

METROVATION

March 13, 2013

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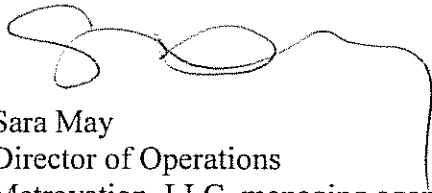
Mr. Jerry Wickham
Senior Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Re: Terradev Jefferson LLC Property
645 Fourth Street, Oakland, CA 94607
Fuel Leak Case No. RO0003001
Blue Rock Project No. ASE-1

Dear Mr. Wickham,

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

Sincerely,



Sara May
Director of Operations
Metrovation, LLC, managing agent for
Terradev Jefferson, LLC

Attachment:

Blue Rock Environmental, Inc.'s Confirmation Soil and Groundwater Sampling Event & Low Threat UST Case Closure Policy Evaluation dated March 11, 2013.



Mr. Jerry Wickham
Senior Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

March 11, 2013

**Re: Confirmation Soil and Groundwater Sampling Report &
Low Threat UST Case Closure Policy Evaluation**

Terradev Jefferson LLC Property
645 4th Street, Oakland, CA 94607
Fuel Leak Case No. RO0003001
Blue Rock Project No. ASE-1

Dear Mr. Wickham,

This report, prepared by Blue Rock Environmental, Inc. (Blue Rock) on behalf of Terradev Jefferson, LLC, presents the results of confirmation soil and groundwater sampling activities proposed in Blue Rock's October 18, 2012 report, which were approved by the Alameda County Health Care Services Agency – Environmental Health Services (ACHCSA) in a letter dated November 19, 2012. This sampling was performed to document secondary source reduction after mass removal events and remaining groundwater quality. The data generated by this work, in addition to the knowledge generated by cumulative site corrective actions (which were performed throughout with the engagement of the ACHCSA), were used to evaluate the site relative to the Low Threat UST Case Closure Policy criteria. The evaluation concludes that site conditions meet all general and media specific criteria for closure and a recommendation for such is made.

Background

Site Description and UST Discovery / Removal

The site is located southeast of the intersection of 4th Street and Martin Luther King Jr. Way in Oakland, California (Figure 1). The site consists of a single story commercial building, bounded closely on the sides and back by other commercial buildings. One single-walled steel underground storage tank (UST) was discovered beneath the sidewalk immediately adjacent to the front of the building during renovation in 2006 (Figure 2). The UST is located on the upgradient edge of a developed city block.

Phase I Environmental Site Assessments completed in support of the purchase (1999) and for refinancing in 2006 indicated that no sign of an underground tank was observed during associated site inspections. The Phase I author also interviewed persons knowledgeable with the property from the 1950s until the time of the Phase I; the interviewees could recollect no underground tank being used during the period of their familiarity.

A review of Sanborn Fire Insurance Maps revealed no evidence of subject site use that would potentially require an underground tank, and as such it is difficult to discern precisely when the tank was installed or operated. Based on the Phase I interviews, it is assumed the tank was installed and last used prior to the 1950s. State and local regulations require the proper abandonment of tanks that are no longer used to store or dispense fuels, thus the abandonment work after tank discovery in 2006.

According to Golden Gate Tank Removal, Inc. (Golden Gate), after consultation with the City of Oakland, it was determined that building structural considerations prohibited physical tank removal and that in-place abandonment was the appropriate means to close the subject UST. Therefore, Golden Gate abandoned the UST in-place by triple washing followed by filling it to capacity with concrete slurry on September 5, 2006. Abandonment was performed with the permission and under the oversight of the City of Oakland Fire Prevention Bureau. Details of this event are presented in Golden Gate's *Tank Closure Report* dated September 21, 2006.

Golden Gate reported that the UST contained gasoline with an approximate holding capacity of 1,000-gallons, measuring approximately 10 feet in length and 4 feet in diameter. The bottom of the UST was estimated to be located 7.5 to 8 feet below ground surface (ft bgs). The fill port was reported to be located at the west end of the tank (Figure 2).

At the direction of the Oakland Fire Department, two holes were cored in the bottom of the cleaned tank prior to its abandonment to enable the collection of samples of underlying material. Golden Gate reported that the soil beneath the tank was wet, but that groundwater was not encountered. Soil samples were collected at a depth of 9 ft bgs. The samples were analyzed for concentrations of total petroleum hydrocarbons as diesel (TPHd), gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX), and the five fuel oxygenates (MTBE, TBA, ETBE, DIPE, and TAME). Results of analysis of the sampled sediments indicated the presence of residual fuel hydrocarbons in both samples, with concentrations higher in the sample collected from the western end of the tank. This sample contained TPHg at a 10,000 mg/kg and benzene at 130 mg/kg.

Summary of Investigation Activities

Subsurface investigation began in 2009. A total of two soil borings have been drilled (B-1 and B-2), and three extraction wells (DPE-1 through DPE-3) and three sub-slab soil vapor points (VP-1 through VP-3) have been installed at the site. A summary of well construction details is included in Table 1, and summaries of soil, groundwater, and sub-slab soil vapor sample analytical data are included in Tables 2, 3, and 4, respectively.

Site Conceptual Model

The site conceptual model for the project was initially developed by Amicus in their September 13, 2009 correspondence. The following section presents a summary of the current site conceptual model, which is subject to modification as new data is acquired.

The subject site is located in a commercial/industrial neighborhood along the San Francisco Bay-Margin. The site is underlain by sands and clays. The upper six feet generally consists of a brown sand (SP-SM), which has been interpreted as fill material. Native soil underlying the fill consists of a gray and yellow-brown sandy clay (CL) unit from ~6 – 7 ft bgs and a mottled red-brown and gray clayey sand (SC) from ~7 – 14 ft bgs, a brown sand (SP) from ~14 – 16 ft bgs, and gray clayey sand (SC) from ~ 16 – 20 ft bgs, the maximum depth explored. Groundwater is present in unconfined conditions at a depth of approximately 9 ft bgs. Groundwater flows generally to the south, towards the Oakland Inner Harbor, based on information from nearby sites.

Gasoline range hydrocarbons are present in soil and groundwater proximal to the abandoned UST. Interestingly, the contaminant signature also includes MTBE, a gasoline additive not used abundantly in California until the early/mid 1990s (MTBE became a mandated addition to California gasoline following passage of the Clean Air Act Amendments in 1990). Although it is uncertain when the subject UST was removed from service, it is expected that it was not in service during MTBE's lifespan as a gasoline additive.

Blue Rock understands that an upgradient property at the corner of 5th Street and Martin Luther King Jr. Way was formerly used as a gas station (Global ID T06000101350), the tanks for which were removed many years ago under Alameda County oversight. Additionally, review of Sanborn Maps revealed the presence of a gas station opposite the subject site between on the east side of Grove Street (now Martin Luther King Way) between 4th and 5th Streets. The gas station appears to have been constructed between 1952 and 1957 and operated until the Bay Area Rapid Transit (BART) corridor was constructed on this land around 1970. It is unclear if these are the same station or two different stations. The relationship (if any) between these historic service stations and residual hydrocarbons found at the subject site is unknown, as no data pertaining to them are readily available.

The abandoned UST is located beneath the sidewalk along 4th Street, at the upgradient edge of a city block. The location of densely packed, low ceiling (occupied) buildings prohibits implementation of a traditional environmental investigation (i.e. an array of downgradient borings and wells). The nearest location for the construction of downgradient monitoring wells is the street or sidewalk along 3rd Street, on the other side of the city block. Review of the results of UST studies at nearby sites (Allen property at 345 Martin Luther King Jr. Way and Markus Hardware at 632-638 Second Street) suggest that a 3rd Street location for downgradient monitoring wells for would simply be too far from the expected downgradient edge of the plume to serve any practical purpose. Yet, the results of corrective action at nearby sites can be used to predict aspects of the subject case.

The Allen property, located across Martin Luther King Jr. Way (formerly Grove Street), provides a useful example. Contamination originating from a 10,000-gallon UST at that property extended approximately 75 feet downgradient. According to Allen property reports, a 10,000-gallon UST was used at that property to fuel fleet vehicles prior to its in-place abandonment. Available reports do not describe the installation date, throughput, or contents of the tank; however, the analytes detected in proximal groundwater suggest the tank may have held gasoline. It is notable that the UST at the subject site is much smaller than the Allen UST, and not obviously associated with a business employing a fleet of delivery trucks (implying a possibly lower throughput). Consequently, a conservative approximation of Terradev migratory extent may be the extent of migration of the Allen release (i.e. approximately 75 feet downgradient of the UST). This approximation is clearly far from the 3rd Street edge of the developed block, which is approximately 235 feet downgradient of the UST.

Groundwater beneath this area of Oakland is not presently used for beneficial purposes (consumption or irrigation). Additionally, it is reasonable to assume that the shallowest water-bearing zone in the vicinity of the subject site will plausibly not be used for beneficial consumption for the indeterminate future, if ever (in terms of City habitation). The residual hydrocarbons in groundwater do not, therefore, pose a threat to human health via consumption.

Secondary Source Removal

Amicus evaluated investigative and remedial options available at the site in their September 13, 2009 correspondence. It was noted that corrective actions would be necessarily constrained by the location of the abandoned UST relative to existing development - i.e. assessment proximally downgradient is prohibited, inadequate space to build a traditional fixed in-situ remediation system, and remedial excavation would undermine the existing building. Yet the persistence of elevated concentrations of gasoline range hydrocarbons in the subsurface merited remedial action. As a result, the use of mobile high-vacuum extraction (HVDPE) equipment was recommended as an aggressive approach to reduce the remaining gasoline mass in the vicinity of the UST for which details were proposed in the *Removal Action Workplan* dated February 3, 2010, which was conditionally approved by the ACHCSA in a letter dated February 19, 2010.

First High-Vacuum Dual-Phase Extraction Event (September-October 2010)

An initial mobile HVDPE remedial event was performed at the site from September 28 to October 3, 2010 (5 days). The event was completed using a truck-mounted unit consisting of a 25-horsepower oil sealed liquid-ring pump capable of producing 29 "Hg vacuum, and a thermal oxidizer capable of treating an air flow of approximately 450 ACFM. Wells DPE-1, DPE-2, and DPE-3 were used as extraction wells. A stinger hose was lowered into each well through a vacuum tight cap and placed approximately one foot off the bottom of each well. Depth to water at the beginning of the event was approximately 9.5 ft bgs in all three wells. At the beginning of the event, influent TPHg levels at individual wells ranged from 1,700 ppmv to 3,530 ppmv; however, they dropped to less 1,000 ppmv by the end of the event. The total average hydrocarbon mass recovered was **174 lbs** (based on 122 lbs calculated from field PID data and 225 lbs calculated from lab data), which equates to an average extraction rate of nearly 35 lbs/day.

Second High-Vacuum Dual-Phase Extraction Event (July 2012)

A second mobile HVDPE remedial event was performed at the site from July 9 to 24, 2012 (15days). The event was completed using a truck-mounted unit consisting of a 25-horsepower oil sealed liquid-ring pump capable of producing 29 “Hg vacuum, and a thermal oxidizer capable of treating an air flow of approximately 450 ACFM. Wells DPE-1 and DPE-2 were used as primary extraction wells, as they proved to be the most productive. A stinger hose was lowered into each well through a vacuum tight cap and placed approximately one foot off the bottom of each well. Depth to water at the beginning of the event was approximately 8.5 to 9 ft bgs, and the no LNAPL was observed in any of the wells. The total influent TPHg level was 1,200 ppmv at the start of the event and declined to 430 ppmv by the end of the event. The ending mass recovery rate was estimated to be approximately 11 lbs/day.

Blue Rock estimated the total average hydrocarbon mass recovered was approximately **249 lbs** (based on 199 lbs calculated from field PID data and 298 lbs calculated from lab data). The HVDPE unit provider (CalClean) estimated the total average hydrocarbon mass recovered was approximately **166 lbs** (based on 130 lbs calculated from field PID data and 191 lbs calculated from lab data). The difference between the mass removal estimates appears to be due to the fact that Blue Rock used flowrates from the manufacturer’s blower curve based on the measured vacuum and Calclean used flowrates measured in the field with an inline flowmeter.

Cumulative Secondary Source Removal Efforts

The total hydrocarbon mass of approximately **340 to 423 lbs** has been removed by both the 2010 and 2012 events. At the beginning of the 2010 event, total inlet concentrations were 1,660 ppmv resulting in an extraction rate of approximately 90 lbs/day. By the end of the 2012 event, total inlet concentrations had declined to 430 ppmv and the extraction was approximately 10 lbs/day. Based on these data, it appears the use mobile HVDPE may have reached its effective limit and the mass appears to have been removed to the extent practicable. Additional use of mobile HVDPE would likely not be cost effective.

Vapor Intrusion Evaluation

In June and August 2012, Blue Rock sampled three sub-slab soil vapor points (VP-1 through VP-3) inside the building adjacent to the closed UST (Figure 2). The points are located between approximately 6 and 38 feet south to southeast of the UST. Results from both events did not indicate a vapor intrusion risk based on comparison to Shallow Soil Gas ESLs from Table E of *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim 2007 (Revised 2008)* and CHHSLs published in *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties (CALEPA 2005)* for commercial / industrial land use scenarios. Details of this work were presented in Blue Rock’s *Sub-Slab Soil Vapor Sampling Report* dated July 7, 2012 and *Second Sub-Slab Soil Vapor Sampling Report* dated October 18, 2012. Sub-slab soil vapor data is summarized in Table 4.

Confirmation Soil Borings

Purpose

Blue Rock recommended confirmation soil borings in their October 18, 2012 report to document remaining petroleum concentrations in soil adjacent to the UST to serve as a proxy for secondary source mass reduction. This work was approved by the ACHCSA in a letter dated November 19, 2013. Blue Rock drilled two borings adjacent to DPE-1 and DPE-2 (designated CB-1 and CB-2 respectively) to collect and analyze soil samples from depths of previously documented impact. The comparison of pre- and post-HVDPE concentrations of fuel hydrocarbons in the soil is intended serve as a proxy for mass reduction. Soil quality on the west and east side of the abandoned UST was evaluated at depths where pre-remedial TPHg concentrations exceeded 100 mg/kg.

Pre-Field Activities

The property owner earlier obtained an Indenture Agreement with the City of Oakland to install the three wells in the sidewalk and an Excavation Permit to perform drilling and well installation work in the desired areas. These agreements/permits remained in effect for the confirmation soil boring activities. Blue Rock obtained a current obstruction permit from the Alameda County Public Works Agency (attached). The site was marked by Underground Service Alert to identify utilities proximal to proposed drilling location. Blue Rock prepared a site specific Health and Safety Plan, which was reviewed and signed by project workers.

Drilling and Sampling Activities

Confirmation soil sampling activities occurred on February 18, 2013. A Blue Rock geologist supervised all drilling and sampling activities. Gregg Drilling & Testing, Inc. (Gregg), a C-57 licensed company, used a direct-push drill-rig to complete the drilling and sampling work. The first five feet of each hole was cleared with a hand auger. The borings were then continuously cored to their final depth using direct-push drill-rod lined with four-foot long sample tubes.

A Blue Rock geologist logged soil types in accordance with the Unified Soil Classification System. The upper six feet generally consisted of a brown sand (SP-SM), which was underlain by a gray and yellow-brown sandy clay (CL) unit from ~6 – 7 ft bgs and a mottled red-brown and gray clayey sand (SC) from ~7 – 15 ft bgs, the maximum depth explored. Groundwater was later measured at a depth of approximately 9.5 ft bgs (see attached boring logs).

Following completion of drilling and sampling activities, the borings were backfilled with cement grout and finished flush at the surface with concrete.

A total of seven soil samples, between the depths of approximately 7.5 and 15 ft bgs, were retained for laboratory analysis. These samples were cut from the four-foot sample tube into segments approximately six-inches long, covered with Teflon lined plastic caps, labeled, documented on a chain-of custody form, and placed on ice in a cooler for transport to the project laboratory. The soil samples were analyzed by Kiff Analytical LLC, a DHS-certified laboratory, for TPHg, BTEX, MTBE, TBA, 1,2-DCA, and EDB by EPA Method 8260B and TPHd by EPA Method 8015M.

All downhole sampling equipment was cleaned with an Alconox® wash followed by double rinse in clean tap water. Soil cuttings and sampler rinse water were stored in a labeled 5-gal. pails pending appropriate off-site disposal.

Borings CB-1 and CB-2 are located within approximately two feet of DPE-1 and DPE-2, respectively, and have essentially the same GEO_XY coordinates as those wells. In February 28, 2013 email, the ACHCSA accepted the use of DPE-1 and DPE-2 survey data for borings CB-1 and CB-2, respectively.

Soil Sample Analytical Results

The following section summarizes soil analytical results for this event:

- TPHd concentration: 1.2 mg/kg (CB-1-7.5) to 880 mg/kg (CB-1-12)
- TPHg concentration: <1.0 mg/kg (CB-1-7.5) to 14,000 mg/kg (CB-1-12)
- Benzene concentration: <0.0050 mg/kg (CB-1-7.5) to 100 mg/kg (CB-1-12)
- MTBE Concentration: <0.0050 mg/kg (CB-1-7.5) to 0.53 mg/kg (CB-1-12)

The results are summarized in Table 2. The laboratory report and chain-of-custody form are attached.

Evaluation of Secondary Source Removal / Reduction

As discussed above, the comparison of pre- and post-remedial soil quality proximal to the abandoned UST is intended to serve as a proxy for removal / reduction of the secondary source mass. The results of confirmation soil sampling are shown below and compared to pre-remedial levels.

| <i>West Side of UST</i> | | | |
|-------------------------|---------------------------|----------------------------|----------------|
| Sample ID | Pre-remedial TPHg (mg/kg) | Post-Remedial TPHg (mg/kg) | CB-1 Sample ID |
| DPE-1-7.5' | 6,500 | <1.0 | CB-1-7.5' |
| EX-W-9' | 10,000 | 1,200 | CB-1-9' |
| DPE-1-12' | 2,300 | 14,000 | CB-1-12' |
| DPE-1-15' | 770 | 1,000 | CB-1-15' |

| <i>East Side of UST</i> | | | |
|-------------------------|---------------------------|----------------------------|----------------|
| Sample ID | Pre-remedial TPHg (mg/kg) | Post-Remedial TPHg (mg/kg) | CB-2 Sample ID |
| DPE-2-6' | 1.2 | No sample | |
| EX-E-9' | 920 | 840 | CB-2-9' |
| DPE-2-11' | 160,000 | 2,700 | CB-2-11' |
| DPE-2-15' | 430 | 380 | CB-2-15' |

TPHg concentrations in the upper 11 feet of soil were lower compared to pre-remedial levels, while concentrations at a depth of 12 feet and below were similar to, or higher, than pre-remedial levels. The reduction in concentrations in the upper 11 feet is expected based on historical depth to water and temporary local dewatering during the HVDPE events. Static depth to water is approximately 9 ft bgs and the intake hoses were placed at a depth of approximately 14 ft bgs in DPE-3 and 14 ft bgs in DPE-1 / DPE-2 during HVDPE extraction (i.e. one foot off the bottom of the well casing). The combined effect of the naturally occurring vadose zone and depressed water levels in each extraction well likely facilitated better vapor flow, and therefore mass removal, in the upper 11 feet of the soil column due to lower moisture content relative to soil deeper in the saturated zone. These results are indicative of secondary source reduction primarily in the upper 11 feet of the soil column.

Post-Remedial Groundwater Monitoring

Groundwater Monitoring Activities

On February 11, 2013, the wells were sampled to confirm groundwater post source reduction conditions first measured in August 2012. During the monitoring effort an electronic water level indicator, accurate to within ± 0.01 -ft, was used to measure depth to water in each well. The depth to water ranged from 8.34 ft bgs (DPE-3) to 8.95 ft bgs (DPE-2) (please note that the proximity and configuration of the wells are not suitable to determinations of flow direction / gradient). Based on information from nearby sites, groundwater flow is interpreted to be generally toward the south - southeast, towards the Oakland Inner Harbor.

All wells were checked for measureable thicknesses, equal to greater than 0.01-ft, of light non-aqueous-phase liquid (LNAPL); however, none was observed. The wells were purged until pH, temperature, and conductivity parameters had stabilized, which occurred after approximately three wetted casing volumes. An immeasurable petroleum “sheen” was observed on purge water from DPE-3. Following recovery of water levels to approximately 80% of their static levels, groundwater samples were collected using disposable polyethylene bailers and transferred to laboratory-supplied containers. Sample containers were labeled, documented on a chain-of-custody form, and placed on ice in a cooler for transport to the project laboratory.

Purging instruments were cleaned between use by an Alconox[®] wash followed by double rinse in clean tap water to prevent cross-contamination. The purge and rinse water was transported to Seaport Environmental in Redwood City, California for disposal (the transport forms and receipt is attached).

The water samples were analyzed by Kiff Analytical LLC, a DHS-certified laboratory, for TPHg, BTEX, MTBE, TBA, 1,2-DCA, and EDB by EPA Method 8260B and TPHd by EPA Method 8015M.

Groundwater Sample Analytical Results

The following section summarizes groundwater analytical results for this event:

- TPHd concentration: <3,000 $\mu\text{g/L}$ (DPE-1) to <40,000 $\mu\text{g/L}$ (DPE-3)
- TPHg concentration: 60,000 $\mu\text{g/L}$ (DPE-2) to 130,000 $\mu\text{g/L}$ (DPE-3)
- Benzene concentration: 7,300 $\mu\text{g/L}$ (DPE-2) to 9,400 $\mu\text{g/L}$ (DPE-1)
- MTBE Concentration: 34 $\mu\text{g/L}$ (DPE-2) to 240 $\mu\text{g/L}$ (DPE-1)
- 1,2-DCA Concentration: 54 $\mu\text{g/L}$ (DPE-3) to 210 $\mu\text{g/L}$ (DPE-1)

The results are summarized in Table 3. The laboratory report and chain-of-custody form are attached.

Evaluation of Groundwater Conditions Before and After Secondary Source Reduction

Groundwater quality has improved in wells DPE-1 and DPE-2 since HVDPE events were performed, which is summarized below (please note that DPE-3 cannot be evaluated because a pre-remedial sample is not available):

| <i>DPE-1</i> | | | |
|---------------------|-----------------------------------|----------------------------------|----------------------------------|
| Analytes | Before Source Reduction (9/22/10) | After Source Reduction (8/12/12) | After Source Reduction (2/11/13) |
| TPHd (µg/L) | <4,000 | <2,000 | <3,000 |
| TPHg (µg/L) | 120,000 | 71,000 | 81,000 |
| Benzene (µg/L) | 25,000 | 7,500 | 9,400 |
| MTBE (µg/L) | 320 | 270 | 240 |

| <i>DPE-2</i> | | | |
|---------------------|-----------------------------------|----------------------------------|----------------------------------|
| Analytes | Before Source Reduction (9/22/10) | After Source Reduction (8/12/12) | After Source Reduction (2/11/13) |
| TPHd (µg/L) | <4,000 | <2,000 | <4,000 |
| TPHg (µg/L) | 110,000 | 70,000 | 60,000 |
| Benzene (µg/L) | 21,000 | 9,900 | 7,300 |
| MTBE (µg/L) | 110 | 56 | 34 |

| <i>DPE-3</i> | | | |
|---------------------|-----------------------------------|----------------------------------|----------------------------------|
| Analytes | Before Source Reduction (9/22/10) | After Source Reduction (8/12/12) | After Source Reduction (2/11/13) |
| TPHd (µg/L) | no sample, well was dry | <200,000 | <40,000 |
| TPHg (µg/L) | | 190,000 | 130,000 |
| Benzene (µg/L) | | 1,400 | 4,700 |
| MTBE (µg/L) | | 130 | <40 |

These results generally show an order of magnitude decrease in dissolved-phase concentrations from pre-remedial levels (i.e. DPE-1 and DPE-2) or stabilized concentrations after source removal actions (i.e. DPE-3).

Comparison of Site Conditions to Low Threat UST Case Closure Criteria

The State Water Resources Control Board adopted the *Low-Threat Underground Storage Tank Case Closure Policy* on May 1, 2012, which became effective August 17, 2012. The intent of this policy is to increase UST clean-up process efficiency. A benefit of improved efficiency is the preservation of limited resources for mitigation of releases posing a greater threat to human and environmental health. Sites that meet general and media-specific criteria described in the policy do not pose a threat to human health, safety, or the environment and are appropriate for UST case closure pursuant to Health and Safety Code section 25296.10. The draft policy further states that sites that do not meet the stated criteria should be issued a closure letter if the site has been determined to be low-threat based on site-specific analysis. The General Criteria and Media-Specific Criteria are further examined in the following sections. Please note that italicized text are criteria list in the policy and normal text are discussion of site conditions.

General Criteria

- a. *The unauthorized release is located within the service area of a public water system.* **Satisfied:** The site is located within the EBMUD water system service area. Further, there are no production wells within the area of the site, and it is reasonable to assume that the shallowest water-bearing zone in the vicinity of the subject site will plausibly not be used for beneficial consumption for the indeterminate future, if ever (in terms of City habitation). The residual hydrocarbons in groundwater do not pose a threat to human health via consumption.
- b. *The unauthorized release consists only of petroleum.* **Satisfied:** The unauthorized release and constituents detected in the source area consist of gasoline compounds. Specific compounds and/or compound groups that have been detected include: TPHd, TPHg, BTEX, MTBE, TBA, 1,2-DCA, and EDB.
- c. *The unauthorized (“primary”) release from the UST system has been stopped.* **Satisfied:** The subject UST was abandoned in-place by filling it with a concrete slurry in 2006.
- d. *Free product has been removed to the maximum extent practicable.* **Satisfied:** Free-product was measured once in DPE-3 at a thickness of 0.13-feet in January 2011. However, following the second HVDPE event, no measurable thickness of free product has been observed in any of the wells.
- e. *A conceptual site model that assesses the nature, extent, and mobility of the release has been developed.* **Satisfied:** Understanding of the conceptual site model (CSM) has necessarily evolved through the course of investigation and relied on information derived from nearby sites due to the difficulty of implementing a traditional investigation on the downgradient side of the abandoned UST.

- f. *Secondary source has been removed to the extent practicable.* **Satisfied:** The secondary source was removed to the extent practicable by the use of HVDPE, and a total gasoline mass of approximately 340 lbs to 423 lbs has been removed from the upper 11 feet of the soil column. At the beginning of the 2010 event, total inlet concentrations were 1,660 ppmv resulting in an extraction rate of approximately 90 lbs/day. By the end of the 2012 event, total inlet concentrations had declined to 430 ppmv and the extraction was approximately 10 lbs/day. It appears that the use of HVDPE has reached its effective limit, and the secondary source has been removed to the extent practicable.
- g. *Soil or groundwater has been tested for methyl tert-butyl ether (MTBE) and results reported in accordance with Health and Safety Code section 25296.15.* **Satisfied:** Soil and groundwater samples collected since the beginning of the project have been tested for MTBE, and the results of testing have been made available and reported to ACHCSA, as per California Health and Safety Code 25296.15.
- h. *Nuisance as defined by Water Code section 13050 does not exist at the site.* **Satisfied:** "Nuisance" means anything which meets all of the following requirements: (1)Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2)Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3)Occurs during, or as a result of, the treatment or disposal of wastes. The site does not appear pose a nuisance as described above.

Media-Specific Criteria

Releases from USTs can impact human health and the environment through contact with any or all of the following contaminated media: groundwater, surface water, soil, and soil vapor. Although this contact can occur through ingestion, dermal contact, or inhalation of the various media, the most common drivers of health risk are ingestion of groundwater from drinking water wells, inhalation of vapors accumulated in buildings, contact with near surface contaminated soil, and inhalation of vapors in the outdoor environment. To simplify implementation, these media and pathways have been evaluated and the most common exposure scenarios have been combined into three media-specific criteria:

1. Groundwater

This policy describes criteria on which to base a determination that threats to existing and anticipated beneficial uses of groundwater have been mitigated or are de minimis, including cases that have not affected groundwater.

State Water Board Resolution 92-49, Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304 is a state policy for water quality control and applies to petroleum UST cases. Resolution 92-49 directs that water affected by an unauthorized release attain either background water quality or the best water quality that is reasonable if background water quality cannot be restored. Any alternative level of water quality less stringent than background must be consistent with the maximum benefit to the people of the state, not unreasonably affect current and anticipated beneficial use of affected water, and not result in water quality less than that prescribed in the water quality control plan for the basin within which the site is located. Resolution No. 92-49 does not require that the requisite level of water quality be met at the time of case closure; it specifies compliance with cleanup goals and objectives within a reasonable time frame.

Water quality control plans (Basin Plans) generally establish “background” water quality as a restorative endpoint. This policy recognizes the regulatory authority of the Basin Plans but underscores the flexibility contained in Resolution 92-49.

It is a fundamental tenet of this low-threat closure policy that if the closure criteria described in this policy are satisfied at a petroleum unauthorized release site, attaining background water quality is not feasible, establishing an alternate level of water quality not to exceed that prescribed in the applicable Basin Plan is appropriate, and that water quality objectives will be attained through natural attenuation within a reasonable time, prior to the expected need for use of any affected groundwater.

If groundwater with a designated beneficial use is affected by an unauthorized release, to satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed below. A plume that is “stable or decreasing” is a contaminant mass that has expanded to its maximum extent: the distance from the release where attenuation exceeds migration.

Groundwater-Specific Criteria

- (1)
 - a. *The contaminant plume that exceeds water quality objectives is less than 100 feet in length.*
 - b. *There is no free product.*
 - c. *The nearest existing water supply well or surface water body is greater than 250 feet from the defined plume boundary.*

- (2)
 - a. *The contaminant plume that exceeds water quality objectives is less than 250 feet in length.*
 - b. *There is no free product.*
 - c. *The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.*
 - d. *The dissolved concentration of benzene is less than 3,000 micrograms per liter ($\mu\text{g/l}$), and the dissolved concentration of MTBE is less than 1,000 $\mu\text{g/l}$.*

- (3)
 - a. *The contaminant plume that exceeds water quality objectives is less than 250 feet in length.*
 - b. *Free product has been removed to the maximum extent practicable, may still be present below the site where the release originated, but does not extend off-site.*
 - c. *The plume has been stable or decreasing for a minimum of five years.*
 - d. *The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.*
 - e. *The property owner is willing to accept a land use restriction if the regulatory agency require a land use restriction as a condition of closure.*

- (4)
 - a. *The contaminant plume that exceeds water quality objectives is less than 1,000 feet in length.*
 - b. *There is no free product.*
 - c. *The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.*
 - d. *The dissolved concentration of benzene is less than 1,000 $\mu\text{g/l}$, and the dissolved concentration of MTBE is less than 1,000 $\mu\text{g/l}$.*

- (5)
 - a. *The regulatory agency determines, based on an analysis of site specific conditions, that under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.*

The CSM relies on a nearby case (the Allen property) to describe likely plume geometry associated with the abandoned site UST. As discussed above, it is conservatively estimated that the remaining plume length extends approximately 75 feet south-southeast of the UST. The nearest surface water body, the Oakland Inner Harbor, is located approximately 1,200 feet from the estimated downgradient edge of the plume. Site conditions most closely match Option 2, except the maximum remaining benzene concentration is 9,400 $\mu\text{g/L}$ (DPE-1) which exceeds the limit of 3,000 $\mu\text{g/L}$. Alternatively, Option 5 can be satisfied if the ACHCSA makes a site specific determination that the remaining does not pose a threat to human health or the environment.

2. Petroleum Vapor Intrusion to Indoor Air

Exposure to petroleum vapors migrating from soil or groundwater to indoor air may pose unacceptable human health risks. This policy describes conditions, including bioattenuation zones, which if met will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks. In many petroleum release cases, potential human exposures to vapors are mitigated by bioattenuation processes as vapors migrate toward the ground surface. For the purposes of this section, the term “bioattenuation zone” means an area of soil with conditions that support biodegradation of petroleum hydrocarbon vapors.

The low-threat vapor-intrusion criteria described below apply to sites where the release originated and impacted or potentially impacted adjacent parcels when: (1) existing buildings are occupied or may be reasonably expected to be occupied in the future, or (2) buildings for human occupancy are reasonably expected to be constructed in the future. Appendices 1 through 4 (attached) illustrate four potential exposure scenarios and describe characteristics and criteria associated with each scenario. Petroleum release sites shall satisfy the media-specific criteria for petroleum vapor intrusion to indoor air and be considered low-threat for the vapor-intrusion-to-indoor-air pathway if:

- a. Site-specific conditions at the release site satisfy all of the characteristics and criteria of scenarios 1 through 3 as applicable, or all of the characteristics and criteria of scenario 4 as applicable; or*
- b. A site-specific risk assessment for the vapor intrusion pathway is conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency; or*
- c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health.*

Exception: Exposures to petroleum vapors associated with historical fuel system releases are comparatively insignificant relative to exposures from small surface spills and fugitive vapor releases that typically occur at active fueling facilities. Therefore, satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.

Direct sampling of sub-slab soil vapor from VP-1 through VP-3 and comparison of results to applicable ESLs has demonstrated that vapor intrusion is not a concern (Table 4). This sampling and evaluation satisfies Option B.

3. Direct Contact and Outdoor Air Exposure

This policy describes conditions where direct contact with contaminated soil or inhalation of contaminants volatilized to outdoor air poses a low threat to human health. Release sites where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if they meet any of the following:

a. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs). The concentration limits for 0 to 5 feet bgs protect from ingestion of soil, dermal contact with soil, and inhalation of volatile soil emissions and inhalation of particulate emissions. The 5 to 10 feet bgs concentration limits protect from inhalation of volatile soil emissions. Both the 0 to 5 feet bgs concentration limits and the 5 to 10 feet bgs concentration limits for the appropriate site classification (Residential or Commercial/Industrial) shall be satisfied. In addition, if exposure to construction workers or utility trench workers are reasonably anticipated, the concentration limits for Utility Worker shall also be satisfied; or

b. Maximum concentrations of petroleum constituents in soil are less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health; or

c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

Table 1
Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health

| Chemical | Residential | | Commercial / Industrial | | Utility Worker |
|------------------|------------------------|---|-------------------------|---|-------------------------|
| | 0 to 5 ft bgs mg/kg | Volatilization to outdoor air (5 to 10 ft bgs) mg/kg | 0 to 5 ft bgs mg/kg | Volatilization to outdoor air (5 to 10 ft bgs) mg/kg | 0 to 10 ft bgs mg/kg |
| Benzene | 1.9 | 2.8 | 8.2 | 12 | 14 |
| Ethylbenzene | 21 | 32 | 89 | 134 | 314 |
| Naphthalene | 9.7 | 9.7 | 45 | 45 | 219 |
| PAH ¹ | 0.63 | NA | 0.68 | NA | 4.5 |

Notes:

1. Based on the seven carcinogenic poly-aromatic hydrocarbons (PAHs) as benzo(a)pyrene toxicity equivalent [BaPe]. Sampling and analysis for PAH is only necessary where soil is affected by either waste oil or Bunker C fuel.
2. The area of impacted soil where a particular exposure occurs is 25 by 25 meters (approximately 82 by 82 feet) or less.
3. NA = not applicable
4. mg/kg = milligrams per kilogram

Current and reasonably anticipated future site use is commercial in nature, and potential volatilization from remaining soil impacts is restricted to approximately 10 ft bgs. Depth to water at the site is approximately 9 ft bgs. Therefore, current site conditions (i.e. soil samples from CB-1 and CB-2 above 10 ft bgs) were compared to Commercial / Industrial levels for 0 to 5 ft bgs, 5 to 10 ft bgs, and Utility Worker. No benzene or ethylbenzene concentrations detected in the identified depth intervals exceed the levels listed above. Naphthalene has not been analyzed in soil or groundwater over the course of investigation; however, it was not present in any sub-slab soil vapor samples collected from VP-1 through VP-3 therefore it is not considered to be a significant compound of concern. PAHs are not applicable because neither waste oil nor Bunker C fuel were chemicals of concern at the site.

Recommendations and Project Status

- Blue Rock recommends case closure based on the evaluation presented above and destruction of remaining project wells.

References

- Amicus Strategic Environmental Consulting, 2009, letter regarding Terradev Jefferson, LLC Property, 645 Fourth Street, Oakland, March 4.
- Amicus Strategic Environmental Consulting, 2009, letter regarding Terradev Jefferson, LLC Property, 645 Fourth Street, Oakland, September 13.
- Blue Rock, 2010, *Removal Action Workplan*, 645 Fourth Street, Oakland, California, February 3.
- Blue Rock, 2010, *Well Installation and Removal Action Report*, 645 Fourth Street, Oakland, California, October 29.
- Blue Rock, 2011, *Groundwater Monitoring Report – First Quarter 2011*, 645 Fourth Street, Oakland, California, February 1.
- Blue Rock, 2012, *Sub-Slab Soil Vapor Sampling Workplan and Project Schedule*, 645 Fourth Street, Oakland, California, April 23.
- Blue Rock, 2012, *Sub-Slab Soil Vapor Sampling Report*, 645 Fourth Street, Oakland, California, July 7.
- Blue Rock, 2012, *Second Removal Action and Groundwater Monitoring Report*, 645 Fourth Street, Oakland, California, August 16.
- Blue Rock, 2012, *Second Sub-Slab Soil Vapor Sampling Report*, 645 Fourth Street, Oakland, California, October 18.
- California EPA - DTSC. 2004. *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*. December 15 (Revised February 7, 2005).
- California EPA. 2005. *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties*. January.
- California EPA - DTSC. 2010. *Advisory – Active Soil Gas Investigation*. March
- Ninyo & Moore, 2009, *Limited Phase II Environmental Site Assessment*, 645 Fourth Street, Oakland, California, July 24.
- Golden Gate Tank Removal, Inc. 2006, *Tank Closure Report*, 645 Fourth Street, Oakland, California, September 21.
- San Francisco Bay RWQCB. 2008. *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater - Interim Final November 2007 (Revised May 2008)*. May.

Certification

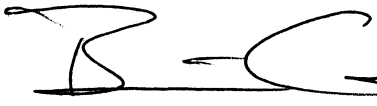
This report was prepared under the supervision of a California Professional Geologist at Blue Rock. All statements, conclusions, and recommendations are based upon published results from past consultants, field observations by Blue Rock, and analyses performed by a state-certified laboratory as they relate to the time, location, and depth of points sampled by Blue Rock. Interpretation of data, including spatial distribution and temporal trends, are based on commonly used geologic and scientific principles. It is possible that interpretations, conclusions, and recommendations presented in this report may change, as additional data become available and/or regulations change.

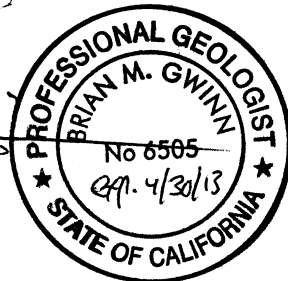
Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service performed by Blue Rock has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

If you have any questions regarding this project, please contact us at (650) 522-9292.

Sincerely,
Blue Rock Environmental, Inc.


Brian Gwinn, PG
Principal Geologist



Attachments:

Figure 1: Site Location Map

Figure 2: Site Plan

Table 1: Well Construction Data

Table 2: Soil Sample Analytical Data

Table 3: Groundwater Analytical Data

Table 4: Sub-Slab Vapor Sample Analytical Data

Alameda County PWA – Water Resources Well Permit

City of Oakland Indenture Agreement

City of Oakland Excavation Permit

City of Oakland Obstruction Permit

Boring Logs CB-1 and CB-2

Groundwater Monitoring Field Data Forms

Seaport Environmental Non-Hazardous Water Transport Form – 2/11/13

Laboratory Reports with Chain-of-Custody Forms

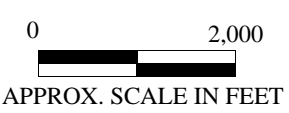
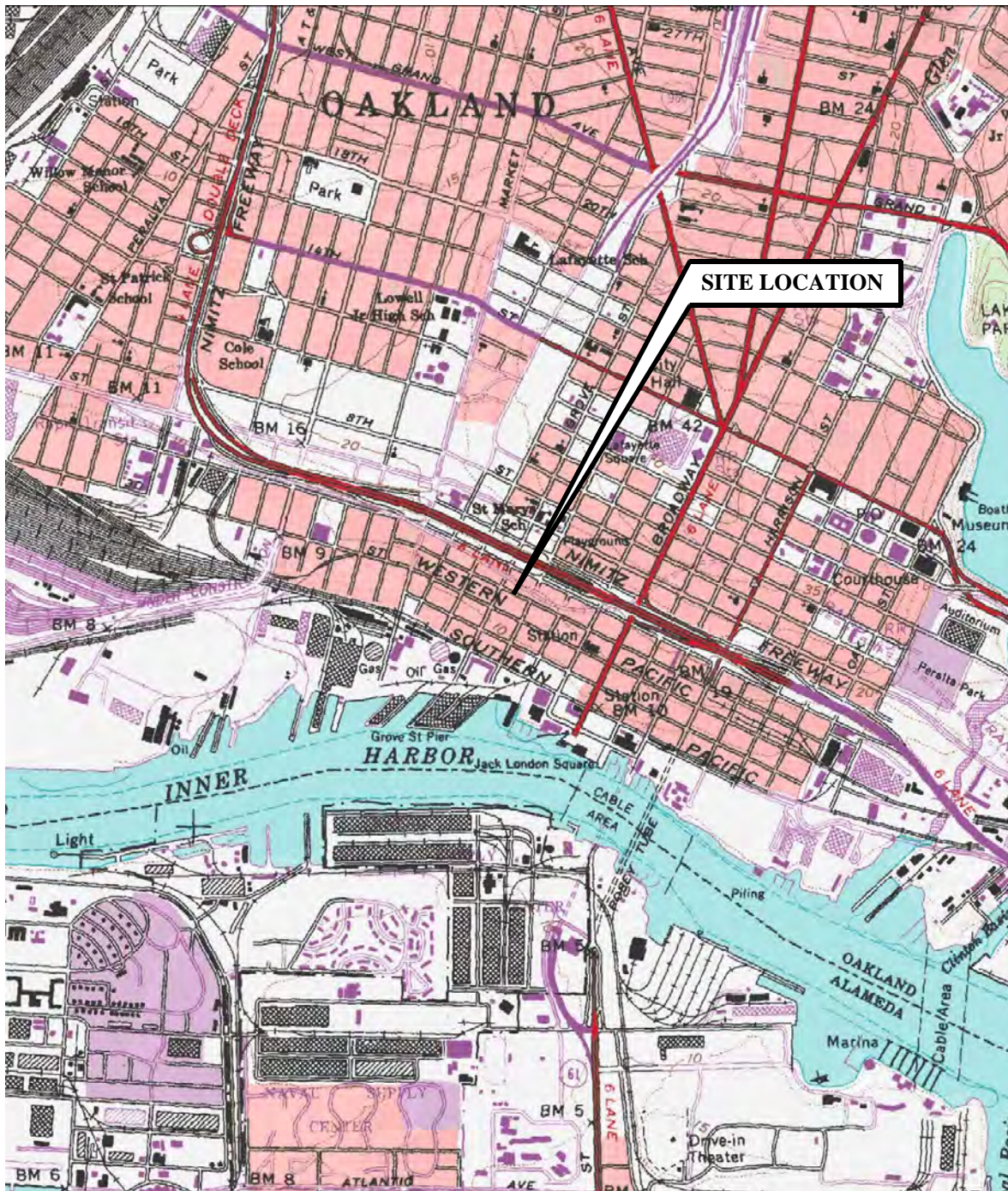
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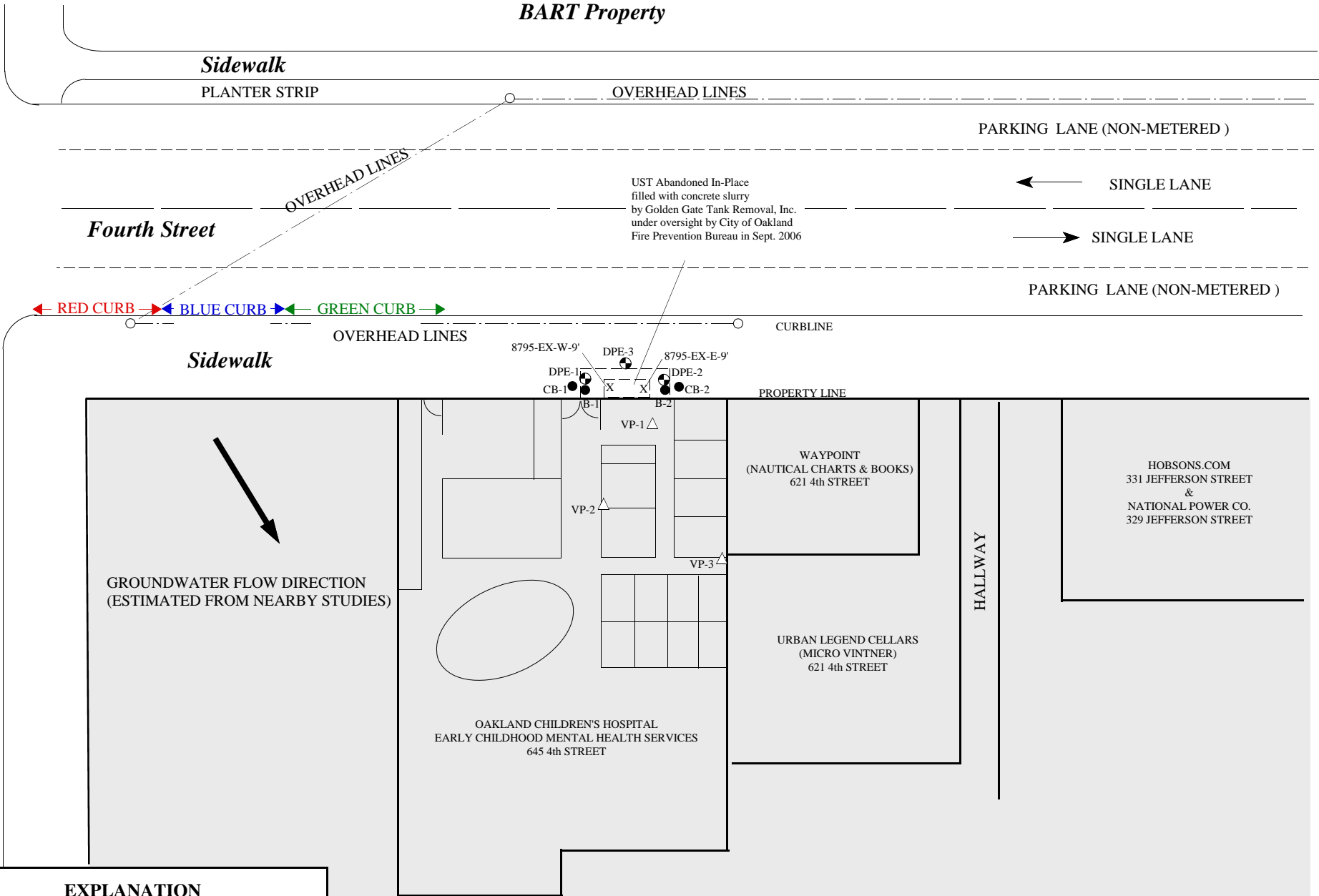
SITE LOCATION MAP
 Terradev Jefferson LLC Property
 645 Fourth St.
 Oakland, CA

 **BLUE ROCK**
 ENVIRONMENTAL, INC.

| | | |
|----------------------|----------------------|-------------|
| Project No. ASE-1 | Figure Date 10/10 | Figure 1 |
|----------------------|----------------------|-------------|

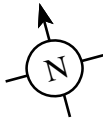
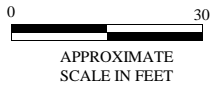
BART Property

Martin Luther King Jr. Way



EXPLANATION

| | |
|----------------|---------------------------|
| 8795-EX-W-9' X | TANK CLOSURE SOIL SAMPLE |
| B-1 ● | SOIL BORING |
| DPE-1 ● | EXTRACTION WELL |
| VP-3 △ | SUB-SLAB SOIL VAPOR POINT |



SITE PLAN
Terredev Jefferson LLC Property
645 Fourth St.
Oakland, CA



| | | |
|----------------------|----------------------|-------------|
| Project No. ASE-1 | Figure Date 02/13 | Figure 2 |
|----------------------|----------------------|-------------|

TABLE 1
Well Construction Data
Terradev Jefferson, LLC Property
645 Fourth Street
Oakland, CA

Extraction Wells

| Well ID | Date Installed | Total Boring Depth (ft bgs) | Casing Diameter (inches) | Screen Depth (ft bgs) | Sandpack Depth (ft bgs) | Bentonite Depth (ft bgs) | Cement Grout Depth (ft bgs) |
|----------------|-----------------------|------------------------------------|---------------------------------|------------------------------|--------------------------------|---------------------------------|------------------------------------|
| DPE-1 | 9/20/10 | 15 | 2 | 8 - 15 | 7 - 15 | 5 - 7 | 0 - 5 |
| DPE-2 | 9/20/10 | 15 | 2 | 8 - 15 | 7 - 15 | 5 - 7 | 0 - 5 |
| DPE-3 | 9/20/10 | 10 | 2 | 6 - 10 | 5 - 10 | 3 - 5 | 0 - 3 |

Vapor Probes

| Well ID | Date Installed | Total Probe Depth (in bgs) | Tubing Diameter (inches) | Slab Thickness (in bgs) | Screen Depth (in bgs) | Rubber Plug (in bgs) | Cement Depth (in bgs) |
|----------------|-----------------------|-----------------------------------|---------------------------------|--------------------------------|------------------------------|-----------------------------|------------------------------|
| VP-1 | 6/16/12 | 9 | 0.25 | 6.0 | ~ 6 - 9 | ~5.0 - 6.0 | 0 - 5 |
| VP-2 | 6/16/12 | 9 | 0.25 | 4.5 | ~ 6 - 9 | ~3.5 - 4.5 | 0 - 3.5 |
| VP-3 | 6/16/12 | 9 | 0.25 | 4.0 | ~ 6 - 9 | ~3.0 - 4.0 | 0 - 3 |

Notes:

ft bgs Feet below ground surface.
in bgs Inches below ground surface.

TABLE 2
Soil Sample Analytical Data
Terradev Jefferson, LLC Property
645 Fourth Street
Oakland, CA

| Sample ID | Depth (ft bgs) | Sample Date | TPHd (mg/kg) | TPHg (mg/kg) | B (mg/kg) | T (mg/kg) | E (mg/kg) | X (mg/kg) | MTBE (mg/kg) | TBA (mg/kg) | DIPE, ETBE, TAME (mg/kg) | 1,2-DCA (mg/kg) | EDB (mg/kg) |
|-------------------------------------|----------------|-------------|---------------|----------------|--------------|---------------|--------------|---------------|--------------|-------------|--------------------------|-----------------|-------------|
| <i>UST Removal Samples</i> | | | | | | | | | | | | | |
| 8795-EX-W-9' | 9 | 8/23/06 | <120 | 10,000 | 130 | 1,000 | 230 | 1,200 | <12 | <100 | all<12 | --- | --- |
| 8795-EX-E-9' | 9 | 8/23/06 | <25 | 920 | 6.8 | 55 | 18 | 110 | <1.2 | <10 | all<1.2 | --- | --- |
| <i>Investigation Samples</i> | | | | | | | | | | | | | |
| DPE-1-7.5 | 7.5 | 9/20/10 | 810^ | 6,500 | 14 | 320 | 180 | 980 | <0.50 | <2.5 | --- | <0.50 | 0.50 |
| DPE-1-12 | 12 | 9/20/10 | 260^ | 2,300 | 26 | 160 | 45 | 240 | 0.71 | <1.5 | --- | <0.30 | <0.30 |
| DPE-1-15 | 15 | 9/20/10 | 92^ | 770 | 10 | 53 | 15 | 80 | 0.39 | <0.50 | --- | 0.11 | <0.090 |
| DPE-2-6 | 6 | 9/20/10 | 15 | 1.2 | <0.0050 | 0.0054 | <0.0050 | 0.021 | <0.0050 | <0.0050 | --- | <0.0050 | <0.0050 |
| DPE-2-11 | 11 | 9/20/10 | 1,200^ | 160,000 | 1,400 | 10,000 | 3,300 | 19,000 | <0.25 | <1.5 | --- | <0.25 | 1.8 |
| DPE-2-15 | 15 | 9/20/10 | 66^ | 430 | 3.8 | 25 | 8.3 | 47 | <0.50 | <2.5 | --- | <0.050 | <0.50 |
| DPE-3-7 | 7 | 9/20/10 | 260^ | 860 | 2.1 | 37 | 19 | 100 | <0.10 | <0.50 | --- | <0.10 | <0.10 |
| DPE-3-10 | 10 | 9/20/10 | 800^ | 8,900 | 78 | 580 | 180 | 980 | <0.25 | <1.5 | --- | <0.25 | 0.82 |
| CB-1-7.5 | 7.5 | 2/18/13 | 1.2* | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | --- | --- | <0.0050 | <0.0050 |
| CB-1-9 | 9 | 2/18/13 | 110^ | 1,200 | 2.8 | 55 | 27 | 150 | <0.25 | --- | --- | <0.25 | <0.25 |
| CB-1-12 | 12 | 2/18/13 | 880^ | 14,000 | 100 | 850 | 180 | 1,400 | 0.53 | --- | --- | <0.25 | 0.86 |
| CB-1-15 | 15 | 2/18/13 | 89^ | 1,000 | 8.4 | 62 | 15 | 100 | <0.050 | --- | --- | <0.0050 | <0.0050 |
| CB-2-9 | 9 | 2/18/13 | 120^ | 840 | 0.44 | 17 | 20 | 110 | <0.15 | --- | --- | <0.15 | <0.15 |
| CB-2-11 | 11 | 2/18/13 | 110^ | 2,700 | 23 | 160 | 48 | 260 | <0.40 | --- | --- | <0.40 | <0.40 |
| CB-2-15 | 15 | 2/18/13 | 45^ | 380 | 3.9 | 18 | 6.6 | 34 | <0.050 | --- | --- | <0.0050 | <0.0050 |

Notes:

ft bgs feet below ground surface
mg/kg milligrams per kilogram
TPHd total petroleum hydrocarbons as diesel by EPA Method 8015M or 8015B
TPHg total petroleum hydrocarbons as gasoline by EPA Method 8260B
BTEX benzene, toluene, ethylbenzene, and xylenes by EPA Method 8260B
MTBE, TBA, ETBE, methyl tert-butyl ether, tert-butanol, ethyl tert-butyl ether, di-isopropyl ether, tert-amyl methyl ether by EPA Method 8260B,
DIPE, TAME
1,2-DCA, EDB 1,2-dichloroethane, 1,2-dibromoethane by EPA Method 8260B.
µg/L Micrograms per liter.
<### Not detected at or above the indicated reporting limit.
^ Laboratory Flag: Hydrocarbons are lower-boiling than typical Diesel Fuel
* Laboratory Flag: Hydrocarbons are higher-boiling than typical Diesel Fuel
--- Data not available, not monitored, or not sampled

TABLE 3
Groundwater Analytical Data
 Terradev Jefferson, LLC Property
 645 Fourth Street
 Oakland, CA

| Sample ID | Sample Date | TOC (ft MSL) | DTW (ft) | LNAPL (ft) | GWE (ft MSL) | TPHd (µg/L) | TPHg (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TBA (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) |
|---------------------------------|--------------|--------------|----------|------------|--------------|---|-------------|----------|----------|----------|----------|-------------|------------|----------------|------------|
| Grab Groundwater Samples | | | | | | | | | | | | | | | |
| B-1-GW* | 7/10/09 | -- | ~10 - 20 | -- | -- | 5,300 | 78,000 | 15,000 | 13,000 | 1,700 | 10,500 | 570 | -- | -- | -- |
| B-2-GW* | 7/10/09 | -- | ~10 - 20 | -- | -- | 2,300 | 60,000 | 13,000 | 13,000 | 890 | 4,800 | 120 | -- | -- | -- |
| Monitoring Well Data | | | | | | | | | | | | | | | |
| DPE-1 | 9/22/10 | 15.81 | 9.21 | 0.00 | 6.60 | <4,000^ | 120,000 | 25,000 | 18,000 | 3,300 | 17,000 | 320 | 320 | 620 | <40 |
| Screen | 9/28-10/3/10 | 15.81 | -- | -- | -- | 5-day HVDPE Remedial Event | | | | | | | | | |
| ~8' - 15' | 10/18/10 | 15.81 | 9.26 | sheen | 6.55 | <4,000^ | 97,000 | 15,000 | 20,000 | 1,600 | 11,000 | 490 | 270 | 390 | <40 |
| | 1/20/11 | 15.81 | 8.56 | sheen | 7.25 | <3,000^ | 83,000 | 12,000 | 16,000 | 2,000 | 11,000 | 270 | <200 | 220 | <40 |
| | 7/6/12 | 15.81 | 8.85 | 0.00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 7/9-7/24/12 | 15.81 | -- | -- | -- | 15-day HVDPE Remedial Event | | | | | | | | | |
| | 8/12/12 | 15.81 | 9.03 | 0.00 | 6.78 | <2,000^ | 71,000 | 7,500 | 9,800 | 1,000 | 6,500 | 280 | 89 | 190 | <15 |
| | 2/11/13 | 15.81 | 8.74 | 0.00 | 7.07 | <3,000^ | 81,000 | 9,400 | 14,000 | 1,800 | 10,000 | 240 | 110 | 210 | <15 |
| DPE-2 | 9/22/10 | 16.01 | 9.44 | 0.00 | 6.57 | <4,000^ | 110,000 | 21,000 | 18,000 | 3,100 | 14,000 | 200 | 260 | 540 | 110 |
| Screen | 9/28-10/3/10 | 16.01 | -- | -- | -- | 5-day HVDPE Remedial Event | | | | | | | | | |
| ~8' - 15' | 10/18/10 | 16.01 | 9.48 | sheen | 6.53 | <5,000^ | 84,000 | 11,000 | 16,000 | 1,600 | 9,200 | 77 | <200 | 220 | 77 |
| | 1/20/11 | 16.01 | 8.77 | sheen | 7.24 | <5,000^ | 94,000 | 12,000 | 19,000 | 2,500 | 13,000 | 64 | <200 | 220 | 88 |
| | 7/6/12 | 16.01 | 9.06 | 0.00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 7/9-7/24/12 | 16.01 | -- | -- | -- | 15-day HVDPE Remedial Event | | | | | | | | | |
| | 8/12/12 | 16.01 | 9.27 | 0.00 | 6.74 | <2,000^ | 70,000 | 9,900 | 16,000 | 1,700 | 9,600 | 54 | <200 | 160 | 56 |
| | 2/11/13 | 16.01 | 8.95 | 0.00 | 7.06 | <4,000^ | 60,000 | 7,300 | 9,500 | 1,400 | 7,000 | 34 | <90 | 120 | <20 |
| DPE-3 | 9/22/10 | 15.87 | 9.43 | 0.00 | 6.44 | insufficient water column for sampling (i.e. <0.5-ft) | | | | | | | | | |
| Screen | 9/28-10/3/10 | 15.87 | -- | -- | -- | 5-day HVDPE Remedial Event | | | | | | | | | |
| ~6' - 10' | 10/18/10 | 15.87 | 9.35 | 0.00 | 6.52 | insufficient water column for sampling (i.e. <0.5-ft) | | | | | | | | | |
| | 1/20/11 | 15.87 | 8.51 | 0.13 | 7.36 | no groundwater sample collected, LNAPL present. | | | | | | | | | |
| | 7/6/12 | 15.87 | 8.65 | 0.00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 7/9-7/24/12 | 15.87 | -- | -- | -- | 15-day HVDPE Remedial Event | | | | | | | | | |
| | 8/12/12 | 15.87 | 9.02 | sheen | 6.85 | <200,000^ | 190,000 | 1,400 | 7,800 | 3,700 | 29,000 | 27 | 120 | 40 | 130 |
| | 2/11/13 | 15.87 | 8.34 | sheen | 7.53 | <40,000^ | 130,000 | 4,700 | 9,000 | 1,900 | 25,000 | <40 | <200 | 54 | 80 |

Notes:

- Screen Well screen depth interval.
- TOC Top of casing relative to feet above mean sea level (ft MSL) (ref NAVD88).
- DTW Depth to water (for borings DTW shows "depth to water" and "depth to bottom of boring")
- LNAPL Light non-aqueous phase liquid petroleum, "sheen" is an immeasurable thickness (i.e. <0.01-ft)
- GWE Groundwater Elevation (TOC-DTW) in ft MSL. (This does not account for LNAPL thickness, if present).
- TPHd Total petroleum hydrocarbons as diesel by EPA Method 8015M, *8015B.
- TPHg Total petroleum hydrocarbons as gasoline by EPA Method 8260B, * 8015B.
- BTEX Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8260B, * 8021B.
 Note: total xylenes equal the sum of separate isomers reported for the 7/09 samples.
- MTBE Methyl tert-butyl ether by EPA Method 8260B, * 8021B.
- TBA Tert-butanol by EPA Method 8260B.
- 1,2-DCA, EDB 1,2-dichloroethane, 1,2-dibromoethane by EPA Method 8260B.
- µg/L Micrograms per liter.
- <### Not detected at or above the indicated reporting limit.
- ^ Method detection limit increased due to interference from gasoline range hydrocarbons
- Data not available, not monitored, or not sampled

Table 4
SUB-SLAB VAPOR SAMPLE ANALYTICAL DATA
 Terradev Jefferson LLC Property
 645 Fourth St.
 Oakland, CA

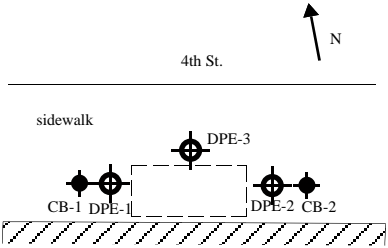
| Sample I.D. | Sample Date | air volume | | Constituent Concentrations | | | | | | | | | Soil Gas Concentrations | | | Tracer Gas | | Sample Can Vacuum | | |
|---|-------------|-------------------------|------------------|----------------------------|------------------------|------------------------|------------------------|------------------------|---------------------------|----------------------------------|------------------------------|--------------------------|-------------------------|---------------------|---------------------|------------|--------------|-----------------------|----------------------|-----|
| | | dead space vols. purged | sample container | TPHg (ug/m ³) | B (ug/m ³) | T (ug/m ³) | E (ug/m ³) | X (ug/m ³) | MTBE (ug/m ³) | Naphthalene (ug/m ³) | 1,2-DCA (ug/m ³) | EDB (ug/m ³) | O ₂ (%) | CO ₂ (%) | CH ₄ (%) | He (%) | He - Avg (%) | End of Sampling ("Hg) | Arrival at Lab ("Hg) | |
| VP-1 | 6/16/12 | 3.0 | 1-L | 1,300 | 38 | 120 | 21 | 138 | 7.3 | <0.09 | <0.14 | <0.050 | 15 | 0.096 | <0.008 | 2.4 | 22.2 | ~8 | ~6 | |
| Data corrected for 10.8% of leak volume in sample | | | | 1,457 | 43 | 135 | 24 | 155 | 8.2 | <0.10 | <0.16 | <0.056 | --- | --- | --- | --- | --- | --- | --- | |
| VP-1 | 9/22/12 | 3.0 | 1-L | <330 | <8.0 | <9.4 | <11 | <22 | <9.0 | <13 | <10 | <3.8 | 19 | 0.78 | <0.008 | 0.19 | 20.0 | ~5 | ~6 | |
| Data corrected for 0.95% of leak volume in sample | | | | <333 | <8.1 | <9.5 | <11 | <22 | <9.1 | <13 | <10 | <3.8 | --- | --- | --- | --- | --- | --- | --- | --- |
| VP-2 | 6/16/12 | 3.0 | 1-L | 1,200 | 66 | 25 | 2.6 | 8.2 | <6.3 | <0.090 | <0.14 | <0.050 | 11 | 1.3 | <0.009 | <0.003 | 13.8 | ~8 | ~7 | |
| VP-2 | 9/22/12 | 3.0 | 1-L | <330 | <8.0 | <9.4 | <11 | <22 | <9.0 | <13 | <10 | <3.8 | 14 | 4.0 | <0.008 | <0.003 | 19.0 | ~7 | ~6 | |
| VP-3 | 6/16/12 | 3.0 | 1-L | 960 | 16 | 19 | 2.9 | 20 | <5.8 | <0.08 | <0.13 | <0.050 | 16 | 0.029 | <0.008 | 2.6 | 23.6 | ~5 | ~5 | |
| Data corrected for 11.0% of leak volume in sample | | | | 1,079 | 18 | 21 | 3.3 | 22 | <6.5 | <0.09 | <0.15 | <0.056 | --- | --- | --- | --- | --- | --- | --- | |
| VP-3 | 9/22/12 | 3.0 | 1-L | <330 | <8.0 | <9.4 | <11 | <22 | <9.0 | <13 | <10 | <3.8 | 20 | 0.46 | <0.008 | 0.036 | 15.7 | ~5 | ~6 | |
| Data corrected for 0.23% of leak volume in sample | | | | <331 | <8.0 | <9.4 | <11 | <22 | <9.0 | <13 | <10 | <3.8 | --- | --- | --- | --- | --- | --- | --- | --- |
| <i>ESLs Comm/Indus Soil Gas</i> | | | | <i>29,000</i> | <i>280</i> | <i>180,000</i> | <i>3,300</i> | <i>58,000</i> | <i>31,000</i> | <i>240</i> | <i>310</i> | <i>14</i> | | | | | | | | |
| <i>CHHSLs Comm /Indus Soil Gas</i> | | | | <i>NA</i> | <i>122</i> | <i>378,000</i> | <i>NA</i> | <i>879,000</i> | <i>13,400</i> | <i>106</i> | <i>167</i> | <i>NA</i> | | | | | | | | |

Notes:

- TPHg Total Petroleum Hydrocarbons as gasoline by EPA Method TO-15
 - BTEX, MTBE Benzene, Toluene, Ethylbenzene, and Total Xylenes, Methyl tert-Butyl Ether by EPA Method TO-15(M) GC/MS (note: Xylene number shown in table is the sum of xylene isomers reported by lab)
 - Naphthalene Naphthalene by EPA Method TO-15
 - 1,2-DCA, EDB 1,2-dichloroethane, 1,2-dibromoethane by EPA Method TO-15
 - O₂, CO₂, CH₄, He Oxygen, Carbon Dioxide, Methane, and Helium by modified ASTM D-1946
 - ug/m³ Micrograms per cubic meter
 - <#.## Compound not detected at or above the reported laboratory detection limit
 - ESLs Environmental Screening Levels for Soil Vapor in Commercial/Industrial or Residential setting (SFBRWQCB 2008).
 - CHHSLs California Human Health Screening Levels for Soil Vapor in Commercial/Industrial or Residential setting (CalEPA/OEHHA2005)
 - Tracer Gas in Shroud Concentration range of tracer gas in shroud recorded during sample collection. Average = (Max - Min) / 2
- If helium was detected in the sample, the percentage measured in the sample divided by the average percentage in the shroud represents the proportion of the sample attributable to leakage.
 The data were adjusted to account for that proportion by the following: Corrected value (ug/m³) = Analyte (ug/m³) * [100% / (100% - leak%)]
 and rounded to the significant digit of original lab data.

SOIL BORING AND WELL CONSTRUCTION LOG: CB-1

BLUE ROCK ENVIRONMENTAL, INC.

| | | | | | |
|--|--|---|--------------------------------|--|---------------------------|
| FIELD LOCATION OF BORING:  | | DRILLING CONTRACTOR: Gregg Drilling & | BORING DIAMETER: 2.5 inches | CLIENT/LOCATION: Terradev Jefferson, 645 4th St., Oakland | |
| | | DRILL RIG OPERATOR: Brandon Moses | BORING DEPTH: 16 feet | SCREEN SLOT SIZE: NA | DRILLING DATE: 2/18/13 |
| | | DRILL RIG TYPE: Marl M2.50P | WELL DEPTH: NA | WELL MATERIAL: NA | FILTER PACK: NA |
| | | WELL SEAL: Neat cement with concrete surface | PLANNED USE: Sampling | LOGGED BY: Loren Taylor | |

| | | | | | | | | | |
|--------------------------|-------------|--------------|----------|----------|-------------------|--------------------------|---|----------------------------------|---------------------------------|
| WELL CONSTRUCTION DETAIL | WATER LEVEL | DEPTH (FEET) | SAMPLING | | OVM READING (PPM) | GRAPHIC LOG OR USCS CODE | SAMPLING METHOD: Continuous core | MONITORING INST: NA | APPROVED BY: Brian Gwinn, PG |
| | | | INTERVAL | RECOVERY | | | FIRST ENCOUNTERED WATER DEPTH: Approx. 13 feet | STATIC WATER DEPTH - DATE: NA | |

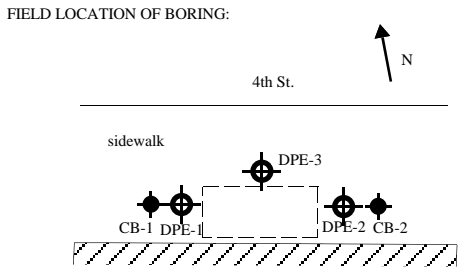
| | | | | | | | | | |
|--|--|----|--|--|--|--|--|--|--|
| | | | | | | | Concrete sidewalk. | | |
| | | 1 | | | | | hand-auger first 5 feet, logged from cuttings. | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | SAND with Silt (SP-SM); brown; poor to moderately graded; fine-medium sand; ~10% silt; damp. (Fill?) | | |
| | | 4 | | | | | | | |
| | | 5 | | | | | | | |
| | | 6 | | | | | SAND (SW); gray-brown; moderately to well graded; medium-coarse sand; ~3% fines; moist-wet. (Native begins?) | | |
| | | 7 | | | | | | | |
| | | 8 | | | | | Sandy CLAY (CL); gray & yellow-brown; low plasticity; ~40% fine sand; moist. | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | Clayey SAND (SC); mottled red-brown & gray; moderately graded; fine-medium sand; moist. | | |
| | | 11 | | | | | | | |
| | | 12 | | | | | | | |
| | | 13 | | | | | | | |
| | | 14 | | | | | Clayey SAND (SC); gray; moderately graded; fine-medium sand; wet. | | |
| | | 15 | | | | | | | |
| | | 16 | | | | | End boring. | | |
| | | 17 | | | | | | | |
| | | 18 | | | | | | | |
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SOIL BORING AND WELL CONSTRUCTION LOG: CB-2

BLUE ROCK ENVIRONMENTAL, INC.

Page: 1 of 1
Project: ASE-1

| WELL CONSTRUCTION DETAIL | WATER LEVEL | DEPTH (FEET) | SAMPLING | | OWN READING (PPM) | GRAPHIC LOG OR USCS CODE | FIELD LOCATION OF BORING: | | |
|--------------------------|-------------|--------------|----------|----------|-------------------|--------------------------|--|--------------------------|--|
| | | | INTERVAL | RECOVERY | | | DRILLING CONTRACTOR: | BORING DIAMETER: | CLIENT/LOCATION: |
| | | | | | | | Gregg Drilling & | 2.5 inches | Terradev Jefferson, 645 4th St., Oakland |
| | | | | | | | Brandon Moses | BORING DEPTH: 16 feet | SCREEN SLOT SIZE: NA |
| | | | | | | | Marl M2.50P | WELL DEPTH: NA | DRILLING DATE: 2/18/13 |
| | | | | | | | WELL SEAL: Neat cement with concrete surface | | FILTER PACK: NA |
| | | | | | | | SAMPLING METHOD: Continuous core | PLANNED USE: Sampling | LOGGED BY: Loren Taylor |
| | | | | | | | FIRST ENCOUNTERED WATER DEPTH: Approx. 13 feet | MONITORING INST: NA | APPROVED BY: Brian Gwinn, PG |
| | | | | | | | STATIC WATER DEPTH - DATE: NA | | |
| | | | | | | | Concrete sidewalk. | | |
| | | | | | | | hand-auger first 5 feet, logged from cuttings. | | |
| | | | | | | | SAND with Silt (SP-SM); brown; poor to moderately graded; fine-medium sand; ~10% silt; damp. (Fill?) | | |
| | | | | | | | SAND (SW); gray-brown; moderately to well graded; medium-coarse sand; ~3% fines; moist-wet. (Native begins?) | | |
| | | | | | | | Sandy CLAY (CL); gray & yellow-brown; low plasticity; ~40% fine sand; moist. | | |
| | | | | | | | Clayey SAND (SC); mottled red-brown & gray; moderately graded; fine-medium sand; moist. | | |
| | | | | | | | Clayey SAND (SC); gray; moderately graded; fine-medium sand; wet. | | |
| | | | | | | | End boring. | | |



| DEPTH (FEET) | SAMPLING | | OWN READING (PPM) |
|--------------|----------|----------|-------------------|
| | INTERVAL | RECOVERY | |
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Alameda County Public Works Agency - Water Resources Well Permit



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

Application Approved on: 02/04/2013 By jamesy

Permit Numbers: W2013-0075
Permits Valid from 02/13/2013 to 05/13/2013

Application Id: 1359753278567
Site Location: 645 Fourth St., Oakland, CA 94607

City of Project Site:Oakland

Project Start Date: 02/13/2013
Assigned Inspector: Leaking Underground Fuel Tank Project
Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

Completion Date:05/13/2013

Applicant: Blue Rock Environmental, Inc. - Brian Gwinn
1169 Chess Drive, Suite C, Foster City, CA 94404
Property Owner: Attn: Tim Low (Permit Supervisor) City of

Phone: 650-522-9292

Phone: --

Client: Oakland
250 Frank H. Ogawa Plaza, Oakland, CA 94612
Attn: Sara May Terradev Jefferson LLC
580 Second St., Oakland, CA 94607

Phone: --

| | | |
|--|---------------------------|---------------------|
| | Total Due: | \$265.00 |
| Receipt Number: WR2013-0037 | Total Amount Paid: | \$265.00 |
| Payer Name : Brian Gwinn Blue Rock Envntl | | PAID IN FULL |
| Inc | | |
| | | Paid By: VISA |

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 2 Boreholes
Driller: Gregg Drilling & Testing, Inc. - Lic #: 485165 - Method: DP

Work Total: \$265.00

Specifications

| Permit Number | Issued Dt | Expire Dt | # Boreholes | Hole Diam | Max Depth |
|---------------|------------|------------|-------------|-----------|-----------|
| W2013-0075 | 02/04/2013 | 05/14/2013 | 2 | 3.00 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.
5. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters

Alameda County Public Works Agency - Water Resources Well Permit

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. 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.

8. 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.

NO FEE DOCUMENT PURSUANT
TO GOVERNMENT CODE SECTION 6103

recording requested by:

CITY OF OAKLAND

when recorded mail to:

City of Oakland
CEDA - Building Services
Dalziel Administration Building
250 Ogawa Plaza - 2nd Floor
Oakland, CA 94612
Attn: City Engineer

----- space above for Recorder's use only -----

INDENTURE AGREEMENT

Address 645 4th Street

permit no. ENMI 10220 *2*

parcel no. 001 -0123-009-00

authorities Municipal Code Section 12.08.080

description Allow three monitoring wells in sidewalk area adjacent to 4th Street near M. L. King Jr. Way and subsurface tank abandoned in place below sidewalk along 4th Street.


RECITAL

The owner subscribed below of fee simple interest in the property referenced above and described in Exhibit B attached hereto, is hereby granted, for an indeterminate period of time, the revocable permit referenced above allowing the temporary encroachment described above and delineated in Exhibit C, attached hereto, and limiting the use, exercise, and operation of the encroachment with the requirements and restrictions set forth in Exhibit A, attached hereto, and the associated permit. The owner agrees by and between themselves to be bound by the general and special conditions in Exhibit A and to comply with these conditions faithfully and fully at all times. The conditions of this agreement and associated permit shall equally bind all agents, heirs, successors, and assigns of the owner.

ACKNOWLEDGEMENT OF PROPERTY OWNER

(Notarization of signature required)

TERRADEV JEFFERSON, LLC

Signature 

Date 8-27-10

Print Name SARA MAY

Title DIR. OF OPERATIONS

ATTACHMENTS

Exhibit A - Conditions of encroachment

Exhibit C - Limits of encroachment

Exhibit B - Description of privately owned parcel

CITY OF OAKLAND
a municipal corporation

WALTER S. COHEN
Director

by 

RAYMOND M. DERANIA
City Engineer

Community and Economic Development Agency

date _____

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of Alameda

On August 27, 2010 before me, LINA CONOCONO, NOTARY PUBLIC

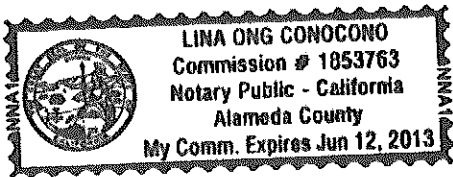
personally appeared SARA MAY

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Lina Ong Conocono



Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Indemnity Agreement Linsadev System, LLC

Document Date: 8/27/10 Number of Pages: 8

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: SARA MAY

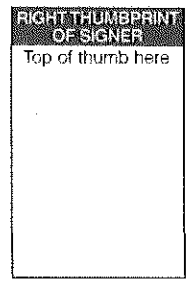
- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing: Linsadev System, LLC

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing: _____

EXHIBIT A

Conditions For An Encroachment In The Public Right-Of-Way

address 645 4th Street

parcel no. 001 -0123-009-00

permittee TERRADEV JEFFERSON, LLC

permit no. ENMI 10220

• **General conditions of the encroachment**

1. This agreement may be voided and the associated permit for an encroachment may be revoked at any time and for any reason, at the sole discretion of the City Administrator or his or her designee, or the associated permit may be suspended at any time, at the sole discretion of the City Engineer, upon failure of the permittee to comply fully and continuously with each and all of the general and special conditions set forth herein and in the associated permit.
2. The property owner and permittee hereby disclaim any right, title, or interest in or to any portion of the public right-of-way, including the sidewalk and street, and agree that the encroachment is granted for indeterminate period of time and that the use and occupancy by the permittee of the public right-of-way is temporary and does not constitute an abandonment, whether expressed or implied, by the City of Oakland of any of its rights associated with the statutory and customary purpose and use of and operations in the public right-of-way.
3. The permittee agrees to indemnify and save harmless the City of Oakland, its officers, agents, employees, and volunteers, and each of them, from any suits, claims, or actions brought by any person or persons, corporations, or other entities for on account of any bodily injury, disease, or illness, including death, damage to property, real or personal, or damages of any nature, however caused, and regardless of responsibility for negligence, arising in any manner out of the construction of or installation of a private improvement itself or sustained as result of its construction or installation or resulting from the permittees' failure to maintain, repair, remove and/or reconstruct the private improvement.
4. The permittee shall maintain fully in force and effect at all times that the encroachment occupies the public right-of-way good and sufficient public liability insurance in a face amount not less than \$300,000.00 for each occurrence, and property damage insurance in a face amount not less than \$50,000.00 for each occurrence, both including contractual liability, insuring the City of Oakland, its officers, agents, employees, and volunteers against any and all claims arising out of the existence of the encroachment in the public right-of-way, as respects liabilities assume under this permit, and that a certificate of such insurance and subsequent notices of the renewal thereof, shall be filed with the City Engineer of the City of Oakland, and that such certificate shall state that the insurance coverage shall not be canceled or be permitted to lapse without thirty calendar (30) days written notice to the City Engineer. The permittee also agree that the City of Oakland may review the type and amount of insurance required of the permittee annually and may require the permittee to increase the amount of and/or change the type of insurance coverage required.
5. The permittee shall be solely and fully liable and responsible for the repair, replacement, removal, reconstruction, and maintenance of any portion or all of the private improvements constructed or installed in the public right-of-way, whether by the cause, neglect, or negligence of the permittee or others and for the associated costs and expenses necessary to restore or remove the encroachment to the satisfaction of the City Engineer and shall not allow the encroachment to become a blight or a menace or

a hazard to the health and safety of the general public.

6. The permittee acknowledge and agree that the encroachment is out of the ordinary and does not comply with City of Oakland standard installations. The permittee further acknowledge and agree that the City of Oakland and public utility agencies will periodically conduct work in the public right-of-way, including excavation, trenching, and relocation of its facilities, all of which may damage the encroachment. Permittee further acknowledge and agree that the City and public utility agencies take no responsibility for repair or replacement of the encroachment which may be damaged by the City or its contractors or public utility agencies or their contractors. Permittee further acknowledge and agree that upon notification by and to the satisfaction of the City Engineer, permittee shall immediately repair, replace, or remove, at the sole expense of the permittee, all damages to the encroachment that are directly or indirectly attributable to work by the City or its contractors or public utility agencies or their contractors.
7. Permittee shall remain liable for and shall immediately reimburse the City of Oakland for all costs, fee assessments, penalties, and accruing interest associated with the City's notification and subsequent abatement action for required maintenance, repairs, or removal, whether in whole or in part, of the encroachment or of damaged City infrastructure made necessary by the failure, whether direct or indirect, of the permittee to monitor the encroachment effectively and accomplish preventative, remedial, or restorative work expeditiously. The City reserves the unqualified right to collect all monies unpaid through any combination of available statutory remedies, including recordation of Prospective Liens and Priority Liens/ Special Assessments with the Alameda County Recorder, inclusion of non-reimbursed amounts by the Alameda County Assessor with the annual assessment of the general levy, and awards of judgments by a court of competent jurisdiction.
8. Upon revocation of the encroachment permit, permittee shall immediately, completely, and permanently remove the encroachment from the public right-of-way and restore the public right-of-way to its original conditions existing before the construction or installation of the encroachment, to the satisfaction of the City Engineer and all at the sole expense of the permittee.
9. This agreement and the associated permit for an encroachment shall become effective upon filing of this agreement with the Alameda County Recorder for recordation as an encumbrance of the property and its title.

• **Special conditions of the encroachment**

10. That said permittee shall obtain excavation permit(s) prior to construction and separate excavation permit(s) prior to the removal of the monitoring well.
11. That said permittee shall provide to the City of Oakland an AS BUILT plan showing the actual location of the monitoring well. And the results of all data collected from the monitoring well.
12. That said permittee shall remove the monitoring well and repair any damage to the street area in accordance with City standards two (2) years after construction or as soon as monitoring is complete.
13. That said permittee shall notify the Community & Economic Development Agency, Building Services Division after the monitoring well is removed and the street area restored to initiate the procedure to rescind the minor encroachment permit.
14. That the monitoring well cover installed within the sidewalk area shall have a skid-proof surface.

15. That the monitoring well casting and cover shall be iron and shall meet H-20 load rating. The cover shall be secured with a minimum of two stainless steel bolts. Bolts and cover shall be mounted flush with the surrounding surface. For sidewalk installations, a pre-cast concrete utility box and non-skid cover may be needed in conjunction with the bolted cast iron cover with City approval.
16. That said permittee acknowledges that the City makes no representations or warranties as to the conditions beneath said encroachment. By accepting this revocable permit, permittee agrees that it will use the encroachment area at its own risk, is responsible for the proper coordination of its activities with all other permittee, underground utilities, contractors, or workmen operating, within the encroachment area and for the safety of itself and any of its personnel in connection with its entry under this revocable permit.
17. That said permittee acknowledges that the City is unaware of the existence of any hazardous substances beneath the encroachment area; and permittee hereby waives and fully releases and forever discharges the City and its officers, directors, employees, agents, servants, representatives, assigns and successors from any and all claims, demands, liabilities, damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs), whether direct or indirect, known or unknown, foreseen or unforeseen, that may arise out of or in any way connected with the physical condition or required remediation of the excavation area of any law or regulation applicable thereto, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Sections 9601 et seq.), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 466 et seq.), the Safe Drinking Water Act (14 U.S.C. Sections 1401, 1450), the Hazardous Waste Control Law (California Health and Safety Code Sections 25100 et seq.), the Porter-Cologne Water Quality Control Act (California Health and Safety Code Section 13000 et seq.), the Hazardous Substance Account Act (California Health and Safety Code Sections 253000 et seq.), and the Safe Drinking Water and Toxic Enforcement Act (California Health and Safety Code Section 25249.5 et seq.).
18. That said permittee further acknowledges that it understands and agrees that it hereby expressly waives all rights and benefits which it now has or in the future may have, under and by virtue of the terms of California Civil Code Section 1542, which reads as follows: "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR."
19. That said permittee recognizes that by waiving the provisions of this section, permittee will not be able to make any claims for damages that may exist, and to which, if known, would materially affect its decision to agree to these encroachment terms and conditions, regardless of whether permittee's lack of knowledge is the result of ignorance, oversight, error, negligence, or any other cause.
20. (a) That said permittee, by the acceptance of this revocable permit, agrees and promises to indemnify, defend, and hold harmless the City of Oakland, its officers, agents, and employees, to the maximum extent permitted by law, from any and all claims, demands, liabilities damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs; collectively referred to as "claims", whether direct or indirect, known or unknown, foreseen or unforeseen, to the extent that such claims were either (1) caused by the permittee, its agents, employees, contractors or representatives, or, (2) in the case of environmental contamination, the claim is a result of environmental contamination that emanates or emanated from 645 4th Street, Oakland, California site, or was otherwise caused by the permittee, its agents, employees, contractors or representatives.

(b) That, if any contamination is discovered below or in the immediate vicinity of the encroachment, and the contaminants found are of the type used, housed, stored, processed or sold on or from 645 4th Street, Oakland, California site, such shall amount to a rebuttable presumption that the contamination below, or in the immediate vicinity of, the encroachment was caused by the permittee, its agents, employees, contractors or representatives.

(c) That said permittee shall comply with all applicable federal, state, county and local laws, rules, and regulations governing the installation, maintenance, operation and abatement of the encroachment.

21. That said Minor Encroachment Permit and Agreement shall take effect when all the conditions hereinabove set forth shall have been complied with to the satisfaction of the City Engineer, and shall become null and void upon the failure of the permittee to comply with all conditions.
22. That said Indenture Agreement alone does not allow work to be done which requires inspection. Permittee to obtain any and all required permits before beginning work.
23. The City, at its sole discretion and at future date not yet determined, may impose additional and continuing fees as prescribed in the Master Fee Schedule for use and occupancy of the public right-of-way.

EXHIBIT B.1

Description Of the Private Property Abutting The Encroachment

address 645 4th Street

parcel no. 001-0123-009-00

deed no. 2000-141336

recorded 5/12/2000

PARCEL ONE:

Lots 4, 5, 6, 7, 8, 9, 10, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 and a portion of Lots 3 and 28 in Block 27, as said Lots and Block are shown on Kellersberger's Map of Oakland, on file and of record in the Office of the County Recorder of Alameda County, described as follows:

Beginning at the intersection of the Northeastern line of 3rd Street, with the Northwestern line of Jefferson Street; running thence along said line of Jefferson Street Northeasterly 150 feet; thence parallel with the Southwestern line of 4th Street Northwesterly 75 feet; thence parallel with said line of Jefferson Street Northeasterly 50 feet to the Southwestern line of 4th Street; thence along the last named line Northwesterly 50 feet; thence parallel with said line of Jefferson Street Southwesterly 100 feet; thence parallel with said line of 4th Street Northwesterly 50 feet; thence parallel with said line of Jefferson Street Northeasterly 100 feet to the Southwestern line of 4th Street; thence along the last named line Northwesterly 125 feet to the Southeastern line of Grove Street; thence along the last named line Southwesterly 134 feet, 10 inches; thence parallel with said line of 3rd Street Southeasterly 100 feet; thence parallel with said line of Grove Street Southwesterly 65 feet 2 inches to the Northeastern line of 3rd Street; and thence along the last named line Southeasterly 200 feet to the point of beginning.

PARCEL TWO:

Lot 11 in Block 27, as said Lot and Block are shown on Kellersberger's Map of Oakland, on file and of record in the Office of the County Recorder of Alameda County, described as follows:

Beginning at a point on the Southwestern line of 4th Street distant thereon Southeasterly 125 feet from the Southeastern line of Grove Street; running thence along said line of 4th Street 25 feet; thence parallel with said line of Grove Street Southwesterly 100 feet; thence parallel with said line of 4th Street Northwesterly 25 feet; and thence parallel with said line of Grove Street Northeasterly 100 feet to the point of beginning.

PARCEL THREE:

Portions of Lots 1, 2 and 3 in Block 27, as said Lots and Block are shown on Kellersberger's Map of Oakland, on file in the Office of the County Recorder of Alameda County, described as follows:

Beginning at the point of intersection of the Northeastern line of 3rd Street with the Southeastern line of Grove Street, as said Street are shown on said Map; running thence Southeasterly along said line of 3rd Street 70 feet, 3 inches; thence at right angles Northeasterly 65 feet, 2 inches; thence at right angles Northwesterly 70 feet 3 inches to said Southeastern line of Grove Street; thence Southwesterly along said last named line 65 feet 2 inches to the point of beginning.

A more legible copy is available for viewing at the **Office of the City Engineer**,
City of Oakland, 250 Frank Ogawa Plaza, 2nd floor.

EXHIBIT B.2

Description Of the Private Property Abutting The Encroachment

address 645 4th Street

parcel no. 001-0123-009-00

deed no. 2000-141336

recorded 5/12/2000

PARCEL FOUR:

Lot 12 in Block 27, as said Lot and Block are shown on Kellersberger's Map of Oakland, on file in the Office of the County Recorder of Alameda County, described as follows:

Beginning at a point on the Southwestern line of 4th Street distant thereon 125 feet Northwesterny from the Northwestern line of Jefferson Street; running thence Northwesterny along said line of 4th Street, 25 feet; thence at right angles Southwesterly, 100 feet; thence at right angles Southeasterly 25 feet; thence at right angles Northeastery 100 feet to the point of beginning.

A.P. No.: 001-0123-009

A more legible copy is available for viewing at the
Office of the City Engineer,
City of Oakland, 250 Frank Ogawa Plaza, 2nd floor.

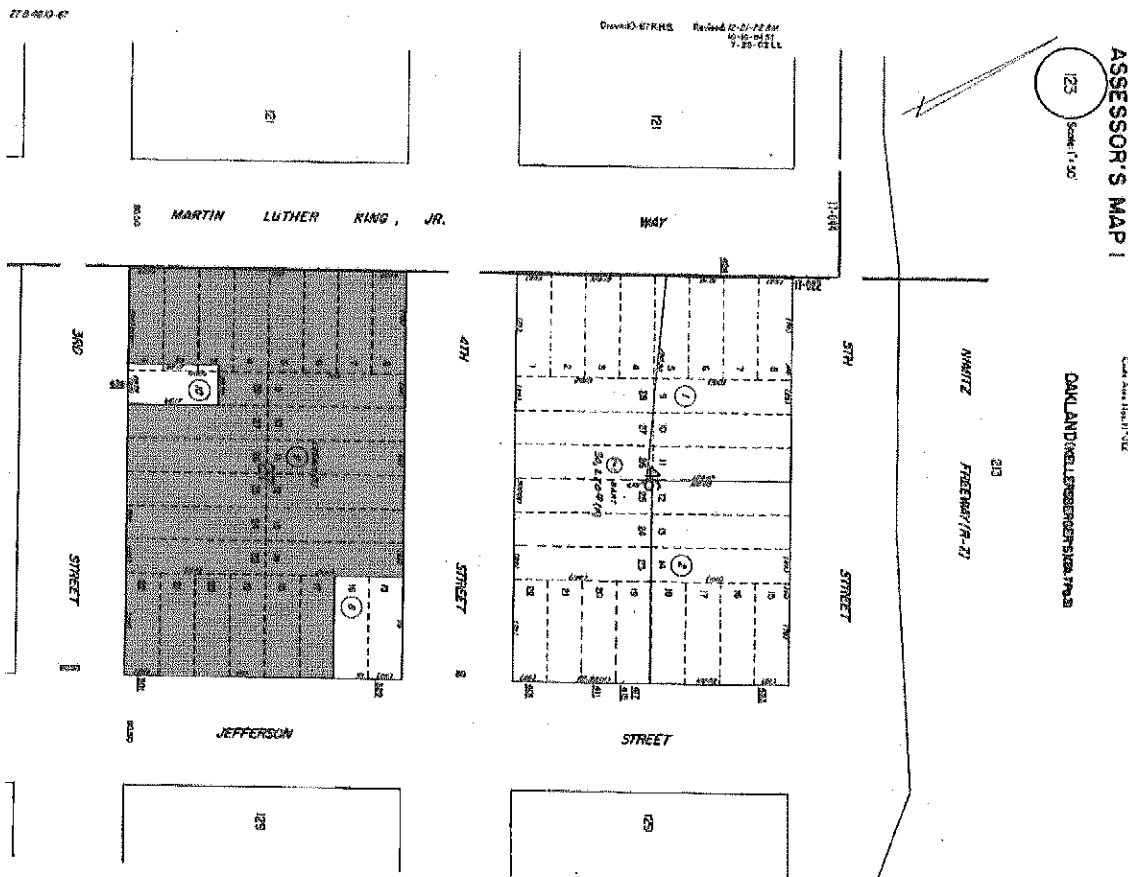
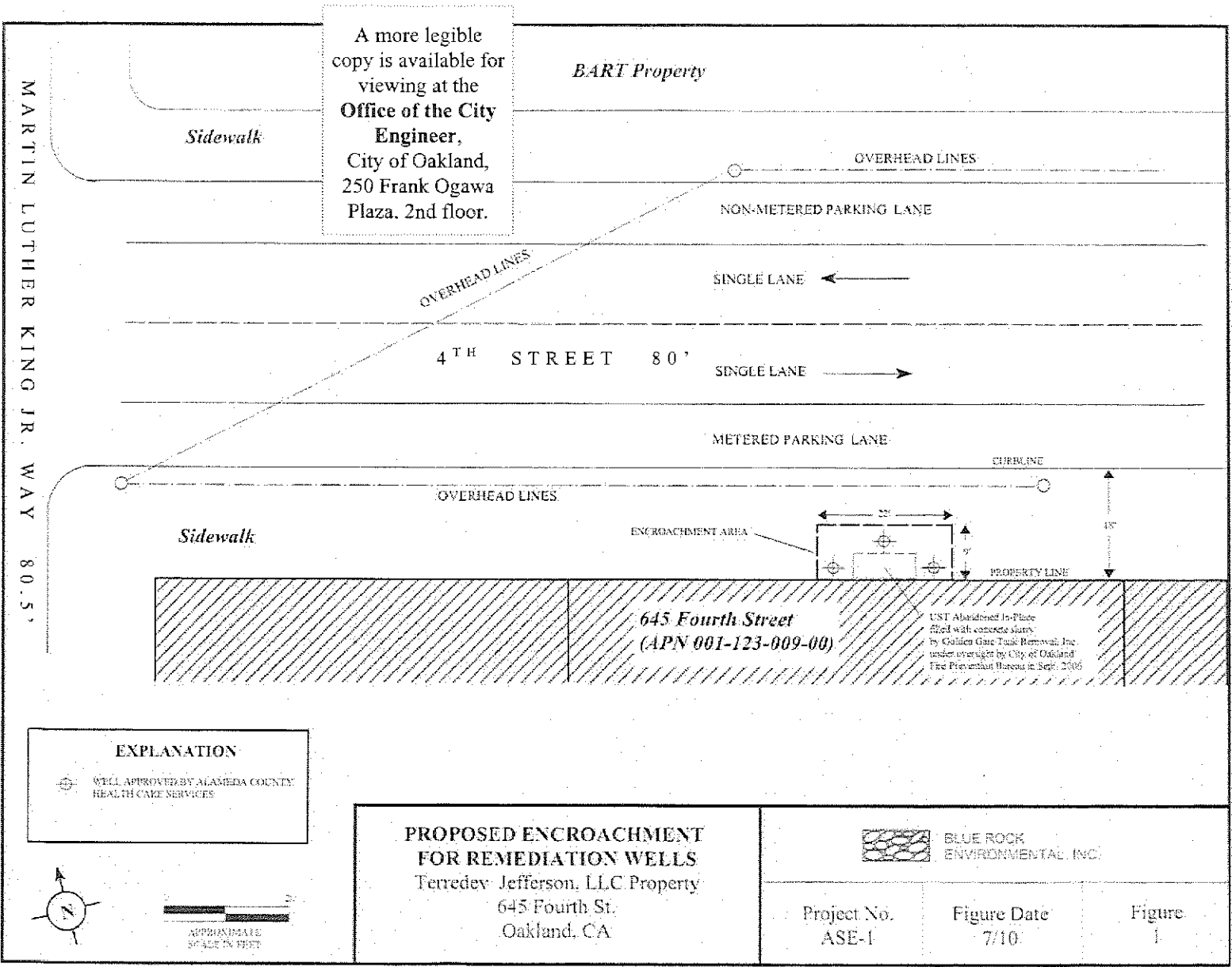


EXHIBIT C

Limits Of The Encroachment In The Public Right-Of-Way

address 645 4th Street

parcel no. 001-0123-009-00



Applications for which no permit is issued within 180 days shall expire by limitation. No refund after 180 days when expired.

Appl# X1001156 Job Site 645 4TH ST Parcel# 001 -0123-009-00

Descr Install monitoring well(s). Ref: ENMI10220 Permit Issued 09/01/10
Call PWA INSPECTION prior to start: 510-238-3651.
Allow three monitoring wells in sidewalk

Work Type EXCAVATION-PRIVATE P

4' floor
left a voice mail 9/8/10
left a voice mail 9/9/10

USA # 263964

Util Co. Job #
Util Fund #:

Acctg#:

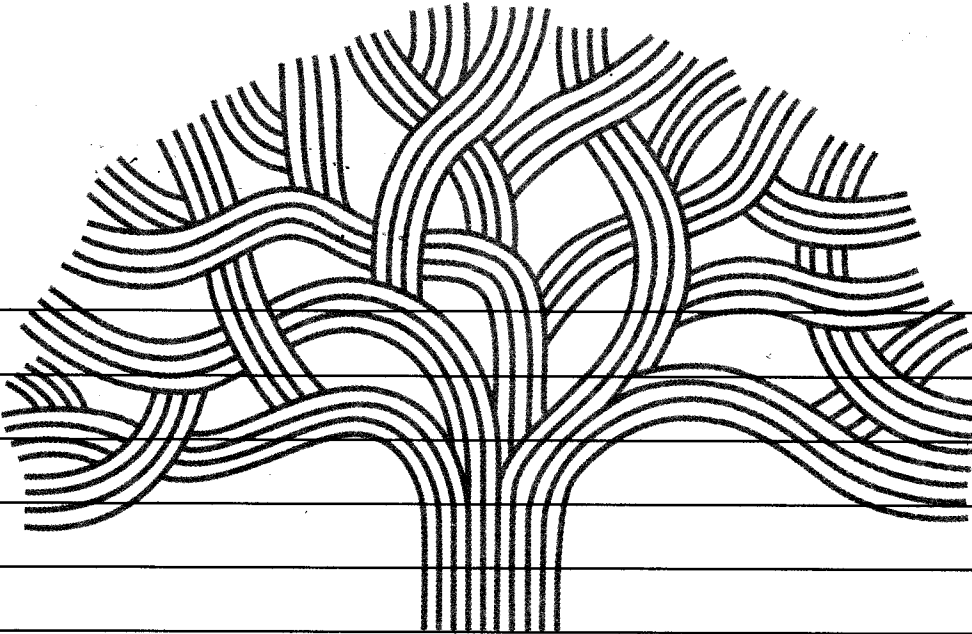
| | Applicant | Phone# | Lic# | --License Classes-- |
|-------------|--|----------------|----------|---------------------|
| Owner | TERRADEV JEFFERSON LLC | (510) 839-4000 | | |
| Contractor | BLUE ROCK ENVIRONMENTAL INC | (650) 522-9292 | 888734 A | |
| Arch/Engr | BRIAN GWINN/ BLUE ROCK | (650) 522-9292 | | |
| Agent | | | | |
| Applic Addr | 1169 CHESS DRIVE SUITE C, FOSTER CITY, CA, 94404 | | | |

JOB SITE

\$436.05 TOTAL FEES PAID AT ISSUANCE
\$71.00 Applic \$309.00 Permit
\$.00 Process \$36.10 Rec Mgmt
\$.00 Gen Plan \$.00 Invstg
\$.00 Other \$19.95 Tech Enh

Permit Issued By *[Signature]* Date:

Finalled By _____ Date: _____



CITY OF OAKLAND

PAID
9/11/10

ADDRESS:

DIST:

Applications for which no permit is issued within 180 days shall expire by limitation. No refund after 180 days when expired.

Permit No. X1001156 Parcel #: 001 -0123-009-00
Project Address: 645 4TH ST

Page 2 of 2

Licensed Contractors' Declaration

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

Construction Lending Agency Declaration

I hereby affirm under penalty of perjury that there is a construction-lending agency for the performance of the work for which this permit is issued, as provided by Section 3097 of the Business and Professions Code. N/A under Lender implies No Lending Agency.

Lender _____ Address _____

Workers' Compensation Declaration

I hereby affirm under penalty of perjury one of the following declarations:

[] I have and will maintain a certificate of consent to self-insure for workers' compensation, as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

[] I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

CARRIER: _____ POLICY NO. _____

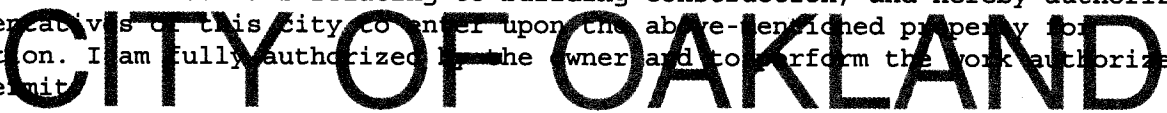
[] I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS, IN ADDITION TO THE COST OF COMPENSATION DAMAGES AS PROVIDED FOR IN SECTION 3707 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

Hazardous Materials Declaration

I hereby affirm that the intended occupant WILL WILL NOT use, handle or store any hazardous, or acutely hazardous materials. (Checking "WILL NOT" acknowledges that Sections 25505, 25533, & 25534 of the Health & Safety Code, as well as filing instructions, were made available to you.)

I HEREBY CERTIFY THE FOLLOWING: That I have read this document; that the above information is correct; and that I have truthfully affirmed all applicable declarations contained in this document. I agree to comply with all city and county ordinances and state laws relating to building construction, and hereby authorize representatives of this city to enter upon the above-mentioned property for inspection. I am fully authorized by the owner and to perform the work authorized by this permit.



PRINT NAME _____

Signature [] Contractor, or [] Agent

Date _____

DIST: ADDRESS:

Applications for which no permit is issued within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

Appl# OB130133

Job Site 645 4TH ST

Parcel# 001 -0123-009-00

Reserve parking for construction vehicles. No impact on traffic lane or sidewalk allowed. One space NO FEE per: X1001156. Allow three monitoring wells in sidewalk

Permit Issued 02/05/13

Nbr of days: 1
Effective: 02/18/13

645 4TH ST Display on Dashboard

Linear feet: 75
Expiration: 02/18/13

SHORT TERM NON-METERED

| | Applcmt | Phone# | Lic# | --License Classes-- |
|--|---------|----------------|----------|---------------------|
| Owner TERRADEV JEFFERSON LLC | | (510) 839-4000 | | |
| Contractor BLUE ROCK ENVIRONMENTAL INC | X | (650) 522-9292 | 888734 A | |
| Arch/Engr BRIAN GWINN/ BLUE ROCK | | (650) 522-9292 | | |
| Agent | | | | |
| Applic Addr 1169 CHESS DRIVE SUITE C, FOSTER CITY, CA, 94404 | | | | |

\$140.57 FEES TO BE PAID AT FILING

\$.00 FEES TO BE PAID AT ISSUANCE

| | |
|-----------------|------------------|
| \$71.00 Applic | \$51.50 Permit |
| \$.00 Process | \$11.64 Rec Mgmt |
| \$.00 Gen Plan | \$.00 Invstg |
| \$.00 Other | \$6.43 Tech Enh |

Display on Dashboard

APPLICANT

COPY Have Illegally Parked Vehicle
 Ticketed Call 510-777-3333
 For Towed Car Call 510-238-3021

TCP needs to be approved by Transportation Services every 30 days or whenever deviated from the previously approved plan.

Applicant: _____

Issued by: _____ 02/13/13

CITY OF OAKLAND

ADDRESS:

DIST:

WELL GAUGING DATA/PURGE CALCULATIONS

Job No.: ASE-1 Location: 645 Fourth Street Oakland 94607 Date: 2/11/13 Tech(s): SR

| WELL NO. | DIAM (in) | DTB (ft) | DTW (ft) | ST (ft) | CV (gal) | PV (gal) | SPL (ft) | NOTES |
|----------|-----------|----------|----------|---------|----------|----------|----------|-------|
| DPE-1 | 2 | 14.80 | 8.74 | 6.06 | .96 | 2.90 | | |
| DPE-2 | 2 | 14.83 | 8.95 | 5.88 | .94 | 2.82 | | |
| DPE-3 | 2 | 9.81 | 8.34 | 1.47 | .23 | .70 | | Sheen |
| | | | | | | | | |
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Explanation:
DIAM = Well Diameter
DTB = Depth to Bottom
DTW = Depth to Water
ST = Saturated Thickness (DTB-DTW)
CV = Casing Volume (ST x cf)
PV = Purge Volume (standard 3 x CV, well development 10 x CV)
SPL = Thickness of Separate Phase Liquid

Conversion Factors (cf)
1 inch diameter well cf = 0.04 gal/ft
2 inch diameter well cf = 0.16 gal/ft
4 inch diameter well cf = 0.65 gal/ft
6 inch diameter well cf = 1.44 gal/ft

WELL PURGING DATA

SHEET 1 OF 1

| | | | |
|----------------|--|---------------|----------|
| Job No.: ASE-1 | Location: 645 Fourth Street Oakland Ca. 94607 | Date: 2/11/13 | Tech: SR |
|----------------|--|---------------|----------|

| WELL No. | TIME (24-hr) | VOLUME (gal) | TEMP. (deg. F.) | COND. (µS/cm) | pH | Sample time: Sample for: (circle) |
|--|--------------|--------------|-----------------|---------------|------|---|
| DPE-1 | 0825 | — | 57.2 | 850 | 6.45 | <input checked="" type="checkbox"/> TPHg <input checked="" type="checkbox"/> TPHd TPHmo <input checked="" type="checkbox"/> BTEX <input checked="" type="checkbox"/> MTBE 8010 Other: TBA, 1,2-DCA, EDB |
| Calc. purge volume 2.90 | 0828 | .72 | 61.2 | 916 | 6.43 | Sampling Method: Dedicated / <input checked="" type="checkbox"/> Disposable bailer |
| | 0829 | 1.5 | 62.6 | 914 | 6.43 | |
| | 0831 | 2.2 | 62.9 | 899 | 6.44 | |
| | 0832 | 3 | 63.6 | 882 | 6.50 | |
| COMMENTS: color, turbidity, recharge, etc. gray, moderate turbidity, poor recharge, odor detected | | | | | | Purging Method: <input checked="" type="checkbox"/> PVC bailer / Pump |

| WELL No. | TIME (24-hr) | VOLUME (gal) | TEMP. (deg. F.) | COND. (µS/cm) | pH | Sample time: Sample for: (circle) |
|---|--------------|--------------|-----------------|---------------|------|---|
| DPE-2 | 0837 | — | 62.9 | 690 | 6.47 | <input checked="" type="checkbox"/> TPHg <input checked="" type="checkbox"/> TPHd TPHmo <input checked="" type="checkbox"/> BTEX <input checked="" type="checkbox"/> MTBE 8010 Other: TBA, 1,2-DCA, EDB |
| Calc. purge volume 2.82 | 0839 | .75 | 62.6 | 670 | 6.47 | Sampling Method: Dedicated / <input checked="" type="checkbox"/> Disposable bailer |
| | 0840 | 1.5 | 63.2 | 699 | 6.52 | |
| | 0841 | 2.2 | 63.3 | 711 | 6.53 | |
| | 0845 | 3.0 | 62.1 | 739 | 6.56 | |
| COMMENTS: color, turbidity, recharge, etc. gray, low turbidity, poor recharge odor detected | | | | | | Purging Method: <input checked="" type="checkbox"/> PVC bailer / Pump |

| WELL No. | TIME (24-hr) | VOLUME (gal) | TEMP. (deg. F.) | COND. (µS/cm) | pH | Sample time: Sample for: (circle) |
|--|--------------|--------------|-----------------|---------------|------|---|
| DPE-3 | 0847 | — | 59.9 | 1053 | 6.48 | <input checked="" type="checkbox"/> TPHg <input checked="" type="checkbox"/> TPHd TPHmo <input checked="" type="checkbox"/> BTEX <input checked="" type="checkbox"/> MTBE 8010 Other: TBA, 1,2-DCA, EDB |
| Calc. purge volume .70 | 0851 | .20 | 59.5 | 1055 | 6.51 | Sampling Method: Dedicated / <input checked="" type="checkbox"/> Disposable bailer |
| | 0853 | .40 | 59.9 | 1078 | 6.50 | |
| | 0855 | .60 | 60.0 | 1086 | 6.49 | |
| | 0856 | .70 | 60.0 | 1083 | 6.49 | |
| COMMENTS: color, turbidity, recharge, etc. tan, low, turbidity, poor recharge, strong odor, sheen | | | | | | Purging Method: <input checked="" type="checkbox"/> PVC bailer / Pump |

BLUE ROCK ENVIRONMENTAL, INC.

1169 Chess Drive, Foster City, CA 94404 Phone (650) 522-9292 Fax (650) 522-9259



Seaport Environmental
NON-HAZARDOUS WATER TRANSPORT FORM

| | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|

GENERATOR INFORMATION

Terrader Jefferson LLC property
 645 Fourth St.
 Oakland Ca

CUSTOMER INFORMATION

Blue Rock Environmental
 650-522-9292
 PO # ASE-1

DESCRIPTION OF WATER: Monitoring Well Sampling
 NON-HAZARDOUS WASTE WATER, MONITORING WELL PURGE WATER AND/OR AUGER RINSATE, TANK RINSATE OR ABOVE DESCRIBED WATER. THIS WATER MAY CONTAIN DISSOLVED HYDROCARBONS. I CERTIFY THAT THE ABOVE NAMED MATERIAL IS A LIQUID EXEMPT FROM RCRA PER 40 CFR 261.4 (b)(10) AND DOES NOT MEET THE CRITERIA OF HAZARDOUS WASTE AS DESCRIBED IN 22 CCR ARTICLE 11 OR ANY OTHER APPLICABLE STATE LAW, HAS BEEN PROPERLY DESCRIBED, CLASSIFIED AND PACKAGED AND IS IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO APPLICABLE REGULATIONS.

Scott Robertson / Blue Rock Environmental
 Generator ~~Authorized Agent~~

Scott RL 2/11/13
 Sign date

SITE INFORMATION

645 Fourth St.
 Oakland
 Ca

| | |
|---------------|--------|
| GROSS | |
| TARE | |
| NET | |
| TOTAL GALLONS | 1 drum |

Calculated at 8.34lbs per USG

TRANSPORTER INFORMATION

Blue Rock Env.

Truck ID: 5WRC 481
 Driver: Scott Robertson Scott RL 2/11/13
 Print full name & sign date

| | |
|------------|--|
| TIME OUT | |
| TIME IN | |
| TIME SPENT | |

DISPOSAL FACILITY INFORMATION EPA ID: CAL 000032058

Seaport Environmental
 675 Seaport Boulevard
 Redwood City, Ca 94063
 Phone: (650) 364 1024

Approval Number

500 - 1243

Solids %Wt pH

| | |
|--------------------|--|
| <u>[Signature]</u> | |
| | |

Solids Surcharge
 \$/USG

Received by:
 Print full name & sign

[Signature]
 date

02-11-13



Report Number : 84001

Date : 02/19/2013

Laboratory Results

Brian Gwinn
Blue Rock Environmental, Inc.
1169 Chess Drive Suite C
Foster City, CA 94404

Subject : 3 Water Samples
Project Name : Terrader Jefferson
Project Number : ASE-1

Dear Mr. Gwinn,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC and TNI 2009 standards. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the National Environmental Laboratory Accreditation Program (NELAP), lab # 08263CA. If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink that reads "Troy G. Turpen". The signature is written in a cursive style with a large initial "T".

Troy Turpen

Subject : 3 Water Samples
Project Name : Terrader Jefferson
Project Number : ASE-1

Case Narrative

Surrogate Recovery for sample DPE-3 for test method Mod. EPA 8015 was outside of control limits. This may indicate a bias in the analysis due to the sample's matrix or an interference from compounds present in the sample.



Report Number : 84001

Date : 02/19/2013

Project Name : **Terrader Jefferson**

Project Number : **ASE-1**

Sample : **DPE-1**

Matrix : Water

Lab Number : 84001-01

Sample Date :02/11/2013

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|--|----------------|------------------------|------------|-----------------|--------------------|
| Benzene | 9400 | 15 | ug/L | EPA 8260B | 02/13/13 15:03 |
| Toluene | 14000 | 25 | ug/L | EPA 8260B | 02/14/13 05:41 |
| Ethylbenzene | 1800 | 15 | ug/L | EPA 8260B | 02/13/13 15:03 |
| Total Xylenes | 10000 | 15 | ug/L | EPA 8260B | 02/13/13 15:03 |
| Methyl-t-butyl ether (MTBE) | 240 | 15 | ug/L | EPA 8260B | 02/13/13 15:03 |
| Tert-Butanol | 110 | 70 | ug/L | EPA 8260B | 02/13/13 15:03 |
| TPH as Gasoline | 81000 | 1500 | ug/L | EPA 8260B | 02/13/13 15:03 |
| 1,2-Dichloroethane | 210 | 15 | ug/L | EPA 8260B | 02/13/13 15:03 |
| 1,2-Dibromoethane | < 15 | 15 | ug/L | EPA 8260B | 02/13/13 15:03 |
| 1,2-Dichloroethane-d4 (Surr) | 96.2 | | % Recovery | EPA 8260B | 02/13/13 15:03 |
| Toluene - d8 (Surr) | 102 | | % Recovery | EPA 8260B | 02/13/13 15:03 |
| TPH as Diesel (Note: MRL increased due to interference from Gasoline-range hydrocarbons.) | < 3000 | 3000 | ug/L | M EPA 8015 | 02/15/13 14:11 |
| Octacosane (Diesel Surrogate) | 113 | | % Recovery | M EPA 8015 | 02/15/13 14:11 |



Report Number : 84001

Date : 02/19/2013

Project Name : **Terrader Jefferson**

Project Number : **ASE-1**

Sample : **DPE-2**

Matrix : Water

Lab Number : 84001-02

Sample Date :02/11/2013

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|--|----------------|------------------------|------------|-----------------|--------------------|
| Benzene | 7300 | 20 | ug/L | EPA 8260B | 02/14/13 05:07 |
| Toluene | 9500 | 20 | ug/L | EPA 8260B | 02/14/13 05:07 |
| Ethylbenzene | 1400 | 20 | ug/L | EPA 8260B | 02/14/13 05:07 |
| Total Xylenes | 7000 | 20 | ug/L | EPA 8260B | 02/14/13 05:07 |
| Methyl-t-butyl ether (MTBE) | 34 | 20 | ug/L | EPA 8260B | 02/14/13 05:07 |
| Tert-Butanol | < 90 | 90 | ug/L | EPA 8260B | 02/14/13 05:07 |
| TPH as Gasoline | 60000 | 2000 | ug/L | EPA 8260B | 02/14/13 05:07 |
| 1,2-Dichloroethane | 120 | 20 | ug/L | EPA 8260B | 02/14/13 05:07 |
| 1,2-Dibromoethane | < 20 | 20 | ug/L | EPA 8260B | 02/14/13 05:07 |
| 1,2-Dichloroethane-d4 (Surr) | 100 | | % Recovery | EPA 8260B | 02/14/13 05:07 |
| Toluene - d8 (Surr) | 100 | | % Recovery | EPA 8260B | 02/14/13 05:07 |
| TPH as Diesel (Note: MRL increased due to interference from Gasoline-range hydrocarbons.) | < 4000 | 4000 | ug/L | M EPA 8015 | 02/15/13 14:40 |
| Octacosane (Diesel Surrogate) | 99.3 | | % Recovery | M EPA 8015 | 02/15/13 14:40 |

Project Name : **Terrader Jefferson**

Project Number : **ASE-1**

Sample : **DPE-3**

Matrix : Water

Lab Number : 84001-03

Sample Date :02/11/2013

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|--|----------------|------------------------|------------|-----------------|--------------------|
| Benzene | 4700 | 40 | ug/L | EPA 8260B | 02/14/13 06:21 |
| Toluene | 9000 | 40 | ug/L | EPA 8260B | 02/14/13 06:21 |
| Ethylbenzene | 1900 | 40 | ug/L | EPA 8260B | 02/14/13 06:21 |
| Total Xylenes | 25000 | 40 | ug/L | EPA 8260B | 02/14/13 06:21 |
| Methyl-t-butyl ether (MTBE) | < 40 | 40 | ug/L | EPA 8260B | 02/14/13 06:21 |
| Tert-Butanol | < 200 | 200 | ug/L | EPA 8260B | 02/14/13 06:21 |
| TPH as Gasoline | 130000 | 4000 | ug/L | EPA 8260B | 02/14/13 06:21 |
| 1,2-Dichloroethane | 54 | 40 | ug/L | EPA 8260B | 02/14/13 06:21 |
| 1,2-Dibromoethane | 80 | 40 | ug/L | EPA 8260B | 02/14/13 06:21 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | | % Recovery | EPA 8260B | 02/14/13 06:21 |
| Toluene - d8 (Surr) | 100 | | % Recovery | EPA 8260B | 02/14/13 06:21 |
| TPH as Diesel (Note: MRL increased due to interference from Gasoline-range hydrocarbons.) | < 40000 | 40000 | ug/L | M EPA 8015 | 02/15/13 15:09 |
| Octacosane (Diesel Surrogate) | 156 | | % Recovery | M EPA 8015 | 02/15/13 15:09 |

QC Report : Method Blank Data

Project Name : **Terrader Jefferson**

Project Number : **ASE-1**

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date Analyzed |
|-------------------------------|----------------|------------------------|-------|-----------------|---------------|
| TPH as Diesel | < 50 | 50 | ug/L | M EPA 8015 | 02/15/2013 |
| Octacosane (Diesel Surrogate) | 98.4 | | % | M EPA 8015 | 02/15/2013 |
| Benzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| Ethylbenzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| Toluene | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| Total Xylenes | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| Methyl-t-butyl ether (MTBE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| Tert-Butanol | < 5.0 | 5.0 | ug/L | EPA 8260B | 02/13/2013 |
| TPH as Gasoline | < 50 | 50 | ug/L | EPA 8260B | 02/13/2013 |
| 1,2-Dibromoethane | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| 1,2-Dichloroethane | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | | % | EPA 8260B | 02/13/2013 |
| Toluene - d8 (Surr) | 100 | | % | EPA 8260B | 02/13/2013 |
| Benzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| Ethylbenzene | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| Total Xylenes | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| Methyl-t-butyl ether (MTBE) | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| Tert-Butanol | < 5.0 | 5.0 | ug/L | EPA 8260B | 02/13/2013 |
| TPH as Gasoline | < 50 | 50 | ug/L | EPA 8260B | 02/13/2013 |
| 1,2-Dibromoethane | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| 1,2-Dichloroethane | < 0.50 | 0.50 | ug/L | EPA 8260B | 02/13/2013 |
| 1,2-Dichloroethane-d4 (Surr) | 98.0 | | % | EPA 8260B | 02/13/2013 |
| Toluene - d8 (Surr) | 101 | | % | EPA 8260B | 02/13/2013 |

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

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **Terrader Jefferson**Project Number : **ASE-1**

| Parameter | Spiked Sample | Sample Value | Spike Level | Spike Dup. Level | Spiked Sample Value | Duplicate Spiked Sample Value | Units | Analysis Method | Date Analyzed | Spiked Sample Percent Recov. | Duplicate Spiked Sample Percent Recov. | Relative Percent Diff. | Spiked Sample Percent Recov. Limit | Relative Percent Diff. Limit |
|----------------------|---------------|--------------|-------------|------------------|---------------------|-------------------------------|-------|-----------------|---------------|------------------------------|--|------------------------|------------------------------------|------------------------------|
| TPH as Diesel | BLANK | <50 | 1000 | 1000 | 974 | 986 | ug/L | M EPA 8015 | 2/15/13 | 97.4 | 98.6 | 1.29 | 70-130 | 25 |
| 1,2-Dibromoethane | 84002-09 | <0.50 | 39.8 | 38.4 | 40.4 | 38.5 | ug/L | EPA 8260B | 2/13/13 | 102 | 100 | 1.22 | 80-120 | 25 |
| 1,2-Dichloroethane | 84002-09 | <0.50 | 39.8 | 38.4 | 38.5 | 36.6 | ug/L | EPA 8260B | 2/13/13 | 96.8 | 95.3 | 1.57 | 75.7-122 | 25 |
| Benzene | 84002-09 | 4.2 | 39.8 | 38.4 | 42.3 | 41.0 | ug/L | EPA 8260B | 2/13/13 | 95.8 | 95.8 | 0.00921 | 80-120 | 25 |
| Ethylbenzene | 84002-09 | 0.78 | 39.8 | 38.4 | 40.5 | 39.0 | ug/L | EPA 8260B | 2/13/13 | 99.9 | 99.7 | 0.222 | 80-120 | 25 |
| Methyl-t-butyl ether | 84002-09 | <0.50 | 39.8 | 38.4 | 36.7 | 34.7 | ug/L | EPA 8260B | 2/13/13 | 92.1 | 90.2 | 2.14 | 69.7-121 | 25 |
| P + M Xylene | 84002-09 | 0.98 | 39.8 | 38.4 | 40.4 | 38.7 | ug/L | EPA 8260B | 2/13/13 | 99.3 | 98.2 | 1.06 | 76.8-120 | 25 |
| Tert-Butanol | 84002-09 | 6.0 | 200 | 193 | 192 | 185 | ug/L | EPA 8260B | 2/13/13 | 93.2 | 92.9 | 0.264 | 80-120 | 25 |
| Toluene | 84002-09 | 0.52 | 39.8 | 38.4 | 39.2 | 37.7 | ug/L | EPA 8260B | 2/13/13 | 97.3 | 96.8 | 0.561 | 80-120 | 25 |

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **Terrader Jefferson**Project Number : **ASE-1**

| Parameter | Spiked Sample | Sample Value | Spike Level | Spike Dup. Level | Spiked Sample Value | Duplicate Spiked Sample Value | Units | Analysis Method | Date Analyzed | Spiked Sample Percent Recov. | Duplicate Spiked Sample Percent Recov. | Relative Percent Diff. | Spiked Sample Percent Recov. Limit | Relative Percent Diff. Limit |
|----------------------|---------------|--------------|-------------|------------------|---------------------|-------------------------------|-------|-----------------|---------------|------------------------------|--|------------------------|------------------------------------|------------------------------|
| 1,2-Dibromoethane | 83989-05 | <0.50 | 39.8 | 39.9 | 36.1 | 37.1 | ug/L | EPA 8260B | 2/13/13 | 90.6 | 93.0 | 2.60 | 80-120 | 25 |
| 1,2-Dichloroethane | 83989-05 | <0.50 | 39.8 | 39.9 | 42.6 | 43.5 | ug/L | EPA 8260B | 2/13/13 | 107 | 109 | 1.82 | 75.7-122 | 25 |
| Benzene | 83989-05 | <0.50 | 39.8 | 39.9 | 38.2 | 38.4 | ug/L | EPA 8260B | 2/13/13 | 95.9 | 96.3 | 0.445 | 80-120 | 25 |
| Ethylbenzene | 83989-05 | <0.50 | 39.8 | 39.9 | 38.9 | 39.1 | ug/L | EPA 8260B | 2/13/13 | 97.7 | 98.0 | 0.298 | 80-120 | 25 |
| Methyl-t-butyl ether | 83989-05 | <0.50 | 39.9 | 40.0 | 36.3 | 36.9 | ug/L | EPA 8260B | 2/13/13 | 91.0 | 92.3 | 1.45 | 69.7-121 | 25 |
| P + M Xylene | 83989-05 | <0.50 | 39.8 | 39.9 | 38.1 | 38.5 | ug/L | EPA 8260B | 2/13/13 | 95.6 | 96.5 | 0.938 | 76.8-120 | 25 |
| Tert-Butanol | 83989-05 | <5.0 | 200 | 201 | 193 | 195 | ug/L | EPA 8260B | 2/13/13 | 96.2 | 97.1 | 0.994 | 80-120 | 25 |

QC Report : Laboratory Control Sample (LCS)Project Name : **Terrader Jefferson**Project Number : **ASE-1**

| Parameter | Spike Level | Units | Analysis Method | Date Analyzed | LCS Percent Recov. | LCS Percent Recov. Limit |
|----------------------|-------------|-------|-----------------|---------------|--------------------|--------------------------|
| 1,2-Dibromoethane | 40.0 | ug/L | EPA 8260B | 2/13/13 | 104 | 80-120 |
| 1,2-Dichloroethane | 40.0 | ug/L | EPA 8260B | 2/13/13 | 98.3 | 75.7-122 |
| Benzene | 40.0 | ug/L | EPA 8260B | 2/13/13 | 97.1 | 80-120 |
| Ethylbenzene | 40.0 | ug/L | EPA 8260B | 2/13/13 | 99.6 | 80-120 |
| Methyl-t-butyl ether | 40.1 | ug/L | EPA 8260B | 2/13/13 | 95.8 | 69.7-121 |
| P + M Xylene | 40.0 | ug/L | EPA 8260B | 2/13/13 | 97.9 | 76.8-120 |
| Tert-Butanol | 201 | ug/L | EPA 8260B | 2/13/13 | 92.7 | 80-120 |
| Toluene | 40.0 | ug/L | EPA 8260B | 2/13/13 | 97.6 | 80-120 |
| 1,2-Dibromoethane | 40.0 | ug/L | EPA 8260B | 2/13/13 | 97.6 | 80-120 |
| 1,2-Dichloroethane | 40.0 | ug/L | EPA 8260B | 2/13/13 | 111 | 75.7-122 |
| Benzene | 40.0 | ug/L | EPA 8260B | 2/13/13 | 95.3 | 80-120 |
| Ethylbenzene | 40.0 | ug/L | EPA 8260B | 2/13/13 | 95.9 | 80-120 |
| Methyl-t-butyl ether | 40.1 | ug/L | EPA 8260B | 2/13/13 | 95.0 | 69.7-121 |
| P + M Xylene | 40.0 | ug/L | EPA 8260B | 2/13/13 | 94.7 | 76.8-120 |
| Tert-Butanol | 201 | ug/L | EPA 8260B | 2/13/13 | 96.9 | 80-120 |



2795 2nd Street, Suite 300
 Davis, CA 95618
 Lab: 530.297.4800
 Fax: 530.297.4802

SRG # / Lab No. 84001

Page 1 of 1

Project Contact (Hardcopy or PDF To): Brian Gwinn
 California EDF Report? Yes No
 Company / Address: Blue Rock Environmental
1169 Chess Drive Ste C Foster City Ca 94004
 Phone Number: 650-522-9292
 Fax Number: 650-522-9259
 Project #: ASF-1 P.O. #:
 Project Name: Terradev Jefferson
 Sampling Company Log Code: BRSF
 Global ID: T1000001072
 EDF Deliverable To (Email Address): brian@bluerockenv.com
 Bill to: Blue Rock / Foster City
 Sampler Print Name: Scott Robertson
 Sampler Signature: [Signature]

Chain-of-Custody Record and Analysis Request

| Project Address: | Sampling | | Container | | | | Preservative | | | Matrix | | | MTBE @ 0.5 ppb (EPA 8260B) | BTEX (EPA 8260B) | TPH Gas (EPA 8260B) | 5 Oxygenates (MTBE, DIPE, ETBE, TAME, TBA) (EPA 8260B) | 7 Oxygenates (5 oxy + EtOH, MeOH) (EPA 8260B) | Lead Scav. (1,2 DCA & 1,2 EDB) (EPA 8260B) | Volatile Halocarbons (EPA 8260B) | Volatile Organics Full List (EPA 8260B) | Volatile Organics (EPA 524.2 Drinking Water) | TPH as Diesel (EPA 8015M) | TPH as Motor Oil (EPA 8015M) | CAM 17 Metals (EPA 200.7 / 6010) | 5 Waste Oil Metals (Cd,Cr,Ni,Pb,Zn) (EPA 200.7 / 6010) | Mercury (EPA 245.1 / 7470 / 7471) | Total Lead (EPA 200.7 / 6010) | W.E.T. Lead (STLC) | TAT | | | |
|------------------|--|------|-----------|-----------|--------|------|--------------|--------|-----|------------------|------|-------|----------------------------|------------------|---------------------|--|---|--|----------------------------------|---|--|---------------------------|------------------------------|----------------------------------|--|-----------------------------------|-------------------------------|--------------------|-----|------|-----|-------|
| | 645 Fourth Street Oakland Ca. 94607 | Date | Time | 40 ml VOA | Sleeve | Poly | Glass | Tedlar | HCl | HNO ₃ | None | Water | | | | | | | | | | | | | | | | | | Soil | Air | 12 hr |
| DPE-1 | 2/11/13 | 0912 | X6 | | | | | X | | | X | | | X | X | X | | | | | X | | | | | | | | | | 1wk | 01 |
| DPE-2 | 2/11/13 | 0920 | X6 | | | | | X | | | X | | | X | X | X | | | | | X | | | | | | | | | | 1wk | 02 |
| DPE-3 | 2/11/13 | 0930 | X6 | | | | | X | | | X | | | X | X | X | | | | | X | | | | | | | | | | 1wk | 03 |

CIRCLE METHOD

TBA

For Lab Use Only

Relinquished by: [Signature] Date: 2/11/13 Time: 1050
 Relinquished by: _____ Date: _____ Time: _____
 Relinquished by: _____ Date: 02/11/13 Time: 1250 Received by Laboratory: [Signature]

Remarks: If TPHd is detected, perform silica-gel clean up on sample and reanalyze and report both results

SAMPLE RECEIPT CHECKLIST

SRG#: 84001 Date: 021113
 Project ID: Terrader Jefferson
 Method of Receipt: Courier Over-the-counter Shipper
 Shipping Only: FedEx * OnTrac * Greyhound Other *Service level if not Priority or Sunrise (M-F): _____

COC Inspection

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

Sample Inspection

Coolant Present: Yes No (includes water)
 Temperature °C 2.6 Therm. ID# 12-1 Initial EJ Date/Time 021113 1520 N/A
 Are there custody seals on sample containers? Intact Broken Not present
 Do containers match COC? Yes No No, COC lists absent sample(s) No, Extra sample(s) present
 Are there samples matrices other than soil, water, air or carbon? Yes No
 Are any sample containers broken, leaking or damaged? Yes No
 Are preservatives indicated? Yes, on sample containers Yes, on COC Not indicated N/A
 Are preservatives correct for analyses requested? Yes No N/A
 Are samples within holding time for analyses requested? Yes No
 Are the correct sample containers used for the analyses requested? Yes No
 Is there sufficient sample to perform testing? Yes No
 Does any sample contain product, have strong odor or are otherwise suspected to be hot? Yes No
Receipt Details
 Matrix WA Container type Na # of containers received 18
 Matrix _____ Container type _____ # of containers received _____
 Matrix _____ Container type _____ # of containers received _____
 Date and Time Sample Put into Temp Storage Date: 021113 Time: 1535

Quicklog

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

COMMENTS:



Laboratory Results

Brian Gwinn
Blue Rock Environmental, Inc.
1169 Chess Drive Suite C
Foster City, CA 94404

Subject : 7 Soil Samples
Project Name : Terrader Jefferson, LLC Property
Project Number : ASE-1

Dear Mr. Gwinn,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC and TNI 2009 standards. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the National Environmental Laboratory Accreditation Program (NELAP), lab # 08263CA. If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Troy Turpen



Report Number : 84109

Date : 02/27/2013

Subject : 7 Soil Samples
Project Name : Terrader Jefferson, LLC Property
Project Number : ASE-1

Case Narrative

All soil samples were reported on a total weight (wet weight) basis.

Project Name : **Terrader Jefferson, LLC Property**

Project Number : **ASE-1**

Sample : **CB-1-7.5'**

Matrix : Soil

Lab Number : 84109-01

Sample Date :02/18/2013

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|---|----------------|------------------------|------------|-----------------|--------------------|
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/13 22:11 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/13 22:11 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/13 22:11 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/13 22:11 |
| Methyl-t-butyl ether (MTBE) | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/13 22:11 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 02/22/13 22:11 |
| 1,2-Dichloroethane | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/13 22:11 |
| 1,2-Dibromoethane | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/13 22:11 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | | % Recovery | EPA 8260B | 02/22/13 22:11 |
| Toluene - d8 (Surr) | 99.9 | | % Recovery | EPA 8260B | 02/22/13 22:11 |
| TPH as Diesel (Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.) | 1.2 | 1.0 | mg/Kg | M EPA 8015 | 02/25/13 10:31 |
| Octacosane (Diesel Surrogate) | 85.9 | | % Recovery | M EPA 8015 | 02/25/13 10:31 |



Report Number : 84109

Date : 02/27/2013

Project Name : **Terrader Jefferson, LLC Property**

Project Number : **ASE-1**

Sample : **CB-1-9'**

Matrix : Soil

Lab Number : 84109-02

Sample Date :02/18/2013

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|--|----------------|------------------------|------------|-----------------|--------------------|
| Benzene | 2.8 | 0.25 | mg/Kg | EPA 8260B | 02/25/13 17:03 |
| Toluene | 55 | 0.25 | mg/Kg | EPA 8260B | 02/25/13 17:03 |
| Ethylbenzene | 27 | 0.25 | mg/Kg | EPA 8260B | 02/25/13 17:03 |
| Total Xylenes | 150 | 0.25 | mg/Kg | EPA 8260B | 02/25/13 17:03 |
| Methyl-t-butyl ether (MTBE) | < 0.25 | 0.25 | mg/Kg | EPA 8260B | 02/25/13 17:03 |
| TPH as Gasoline | 1200 | 25 | mg/Kg | EPA 8260B | 02/25/13 17:03 |
| 1,2-Dichloroethane | < 0.25 | 0.25 | mg/Kg | EPA 8260B | 02/25/13 17:03 |
| 1,2-Dibromoethane | < 0.25 | 0.25 | mg/Kg | EPA 8260B | 02/25/13 17:03 |
| 1,2-Dichloroethane-d4 (Surr) | 103 | | % Recovery | EPA 8260B | 02/25/13 17:03 |
| Toluene - d8 (Surr) | 102 | | % Recovery | EPA 8260B | 02/25/13 17:03 |
| 2-Bromochlorobenzene (Surr) | 108 | | % Recovery | EPA 8260B | 02/25/13 17:03 |
| TPH as Diesel | 110 | 1.0 | mg/Kg | M EPA 8015 | 02/25/13 11:49 |
| (Note: Hydrocarbons are lower-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Diesel Surrogate) | 90.8 | | % Recovery | M EPA 8015 | 02/25/13 11:49 |



Report Number : 84109

Date : 02/27/2013

Project Name : **Terrader Jefferson, LLC Property**

Project Number : **ASE-1**

Sample : **CB-1-12'**

Matrix : Soil

Lab Number : 84109-03

Sample Date :02/18/2013

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|--|----------------|------------------------|------------|-----------------|--------------------|
| Benzene | 100 | 0.25 | mg/Kg | EPA 8260B | 02/23/13 03:43 |
| Toluene | 850 | 15 | mg/Kg | EPA 8260B | 02/25/13 15:46 |
| Ethylbenzene | 180 | 0.25 | mg/Kg | EPA 8260B | 02/23/13 03:43 |
| Total Xylenes | 1400 | 15 | mg/Kg | EPA 8260B | 02/25/13 15:46 |
| Methyl-t-butyl ether (MTBE) | 0.53 | 0.25 | mg/Kg | EPA 8260B | 02/23/13 03:43 |
| TPH as Gasoline | 14000 | 1500 | mg/Kg | EPA 8260B | 02/25/13 15:46 |
| 1,2-Dichloroethane | < 0.25 | 0.25 | mg/Kg | EPA 8260B | 02/23/13 03:43 |
| 1,2-Dibromoethane | 0.86 | 0.25 | mg/Kg | EPA 8260B | 02/23/13 03:43 |
| 1,2-Dichloroethane-d4 (Surr) | 100 | | % Recovery | EPA 8260B | 02/23/13 03:43 |
| Toluene - d8 (Surr) | 99.9 | | % Recovery | EPA 8260B | 02/23/13 03:43 |
| 2-Bromochlorobenzene (Surr) | 95.4 | | % Recovery | EPA 8260B | 02/23/13 03:43 |
| TPH as Diesel | 880 | 1.0 | mg/Kg | M EPA 8015 | 02/25/13 12:58 |
| (Note: Hydrocarbons are lower-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Diesel Surrogate) | 87.0 | | % Recovery | M EPA 8015 | 02/25/13 12:58 |



Report Number : 84109

Date : 02/27/2013

Project Name : **Terrader Jefferson, LLC Property**

Project Number : **ASE-1**

Sample : **CB-1-15'**

Matrix : Soil

Lab Number : 84109-04

Sample Date :02/18/2013

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|--|----------------|------------------------|------------|-----------------|--------------------|
| Benzene | 8.4 | 0.050 | mg/Kg | EPA 8260B | 02/23/13 04:55 |
| Toluene | 62 | 0.15 | mg/Kg | EPA 8260B | 02/25/13 14:32 |
| Ethylbenzene | 15 | 0.050 | mg/Kg | EPA 8260B | 02/23/13 04:55 |
| Total Xylenes | 100 | 0.15 | mg/Kg | EPA 8260B | 02/25/13 14:32 |
| Methyl-t-butyl ether (MTBE) | < 0.050 | 0.050 | mg/Kg | EPA 8260B | 02/23/13 04:55 |
| TPH as Gasoline | 1000 | 15 | mg/Kg | EPA 8260B | 02/25/13 14:32 |
| 1,2-Dichloroethane | < 0.050 | 0.050 | mg/Kg | EPA 8260B | 02/23/13 04:55 |
| 1,2-Dibromoethane | < 0.050 | 0.050 | mg/Kg | EPA 8260B | 02/23/13 04:55 |
| 1,2-Dichloroethane-d4 (Surr) | 103 | | % Recovery | EPA 8260B | 02/23/13 04:55 |
| Toluene - d8 (Surr) | 99.7 | | % Recovery | EPA 8260B | 02/23/13 04:55 |
| 2-Bromochlorobenzene (Surr) | 91.3 | | % Recovery | EPA 8260B | 02/23/13 04:55 |
| TPH as Diesel | 89 | 1.0 | mg/Kg | M EPA 8015 | 02/25/13 12:23 |
| (Note: Hydrocarbons are lower-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Diesel Surrogate) | 90.0 | | % Recovery | M EPA 8015 | 02/25/13 12:23 |

Project Name : **Terrader Jefferson, LLC Property**

Project Number : **ASE-1**

Sample : **CB-2-9'**

Matrix : Soil

Lab Number : 84109-05

Sample Date :02/18/2013

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|--|----------------|------------------------|------------|-----------------|--------------------|
| Benzene | 0.44 | 0.15 | mg/Kg | EPA 8260B | 02/25/13 15:12 |
| Toluene | 17 | 0.15 | mg/Kg | EPA 8260B | 02/25/13 15:12 |
| Ethylbenzene | 20 | 0.15 | mg/Kg | EPA 8260B | 02/25/13 15:12 |
| Total Xylenes | 110 | 0.15 | mg/Kg | EPA 8260B | 02/25/13 15:12 |
| Methyl-t-butyl ether (MTBE) | < 0.15 | 0.15 | mg/Kg | EPA 8260B | 02/25/13 15:12 |
| TPH as Gasoline | 840 | 15 | mg/Kg | EPA 8260B | 02/25/13 15:12 |
| 1,2-Dichloroethane | < 0.15 | 0.15 | mg/Kg | EPA 8260B | 02/25/13 15:12 |
| 1,2-Dibromoethane | < 0.15 | 0.15 | mg/Kg | EPA 8260B | 02/25/13 15:12 |
| 1,2-Dichloroethane-d4 (Surr) | 103 | | % Recovery | EPA 8260B | 02/25/13 15:12 |
| Toluene - d8 (Surr) | 100 | | % Recovery | EPA 8260B | 02/25/13 15:12 |
| 2-Bromochlorobenzene (Surr) | 104 | | % Recovery | EPA 8260B | 02/25/13 15:12 |
| TPH as Diesel | 120 | 1.0 | mg/Kg | M EPA 8015 | 02/25/13 13:32 |
| (Note: Hydrocarbons are lower-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Diesel Surrogate) | 109 | | % Recovery | M EPA 8015 | 02/25/13 13:32 |



Report Number : 84109

Date : 02/27/2013

Project Name : **Terrader Jefferson, LLC Property**

Project Number : **ASE-1**

Sample : **CB-2-11'**

Matrix : Soil

Lab Number : 84109-06

Sample Date :02/18/2013

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|--|----------------|------------------------|------------|-----------------|--------------------|
| Benzene | 23 | 0.40 | mg/Kg | EPA 8260B | 02/25/13 16:26 |
| Toluene | 160 | 0.40 | mg/Kg | EPA 8260B | 02/25/13 16:26 |
| Ethylbenzene | 48 | 0.40 | mg/Kg | EPA 8260B | 02/25/13 16:26 |
| Total Xylenes | 260 | 0.40 | mg/Kg | EPA 8260B | 02/25/13 16:26 |
| Methyl-t-butyl ether (MTBE) | < 0.40 | 0.40 | mg/Kg | EPA 8260B | 02/25/13 16:26 |
| TPH as Gasoline | 2700 | 40 | mg/Kg | EPA 8260B | 02/25/13 16:26 |
| 1,2-Dichloroethane | < 0.40 | 0.40 | mg/Kg | EPA 8260B | 02/25/13 16:26 |
| 1,2-Dibromoethane | < 0.40 | 0.40 | mg/Kg | EPA 8260B | 02/25/13 16:26 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | | % Recovery | EPA 8260B | 02/25/13 16:26 |
| Toluene - d8 (Surr) | 101 | | % Recovery | EPA 8260B | 02/25/13 16:26 |
| 2-Bromochlorobenzene (Surr) | 101 | | % Recovery | EPA 8260B | 02/25/13 16:26 |
| TPH as Diesel | 110 | 1.0 | mg/Kg | M EPA 8015 | 02/25/13 12:27 |
| (Note: Hydrocarbons are lower-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Diesel Surrogate) | 89.1 | | % Recovery | M EPA 8015 | 02/25/13 12:27 |



Report Number : 84109

Date : 02/27/2013

Project Name : **Terrader Jefferson, LLC Property**

Project Number : **ASE-1**

Sample : **CB-2-15'**

Matrix : Soil

Lab Number : 84109-07

Sample Date :02/18/2013

| Parameter | Measured Value | Method Reporting Limit | Units | Analysis Method | Date/Time Analyzed |
|--|----------------|------------------------|------------|-----------------|--------------------|
| Benzene | 3.9 | 0.050 | mg/Kg | EPA 8260B | 02/25/13 13:56 |
| Toluene | 18 | 0.050 | mg/Kg | EPA 8260B | 02/25/13 13:56 |
| Ethylbenzene | 6.6 | 0.050 | mg/Kg | EPA 8260B | 02/25/13 13:56 |
| Total Xylenes | 34 | 0.050 | mg/Kg | EPA 8260B | 02/25/13 13:56 |
| Methyl-t-butyl ether (MTBE) | < 0.050 | 0.050 | mg/Kg | EPA 8260B | 02/25/13 13:56 |
| TPH as Gasoline | 380 | 5.0 | mg/Kg | EPA 8260B | 02/25/13 13:56 |
| 1,2-Dichloroethane | < 0.050 | 0.050 | mg/Kg | EPA 8260B | 02/25/13 13:56 |
| 1,2-Dibromoethane | < 0.050 | 0.050 | mg/Kg | EPA 8260B | 02/25/13 13:56 |
| 1,2-Dichloroethane-d4 (Surr) | 99.9 | | % Recovery | EPA 8260B | 02/25/13 13:56 |
| Toluene - d8 (Surr) | 100 | | % Recovery | EPA 8260B | 02/25/13 13:56 |
| 2-Bromochlorobenzene (Surr) | 98.5 | | % Recovery | EPA 8260B | 02/25/13 13:56 |
| TPH as Diesel | 45 | 1.0 | mg/Kg | M EPA 8015 | 02/25/13 14:06 |
| (Note: Hydrocarbons are lower-boiling than typical Diesel Fuel.) | | | | | |
| Octacosane (Diesel Surrogate) | 91.7 | | % Recovery | M EPA 8015 | 02/25/13 14:06 |

QC Report : Method Blank Data

Project Name : **Terrader Jefferson, LLC Property**

Project Number : **ASE-1**

| <u>Parameter</u> | <u>Measured Value</u> | <u>Method Reporting Limit</u> | <u>Units</u> | <u>Analysis Method</u> | <u>Date Analyzed</u> |
|-------------------------------|-----------------------|-------------------------------|--------------|------------------------|----------------------|
| TPH as Diesel | < 1.0 | 1.0 | mg/Kg | M EPA 8015 | 02/25/2013 |
| Octacosane (Diesel Surrogate) | 72.7 | | % | M EPA 8015 | 02/25/2013 |
| Benzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/2013 |
| Ethylbenzene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/2013 |
| Toluene | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/2013 |
| Total Xylenes | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/2013 |
| Methyl-t-butyl ether (MTBE) | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/2013 |
| TPH as Gasoline | < 1.0 | 1.0 | mg/Kg | EPA 8260B | 02/22/2013 |
| 1,2-Dibromoethane | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/2013 |
| 1,2-Dichloroethane | < 0.0050 | 0.0050 | mg/Kg | EPA 8260B | 02/22/2013 |
| 1,2-Dichloroethane-d4 (Surr) | 101 | | % | EPA 8260B | 02/22/2013 |
| Toluene - d8 (Surr) | 101 | | % | EPA 8260B | 02/22/2013 |

| <u>Parameter</u> | <u>Measured Value</u> | <u>Method Reporting Limit</u> | <u>Units</u> | <u>Analysis Method</u> | <u>Date Analyzed</u> |
|------------------|-----------------------|-------------------------------|--------------|------------------------|----------------------|
|------------------|-----------------------|-------------------------------|--------------|------------------------|----------------------|

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : Terrader Jefferson, LLC Property

Project Number : ASE-1

| Parameter | Spiked Sample | Sample Value | Spike Level | Spike Dup. Level | Spiked Sample Value | Duplicate Spiked Sample Value | Units | Analysis Method | Date Analyzed | Spiked Sample Percent Recov. | Duplicate Spiked Sample Percent Recov. | Relative Percent Diff. | Spiked Sample Percent Recov. Limit | Relative Percent Diff. Limit |
|----------------------|---------------|--------------|-------------|------------------|---------------------|-------------------------------|-------|-----------------|---------------|------------------------------|--|------------------------|------------------------------------|------------------------------|
| TPH as Diesel | 84109-01 | 1.2 | 19.8 | 19.7 | 17.2 | 17.0 | mg/Kg | M EPA 8015 | 2/25/13 | 80.6 | 80.1 | 0.536 | 60-140 | 25 |
| 1,2-Dibromoethane | 84109-01 | <0.0050 | 0.0390 | 0.0396 | 0.0379 | 0.0388 | mg/Kg | EPA 8260B | 2/22/13 | 97.3 | 97.9 | 0.605 | 67.2-121 | 25 |
| 1,2-Dichloroethane | 84109-01 | <0.0050 | 0.0390 | 0.0396 | 0.0366 | 0.0373 | mg/Kg | EPA 8260B | 2/22/13 | 94.0 | 94.1 | 0.102 | 64.0-124 | 25 |
| Benzene | 84109-01 | <0.0050 | 0.0390 | 0.0396 | 0.0365 | 0.0364 | mg/Kg | EPA 8260B | 2/22/13 | 93.7 | 92.0 | 1.76 | 67.9-120 | 25 |
| Ethylbenzene | 84109-01 | <0.0050 | 0.0390 | 0.0396 | 0.0366 | 0.0380 | mg/Kg | EPA 8260B | 2/22/13 | 94.0 | 95.9 | 1.99 | 65.5-127 | 25 |
| Methyl-t-butyl ether | 84109-01 | <0.0050 | 0.0390 | 0.0397 | 0.0317 | 0.0368 | mg/Kg | EPA 8260B | 2/22/13 | 81.3 | 92.9 | 13.3 | 57.0-122 | 25 |
| P + M Xylene | 84109-01 | <0.0050 | 0.0390 | 0.0396 | 0.0363 | 0.0372 | mg/Kg | EPA 8260B | 2/22/13 | 93.2 | 93.8 | 0.743 | 62.5-124 | 25 |
| Toluene | 84109-01 | <0.0050 | 0.0390 | 0.0396 | 0.0367 | 0.0372 | mg/Kg | EPA 8260B | 2/22/13 | 94.0 | 93.9 | 0.111 | 65.7-120 | 25 |

QC Report : Laboratory Control Sample (LCS)Project Name : **Terrader Jefferson, LLC Property**Project Number : **ASE-1**

| Parameter | Spike Level | Units | Analysis Method | Date Analyzed | LCS Percent Recov. | LCS Percent Recov. Limit |
|----------------------|-------------|-------|-----------------|---------------|--------------------|--------------------------|
| TPH as Diesel | 20.0 | mg/Kg | M EPA 8015 | 2/25/13 | 92.8 | 70-130 |
| 1,2-Dibromoethane | 0.0400 | mg/Kg | EPA 8260B | 2/22/13 | 98.0 | 67.2-121 |
| 1,2-Dichloroethane | 0.0400 | mg/Kg | EPA 8260B | 2/22/13 | 94.7 | 64.0-124 |
| Benzene | 0.0400 | mg/Kg | EPA 8260B | 2/22/13 | 95.4 | 67.9-120 |
| Ethylbenzene | 0.0400 | mg/Kg | EPA 8260B | 2/22/13 | 97.7 | 65.5-127 |
| Methyl-t-butyl ether | 0.0401 | mg/Kg | EPA 8260B | 2/22/13 | 82.9 | 57.0-122 |
| P + M Xylene | 0.0400 | mg/Kg | EPA 8260B | 2/22/13 | 95.8 | 62.5-124 |
| Toluene | 0.0400 | mg/Kg | EPA 8260B | 2/22/13 | 96.2 | 65.7-120 |

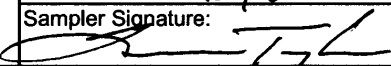
Project Contact (Hardcopy or PDF To): **Brian Gwinn**
California EDF Report? Yes No

Company / Address: **Blue Rock Env. 1169 Chess Dr. #C, Foster City CA 94024**
Sampling Company Log Code: **BRSF**

Phone Number: **650-522-9292**
Global ID: **T1000001072**

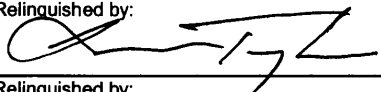
Fax Number: **650-522-9259**
EDF Deliverable To (Email Address): **brian@bluerockenv.com**

Project #: **ASE-1** P.O. #:
Bill to: **BlueRock Env.**

Project Name: **Terradex Jefferson, LLC Property**
Sampler Print Name: **Loren Taylor**
Sampler Signature: 

Chain-of-Custody Record and Analysis Request

| Sample Designation | Sampling | | Container | | | | Preservative | | | Matrix | | | Analysis Request | | | | | | | | | | | TAT | For Lab Use Only | | | | | | | | | | | | | |
|--------------------|----------|------|-----------|--------|------|-------|--------------|-----|------------------|--------|-------|------|------------------|----------------------------|------------------|---------------------|--|---|--|----------------------------------|---|--|---------------------------|-----|------------------|------------------------------|----------------------------------|--|-----------------------------------|-------------------------------|--------------------|-------|-------|-------|-------|------|-----|----|
| | Date | Time | 40 ml VOA | Sleeve | Poly | Glass | Tedlar | HCl | HNO ₃ | None | Water | Soil | Air | MTBE @ 0.5 ppb (EPA 8260B) | BTEX (EPA 8260B) | TPH Gas (EPA 8260B) | 5 Oxygenates (MTBE, DIPE, ETBE, TAME, TBA) (EPA 8260B) | 7 Oxygenates (5 oxy + EIOH, MeOH) (EPA 8260B) | Lead Scav. (1,2 DCA & 1,2 EDB) (EPA 8260B) | Volatile Halocarbons (EPA 8260B) | Volatile Organics Full List (EPA 8260B) | Volatile Organics (EPA 524.2 Drinking Water) | TPH as Diesel (EPA 8015M) | | | TPH as Motor Oil (EPA 8015M) | CAM 17 Metals (EPA 200.7 / 6010) | 5 Waste Oil Metals (Cd,Cr,Ni,Pb,Zn) (EPA 200.7 / 6010) | Mercury (EPA 245.1 / 7470 / 7471) | Total Lead (EPA 200.7 / 6010) | W.E.T. Lead (STLC) | 12 hr | 24 hr | 48 hr | 72 hr | 1 wk | | |
| CB-1-7.5' | 2/18/13 | 0805 | | 1 | | | | | X | | X | | X | X | X | | | X | | | | | X | | | | | | | | | | | | | 1wk | 01 | |
| CB-1-9' | | 0809 | | 1 | | | | | X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | 02 |
| CB-1-12' | | 0810 | | 1 | | | | | X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | 03 |
| CB-1-15' | | 0816 | | 1 | | | | | X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | 04 |
| CB-2-9' | | 0858 | | 1 | | | | | X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | 05 |
| CB-2-11' | | 0905 | | 1 | | | | | X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | 06 |
| CB-2-15' | 2/14/13 | 0909 | | 1 | | | | | X | | X | | X | X | X | | | X | | | | | X | | | | | | | | | | | | | | 1wk | 07 |

Relinquished by:  Date: _____ Time: _____ Received by: _____

Relinquished by: _____ Date: _____ Time: _____ Received by: _____

Relinquished by: _____ Date: **02/13** Time: **115** Received by Laboratory: **Kiff Michelle Spencer Analytical**

SAMPLE RECEIPT CHECKLIST

RECEIVER
MAS
Initials

SRG#: 84109 Date: 022113

Project ID: Terrader Jefferson, LLC Property

Method of Receipt: Courier Over-the-counter Shipper

Shipping Only: FedEx * OnTrac * Greyhound Other *Service level if not Priority or Sunrise (M-F): _____

COC Inspection

Is COC present? Yes No
Custody seals on shipping container? Intact Broken Not present N/A
Is COC Signed by Relinquisher? Yes No Dated? 02/22/13 No Yes
Is sampler name legibly indicated on COC? Yes No
Is analysis or hold requested for all samples? Yes No
Is the turnaround time indicated on COC? Yes No
Is COC free of whiteout and uninitialed cross-outs? Yes No, Whiteout No, Cross-outs

Sample Inspection

Coolant Present: Yes No (includes water)
Temperature °C 3.2 Therm. ID# IR-1 Initial MAS Date/Time 022113/1456 N/A
Are there custody seals on sample containers? Intact Broken Not present
Do containers match COC? Yes No No, COC lists absent sample(s) No, Extra sample(s) present
Are there samples matrices other than soil, water, air or carbon? Yes No
Are any sample containers broken, leaking or damaged? Yes No
Are preservatives indicated? Yes, on sample containers Yes, on COC Not indicated N/A
Are preservatives correct for analyses requested? Yes No N/A
Are samples within holding time for analyses requested? Yes No
Are the correct sample containers used for the analyses requested? Yes No
Is there sufficient sample to perform testing? Yes No
Does any sample contain product, have strong odor or are otherwise suspected to be hot? Yes No

Receipt Details

Matrix SO Container type Sleeve # of containers received 7
Matrix _____ Container type _____ # of containers received _____
Matrix _____ Container type _____ # of containers received _____
Date and Time Sample Put into Temp Storage Date: 022113 Time: 1459

Quicklog

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

COMMENTS: Client indicated sample might be hot. MAS 022113 1503
