

**RECEIVED**

By Alameda County Environmental Health at 4:48 pm, Jan 14, 2014

January 11, 2014

Mr. Keith Nowell  
Alameda County Health Care Services  
Environmental Health Services  
Environmental Protection  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

Subject: Supplemental Closure Verification Soil Sampling Report \_RO0002933  
1409 – 1417 12<sup>th</sup> Street, Oakland, California

Dear Mr. Nowell:

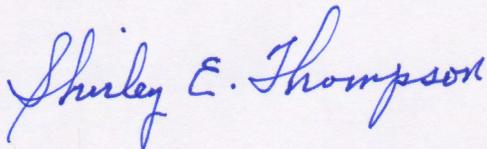
Attached is the Supplemental Closure Verification Soil Sampling Report for the property located at 1409 – 1417 12<sup>th</sup> Street, Oakland, California.

**Certification**

*I certify under penalty of law that this document and attachments are prepared under my direction or supervision in accordance with the system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing the violations.*

Please contact Joseph Cotton at (510)703-5420 if you have questions or comments.

Sincerely,



Shirley E. Thompson  
Property Owner

**SUPPLEMENTAL SITE CLOSURE  
VERIFICATION SOIL SAMPLING  
1409 – 1417 12<sup>th</sup> Street  
OAKLAND, CALIFORNIA**

Prepared for

**Shirley Thompson  
1155 Hopkins Street  
Berkeley, CA 94702**

January 3, 2014

Prepared by

**IES**  
**Impact Environmental Services**

39120 Argonaut Way, Suite 223  
Fremont, California 94538

**SUPPLEMENTAL SITE CLOSURE VERIFICATION SAMPLING  
REPORT**

**1409-1417 12<sup>TH</sup> STREET  
OAKLAND CALIFORNIA**

**ACEH File No. RO2933**

On behalf of Mrs. Shirley E. Thompson, Impact Environmental Services nefarious (Impact) is presenting this Supplemental Site Verification Closure Report for 1409-1417 12<sup>th</sup> Street in Oakland, California (Figure 1). According to the Alameda County Environmental Health (ACEH) soil analytical data from two of the initial site closure confirmation samples did not appear to be supported by the data from the adjacent wells. This report presents the results of supplemental soil samples that were collected to verify that petroleum hydrocarbon contamination in soil has been reduced to concentrations that justify site corrective action closure. The investigation was conducted to satisfy ACEH closure requirements related to the unauthorized fuel release at the subject property<sup>1</sup>.

**SITE CONTACT INFORMATION**

The site address and contact information for the subject property is as follows:

**Site Address:**

1409-1417 12<sup>th</sup> Street  
Oakland, CA  
APN 004-063-06

**Contact Information:**

Mrs. Shirley E. Thompson  
Edward C. & Shirley E. Thompson Trust  
1155 Hopkins Street  
Berkeley, CA 94702-1359

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<sup>1</sup> Alameda County Environmental Health, "Fuel Leak Case No. RO2933, 1409-1417 12<sup>th</sup> Street, Oakland, California CA 94607-2003\_Electronic Communication from Keith Nowell", September 30, 2013.

## **SITE BACKGROUND**

### **Site Description**

The Subject Property is located in a predominately residential area in the western section of the city of Oakland, Alameda County, California (Figure 1). The subject Property comprises the Alameda County assessor parcel 004-063-06 and is bordered to the north by 12<sup>th</sup> Street and residential development, to the south by a vacant lot, on the east by Mandela Parkway, and to the west by a residential development (Figure 2). The property is located approximately 1-mile southeast of San Francisco Bay and 1-mile north of Oakland Inner Harbor. The elevation of the site is approximately 17 feet above mean sea level (USGS West Oakland 7.5 Minute Quadrangle). Portions of the site are paved with asphalt and the remainder is covered by grass and soil. Several mounds of soil up to 2 feet high are present in the southeast portion of the subject property.

### **Historical Site Operation**

Historical records indicate that the property was occupied by a service station from circa 1957 to the circa 1969. The subject property was either vacant or occupied by residential dwellings from at least 1902 to circa 1956. Sanborn maps from 1957, 1958, 1961 and 1967 appear to show three underground fuel storage tanks (USTs) located in the southeast corner of the service station. The 1961 Sanborn map appears to show a fourth UST or AST along the west property boundary. Communications with Oakland Fire Department Hazardous Materials Division, confirmed that no records of UST removal exist for the Subject Property<sup>2</sup>.

### **Geologic Setting**

The Subject Property is located in the East Bay Plain of the San Francisco Bay Area. This region is dominated by northwest trending topography enclosed in the Coast Range Province of California. The site is located in a “Merritt Sand Outcrop” groundwater subarea, which has a maximum thickness of 65 feet, and the local gradient is directed toward the west to southwest<sup>3</sup>. Soil beneath the property consists primarily of fine sand to silty-sand to at least 16 feet bgs. Groundwater is first encountered between 10.5 and 13.5 below ground surface

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<sup>2</sup> Personal Communication, *LeRoy Griffin, Oakland Fire Department Hazardous Materials Division, May 25, 2006.*

<sup>3</sup> Hickenbottom and Muir, *Geohydrology and Groundwater Quality Overview of the East Bay Plain Area, Alameda County, California, 205 (J) Report, 1988.*

(bgs) and stabilizes at approximately 11 feet bgs. A perched groundwater zone was present at approximately 5-feet bgs over most of the site during certain time of the year. The direction of groundwater flow in the surrounding area is highly variable<sup>4</sup>.

## **HISTORICAL ENVIRONMENTAL ASSESSMENT**

The subject property has undergone several phases of soil and groundwater sampling and remediation. Detailed summaries of prior environmental site assessment and remediation at the site are included in previous reports prepared for the subject property. These reports should be referenced for information on previous site assessment and remedial activities.

## **SUPPLEMENTAL CLOSURE VERIFICATION SOIL SAMPLING ACTIVITIES**

This section describes our efforts to further evaluate the presence of residual petroleum hydrocarbons in soil following significant treatment of soil and groundwater using a dual-phase vacuum enhanced extraction (DPE) in conjunction with manual hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) treatment of groundwater. The scope of work of this supplemental corrective action closure verification soil sampling included installing two exploratory borings near hot-spot areas where petroleum hydrocarbon contamination has been previously documented and collecting and analyzing soil samples for petroleum hydrocarbons and related compounds. Soil sample results were compared against the RWQCB's environmental screening limits (ESLs)<sup>5</sup> and Low-Threat Underground Storage Tank Case Closure Policy (LTCP)<sup>6</sup> to evaluate the suitability of the property for environmental corrective action closure.

### **Installation of Site Closure Verification Exploratory Borings**

Petroleum hydrocarbons were detected in soil samples collected from site closure verification borings CSB-1 and CSB-6. Two supplemental closure verification exploratory borings, CSB-1R and CSB-R, were completed at the site on October 25<sup>th</sup>, 2013. Pursuant to a request by ACEH, Impact installed two additional exploratory soil borings designated CSB-1R and CSB-6R in the vicinity of former borings CSB-1 and CSB-6. The locations of the proposed borings are shown on Figure 3.

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<sup>4</sup> Personal Communication, *Steven Plunkett, Alameda County Environmental Health*, March 30, 2007.

<sup>5</sup> San Francisco Bay Regional Water Quality Control Board, *Screening For Environmental Concerns at Sites with Contaminated Soil and Groundwater-Interim Final*, May 2013.

<sup>6</sup> California Regional Water Quality Control Board: San Francisco Bay Region, *Low Threat Underground Storage Tank Case Closure Policy Final*, May 1, 2012.

### Permitting and Boring Clearance

Impact obtained drilling permits to install the exploratory borings from Alameda County Public Works Department. Drilling permits are presented in Appendix A. A private utility locating company cleared both boring locations and Underground Service Alert (USA) cleared the perimeter of the site for underground utilities.

### Subsurface Data Collection

Environmental Control Associates (ECA), a licensed driller from Aptos, California, installed the borings using direct-push drilling methods. Exploratory borings will be advanced using a dual-walled Enviro-Core direct-push drilling and sampling methods. The Enviro-Core system consists of 2.5-inch-diameter steel drive casing and a 1.8-inch-diameter inner sample core barrel that are simultaneously pushed, driven, or vibrated into the ground. Continuous soil cores were collected in butyrate tubes inside the inner sample barrel to the total depth of exploration. After being advanced in intervals of three to four feet, the inner sample barrel was retrieved while the drive casing is left in place to prevent borehole collapse and cross-contamination of soils. After retrieving the inner core barrel, the soil core was recovered and logged in accordance with the Unified Soil Classification System (USCS) under the direction of a California Registered Geologist. Soil samples for lithologic identification were collected continuously to the depth of exploration. Select soil samples were stored for chemical analyses. The inner core barrel was decontaminated and reloaded with sample tubes and driven in additional three to four foot sample collection runs until the desired borehole depth was achieved. Periodic soil samples were screened in the field using an organic vapor meter (OVM) to provide a qualitative estimate of volatile hydrocarbons in the soil.

Soil samples for chemical analysis were collected from depths of 3, 5, 7, 10, 12, 15, and 18 feet bgs in boring CSB-1R and at depths of 3, 5, 7, 10, 12, and 15 in boring CSB-6R. All soil samples will be properly containerized, labeled, and preserved in ice upon collection. Chain of custody documentation accompanied the samples to the laboratory for analysis. Following completion, each boring was grouted to the ground surface with bentonite-cement slurry via tremie pipe.

### Decontamination and Management of Investigation Derived Waste

All down-hole equipment was decontaminated before use and between borings. All residual soils and rinsate soil was be contained for proper disposal. These materials will be properly disposed consistent with analytical results.

### **Soil Sample Analysis**

Soil samples were analyzed by Torrent Laboratory Inc. of Milpitas, California a State-certified laboratory. Soil samples will be analyzed total petroleum hydrocarbons (TPH) as gasoline (TPHg), TPH as diesel (TPHd), TPH as motor oil (TPHmo) by EPA Method 8015. Silica gel cleanup will be run on all samples analyzed for TPHd and TPHmo. Soil samples will also be analyzed by benzene, toluene, ethyl benzene, total xylenes (BTEX) and fuel oxygenates methyl tertiary butyl ether (MTBE), diisopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), and tertiary butyl alcohol (TBA), and the lead scavengers 1,2-dibromroethane (EBD) and 1,2-dichloroethane (1,2-DCA) using EPA Method 8260. Soil samples from the upper ten feet were analyzed for naphthalene in boring CSB-1R and in all soil samples collected from boring CSB-6R.

## **SITE CHARACTERIZATION RESULTS**

### **Supplemental Closure Verification Soil Sample Results**

A total of eleven (11) supplemental verification soil samples were collected from the two supplemental borings at depths ranging from 5 to 18 feet bgs. Soil samples results are summarized in Tables 1 and associated laboratory CARs are presented in Appendix C.

### **Quality Control Results**

Quality control (QC) sample results and laboratory QC data were evaluated to assess the acceptability of the analytical data. Laboratory QC results are included with the certified analytical reports (CAR) presented in Appendix C. All laboratory analyses occurred within EPA recommended sample holding times and all sample containers were received in acceptable condition by the laboratory. Based on the laboratory QA/QC summaries, all method blanks, laboratory control samples (LCS), matrix spikes (MS), and matrix spike duplicates (MSD) were within laboratory control limits. No laboratory QA/QC issues were noted during this investigation, with the following exception. In samples where TPHg and

TPHd were detected in soil samples, the samples exhibited chromatographic patterns which did not resemble the typical gasoline and diesel standards. The reporting limits were raised in samples CSB1R-7 and CSB1R-10 due to high concentrations of non-target heavy end compounds, heavier than gasoline and lighter than diesel. The reported value for ethyl benzene and m, p-xylenes in sample CSB1R-7 and for naphthalene in sample CSB1R-10 are between the MDL and PQL and the reported value should be considered as estimated rather than quantitative. Notes describing laboratory quality control issues are included at the end of each CAR. Laboratory QC results indicate that the soil results are valid and data are acceptable for the intended use.

## **DISCUSSION OF RESULTS**

Soil sample results were compared against the RWQCB's ESLs and LTCP to evaluate the suitability of the property for environmental corrective action closure. It appears that soil and groundwater remediation via DPE and hydrogen peroxide dosing in select wells has significantly reduced petroleum hydrocarbons in groundwater. Constituents of concern are below respective ESLs in all but a few wells and appear to be relatively stable and contained within the boundaries of the subject property.

### Environmental Screening Limits

The results of closure verification soil samples were compared to ESLs for a residential land-use where shallow groundwater is a source of drinking water. The RWQCB developed ESLs for residential land-use scenarios to provide a measure of whether corrective action closure, additional investigation, remedial action, or a more detailed risk assessment should be pursued. Constituents of concern were not detected at or above respective environmental screening limits in soil samples collected from borings CSB-1R and CSB-6R.

### Low-Threat Underground Storage Tank Closure Policy

Historical petroleum release studies have recognized that many petroleum release sites pose a low threat to human health and the environment. As a result, the LTCP has been established to maximize the benefits to the people of the State of California through judicious application of available resources. Based on site-specific soil information presented in this report and prior reports, the site appears to meet the following general and media-specific LTCP requirements as described below:

- 1) The unauthorized release is located in the service area of a public water system.
- 2) The unauthorized release consists only of petroleum.
- 3) The unauthorized primary release from the UST system has been stopped.
- 4) Free-product has been removed to the maximum extent practicable.
- 5) A conceptual site model that assesses the nature, extent, and mobility of the release has been developed,
- 6) Secondary sources have been removed to the extent practicable, and
- 7) Soil and groundwater has been tested for MTBE and results reported accordingly.

The only LTCP general requirement that may have not been met is the possibility that Nuisance conditions as defined by the Water Code section 130505 still exist in shallow soil in the two former groundwater hot-spot areas near wells GW-1 and DPE-3. However, media-specific LTCP requirements appear to have been met for soil. Data collected during this investigation and recent verification closure sampling appears to suggest that inhalation of contaminants volatilized to outdoor air poses little to no threat to human health at the subject property and surrounding area. But future construction workers may be at short-term risk of direct contact during any subsurface excavation in the two former groundwater hot-spot locations.

Media-specific LTCP requirements have also been met for groundwater has also been met. Historical groundwater data appears to suggest that the contaminant plumes that exceed the water quality objectives are stable in aerial extent and attenuation exceeds migration. In addition, the contaminant plumes that exceed water quality objectives are less than 100 feet in length and at least 1,000 feet from water supply wells and surface water bodies from defined plume boundaries. Furthermore, there is no free-product present in groundwater and the dissolved concentrations of benzene and MTBE in groundwater are less than 3,000 micrograms per liters ( $\mu\text{g/L}$ ) and 1,000  $\mu\text{g/L}$  respectively.

## **CONCLUSIONS**

The results of recent closure verification soil and soil-vapor samples and the most recent groundwater sample results appear to suggest that the subject property meets most of the criteria for corrective action closure per the RWQCB's ESLs and LTCP. It appears the site no longer poses a risk to human health or the environment and should be granted corrective action closure from the ACEH.

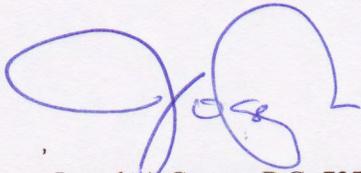
## RECOMMENDATIONS

Impact recommends the subject property be granted environmental corrective action closure and all wells associated with monitoring and remediating the unauthorized petroleum release be properly destroyed in accordance with California Department of Water Resources guidelines.

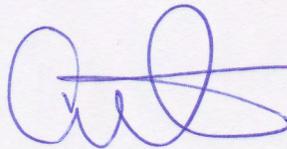
## PERJURY STATEMENT

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

## Impact Environmental



Joseph A Cotton, P.G. 7378  
Principal Geologist



### Attachments:

#### Tables

Table 1 – Supplemental Closure Verification Soil Sample Analytical Results

#### Figures

Figure 1 - Site Location Map

Figure 2 - Site Plan

Figure 3 - Map Showing Supplemental Closure Verification Soil Sample Analytical Results

#### Appendices

Appendix A – Alameda County Department of Public Works

Appendix B – Boring Logs

Appendix C - Laboratory Certified Analytical Report

## LIMITATIONS

Impact Environmental Services actions on this project were performed in accordance with current generally accepted environmental consulting principles and practices. This warranty is in lieu of all others, be it expressed or implied. Environmental conditions may exist at the site that could not be observed. Where the scope of services was limited to observations made during site reconnaissance, interviews, and/or review of readily available reports and literature, our conclusions and recommendations are necessarily based largely on information

supplied by others, the accuracy and sufficiency of which may not have been independently reviewed by us. Our professional analyses are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions between such sampling points. Additional data from future work or changing conditions may lead to modifications to our professional opinions and recommendations. Any reliance on this report, or portions thereof, by a third party shall be at such party's sole risk.

**Table 1**  
**Soil Analytical Results**  
**Site Closure Verification Soil Samples**  
**1409-1417 12th Street Oakland, California**

Sample ID	Date Sampled	Sample Depth	Total Petroleum Hydrocarbons			BTEX				Fuel Oxygenates and Lead Scavengers							
			TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	mp-/o-Xylene (mg/kg)	TBA (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	1,2-DCA (mg/kg)	TAME (mg/kg)	1,2-DBE (mg/kg)	Napthalene (mg/kg)
CSB1R-5	10/25/13	5	<0.100	2.3x	<10	<0.010	<0.010	<0.010	<0.010/<0.0050	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
CSB1R-7	10/25/13	7	63	9.0x	<10	<0.050	<0.050	0.0064J	0.043J/0.025	<0.250	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.300
CSB1R-10	10/25/13	10	98	7.4x	<10	<1.0	<1.0	<1.0	<1.0/<0.500	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.680J
CSB1R-12	10/25/13	12	0.830	4.2x	<10	<0.010	<0.010	0.012	0.039/0.012	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA
CSB1R-15	10/25/13	15	<0.100	2.5x	<10	<0.010	<0.010	<0.010	<0.010/<0.005	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA
CSB1R-18	10/25/13	18	<0.100	<2.0	<10	<0.010	<0.010	<0.010	<0.010/<0.005	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NA
CSB6R-5	10/25/13	5	<0.100	2.2x	<10	<0.010	<0.010	<0.010	<0.010/<0.0050	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
CSB6R-7	10/25/13	7	1.2x	4.2x	<10	<0.010	<0.010	<0.010	0.028/<0.005	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.035
CSB6R-10	10/25/13	10	<0.100	2.9x	<10	<0.010	<0.010	<0.010	<0.010/<0.0050	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
CSB6R-13	10/25/13	13	0.400x	4.7x	<10	<0.010	<0.010	<0.010	<0.010/<0.005	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
CSB6R-15	10/25/13	15	<0.100	2.1x	<10	<0.010	<0.010	<0.010	<0.010/<0.005	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
<i>Residential ESL for Shallow Soil (DWS)</i>			<i>100</i>	<i>100</i>	<i>500</i>	<i>0.044</i>	<i>2.9</i>	<i>3.3</i>	<i>2.3</i>	<i>0.075</i>	<i>0.023</i>	<i>No ESL</i>	<i>No ESL</i>	<i>0.0045</i>	<i>No ESL</i>	<i>0.00033</i>	<i>1.2</i>

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8015

TPHd= Total Petroleum Hydrocarbons as diesel by EPA Method 8015

TPHmo= Total Petroleum Hydrocarbons as motor oil by EPA Method 8015

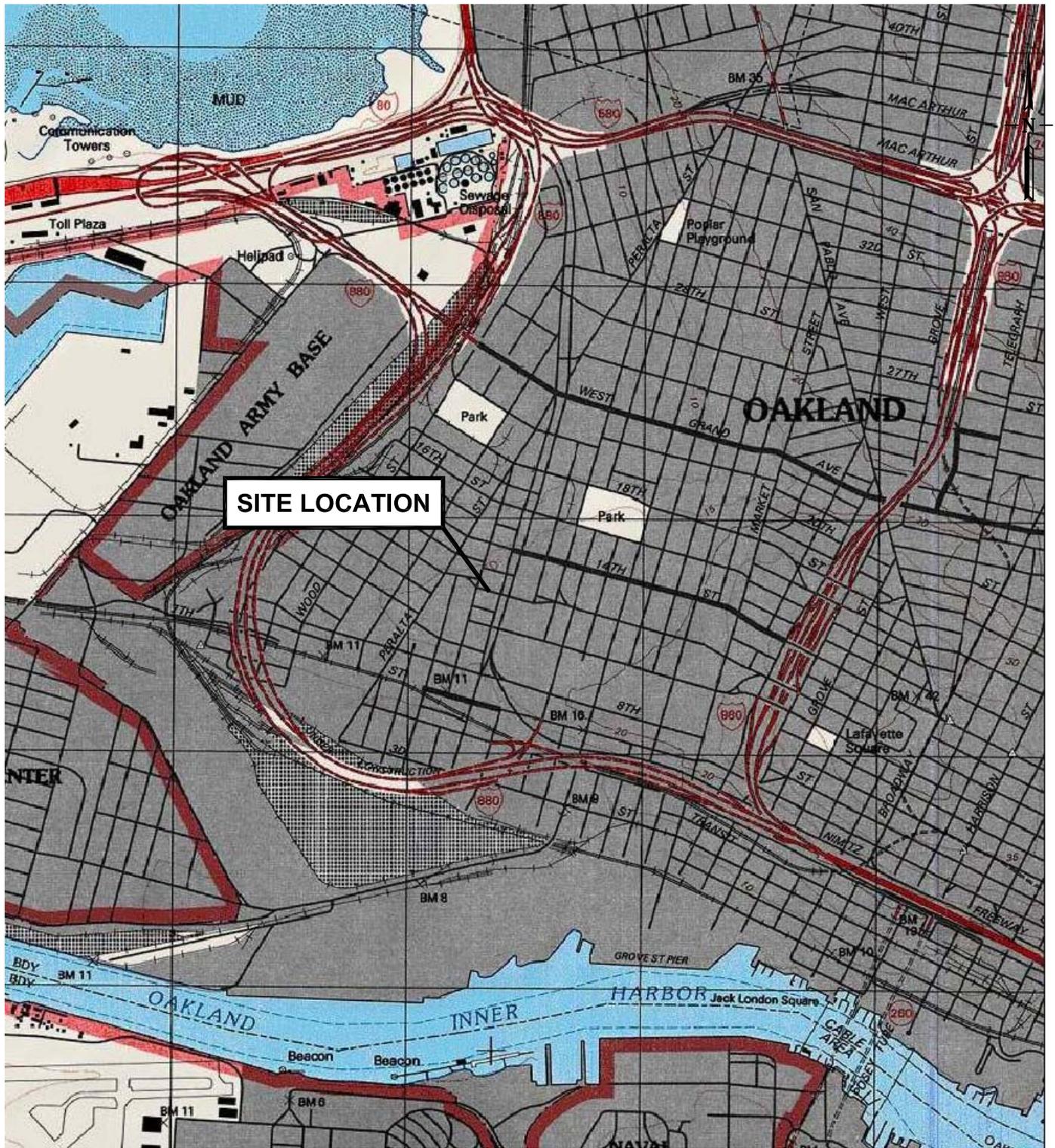
Benzene, methyl-tert-butyl ether, toluene, ethylbenzene, and xylenes, fuel oxygenates, and lead scavengers by EPA Method 8020

mg/kg = Milligrams per kilogram, equivalent to parts per million (ppm)

ESL= San Francisco Bay Regional Water Quality Control Board, Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater, May 2013.

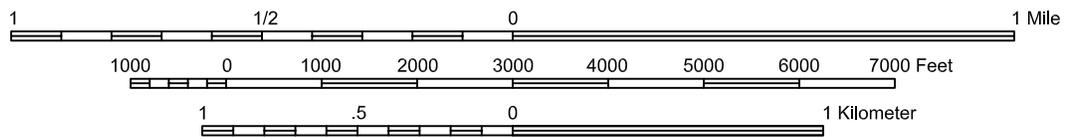
x= Sample exhibits chromatographic pattern which does not resemble typical gasoline or diesel pattern.

J= The reporting limit was raised due to the high concentration of non-target heavy-end compounds, heavier than gasoline, lighter than diesel, possibly jet fuel (strong odor).



**SITE LOCATION**

Scale 1:24,000



C:\WORK\IES1409 12th Street\Figure 1.dwg Layout: Fig 2 Sep 22, 2007 - 8:03pm

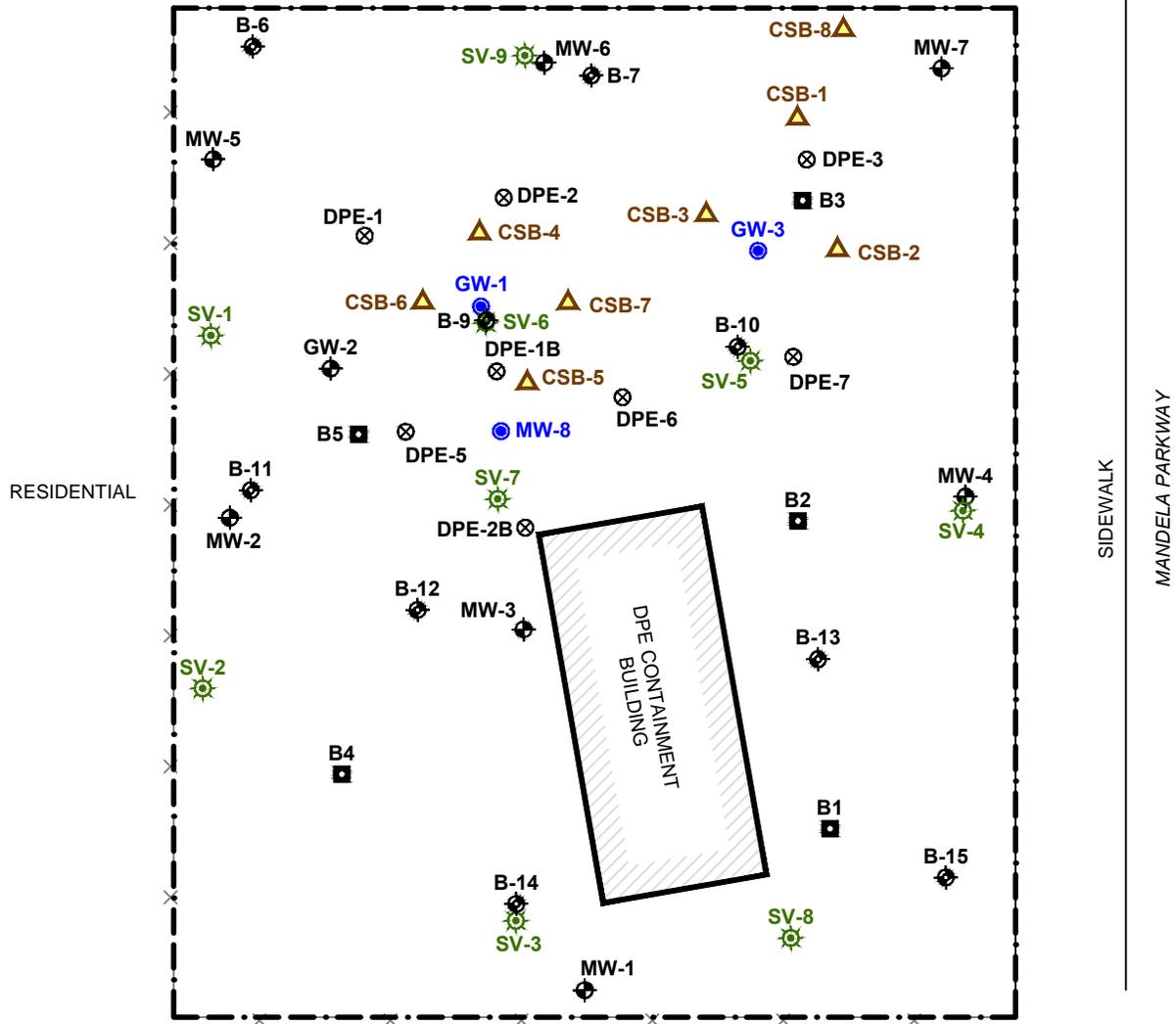
**Impact Environmental Services**  
 39120 Aronaut Way, Suite 223  
 Fremont, CA 94538

**Figure 1**  
 1409 to 1417 12TH STREET  
 OAKLAND, CALIFORNIA  
**SITE LOCATION MAP**

D:\Work\EnviroCAD\IES\1409-1417 12th Street\Closure Verification Supplemental\Figure 2 - Site Plan.dwg Layout: Fig 2 - Site Plan Jan 08, 2014 - 7:54pm

12TH STREET

SIDEWALK



**EXPLANATION:**

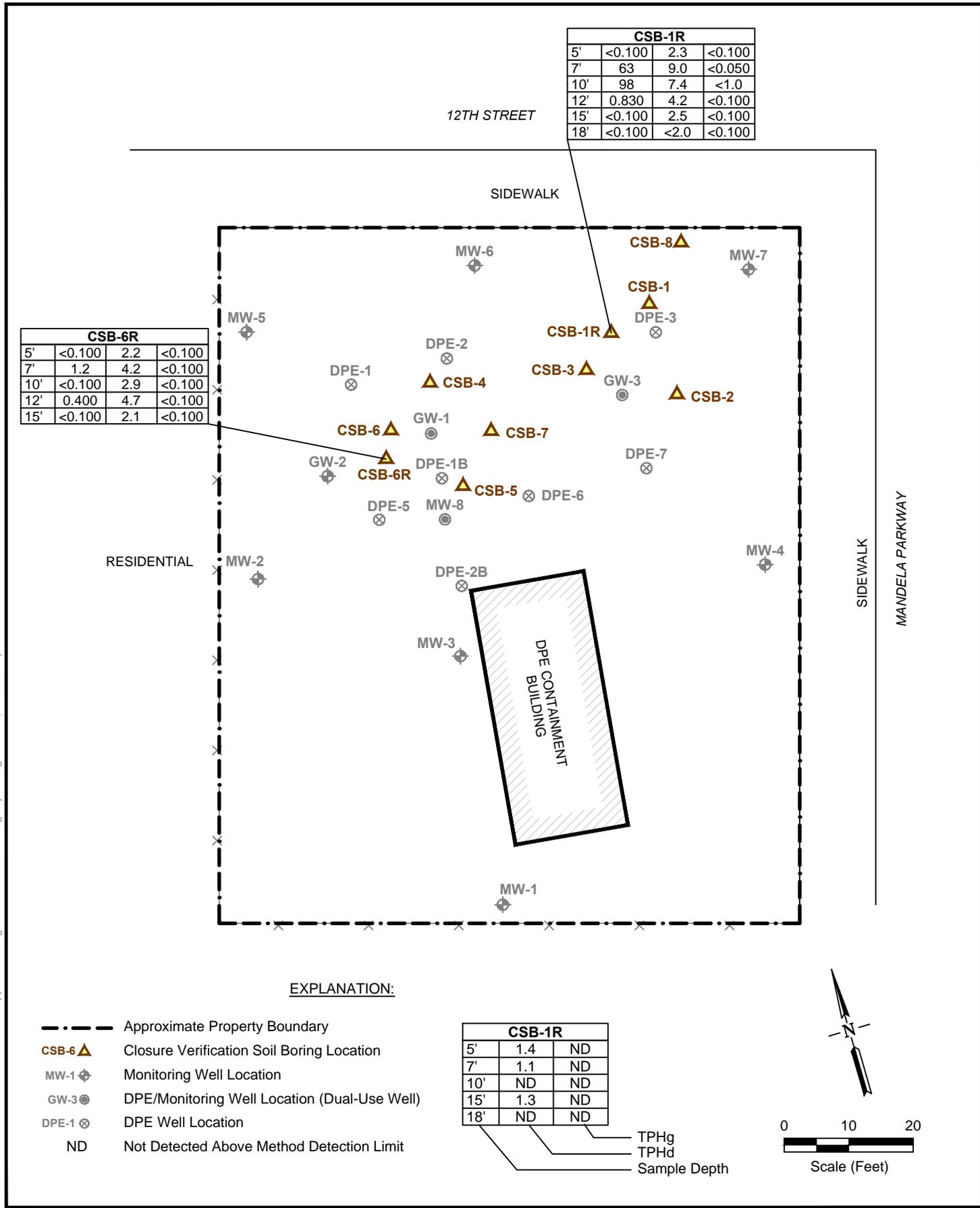
- . . . — Approximate Property Boundary
- MW-1 Monitoring Well Location
- GW-3 DPE/Monitoring Well Location (Dual-Use Well)
- DPE-1 DPE Well Location
- B-14 Exploratory Boring Location
- B4 Geoprobe Location
- SV-2 Soil Vapor Sample Location
- CSB-6 Closure Verification Soil Boring Location



**Impact Environmental Services**  
 39120 Aronaut Way, Suite 223  
 Fremont, CA 94538

**Figure 2**  
 1409 to 1417 12TH STREET  
 OAKLAND, CALIFORNIA  
**SITE PLAN**

D:\Work\Enviro\CAD\IES\1409-1417 12th Street\Closure Verification Supplemental\Figure 3 - Soil Results.dwg Layout: Fig 3 Jan 08, 2014 - 7:52pm



**Figure 3**

1409 to 1417 12TH STREET  
OAKLAND, CALIFORNIA

**SUPPLEMENTAL CLOSURE VERIFICATION SOIL SAMPLE RESULTS**

**Impact Environmental Services**  
39120 Aronaut Way, Suite 223  
Fremont, CA 94538

**APPENDIX A**

**Alameda County Public Works Boring Permits**

# Alameda County Public Works Agency - Water Resources Well Permit



Public Works Agency  
—Alameda County—

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

Application Approved on: 10/25/2013 By jamesy

Permit Numbers: W2013-0884  
Permits Valid from 10/25/2013 to 10/25/2013

**Application Id:** 1382491453799  
**Site Location:** 1409-1417 12th Street, Oakland, CA  
Vacant grass and asphalt covered lot with cinder block remediation containment building in center of property.  
**Project Start Date:** 10/25/2013  
**Completion Date:** 10/25/2013  
**Assigned Inspector:** Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org  
**Applicant:** Impact Environmental Services - Joseph Cotton  
39120 Argonaut Way, #223, Fremont, CA 94538  
**Phone:** 510-703-5420  
**Property Owner:** Shirley Thompson  
1155 Hopkins Street, Berkeley, CA 94702  
**Phone:** 510-527-5702  
**Client:** \*\* same as Property Owner \*\*  
**Contact:** Cotton Joseph  
**Phone:** 510-703-5420  
**Cell:** 510-703-5420

**Receipt Number:** WR2013-0403  
**Payer Name :** Joseph A. Cotton  
**Total Due:** \$265.00  
**Total Amount Paid:** \$265.00  
Paid By: VISA  
**PAID IN FULL**

## Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 2 Boreholes  
Driller: ECA Drilling - Lic #: 695970 - Method: DP

**Work Total: \$265.00**

## Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2013-0884	10/25/2013	01/23/2014	2	2.50 in.	20.00 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.

## Alameda County Public Works Agency - Water Resources Well Permit

5. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

6. 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.

7. NOTE:

Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

8. 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.

9. 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.

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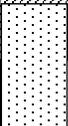
**APPENDIX B**

**Boring Logs**

Site: **1409- 1417 12th ST. , OAKLAND, CA**  
 Client: **MRS. SHIRLEY E. THOMPSON**  
 Project Number: \_\_\_\_\_  
 Date(s) Drilled: **10/25/13**  
 Date(s) Installed: **NA**  
 Drilling Co./Driller: **ENVIRONMENTAL CONTROL ASSOCIATES**

Ground Elevation: \_\_\_\_\_  
 T.O.C. Elevation: \_\_\_\_\_  
 Coordinates: \_\_\_\_\_  
 Drilling Method: **Direct Push-EnviroCore**  
 Borehole Total Depth: **18**  
 Final Borehole Diameter: **2.5"**

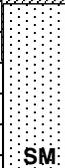
Drilling Summary: Direct push and vibrate boring to 18 feet bgs. Collect continuous cores in butyrate liners for logging. Cut 1' length cores selected for laboratory analysis and use teflon liners and end caps to seal sample. Place sample in plastic zip-lock bag. Backfill soil boring using neat cement grout.

Sample No.	Sample Interval	PID Reading	Recovery	Sampler	Odor	Depth (ft)	Graphic Log	LITHOLOGY/REMARKS
						1		<b>0- 2' (FILL) BASEROCK &amp; CONCRETE</b>
		0			No	2		
						3		<b>2- 18' SILTY SAND (SM):</b> Dark yellowish brown; moist to very moist; fine to medium sand. Trace plastic fines.
		0			No	4		
						5		
						6		Perched groundwater zone at 5-6' bgs
					No	7		
CSB1R-5'		7				8		
					Yes	9		Hydrocarbon odor and color change at 9-11'.
						10		
CSB1R-10		29			Yes	11		
						12		
		18			Yes	13		
CSB1R-12						14		Groundwater first encountered at 14' bgs. Color change to yellowish brown
						15		
					Yes	16		
CSB1R-15		0			No	17		
						18		
CSB1R-18					No	19		
						20		
								<b>Total Depth of Boring= 18 feet bgs</b>

Site: **1409- 1417 12th ST. , OAKLAND, CA**  
 Client: **MRS. SHIRLEY E. THOMPSON**  
 Project Number: \_\_\_\_\_  
 Date(s) Drilled: **10/25/13**  
 Date(s) Installed: **NA**  
 Drilling Co./Driller: **ENVIRONMENTAL CONTROL ASSOCIATES**

Ground Elevation: \_\_\_\_\_  
 T.O.C. Elevation: \_\_\_\_\_  
 Coordinates: \_\_\_\_\_  
 Drilling Method: **Direct Push-EnviroCore**  
 Borehole Total Depth: **15**  
 Final Borehole Diameter: **2.5"**

Drilling Summary: Direct push and vibrate boring to 15 feet bgs. Collect continuous cores in butyrate liners for logging. Cut 1' length cores selected for laboratory analysis and use teflon liners and end caps to seal sample. Place sample in plastic zip-lock bag. Backfill soil boring using neat cement grout.

Sample No.	Sample Interval	PID Reading	Recovery	Sampler	Odor	Depth (ft)	Graphic Log	LITHOLOGY/REMARKS
						1		<b>0- 2' (FILL) BASEROCK</b>
		0			No	2		
		0			No	3		<b>2- 18' SILTY SAND (SM):</b> Dark yellowish brown; moist to very moist; fine to medium sand. Trace plastic fines.
						4		
						5		
CSB6R-5					No	6		-Perched groundwater zone at 5-7' bgs
		0				7		
CSB6R-7					Yes	8		
						9		
					Yes	10		-Hydrocarbon odor and color change at 9-14'.
CSB6R-10		53				11		
						12		
		27			Yes	13		
CSB6R-13						14		Groundwater first encountered at 14' bgs. Color change to yellowish brown
CSB6R-15		3				15		
		0			Yes	16		
						17		
						18		
						19		
						20		

**APPENDIX C**

**Certified Laboratory Analytical Reports**



Impact Environmental Services  
39120 Argonaut Way, Suite 223  
Fremont, California 94538  
Tel: 510-703-5420  
Fax: 510-713-7790  
RE: 1409-1417 12th St.

Work Order No.: 1310185

Dear Joseph Cotton:

Torrent Laboratory, Inc. received 11 sample(s) on October 29, 2013 for the analyses presented in the following Report.

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

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

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Patti Sandrock  
QA Officer

November 05, 2013

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Date



**Date:** 11/5/2013

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**Client:** Impact Environmental Services

**Project:** 1409-1417 12th St.

**Work Order:** 1310185

### **CASE NARRATIVE**

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

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

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

This report shall not be reproduced, except in full, without the written approval of Torrent Analytical, Inc.

Note for 8260B/GCMS-GRO: Two blanks reported for each test: one - for regular run, one - for methanol extraction fortified with 100uL of methanol.



## Sample Result Summary

Report prepared for: Joseph Cotton  
Impact Environmental Services

Date Received: 10/29/13

Date Reported: 11/05/13

**CSB1R-5**

1310185-001

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TPH as Diesel	SW8015B(M)	1	0.87	2.0	2.3	mg/Kg

**CSB1R-7**

1310185-002

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TPH(Gasoline)	8260TPH	100	3000	10000	63000	ug/Kg
TPH as Diesel	SW8015B(M)	1	0.87	2.0	9.0	mg/Kg
Ethyl Benzene	SW8260B	5	4.3	50	6.4	ug/Kg
m,p-Xylene	SW8260B	5	9.3	50	43	ug/Kg
Naphthalene	SW8260B	5	14	50	300	ug/Kg

**CSB1R-10**

1310185-003

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
Naphthalene	SW8260B	100	280	1000	680	ug/Kg
TPH(Gasoline)	8260TPH	100	3000	10000	98000	ug/Kg
TPH as Diesel	SW8015B(M)	1	0.87	2.0	7.4	mg/Kg

**CSB1R-12**

1310185-004

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TPH as Diesel	SW8015B(M)	1	0.87	2.0	4.2	mg/Kg
Ethyl Benzene	SW8260B	1	0.86	10	12	ug/Kg
m,p-Xylene	SW8260B	1	1.9	10	39	ug/Kg
o-Xylene	SW8260B	1	0.66	5.0	12	ug/Kg
TPH(Gasoline)	8260TPH	5	150	500	830	ug/Kg



### Sample Result Summary

Report prepared for: Joseph Cotton  
Impact Environmental Services

Date Received: 10/29/13  
Date Reported: 11/05/13

CSB1R-15 1310185-005

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TPH as Diesel	SW8015B(M)	1	0.87	2.0	2.5	mg/Kg

CSB1R-18 1310185-006

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
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All compounds were non-detectable for this sample.

CSB6R-5 1310185-007

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TPH as Diesel	SW8015B(M)	1	0.87	2.0	2.2	mg/Kg

CSB6R-7 1310185-008

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TPH as Diesel	SW8015B(M)	1	0.87	2.0	4.2	mg/Kg
m,p-Xylene	SW8260B	1	1.9	10	28	ug/Kg
Naphthalene	SW8260B	1	2.8	10	35	ug/Kg
TPH(Gasoline)	8260TPH	5	150	500	1200	ug/Kg

CSB6R-10 1310185-009

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TPH as Diesel	SW8015B(M)	1	0.87	2.0	2.9	mg/Kg



### Sample Result Summary

Report prepared for: Joseph Cotton  
Impact Environmental Services

Date Received: 10/29/13  
Date Reported: 11/05/13

CSB6R-13 1310185-010

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TPH(Gasoline)	8260TPH	1	30	100	400	ug/Kg
TPH as Diesel	SW8015B(M)	1	0.87	2.0	4.7	mg/Kg

CSB6R-15 1310185-011

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TPH as Diesel	SW8015B(M)	1	0.87	2.0	2.1	mg/Kg



## SAMPLE RESULTS

**Report prepared for:** Joseph Cotton  
Impact Environmental Services

**Date Received:** 10/29/13  
**Date Reported:** 11/05/13

<b>Client Sample ID:</b>	CSB1R-5	<b>Lab Sample ID:</b>	1310185-001A
<b>Project Name/Location:</b>	1409-1417 12th St.	<b>Sample Matrix:</b>	Soil
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/25/13 / 10:42		
<b>Tag Number:</b>	1409-1417 12th St., Oakland, CA		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	10/31/13	1	2.6	10	ND		ug/Kg	418026	NA
tert-Butanol	SW8260B	NA	10/31/13	1	21	50	ND		ug/Kg	418026	NA
Diisopropyl ether (DIPE)	SW8260B	NA	10/31/13	1	2.2	10	ND		ug/Kg	418026	NA
ETBE	SW8260B	NA	10/31/13	1	2.4	10	ND		ug/Kg	418026	NA
Benzene	SW8260B	NA	10/31/13	1	1.5	10	ND		ug/Kg	418026	NA
TAME	SW8260B	NA	10/31/13	1	2.1	10	ND		ug/Kg	418026	NA
1,2-Dichloroethane	SW8260B	NA	10/31/13	1	1.9	10	ND		ug/Kg	418026	NA
Toluene	SW8260B	NA	10/31/13	1	0.98	10	ND		ug/Kg	418026	NA
1,2-Dibromoethane	SW8260B	NA	10/31/13	1	1.7	10	ND		ug/Kg	418026	NA
Ethyl Benzene	SW8260B	NA	10/31/13	1	0.86	10	ND		ug/Kg	418026	NA
m,p-Xylene	SW8260B	NA	10/31/13	1	1.9	10	ND		ug/Kg	418026	NA
o-Xylene	SW8260B	NA	10/31/13	1	0.66	5.0	ND		ug/Kg	418026	NA
Naphthalene	SW8260B	NA	10/31/13	1	2.8	10	ND		ug/Kg	418026	NA
(S) Dibromofluoromethane	SW8260B	NA	10/31/13	1	59.8	148	91.3		%	418026	NA
(S) Toluene-d8	SW8260B	NA	10/31/13	1	55.2	133	95.2		%	418026	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	10/31/13	1	55.8	141	85.7		%	418026	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH(Gasoline)	8260TPH	NA	10/31/13	1	30	100	ND		ug/Kg	418026	NA
(S) 4-Bromofluorobenzene	8260TPH	NA	10/31/13	1	43.9	127	118		%	418026	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/29/13	10/30/13	1	0.87	2.0	2.3	x	mg/Kg	418014	10026
TPH as Motor Oil	SW8015B(M)	10/29/13	10/30/13	1	1.3	10	ND		mg/Kg	418014	10026
Pentacosane (S)	SW8015B(M)	10/29/13	10/30/13	1	49.9	144	84.1		%	418014	10026

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range quantified as diesel.



## SAMPLE RESULTS

**Report prepared for:** Joseph Cotton  
Impact Environmental Services

**Date Received:** 10/29/13  
**Date Reported:** 11/05/13

<b>Client Sample ID:</b>	CSB1R-7	<b>Lab Sample ID:</b>	1310185-002A
<b>Project Name/Location:</b>	1409-1417 12th St.	<b>Sample Matrix:</b>	Soil
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/25/13 / 10:56		
<b>Tag Number:</b>	1409-1417 12th St., Oakland, CA		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
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*The results shown below are reported using their MDL.*

MTBE	SW8260B	NA	11/01/13	5	13	50	ND		ug/Kg	418046	NA
tert-Butanol	SW8260B	NA	11/01/13	5	100	250	ND		ug/Kg	418046	NA
Diisopropyl ether (DIPE)	SW8260B	NA	11/01/13	5	11	50	ND		ug/Kg	418046	NA
ETBE	SW8260B	NA	11/01/13	5	12	50	ND		ug/Kg	418046	NA
Benzene	SW8260B	NA	11/01/13	5	7.5	50	ND		ug/Kg	418046	NA
TAME	SW8260B	NA	11/01/13	5	10	50	ND		ug/Kg	418046	NA
1,2-Dichloroethane	SW8260B	NA	11/01/13	5	9.5	50	ND		ug/Kg	418046	NA
Toluene	SW8260B	NA	11/01/13	5	4.9	50	ND		ug/Kg	418046	NA
1,2-Dibromoethane	SW8260B	NA	11/01/13	5	8.7	50	ND		ug/Kg	418046	NA
Ethyl Benzene	SW8260B	NA	11/01/13	5	4.3	50	6.4	J	ug/Kg	418046	NA
m,p-Xylene	SW8260B	NA	11/01/13	5	9.3	50	43	J	ug/Kg	418046	NA
o-Xylene	SW8260B	NA	11/01/13	5	3.3	25	ND		ug/Kg	418046	NA
Naphthalene	SW8260B	NA	11/01/13	5	14	50	300		ug/Kg	418046	NA
(S) Dibromofluoromethane	SW8260B	NA	11/01/13	5	59.8	148	101		%	418046	NA
(S) Toluene-d8	SW8260B	NA	11/01/13	5	55.2	133	92.8		%	418046	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	11/01/13	5	55.8	141	65.9		%	418046	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
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TPH(Gasoline)	8260TPH	NA	11/04/13	100	3000	10000	63000	x	ug/Kg	418044	NA
(S) 4-Bromofluorobenzene	8260TPH	NA	11/04/13	100	43.9	127	122		%	418044	NA

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported value is the result of contribution from hydrocarbons heavier than requested fuel into range of C5-C12 quantified as gasoline.

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
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TPH as Diesel	SW8015B(M)	10/29/13	10/30/13	1	0.87	2.0	9.0	x	mg/Kg	418014	10026
TPH as Motor Oil	SW8015B(M)	10/29/13	10/30/13	1	1.3	10	ND		mg/Kg	418014	10026
Pentacosane (S)	SW8015B(M)	10/29/13	10/30/13	1	49.9	144	84.7		%	418014	10026

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range quantified as diesel.



## SAMPLE RESULTS

**Report prepared for:** Joseph Cotton  
Impact Environmental Services

**Date Received:** 10/29/13  
**Date Reported:** 11/05/13

<b>Client Sample ID:</b>	CSB1R-10	<b>Lab Sample ID:</b>	1310185-003A
<b>Project Name/Location:</b>	1409-1417 12th St.	<b>Sample Matrix:</b>	Soil
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/25/13 / 11:09		
<b>Tag Number:</b>	1409-1417 12th St., Oakland, CA		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
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*The results shown below are reported using their MDL.*

MTBE	SW8260B	NA	11/01/13	100	260	1000	ND		ug/Kg	418046	NA
tert-Butanol	SW8260B	NA	11/01/13	100	2100	5000	ND		ug/Kg	418046	NA
Diisopropyl ether (DIPE)	SW8260B	NA	11/01/13	100	220	1000	ND		ug/Kg	418046	NA
ETBE	SW8260B	NA	11/01/13	100	240	1000	ND		ug/Kg	418046	NA
Benzene	SW8260B	NA	11/01/13	100	150	1000	ND		ug/Kg	418046	NA
TAME	SW8260B	NA	11/01/13	100	210	1000	ND		ug/Kg	418046	NA
1,2-Dichloroethane	SW8260B	NA	11/01/13	100	190	1000	ND		ug/Kg	418046	NA
Toluene	SW8260B	NA	11/01/13	100	98	1000	ND		ug/Kg	418046	NA
1,2-Dibromoethane	SW8260B	NA	11/01/13	100	170	1000	ND		ug/Kg	418046	NA
Ethyl Benzene	SW8260B	NA	11/01/13	100	86	1000	ND		ug/Kg	418046	NA
m,p-Xylene	SW8260B	NA	11/01/13	100	190	1000	ND		ug/Kg	418046	NA
o-Xylene	SW8260B	NA	11/01/13	100	66	500	ND		ug/Kg	418046	NA
Naphthalene	SW8260B	NA	11/01/13	100	280	1000	680	J	ug/Kg	418046	NA
(S) Dibromofluoromethane	SW8260B	NA	11/01/13	100	59.8	148	106		%	418046	NA
(S) Toluene-d8	SW8260B	NA	11/01/13	100	55.2	133	96.5		%	418046	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	11/01/13	100	55.8	141	93.1		%	418046	NA

**NOTE:** The reporting limits were raised due to the high concentration of non-target heavy end compounds, heavier than gasoline, lighter than diesel, possibly jet fuel (stong odor).

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
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*The results shown below are reported using their MDL.*

TPH(Gasoline)	8260TPH	11/1/13	11/01/13	100	3000	10000	98000	x	ug/Kg	418046	10067
(S) 4-Bromofluorobenzene	8260TPH	11/1/13	11/01/13	100	43.9	127	89.2		%	418046	10067

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported value due to contribution from non-target heavy hydrocarbons into range of C5-C12 quantified as gasoline (possibly jet fuel).

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
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TPH as Diesel	SW8015B(M)	10/29/13	10/30/13	1	0.87	2.0	7.4	x	mg/Kg	418014	10026
TPH as Motor Oil	SW8015B(M)	10/29/13	10/30/13	1	1.3	10	ND		mg/Kg	418014	10026
Pentacosane (S)	SW8015B(M)	10/29/13	10/30/13	1	49.9	144	86.6		%	418014	10026

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range quantified as diesel.



## SAMPLE RESULTS

**Report prepared for:** Joseph Cotton  
Impact Environmental Services

**Date Received:** 10/29/13  
**Date Reported:** 11/05/13

<b>Client Sample ID:</b>	CSB1R-12	<b>Lab Sample ID:</b>	1310185-004A
<b>Project Name/Location:</b>	1409-1417 12th St.	<b>Sample Matrix:</b>	Soil
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/25/13 / 11:21		
<b>Tag Number:</b>	1409-1417 12th St., Oakland, CA		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	11/04/13	1	2.6	10	ND		ug/Kg	418044	NA
tert-Butanol	SW8260B	NA	11/04/13	1	21	50	ND		ug/Kg	418044	NA
Diisopropyl ether (DIPE)	SW8260B	NA	11/04/13	1	2.2	10	ND		ug/Kg	418044	NA
ETBE	SW8260B	NA	11/04/13	1	2.4	10	ND		ug/Kg	418044	NA
Benzene	SW8260B	NA	11/04/13	1	1.5	10	ND		ug/Kg	418044	NA
TAME	SW8260B	NA	11/04/13	1	2.1	10	ND		ug/Kg	418044	NA
1,2-Dichloroethane	SW8260B	NA	11/04/13	1	1.9	10	ND		ug/Kg	418044	NA
Toluene	SW8260B	NA	11/04/13	1	0.98	10	ND		ug/Kg	418044	NA
1,2-Dibromoethane	SW8260B	NA	11/04/13	1	1.7	10	ND		ug/Kg	418044	NA
Ethyl Benzene	SW8260B	NA	11/04/13	1	0.86	10	12		ug/Kg	418044	NA
m,p-Xylene	SW8260B	NA	11/04/13	1	1.9	10	39		ug/Kg	418044	NA
o-Xylene	SW8260B	NA	11/04/13	1	0.66	5.0	12		ug/Kg	418044	NA
(S) Dibromofluoromethane	SW8260B	NA	11/04/13	1	59.8	148	97.3		%	418044	NA
(S) Toluene-d8	SW8260B	NA	11/04/13	1	55.2	133	91.2		%	418044	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	11/04/13	1	55.8	141	80.8		%	418044	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH(Gasoline)	8260TPH	11/5/13	11/05/13	5	150	500	830	x	ug/Kg	418054	10076
(S) 4-Bromofluorobenzene	8260TPH	11/5/13	11/05/13	5	43.9	127	98.5		%	418054	10076

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported value due to contribution from non-target heavy hydrocarbons into range of C5-C12 quantified as gasoline.

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/29/13	10/30/13	1	0.87	2.0	4.2	x	mg/Kg	418014	10026
TPH as Motor Oil	SW8015B(M)	10/29/13	10/30/13	1	1.3	10	ND		mg/Kg	418014	10026
Pentacosane (S)	SW8015B(M)	10/29/13	10/30/13	1	49.9	144	83.3		%	418014	10026

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range quantified as diesel.



## SAMPLE RESULTS

**Report prepared for:** Joseph Cotton  
Impact Environmental Services

**Date Received:** 10/29/13  
**Date Reported:** 11/05/13

<b>Client Sample ID:</b>	CSB1R-15	<b>Lab Sample ID:</b>	1310185-005A
<b>Project Name/Location:</b>	1409-1417 12th St.	<b>Sample Matrix:</b>	Soil
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/25/13 / 11:33		
<b>Tag Number:</b>	1409-1417 12th St., Oakland, CA		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	11/01/13	1	2.6	10	ND		ug/Kg	418046	NA
tert-Butanol	SW8260B	NA	11/01/13	1	21	50	ND		ug/Kg	418046	NA
Diisopropyl ether (DIPE)	SW8260B	NA	11/01/13	1	2.2	10	ND		ug/Kg	418046	NA
ETBE	SW8260B	NA	11/01/13	1	2.4	10	ND		ug/Kg	418046	NA
Benzene	SW8260B	NA	11/01/13	1	1.5	10	ND		ug/Kg	418046	NA
TAME	SW8260B	NA	11/01/13	1	2.1	10	ND		ug/Kg	418046	NA
1,2-Dichloroethane	SW8260B	NA	11/01/13	1	1.9	10	ND		ug/Kg	418046	NA
Toluene	SW8260B	NA	11/01/13	1	0.98	10	ND		ug/Kg	418046	NA
1,2-Dibromoethane	SW8260B	NA	11/01/13	1	1.7	10	ND		ug/Kg	418046	NA
Ethyl Benzene	SW8260B	NA	11/01/13	1	0.86	10	ND		ug/Kg	418046	NA
m,p-Xylene	SW8260B	NA	11/01/13	1	1.9	10	ND		ug/Kg	418046	NA
o-Xylene	SW8260B	NA	11/01/13	1	0.66	5.0	ND		ug/Kg	418046	NA
(S) Dibromofluoromethane	SW8260B	NA	11/01/13	1	59.8	148	99.2		%	418046	NA
(S) Toluene-d8	SW8260B	NA	11/01/13	1	55.2	133	96.2		%	418046	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	11/01/13	1	55.8	141	93.0		%	418046	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH(Gasoline)	8260TPH	11/1/13	11/01/13	1	30	100	ND		ug/Kg	418046	10067
(S) 4-Bromofluorobenzene	8260TPH	11/1/13	11/01/13	1	43.9	127	95.9		%	418046	10067

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/29/13	10/30/13	1	0.87	2.0	2.5	x	mg/Kg	418014	10026
TPH as Motor Oil	SW8015B(M)	10/29/13	10/30/13	1	1.3	10	ND		mg/Kg	418014	10026
Pentacosane (S)	SW8015B(M)	10/29/13	10/30/13	1	49.9	144	85.2		%	418014	10026

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range quantified as diesel.



## SAMPLE RESULTS

**Report prepared for:** Joseph Cotton  
Impact Environmental Services

**Date Received:** 10/29/13  
**Date Reported:** 11/05/13

<b>Client Sample ID:</b>	CSB1R-18	<b>Lab Sample ID:</b>	1310185-006A
<b>Project Name/Location:</b>	1409-1417 12th St.	<b>Sample Matrix:</b>	Soil
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/25/13 / 11:34		
<b>Tag Number:</b>	1409-1417 12th St., Oakland, CA		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	10/31/13	1	2.6	10	ND		ug/Kg	418026	NA
tert-Butanol	SW8260B	NA	10/31/13	1	21	50	ND		ug/Kg	418026	NA
Diisopropyl ether (DIPE)	SW8260B	NA	10/31/13	1	2.2	10	ND		ug/Kg	418026	NA
ETBE	SW8260B	NA	10/31/13	1	2.4	10	ND		ug/Kg	418026	NA
Benzene	SW8260B	NA	10/31/13	1	1.5	10	ND		ug/Kg	418026	NA
TAME	SW8260B	NA	10/31/13	1	2.1	10	ND		ug/Kg	418026	NA
1,2-Dichloroethane	SW8260B	NA	10/31/13	1	1.9	10	ND		ug/Kg	418026	NA
Toluene	SW8260B	NA	10/31/13	1	0.98	10	ND		ug/Kg	418026	NA
1,2-Dibromoethane	SW8260B	NA	10/31/13	1	1.7	10	ND		ug/Kg	418026	NA
Ethyl Benzene	SW8260B	NA	10/31/13	1	0.86	10	ND		ug/Kg	418026	NA
m,p-Xylene	SW8260B	NA	10/31/13	1	1.9	10	ND		ug/Kg	418026	NA
o-Xylene	SW8260B	NA	10/31/13	1	0.66	5.0	ND		ug/Kg	418026	NA
(S) Dibromofluoromethane	SW8260B	NA	10/31/13	1	59.8	148	101		%	418026	NA
(S) Toluene-d8	SW8260B	NA	10/31/13	1	55.2	133	98.2		%	418026	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	10/31/13	1	55.8	141	93.3		%	418026	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH(Gasoline)	8260TPH	NA	10/31/13	1	30	100	ND		ug/Kg	418026	NA
(S) 4-Bromofluorobenzene	8260TPH	NA	10/31/13	1	43.9	127	123		%	418026	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/29/13	10/30/13	1	0.87	2.0	ND		mg/Kg	418014	10026
TPH as Motor Oil	SW8015B(M)	10/29/13	10/30/13	1	1.3	10	ND		mg/Kg	418014	10026
Pentacosane (S)	SW8015B(M)	10/29/13	10/30/13	1	49.9	144	81.7		%	418014	10026



## SAMPLE RESULTS

Report prepared for: Joseph Cotton  
Impact Environmental Services

Date Received: 10/29/13  
Date Reported: 11/05/13

Client Sample ID:	CSB6R-5	Lab Sample ID:	1310185-007A
Project Name/Location:	1409-1417 12th St.	Sample Matrix:	Soil
Project Number:			
Date/Time Sampled:	10/25/13 / 9:40		
Tag Number:	1409-1417 12th St., Oakland, CA		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	10/31/13	1	2.6	10	ND		ug/Kg	418026	NA
tert-Butanol	SW8260B	NA	10/31/13	1	21	50	ND		ug/Kg	418026	NA
Diisopropyl ether (DIPE)	SW8260B	NA	10/31/13	1	2.2	10	ND		ug/Kg	418026	NA
ETBE	SW8260B	NA	10/31/13	1	2.4	10	ND		ug/Kg	418026	NA
Benzene	SW8260B	NA	10/31/13	1	1.5	10	ND		ug/Kg	418026	NA
TAME	SW8260B	NA	10/31/13	1	2.1	10	ND		ug/Kg	418026	NA
1,2-Dichloroethane	SW8260B	NA	10/31/13	1	1.9	10	ND		ug/Kg	418026	NA
Toluene	SW8260B	NA	10/31/13	1	0.98	10	ND		ug/Kg	418026	NA
1,2-Dibromoethane	SW8260B	NA	10/31/13	1	1.7	10	ND		ug/Kg	418026	NA
Ethyl Benzene	SW8260B	NA	10/31/13	1	0.86	10	ND		ug/Kg	418026	NA
m,p-Xylene	SW8260B	NA	10/31/13	1	1.9	10	ND		ug/Kg	418026	NA
o-Xylene	SW8260B	NA	10/31/13	1	0.66	5.0	ND		ug/Kg	418026	NA
Naphthalene	SW8260B	NA	10/31/13	1	2.8	10	ND		ug/Kg	418026	NA
(S) Dibromofluoromethane	SW8260B	NA	10/31/13	1	59.8	148	91.6		%	418026	NA
(S) Toluene-d8	SW8260B	NA	10/31/13	1	55.2	133	96.6		%	418026	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	10/31/13	1	55.8	141	88.1		%	418026	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH(Gasoline)	8260TPH	NA	10/31/13	1	30	100	ND		ug/Kg	418026	NA
(S) 4-Bromofluorobenzene	8260TPH	NA	10/31/13	1	43.9	127	110		%	418026	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/29/13	10/30/13	1	0.87	2.0	2.2	x	mg/Kg	418014	10026
TPH as Motor Oil	SW8015B(M)	10/29/13	10/30/13	1	1.3	10	ND		mg/Kg	418014	10026
Pentacosane (S)	SW8015B(M)	10/29/13	10/30/13	1	49.9	144	100		%	418014	10026

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range quantified as diesel.



## SAMPLE RESULTS

**Report prepared for:** Joseph Cotton  
Impact Environmental Services

**Date Received:** 10/29/13  
**Date Reported:** 11/05/13

<b>Client Sample ID:</b>	CSB6R-7	<b>Lab Sample ID:</b>	1310185-008A
<b>Project Name/Location:</b>	1409-1417 12th St.	<b>Sample Matrix:</b>	Soil
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/25/13 / 9:50		
<b>Tag Number:</b>	1409-1417 12th St., Oakland, CA		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	10/31/13	1	2.6	10	ND		ug/Kg	418026	NA
tert-Butanol	SW8260B	NA	10/31/13	1	21	50	ND		ug/Kg	418026	NA
Diisopropyl ether (DIPE)	SW8260B	NA	10/31/13	1	2.2	10	ND		ug/Kg	418026	NA
ETBE	SW8260B	NA	10/31/13	1	2.4	10	ND		ug/Kg	418026	NA
Benzene	SW8260B	NA	10/31/13	1	1.5	10	ND		ug/Kg	418026	NA
TAME	SW8260B	NA	10/31/13	1	2.1	10	ND		ug/Kg	418026	NA
1,2-Dichloroethane	SW8260B	NA	10/31/13	1	1.9	10	ND		ug/Kg	418026	NA
Toluene	SW8260B	NA	10/31/13	1	0.98	10	ND		ug/Kg	418026	NA
1,2-Dibromoethane	SW8260B	NA	10/31/13	1	1.7	10	ND		ug/Kg	418026	NA
Ethyl Benzene	SW8260B	NA	10/31/13	1	0.86	10	ND		ug/Kg	418026	NA
m,p-Xylene	SW8260B	NA	10/31/13	1	1.9	10	28		ug/Kg	418026	NA
o-Xylene	SW8260B	NA	10/31/13	1	0.66	5.0	ND		ug/Kg	418026	NA
Naphthalene	SW8260B	NA	10/31/13	1	2.8	10	35		ug/Kg	418026	NA
(S) Dibromofluoromethane	SW8260B	NA	10/31/13	1	59.8	148	95.2		%	418026	NA
(S) Toluene-d8	SW8260B	NA	10/31/13	1	55.2	133	88.4		%	418026	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	10/31/13	1	55.8	141	86.1		%	418026	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH(Gasoline)	8260TPH	11/1/13	11/01/13	5	150	500	1200	x	ug/Kg	418046	10067
(S) 4-Bromofluorobenzene	8260TPH	11/1/13	11/01/13	5	43.9	127	117		%	418046	10067

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported value due to contribution from non-target heavy hydrocarbons into range of C5-C12 quantified as gasoline.

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/29/13	10/30/13	1	0.87	2.0	4.2	x	mg/Kg	418014	10026
TPH as Motor Oil	SW8015B(M)	10/29/13	10/30/13	1	1.3	10	ND		mg/Kg	418014	10026
Pentacosane (S)	SW8015B(M)	10/29/13	10/30/13	1	49.9	144	87.9		%	418014	10026

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range quantified as diesel.



## SAMPLE RESULTS

**Report prepared for:** Joseph Cotton  
Impact Environmental Services

**Date Received:** 10/29/13  
**Date Reported:** 11/05/13

<b>Client Sample ID:</b>	CSB6R-10	<b>Lab Sample ID:</b>	1310185-009A
<b>Project Name/Location:</b>	1409-1417 12th St.	<b>Sample Matrix:</b>	Soil
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/25/13 / 9:58		
<b>Tag Number:</b>	1409-1417 12th St., Oakland, CA		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	11/01/13	1	2.6	10	ND		ug/Kg	418046	NA
tert-Butanol	SW8260B	NA	11/01/13	1	21	50	ND		ug/Kg	418046	NA
Diisopropyl ether (DIPE)	SW8260B	NA	11/01/13	1	2.2	10	ND		ug/Kg	418046	NA
ETBE	SW8260B	NA	11/01/13	1	2.4	10	ND		ug/Kg	418046	NA
Benzene	SW8260B	NA	11/01/13	1	1.5	10	ND		ug/Kg	418046	NA
TAME	SW8260B	NA	11/01/13	1	2.1	10	ND		ug/Kg	418046	NA
1,2-Dichloroethane	SW8260B	NA	11/01/13	1	1.9	10	ND		ug/Kg	418046	NA
Toluene	SW8260B	NA	11/01/13	1	0.98	10	ND		ug/Kg	418046	NA
1,2-Dibromoethane	SW8260B	NA	11/01/13	1	1.7	10	ND		ug/Kg	418046	NA
Ethyl Benzene	SW8260B	NA	11/01/13	1	0.86	10	ND		ug/Kg	418046	NA
m,p-Xylene	SW8260B	NA	11/01/13	1	1.9	10	ND		ug/Kg	418046	NA
o-Xylene	SW8260B	NA	11/01/13	1	0.66	5.0	ND		ug/Kg	418046	NA
Naphthalene	SW8260B	NA	11/01/13	1	2.8	10	ND		ug/Kg	418046	NA
(S) Dibromofluoromethane	SW8260B	NA	11/01/13	1	59.8	148	105		%	418046	NA
(S) Toluene-d8	SW8260B	NA	11/01/13	1	55.2	133	94.7		%	418046	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	11/01/13	1	55.8	141	94.2		%	418046	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH(Gasoline)	8260TPH	11/1/13	11/01/13	1	30	100	ND		ug/Kg	418046	10067
(S) 4-Bromofluorobenzene	8260TPH	11/1/13	11/01/13	1	43.9	127	96.9		%	418046	10067

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/29/13	10/30/13	1	0.87	2.0	2.9	x	mg/Kg	418014	10026
TPH as Motor Oil	SW8015B(M)	10/29/13	10/30/13	1	1.3	10	ND		mg/Kg	418014	10026
Pentacosane (S)	SW8015B(M)	10/29/13	10/30/13	1	49.9	144	79.7		%	418014	10026

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range quantified as diesel.



## SAMPLE RESULTS

**Report prepared for:** Joseph Cotton  
Impact Environmental Services

**Date Received:** 10/29/13  
**Date Reported:** 11/05/13

<b>Client Sample ID:</b>	CSB6R-13	<b>Lab Sample ID:</b>	1310185-010A
<b>Project Name/Location:</b>	1409-1417 12th St.	<b>Sample Matrix:</b>	Soil
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	10/25/13 / 10:05		
<b>Tag Number:</b>	1409-1417 12th St., Oakland, CA		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	10/31/13	1	2.6	10	ND		ug/Kg	418026	NA
tert-Butanol	SW8260B	NA	10/31/13	1	21	50	ND		ug/Kg	418026	NA
Diisopropyl ether (DIPE)	SW8260B	NA	10/31/13	1	2.2	10	ND		ug/Kg	418026	NA
ETBE	SW8260B	NA	10/31/13	1	2.4	10	ND		ug/Kg	418026	NA
Benzene	SW8260B	NA	10/31/13	1	1.5	10	ND		ug/Kg	418026	NA
TAME	SW8260B	NA	10/31/13	1	2.1	10	ND		ug/Kg	418026	NA
1,2-Dichloroethane	SW8260B	NA	10/31/13	1	1.9	10	ND		ug/Kg	418026	NA
Toluene	SW8260B	NA	10/31/13	1	0.98	10	ND		ug/Kg	418026	NA
1,2-Dibromoethane	SW8260B	NA	10/31/13	1	1.7	10	ND		ug/Kg	418026	NA
Ethyl Benzene	SW8260B	NA	10/31/13	1	0.86	10	ND		ug/Kg	418026	NA
m,p-Xylene	SW8260B	NA	10/31/13	1	1.9	10	ND		ug/Kg	418026	NA
o-Xylene	SW8260B	NA	10/31/13	1	0.66	5.0	ND		ug/Kg	418026	NA
Naphthalene	SW8260B	NA	10/31/13	1	2.8	10	ND		ug/Kg	418026	NA
(S) Dibromofluoromethane	SW8260B	NA	10/31/13	1	59.8	148	110		%	418026	NA
(S) Toluene-d8	SW8260B	NA	10/31/13	1	55.2	133	93.3		%	418026	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	10/31/13	1	55.8	141	108		%	418026	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH(Gasoline)	8260TPH	NA	10/31/13	1	30	100	400	x	ug/Kg	418026	NA
(S) 4-Bromofluorobenzene	8260TPH	NA	10/31/13	1	43.9	127	124		%	418026	NA

**NOTE:** x - Does not match pattern of reference Gasoline standard. Reported value due to contribution from non-target heavy hydrocarbons into range of C5-C12 quantified as gasoline.

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/29/13	10/30/13	1	0.87	2.0	4.7	x	mg/Kg	418014	10026
TPH as Motor Oil	SW8015B(M)	10/29/13	10/30/13	1	1.3	10	ND		mg/Kg	418014	10026
Pentacosane (S)	SW8015B(M)	10/29/13	10/30/13	1	49.9	144	91.5		%	418014	10026

**NOTE:** x - Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range quantified as diesel.



## SAMPLE RESULTS

Report prepared for: Joseph Cotton  
Impact Environmental Services

Date Received: 10/29/13  
Date Reported: 11/05/13

Client Sample ID:	CSB6R-15	Lab Sample ID:	1310185-011A
Project Name/Location:	1409-1417 12th St.	Sample Matrix:	Soil
Project Number:			
Date/Time Sampled:	10/25/13 / 10:20		
Tag Number:	1409-1417 12th St., Oakland, CA		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
MTBE	SW8260B	NA	11/01/13	1	2.6	10	ND		ug/Kg	418046	NA
tert-Butanol	SW8260B	NA	11/01/13	1	21	50	ND		ug/Kg	418046	NA
Diisopropyl ether (DIPE)	SW8260B	NA	11/01/13	1	2.2	10	ND		ug/Kg	418046	NA
ETBE	SW8260B	NA	11/01/13	1	2.4	10	ND		ug/Kg	418046	NA
Benzene	SW8260B	NA	11/01/13	1	1.5	10	ND		ug/Kg	418046	NA
TAME	SW8260B	NA	11/01/13	1	2.1	10	ND		ug/Kg	418046	NA
1,2-Dichloroethane	SW8260B	NA	11/01/13	1	1.9	10	ND		ug/Kg	418046	NA
Toluene	SW8260B	NA	11/01/13	1	0.98	10	ND		ug/Kg	418046	NA
1,2-Dibromoethane	SW8260B	NA	11/01/13	1	1.7	10	ND		ug/Kg	418046	NA
Ethyl Benzene	SW8260B	NA	11/01/13	1	0.86	10	ND		ug/Kg	418046	NA
m,p-Xylene	SW8260B	NA	11/01/13	1	1.9	10	ND		ug/Kg	418046	NA
o-Xylene	SW8260B	NA	11/01/13	1	0.66	5.0	ND		ug/Kg	418046	NA
Naphthalene	SW8260B	NA	11/01/13	1	2.8	10	ND		ug/Kg	418046	NA
(S) Dibromofluoromethane	SW8260B	NA	11/01/13	1	59.8	148	112		%	418046	NA
(S) Toluene-d8	SW8260B	NA	11/01/13	1	55.2	133	95.4		%	418046	NA
(S) 4-Bromofluorobenzene	SW8260B	NA	11/01/13	1	55.8	141	97.3		%	418046	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH(Gasoline)	8260TPH	11/1/13	11/01/13	1	30	100	ND		ug/Kg	418046	10067
(S) 4-Bromofluorobenzene	8260TPH	11/1/13	11/01/13	1	43.9	127	90.0		%	418046	10067

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL	PQL	Results	Lab Qualifier	Unit	Analytical Batch	Prep Batch
TPH as Diesel	SW8015B(M)	10/29/13	10/30/13	1	0.87	2.0	2.1	x	mg/Kg	418014	10026
TPH as Motor Oil	SW8015B(M)	10/29/13	10/30/13	1	1.3	10	ND		mg/Kg	418014	10026
Pentacosane (S)	SW8015B(M)	10/29/13	10/30/13	1	49.9	144	83.9		%	418014	10026

**NOTE:** x- Chromatographic pattern does not resemble typical diesel reference standard; unknown organics within diesel range quantified as diesel.



### MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	3546_TPHSG	<b>Prep Date:</b>	10/29/13	<b>Prep Batch:</b>	10026
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8015B(M)	<b>Analyzed Date:</b>	10/29/13	<b>Analytical Batch:</b>	417987
<b>Units:</b>	mg/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH as Diesel	0.87	2.0	ND	
TPH as Motor Oil	1.3	10	3.1	
Pentacosane (S)			97.6	

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	5035	<b>Prep Date:</b>	10/31/13	<b>Prep Batch:</b>	10053
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	10/31/13	<b>Analytical Batch:</b>	418026
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH(Gasoline)	30	100	38	
(S) 4-Bromofluorobenzene			114	

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	5035	<b>Prep Date:</b>	10/31/13	<b>Prep Batch:</b>	10053
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	10/31/13	<b>Analytical Batch:</b>	418026
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH(Gasoline)	30	100	67	
(S) 4-Bromofluorobenzene			102	

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	5035	<b>Prep Date:</b>	11/04/13	<b>Prep Batch:</b>	10065
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	11/04/13	<b>Analytical Batch:</b>	418044
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH(Gasoline)	30	100	32	
(S) 4-Bromofluorobenzene			93.3	



### MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	5035	<b>Prep Date:</b>	11/04/13	<b>Prep Batch:</b>	10065
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	11/04/13	<b>Analytical Batch:</b>	418044
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH(Gasoline)	30	100	40	
(S) 4-Bromofluorobenzene			95.6	

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	5035	<b>Prep Date:</b>	11/01/13	<b>Prep Batch:</b>	10067
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	11/01/13	<b>Analytical Batch:</b>	418046
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH(Gasoline)	30	100	52	
(S) 4-Bromofluorobenzene			112	

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	5035	<b>Prep Date:</b>	11/01/13	<b>Prep Batch:</b>	10067
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	11/01/13	<b>Analytical Batch:</b>	418046
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH(Gasoline)	3000	10000	ND	
(S) 4-Bromofluorobenzene			102	

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	5035	<b>Prep Date:</b>	11/05/13	<b>Prep Batch:</b>	10076
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	11/05/13	<b>Analytical Batch:</b>	418054
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH(Gasoline)	30	100	ND	
(S) 4-Bromofluorobenzene			99.8	



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/31/13	<b>Analytical Batch:</b>	418026
<b>Units:</b>	ug/Kg						

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



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/31/13	<b>Analytical Batch:</b>	418026
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Styrene	0.77	10	ND		
Bromoform	1.9	10	ND		
Isopropyl Benzene	1.2	10	ND		
n-Propylbenzene	1.4	10	ND		
Bromobenzene	1.2	10	ND		
1,1,2,2-Tetrachloroethane	3.0	10	ND		
1,3,5-Trimethylbenzene	1.1	10	ND		
1,2,3-Trichloropropane	3.3	10	ND		
4-Chlorotoluene	1.6	10	ND		
2-Chlorotoluene	1.6	10	ND		
tert-Butylbenzene	1.4	10	ND		
1,2,4-Trimethylbenzene	1.1	10	1.1		
sec-Butyl Benzene	1.6	10	ND		
p-Isopropyltoluene	1.5	10	1.5		
1,3-Dichlorobenzene	1.8	10	ND		
1,4-Dichlorobenzene	1.5	10	ND		
n-Butylbenzene	2.2	10	ND		
1,2-Dichlorobenzene	1.3	10	ND		
1,2-Dibromo-3-Chloropropane	4.2	10	ND		
Hexachlorobutadiene	2.6	10	ND		
1,2,4-Trichlorobenzene	2.1	10	ND		
Naphthalene	2.8	10	ND		
1,2,3-Trichlorobenzene	2.9	10	ND		
(S) Dibromofluoromethane			127		
(S) Toluene-d8			105		
(S) 4-Bromofluorobenzene			97.4		



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/04/13	<b>Analytical Batch:</b>	418044
<b>Units:</b>	ug/Kg						

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



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/04/13	<b>Analytical Batch:</b>	418044
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Styrene	0.77	10	ND		
Bromoform	1.9	10	ND		
Isopropyl Benzene	1.2	10	ND		
n-Propylbenzene	1.4	10	ND		
Bromobenzene	1.2	10	ND		
1,1,2,2-Tetrachloroethane	3.0	10	ND		
1,3,5-Trimethylbenzene	1.1	10	ND		
1,2,3-Trichloropropane	3.3	10	ND		
4-Chlorotoluene	1.6	10	ND		
2-Chlorotoluene	1.6	10	ND		
tert-Butylbenzene	1.4	10	1.6		
1,2,4-Trimethylbenzene	1.1	10	1.2		
sec-Butyl Benzene	1.6	10	ND		
p-Isopropyltoluene	1.5	10	1.6		
1,3-Dichlorobenzene	1.8	10	ND		
1,4-Dichlorobenzene	1.5	10	ND		
n-Butylbenzene	2.2	10	ND		
1,2-Dichlorobenzene	1.3	10	ND		
1,2-Dibromo-3-Chloropropane	4.2	10	ND		
Hexachlorobutadiene	2.6	10	ND		
1,2,4-Trichlorobenzene	2.1	10	ND		
Naphthalene	2.8	10	2.8		
1,2,3-Trichlorobenzene	2.9	10	ND		
(S) Dibromofluoromethane			131		
(S) Toluene-d8			110		
(S) 4-Bromofluorobenzene			98.9		



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/04/13	<b>Analytical Batch:</b>	418044
<b>Units:</b>	ug/Kg						

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



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/04/13	<b>Analytical Batch:</b>	418044
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Styrene	0.77	10	ND		
Bromoform	1.9	10	ND		
Isopropyl Benzene	1.2	10	ND		
n-Propylbenzene	1.4	10	ND		
Bromobenzene	1.2	10	ND		
1,1,2,2-Tetrachloroethane	3.0	10	ND		
1,3,5-Trimethylbenzene	1.1	10	ND		
1,2,3-Trichloropropane	3.3	10	ND		
4-Chlorotoluene	1.6	10	ND		
2-Chlorotoluene	1.6	10	ND		
tert-Butylbenzene	1.4	10	ND		
1,2,4-Trimethylbenzene	1.1	10	ND		
sec-Butyl Benzene	1.6	10	ND		
p-Isopropyltoluene	1.5	10	ND		
1,3-Dichlorobenzene	1.8	10	ND		
1,4-Dichlorobenzene	1.5	10	ND		
n-Butylbenzene	2.2	10	ND		
1,2-Dichlorobenzene	1.3	10	ND		
1,2-Dibromo-3-Chloropropane	4.2	10	ND		
Hexachlorobutadiene	2.6	10	ND		
1,2,4-Trichlorobenzene	2.1	10	ND		
Naphthalene	2.8	10	ND		
1,2,3-Trichlorobenzene	2.9	10	ND		
(S) Dibromofluoromethane			93.6		
(S) Toluene-d8			102		
(S) 4-Bromofluorobenzene			90.1		



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/01/13	<b>Analytical Batch:</b>	418046
<b>Units:</b>	ug/Kg						

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



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/01/13	<b>Analytical Batch:</b>	418046
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Styrene	0.77	10	ND		
Bromoform	1.9	10	ND		
Isopropyl Benzene	1.2	10	ND		
n-Propylbenzene	1.4	10	ND		
Bromobenzene	1.2	10	ND		
1,1,2,2-Tetrachloroethane	3.0	10	ND		
1,3,5-Trimethylbenzene	1.1	10	ND		
1,2,3-Trichloropropane	3.3	10	ND		
4-Chlorotoluene	1.6	10	ND		
2-Chlorotoluene	1.6	10	ND		
tert-Butylbenzene	1.4	10	1.5		
1,2,4-Trimethylbenzene	1.1	10	1.3		
sec-Butyl Benzene	1.6	10	ND		
p-Isopropyltoluene	1.5	10	1.5		
1,3-Dichlorobenzene	1.8	10	ND		
1,4-Dichlorobenzene	1.5	10	ND		
n-Butylbenzene	2.2	10	ND		
1,2-Dichlorobenzene	1.3	10	ND		
1,2-Dibromo-3-Chloropropane	4.2	10	ND		
Hexachlorobutadiene	2.6	10	ND		
1,2,4-Trichlorobenzene	2.1	10	ND		
Naphthalene	2.8	10	ND		
1,2,3-Trichlorobenzene	2.9	10	ND		
(S) Dibromofluoromethane			124		
(S) Toluene-d8			103		
(S) 4-Bromofluorobenzene			96.7		



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/01/13	<b>Analytical Batch:</b>	418046
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Dichlorodifluoromethane	440	1000	ND		
Chloromethane	460	1000	ND		
Vinyl Chloride	260	1000	ND		
Bromomethane	470	1000	ND		
Trichlorofluoromethane	290	1000	ND		
1,1-Dichloroethene	150	1000	ND		
Freon 113	370	1000	ND		
Methylene Chloride	200	5000	ND		
trans-1,2-Dichloroethene	110	1000	ND		
MTBE	260	1000	ND		
tert-Butanol	2100	5000	ND		
Diisopropyl ether (DIPE)	220	1000	ND		
1,1-Dichloroethane	130	1000	ND		
ETBE	240	1000	ND		
cis-1,2-Dichloroethene	180	1000	ND		
2,2-Dichloropropane	120	1000	ND		
Bromochloromethane	230	1000	ND		
Chloroform	120	1000	ND		
Carbon Tetrachloride	160	1000	ND		
1,1,1-Trichloroethane	120	1000	ND		
1,1-Dichloropropene	140	1000	ND		
Benzene	150	1000	ND		
TAME	210	1000	ND		
1,2-Dichloroethane	190	1000	ND		
Trichloroethylene	390	1000	ND		
Dibromomethane	220	1000	ND		
1,2-Dichloropropane	130	1000	ND		
Bromodichloromethane	110	1000	ND		
cis-1,3-Dichloropropene	140	1000	ND		
Toluene	98	1000	ND		
Tetrachloroethylene	180	1000	ND		
trans-1,3-Dichloropropene	120	1000	ND		
1,1,2-Trichloroethane	180	1000	ND		
Dibromochloromethane	110	1000	ND		
1,3-Dichloropropane	210	1000	ND		
1,2-Dibromoethane	170	1000	ND		
Ethyl Benzene	86	1000	ND		
Chlorobenzene	420	1000	ND		
1,1,1,2-Tetrachloroethane	86	1000	ND		
m,p-Xylene	190	1000	ND		
o-Xylene	66	500	ND		



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/01/13	<b>Analytical Batch:</b>	418046
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Styrene	77	1000	ND	
Bromoform	190	1000	ND	
Isopropyl Benzene	120	1000	ND	
n-Propylbenzene	140	1000	ND	
Bromobenzene	120	1000	ND	
1,1,2,2-Tetrachloroethane	300	1000	ND	
1,3,5-Trimethylbenzene	110	1000	ND	
1,2,3-Trichloropropane	330	1000	ND	
4-Chlorotoluene	160	1000	ND	
2-Chlorotoluene	160	1000	ND	
tert-Butylbenzene	140	1000	ND	
1,2,4-Trimethylbenzene	110	1000	ND	
sec-Butyl Benzene	160	1000	ND	
p-Isopropyltoluene	150	1000	ND	
1,3-Dichlorobenzene	180	1000	ND	
1,4-Dichlorobenzene	150	1000	ND	
n-Butylbenzene	220	1000	ND	
1,2-Dichlorobenzene	130	1000	ND	
1,2-Dibromo-3-Chloropropane	420	1000	ND	
Hexachlorobutadiene	260	1000	ND	
1,2,4-Trichlorobenzene	210	1000	ND	
Naphthalene	280	1000	ND	
1,2,3-Trichlorobenzene	290	1000	ND	
(S) Dibromofluoromethane			95.8	
(S) Toluene-d8			102	
(S) 4-Bromofluorobenzene			91.4	



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/05/13	<b>Analytical Batch:</b>	418054
<b>Units:</b>	ug/Kg						

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



## MB Summary Report

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/05/13	<b>Analytical Batch:</b>	418054
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Styrene	0.77	10	ND		
Bromoform	1.9	10	ND		
Isopropyl Benzene	1.2	10	ND		
n-Propylbenzene	1.4	10	ND		
Bromobenzene	1.2	10	ND		
1,1,2,2-Tetrachloroethane	3.0	10	ND		
1,3,5-Trimethylbenzene	1.1	10	ND		
1,2,3-Trichloropropane	3.3	10	ND		
4-Chlorotoluene	1.6	10	ND		
2-Chlorotoluene	1.6	10	ND		
tert-Butylbenzene	1.4	10	ND		
1,2,4-Trimethylbenzene	1.1	10	ND		
sec-Butyl Benzene	1.6	10	ND		
p-Isopropyltoluene	1.5	10	ND		
1,3-Dichlorobenzene	1.8	10	ND		
1,4-Dichlorobenzene	1.5	10	ND		
n-Butylbenzene	2.2	10	ND		
1,2-Dichlorobenzene	1.3	10	ND		
1,2-Dibromo-3-Chloropropane	4.2	10	ND		
Hexachlorobutadiene	2.6	10	ND		
1,2,4-Trichlorobenzene	2.1	10	ND		
Naphthalene	2.8	10	ND		
1,2,3-Trichlorobenzene	2.9	10	ND		
(S) Dibromofluoromethane			95.6		
(S) Toluene-d8			103		
(S) 4-Bromofluorobenzene			88.5		



## LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	3546_TPHSG	<b>Prep Date:</b>	10/29/13	<b>Prep Batch:</b>	10026
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8015B(M)	<b>Analyzed Date:</b>	10/29/13	<b>Analytical Batch:</b>	417987
<b>Units:</b>	mg/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH as Diesel	0.87	2.0	ND	33.33	66.9	76.6	13.6	50.8 - 111	30	
Pentacosane (S)			3.1	100	89.5	100		49.9 - 144		

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	5035	<b>Prep Date:</b>	10/31/13	<b>Prep Batch:</b>	10053
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	10/31/13	<b>Analytical Batch:</b>	418026
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH(Gasoline)	30	100	38	1000	90.7	105	14.7	64.0 - 133.2	30	
(S) 4-Bromofluorobenzene			114	50	118	118		43.9 - 127		

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	5035	<b>Prep Date:</b>	11/04/13	<b>Prep Batch:</b>	10065
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	11/04/13	<b>Analytical Batch:</b>	418044
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH(Gasoline)	30	100	32	1000	84.7	82.6	2.51	64.0 - 133.2	30	
(S) 4-Bromofluorobenzene			93.3	50	88.3	92.4		43.9 - 127		

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	5035	<b>Prep Date:</b>	11/01/13	<b>Prep Batch:</b>	10067
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	11/01/13	<b>Analytical Batch:</b>	418046
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH(Gasoline)	30	100	52	1000	81.8	80.7	1.35	64.0 - 133.2	30	
(S) 4-Bromofluorobenzene			112	50	103	93.3		43.9 - 127		



## LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	5035	<b>Prep Date:</b>	11/05/13	<b>Prep Batch:</b>	10076
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	8260TPH	<b>Analyzed Date:</b>	11/05/13	<b>Analytical Batch:</b>	418054
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH(Gasoline)	30	100	ND	1000	117	114	2.27	64.0 - 133.2	30	
(S) 4-Bromofluorobenzene			99.8	50	111	112		43.9 - 127		

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	10/31/13	<b>Analytical Batch:</b>	418026
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	1.5	10	ND	50	68.2	68.0	0.361	53.7 - 139	30	
Benzene	1.5	10	ND	50	79.0	81.2	2.69	66.5 - 135	30	
Trichloroethylene	3.9	10	ND	50	77.1	76.5	0.657	57.5 - 150	30	
Toluene	0.98	10	ND	50	83.0	81.4	1.92	56.8 - 134	30	
Chlorobenzene	4.2	10	ND	50	80.8	79.6	1.45	57.4 - 134	30	
(S) Dibromofluoromethane			ND	50	93.0	97.1		59.8 - 148		
(S) Toluene-d8			ND	50	98.4	96.4		55.2 - 133		
(S) 4-Bromofluorobenzene			ND	50	86.6	89.2		55.8 - 141		

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/04/13	<b>Analytical Batch:</b>	418044
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	1.5	10	ND	50	80.1	70.6	12.8	53.7 - 139	30	
Benzene	1.5	10	ND	50	87.1	83.6	4.21	66.5 - 135	30	
Trichloroethylene	3.9	10	ND	50	81.3	80.9	0.392	57.5 - 150	30	
Toluene	0.98	10	ND	50	83.3	90.3	8.20	56.8 - 134	30	
Chlorobenzene	4.2	10	ND	50	81.9	88.4	7.73	57.4 - 134	30	
(S) Dibromofluoromethane			ND	50	107	96.1		59.8 - 148		
(S) Toluene-d8			ND	50	102	101		55.2 - 133		
(S) 4-Bromofluorobenzene			ND	50	86.0	93.4		55.8 - 141		



## LCS/LCSD Summary Report

*Raw values are used in quality control assessment.*

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/01/13	<b>Analytical Batch:</b>	418046
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	1.5	10	ND	50	84.8	76.6	10.2	53.7 - 139	30	
Benzene	1.5	10	ND	50	101	94.8	6.55	66.5 - 135	30	
Trichloroethylene	3.9	10	ND	50	95.2	86.9	9.16	57.5 - 150	30	
Toluene	0.98	10	ND	50	102	93.4	9.18	56.8 - 134	30	
Chlorobenzene	4.2	10	ND	50	99.8	92.4	7.68	57.4 - 134	30	
(S) Dibromofluoromethane			ND	50	97.8	98.3		59.8 - 148		
(S) Toluene-d8			ND	50	98.6	95.6		55.2 - 133		
(S) 4-Bromofluorobenzene			ND	50	96.1	89.6		55.8 - 141		

<b>Work Order:</b>	1310185	<b>Prep Method:</b>	NA	<b>Prep Date:</b>	NA	<b>Prep Batch:</b>	NA
<b>Matrix:</b>	Soil	<b>Analytical Method:</b>	SW8260B	<b>Analyzed Date:</b>	11/05/13	<b>Analytical Batch:</b>	418054
<b>Units:</b>	ug/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	1.5	10	ND	50	69.7	72.2	3.71	53.7 - 139	30	
Benzene	1.5	10	ND	50	85.1	87.4	2.60	66.5 - 135	30	
Trichloroethylene	3.9	10	ND	50	79.3	83.9	5.79	57.5 - 150	30	
Toluene	0.98	10	ND	50	86.1	90.6	4.98	56.8 - 134	30	
Chlorobenzene	4.2	10	ND	50	85.1	89.4	5.05	57.4 - 134	30	
(S) Dibromofluoromethane			ND	50	99.0	100		59.8 - 148		
(S) Toluene-d8			ND	50	98.4	99.7		55.2 - 133		
(S) 4-Bromofluorobenzene			ND	50	92.3	94.3		55.8 - 141		



## Laboratory Qualifiers and Definitions

### DEFINITIONS:

<b>Accuracy/Bias (% Recovery)</b> - The closeness of agreement between an observed value and an accepted reference value.
<b>Blank (Method/Preparation Blank)</b> -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process.
<b>Duplicate</b> - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD)
<b>Laboratory Control Sample (LCS ad LCSD)</b> - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance.
<b>Matrix</b> - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc)
<b>Matrix Spike (MS/MSD)</b> - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix.
<b>Method Detection Limit (MDL)</b> - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero
<b>Practical Quantitation Limit (PQL)</b> - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes.
<b>Precision (%RPD)</b> - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates
<b>Surrogate (S) or (Surr)</b> - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis
<b>Tentatively Identified Compound (TIC)</b> - A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation.
<b>Units:</b> the unit of measure used to express the reported result - <b>mg/L</b> and <b>mg/Kg</b> (equivalent to PPM - parts per million in <b>liquid</b> and <b>solid</b> ), <b>ug/L</b> and <b>ug/Kg</b> (equivalent to PPB - parts per billion in <b>liquid</b> and <b>solid</b> ), <b>ug/m<sup>3</sup></b> , <b>mg.m<sup>3</sup></b> , <b>ppbv</b> and <b>ppmv</b> (all units of measure for reporting concentrations in air), % (equivalent to 10000 ppm or 1,000,000 ppb), <b>ug/Wipe</b> ( concentration found on the surface of a single Wipe usually taken over a 100cm <sup>2</sup> surface)

### LABORATORY QUALIFIERS:

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

Client Name: Impact Environmental Services

Date and Time Received: 10/29/2013 12:20

Project Name: 1409-1417 12th St.

Received By: mj

Work Order No.: 1310185

Physically Logged By: ng

Checklist Completed By: ng

Carrier Name: Client Drop Off

### Chain of Custody (COC) Information

Chain of custody present? Yes  
Chain of custody signed when relinquished and received? Yes  
Chain of custody agrees with sample labels? Yes  
Custody seals intact on sample bottles? Not Present

### Sample Receipt Information

Custody seals intact on shipping container/cooler? Not Present  
Shipping Container/Cooler In Good Condition? Yes  
Samples in proper container/bottle? Yes  
Samples containers intact? Yes  
Sufficient sample volume for indicated test? Yes

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

All samples received within holding time? Yes  
Container/Temp Blank temperature in compliance? Yes Temperature: 5 °C  
Water-VOA vials have zero headspace? No VOA vials submitted  
Water-pH acceptable upon receipt? N/A  
pH Checked by: n/a pH Adjusted by: n/a



## Login Summary Report

<b>Client ID:</b>	TL5130	Impact Environmental Services	<b>QC Level:</b>
<b>Project Name:</b>	1409-1417 12th St.		<b>TAT Requested:</b> 5+ day:0
<b>Project # :</b>			<b>Date Received:</b> 10/29/2013
<b>Report Due Date:</b>	11/5/2013		<b>Time Received:</b> 12:20
<b>Comments:</b>	TPHg, d, mo, silica gel c/up, 8260petE (samples 004A, 005A & 006A-do not require Naphthalene test).		
<b>Work Order # :</b>	<b>1310185</b>		

<u>WO Sample ID</u>	<u>Client Sample ID</u>	<u>Collection Date/Time</u>	<u>Matrix</u>	<u>Scheduled Disposal</u>	<u>Sample On Hold</u>	<u>Test On Hold</u>	<u>Requested Tests</u>	<u>Subbed</u>
1310185-001A	CSB1R-5	10/25/13 10:42	Soil	04/27/14			EDF S_8260PetE S_TPHDOSG S_GCMS-GRO	
<b>Sample Note:</b> Benzene & MTBE are Drivers, need reasonable detection limits.								
TPHg, d, mo, silica gel c/up, 8260petE (samples 004A, 005A & 006A-do not require Naphthalene test). EDF.								
1310185-002A	CSB1R-7	10/25/13 10:56	Soil	04/27/14			S_8260PetE S_TPHDOSG S_GCMS-GRO	
1310185-003A	CSB1R-10	10/25/13 11:09	Soil	04/27/14			S_GCMS-GRO S_TPHDOSG S_8260PetE	
1310185-004A	CSB1R-12	10/25/13 11:21	Soil	04/27/14			S_GCMS-GRO S_TPHDOSG S_8260PetE	
1310185-005A	CSB1R-15	10/25/13 11:33	Soil	04/27/14			S_GCMS-GRO S_TPHDOSG S_8260PetE	
1310185-006A	CSB1R-18	10/25/13 11:34	Soil	04/27/14			S_8260PetE S_TPHDOSG S_GCMS-GRO	
1310185-007A	CSB6R-5	10/25/13 9:40	Soil	04/27/14			S_8260PetE S_TPHDOSG S_GCMS-GRO	
1310185-008A	CSB6R-7	10/25/13 9:50	Soil	04/27/14			S_GCMS-GRO S_TPHDOSG S_8260PetE	
1310185-009A	CSB6R-10	10/25/13 9:58	Soil	04/27/14			S_GCMS-GRO	



## Login Summary Report

**Client ID:** TL5130      Impact Environmental Services

**QC Level:**

**Project Name:** 1409-1417 12th St.

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

**Project # :**

**Date Received:** 10/29/2013

**Report Due Date:** 11/5/2013

**Time Received:** 12:20

**Comments:** TPHg, d, mo, silica gel c/up, 8260petE (samples 004A, 005A & 006A-do not require Naphthalene test).

**Work Order # :** **1310185**

<u>WO Sample ID</u>	<u>Client Sample ID</u>	<u>Collection Date/Time</u>	<u>Matrix</u>	<u>Scheduled Disposal</u>	<u>Sample On Hold</u>	<u>Test On Hold</u>	<u>Requested Tests</u>	<u>Subbed</u>
1310185-010A	CSB6R-13	10/25/13 10:05	Soil	04/27/14			S_8260PetE S_TPHDOSG	
1310185-011A	CSB6R-15	10/25/13 10:20	Soil	04/27/14			S_8260PetE S_TPHDOSG S_GCMS-GRO	
							S_GCMS-GRO S_TPHDOSG S_8260PetE	



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483 Sinclair Frontage Road  
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Phone: 408.263.5258  
FAX: 408.263.8293  
www.torrentlab.com

### CHAIN OF CUSTODY

LAB WORK ORDER NO  
1310185

NOTE: SHADED AREAS ARE FOR TORRENT LAB USE ONLY.

Company Name: **IMPACT ENVIRONMENTAL SERVICES**  Env.  IH  Food  Special Location of Sampling: **1409-1417 12th Street, Oakland, CA**

Address: **39120 ARGONAUT WAY, #223** Purpose: **Confirmation Closure Verification Soil Sampling**

City: **CA Fremont** State: **CA** Zip Code: **94538** Special Instructions / Comments: **BENZENE & MTBE ARE DRIVERS need reasonable detection limits.**

Telephone: **510-703-5420** FAX: \_\_\_\_\_

REPORT TO: **Joseph Cotton** SAMPLER: **Joseph Cotton** P.O. #: \_\_\_\_\_ EMAIL: **jac21462@aol.com,**

TURNAROUND TIME:  10 Work Days  4 Work Days  1 Work Day  
 7 Work Days  3 Work Days  Noon - Nxt Day  
 5 Work Days  2 Work Days  2 - 8 Hours

SAMPLE TYPE:  Storm Water  Air  QC Level IV  
 Waste Water  Other  EDF  
 Ground Water  Soil  Excel / EDD

REPORT FORMAT:  QC Level IV  EDF  Excel / EDD

ANALYSIS REQUESTED

LAB ID	CANISTER I.D.	CLIENT'S SAMPLE I.D.	DATE / TIME SAMPLED	MATRIX	# OF CONT	CONT TYPE	TPH <sub>g</sub> , TPH <sub>d</sub> (SGC)	TPH <sub>mo</sub> (SGC) EPA8015	LEAD SCAVENGERS, BTEX, OXYGENATES BY EPA METHOD 8266	NAPHTHELENE	REMARKS
001A		CSB1R-5	10-25-13 10:42 AM	SOIL	1	BY TANK	✓	✓	✓		
002A		CSB1R-7	10-25-13 10:56 AM	SOIL	1	4	✓	✓	✓		Temp = 50C
003A		CSB1R-10	10-25-13 11:09 AM	SOIL	1	4	✓	✓	✓		
004A		CSB1R-12	10-25-13 11:21 AM	SOIL	1	4	✓	✓	✓		
005A		CSB1R-15	10-25-13 11:33 AM	SOIL	1	4	✓	✓	✓		
006A		CSB1R-18	10-25-13 11:34 AM	SOIL	1	4	✓	✓	✓		
007A		CSB6R-5	10-25-13 9:40 AM	SOIL	1	4	✓	✓	✓		
008A		CSB6R-7	10-25-13 9:50 AM	SOIL	1	4	✓	✓	✓		
009A		CSB6R-10	10-25-13 9:58 AM	SOIL	1	4	✓	✓	✓		

Relinquished By: *[Signature]* Print: JOSEPH COTTON Date: 12:20 10-29-13 Time: 12:20

Received By: *[Signature]* Print: JMW Date: 10/29/13 Time: 12:20

Were Samples Received in Good Condition?  Yes  NO Samples on Ice?  Yes  NO Method of Shipment: 0/0 Sample seals intact?  Yes  NO  N/A

NOTE: Samples are discarded by the laboratory 30 days from date of receipt unless other arrangements are made. Temp \_\_\_\_\_ °C Page 1 of 2

Log In By: \_\_\_\_\_ Date: \_\_\_\_\_ Log In Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_ Rev. 1

REC m LI n LBL p LIR

