79127-01 | <0.0050 | 0.0384 | 0.0385 | 0.0394 | 0.0369 | mg/Kg | EPA 8260B | 10/22/11 | 103 | 95.8 | 6.83 | 67.9-120 | 25 |
| Ethylbenzene | | | | | | | | | | | | | | |
| | 79127-01 | <0.0050 | 0.0384 | 0.0385 | 0.0403 | 0.0380 | mg/Kg | EPA 8260B | 10/22/11 | 105 | 98.5 | 6.48 | 65.5-127 | 25 |
| P + M Xylene | | | | | | | | | | | | | | |
| | 79127-01 | <0.0050 | 0.0384 | 0.0385 | 0.0384 | 0.0364 | mg/Kg | EPA 8260B | 10/22/11 | 100 | 94.5 | 5.61 | 62.5-124 | 25 |
| Toluene | | | | | | | | | | | | | | |
| | 79127-01 | <0.0050 | 0.0384 | 0.0385 | 0.0402 | 0.0375 | mg/Kg | EPA 8260B | 10/22/11 | 105 | 97.2 | 7.55 | 65.7-120 | 25 |
| Benzene | | | | | | | | | | | | | | |
| | 79164-08 | <0.0050 | 0.0392 | 0.0397 | 0.0382 | 0.0377 | mg/Kg | EPA 8260B | 10/26/11 | 97.3 | 95.1 | 2.30 | 67.9-120 | 25 |
| Ethylbenzene | | | | | | | | | | | | | | |
| | 79164-08 | <0.0050 | 0.0392 | 0.0397 | 0.0393 | 0.0387 | mg/Kg | EPA 8260B | 10/26/11 | 100 | 97.5 | 2.76 | 65.5-127 | 25 |



KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 79204

**QC Report : Matrix Spike/ Matrix Spike Duplicate**

Date : 10/31/2011

Project Name : **760 22nd Street Site/Oakland, CA**

Project Number : **1284.001.02.003**

| Parameter | Spiked Sample | Sample Value | Spike Level | Spike Dup. Level | Spiked Sample Value | Duplicate Spiked Sample Value | Units | Analysis Method | Date Analyzed | Spiked Sample Percent Recov. | Duplicate Spiked Sample Percent Recov. | Relative Percent Diff. | Spiked Sample Percent Recov. Limit | Relative Percent Diff. Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P + M Xylene | | | | | | | | | | | | | | |
| | 79164-08 | <0.0050 | 0.0392 | 0.0397 | 0.0371 | 0.0361 | mg/Kg | EPA 8260B | 10/26/11 | 94.6 | 91.0 | 3.84 | 62.5-124 | 25 |
| Toluene | | | | | | | | | | | | | | |
| | 79164-08 | <0.0050 | 0.0392 | 0.0397 | 0.0380 | 0.0372 | mg/Kg | EPA 8260B | 10/26/11 | 96.8 | 93.8 | 3.23 | 65.7-120 | 25 |



KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

**QC Report : Laboratory Control Sample (LCS)**

Project Name : **760 22nd Street Site/Oakland, CA**

Project Number : **1284.001.02.003**

| Parameter | Spike Level | Units | Analysis Method | Date Analyzed | LCS Percent Recov. | LCS Percent Recov. Limit |
|---|---|---|---|---|---|---|
| TPH-D (Si Gel) | 20.0 | mg/Kg | M EPA 8015 | 10/26/11 | 93.2 | 70-130 |
| TPH-D (Si Gel) | 20.0 | mg/Kg | M EPA 8015 | 10/28/11 | 90.9 | 70-130 |
| Benzene | 0.0398 | mg/Kg | EPA 8260B | 10/22/11 | 95.8 | 67.9-120 |
| Ethylbenzene | 0.0398 | mg/Kg | EPA 8260B | 10/22/11 | 98.0 | 65.5-127 |
| P + M Xylene | 0.0398 | mg/Kg | EPA 8260B | 10/22/11 | 93.4 | 62.5-124 |
| Toluene | 0.0398 | mg/Kg | EPA 8260B | 10/22/11 | 97.4 | 65.7-120 |
| Benzene | 0.0389 | mg/Kg | EPA 8260B | 10/26/11 | 93.9 | 67.9-120 |
| Ethylbenzene | 0.0389 | mg/Kg | EPA 8260B | 10/26/11 | 97.7 | 65.5-127 |
| P + M Xylene | 0.0389 | mg/Kg | EPA 8260B | 10/26/11 | 91.6 | 62.5-124 |
| Toluene | 0.0389 | mg/Kg | EPA 8260B | 10/26/11 | 94.0 | 65.7-120 |



KIFF ANALYTICAL, LLC
2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

# PES Environmental, Inc. 79204 CHAIN OF CUSTODY RECORD

Engineering & Environmental Services

1682 NOVATO BOULEVARD, SUITE 100
NOVATO, CALIFORNIA 94947
(415) 899-1600 FAX (415) 899-1601

LABORATORY: Kiff Analytical

SAMPLERS: M. Buttress

JOB NUMBER: 1284.001.02.003

NAME / LOCATION: 760 22nd Street Site / Oakland, CA

PROJECT MANAGER: Kyle Flory

RECORDER: MB

| DATE YR | MO | DY | TIME | SAMPLE NUMBER / DESIGNATION | MATRIX: Vapor | Water | Soil | Sedim't | # of Containers & Preservatives: Unpres. | EnCore | $H_2SO_4$ | $HNO_3$ | HCl | Methanol | UPBW | DEPTH IN FEET | ANALYSIS REQUESTED: EPA 5035/8010 | EPA 5035/8021 | EPA 5035/8260B | TPHg by 5035/8015M | TPHd by 8015M w/ silica gel cleanup | TPHmo by 8015M | EPA 8270C | MNA Parameters (see notes) | TPHg by 5035/8260B | BTEX by 5035/8260B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 10 | 20 | 0900 | SB6-2.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 01 |
| | | | 0910 | SB6-4.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 02 |
| | | | 0920 | SB6-8.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 03 |
| | | | 0930 | SB5-2.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 04 |
| | | | 0935 | SB5-4.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 05 |
| | | | 0945 | SB5-8.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 06 |
| | | | 1010 | SB4-2.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 07 |
| | | | 1020 | SB4-4.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 08 |
| | | | 1030 | SB4-8.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 09 |
| | | | 1110 | SB3-2.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 10 |
| | | | 1115 | SB3-4.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 11 |
| | | | 1120 | SB3-8.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 12 |

## NOTES

Turn Around Time: Standard TAT

Perform silica gel cleanup before analyzing samples for TPHd

Page 1 of 2

## CHAIN OF CUSTODY RECORD

| | | | | |
|---|---|---|---|---|
| RELINQUISHED BY: (Signature) | | RECEIVED BY: (Signature) | DATE | TIME |
| RELINQUISHED BY: (Signature) | | RECEIVED BY: (Signature) | DATE | TIME |
| RELINQUISHED BY: (Signature) | | RECEIVED BY: (Signature) | DATE | TIME |
| RELINQUISHED BY: (Signature) | | RECEIVED BY: (Signature) | DATE | TIME |
| DISPATCHED BY: (Signature) | DATE / TIME | RECEIVED FOR LAB BY: (Signature) Kiff Analytical | DATE 10/21/11 | TIME 1227 |

METHOD OF SHIPMENT: Picked up by lab courier

TJB

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# PES Environmental, Inc. 74204 CHAIN OF CUSTODY RECORD

Engineering & Environmental Services

1682 NOVATO BOULEVARD, SUITE 100
NOVATO, CALIFORNIA 94947
(415) 899-1600 FAX (415) 899-1601

clean up

LABORATORY: Kiff Analytical

SAMPLERS: M. Buttress

JOB NUMBER: 1284.001.02.003

NAME / LOCATION: 760 22nd Street Site/Oakland, CA

PROJECT MANAGER: Kyle Flory

RECORDER: MB

| DATE YR | MO | DY | TIME | SAMPLE NUMBER / DESIGNATION | MATRIX: Vapor | Water | Soil | Sedim't | # of Containers & Preservatives: Unpres. | EnCore | $H_2SO_4$ | $HNO_3$ | HCl | methanol | ULSW | DEPTH IN FEET | ANALYSIS REQUESTED: EPA 5035/8010 | EPA 5035/8021 | EPA 5035/8260B | TPHg by 5035/8015M | TPHd by 8015M w/ Silica gel | TPHmo by 8015M | EPA 8270C | MNA Parameters (see notes) | TPHg by 5035/8260B | BTEX by 5035/8260B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 10 | 20 | 1140 | SB2-2.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 13 |
| | | | 1145 | SB2-4.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 14 |
| | | | 1155 | SB2-8.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 15 |
| | | | 1230 | SB1-4.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 16 |
| | | | 1240 | SB1-10.0 | | | X | | 1 | | | | | 1 | 2 | | | | | | X | | | | X | X | 17 |

**NOTES**

Turn Around Time: Standard TAT

Perform silica gel cleanup before analyzing samples for TPHd

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**CHAIN OF CUSTODY RECORD**

| | | | |
|---|---|---|---|
| RELINQUISHED BY: (Signature) | RECEIVED BY: (Signature) | DATE | TIME |
| RELINQUISHED BY: (Signature) | RECEIVED BY: (Signature) | DATE | TIME |
| RELINQUISHED BY: (Signature) | RECEIVED BY: (Signature) | DATE | TIME |
| RELINQUISHED BY: (Signature) | RECEIVED BY: (Signature) | DATE | TIME |
| DISPATCHED BY: (Signature) DATE TIME | RECEIVED FOR LAB BY: (Signature) MTF Analytical LLC | DATE 102111 | TIME 1227 |

METHOD OF SHIPMENT: Pick up by lab courier

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KIFF Analytical LLC

# SAMPLE RECEIPT CHECKLIST

RECEIVER: TJB Initials

SRG#: 79204 Date: 102111

Project ID: 760 22nd Street Site / Oakland, CA

Method of Receipt: ☒ Courier ☐ Over-the-counter ☐ Shipper

**COC Inspection**

| | | | | |
|---|---|---|---|---|
| Is COC present? | ☒ Yes | ☐ No | | |
| Custody seals on shipping container? | ☐ Intact | ☐ Broken | ☐ Not present | ☒ N/A |
| Is COC Signed by Relinquisher? ☒ Yes ☐ No Dated? | ☐ Yes | ☒ No | | |
| Is sampler name legibly indicated on COC? | ☒ Yes | ☐ No | | |
| Is analysis or hold requested for all samples | ☒ Yes | ☐ No | | |
| Is the turnaround time indicated on COC? | ☒ Yes | ☐ No | | |
| Is COC free of whiteout and uninitialed cross-outs? | ☒ Yes | ☐ No, Whiteout | ☐ No, Cross-outs | |

**Sample Inspection**

Coolant Present: 2.0 MeOH ☒ Yes ☐ No (includes water)

Temperature °C 1.2 Other Therm. ID# IR-5 Initial TJB Date/Time 102111 / 1544 ☐ N/A

| | | | | |
|---|---|---|---|---|
| Are there custody seals on sample containers? | ☐ Intact | ☐ Broken | ☒ Not present | |
| Do containers match COC? ☒ Yes ☐ No ☐ No, COC lists absent sample(s) | ☐ No, Extra sample(s) present | | | |
| Are there samples matrices other than soil, water, air or carbon? | ☐ Yes | ☒ No | | |
| Are any sample containers broken, leaking or damaged? | ☐ Yes | ☒ No | | |
| Are preservatives indicated? ☒ Yes, on sample containers | ☒ Yes, on COC | ☐ Not indicated | ☐ N/A | |
| Are preservatives correct for analyses requested? | ☒ Yes | ☐ No | ☐ N/A | |
| Are samples within holding time for analyses requested? | ☒ Yes | ☐ No | | |
| Are the correct sample containers used for the analyses requested? | ☒ Yes | ☐ No | | |
| Is there sufficient sample to perform testing? | ☒ Yes | ☐ No | | |

Does any sample contain product, have strong odor or are otherwise suspected to be hot? ☐ Yes ☒ No

Receipt Details

| | | |
|---|---|---|
| Matrix SO | Container type VOA | # of containers received 51 |
| Matrix SO | Container type Sleeve | # of containers received 10 |
| Matrix SO | Container type 8 oz glass | # of containers received 7 |

Date and Time Sample Put into Temp Storage Date: 102111 Time: 1613

**Quicklog**

| | | | | |
|---|---|---|---|---|
| Are the Sample ID's indicated: | ☐ On COC | ☐ On sample container(s) | ☒ On Both | ☐ Not indicated |
| If Sample ID's are listed on both COC and containers, do they all match? | ☒ Yes | ☐ No | ☐ N/A | |
| Is the Project ID indicated: | ☒ On COC | ☐ On sample container(s) | ☐ On Both | ☐ Not indicated |
| If project ID is listed on both COC and containers, do they all match? | ☐ Yes | ☐ No | ☒ N/A | |
| Are the sample collection dates indicated: | ☐ On COC | ☐ On sample container(s) | ☒ On Both | ☐ Not indicated |
| If collection dates are listed on both COC and containers, do they all match? | ☒ Yes | ☐ No | ☐ N/A | |
| Are the sample collection times indicated: | ☐ On COC | ☐ On sample container(s) | ☒ On Both | ☐ Not indicated |
| If collection times are listed on both COC and containers, do they all match? | ☒ Yes | ☐ No | ☐ N/A | |

**COMMENTS:**