METROVATION

August 17, 2012

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

RECEIVED

5:40 pm, Aug 20, 2012

Alameda County Environmental Health

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 *Second Removal Action and Groundwater Monitoring Report* dated August 16, 2012



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

ENVIRONMENTAL, INC.

Re: Second Removal Action and Groundwater Monitoring Report 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 additional removal action activities, by a 15-day mobile high-vacuum dual-phase extraction event, and subsequent groundwater monitoring. This work was approved by the Alameda County Health Care Services Agency – Environmental Health Services (ACHCSA) in a letter dated May 16, 2012.

Background

Site Description and UST History

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.

In their *Tank Closure Report* dated September 21, 2006, Golden Gate Tank Removal, Inc. (GGT) 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).

GGT abandoned the UST in place by triple washing followed by filling to capacity with concrete slurry because of structural considerations due to the proximity of the UST to the building foundation. Abandonment was performed with the permission and under the oversight of the City of Oakland Fire Prevention Bureau.

Two soil samples were collected from below the UST at a depth of 9 ft bgs during abandonment activities. Both samples contained elevated concentrations of total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX); however, TPH as diesel (TPHd) and the five fuel oxygenates MTBE, TBA, ETBE, DIPE, and TAME were not detected (Table 2). No groundwater was encountered during abandonment activities, though the soil samples collected beneath the tank were reported as "wet".

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 will be modified as new information regarding site conditions is acquired.

The subject site is located in a commercial/industrial neighborhood along the San Francisco Bay-Margin. The site is underlain by sediments characterized as silty and clayey sand with some layers of sandy clay and sand to a depth of 20 ft bgs (the maximum depth previously explored) and groundwater is present in unconfined conditions at a depth of approximately 9 ft bgs. Groundwater flows generally to the southeast, towards the estuary, 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.

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 10,000gallon 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. Residual hydrocarbons in soil and groundwater may represent an exposure risk to construction or utility workers, and serve as a source for vapor intrusion of adjacent buildings.

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, the tanks for which were removed many years ago under Alameda County oversight. Additional data is not currently available to evaluate if the downgradient extent of any impact from that property has encroached onto the subject site.

Recommended Source Area Remediation

Amicus evaluated investigative and remedial options available at the site in the 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)

A five-day mobile HVDPE remedial event was performed at the site from September 28 to October 3, 2010. 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. A total of approximately 7,950 gallons of water were produced by the HVDPE remedial event, which were transported to the Seaport Environmental facility in Redwood City, California for disposal. The average water production rate was ~1.1 gpm.

Vapor Intrusion Evaluation

In June 2012, Blue Rock installed and 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. The initial results 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.

Second High-Vacuum Dual-Phase Extraction Remedial Event

Blue Rock oversaw CalClean, Inc. (CalClean) of Tustin, California perform a 15-day mobile HVDPE remedial event from July 9 to 24, 2012. HVDPE test equipment, methodology, and test results are summarized below and presented in the attached CalClean report.

The purpose of this mobile event was to maximize gasoline mass recovery at the source location of the abandoned UST. Wells DPE-1, DPE-2, and DPE-3 were used as extraction wells at the start of the event. These wells have screen intervals that extend across documented soil and groundwater impact at the source area.

The HVDPE event was performed in accordance with CalClean's Bay Area Air Quality Management District permit for various locations (Plant No. 12568).

A mobile HVDPE unit was mobilized to the site. The CalClean truck-mounted unit consisted 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. An onboard electric generator powered the equipment and onboard propane tanks provided supplemental fuel for the thermal oxidizer. A unit intake hose was connected to the test wells through a vacuum cap attached at the wellhead. Extracted water was treated and stored in temporary above-ground storage tanks mobilized to the site. A schematic of HVDPE equipment is presented in Figure 3.

Prior to the event, on July 6, 2012, all three wells were gauged for depth to water and evaluated for the presence of LNAPL. The depth to water ranged from approximately 8.5 to 9 ft bgs, and the no LNAPL was observed in any of the wells.

The remedial event occurred over the span of 15 continuous days from July 9 to 24, 2012. A stinger hose was lowered into each well through a vacuum tight cap and placed approximately one foot off the bottom of each well. Therefore, the stinger was set at a depth of approximately 14 ft bgs in wells DPE-1 and DPE-2, and approximately 9 ft bgs in DPE-3. Depth to water at the beginning of the test was approximately 9 ft bgs in all three wells. Wells DPE-1, DPE-2, and DPE-3 were individually tested at the beginning to evaluate which would be most productive. Wells DPE-1 and DPE-2 were used as the main extraction wells over the course of the event because they produced the highest levels of gasoline in extracted vapor relative to DPE-3. This observation was consistent with the first HVDPE event.

During the event, applied vacuum and field monitoring of hydrocarbon concentrations in process air was monitored at the unit manifold. A total of three air samples were collected from the total influent for laboratory analysis. Extracted water was separated by a water knockout, and temporarily stored in two 2,600-gallon capacity storage tanks prior to off-haul.

Field PID readings of the total inlet and operational parameters were collected periodically throughout the event. Total inlet after dilution (i.e. influent) air samples were also collected at the beginning, middle, and end of the event for laboratory analysis. The results of vapor sample analysis are summarized below, along with estimated mass recovery rates:

Total Inlet	TPHg (ppmv)	TPHg Removal Rate (lbs/day)
Start - 7/9/12	1,200	31
Middle - 7/16/12	750	19
End - 7/24/12	430	11

Blue Rock estimates 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). CalClean estimates 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.

A total of approximately 21,200 gallons of water were produced by this HVDPE remedial event based on disposal manifests. The water was transported to Instrat, Inc.'s facility in Rio Vista, California for disposal/recycling (see attached disposal forms).

Discussion of Cumulative HVDPE Treatment Results

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.

Post-Remedial Event Groundwater Quality

On August 12, 2102, the wells were sampled to document groundwater conditions approximately two weeks following completion of the remedial event. 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. 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 3 wetted casing volumes. 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 $Alconox^{(\mathbb{R})}$ wash followed by double rinse in clean tap water to prevent cross-contamination. The purge and rinse water will be transported to Seaport Environmental in Redwood City, California for disposal (the transport forms will be uploaded to GeoTracker after final copies are received).

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. The results are summarized in Table 3.

Groundwater quality has improved in wells DPE-1 and DPE-2 since the 2010 and 2012 HVDPE event were performed, which is summarized below (please note that DPE-3 cannot be evaluated because a pre-remedial sample is not available):

	DP	E-1	DF	PE-2
Analytes	Before	After	Before	After
	HVDPE events	HVDPE events	HVDPE events	HVDPE events
	(9/22/10)	(8/12/12)	(9/22/10)	(8/12/12)
TPHd (µg/L)	<4,000	<2,000	<4,000	<2,000
TPHg (µg/L)	120,000	71,000	110,000	70,000
Benzene (µg/L)	25,000	7,500	21,000	9,900
MTBE (µg/L)	320	270	200	54

Project Status and Recommendations

- The second sub-slab soil vapor sampling event is tentatively scheduled for September 22, 2012.
- Blue Rock recommends performing a groundwater monitoring event in the First Quarter 2012 to confirm the post-HVDPE groundwater monitoring results presented here.
- If the second sub-slab soil vapor sampling event indicates no VI risk like the first event and the plume is stable, the site may be candidate for closure evaluation based on the recently adopted Low-Threat Underground Storage Tank Case Closure Policy.

References

- 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.
- 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.

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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, 45SIONAL Blue Rock Environmental, Inc PO^R 4/3011 Brian Gwinn, PG Principal Geologist

Mr. Jerry Wickham August 16, 2012 Page 10 of 10

Attachments:

Figure 1: Site Location Map Figure 2: Site Plan Figure 3: High-Vacuum Dual-Phase Extraction Process Schematic

Table 1: Well Construction Data Table 2: Soil Sample Analytical Data Table 3: Groundwater Analytical Data Table 4: Sub-Slab Vapor Sample Analytical Data

City of Oakland Obstruction Permit

CalClean's High Vacuum Dual Phase Extraction Report – August 6, 2012 (which contains laboratory reports and chain-of-custody forms for air samples)

Non-Hazardous Water Transport Forms (7/12/12, 7/15/12, 7/18/12, 7/22/12, 7/24/12)

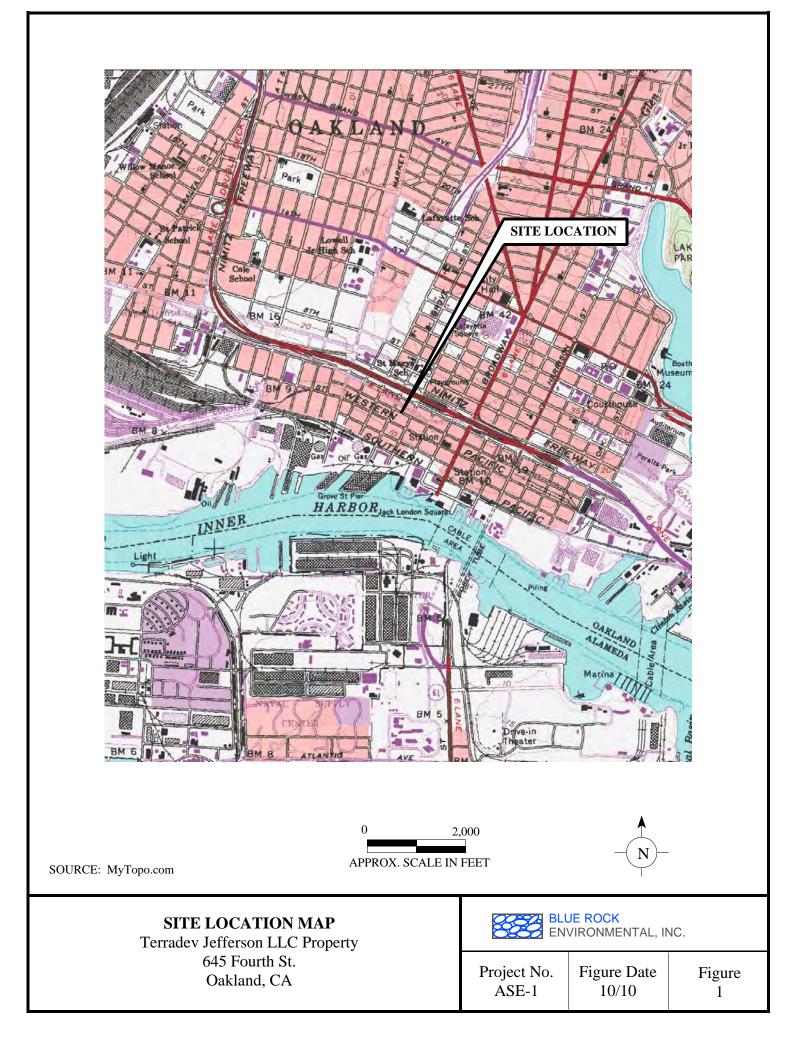
Blue Rock's Well Gauging and Purging Data Field Sheets

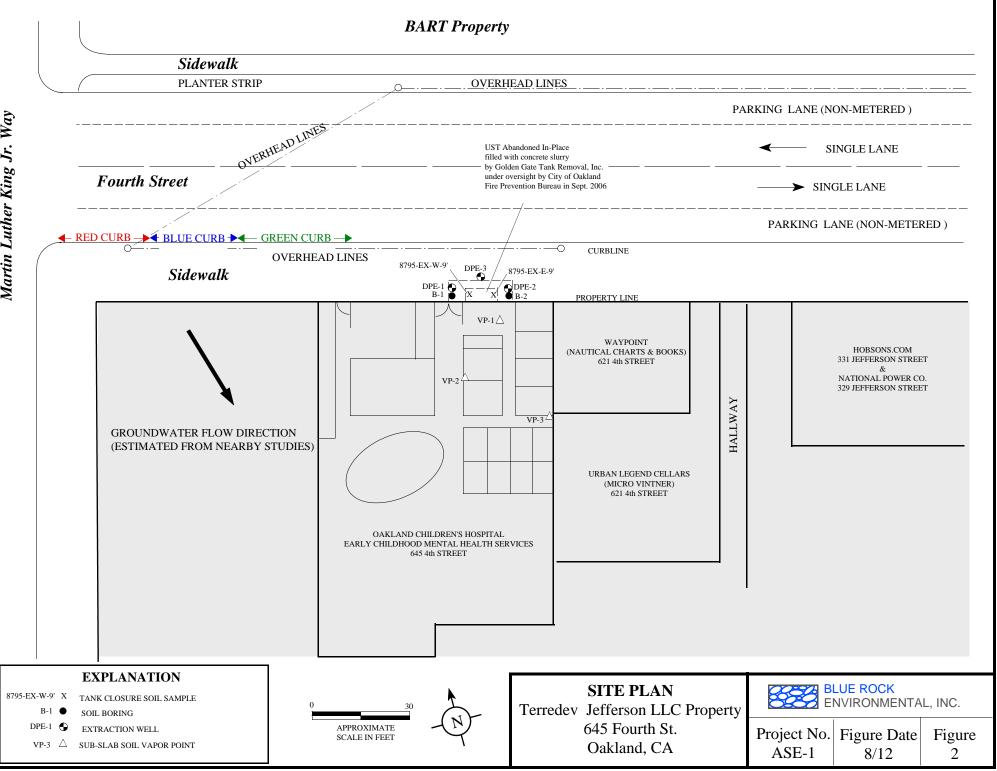
Laboratory Report and Chain-of-Custody Form (groundwater samples)

Distribution:

Ms. Sara May, Metrovation 580 Second St. Suite 260, Oakland, CA 94607

Mr. Markus Niebanck, Amicus Strategic Environmental Consulting 580 Second St. Suite 260, Oakland, CA 94607





Martin Luther King Jr. Way

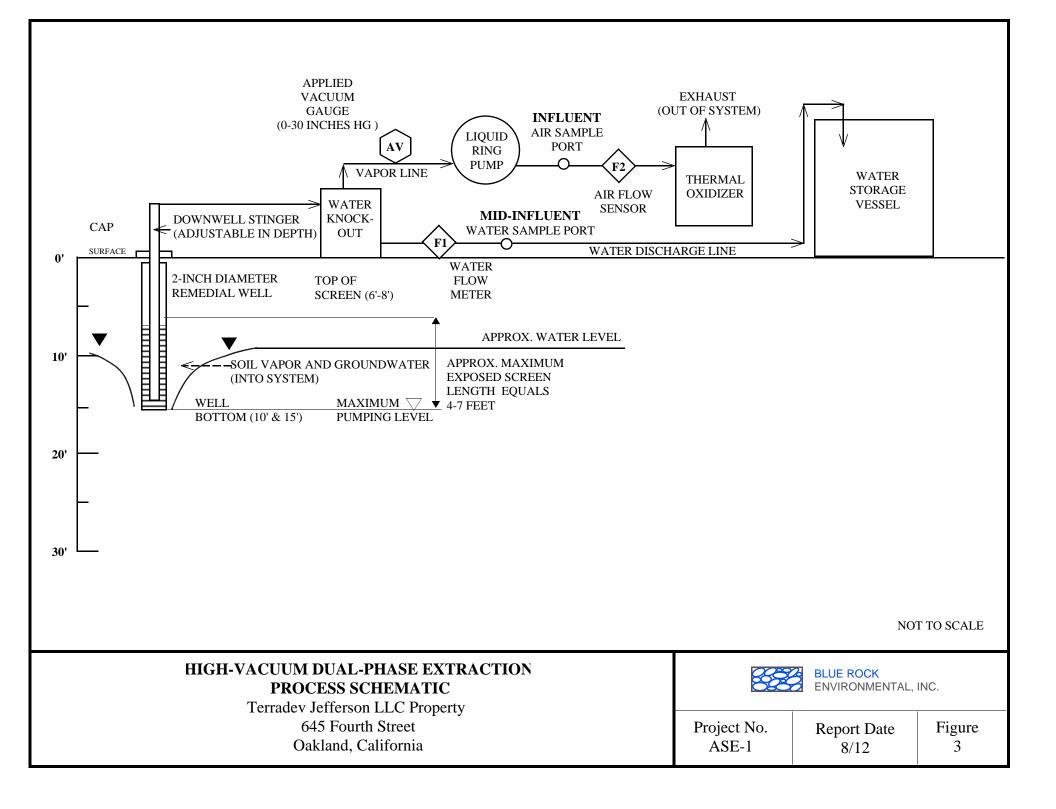


TABLE 1Well Construction DataTerradev Jefferson, LLC Property645 Fourth StreetOakland, CA

Extraction Wells

Well <u>ID</u>	Date <u>Installed</u>	Total Boring Depth <u>(ft bgs)</u>	Casing Diameter <u>(inches)</u>	Screen Depth <u>(ft bgs)</u>	Sandpack Depth <u>(ft bgs)</u>	Bentonite Depth <u>(ft bgs)</u>	Cement Grout Depth <u>(ft bgs)</u>
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 <u>ID</u>	Date <u>Installed</u>	Total Probe Depth <u>(in bgs)</u>	Tubing Diameter <u>(inches)</u>	Slab Thickness <u>(in bgs)</u>	Screen Depth <u>(in bgs)</u>	Rubber Plug <u>(in bgs)</u>	Cement Depth <u>(in bgs)</u>
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 2Soil Sample Analytical DataTerradev Jefferson, LLC Property645 Fourth StreetOakland, 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)
<u>UST Removal Samples</u>													
8795-EX-W-9' 8795-EX-E-9'	9 9	8/23/06 8/23/06	<120 <25	10,000 920	130 6.8	1,000 55	230 18	1,200 110	<12 <1.2	<100 <10	all<12 all<1.2		
Investigation Sam		0/23/00	<2J	120	0.0	55	10	110	<1.2	<10	an<1.2		
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 DPE-1-15	12 15	9/20/10 9/20/10	260^ 92^	2,300 770	26 10	160 53	45 15	240 80	0.71 0.39	<1.5 <0.50		<0.30 0.11	<0.30 <0.090
DPE-2-6 DPE-2-11	6 11	9/20/10 9/20/10	15 1,200^	1.2 160,000	<0.0050 1,400	0.0054 10,000	<0.0050 3,300	0.021 19,000	<0.0050 <0.25	<0.0050 <1.5		<0.0050 <0.25	<0.0050 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 DPE-3-10	7 10	9/20/10 9/20/10	260^ 800^	860 8,900	2.1 78	37 580	19 180	100 980	<0.10 <0.25	<0.50 <1.5		<0.10 <0.25	<0.10 0.82

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.
٨	Laboratory Flag: Hydrocarbons are lower-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)
<u>Grab Grou</u>	ndwater Samp	oles													
B-1-GW* B-2-GW*	7/10/09 7/10/09		~10 - 20 ~10 - 20			5,300 2,300	78,000 60,000	15,000 13,000	13,000 13,000	1,700 890	10,500 4,800	570 120			
<u>Monitoring</u>	<u>Well Data</u>														
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 HVI	OPE Remed	lial 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 HV	DPE Reme	edial 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
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 HVE	OPE Remed	lial 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 HV	DPE Reme	dial 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
DPE-3	9/22/10	15.87	9.43	0.00	6.44	insufficien	t water colu	umn for sai	mpling (i.e	e. <0.5-ft)					
Screen	9/28-10/3/10	15.87				5-day HVI									
~6' - 10'	10/18/10	15.87	9.35	0.00	6.52	insufficien				,					
	1/20/11	15.87	8.51	0.13	7.36	no groundy	water samp	le collected	i, LNAPL	present.					
	7/6/12	15.87	8.65	0.00											
	7/9-7/24/12	15.87				15-day HV									
	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
Notes:															
Screen			en depth in												
TOC			0			a level (ft M	, ,	,							
DTW		-		-		pth to water	-								
LNAPL						sheen" is an									
GWE						ISL. (This d			NAPL thic	kness, if p	oresent).				
TPHd		Total petr	oleum hydi	ocarbons as	s diesel by E	EPA Method	l 8015M, *8	3015B.							

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 sepearate 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.

- Micrograms per liter. μg/L <###
- Not detected at or above the indicated reporting limit. ^
- Method detection limit increased due to ineterference 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

														Tracer Gas		Sample Can Vacuun			
		air v	olume				Consi	tuent Conce	entrations				Soil Gas Concentrations			In Sample In Shroud		End of	Arrival
Sample	Sample	dead space	sample	TPHg	В	Т	Е	Х	MTBE	Naphthalene	1,2-DCA	EDB	O ₂	CO_2	CH_4	He	He - Avg	Sampling	at Lab
I.D.	Date	vols. purged	container	$(\mu g/m^3)$	$(\mu g/m^3)$	$(\mu g/m^3)$	$(\mu g/m^3)$	$(\mu g/m^3)$	$(\mu g/m^3)$	(µg/m ³)	$(\mu g/m^3)$	$(\mu g/m^3)$	(%)	(%)	(%)	(%)	(%)	("Hg)	("Hg)
VP-1 Data correct	6/16/12 ted for 10.8%	3.0 of leak volume	1-L e in sample	1,300 1,457	38 43	120 135	21 24	138 155	7.3 8.2	<0.09 <0.10	<0.14 <0.16	<0.05 <0.06	15	0.096	<0.008	2.4	22.2	~8 	~6
VP-2	6/16/12	3.0	1-L	1,200	66	25	2.6	8.2	<6.3	<0.09	< 0.14	< 0.05	11	1.3	< 0.009	< 0.003	13.8	~8	~7
VP-3 Data correct	6/16/12 ted for 11.0%	3.0 of leak volum	1-L e in sample	960 1,079	16 18	19 21	2.9 3.3	20 22	<5.8 <6.5	<0.08 <0.09	<0.13 <0.15	<0.05 <0.06	16 	0.029	<0.008	2.6	23.6	~5 	~5

ESLs Comm/Indus Soil Gas	29,000	280	180,000	3,300	58,000	31,000	240	310	14
CHHSLs Comm /Indus Soil Gas	NA	122	378,000	NA	879,000	13,400	106	167	NA

Notes:

TPHg Total Petroluem Hydrocarbons as gasoline by EPA Method TO-3(M) GC/FID

BTEX, MTBE Benzene, Toluene, Ethylbenzene, and Total Xylenes, Methyl tert-Butyl Ether by EPA Method TO-15(M) GC/MS

Naphthalene Naphthalene by EPA Method TO-15(M) GC/MS

1,2-DCA, EDB 1,2-dichloroethane, 1,2-dibromoethane by EPA Method TO-15(M) GC/MS

O₂, CO₂, CH₄, He Oxygen, Carbon Dioxide, Methane, and Helium by modified ASTM D-1946

mg/m³ Milligrams per cubic meter (equivalent to ug/L)

<#.## 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 $(\mu g/m^3) = \text{Analyte} (\mu g/m^3) * [100\% / (100\% - \text{leak}\%)]$

Table 5 HVDPE OPERATION DATA Terradev Jefferson, LLC

645 Fourth Street Oakland, CA

							Field Data	Lab Data			VOC	Extraction	TPHg	Extraction
	Total	Period	Total	Period	Period		Field PID	Influent	Applied	Total	Recovery	Cumulative	Recovery	Cumulative
	Ops	Ops	Water	Water	Rate	Operating	Total VOCs	TPHg	Vac. (AV)	Flow	Rate	Recovery	Rate	Recovery
Date	(hr)	(hr)	(gal)	(gal)	(gpm)	Wells	(ppmv)	(ppmv)	(in. Hg)	(scfm)	(lbs/day)	(lbs)	(lbs/day)	(lbs)
Start 7/9/12 a														
7/9/12	0.01	0.01	0	0.00		DPE-1	2,120		25.0	63	45	0.02	25	0.01
7/9/12	0.50	0.49				DPE-2	1,967		26.0	49	33	0.8		0.59
7/9/12	0.75	0.25				DPE-3	380		22.0	104	13	1.1		0.88
7/9/12	1.25	0.50				DPE-1, 2, 3	371		22.0	104	13	1.3		1.5
7/9/12	1.75	0.50				DPE-1, 2	679	1,200	24.0	77	18	1.6	31	2.1
7/10/12	23	21.25	1,320	1,320	1.0	DPE-1, 2	650		24.0	77	17	17		24
7/11/12	47	24.00	2,920	1,600	1.1	DPE-1, 2	605		24.0	77	16	33		50
7/12/12	71	24.00	4,390	1,470	1.0	DPE-1, 2	620		24.0	77	16	49		75
7/13/12	95	24.00	5,800	1,410	1.0	DPE-1, 2	590		24.0	77	15	65		100
7/14/12	119	24.00	7,110	1,310	0.9	DPE-1, 2	578		24.0	77	15	80		125
7/15/12	143	24.00	8,390	1,280	0.9	DPE-1, 2	565		24.0	77	15	94		150
7/16/12	167	24.00	9,640	1,250	0.9	DPE-1, 2	549	750	24.0	77	14	109	19	176
7/17/12	191	24.00	10,880	1,240	0.9	DPE-1, 2	520		24.0	77	13	123		191
7/18/12	215	24.00	12,080	1,200	0.8	DPE-1, 2	480		24.0	77	12	136		206
7/19/12	239	24.00	13,260	1,180	0.8	DPE-1, 2	469		24.0	77	12	148		221
7/20/12	263	24.00	14,500	1,240	0.9	DPE-1, 2	445		24.0	77	12	160		237
7/21/12	287	24.00	15,590	1,090	0.8	DPE-1, 2	430		24.0	77	11	171		252
7/22/12	311	24.00	16,700	1,110	0.8	DPE-1, 2	335		24.0	77	8.7	181		267
7/23/12	335	24.00	17,820	1,120	0.8	DPE-1, 2	399		24.0	77	10	190		282
7/24/12	359	24.00	18,900	1,080	0.8	DPE-1, 2	280	430	24.0	77	7.2	199	11	298
End 7/24/12	at 8:30 AM													

PID Field mesurement of total VOC concentration collected with portable photo ionization detector Influent TPHg Total petroleum hydrocarbons as gasoline by EPA Method 5030/8260B in sample collected after dilution and before catox inlet, represents Total Process Flow.
Influent TPHg Total petroleum hydrocarbons as gasoline by EPA Method 5030/8260B in sample collected after dilution and before catox inlet, represents Total Process Flow.
ppmv parts per million vapor
scfm Standard cubic feet per minute
Total Ops Total number of hours unit has operated
Period Ops Number of hours unit since last sampling/monitoring event
Operating wells Extraction wells operating after adjustment, if any, and during sampling.
Total Process FlowTotal process flow derived from blower curve of ACFM vs. "Hg using measured vacuum ("Hg) at pump. ACFM converted to SCFM using applicable conversion factor.Recovery Rate:= flow rate (fi^3/min)* influent concentration ($fi3 / 1x10^6 fi3$)* MW (lb/lb-mole)/384.5 ($fi^3/lb-mole$)* 1440 min/day
Except for initial start-up or restart: Operational period (hr) x Recovery Rate (lbs/day) x conversion facor (1 day / 24 hr), and
on lab data calculations, the starting concentration is assumed to be the same as that for 7/9/12 at 1.75 hr.
Period Water Approx. period volume of groundwater recovered and discharged for period (gal) (total system flow from all active extaction wells)
Period Rate Approx. period groundwater recovery and discharge rate (gpm) (for total system flow from all active extaction wells) = Period Discharge (gal) /
(Period Ops [hr] * 60 [min/hr])
Total Water Approx. cumulative volume of groundwater recovered and discharged (gal) (total system flow from all active extaction wells)

omic Development Agency.

Dakland, CA 94612 • Phone (510) 238-3443 • Fax (510) 238-2263

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

App1# OB120581 Job Site 645.4TH 9T Parcel# 001 -0123-009-00

Reserve parking for construction vehicles. No impact on Permit Issued 07/02/12 traffic lane. Sidewalk will have ramp over pipes. Allow three monitoring wells in sidewalkwells in sidewalk

Nbr of mths:							
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Effective:							
					piration:	08/08/1	
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JCB SITE

\$.00 FEES TO BE PAID AT ISSUANCE

## Display on Dashboard

## To 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.

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## CALCLEAN INC.

### "A Partner in Protecting California's Waters"

August 6, 2012

Blue Rock Environmental Inc. 1169 Chess Dr. Suite C Foster City, CA 94404

ATTN:	MR. BRIAN GWINN
SITE:	TERRADEV PROPERTY 645 4 th STREET OAKLAND, CALIFORNIA
RE:	HIGH VACUUM DUAL PHASE EXTRACTION REPORT

Dear Mr. Gwinn:

CalClean Inc. is submitting this High Vacuum Dual Phase Extraction Report for the above referenced site. This report includes all activities performed during the dates of July 9-24, 2012.

From July 9-24, 2012, CalClean performed a 15-day high vacuum dual phase extraction (HVDPE) event on several onsite extraction wells using a low-noise, truck-mounted 450-CFM high-vacuum liquid ring blower along with a Bay Area Air Quality Management District (BAAQMD) various locations permitted propane-fired thermal oxidizer (Plant No. 12568). This technology allows hydrocarbons to be simultaneously removed from the vadose zone, capillary fringe, and saturated soil zone. A high vacuum was applied for vapor extraction and drawdown of the groundwater table around the extraction wells, while vacuum and vapor flow rates were modified to optimize recovery of vapor, free-product (if any) and dissolved-phase hydrocarbons.

During the event, the high vacuum dual phase extraction (HVDPE) system was connected to various wells individually or in combination. HVDPE was performed in extraction wells DPE-1, DPE-2, and DPE-3. HVDPE activities were conducted for a total of 15 days.

Total Inlet vapor samples were collected in Tedlar bags from the extraction wells during the event. The laboratory results, listed in Table 1 and laboratory reports included in Attachment 1, indicate the following:

- The starting (7/9/12), middle (7/16/12), and ending (7/24/12) Total Inlet Total Petroleum Hydrocarbons as Gasoline (TPH-G) vapor concentrations were 1,200 ppmv, 750 ppmv, and 430 ppmv, respectively.
- The starting (7/9/12), middle (7/16/12), and ending (7/24/12) Total Inlet Benzene vapor concentrations were 76 ppmv, 22 ppmv, and 14 ppmv, respectively.
- The starting (7/9/12), middle (7/16/12), and ending (7/24/12) Total Inlet Methyl tert-Butyl Ether (MtBE) vapor concentrations were 0.57 ppmv, 0.33 ppmv, and 0.29 ppmv, respectively.

The total equivalent amount of hydrocarbons recovered through vapor extraction during the 15-day HVDPE event was 191.34 pounds (based on laboratory data), and 129.54 pounds (based on the Horiba field organic vapor analyzer data) with an average of 160.44 pounds. The cumulative tabulation of recovered hydrocarbons (based on laboratory data) is provided in Table 2. The cumulative tabulation of recovered hydrocarbons (based on the field organic vapor analyzer data) is provided in Table 3.

The total volume of hydrocarbon-affected groundwater recovered from the extraction wells during the HVDPE event was approximately 18,900 gallons. The extracted groundwater was placed in tanks onsite for further handling.

The following attachments are included to document the HVDPE event at the site:

Table 1	Results of Laboratory Analysis of Influent Vapor Samples
Table 2	Hydrocarbon Mass Removal (using Lab Data)
Figure 1	Total Inlet HC Concentrations versus Time (15 Days, Using Lab Data)
Figure 2	Cumulative HC Recovered over 15 Days (using Lab Data)
Table 3	Hydrocarbon Mass Removal (using Horiba Data)
Figure 3	Total Inlet HC Concentrations versus Time (15 Days, Using Horiba Data)
Figure 4	Cumulative HC Recovered over 15 Days (using Horiba Data)
Attachment 1	Laboratory Reports
Attachment 2	High Vacuum Dual Phase Extraction Field Data Sheets

If you have any questions regarding this report, please contact us at (714) 734-9137 or via cell phone at (714) 936-2706.

Sincerely,

CALCLEAN INC.

Noel Shenoi Principal Engineer

Attachments

### Table 1 RESULTS OF LABORATORY ANALYSIS OF VAPOR SAMPLES Terradev Property Oakland, CA

Sample ID	Date/Time Sampled	TPH-g (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Total Xylenes (ppmv)	MTBE (ppmv)
TOTAŁ INLET	7/9/12 1050	1,200	76	85	16	86	0.57
TOTAL INLET	7/16/2012 1530	750	22	43	6.3	43	0.33
TOTAL INLET	7/24/12 0800	430	14	25	3.3	25	0.29
Notes: ppmv TPH - g	= parts per million by volume = total petroleum hydrocarbons	- gasoline	TPH-G, BTEX MtBE	and MtBE analyzed by = methyl tertiary butyl e			

-

### Table 2 HYDROCARBON MASS REMOVAL (Using Lab Data) Terradev Property, Oakland, CA

		SYSTEM PA	RAMETERS			
TIME	Average System Vacuum (in of Hg)	Average Total System Inlet Flow (scfm)	Influent Concentrations Post-dilution* (ppmv)	Hydr (Ibs)	ocarbon Reco (gal)	very (Cumul. lbs)
7/9/2012 10:50	24	50	1,200	0.00	0.00	0.00
7/16/2012 15:30	24	51	750	115.75	18.53	115.75
7/24/2012 8:00	24	51	430	75.59	12.10	191.34
	TOTAL HC F	RECOVERED* - LA	B DATA	191.34	30.63	
	TOTAL HC F	RECOVERED** - FI	ELD ANALYZER DATA	129.54	20.74	
	Average HC R	ecovered*** (Field	d Analyzer/Lab Data)	160.44	25.68	

in of Hg = inches of mercury

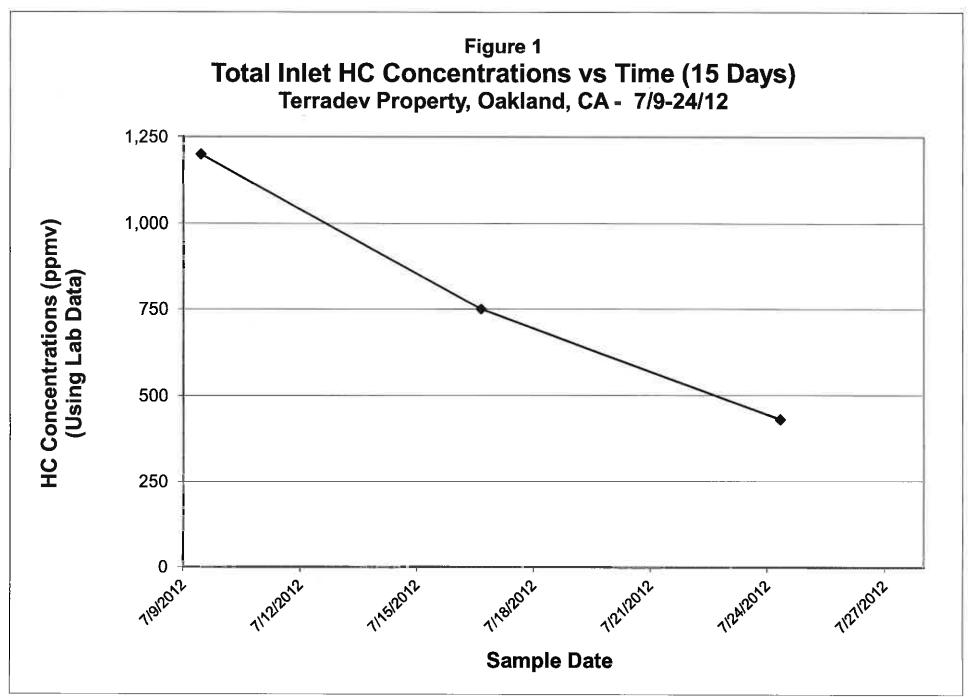
ppmv = parts per million by volume

scfm = standard cubic feet per minute g * Concentration data based on laboratory data.

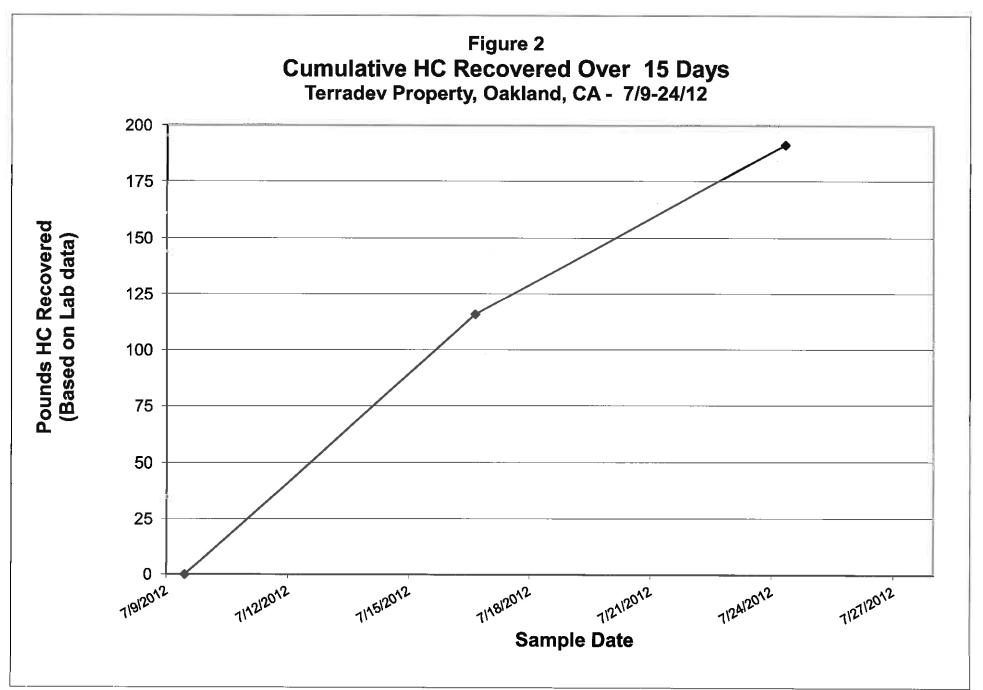
gal = gallons

ibs = pounds
** Based on Horiba field analyzer data.

*** Average HC Recovered using Laboratory and Horiba data







# Table 3 HYDROCARBON MASS REMOVAL (Using Field Analyzer Data) Terradev Property, Oakland, CA

				Extraction Well # (Stinger	Extraction Well # (Stinger Depth)			SYSTEM	PARAMETERS				
TIME	Extraction Well # <b>DPE-1</b> (Stinger Depth)	Extraction Well # DPE-2 (Stinger	Extraction Well # DPE-3 (Stinger Depth)			Extraction Well # (Stinger Depth)	System Vacuum	Total System Inlet Flow	Concentrations	Effluent Concentrations	(us	Hydrocarbon Recovery (using Horiba Data)	
7/9/2012 9:00		Depth)	Depuņ	Depth)	Deputy	Deptn)	(in of Hg)	(\$cfm)**	(ppmv)*	(ppmv) *	(lbs)	(gal)	(Cumul lbs)
7/9/2012 9:30					· · · · · · · · · · · · · · · · · · ·		25 26	27 29	2,120	· · ·	0.00	0.00	0.00
7/9/2012 9:45							20	<u>29</u> 40	1,967 380	3	0.39	0.06	0.39
7/9/2012 10:15							22	40 150	380		0.14	0.02	0.53
7/9/2012 10:15							24	50	679		0.24	0.04	0.77
7/9/2012 12:00					<u> </u>		24				0.36	0.06	1.13
7/9/2012 12:00							24	50	587		0.54	0.09	1.67
7/9/2012 20:00			···· ·		·		24	53 52	620 720		1.69	0.27	3.36
7/10/2012 4:00											1.92	0.31	5.27
7/10/2012 4:00							<u>24</u> 24	51	781		4.21	0.67	9.48
7/10/2012 12:00								51	638		1.97	0.32	11.45
7/10/2012 12:00						1	<u>24</u> 24	<u>51</u> 51	650		1.79	0.29	13.24
7/10/2012 10:00							24	51	703 659		<u>1.88</u> 1.89	0.30	15.12
7/11/2012 8:00							24	51	620			0.30	17.01
7/11/2012 12:00							24	51	620		5.33	0.85	22.34
7/11/2012 12:00							24	51	645		1.70	0.27	24.04
7/11/2012 20:00					· · ·		24	51	638		<u> </u>	0.28	25.78 27.56
7/12/2012 8:00							24	51	620		5.24	0.29	
7/12/2012 12:00							24	51	630		<u>5.24</u> 1.74	0.84	32.80
7/12/2012 12:00							24	51	617		1.74	0.28	34.54 36.27
7/12/2012 20:00							24	51	620		1.73	0.28	36.27
7/13/2012 8:00							24	51	590		5.04	0.27	
7/13/2012 12:00					<u>.</u>		24	51 51	590		<u> </u>	0.81	43.03
7/13/2012 16:00							24	51	545		1.57	0.25	44.59
7/13/2012 20:00							24	51	<u>. 545</u> 520		1.48	0.24	46.10
7/14/2012 8:00					L <u></u>		24	51	578		4.57	0.24	52.15
7/14/2012 12:00	·				<u>    .                                </u>		24	51	567		<u>4.57</u> 1.59	0.73	52.15
7/14/2012 16:00							24	51	575	·	1.59	0.25	55.33
7/14/2012 20:00						- ·.	24	51	569		1.59	0.25	56.91
7/15/2012 8:00							24	51	565		4.72	0.25	61.64

# Table 3HYDROCARBON MASS REMOVAL (Using Field Analyzer Data)Terradev Property, Oakland, CA

				Extraction Well # (Stinger				SYSTEM	PARAMETERS				
TIME	Extraction Well # DPE-1 (Stinger Depth)	Extraction Well # DPE-2 (Stinger	Well # DPE-3 (Stinger				System Vacuum (in of Hg)	Total System Inlet Flow	Concentrations		Hydrocarbon Recovery (using Horiba Data)		
7/45/0040 40.00	Depui)	Depth)	Depth)	Depth)	Depth)	Depth)		(scfm)**	(ppmv)*	(ppmv) *	(lbs)	(gal)	(Cumul Ibs)
7/15/2012 12:00					-		24	51	572		1.58	0.25	63.22
7/15/2012 18:00							24	51	553		1.56	0.25	64.78
7/16/2012 8:00							24	51	557	·	1.54	0.25	66.32
				· · · · · · · · · · · · · · · · · · ·			24	51	549	·	4.61	0.74	70.93
7/16/2012 12:00							24	51	523		1.49	0.24	72.42
7/16/2012 18:00							24 24	51 51	488 457		1.40	0.22	73.82
7/17/2012 8:00											1.31	0.21	75.14
							24	51	525		4.09	0.65	79.23
7/17/2012 12:00 7/17/2012 16:00							24	51	515		1.44	0.23	80.67
7/17/2012 20:00							24 24	51 51	511 505		1.42	0.23	82.10
7/18/2012 8:00							24	51	480		1.41		83.51
7/18/2012 12:00							24	51	480 505		4.10 1.37	0.66	87.61
7/18/2012 16:00							24	51	495		1.37	0.22	88.98 90.37
7/18/2012 20:00							24	51	495		1.39	0.22	90.37
7/19/2012 8:00		· · _ · · ·					24	51	469		3.98	0.22	95.71
7/19/2012 12:00							24	51	440		1.26	0.84	96.98
7/19/2012 16:00							24	51	430		1.20	0.20	96.98
7/19/2012 20:00							24	51	425		1.19	0.19	99.37
7/20/2012 8:00	<b> </b>						24	51	445		3.62	0.58	103.00
7/20/2012 12:00							24	51	449		1.24	0.20	104.24
7/20/2012 16:00							24	51	452		1.25	0.20	105.49
7/20/2012 20:00							24	51	437		1.23	0.20	106.72
7/21/2012 8:00							24	51	430		3.61	0.58	110.34
7/21/2012 12:00					<u> </u>		24	51	423		1.18	0.19	111.52
7/21/2012 16:00				·			24	51	429		1.18	0.19	112.70
7/21/2012 20:00				· · · · · · · · · · · · · · · · · · ·			24	51	427		1.19	0.19	113.89
7/22/2012 8:00							24	51	335		3.17	0.51	117.07
7/22/2012 12:00							24	51	365		0.97	0.16	118.04
7/22/2012 16:00							24	51	325		0.96	0.15	119.00

# Table 3 HYDROCARBON MASS REMOVAL (Using Field Analyzer Data) Terradev Property, Oakland, CA

					Extraction Well # (Stinger Depth)		SYSTEM PARAMETERS						
TIME	Extraction Well <b># DPE-1</b> (Stinger Depth)	Extraction Well # DPE-2 (Stinger Depth)	Extraction Well # DPE-3 (Stinger Depth)	Extraction Well # (Stinger Depth)			System Vacuum (in of Hg)	Total System Inlet Flow (scfm)**	Influent Coricentrations (ppmv)*	Effluent Concentrations (ppmv) *		ocarbon Recovery Ing Horiba Data) (gal) (Cumul	
7/22/2012 20:00							24	51	413		1.02	0.16	120.02
7/23/2012 8:00							24	51	399		3.38	0.54	123.40
7/23/2012 12:00							24	51	409		1.12	0.18	124.53
7/23/2012 16:00							24	51	398		1.12	0.18	125.65
7/23/2012 20:00							24	51	392		1.10	0.18	126.74
7/24/2012 8:00							24	51	280		2.80	0.45	129.54
		1		l	1				TOTAL HC RECO	VERED	129.54	20.74	<u> </u>

TOTAL LIQUID RECOVERED	18,900
	10,000

Comments: Manual dilution was not opened during the event.

in of Hg = inches of mercury

scfm = standard cubic feet per minute

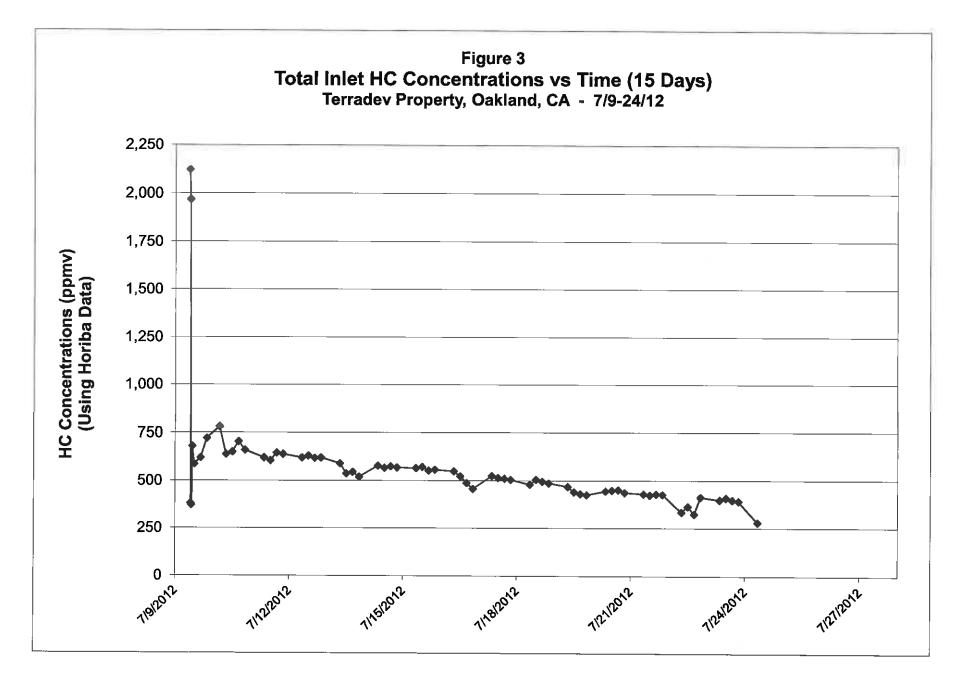
* Concentrations based on Horiba MEXA 324-JU field organic vapor analyzer, calibrated as hexane

gal = gallons

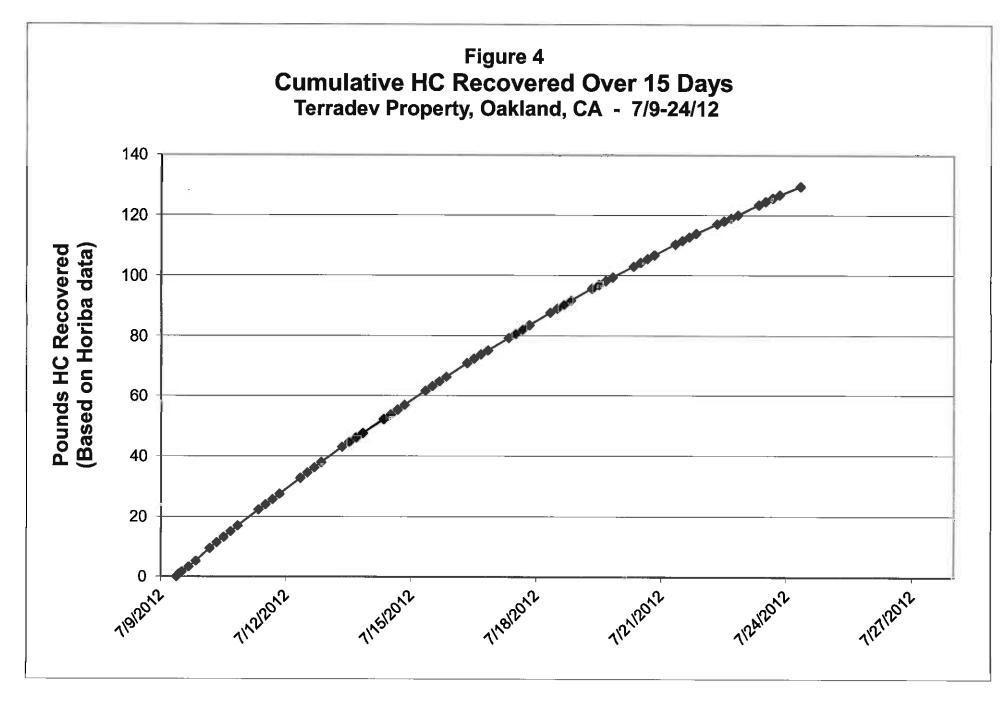
lbs = pounds

** Inlet flow measured through orifice tube and converted from acfm to reported scfm

### **CalClean Inc.**



### **CalClean Inc.**



CalClean Inc.

### **ATTACHMENT 1**

### LABORATORY REPORTS



Report Number : 81864 Date : 07/11/2012

### Laboratory Results

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

Subject : 1 Vapor Sample Project Name : Terreder 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 D. Jurpen

Troy Turpen



Report Number : 81864 Date : 07/11/2012

Lab Number : 81864-01

Project Name : Terreder Jefferson LLC Property
Project Number : ASE-1

Sample : Total Inlet

Sample Date :07/09/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene (ppmv)	76	0.30	ppmv	EPA 8260B	07/09/12 21:22
Toluene (ppmv)	85	0.25	ppmv	EPA 8260B	07/09/12 21:22
Ethylbenzene (ppmv)	16	0.20	ppmv	EPA 8260B	07/09/12 21:22
Total Xylenes (ppmv)	86	0.20	ppmv	EPA 8260B	07/09/12 21:22
Benzene	250	0.90	mg/m3	EPA 8260B	07/09/12 21:22
Toluene	330	0.90	mg/m3	EPA 8260B	07/09/12 21:22
Ethylbenzene	71	0.90	mg/m3	EPA 8260B	07/09/12 21:22
Total Xylenes	380	0.90	mg/m3	EPA 8260B	07/09/12 21:22
Methyl-t-butyl ether (ppmv)	0.57	0.25	ppmv	EPA 8260B	07/09/12 21:22
Methyl-t-butyl ether (MTBE)	2.1	0.90	mg/m3	EPA 8260B	07/09/12 21:22
TPH as Gasoline (ppmv)	1200	25	ppmv	EPA 8260B	07/09/12 21:22
TPH as Gasoline	4800	90	mg/m3	EPA 8260B	07/09/12 21:22
1,2-Dichloroethane-d4 (Surr) Toluene - d8 (Surr)	101 98.4		% Recovery % Recovery	EPA 8260B EPA 8260B	07/09/12 21:22 07/09/12 21:22

Matrix : Air

### **QC Report : Method Blank Data**

### Project Name : Terreder Jefferson LLC Property

Project Number : ASE-1

Parameter	Value	Reportin Limit	ug Units	Analysis Method	Date Analyzed
Benzene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	07/09/2012
Ethylbenzene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	07/09/2012
Toluene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	07/09/2012
Total Xylenes (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	07/09/2012
Benzene	< 0.20	0.20	mg/m3	EPA 8260B	07/09/2012
Ethylbenzene	< 0.20	0.20	mg/m3	EPA 8260B	07/09/2012
Toluene	< 0.20	0.20	mg/m3	EPA 8260B	07/09/2012
Total Xylenes	< 0.20	0.20	mg/m3	EPA 8260B	07/09/2012
Methyl-t-butyl ether (ppmv)	< 0.10	0.10	ppmv	EPA 8260B	07/09/2012
Methyl-t-butyl ether (MTBE)	< 0.20	0.20	mg/m3	EPA 8260B	07/09/2012
TPH as Gasoline (ppmv)	< 5.0	5.0	ppmv	EPA 8260B	07/09/2012
TPH as Gasoline	< 20	20	mg/m3	EPA 8260B	07/09/2012
1,2-Dichloroethane-d4 (Surr)	103		%	EPA 8260B	07/09/2012
Toluene - d8 (Surr)	98.9		%	EPA 8260B	07/09/2012

	Measured	Reporti	ing	Analysis	Date
Parameter	Value	Limit	Units	Method	Analyzed

KIFF Q 2795 2nd Street, Davis, CA 95618 Lab: 530.297.48 Fax: 530.297.4	3 800 SRG # / La 1802	Lab No. <u>8864</u> Page <u>1</u> of <u>1</u>
Project Contact (Hardcopy or PDF To):	California EDF Report? Yes No	Chain-of-Custody Record and Analysis Request
Project Contact (Hardcopy or PDF To): B: inn Gwinn Company / Address: Blue Rack Environmental 1169 (Less Drive ste (. Forter City (., Phone Number: 650-522-9292 For Number:	Sampling Company Log Code:	Analysis Request TAT
Fax Number: 650-522-9292	EDF Deliverable To (Email Address):	
Fax Number: 650-522-9259 Project #: ASE-1 P.O. #:	Bill to: Blue Ruck Env - Foster (1+7 Sampler Print Name: Statt Ruberton	. TBA) (EPA :       . TBA) (EPA :       . TBA) (EPA :       . TBA) (EPA :       . Group       . J (EPA :
Project Name: Terredev Jefferson LLC Property	Sampler Print Name: Sampler Print Name: Sampler Ryberkon Sampler Signature:	MTBE @ 0.5 ppb (EPA 8260B)         BTEX (EPA 8260B)         TPH Gas (EPA 8260B)         5 oxygenates (MTBE, DIPE, ETBE, TAME, TBA) (EPA 8260B)         7 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 8015M)         TPH as Diesel (EPA 8015M)         TPH as Diesel (EPA 8015M)         TPH as Motor Oli (EPA 200.7 / 6010)         Swaste oli Metals (EPA 200.7 / 6010)         W.E.T. Lead (STLC)         W.E.T. Lead (STLC)         M.E.T. Lead (STLC)
Project Address: Sampling	Container Preservative Matrix	Plane (EPA 88
645 Fourth Streat		Ppb (E]           Ppb (E]           Page 260B)           PA 8260           PA 8260           Page 200
Oakland C. 94607	40 ml VOA Sleeve Poly Glass HCI HNO ₃ None None Vater Air	MTBE @ 0.5 ppb (EPA 8260B)         BTEX (EPA 8260B)         TPH Gas (EPA 8260B)         5 oxygenates (MTBE. DIPE. ETBE. TAM         7 Oxygenates (S oxy + EtOH, MeO)         Volatile Halocarbons (EPA 8260B)         Volatile Organics Full List (EPA 826         Volatile Organics Full List (EPA 826         Volatile Organics (EPA 8015M)         TPH as Diesel (EPA 245.1 / 7470 / 7471)         Total Lead (EPA 245.1 / 7470 / 7471)         Total Lead (STLC)         W.E.T. Lead (STLC)         W.E.T. Lead (STLC)         Macrub         Teal         Act         Act      Ac
Sample Designation Date Time		
Total Inlet 7/9/12/1050 Total Inlet 7/9/12/1050	╶╉╶╡╶╡╴╡╴┨╴╡╴┧╻╱╡╶┤╺┫╴┤╴┟╴┼┈	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
		I I I I I I I I I I I I I I I I I I I
Relinguished by: Date 7/6	9/12 1323	Remarks:
Relinquished by: Date	Time Received by:	
Belinquished by: Date	0912 1323 Human And	The

Image: Sample Receipt CHECKLIST       Imitals         SRG#:       SGAY         Project ID:       Terredev Jefferson LLC+ Property         Method of Receipt:       Over-the-counter         Singuration of the second se	SRG#:       SRG#:       SRG#:       SRG#:       Project ID:         Project ID:       Terredev       Jefferson       Project Y         Method of Receipt:       Courier       Over-the-counter       Shipper         COC Inspection       Intact       Broken       Not present         Is COC present?       Intact       Broken       Not present       N/A         Is sample name legibly indicated on COC?       Yes       No         Is the turnaround time indicated on COC?       Yes       No         Is the turnaround time indicated on COC?       Yes       No         Is the turnaround time indicated on COC?       Yes       No         Colard Present:       Them. ID#       Initial       Date/Time       N/A         Colard Present:       Them. ID#       Initial       Date/Time       No       No         Are there sustody seals on sample containers?       No (includes water)       Tereservatives indicated?       N/A         Are there samples matrices other than soil, water, air or carbon?       Yes       No       No       Are there sample containers broken, leaking or damaged?       Yes       No         Are there sample containers weed for the analyses requested?       Yes       No       No       M/A         Are there sample c	KIFF 🌒		RECEIVER
Project ID:       Terredev       Jefferson       Jefferson       Progerty         Method of Receipt:       Courier       Over-the-counter       Shipper         Coc Inspection       Intact       Brocken       Not present?         Custody seals on shipping container?       Nes       No       Intact       Brocken       Not present?         is analysis on hold requested for all samples?       Yes       No       No       Is the turnaround time indicated on COC?       Yes       No         is coc free of whiteout and uninitialed cross-outs?       Yes       No       No       Is the turnaround time indicated or coss-outs?         Sample Inspection       Colant Present:       Yes       No (includes water)       Temperature *C       N/A         Temperature *C       Therm. ID#       Initiat       Date/Time       N/A         Are there custody seals on sample containers?       Intact       Broken       Not present         Do containers match COC?       Yes       No       No, Extra sample(s) present       N/A         Are there custody seals on sample containers?       Intact       Broken       No indicated       N/A         Are there sample smatrices other than soil, water, air or carbon?       Yes       No       No       No         Are there sample contain	Project ID:       Terredev       Jefferson       Jose Property         Method of Receipt:       Courier       Over-the-counter       Shipper         COC Inspection       Intact       Broken       No         Is COC Signed by Relinquisher?       Intact       Broken       Not present         Is analysis on shipping container?       Yes       No         Is analysis on hold requested for all samples?       Yes       No         Is the turnaround time indicated on COC?       Yes       No         Is the turnaround time indicated on COC?       Yes       No         Is COC free of whiteout and uninitialed cross-outs?       Yes       No         Sample Inspection       Colant Present:       Yes       Intact         Do containers match COC?       Yes       No       No, COC lists absent sample(s)       No, Extra sample(s) present         Are there sample containers broken, leaking or damaged?       Yes       No       No       No         Are any sample containers broken, leaking or damaged?       Yes       No       No       No         Are there contain presonationers used for the analyses requested?       Yes       No       No       No         Are there sample containers broken, leaking or damaged?       Yes       No       No       No	Analytical LLC		Initials
Method of Receipt:       Courier       Over-the-counter       Shipper         COC Inspection Is COC present?       No       No       No         Custody seals on shipping container? Is candysis or hold requested for all samples?       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         Sample Inspection Coolant Present:       Yes       No (includes water)       Date/Time         Temperature °C       Therm. ID#       Initia       Date/Time       N/A         Are there caudody seals on sample containers?       Intact       Broken       Not present         Do containers match COC?       Yes       No       No to present         Are there samples matrices other than soil, water, air or carbon?       Yes       No         Are there sample containers broken, leaking or damaged?       Yes       No       No         Are there sample containers broken, leaking or damaged?       Yes       No       No         Are any sample containers broken, leaking or damaged?       Yes       No       No         Are the correct sample containers to perform testing?       Yes       No       No <th>Method of Receipt:       Courier       Over-the-counter       Shipper         COC Inspection       Is COC Present?       Intact       Broken       No         Is coc Signed by Relinquisher?       Intact       Broken       No tpresent       N/A         Is coc Signed by Relinquisher?       Intact       Broken       No tpresent       N/A         Is analysis or hold requested for all samples?       Yes       No       No         Is the turnaround time indicated on COC?       Yes       No       No         Is coc free of whiteout and uninitialed cross-outs?       Yes       No       No, Cross-outs         Sample Inspection       Coolant Present:       Yes       Intact       Broken       Nv/A foresent         Do containers match COC?       Yes       No       No, COC lists absent sample(s)       No, Extra sample(s) present         Are there custody seals on sample containers       Intact       Broken       Nv/A         Are preservatives correct for analyses requested?       Yes       No       No         Are the correct sample containers broken, leaking or damaged?       Yes       No       No         Are the correct sample containers broken leaking or damaged?       Yes       No       No         Are the sample containers broken, leaking or damages requested?</th> <th></th> <th></th> <th>1</th>	Method of Receipt:       Courier       Over-the-counter       Shipper         COC Inspection       Is COC Present?       Intact       Broken       No         Is coc Signed by Relinquisher?       Intact       Broken       No tpresent       N/A         Is coc Signed by Relinquisher?       Intact       Broken       No tpresent       N/A         Is analysis or hold requested for all samples?       Yes       No       No         Is the turnaround time indicated on COC?       Yes       No       No         Is coc free of whiteout and uninitialed cross-outs?       Yes       No       No, Cross-outs         Sample Inspection       Coolant Present:       Yes       Intact       Broken       Nv/A foresent         Do containers match COC?       Yes       No       No, COC lists absent sample(s)       No, Extra sample(s) present         Are there custody seals on sample containers       Intact       Broken       Nv/A         Are preservatives correct for analyses requested?       Yes       No       No         Are the correct sample containers broken, leaking or damaged?       Yes       No       No         Are the correct sample containers broken leaking or damaged?       Yes       No       No         Are the sample containers broken, leaking or damages requested?			1
COC Inspection Is COC present?       Yes       No         Custody seals on shipping container? Is COC Signed by Relinquisher?       Yes       No         Is sanaysis on hold requested for all samples? Is analysis on hold requested for all samples? Is the turnaround time indicated on COC?       Yes       No         Is analysis on hold requested for all samples? Is the turnaround time indicated on COC?       Yes       No         Is COC free of whiteout and uninitialed cross-outs?       Yes       No         Sample Inspection Coolant Present:       Yes       No (includes water) Temperature °C       Therm. ID#       Initial       Date/Time       N/A         Are there samples matrices other than soil, water, air or carbon?       Yes       No       No       Exection         Are any sample containers broken, leaking or damaged?       Yes, on COC       No in indicated?       N/A         Are there samples matrices other than alyses requested?       Yes       No       No         Are there sample containers used for the analyses requested?       Yes       No         Are there sample container type       # of containers received       No         Is there sufficient sample to perform testing?       Yes       No         Does any sample container type       # of containers received       N/A         Matrix       Container type       # of containers	COC Inspection Is COC present?       Yes       No         Custody seals on shipping container? Is COC Signed by Relinquisher?       Yes       No         Is core Signed by Relinquisher?       Yes       No         Is analysis or hold requested for all samples?       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         Colant Present:       Yes       No, COC list absent sample(s)       No, Extra sample(s) Present         Temperature °C       Therm. ID#       Initial       Date/Time       Broken       Not present         Do containers match COC?       Yes       No       No       No foresent       No/         Are there custody seals on sample containers?       Initial       Date/Time       Broken       No foresent         Are any sample containers broken, leaking or damaged?       Yes       No       No       N/A         Are preservatives indicated?       Yes, on sample containers       Yes, on COC       No indicated       N/A         Are there sample containers used for the analyses requested?       Yes       No       No       N/A         Are there sample containe			$\gamma$
Is COC present?       Yes       No         Custody seals on shipping container?       Intact       Broken       Not present         Is COC Signed by Relinquisher?       Ves       No         Is analysis or hold requested for all samples?       Yes       No         Is analysis or hold requested for all samples?       Yes       No         Is coc Signed by Relinquisher?       Yes       No         Is analysis or hold requested for all samples?       Yes       No         Is coc C free of whiteout and uninitialed cross-outs?       Yes       No         Sample Inspection       Yes       No       No, Whiteout       No, Cross-outs         Coolant Present:       Yes       Initial       Date/Time       Initact         Do containers match COC?       Nes       No       No, Extra sample(s) present         Are there samples matrices other than soil, water, air or carbon?       Yes       No         Are there sample containers broken, leaking or damaged?       Yes       No         Are preservatives indicated?       Yes on sample containers       Yes       No         Are there sample containers used for the analyses requested?       Yes       No       No         Are the sample to perform testing?       Yes       No       No       No	Is COC gresent?       Intact       Broken       No         Custody seals on shiping container?       Intact       Broken       No tressent       N/A         Is COC Signed by Relinquisher?       Ves       No       No       No         Is sampler name legibly indicated on COC?       Yes       No       No       Seample name legibly indicated on COC?       Yes       No         Is the turnaround time indicated on COC?       Yes       No       No       Wes       No         Is COC free of whiteout and uninitialed cross-outs?       Yes       No       No, Whiteout No, Cross-outs         Sample Inspection       Coolant Present:       Yes       No       No       No tressent         Coolant Present:       Yes       No       No (COC list absent sample(s)       No, Extra sample(s) present       No/A         Are there custody seals on sample containers?       Initial       Date/Time       No/A         Are there samples matrices other than soil, water, air or carbon?       Yes       No       No         Are there sample containers broken, Leaking or damaged?       Yes       No       No         Are preservatives indicated?       Yes, on sample containers methology?       No       No         Is there sufficient sample to perform testing?       Yes       No		Method of Receipt:  Courier Over-the-counter Shipper	
Coolant Present:       Yes       No (includes water)         Temperature °C       Therm. ID#       Initial       Date/Time       N/A         Are there custody seals on sample containers?       Initial       Broken       Not present         Do containers match COC?       Yes       No       No, COC lists absent sample(s)       No, Extra sample(s) present         Are there sample containers broken, leaking or damaged?       Yes       No       No         Are there sample containers broken, leaking or damaged?       Yes       No         Are preservatives indicated?       Yes, on sample containers       Yes, on COC       Not indicated         Are preservatives correct for analyses requested?       Yes       No       N/A         Are sample containers used for the analyses requested?       Yes       No         Are the correct sample container used for the analyses requested?       Yes       No         Are the correct sample container type       # of containers received       No         Matrix       Container type       # of containers received       Matrix         Matrix       Container type       # of containers received       Matrix         Matrix       Container type       # of containers received       Matrix         Matrix       Container type       # of containers	Coolant Present:       Yes       No (includes water)         Temperature °C       Therm. ID#       Initial       Date/Time       N/A         Are there custody seals on sample containers?       Initial       Date/Time       No, Extra sample(s) 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 COC       Not indicated       N/A         Are preservatives correct for analyses requested?       Yes       No       No         Are the correct sample contain product, have strong odor or are otherwise suspected to be hot?       Yes       No         Natrix       Container type       # of containers received	Is COC present? Custody seals on sh Is COC Signed by F Is sampler name leg Is analysis or hold r Is the turnaround tin	hipping container?       Intact       Broken       Not provide the providet the provide the provide the provide the provide the providet the provid	ſ
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         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:       Cient Confirmed       Math Off       No       N/A	Are the Sample ID's indicated: $\bigcirc$ On COC $\bigcirc$ On sample container(s) $\bigcirc$ On Both $\bigcirc$ Not indicated         If Sample ID's are listed on both COC and containers, do they all match? $\bigcirc$ Yes $\bigcirc$ No $\bigcirc$ N/A         Is the Project ID indicated: $\bigcirc$ On COC $\bigcirc$ On sample container(s) $\bigcirc$ On Both $\bigcirc$ Not indicated         If project ID is listed on both COC and containers, do they all match? $\bigcirc$ Yes $\bigcirc$ No $\bigcirc$ N/A         Are the sample collection dates indicated: $\bigcirc$ On COC $\bigcirc$ On sample container(s) $\bigcirc$ On Both $\bigcirc$ Not indicated         If collection dates are listed on both COC and containers, do they all match? $\bigcirc$ Yes $\bigcirc$ No $\bigcirc$ N/A         Are the sample collection times indicated: $\bigcirc$ On COC $\bigcirc$ On sample container(s) $\bigcirc$ On Both $\bigcirc$ Not indicated         If collection times are listed on both COC and containers, do they all match? $\bigcirc$ Yes $\bigcirc$ No $\bigcirc$ N/A         Are the sample collection times indicated: $\bigcirc$ On COC $\bigcirc$ On sample container(s) $\bigcirc$ On Both $\bigcirc$ Not indicated         If collection times are listed on both COC and containers, do they all match? $\bigcirc$ Yes $\bigcirc$ No $\bigcirc$ N/A         COMMENTS: $\bigcirc$ Cient Confirmed that both $\bigcirc$ On Both $\bigcirc$ No $\bigcirc$ N/A<	Coolant Present: Temperature °C Are there custody se Do containers match Are there samples in Are any sample con Are preservatives in Are preservatives of Are samples within Are the correct sam Is there sufficient sa Does any sample con Receipt Details Matrix Matrix Matrix	Yes       Initial       Date/Time	Not present (s) present N/A N/A
	<u>z</u>	Are the Sample ID' If Sample ID's are I Is the Project ID inc If project ID is liste Are the sample colle If collection dates a Are the sample colle If collection times a	Isited on both COC and containers, do they all match?       Yes       No       Indicated:         Indicated:       On COC       On sample container(s)       On Both       Indicated:         Ide on both COC and containers, do they all match?       Yes       No       Indicated:         Illection dates indicated:       On COC       On sample container(s)       On Both       Indicated:         Illection dates indicated:       On COC       On sample container(s)       On Both       Indicated:         Illection times indicated:       On COC       On sample container(s)       On Both       Indicated:         Illection times indicated:       On COC       On sample container(s)       On Both       Indicated:         Illection times indicated:       On COC       On sample container(s)       On Both       Indicated:         Illection times indicated:       On COC       On sample container(s)       On Both       Indicated:         Illection times indicated:       On COC       Indicated:       On Somple container(s)       Indicated:       Indicated:         Illection times indicated:       On COC       Indicated:       Indicated:       Indicated:       Indicated:         Indicated:       Indicated:       Indicated:       Indicated:       Indicated:       Indicated:	N/A cated Not indicated N/A Not indicated N/A



Report Number : 81949 Date : 07/18/2012

# Laboratory Results

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

Subject : 1 Vapor Sample Project Name : Terrader Jefferson LLC 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 D. Jurpen

Troy Turpen



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

Lab Number : 81949-01

Sample : Total Inlet

Sample Date :07/16/2012

Sample Date :07/16/2012		Method			
Parameter	Measured Value	Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene (ppmv)	22	0.30	ppmv	EPA 8260B	07/17/12 18:43
Toluene (ppmv)	43	0.25	ppmv	EPA 8260B	07/17/12 18:43
Ethylbenzene (ppmv)	6.3	0.20	ppmv	EPA 8260B	07/17/12 18:43
Total Xylenes (ppmv)	43	0.20	ppmv	EPA 8260B	07/17/12 18:43
Benzene	73	0.90	mg/m3	EPA 8260B	07/17/12 18:43
Toluene	160	0.90	mg/m3	EPA 8260B	07/17/12 18:43
Ethylbenzene	28	0.90	mg/m3	EPA 8260B	07/17/12 18:43
Total Xylenes	190	0.90	mg/m3	EPA 8260B	07/17/12 18:43
Methyl-t-butyl ether (ppmv)	0.33	0.25	ppmv	EPA 8260B	07/17/12 18:43
Methyl-t-butyl ether (MTBE)	1.2	0.90	mg/m3	EPA 8260B	07/17/12 18:43
TPH as Gasoline (ppmv)	750	25	ppmv	EPA 8260B	07/17/12 18:43
TPH as Gasoline	3000	90	mg/m3	EPA 8260B	07/17/12 18:43
1,2-Dichloroethane-d4 (Surr) Toluene - d8 (Surr)	101 97.4		% Recovery % Recovery	EPA 8260B EPA 8260B	07/17/12 18:43 07/17/12 18:43

Matrix : Air

### **QC Report : Method Blank Data**

### Project Name : Terrader Jefferson LLC

Project Number : **ASE-1** 

Parameter	Measured Value	Method Reportin Limit	g Units	Analysis Method	Date Analyzed
Benzene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	07/17/2012
Ethylbenzene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	07/17/2012
Toluene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	07/17/2012
Total Xylenes (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	07/17/2012
Benzene	< 0.20	0.20	mg/m3	EPA 8260B	07/17/2012
Ethylbenzene	< 0.20	0.20	mg/m3	EPA 8260B	07/17/2012
Toluene	< 0.20	0.20	mg/m3	EPA 8260B	07/17/2012
Total Xylenes	< 0.20	0.20	mg/m3	EPA 8260B	07/17/2012
Methyl-t-butyl ether (ppmv)	< 0.10	0.10	ppmv	EPA 8260B	07/17/2012
Methyl-t-butyl ether (MTBE)	< 0.20	0.20	mg/m3	EPA 8260B	07/17/2012
TPH as Gasoline (ppmv)	< 5.0	5.0	ppmv	EPA 8260B	07/17/2012
TPH as Gasoline	< 20	20	mg/m3	EPA 8260B	07/17/2012
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	07/17/2012
Toluene - d8 (Surr)	98.8		%	EPA 8260B	07/17/2012

		Method			
	Measured	Reporti	ng	Analysis	Date
Parameter	Value	Limit	Units	Method	Analyzed

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					Bli	ve	Roc	K											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)		<u>@</u>	Volatile Organics (EPA 524.2 Drinking Water)				5 Waste Oil Metals (Cd,Cr,Ni,Pb,Zn) (EPA 200.7 / 6010)							24 h	ır	For Lab Use Only
Project Name: Terraded Jet	oject Name: Terraler Jefferion LLC				er Prir				cott	- 1	Rob	t							TAME,	AeOH)	B) (EP,	(B)	Volatile Organics Full List (EPA 8260B)	Drinking			()	(EPA 2	121)								ab U≲
			San	nple	er Sig	Inatu	ire:	2	Lin	$\overline{t}$	-D	<u>,</u>				MTBE @ 0.5 ppb (EPA 8260B)			ETBE,	tOH, N	1,2 EDI	Volatile Halocarbons (EPA 8260B)	st (EPA	24.2 C	5M)	TPH as Motor Oil (EPA 8015M)	CAM 17 Metals (EPA 200.7 / 6010)	(,Pb,Zn)	Mercury (EPA 245.1 / 7470 / 7471)	Total Lead (EPA 200.7 / 6010)					48hi	r	For
Project Address:	Sam	pling		C	Conta	ainer		Ĺ	Prese	erva	tive	Ĩ	M	atrix		EPA 8		30B)	DIPE	ш + Х	CA &	ns (EF	iuli Liŝ	EPA 5	A 801	EPA 8	PA 20	d,C,N	1/74	00.7 /	0						
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	RECEIVER
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Analytical LLC SAMPLE RECEIPT CHECKLIST	Initials
SRG#: $31949$ Date: $371712$	
Project ID: Terra Sev Jofferson LLC	
Method of Receipt: Courier Over-the-counter Shipper	
COC Inspection       Is COC present?	
Custody seals on shipping container?	esent N/A
Is COC Signed by Relinquisher? ZYes No Dated? Yes No	ý,
Is sampler name legibly indicated on COC?	
Is analysis or hold requested for all samples? Is the turnaround time indicated on COC? Yes No	
Is COC free of whiteout and uninitialed cross-outs?	No, Cross-outs
Sample Inspection Coolant Present: Yes No (includes water)	
Temperature °C Therm. ID# Initial Date/Time	∏N/A
	Not present
Do containers match COC? Yes No No, COC lists absent sample(s) No, Extra sample Are there samples matrices other than soil, water, air or carbon? Yes No	(s) present
Are there samples matrices other than soil, water, air or carbon? Yes Are any sample containers broken, leaking or damaged? Yes No	
Are preservatives indicated?  Yes, on sample containers  Yes, on COC  Not indicated	N/A
	N/A
Are samples within holding time for analyses requested? Yes No Yes No Yes No	
Is there sufficient sample to perform testing?	
Does any sample contain product, have strong odor or are otherwise suspected to be hot?	🗹 No
Receipt Details Matrix AK Container type Tellar # of containers received 02	/
Matrix       Container type       Image: All of containers received       O2         Matrix       Container type       # of containers received       02         # of containers received       # of containers received       02	
Matrix Container type # of containers received	
Date and Time Sample Put into Temp Storage Date: 071712 Time: 1425	
Quicklog	
Are the Sample ID's indicated: On COC On sample container(s) On Both	Not indicated
	N/A
Is the Project ID indicated: On COC On sample container(s) To Both Not indicated: Not indicated in the project ID is listed on both COC and containers, do they all match? Ves No N/A	ated
	Not indicated
If collection dates are listed on both COC and containers, do they all match? Xes No	N/A
	Not indicated
If collection times are listed on both COC and containers, do they all match? Xes No	N/A
COMMENTS:	

O:\old_ed\samprec\Forms\Sample Receipt Checklist rev 051409.doc

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Report Number : 82037 Date : 07/26/2012

# Laboratory Results

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

Subject : 1 Vapor Sample Project Name : Terrader Jefferson LLC 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 D. Jurpen

Troy Turpen



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

Lab Number : 82037-01

Sample : Total Inlet

Sample Date :07/24/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene (ppmv)	14	0.30	ppmv	EPA 8260B	07/25/12 17:03
Toluene (ppmv)	25	0.25	ppmv	EPA 8260B	07/25/12 17:03
Ethylbenzene (ppmv)	3.3	0.20	ppmv	EPA 8260B	07/25/12 17:03
Total Xylenes (ppmv)	25	0.20	ppmv	EPA 8260B	07/25/12 17:03
Benzene	47	0.90	mg/m3	EPA 8260B	07/25/12 17:03
Toluene	94	0.90	mg/m3	EPA 8260B	07/25/12 17:03
Ethylbenzene	15	0.90	mg/m3	EPA 8260B	07/25/12 17:03
Total Xylenes	110	0.90	mg/m3	EPA 8260B	07/25/12 17:03
Methyl-t-butyl ether (ppmv)	0.29	0.25	ppmv	EPA 8260B	07/25/12 17:03
Methyl-t-butyl ether (MTBE)	1.1	0.90	mg/m3	EPA 8260B	07/25/12 17:03
TPH as Gasoline (ppmv)	430	25	ppmv	EPA 8260B	07/25/12 17:03
TPH as Gasoline	1700	90	mg/m3	EPA 8260B	07/25/12 17:03
1,2-Dichloroethane-d4 (Surr) Toluene - d8 (Surr)	106 100		% Recovery % Recovery	EPA 8260B EPA 8260B	07/25/12 17:03 07/25/12 17:03

Matrix : Air

### **QC Report : Method Blank Data**

### Project Name : Terrader Jefferson LLC

Project Number : **ASE-1** 

Measured Value	Method Reportin Limit	g Units	Analysis Method	Date Analyzed
< 0.050	0.050	ppmv	EPA 8260B	07/25/2012
< 0.050	0.050	ppmv	EPA 8260B	07/25/2012
< 0.050	0.050	ppmv	EPA 8260B	07/25/2012
< 0.050	0.050	ppmv	EPA 8260B	07/25/2012
< 0.20	0.20	mg/m3	EPA 8260B	07/25/2012
< 0.20	0.20	mg/m3	EPA 8260B	07/25/2012
< 0.20	0.20	mg/m3	EPA 8260B	07/25/2012
< 0.20	0.20	mg/m3	EPA 8260B	07/25/2012
< 0.10	0.10	ppmv	EPA 8260B	07/25/2012
< 0.20	0.20	mg/m3	EPA 8260B	07/25/2012
< 5.0	5.0	ppmv	EPA 8260B	07/25/2012
< 20	20	mg/m3	EPA 8260B	07/25/2012
107		%	EPA 8260B	07/25/2012
101		%	EPA 8260B	07/25/2012
	Value < 0.050 < 0.050 < 0.050 < 0.20 < 0.	Measured Value         Reportin Limit           < 0.050	Measured Value         Reporting Limit         Units           < 0.050	Measured Value         Reporting Limit         Analysis Method           < 0.050

		Method	l		
	Measured	Reporti	ng	Analysis	Date
Parameter	Value	Limit	Units	Method	Analyzed

KIFF ANALYTICAL, LLC

	95 2nd Stre avis, CA 956 b: 530.297 x: 530.29	618 7.4800	ו									SRO	G # /	/ Lat	o No	'	ξ	32	2C	53	7										Pa	ige		L	of	L
Project Contact (Hardcopy of PDF)To):	:	ſ	Califor	nia E	DF	Repor	rt?		<b>١</b>	'es		No						(	Cha	ain-	of-C	Cus	tod	y R	eco	ord	an	d A	۱ns	alys	is F	Requ	uest			
Company / Address: / 169 Ches	r Dr. #		Sampl	ing C	Comp	any L	.og C	ode:															Ana	lysi	s R	equ	est				_			Ţ	TAT	
Blue 12000 / Poster Cr Phone Number: 1 650 · 522 - 9292	ty CH	(	Global	ID:														B)								CIRC	CLE	METH	10D						□ 12 hr	
Fax Number: 5 22 - 9259		E	EDF D	elive	erabl	e To (	Emai	l Add	res									EPA 8260	8260B)	(B)			<u>ي</u>				010)									≥
Project #: P.O. #: Bill to: ASE-1 Billye Roch Eur, - Foster (								77	4				TBA) (I	(EPA	A 826		<u>،</u>	Wate				00.7 / 6							2	24 hr	e O					
Project Contact (Hardcopy of PDE) To):       California EDF Report?       Yes       No         Company / Address:       MGG Chest Dr. #C       Sampling Company Log Code:         Blue Poch       Foster City ch       Global ID.         Phone Number:       Global ID.         650 · 522 - 9292       EDF Deliverable To (Email Address):         Fax: Number:       P.O. #:         Bill to:       Bill to:         ASE - (       P.O. #:         Project Name:       Project Son LLC         Sampler Signature:       Sampler Signature:									<i>t</i>	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)	A 8260B)	Volatile Organics Full List (EPA 8260B)	Volatile Organics (EPA 524.2 Drinking Water)	5M)	015M)	.7 / 6010)	5 Waste Oil Metals (Cd,Cr,Ni,Pb,Zn) (EPA 200.7 / 6010)	70 / 7471)	5010)						□ 48hr	For Lab Use Only					
Project Address:	Sampling	_		Cont	-		<b>—</b>	Prese			Γ	Ma			(EPA 8	<u>چ</u>	(80B)	, DIPE,	Ξ+ Kx	CA & 1	ns (EP	Full Lis	(EPA 5	A 801	(EPA 8	PA 200	d,Cr,Ni	1/74	00.7 / (	0						
Project Address: 645 Fourth Sta Oahland CA 94607			40 ml VOA Sleeve		s	The second se		3							MTBE @ 0.5 ppb (EPA	BTEX (EPA 8260B)	TPH Gas (EPA 8260B)	jenates (MTBE	genates (5 c	Scav. (1,2 D	Volatile Halocarbons (EPA 8260B)	le Organics	le Organics	TPH as Diesel (EPA 8015M)	TPH as Motor Oil (EPA 8015M)	CAM 17 Metals (EPA 200.7 / 6010)	e Oil Metals ((	Mercury (EPA 245.1 / 7470 / 7471)	Total Lead (EPA 200.7 / 6010)	W.E.T. Lead (STLC)					72hr	
Sample Designation	Date Tii	me	40 m Slee	Poly	Glass	Tedlar	Ę	HNO ₃	None		Wate	Soil	Air		MTBE	BTEX	TPH	5 Oxyg	7 Oxy	Lead	Volati	Volati	Volati	TPH	TPH	CAM	5 Wast	Mercu	Total	W.E.T				ľ	1 wk	
	201208					2			X				X		X	X	X												†	Ť			$\square$	╋		01
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Relinquished by: D D	Date	•		Tim		Receiv																														
D Relinquished by:				Tim	ie	Receiv	ved by	Labo	rato	^{ry:} A	n A	<u>L</u>				_																				
σ	0-					4	M	h			An	uly	+;	La	U	ıc																				

Distribution: White - Lab; Pink - Originator

/tical LLC SRG#:	SAMPLE 8723	RECEIPT	СНЕС	C <b>KLIST</b> Date: O	72512	 I1
Project ID: Method of Recei		Jefferson	counter	Shipper		
<b>DC Inspection</b> COC present? Istody seals on shipping COC Signed by Reling sampler name legibly ir analysis or hold request the turnaround time ind COC free of whiteout a	uisher? Xes adicated on COC? red for all samples? icated on COC?			Yes Intact Yes Yes Yes Yes Yes Yes	<ul> <li>□ No</li> <li>□ Broken X No</li> <li>□ No</li> <li>□ No</li> <li>□ No</li> <li>□ No</li> <li>□ No</li> <li>□ No, Whiteout</li> </ul>	
<b>mple Inspection</b> polant Present: mperature °C e there custody seals or o containers match COC e there samples matrice e any sample containers e preservatives indicate e preservatives correct e samples within holdir e the correct sample con- there sufficient sample bes any sample contain p ceipt Details atrix atrix atrix tte and Time Sample Put	Therm. ID# sample containers? Yes containers? So other than soil, was so ther than so the than so the so the ther than so the so the ther the ther than so the so the ther the there the the the so the the the the the the the the so the the the the the the the the the so the	No No, COO ter, air or carbon damaged? asample contain ed? requested? analyses request odor or are othe	1         C lists abse         C lists abse         ers         ers         ted?         brwise susp         # of conta         # of conta         # of conta         # of conta	Yes Yes Yes, on COC Yes Yes Yes Yes Yes	No, Extra sam	-
ticklog e the Sample ID's indic Sample ID's are listed of the Project ID indicated project ID is listed on b the sample collection collection dates are listed the sample collection collection times are listed	on both COC and con the contain the coc and contain dates indicated: the coc and times indicated:	ntainers, do they On COC [ ners, do they all On COC [ containers, do th On COC [	all match? On samp match? On samp ney all mato On samp	ble container(s) Ves vle container(s) ch? Yes vle container(s)	No     On Both     No     On Both     On Both     No     No     No     On Both     On Both     On Both	Not indicate N/A Not indicate
DMMENTS:						
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CalClean Inc.

# **ATTACHMENT 2**

# HIGH VACUUM DUAL PHASE EXTRACTION SYSTEM FIELD DATA SHEETS

			НЮ	GH VA	CUUI	M		SVE	or [	Х	DPE		FIEL	D DA	TAS	SHEE	Г				-	.CLEAN INC 4) 734-9137	-
Project L	cation:	645 FC	URTH S	TREET			City: C						DEV PI	ROPER	ΓY			Date: 7	- 109	201	( <i>i</i> 1	Page 1	of <u>5</u>
Client: B	LUE RO	OCK ENV							Operator	(s): <u>}</u>	hul /	Tony						_					
							EX		TION	WEL	LS					OBSE	RVAT	ION W	ELLS	3			
		Well I.D.			DP	1-3	•	D	PE-	2	D	2-3		(									Cumul.
	· · · · ·		rom-To (		TÞ		$\gamma W$	ΓP		DT4	TD		<u>tu)</u>									Water Meter Readings	Water
	nitial De Unit	epth To V Air	Vater DTV TOX	V (ft) Vapor Inlet	<i>14,<b>80</b></i> Off/On	/ <u>8,</u> DTW	85 Stinger	14,8 Off/On		06 Stinger	9.80 Off/On		6> Stinger	Vacuum	DTW	Vacuum	DTW	Vacuum	DTW	Vacuum	DTW	Readings	Extracted
Time	Vacuum		Temp.	Conc.			Depth			Depth			Depth	"H₂O	(ft)	"H₂O	(ft)	"H₂O	(ft)	"H₂O	(ft)	units 190540	gals.
	("Hg.)	(cfm)	(degF)	(ppmv)	(ppmv)	(ft)	(feet)	(ppmv)	(ft)		(ppmv)	(ft)	(feet)									11010	= 400
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	50K		+ 01 -	Tyby	23.		ç. ₎	61	21	044	-(P	PA:I	67	9)(	2)	TOO K	: Ctr	int s	n.n. È	110	10	50 (3 PP)	MU)
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			HI	GH VA	CUU	М		SVE	or	X	DPE		FIEL	D DA	TA S	SHEE	Г				CA		<b>).</b>
Proiect L	ocation	: 645 FC	OURTH S	TREET			City: C	DAKLAI	ND		Site # 1	FRRA	DEV P	ROPER	ту			Date:		/ 201 <b>9</b>	(71	4) 734-9137 Page Z	
-							<b>,</b>		Operato		Raw				•••	8		Date. 1				Fage	····
							EX	TRAC								OBSE	RVAT	ION W	ELLS	6			
		Well 1.D.			DF	2-1	·	D	PE-S	2	DF	2-3		, í									Cumul.
			From-To (		TD		rw	TD	Tb	Tiv	TD	12	Ś		3							Water Meter	Water
Time	Initial D Unit	epth To V Air	Vater DTV TOX	V (ft) Vapor inlet	14.80 Off/On		Stinger	14.8 Off/On		06 Stinger	9, <b>8</b> 0 Off/On		65 Stinger	Vacuum	ToTW	Vacuum	DTW	Vacuum	DTW	b.(	DTM	Readings	Extracted
	Vacuum		Temp.	Conc.			Depth	01/01		Depth		DIVV	Depth	"H ₂ O	(ft)	"H ₂ O	(ft)	"H ₂ O	(ft)	Vacuum "H₂O	DTW (ft)	units	gals
	("Hg.)	(cfm)	(degF)	(ppmv)	(ppmv)	(ft)	(feet)	(ppmv)	(ft)		(ppmv)	(ft)	(feet)					н				198540	1100
71r					on		13'	on		13'	off		81										
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-7/13																							
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1500	24	51	K.	545	<b> </b>	L																	
202	24	51	689	520																		204780	6440
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080	24	51	691	57%																		20445	סוור
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1600	74	5)	210	575			<u> </u>			•										`			
7 005	24	51	759	569															-			206100	0JTF
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~ 75	24	51	704	SKS.																		206730	9340
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			ĤI	GH VA	CUU	М		SVE	or	X	DPE		FIEL	D DA	TAS	SHEE	Т						2
		: 645 FC	OURTH S	TREET			City: C		ND Operator	5	-Site #: 1		DEV P	ROPER	TY			Date:	7 112	/ 2011	(71	4) 734-9137 Page <u>3</u>	of <u> </u>
onoriti i						<i>;</i> ,	EX	TRAC				Í				OBSEI	RVAT		ELLS	3			
		Well I.D.			DE	1-30		D	PE-	2	T	pr-	3										Cumul.
			From-To (		TP	/ P	<u>10</u>	TD		(1 TT	TE		ry V									Water Meter	Water
Time	Initial D Unit	epth ⊺o V Air	Vater DTV TOX	V (ft) Vapor Inlet	IU SO Off/On	<u>א /</u> שדס	Stinger	14.81 Off/On	יין איז DTW	0.6 Stinger	1×0/ Off/On		Stinger	Vacuum	DTW	 Vacuum	DTW	` Vacuum	DTW	Vacuum	DTW	Readings	Extracted
	Vacuum ("Hg.)	Flowrate (cfm)	Temp. (degF)	Conc. (ppmv)	(ppmv)	(ft)	Depth (feet)	(ppmv)	(ft)	Depth (feet)	(ppmv)	(ft)	Depth (feet)	"H₂O	(ft)	"H₂O	(ft)	"H₂O	(ft)	"H₂O	(ft)	units	gals
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			HI	GH VA	CUUI	М		SVE	or	Х	DPE		FIEL	D DA	TA S	SHEE	ि						
			OURTH S	TREET			City: C	AKLA		\		ERRA	DEV PI	ROPER	TY			Date:	120	/ 201 <b>9</b> -	(71	4) 734-9137 Page <u>4</u>	of <u></u>
Client: E	SLUE RO	OCK ENV					E	TRAC								OBSEI		ION W	FIIS			]	
		Well I.D.			DK	1-34			pr.			P8 -	2	'									Cumul.
			From-To (	ft)	TD	1	¥(4)	TD	1	mis	ママ		r Wa									Water Meter	Water
			Vater DTV		14.60		155	14 -	1 01	01-	1.55	1	1-5									Readings	Extracted
Time	Unit Vacuum	Air Flowrate	TOX Temp.	Vapor inlet Conc.	Off/On	DTW	Stinger Depth	Off/On	DTW	Stinger Depth	Off/On	'DTW	Stinger Depth	Vacuum "H₂O	DTW (ft)	Vacuum "H₂O	DTW (ft)	Vacuum "H₂O	DTW (ft)	Vacuum "H₂O	DTW (ft)	units	gals
	("Hg.)	(cfm)	(degF)	(ppmv)	(ppmv)	(ft)	(feet)	(ppmv)	(ft)	(feet)	(ppmv)	(ft)	(feet)									198540	2002
7/20					an		13	MV.		12	off.		8'										
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			HIG	GH VA	CUU	М		SVE	or	X	DPE		FIEL	D DA	TAS	SHEE	Т						
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Olionit. 1							EX	TRAC				<u></u>				OBSE	RVAT		ELLS	5			
		Well I.D.				2Ę-	<b>\</b>	D	P£-1			PE-											Cumul.
			From-To ( Vater DTV		T.D. 14.01		tw.	TD 14/81	13		T.D. 9.80	\ <u>D</u> T &.	ω. 65				<u>-</u> G					Water Meter Readings	Water Extracted
Time	Unit Vacuum	Air Flowrate	TOX Temp.	Vapor Inlet Conc.	Off/On	'DTW	Depth			Stinger Depth	Off/On		Stinger Depth	Vacuum ″H₂O	DTW (ft)	Vacuum "H₂O	DTW (ft)	Vacuum "H₂O	DTW (ft)	Vacuum "H₂O	DTW (ft)	units	gals
	("Hg.)	(cfm)	(degF)	(ppmv)	(ppmv)	(ft)	(feet)		(ft)		(ppmv)	(ft)	(feet)								•	198540	
7/2-4	24	S)	715	280	on	<i>;</i> ¶	13'	on_		131	('A+		0									217242	18900
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Comm	ents:	7/2	5	70	OK	Uspe	r Sa	::,?!=	5 7	<u>rtal</u>	1 10 1	₽Ç	<u>)</u> 	200	$( \cdot )$	>рм	1) 2	(68	(2)	170	11/2/	<u> </u>	

			ню	GH VA	CUU	м		SVE	or	Х	DPE		FIEL	D DA	TAS	SHEE	Г					LCLEAN INC 4) 734-9137	• /•
Project L	ocation:	645 FC	URTH S	TREET			City: C	AKLAN		~				ROPER	ΓY			Date: 7	109	201	(77	Page	of <u>5</u>
Client: E	LUE RO	OCK ENV	,							(s): <u>}</u>		Tony		<u></u>								1	
							EX	TRAC							(	OBSER	RVAT	ION W	ELLS	5 			
		Well I.D.				1:3	· ·		<u> PE-</u>		DI	26											Cumul. Water
			From-To († Vater DTV		TD 14,80	18:	4W	TD 14.9	119	,06	TD 9.80	18,	<u>710</u> 65							•		Water Meter Readings	Extracted
Time	Unit	Air	TOX	Vapor Inlet		DTW	Stinger Depth	Off/On	DTW	Stinger Depth		DTW	Stinger Depth	Vacuum "H₂O	DTW (ft)	Vacuum "H₂O	DTW (ft)	Vacuum "H ₂ O	DTW (ft)	Vacuum "H ₂ O	DTW (ft)	units	gals
	Vacuum ("Hg.)	Flowrate (cfm)	Temp. (degF)	Conc. (ppmv)	(ppmv)	(ft)	(feet)	(ppmv)	(ft)	(feet)	(ppmv)	(ft)	(feet)	1120	(14)	1.20	()				0-7	198540	
79							13'		•	13			8										
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VOHS	24	50	1410	679	on			·3h			099										<b></b>	ļ	
1260		50	1415	587																	ļ		
1:00		53	1430	620					L		<u> </u>		<u> </u>							<b> </b>	ļ		
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Çildini.						ñ.	EX	TRAC	· ·			<u>.</u>				OBSE	RVAT	ION W	ELLS	3			
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7/20					on		2	OM		13	-SSC		2			<u> </u>							
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							EX	TRAC				-				OBSEI	RVAT	ION W	ELLS	3			
		Well 1.D.				PĘ-	<u>۱</u> .	D	<u> P£-</u>			PE-											Cumul.
			From-To ( Vater DTV		TD. 14,91	sf ?	tw.	T-D 1-1.81	18	1.) 06	TD. 9.80	(DT 8.	ω. 65			· ·		·				Water Meter Readings	Water Extracted
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	1.1.20	1.11	Contraction States			ビリエルムの相	

A uquia waste P.O. Box 2279 Davis, CA 95617

disposal company (530) 753-1829

CHARGE TO Bune Roca ENVICONING AL

ADDRESS

There is the JURESON ALC 30 45 ORIGIN DESTINATION HI T CARLOND A

DATE

7-12-12

DAY OF THEMES IN M

CUSTOMER

				CRIPTION	2.1	//HRS	RATE	CHARGE	3 
》)) 	Monitori	ng well dewater	ing / pump	test	- 71 - 1	i (a	.39	1 x 33	
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	Spill/ rel	ease (not UST i	related)	Surface Impoundment	William Anna Anna Milliam Anna Anna Anna Anna Anna Anna Anna An				
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	Solids				a search ann an stàiteann an stàit				
	Washou								
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Oc	lor	Ú	Filters	and the second		an a			
So	lids	fines .	% Powe	rsorb Sheet TRANS PUNCATION	<	•	113	565	-
Ot	her		MARKED STREET, AND	rsorb Boom			<b>.</b>	25	-
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	1975) 1977 - 1977 1977 - 1977		SIGN	ied by X		高 しけて みれゆ	LLECT	249	

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Davis, CA 95617	NC. <u>sposal company</u> (530) 753-1829 15677	P.O.	ing and a second se		7
CHARGE <u>B</u> A	LLE ROCK FILD FER	DATE DAYO Vetk	73,	1-1-2 1-3A	
	ORIGIN DESCRIPTION	ATION OBKILL	$\frac{1}{\overline{C}}$	<u>.</u>	
Monitoring well	dewatering / pump test	QTY / HRS	RATE	CHARG	ÉS
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Drums			1097 (1) 1097 (1)		
Solids	Above ground storage tank		ning States (1997)		
Washout					(Control)
Color			Sec. Com	in tradict.	
Odor			The Latter	<b>~</b> ~	
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Davis, CA 95617	(530) 753-1	^{2/1 y} 829	COSTOMER P.O.	7/13	The
OHARGE	1		DAY OF WEEK	As y Toma	
		ORIGIN			<b>'</b> J
лиинсээ <u>.</u>		DESTINATIO	N		A
		IDESCRIPTION	QTY /IHRS	RATE	CHARGES
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	and the second second second party of the	THIS TOTAL WILL STAND AS CORRECT UNLESS NOTIFIED OF CORREC			

InStrat, Inc. 1 P.O. Box 2279 (530) 753-1829 Davis, CA 95617

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CUSTOMER P.O. 7. 22 - 12-DATE

CHARGE TO Bive 14 96 # Env

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DAY OF

OTY/IHRS RATE CHARGES		te d'a connecta
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		my two 26 rec

	Monitoring well dewatering / pump test		6 mar	1.00	2.4	hac	1	
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			1			nulle m		
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	Solids					and a straight of the straight		
	Washou	ut						
Ço	lor	Breinne	Sani-chlor (1151 1.00			20		
Od	lor	<u>'                                    </u>	Filters	1 1		C. C. Vanne		
So	lids	tine"s	Powersorb Sheet TUP IS ROTATION	T		112	5.5	
Oth			Powersorb Boom CAL DIF 15/1	T		िरु	2.5	10
Transporter ( Carries		Crimes	THIS TOTAL WILL STAND AS CORRECT UNLESS NOTIFIED OF CORRECTION WITHIN FINE DAYS		SALI	ES TAX	illi illi	
<del>antan</del> Rosen Rosena Rosena Narah	tanila Manazarta Manazarta		TERMS NET 30 DAYS THE CUSTOMER AGREES TO PAY A FINANCE CHARGI PER MONTH, WHICH IS AN ANNUAL RATE OF 24% ON PASTIDUE ACCOU SIGNED BY X	E OF 2% INITS	1 11 11 11 11 11 11 11 11	dtal To	232	

# InStrat, Inc. A liquid waste disposal company P.O. Box 2279 Davis, CA 95617 (530) 753-1829

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CUSTOMER 7-24-12 DATE

CHARGE TO tane have true

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ORIGIN TENER EN DEFENSION 1943.

DAY OF TIL

			DESCRIPTION	QTY	/HRS	RATE	CHARGE	ES
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are not are not are not	Auger	insate	Underground storage tank (UST)					
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2000 Autority Autority	Solids			Will Same an				
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Oc	dor		Filters	10 0 0 00000		5 U	A. In a Tast Sec.	
Sc	olids	there is the	Powersorb Sheet TICANS AND ATION	4	5	112	50%	
Ot	her 👘		Powersarb Boom Parace Till	1	an an the second se Second second	25	25	
Tra	ansporte	" Cion co	THIS TOTAL WILL STAND AS CORRECT UNLESS NOTIFIED OF CORRECT WITHIN FIVE DAYS	ION	SALE	S TAX	lanan (d. 16 19	
		in the second	TERMS INET 30 DAYS. THE CUSTOMER AGREES TO PAY A FINANCE CHA PER MONTH WHICH IS AN ANNUAL RATE OF 24% ON PAST DUE ACC SIGNED BY X			DTAL FO	1492	1

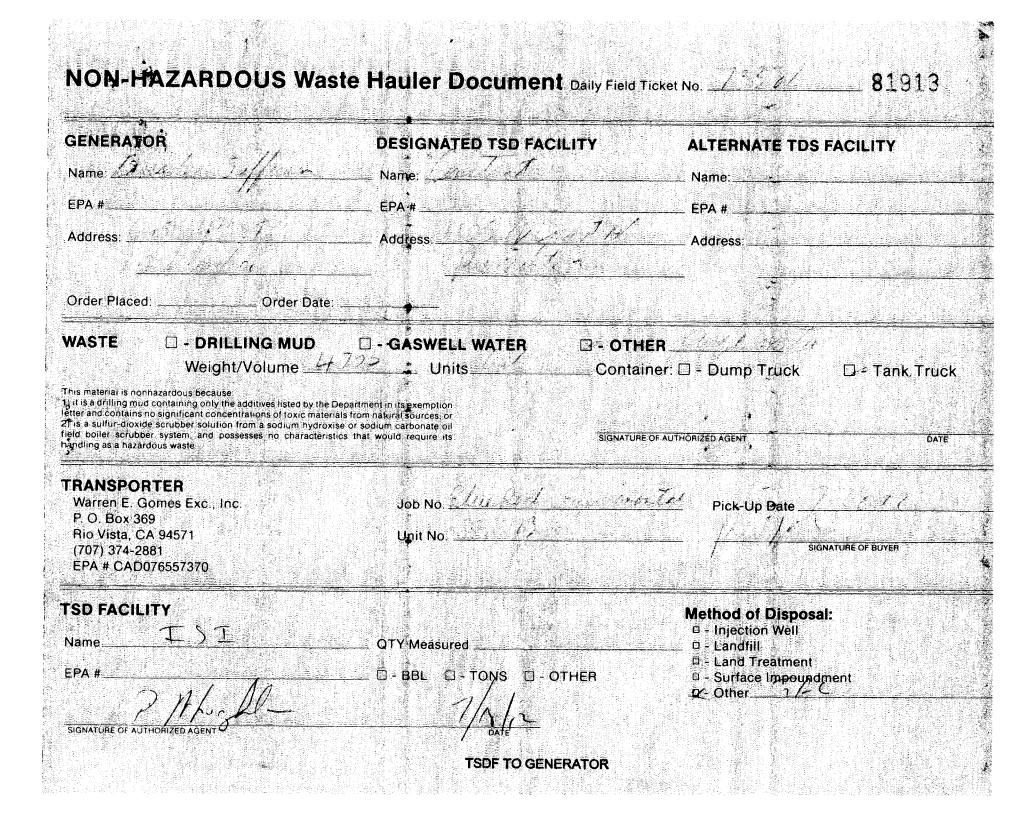
# NON-HAZARDOUS Waste Hauler Document Daily Field Ticket No. 7 / / / 82000

GENERATOR	DESIGNATED TSD FACILITY	ALTERNATE TDS FACILITY
Name Zaited and John State	Name:	Name:
ĒPA #	EPA*#	EPA #
Address	Address	Address
<u>Collador</u>	<u>Maria a</u>	
Order Placed: Order Date	ð	
WASTE - DRILLING MUD		
Weight/Volume	<u>オノクンネ</u> Units <u>Con</u> ta	iner: 🗖 - Dump Truck 🛛 🗗 - Tank Truck
Igter and contains no significant concentrations of toxic mate 2) is a sulfur-dioxide scrubber solution from a sodium hydro field boiler scrubber system, and possesses no character hendling as a hazardous waste TRANSPORTER Warren E. Gomes Exc., Inc. P. O. Box 369 Rio Vista, CA 94571 (707) 374-2881	oxise or sodium carbonate oil	Pick-Up Date
EPA # CAD076557370		
TSD FACILITY Name <u>  NSTILIKT</u> ЕРА #		Method of Disposal: 
G 1 LO LE S	7-12-12 DATE	γ <b>γ</b> ,- Oner <u></u>
	TSDF TO GENERATOR	

# NON-HAZARDOUS Waste Hauler Document Daily Field Ticket No.

_ 81906

GENERATOR Name: <u>Excelor Superior</u>	DESIGNATED TSD FACILITY	ALTERNATE TDS FACILITY
EPA #	EPA # Add <u>ress: / / / / / / / / / / / / / / / /</u>	EPA #
Order Placed: Order Date:		
WASTE - DRILLING MUD Weight/Volume 4.57 This material is nonhazardous because 1 it is a drilling mud containing only the additives listed by the Depa letter and contains no significant concentrations of loxic materials f it is a sulfur-dioxide scrubber solution from a sodium hydroxise o field boiler scrubber system, and possesses no characteristics handling as a bazardous waste	COntai	ER ner: 🖸 - Dump Truck 🖸 - Tank Truck
TRANSPORTER	Job No./	Pick-Up Date
TSD FACILITY Name	$= OTYMeasured = \frac{15\omega}{15\omega} \frac{1}{0}$ $= 0TYMeasured = 10NS = 0THER \frac{1}{0}$ $= 0THER \frac{1}{0}$ $= 0TYMeasured = 10NS = 0$ $= 0TYMeasured = 0$ $= 0TYMeasured = 0$ $= 0TYMeasured = 0$ $= 0TYMeasured = 0$	Method of Disposal: - Injection Well - Landfill - Landfill - Land Treatment - Surface Impoundment - Other



# NON-HAZARDOUS Waste Hauler Document Daily Field Ticket No.



성실이 MERCENSE (2017년 2018년 2018년 2018년 2018년 2017년 )	DESIGNATED TSD FAC	ILITY ALTERNATE TDS FACILITY
Name: 🔨	Name: 🔁 💦 🛫	Name: 🛁 🛁
EPA #	EPA #	ĒPA #,
Address:	Address:	Address:
Order Placed: Order Date		
	GASWELL WATER	1 🗇 - OTHER
Weight/Volume	Units	Container: 🗆 - Dump Truck 👘 🖓 - Tank Truck
eld boiler scrubber system, and possesses no characteris indling as a hazardous waste FRANSPORTER Warren E. Gomes Exc., Inc.		SIGNATURE OF AUTHORIZED AGENT DATE
P. O. Box 369	Job No. <u> </u>	Pick-Up Date
Rio Vista, CA 94571		
Rio Vista, CA 94571 (707) 374-2881 EPA # CAD076557370		SIGNATURE OF BUYER
(707) 374-2881 EPA # CAD076557370		Method of Disposal:
(707) 374-2881 EPA # CAD076557370 SD FACILITY	QTYMeasured <u>جردہ</u>	Method of Disposal:
`(707) 374-2881 EPA # CAD076557370 <b>SD FACILITY</b>	QTYMeasured ইণ্ডত	Method of Disposal:
(707) 374-2881 EPA # CAD076557370 <b>SD FACILITY</b> Name <u>INSTRATINC</u>	من QTYMeasured	Method of Disposal:         المالية         المالية      <

# NON-HAZARDOUS Waste Hauler Document Daily Field Ticket No.

80636

GENERATOR	DESIGNATED TSD FACILITY	ALTERNATE TOS FACILITY
Name:	Name: <u> Name</u> :	Name:
ЕРА #	EPA #	EPA #
Address	Address	Address:
Order Placed: Order Date	ə:	
WASTE D - DRILLING MUD Weight/Volume	☐ -•GASWELL WATER	
This material is nonhazardous because 1) it is a drilling mud containing only the additives listed by the letter and contains no significant concentrations of toxic mate 2) is a sulfur-dioxide scrubber solution from a sodium hydro field boiler scrubber system, and possesses no character handling as a hazardous waste 3	erials from natural sources, or xise or sodium carbonate oil	E OF AUTHORIZED AGENT DATE
TRANSPORTER Warren E. Gomes Exc., Inc.	Job No 👘 🗽 👌 💦	 Pick-⊍p <b>D</b> ate
P. O. Box 369 Rio Vista, CA 94571	Unit No.	
(707) 374-2881 EPA # CAD076557370		SIGNATURE OF BUYER
TED FACILITY		Method of Disposal:
Name INSTRAT INC	QTY Measured 2300 CALLONS	<pre>□ = Injection Well □ = Landfill \$</pre>
EPA #		□ - Land Treatment □ - Surface Impoundment ¥ - Other_ <u>ि AC</u>
A C L L	<u> </u>	
•	TSDF TO GEMERATOR	

Job No.: A	SE-1	Location:64	15 Fourth St	. Oakland	CA 94607	Date: 8/1	2/12	Tech(s): SR
WELL NO.	DIAM (in)	DTB (ft)	DTW (ft)	ST (ft)	CV (gal)	PV (gal)	SPL (ft)	NOTES
DPE-1 DPE-2 DPE-3	2	14,80	9.03	5.77	0,92	2.76		
DPE-2	2	14.83	9,27	5,56	0,88	2.66		
DPE-3	2	9,81	9.02	0.79	0,12	<b>Ø</b> , 37		Sheen
	· · · · · · · · · · · · · · · · · · ·							
						······································		
	·····							
				]				

# WELL GAUGING DATA/PURGE CALCULATIONS

**Explanation**:

DIAM = Well Diameter 1 inc DTB = Depth to Bottom 2 inc DTW = Depth to Water 4 inc ST = Saturated Thickness (DTB-DTW) 6 inc CV = Casing Volume (ST x cf) PV = Purge Volume (standard 3 x CV, well development 10 x CV) SPL = Thickness of Separate Phase Liquid

#### BLUE ROCK ENVIRONMENTAL, INC.

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

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

			** 15151	<u>, PURGI</u>	IG DATA	SHEET OF
JOD NO.: ASE	Ob No.: ASE-1 Location: 645 Fourth Street Date: 81 Oakland Co. 94404					12/12 Tech: 5 R
WELL No.	TIME (24-hr)	VOLUME (gal)	E TEMP. (deg. F.)	COND. (µS/cm)	pH	Sample time: Sample for: (circle)
DPE-2	1355		70.6	788	6.64	
Calc. purge	1357	.65	69.6	804	6.69	BTEX MTBE 8010
volume	1359	1.3	69.0	855	6.64	
2.66	1400		68.8	850	6.67	/
Changenerg	1406	2,70	69.8	842	6.71	Dedicated / Disposable bailer
gray,	color, turbid	ity, recharge,	etc.			Purging Method:
3-777	noura	ie, tair	,0000			PVC bailer / Pump
WELL No.	TIME (24-hr)	VOLUME	TEMP.	COND.	рН	Sample time:
DPE-1	1409	(gal)	(deg. F.) 69,2	(μS/cm) 971	( 70	Sample for: (circle)
alc. purge	1410	0.70	69.8	989	6.70	TPHE TPHO TPHmo
plume	1411	1.40	69.8	99%	6.66	BTEX MTBE 8010
2.76	1412	2.00	68.8		6.69	Other: 1,2 -DCA, EDB, TBA
a. 10	1413	3,00	69,6	1021	6.67	Sampling Method:
OMMEN'TS: co	plor, turbidit	y, recharge, c	etc.	L	0,15	Dedicated / Disposable bailer
olive, r	noderat	te, poor	, odor	~		Purging Method:
WELL		VOLUME				PVC bailer / Pump
No.	(24-hr)	(gal)	(deg. F.)	COND. (μS/cm)	pH	Sample time: Sample for: (circle)
)PE-3	1420	-	70.0	1102	6.59	(TPHg) (TPHd) TPHmo
lc. purge	1422	.2	70.8	1135	6.65	BTEX MTBE 8010
ume	1424	.4	74.8	1137	6.72	Other: 1,2-DCA EDB, TBA
0.37						Sampling Method:
						Dedicated / Disposable bailer
MMENTS: col						Purging Method:
tan, low	1 - 001 /	000r,	Sligh	r She	n	PVC bailer / Pump Pispisable builes

BLUE ROCK ENVIRONMENTAL, INC.

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



Report Number : 82283 Date : 08/16/2012

# 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 LLC 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 D. Jurpen

Troy Turpen



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

Sample : DPE-1	Matrix : \	Nater	Lab Number : 82283-01		
Sample Date :08/12/2012					
Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	7500	15	ug/L	EPA 8260B	08/16/12 04:41
Toluene	9800	15	ug/L	EPA 8260B	08/16/12 04:41
Ethylbenzene	1000	15	ug/L	EPA 8260B	08/16/12 04:41
Total Xylenes	6500	15	ug/L	EPA 8260B	08/16/12 04:41
Methyl-t-butyl ether (MTBE)	280	15	ug/L	EPA 8260B	08/16/12 04:41
Tert-Butanol	89	70	ug/L	EPA 8260B	08/16/12 04:41
TPH as Gasoline	71000	1500	ug/L	EPA 8260B	08/16/12 04:41
1,2-Dichloroethane	190	15	ug/L	EPA 8260B	08/16/12 04:41
1,2-Dibromoethane	< 15	15	ug/L	EPA 8260B	08/16/12 04:41
1,2-Dichloroethane-d4 (Surr)	99.7		% Recovery	EPA 8260B	08/16/12 04:41
Toluene - d8 (Surr)	98.3		% Recovery	EPA 8260B	08/16/12 04:41
TPH as Diesel (Note: MRL increased due to interference	< 2000 e from Gasoline-	2000 range hydrod	ug/L carbons.)	M EPA 8015	08/16/12 14:13
Octacosane (Diesel Surrogate)	92.3		% Recovery	M EPA 8015	08/16/12 14:13



Report Number : 82283 Date : 08/16/2012

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

Sample : DPE-2		Matrix : \	Water	Lab Number : 82	283-02
Sample Date :08/12/2012 Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene Toluene Ethylbenzene Total Xylenes	9900 16000 1700 9600	40 40 40 40	ug/L ug/L ug/L ug/L	EPA 8260B EPA 8260B EPA 8260B EPA 8260B	08/15/12 03:31 08/15/12 03:31 08/15/12 03:31 08/15/12 03:31
<b>Methyl-t-butyl ether (MTBE)</b> Tert-Butanol	<b>54</b> < 200	40 200	ug/L ug/L	EPA 8260B EPA 8260B	08/15/12 03:31 08/15/12 03:31
TPH as Gasoline	70000	4000	ug/L	EPA 8260B	08/15/12 03:31
1,2-Dichloroethane 1,2-Dibromoethane	160 56	40 40	ug/L ug/L	EPA 8260B EPA 8260B	08/15/12 03:31 08/15/12 03:31
1,2-Dichloroethane-d4 (Surr) Toluene - d8 (Surr)	99.4 97.8		% Recovery % Recovery	EPA 8260B EPA 8260B	08/15/12 03:31 08/15/12 03:31
TPH as Diesel (Note: MRL increased due to interference	< 2000 from Gasoline-I	2000 range hydrod	ug/L carbons.)	M EPA 8015	08/16/12 13:43
Octacosane (Diesel Surrogate)	105		% Recovery	M EPA 8015	08/16/12 13:43



Report Number : 82283 Date : 08/16/2012

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

Sample : DPE-3		Matrix : \	Nater	Lab Number : 82	283-03
Sample Date :08/12/2012	Measured	Method Reporting		Analysis	Date/Time
Parameter	Value	Limit	Units	Method	Analyzed
Benzene	1400	10	ug/L	EPA 8260B	08/15/12 04:07
Toluene	7800	70	ug/L	EPA 8260B	08/16/12 05:14
Ethylbenzene	3700	10	ug/L	EPA 8260B	08/15/12 04:07
Total Xylenes	29000	70	ug/L	EPA 8260B	08/16/12 05:14
Methyl-t-butyl ether (MTBE)	27	10	ug/L	EPA 8260B	08/15/12 04:07
Tert-Butanol	120	50	ug/L	EPA 8260B	08/15/12 04:07
TPH as Gasoline	190000	7000	ug/L	EPA 8260B	08/16/12 05:14
1,2-Dichloroethane	40	10	ug/L	EPA 8260B	08/15/12 04:07
1,2-Dibromoethane	130	10	ug/L	EPA 8260B	08/15/12 04:07
1,2-Dichloroethane-d4 (Surr) Toluene - d8 (Surr)	95.7 100		% Recovery % Recovery	EPA 8260B EPA 8260B	08/15/12 04:07 08/15/12 04:07
TPH as Diesel (Note: MRL increased due to interference	< 200000 from Gasoline-	200000 range hydrod	ug/L carbons.)	M EPA 8015	08/16/12 13:14
Octacosane (Diesel Surrogate)	Diluted Out		% Recovery	M EPA 8015	08/16/12 13:14

### **QC Report : Method Blank Data**

### Project Name : Terrader Jefferson LLC

Project Number : ASE-1

Parameter	Measured Value	Method Reportin Limit	g Units	Analysis Method	Date Analyzed		
TPH as Diesel	< 50	50	ug/L	M EPA 8015	08/15/2012		
Octacosane (Diesel Surrogate)	98.2		%	M EPA 8015	08/15/2012		
Benzene	< 0.50	0.50	ug/L	EPA 8260B	08/14/2012		
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	08/14/2012		
Toluene	< 0.50	0.50	ug/L	EPA 8260B	08/14/2012		
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	08/14/2012		
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	08/14/2012		
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	08/14/2012		
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	08/14/2012		
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	08/14/2012		
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	08/14/2012		
1,2-Dichloroethane-d4 (Surr)	103		%	EPA 8260B	08/14/2012		
Toluene - d8 (Surr)	99.8		%	EPA 8260B	08/14/2012		
Benzene	< 0.50	0.50	ug/L	EPA 8260B	08/15/2012		
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	08/15/2012		
Toluene	< 0.50	0.50	ug/L	EPA 8260B	08/15/2012		
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	08/15/2012		
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	08/15/2012		
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	08/15/2012		
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	08/15/2012		
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	08/15/2012		
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	08/15/2012		
1,2-Dichloroethane-d4 (Surr)	102		%	EPA 8260B	08/15/2012		
Toluene - d8 (Surr)	98.6		%	EPA 8260B	08/15/2012		

Report	Number :	82283
Date :	08/16/20 ⁻	12

		Method			
	Measured	Reportir	ng	Analysis	Date
Parameter	Value	Limit	Units	Method	Analyzed

### Project Name : Terrader Jefferson LLC

Project Number : **ASE-1** 

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spike Sample Value	e d Units	Analysis Method	Date Analyzed	Percent	Duplicat Spiked Sample Percent Recov.	Relative	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
1,2-Dibromoeth	ane													
	82249-02	<0.50	39.8	39.9	40.3	40.0	ug/L	EPA 8260B	8/14/12	101	100	0.872	80-120	25
1,2-Dichloroeth	ane													
	82249-02	<0.50	39.9	40.0	41.6	41.4	ug/L	EPA 8260B	8/14/12	104	103	0.902	75.7-122	25
Benzene														
	82249-02	<0.50	39.9	40.0	42.7	42.7	ug/L	EPA 8260B	8/14/12	107	107	0.240	80-120	25
Ethylbenzene														
	82249-02	<0.50	39.9	40.0	46.0	46.1	ug/L	EPA 8260B	8/14/12	115	115	0.0602	80-120	25
Methyl-t-butyl e	ther													
	82249-02	<0.50	39.9	40.0	36.2	33.9	ug/L	EPA 8260B	8/14/12	90.8	84.7	6.93	69.7-121	25
P + M Xylene														
	82249-02	<0.50	39.9	40.0	44.9	45.0	ug/L	EPA 8260B	8/14/12	112	112	0.0197	76.8-120	25
Tert-Butanol														
	82249-02	88	201	202	307	304	ug/L	EPA 8260B	8/14/12	108	107	1.69	80-120	25
Toluene														
	82249-02	<0.50	39.9	40.0	44.0	43.7	ug/L	EPA 8260B	8/14/12	110	109	0.951	80-120	25
1,2-Dibromoeth	lane													
	82255-07	<0.50	39.9	39.9	42.3	41.3	ug/L	EPA 8260B	8/15/12	106	104	2.38	80-120	25

Page 6 of 10

KIFF ANALYTICAL, LLC

### Project Name : Terrader Jefferson LLC

Project Number : **ASE-1** 

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spike Sample Value	e d Units	Analysis Method	Date Analyzed	Percent	Duplicate Spiked Sample Percent Recov.	Relative		Relative Percent Diff. Limit
1,2-Dichloroeth	ane													
	82255-07	<0.50	40.0	40.0	41.5	40.5	ug/L	EPA 8260B	8/15/12	104	101	2.34	75.7-122	25
Benzene														
	82255-07	<0.50	40.0	40.0	40.3	38.8	ug/L	EPA 8260B	8/15/12	101	97.0	3.73	80-120	25
Ethylbenzene														
	82255-07	<0.50	40.0	40.0	43.3	41.4	ug/L	EPA 8260B	8/15/12	108	104	4.43	80-120	25
Methyl-t-butyl e	ether													
	82255-07	<0.50	40.0	40.0	37.6	37.4	ug/L	EPA 8260B	8/15/12	94.0	93.4	0.641	69.7-121	25
P + M Xylene														
	82255-07	<0.50	40.0	40.0	41.8	39.6	ug/L	EPA 8260B	8/15/12	105	99.1	5.43	76.8-120	25
Tert-Butanol														
	82255-07	<5.0	202	202	203	201	ug/L	EPA 8260B	8/15/12	101	99.8	0.887	80-120	25
Toluene														
	82255-07	<0.50	40.0	40.0	40.8	39.0	ug/L	EPA 8260B	8/15/12	102	97.6	4.45	80-120	25
TPH as Diesel														
	BLANK	<50	1000	1000	1140	1210	ug/L	M EPA 8015	8/15/12	114	121	5.80	70-130	25

KIFF ANALYTICAL, LLC

### Project Name : Terrader Jefferson LLC

Project Number : **ASE-1** 

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
1,2-Dibromoethane	39.9	ug/L	EPA 8260B	8/14/12	102	80-120
1,2-Dichloroethane	40.0	ug/L	EPA 8260B	8/14/12	105	75.7-122
Benzene	40.0	ug/L	EPA 8260B	8/14/12	107	80-120
Ethylbenzene	40.0	ug/L	EPA 8260B	8/14/12	116	80-120
Methyl-t-butyl ether	40.0	ug/L	EPA 8260B	8/14/12	100	69.7-121
P + M Xylene	40.0	ug/L	EPA 8260B	8/14/12	113	76.8-120
Tert-Butanol	202	ug/L	EPA 8260B	8/14/12	106	80-120
Toluene	40.0	ug/L	EPA 8260B	8/14/12	110	80-120
1,2-Dibromoethane	39.8	ug/L	EPA 8260B	8/15/12	107	80-120
1,2-Dichloroethane	39.9	ug/L	EPA 8260B	8/15/12	105	75.7-122
Benzene	39.9	ug/L	EPA 8260B	8/15/12	102	80-120
Ethylbenzene	39.9	ug/L	EPA 8260B	8/15/12	111	80-120
Methyl-t-butyl ether	39.9	ug/L	EPA 8260B	8/15/12	94.7	69.7-121
P + M Xylene	39.9	ug/L	EPA 8260B	8/15/12	106	76.8-120
TPH as Gasoline	497	ug/L	EPA 8260B	8/15/12	95.8	70.0-130
Tert-Butanol	201	ug/L	EPA 8260B	8/15/12	103	80-120
Toluene	39.9	ug/L	EPA 8260B	8/15/12	103	80-120

KIFF ANALYTICAL, LLC

	2795 2nd Davis, CA Lab: 530 Fax: 53	A 95618 0.297.48 0.297.48	100 802									SRG #	/ La	ıb Nc	)	8	32	27	28	'3									Pag	je	<u> </u>	_ of	1
Project Contact (Hardcopy or PDF Drian Gwnn Company / Address: Blux Rack NGQ (Less Drive #C For Phone Number: 650-522.	То):		Cali	forni	a ED	F Repo	rt?	Ç	Yes		ים	No					(	Cha	in-e	of-C	ust	ody	Red	corc	d ar	nd A	4na	lysi	is R	Requ	est		
Company / Address: Blue Rock	Environ	mental	San	nplin	g Cor	npany	Log C	ode:	B	25	F										A	naly	/sis F	Requ	uest	t .						TAT	
169 (hess Vr.Ve #C Fix Phone Number of	the City C	. 9440		hal II	<u>ا</u>	~.			<u> </u>		)													CIR	RCLE	MET	HOD						
650-522.4	7292					TIOC	,00	001	076	2							(B)							F			Γ	Î				12 hr	
Fax Number: 650-522-	9259	ŀ	b	ະDel )ຕ₁́a	livera ふ(こ	ble To blve	(Emai {očK	l Addr .୧n√	ress): , ( ວຸ r	n							5 Oxygenates (MTBE, DIPE, ETBE, TAME, TBA) (EPA 8260B)	7 Oxygenates (5 oxy + EtOH, MeOH) (EPA 8260B)	ا ھ						10)								>
Project #: P.O. #:			Bill	to: 🦯	21	Rock	/5	oster									3A) (EI	EPA 8	8260		Mater				0.7 / 60							24 hr	- O O O
Project Name: T )	(10)		San	<u>,</u> relan	Print	Name						<b>.</b>					Щ Щ	E E	EPA			n			PA 200								U Sé
Project Name: Terrader Je	efferson	LLC		-			2	cot	r )	Kgl	bu	rtso	0	6			ШŢĂ	MeO	(BDB)	260B			ŝ	6010	[]) (L]	7471	6					48h	⁻ or Lab Use Only
			San	npier	r Sign	ature:	X	with	-0	L		-		8260			ETB	ШĞ	1,2 E	PA 8	E24	15M)	8015	00.7	Ni, Pb,	470/	/601						Щ
Project Address: 645 Fourth Street Oakland Ca. 94607	Sam	pling	匚		ontair		Í	Preser	vative	e		Matrix	-	MTBE @ 0.5 ppb (EPA 8260B)		60B)	DIPE	+ X	Lead Scav. (1,2 DCA & 1,2 EDB) (EPA 8260B)	Volatile Halocarbons (EPA 8260B)	Volatile Organics Full List (EPA 8260B) Volatile Organice /EDA 524 2 Drinking Mater)	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)	Q				□ 72hr	
645 rourth Street														đđ	3260	°A 82	MTBE	s (5 c	1,2 D	carbo	nics Dice		- i	als (E	etals ((	A 245	EPA 2	(STI				72nr	
Canvind Ca. 19607	_		ð											<b>D 0.5</b>	ΡA	IS (FF	lates (	enate	) . (	Halo	orga	Dies	Moto	Met	Oil Me	(EP	ad (E	Lead	A				01
			40 ml VOA	Sleeve	Poly Glass	Tedlar	5	HNO ₃			Water			TBE (	BTEX (EPA 8260B)	TPH Gas (EPA 8260B)	xyger	Dxyge	ad S	latile	latile	H as	Has	11 M	Vaste	Sucury	tal Le	W.E.T. Lead (STLC)	TBA	1		1 wk	182
Sample Designation	Date	Time		5		μĔ	Ρ	ĪŽ			<u>≥</u> (	Air So	-				5	~		<u>&gt;</u>	5 5			5	5	ž	⊢₽	3	×				
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DPE-3	8/12/12	1445	×6	<b></b>			<u> </u>				Х[			$\times$	X	Хļ	_		X				4				–	╞	$\downarrow \uparrow$	1		╞╱┻	03
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KIFF ()	G	D	<b>C</b>			Receiver T.T.B
Nnalytical LLC SRG#:	SAMPLE 8228	<b>RECEIPT</b>		LIST Date: 08日	412	Initials
Project ID:		Jetterson			<u>(</u>	
Method of Recei		Over-the-c		] Shipper		
	FedEx * OnTrac *					
COC Inspection Is COC present? Custody seals on shipping Is COC Signed by Relinqu Is sampler name legibly in Is analysis or hold request Is the turnaround time ind Is COC free of whiteout a	uisher? Xes ndicated on COC? ted for all samples? licated on COC?		Dated?	tact [ es [ es [ es [ es [	] No ] Broken	
Sample Inspection Coolant Present: Temperature °C 2.0 Are there custody seals or Do containers match COO Are there samples matrice Are any sample container. Are preservatives indicate Are preservatives correct Are samples within holdin Are the correct sample cool Is there sufficient sample Does any sample contain Receipt Details Matrix <u>UA</u> Matrix Date and Time Sample Pu	Therm. ID# n sample containers? C? K Yes es other than soil, wa s broken, leaking or ed? Yes, or for analyses requested ng time for analyses in tainers used for the to perform testing? product, have strong Container type Container type	No No, COC ter, air or carbon? damaged? n sample container ed? requested? analyses requested odor or are other <u>dA</u> <u><u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u></u>	ater) D In lists absent sa V V rs V v v v v v v v v v v v v v	Pate/Time <b>O</b> tact ample(s) [ es <b>b</b> es <b>b</b> es <b>c</b> es [ es <b>b</b> d to be hot? s received <b>c</b>	Broken	□ N/A Not present (s) present N/A N/A M/A
<b>Quicklog</b> Are the Sample ID's indic If Sample ID's are listed of Is the Project ID indicated If project ID is listed on b Are the sample collection If collection dates are listed Are the sample collection If collection times are list	on both COC and con d: [ oth COC and contain dates indicated: [ ed on both COC and times indicated: [	ntainers, do they a         On COC         ners, do they all m         On COC         On COC         containers, do the         On COC	all match? ] On sample c natch?   On sample c ey all match?   On sample c	Yesontainer(s)Image: Container (s)Image: Container (s)	No         Image: Constraint of the sector of the sect	Not indicated N/A Not indicated N/A Not indicated N/A Not indicated N/A
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