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ROCKWOOD CHRISTIE LLC
c/o TMG PARTNERS
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San Francisco, CA 94104
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August 26, 2013

241.082.01.001

Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Attention: Mr. Mark Detterman

Transmittal
Remedial Action Report and Request for Case Closure
Former Lerer Brothers Transmission
6340 Christie Avenue
Emeryville, California
Fuel Leak Case No. RO0000057
Geotracker Global ID T0600191821

Dear Mr. Detterman:

Submitted herewith for your review is the *Remedial Action Report and Request for Case Closure, 6340 Christie Avenue, Emeryville, California*, prepared by PES Environmental, Inc. This document has been prepared to provide information about implementation of the Remediation Work Plan for the subject property, as it relates to the above-referenced fuel UST case.

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

Very truly yours,
Rockwood Christie LLC



John Eudy
Authorized Representative
Email: jeudy@essexpropertytrust.com

cc: William Mast (PES Environmental)
Nicholas Targ, Esq. (Holland & Knight)



August 27, 2013

241.082.03.009

Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Attention: Mr. Mark Detterman, P.G.

**Subject: Remedial Action Report and Request for Case Closure
Former Lerer Brothers Transmission
6340 Christie Avenue
Fuel Leak Case No. RO0000057
GeoTracker Global ID T0600191821**

Dear Mr. Detterman:

This *Remedial Action Report and Request for Case Closure* (Report) has been prepared by PES Environmental, Inc. (PES) on behalf of Rockwood Christie LLC (Rockwood Christie), the owner of the property located at 6340 Christie Avenue, in Emeryville, California (the site; Plate 1). This Report provides a summary and discussion of the remedial excavation and verification sampling activities performed in the vicinity of the former underground storage tank (UST) that was removed from the subject property in 1988 and is associated with the subject fuel leak case.

Remedial action activities were conducted in accordance with the *Final Remediation Work Plan*¹ (RWP) that was approved by the City of Emeryville on February 1, 2011. The City of Emeryville provides lead agency oversight for the remediation process described in the RWP, as set forth in the May 1996 Memorandum of Understanding between it, the Regional Water Quality Control Board, and the Department of Toxic Substances Control, as amended on December 22, 1998.

The remedial action activities and results presented herein for the UST area were performed as part of site-wide excavation of the parcels located at 6340 and 6390 Christie Avenue in conjunction with site redevelopment and new building construction.

¹ PES Environmental, Inc., 2011a. *Final Remediation Work Plan, Proposed 64th and Christie Residential Building, 64th Street & Christie Avenue, Emeryville, California.* February 3.

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August 27, 2013
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This Report has been prepared and organized to: (1) summarize the results of the UST remedial action activities; and (2) respond to issues identified in a letter from Alameda County Environmental Health (ACEH) to Rockwood Christie, dated August 15, 2011. A copy of the ACEH letter and related correspondence from PES dated September 6, 2011, are provided in Appendix A.

BACKGROUND INFORMATION

Historical documentation for the site indicates that the 2,000-gallon gasoline UST was removed in 1988. The approximate location of the former UST is shown on Plate 2. Little documentation is available about the removal activities, and no samples were reportedly collected from the tank excavation. Various investigations were performed at the site between 1998 and 2003 by Aqua Science Engineers, Inc. (ASE) to evaluate site conditions in the vicinity of the former UST. Sampling was subsequently conducted in 2004 by PES as part of environmental due diligence during Rockwood Christie's acquisition of the property. Additional soil and groundwater characterization was conducted in March 2011 in support of site redevelopment; the sampling was performed to pre-characterize soil for disposal profiling purposes and to confirm the absence of discrete, previously-unknown sources of groundwater contamination. These prior testing results are summarized in various documents that have previously been provided to ACEH^{2,3,4}.

The results of these investigations indicated the sporadic presence of heavy-fraction petroleum hydrocarbons (i.e., diesel and motor oil), light-fraction petroleum hydrocarbons (gasoline and its constituents), and metals (primarily lead) in the subsurface. Some of the detected chemicals appeared to be attributable to residual contamination associated with the former gasoline UST at the southeast corner of the property. Other detected parameters were related to fill placed at the site when the area was reclaimed from San Francisco Bay in the 1930s to 1940s, or to regional contamination associated with offsite sources. The 2011 site investigation confirmed the direction of the groundwater gradient at the site to be consistent with the regional flow direction (i.e., westerly toward San Francisco Bay)³.

² PES 2005. *Phase I Environmental Site Assessment, 6340 Christie Avenue, Emeryville, California*. January 21.

³ PES, 2011b. *Results of Soil and Groundwater Investigation, and Request for Case Closure, Former Lerer Brothers Transmission, 6340 Christie Avenue*. June 28.

⁴ PES, 2011c. *Report of Phase II Subsurface Investigation, 6340 and 6390 Christie Avenue, Emeryville, California*. October 14.

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OBSERVATIONS OF SITE-WIDE EXCAVATION ACTIVITIES

Construction of the new site building required excavation of soil over the entire footprint of two assessor's parcels (49-1492-8 [6340 Christie Avenue, the site] and 49-1492-6-1 [6390 Christie Avenue] to depths ranging from 12.8 to 18.5 feet below ground surface (bgs). In the vicinity of the former UST, the excavation extended to approximately 17.3 feet bgs (Plate 3). Soil excavation and disposal activities were conducted in accordance with the procedures and practices as described in the RWP. The excavation was completed during the months of October 2012 to March 2013. After the final excavation depth had been reached, as specified for foundation construction purposes, verification soil sampling of the excavation bottom was performed, as described below.

Field observations of the excavation bottom indicated that all non-native fill materials had been removed. Soil on the excavation bottom uniformly consisted of native silty sands and sandy clays. No indications of residual contamination were observed using visual, olfactory, and field screening methods (laboratory results are discussed below). Photographs of the excavation bottom, after the final excavation depths had been reached, are presented in Appendix B.

Observations of the excavation sidewalls in the vicinity of the former UST (i.e., at the property boundary) indicate the presence of similar types of soil and debris fill that was encountered in the main excavation area. No indications of residual fuel contamination (i.e., using visual, olfactory, and field screening methods) related to the former UST were identified.

As of the date of this report, building construction is ongoing. As described in the RWP, the building plan includes the design elements of an intrinsically-safe, podium-style building, built over a ventilated subgrade parking level, incorporating a water-proofing barrier.

Prior to completion of the building construction, as described in the RWP, additional minor soil excavation is planned to be performed around the perimeter of the building for utility installation, structural fill placement, and landscaping and sidewalk construction purposes.

EXCAVATION VERIFICATION SAMPLING

Methods and Analysis

Upon reaching the design depth of the building excavation, verification soil samples were collected at 13 locations across the excavation bottom (Plate 2). The purpose of the sampling was to verify that the target remedial goals specified in the RWP had been met and confirm that removal of the affected soil had been accomplished to the lateral limits of the

Mr. Mark Detterman
August 27, 2013
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planned construction excavation. The samples were collected during February and March 2013. As requested by ACEH, two of the verification samples (EB-1 and EB-2) were collected directly below the former locations of soil borings SB-29 and SB-31. The remaining 11 samples (EB-3 through EB-13) were distributed across the excavation bottom at a spacing of approximately 50 to 60 feet on center.

Discreet soil samples were collected using plastic disposable trowels and Terra Core samplers, and were placed in 16-ounce wide-mouth glass jars and preserved volatile organic analysis (VOA) vials, respectively. Following sample collection, the sample containers were sealed, labeled for identification, and immediately placed in a chilled, thermally-insulated cooler containing bagged ice. The samples were transported under chain-of-custody protocol to Curtis & Tompkins Ltd in Berkeley, California, a California state-certified laboratory. The samples were analyzed for: total petroleum hydrocarbons quantified as gasoline, diesel, and motor oil (TPHg, TPHd, and TPHmo, respectively) using U.S. EPA Method 8015M; volatile organic compounds (VOCs) using U.S. EPA Method 8260B; and Title 22 California Code of Regulations metals using U.S. EPA Method 6010B.

Sampling Results

Excavation bottom verification sample analytical results for organic compounds and metals are summarized in Tables 1 and 2, respectively. Copies of the laboratory analytical reports and chain-of-custody documentation are included on CD-ROM in Appendix C. All verification sample analytical results for TPHg, TPHd, TPHmo, and VOCs were less than the laboratory reporting limits with one exception. In the sample collected at EB-2, TPHd and TPHmo were detected at concentrations of 12 milligrams per kilogram (mg/kg) and 95 mg/kg, respectively.

As shown in Tables 1 and 2, concentrations of TPHg, TPHd, TPHmo, VOCs, and all metals except arsenic in the verification soil samples were less than the remedial goals presented in the approved RWP⁵. Arsenic concentrations ranged from 2.5 to 8.2 mg/kg, within the range of widely-accepted background concentrations for the San Francisco Bay area and less than the background concentration of 24 mg/kg identified at the Lawrence Berkeley National Laboratory site in Berkeley, California⁶.

⁵ Per the RWP, the remedial action cleanup goal for vadose zone soil was equivalent to the November 2008 San Francisco Bay Regional Water Quality Control Board residential direct-exposure Environmental Screening Level. For comparison purposes, the California Environmental Protection Agency (Cal/EPA) Human Health Screening Levels (CHHSLs) for metals in soil in a residential setting are also provided in Table 2.

⁶ 2009, Lawrence Berkeley National Laboratory. *Analysis of Background Distributions of Metals in the Soil at Lawrence Berkeley National Laboratory [Revised]*. April.

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In addition, benzene and ethylbenzene concentrations in verification samples (i.e., non-detect) were less than levels identified by the California State Water Resources Control Board in the 2012 Low-Threat Underground Storage Tank Case Closure Policy (Low-Threat Policy)⁷. Specifically, Table 1 of the Low-Threat Policy specifies “Concentrations of Petroleum Hydrocarbons in Soil That Will Have No Significant Risk of Adversely Affecting Human Health.” The applicable scenarios for the subject site consist of residential direct contact, residential volatilization to outdoor air, and utility worker.

Cross-section A-A' (Plate 3) presents pre- and post-excavation petroleum hydrocarbon concentrations in soil in the vicinity of the former UST. As shown on this figure, soil potentially affected by fuel release(s) from the former tank has been removed, and concentrations in soil at the excavation bottom are within acceptable limits, as described in the RWP and the Low-Threat Policy.

EXCAVATION DEWATERING

During the 2011 site investigation, shallow groundwater was observed at depths ranging from 3.95 to 6.10 feet bgs. As a result, dewatering of the construction site was performed by the project's general contractor, SCM Construction Management Services, Inc. (SCM), and its subcontractors to reduce groundwater inflow into the construction excavation. Existing groundwater data from the March 2011 investigation³ fulfilled the majority of the analytical needs for securing a Special Discharge Permit for construction dewatering from the East Bay Municipal Utility District (EBMUD). However, to comply with EBMUD requirements for analysis of oil and grease, pH, and low-level quantification of polychlorinated biphenyls (PCBs), one additional groundwater sample was collected on August 24, 2012. Sampling methodology and results were provided to EBMUD in a letter dated September 4, 2012; a copy is provided in Appendix D.

Based on the prior data and the additional analytical results, EBMUD issued Special Discharge Permit No. 65767813, dated September 18, 2012⁸. The permit required: (1) an onsite pre-treatment system prior to discharge to the sanitary sewer; and (2) collection of one water sample from the system discharge point after several days of operation of the dewatering system to confirm that concentrations of PCBs were within acceptable limits.

⁷ 2012, State Water Resources Control Board. *Low-Threat Underground Storage Tank Case Closure Policy*. (http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0016atta.pdf).

⁸ East Bay Municipal Utilities District, 2012. *Wastewater Discharge Permit No. 65767813*. September 18.

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A construction dewatering system was installed by Viking Drillers, Inc., including a treatment system consisting of a 20,000-gallon sediment removal tank and a 3,500-gallon sand filter. As required by the EBMUD permit, a water sample from the pre-treatment system effluent (i.e., after passing through the sediment removal tank and sand filter) was collected on October 3, 2012. Total PCBs in the effluent sample met the EBMUD acceptance criteria. Effluent sampling information and test results were provided to EBMUD in a letter dated October 16, 2012 (Appendix D).

The discharge volume from the dewatering system was tracked weekly by the general contractor, SCM. Between system startup on about October 1, 2012 and March 8, 2013 when excavation oversight activities were completed, the dewatering system discharge volume total was 1,723,570 gallons.

CONCLUSIONS

Soil excavation during redevelopment construction has met the objectives of mitigating threats to human health and the environment, as described in the RWP, the June 2011 report, and other project documents and correspondence.

The excavation extended to 17.3 feet bgs at the location of the former UST, and to between 12.8 and 18.5 feet bgs across the entire construction site, thereby removing residual hydrocarbons associated with historical releases from the UST.

Analytical results for all verification soil samples were less than remedial action goals (per the RWP) and less than regulatory limits for residential land use (per the Low-Threat Policy).

On the basis of successful completion of the remedial activities as described herein, on behalf of Rockwood Christie, we respectfully request that ACEH close the fuel leak case for the former Lerer Brothers Transmission site.

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Please call any of the undersigned if you have any questions.

Yours very truly,

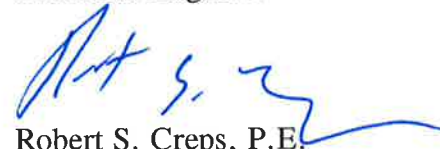
PES ENVIRONMENTAL, INC.


John Alexander
Senior Staff Engineer




William W. Mast, P.G.
Associate Engineer




Robert S. Creps, P.E.
Principal Engineer

- Attachments: Table 1 – Summary of Analytical Results for Verification Soil Samples – Organic Compounds
Table 2 – Summary of Analytical Results for Verification Soil Samples – Metals
Plate 1 – Site Location Map
Plate 2 – Verification Sample Locations
Plate 3 – Cross-Section A-A'
Appendix A – ACEH Correspondence
Appendix B – Photographs of Excavation near UST Area
Appendix C – Laboratory Analytical Reports and Chain-of-Custody Forms (provided on CD-ROM)
Appendix D – EBMUD Correspondence

cc: Josh Corzine – Rockwood Christie LLC
Denise Pinkston - Rockwood Christie LLC

TABLES

Table 1
Summary of Analytical Results for Verification Soil Samples - Organic Compounds
64th and Christie Avenue Residential Building
6340 and 6390 Christie Avenue
Emeryville, California

Sample ID	Sample Depth (ft bgs)	Date Sampled	TPHmo (mg/Kg)	TPHd (mg/Kg)	TPHg (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl-benzene (µg/Kg)	Xylenes (µg/Kg)	Other VOCs (µg/Kg)
EB-1	17.3	2/1/2013	<5.0	<1.0	<0.19	<4.5	<4.5	<4.5	<4.5	ND
EB-2	17.3	2/1/2013	95	12 Y	<0.16	<4.4	<4.4	<4.4	<4.4	ND
EB-3	18.5	2/1/2013	<5.0	<1.0	<0.18	<4.7	<4.7	<4.7	<4.7	ND
EB-4	17.2	2/1/2013	<5.0	<1.0	<0.23	<4.6	<4.6	<4.6	<4.6	ND
EB-5	16.3	2/4/2013	<5.0	<1.0	<0.22	<7.6	<7.6	<7.6	<7.6	ND
EB-6	14.9	2/7/2013	<5.0	<1.0	<0.21	<4.4	<4.4	<4.4	<4.4	ND
EB-7	13.2	2/7/2013	<5.0	<1.0	<0.20	<4.9	<4.9	<4.9	<4.9	ND
EB-8	12.8	2/7/2013	<5.0	<0.99	<0.19	<6.9	<6.9	<6.9	<6.9	ND
EB-9	13.6	2/14/2013	<5.0	<1.0	<0.17	<5.6	<5.6	<5.6	<5.6	ND
EB-10	14.5	2/14/2013	<5.0	<1.0	<0.20	<4.6	<4.6	<4.6	<4.6	ND
EB-11	15.3	2/14/2013	<5.0	<1.0	<0.18	<4.4	<4.4	<4.4	<4.4	ND
EB-12	14.3	2/27/2013	<5.0	<1.0	<0.18	<4.7	<4.7	<4.7	<4.7	ND
EB-13	15.9	3/4/2013	<5.0	<1.0	<0.20	<5.8	<5.8	<5.8	<5.8	ND
Approved Remedial Goal⁽¹⁾			1,800	540	540	120	320,000	2,300	150,000	--
Residential: Direct Contact⁽²⁾			--	--	--	1.9	--	21	--	--
Residential: Outdoor Volatilization⁽²⁾			--	--	--	2.8	--	89	--	--
Utility Worker⁽³⁾			--	--	--	14	--	314	--	--

Notes:

VOCs = Volatile Organic Compounds.

mg/kg = milligrams per kilogram.

µg/kg = micrograms per kilogram.

ft bgs = Feet below ground surface. Sample collected at excavation bottom; depth is approximate.

< 0.15 = Not detected at or above the indicated laboratory reporting limit.

ND = Not detected. Reporting limit varies. Refer to laboratory analytical report.

-- = Not analyzed or not applicable.

Y = Sample exhibits chromatographic pattern which does not resemble standard.

TPHmo = Total petroleum hydrocarbons quantified as motor oil.

TPHd = Total petroleum hydrocarbons quantified as diesel.

TPHg = Total petroleum hydrocarbons quantified as gasoline.

(1) The approved project remedial goal was equivalent to the November 2008 Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL): *Direct Exposure Soil Screening Levels, Residential Exposure Scenario*; HQ = 1 for Non-Carcinogens (Table K-1).

(2) Concentration in Soil That Will Have No Significant Risk of Adversely Affecting Human Health - Residential Direct Contact. SWRCB, 2012.

(3) Concentration in Soil That Will Have No Significant Risk of Adversely Affecting Human Health - Volatilization to Outdoor Air. SWRCB, 2012.

(4) Concentration in Soil That Will Have No Significant Risk of Adversely Affecting Human Health - Utility Worker. SWRCB, 2012.

**Table 2
Summary of Analytical Results for Verification Soil Samples - Metals
64th and Christie Avenue Residential Building
6340 and 6390 Christie Avenue
Emeryville, California**

Sample ID	Sample Depth (ft bgs)	Date Sampled	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
EB-1	17.3	2/1/2013	<0.49	3.7	79	0.26	<0.25	20	5.6	11	3.8	0.021	<0.25	22	<0.49	<0.25	<0.49	23	27
EB-2	17.3	2/1/2013	<0.52	2.5	34	0.42	0.29	38	9.6	20	4.7	0.028	<0.26	47	<0.52	<0.26	<0.52	34	45
EB-3	18.5	2/1/2013	<0.50	5.4	63	0.37	0.34	34	9.6	18	4.6	0.022	<0.25	42	<0.50	<0.25	<0.50	44	41
EB-4	17.2	2/1/2013	<0.46	4.6	70	0.25	<0.23	59	7.4	11	2.8	<0.018	<0.23	34	<0.46	<0.23	<0.46	44	34
EB-5	16.3	2/4/2013	<0.44	8.2	310	0.49	0.65	52	9.7	25	5.2	0.040	1.4	75	<0.44	<0.22	<0.44	54	53
EB-6	14.9	2/7/2013	<0.48	6.2	58	0.50	<0.24	46	8.8	21	4.7	0.031	0.26	54	0.64	<0.24	<0.48	37	44
EB-7	13.2	2/7/2013	<0.48	5.5	90	0.26	<0.24	48	11	13	2.9	<0.017	0.33	40	<0.48	<0.24	<0.48	44	33
EB-8	12.8	2/7/2013	<0.47	3.5	72	0.31	<0.23	30	6.0	13	4.8	<0.018	<0.23	29	<0.47	<0.23	<0.47	31	26
EB-9	13.6	2/14/2013	<0.48	3.2	44	0.17	<0.24	56	8.9	9.4	2.2	<0.018	<0.24	34	<0.48	<0.24	<0.48	44	27
EB-10	14.5	2/14/2013	<0.45	4.7	120	0.47	<0.23	41	13	19	4.8	0.026	<0.23	60	<0.45	<0.23	<0.45	30	40
EB-11	15.3	2/14/2013	<0.45	8.0	81	0.51	0.31	36	19	24	6.9	0.021	0.57	63	<0.45	<0.23	<0.45	42	41
EB-12	14.3	2/27/2013	<0.48	5.2	110	0.49	<0.24	51	19	22	6.4	<0.017	<0.24	57	<0.48	<0.24	<0.48	47	48
EB-13	15.9	3/4/2013	<0.48	4.9	51	0.24	<0.24	37	7.0	11	2.6	<0.016	<0.24	34	<0.48	<0.24	<0.48	34	34
Approved Remedial Goal⁽¹⁾			31	0.39	15,000	150	1.7	--	910	31,000	260	6.7	390	1,500	390	390	6.3	78	23,000

Notes:

ft bgs = Feet below ground surface. Sample collected at excavation bottom; depth is approximate.

mg/kg = Milligrams per kilogram.

< 0.25 = Not detected at or above the indicated laboratory reporting limit.

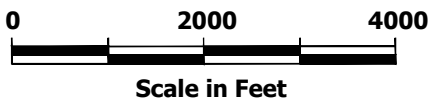
-- = Not applicable.

(1) The approved project remedial goal was equivalent to the November 2008 Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL): Direct Exposure Soil Screening Levels, Residential Exposure Scenario; HQ = 1 for Non-Carcinogens (Table K-1).

PLATES



64th & Christie Site



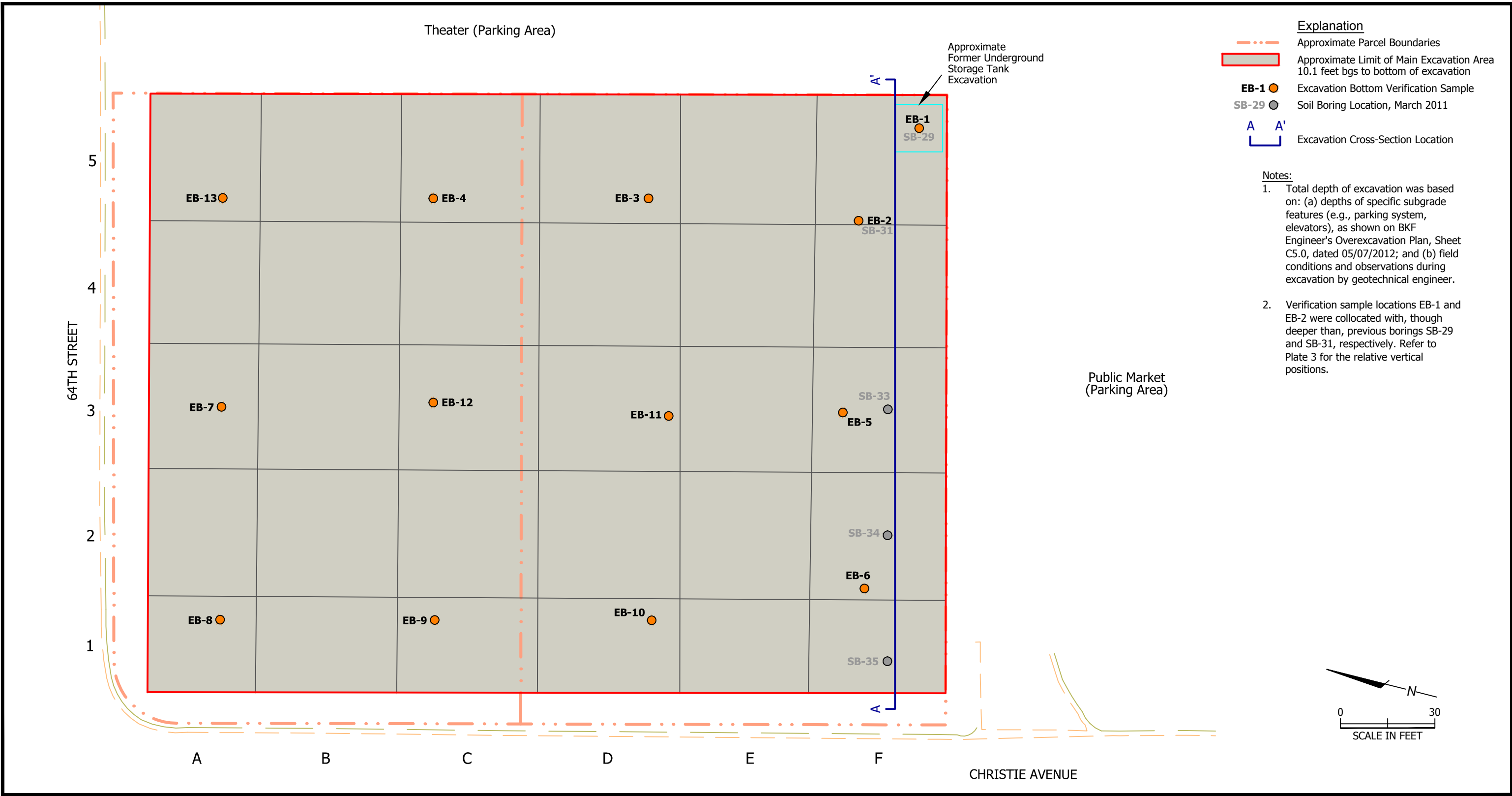
U.S.G.S. Topo Map - Oakland West, California, 7.5-minute quadrangle.1997



Site Location Map
Former UST Remedial Action Report
64th and Christie Residential Building
6340 and 6390 Christie Avenue
Emeryville, California

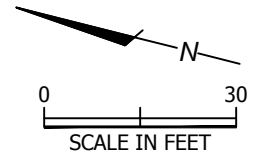
PLATE

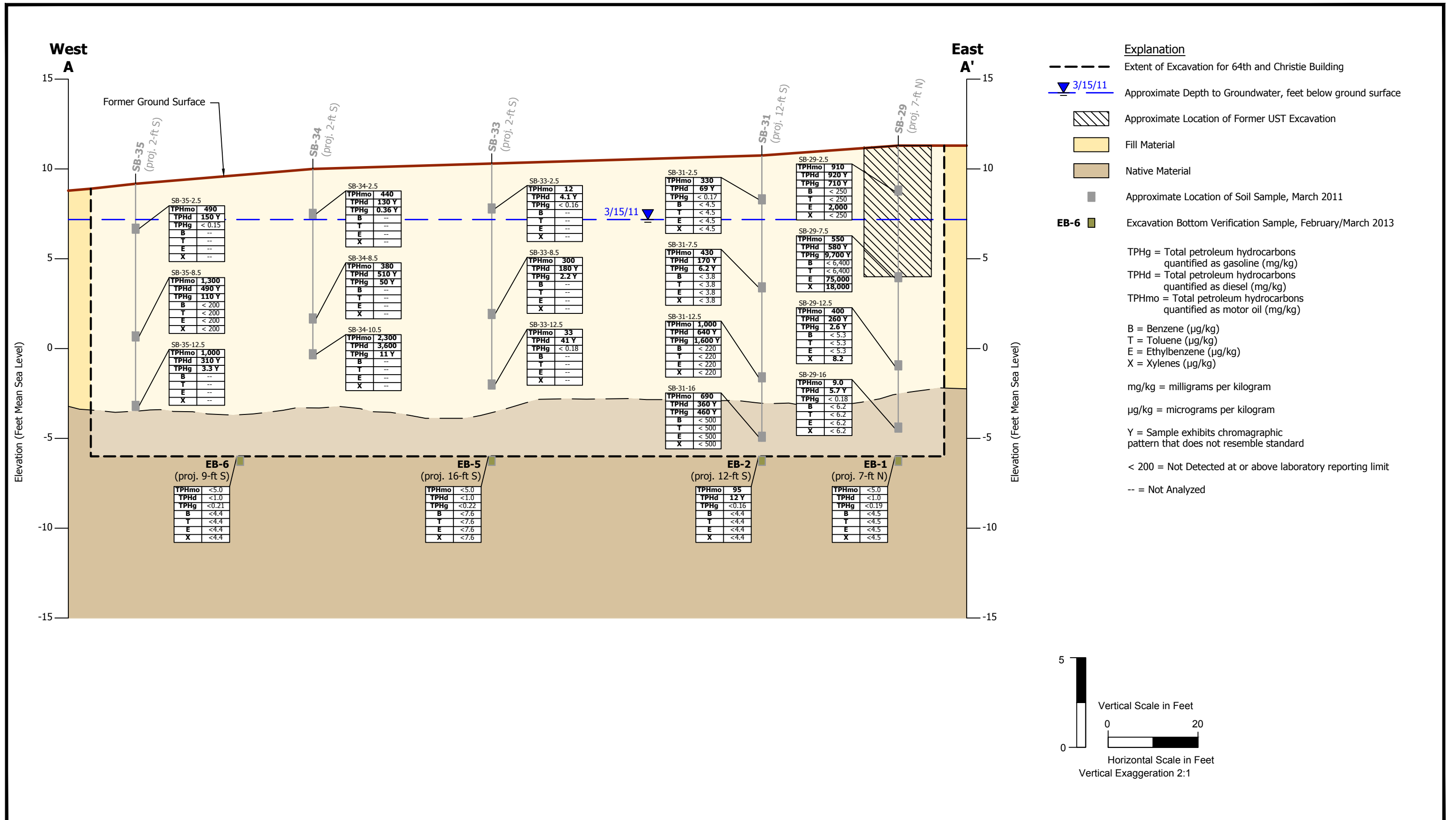
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- Explanation**
- - - Approximate Parcel Boundaries
 - Approximate Limit of Main Excavation Area 10.1 feet bgs to bottom of excavation
 - EB-1 Excavation Bottom Verification Sample
 - SB-29 Soil Boring Location, March 2011
 - A A' Excavation Cross-Section Location

- Notes:**
1. Total depth of excavation was based on: (a) depths of specific subgrade features (e.g., parking system, elevators), as shown on BKF Engineer's Overexcavation Plan, Sheet C5.0, dated 05/07/2012; and (b) field conditions and observations during excavation by geotechnical engineer.
 2. Verification sample locations EB-1 and EB-2 were collocated with, though deeper than, previous borings SB-29 and SB-31, respectively. Refer to Plate 3 for the relative vertical positions.





APPENDIX A

ACEH CORRESPONDENCE

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

ALEX BRISCOE, Director



ENVIRONMENTAL HEALTH DEPARTMENT
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

August 15, 2011

Denise Pinkston
Rockwood Christie LLC
c/o TMG Partners
100 Bush St., 26th Floor
San Francisco, CA94104
(Sent via E-mail to:
dpinkston@tmgpartners.com)

Richard and Beverly Gold Trust
Lerer Brothers Transmission
P.O. Box 117820
Burlingame, CA 94011-7820

Subject: Request for Upload Compliance and Remedial Action Report, for Fuel Leak Case No. RO0000057 and GeoTracker Global ID T0600191821, Lerer Brothers Transmission, 6340 Christie Avenue, Emeryville, CA 94608

Dear Ms. Pinkston & the Gold Trust:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *Phase II Environmental Subsurface Investigation Results*, dated January 21, 2005, the *Draft Remediation Work Plan, Proposed 64th and Christie Building*, dated October 21, 2008, the *Draft Remediation Work Plan Proposed 64th and Christie Residential Building*, dated December 27, 2010 (available currently only on the Envirostor website), the *Results of Soil and Groundwater Investigation and Request for Case Closure*, dated June 28, 2011, which includes as Appendix C the *Results of Pre-Excavation Investigation and Preliminary Soil Characterization, Proposed 64th and Christie Residential Building*, dated June 1, 2011. The reports were prepared and submitted on your behalf by PES Environmental, Inc (PES). Thank you for submitting the reports; they have substantially advanced the understanding of the site.

The subject site is a part of a two parcel redevelopment in which soil will be excavated to a depth of between 11 and 15 feet below grade surface (bgs) from property line to property line. As planned the area of the former UST excavation (southeast corner of parcels) is within the area to be excavated to an approximate depth of 15 feet bgs. It is understood that contaminant concentrations up to 9,700 mg/kg TPHg, 3,600 mg/kg TPHd, 2,300 mg/kg TPHmo, and 1.7 mg/kg benzene have been recently documented in soil beneath the site including beneath the former UST location, but that soil contamination at the site as a whole, as well as in the former UST area, has been documented to rapidly decrease beneath the total depth of artificial fill that ranges between 12 and 15 feet bgs at the site. In the vicinity of the former UST excavation, fill depth was found to be at an approximate depth of 15 feet bgs.

A *Draft Remediation Work Plan Proposed 64th and Christie Residential Building* (December 27, 2010) has been generated and has been approved (December 29, 2010 email available on the Envirostor website) by, and will be overseen by, the City of Emeryville, under an existing MOU with the DTSC (Envirostor Site No. 60001475). To clarify the record, ACEH oversees a separate and different portion of the case than will be handled by the City of Emeryville. As a part of that plan, excavation confirmation samples will be collected every three feet of depth and every 25 linear feet. Because construction dewatering will be required, potentially substantial groundwater extraction is anticipated, but does not yet appear to have been pre-planned. As a consequence and as requested by the City of Emeryville, one bottom sample will be collected for every 1,000 square feet of excavation bottom. Finally, because engineered soil is required to be emplaced to a depth of 4 feet bgs, to a distance of 12.5 feet beyond the southern property line, multiple opportunities to remove petroleum contaminated soil exist at the site, including laterally in remaining sidewalls.

The planned construction will be commercial and residential mixed-use that is also described as intrinsically safe. The specific design (a podium) is described to be in conformance with ASTM International Standard E 2600-08 for intrinsically-safe designs to mitigate vapor intrusion concerns. The lowest level will consist of one subgrade level of underground parking and one street-grade level of parking and commercial establishments, each mechanically ventilated. All further levels will consist of residential units. Because the underground portions of the construction will be below groundwater levels, a subgrade water-proofing barrier will be employed, and is planned to be chemically-compatible for the site due to residual hydrocarbon concentrations in groundwater due to vicinity groundwater contamination sites, due to this case, and due to elevated salinity documented during groundwater sampling at the site.

Because the subject site will be excavated to between 11 and 15 feet bgs, it does not appear that site specific hydrocarbon contamination will significantly contribute to a vapor risk at the site. However, because of the referenced vicinity petroleum plume as described in the referenced reports, and because of methane vapor concentrations up to 85% of a gas sample have been documented beneath the site, mitigation for vapor risks remains a valid concern for regulatory oversight by the City of Emeryville and DTSC.

A remedial goal for groundwater beneath the site has not been identified due to a vicinity groundwater plume that appears to emanate from adjacent properties to the east and south that have existing site management requirements (Emeryville Marketplace - Envirostor Case No. 01290021).

Finally, based on factors and the items discussed in the technical comments below, this fuel leak case cannot be closed at this time. Principally this involves the documented presence of significant residual contaminated soil and groundwater in the vicinity of the former UST location; planned remediation consisting of excavation and over-excavation activities that are anticipated to remove a majority of the contamination, if not all; planned remedial and construction dewatering at the site that are anticipated to remove a majority of the dissolved-phase plume down-gradient of the former UST excavation (e.g. GW13); and subsequent verification sampling to demonstrate remedial effectiveness. This also involves Geotracker and ftp website upload compliance issues. This decision is subject to appeal to the State Water Resources Control Board (SWRCB), pursuant to Section 25299.39(b) of the Health and Safety Code (Thompson-Richter Underground Storage Tank Reform Act - Senate Bill 562). Please contact Mr. George Lockwood in the SWRCB Underground Storage Tank Program at (916) 341-5752 or GLockwood@waterboards.ca.gov for information regarding the appeal process.

Based on ACEH staff review of the case file, we request that you address the following technical comments and send us the reports described below. Please provide 72-hour advance written notification to this office (e-mail preferred to: mark.detterman@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

1. Electronic Report and Data Upload Compliance – A review of the case file on the ACEH ftp site and the State's Geotracker database, indicates that the site is not in compliance with previous directive letters. Pursuant to California Code of Regulations, Title 23, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1, beginning September 1, 2001, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the UST or LUST program, must be transmitted electronically to the SWRCB GeoTracker system via the internet. Also, beginning January 1, 2002, all permanent monitoring points utilized to collect groundwater samples (i.e. monitoring wells) and submitted in a report to a regulatory agency, must be surveyed (top of casing) to mean sea level and latitude and longitude to sub-meter accuracy using NAD 83. A California licensed surveyor may be required to perform this work. Please survey all well points to Geotracker standards. Additionally, pursuant to California Code of Regulations, Title 23, Division 3, Chapter 30, Articles 1 and 2, Sections 3893, 3894, and 3895, beginning July 1, 2005, the successful submittal of electronic information (i.e. report in PDF format) shall replace the requirement for the submittal of a paper copy. Please upload all submittals, including future submittals to GeoTracker and ACEH's ftp server by the date specified below. Electronic reporting is additionally described below on the attachments.

2. **2005 Phase II Investigation Results Report** – The January 2005 document is essentially a data transmittal package for an investigation that occurred in December 2004, and is not a complete report. It does not describe the associated investigation and investigation methods including vapor point construction techniques, sampling methodologies, does not include analytical laboratory reports, does not bear a signature or professional stamp, and etc. At the time Technical Comment No. 1 is addressed, please transmit a complete report, to both websites (ACEH ftp site and Geotracker).
3. **UST Excavation Confirmation Soil Sampling** – ACEH requests the collection of a minimum of two excavation bottom soil samples to be authoritatively placed beneath the location of soil bores SB-29 and SB-31. Should remedial overexcavation activities be required with depth, or into the southern or eastern sidewalls of the former UST excavation, ACEH additionally requests a 72-hour advanced written notification.
4. **Remedial Action Report** – In addition to a standard Remedial Action Report, please also ensure groundwater discharge totals, concentrations (influent and effluent), and other pertinent groundwater data are contained in this report. Please forward a final Remedial Action Report by the date identified below.

TECHNICAL REPORT REQUEST

Please submit the following deliverable to ACEH (Attention: Mark Detterman), according to the following schedule:

- **September 16, 2011** – Geotracker and ACEH ftp Site Compliance
- **January 30, 2012** – Remedial Completion Report

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Should you have any questions, please contact me at (510) 567--6876 or send me an electronic mail message at mark.detterman@acgov.org.

Sincerely,

Mark E. Detterman, P.G., C.E.G.
Senior Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations
Electronic Report Upload (ftp) Instructions

cc: Markus Niebanck, Emeryville Redevelopment Agency, 1333 Park Ave, Emeryville, CA 94608
(sent via electronic mail to mniebanck@ci.emeryville.ca.us)

Robert Creps, PES Environmental, 1682 Novato Blvd, Suite 100, Novato, CA 94947
(sent via electronic mail to RCreps@pesenv.com)

William Mast, PES Environmental, 1682 Novato Blvd, Suite 100, Novato, CA 94947
(sent via electronic mail to WMast@pesenv.com)

Donna Drogos (sent via electronic mail to donna.drogos@acgov.org)
Mark Detterman (sent via electronic mail to mark.detterman@acgov.org)
Case Electronic File, GeoTracker

Responsible Party(ies) Legal Requirements / Obligations

REPORT REQUESTS

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and [other](#) data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "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." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	REVISION DATE: July 20, 2010
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	SUBJECT: Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection.**
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

- 1) Obtain User Name and Password
 - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
 - i) Send an e-mail to dehloptoxic@acgov.org
 - b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
 - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
 - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
 - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
 - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
 - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
 - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
 - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.



September 6, 2011

241.082.02.002

Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Attention: Mr. Mark Detterman, P.G.

**Subject: Former Lerer Brothers Transmission
6340 Christie Avenue, Emeryville, California
Fuel Leak Case No. RO0000057
Geotracker Global ID T0600191821**

Dear Mark,

As we discussed on August 17, this letter has been prepared to document our telephone conversation of that date during which you, Will Mast and I discussed the subject fuel leak case, remedial activities¹ to be performed in conjunction with site redevelopment, and clarifications of your recent letter² dated August 15, 2011. Thank you for your review and comments on PES' report presenting the results of soil and groundwater investigations³, and your comprehensive review of the case file. As I indicated during our call, Rockwood Christie and PES very much appreciate the guidance from Alameda County Environmental Health (ACEH) to move this case toward closure.

During our conversation we discussed and you confirmed that, although not explicitly stated in the August 15 letter, ACEH has no objections to the commencement of redevelopment construction, including implementation of the *Final Remedial Work Plan*.

¹ To be completed in accordance with the February 3, 2011 *Final Remedial Work Plan, Proposed 64th and Christie Residential Building, 64th Street and Christie Avenue, Emeryville, California* (RWP) prepared by PES and approved by the City of Emeryville, the lead environmental agency for the site development and the RWP.

² Alameda County Environmental Health Department, 2011. *Request for Upload Compliance and Remedial Action Report, for Fuel Leak Case No. RO0000057 and GeoTracker Global ID T0600191821, Lerer Brothers Transmission, 6340 Christie Avenue, Emeryville, CA 94608*. August 15.

³ PES Environmental, Inc. 2011. *Results of Soil and Groundwater Investigation and Request for Case Closure, Former Lerer Brothers Transmission, 6340 Christie Avenue, Fuel Leak Case No. RO0000057, Geotracker Global ID T0600191821*. June 28.

Mr. Mark Detterman, P.G.

September 6, 2011

Page 2

Regarding Technical Comment 3 contained in the August 15 letter, you clarified that the intent of the comment is to encourage collection of verification sample data in the vicinity of the former tank excavation that will promote issuance of case closure without the need to evaluate residual risk. We discussed that the planned excavation under the RWP is expected to remove, to the extent practicable, the soil contamination attributable to the former tank. Specifically, we discussed the test results from Soil Boring SB-29, which indicate that the tank-impacted soil attenuates at a depth between about 7.5 and 12.5 feet, much shallower than the planned excavation depth of 15 feet.

Lastly, your August 15 letter requests submittal of a remedial completion report by January 30, 2012. I indicated that RWP implementation is closely tied to the redevelopment construction schedule. I stated that our expectation is that the RWP excavation will likely occur in the first half of 2012 and, as such, we expect to be able to prepare and submit a remedial completion report to ACEH soon thereafter. You asked that we document the expected schedule in this letter, and that we keep you informed of the progress of the work.

Again, thank you for your assistance on this case. Please call me or Will Mast if you have any questions, or you can reach me via email at rcreps@pesenv.com.

Yours very truly,

PES ENVIRONMENTAL, INC.



Robert S. Creps, P.E.
Principal Engineer

cc: Denise Pinkston – Rockwood Christie LLC

APPENDIX B

PHOTOGRAPHS OF EXCAVATION NEAR UST AREA

Appendix B
Photographic Documentation of Excavation Bottom Near Former UST
64th and Christie Avenue Residential Building
6340 and 6390 Christie Avenue
Emeryville, California

Photo ID	Date	Description
1	1/28/2013	View to north of excavation bottom from southeast corner of excavation (i.e., below location of former UST).
2	1/28/2013	View to south of excavation bottom near southeast corner of excavation (i.e., below location of former UST).
3	2/4/2013	View to southeast of excavation bottom at southeast corner of excavation (i.e., below location of former UST).
4	2/4/2013	Close up view of soil conditions at verification sample location EB-2.
5	1/25/2013	Composite panorama view to northwest of southeast corner of excavation, from street level.



Photo 1.JPG



Photo 2.JPG



Photo 3.JPG



Photo 4.JPG



Photo 5.jpg

APPENDIX C

**LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORMS
(PROVIDED ON CD-ROM)**



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 242843
ANALYTICAL REPORT**

PES Environmental, Inc. 1682 Novato Boulevard Novato, CA 94947	Project : 241.082.03.006 Location : 64th & Christie Emeryville, CA Level : II
--	---

<u>Sample ID</u>	<u>Lab ID</u>
EB-3	242843-001
EB-4	242843-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Desiree N. Tetrault

Signature: _____

Desiree N. Tetrault
Project Manager
(510) 486-0900

Date: 02/08/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 242843
Client: PES Environmental, Inc.
Project: 241.082.03.006
Location: 64th & Christie Emeryville, CA
Request Date: 02/01/13
Samples Received: 02/01/13

This data package contains sample and QC results for two soil samples, requested for the above referenced project on 02/01/13. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

Matrix spikes QC675498, QC675499 (batch 195235) were not reported because the parent sample required a dilution that would have diluted out the spikes. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

No analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):

No analytical problems were encountered.

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 242843 Date Received 2/1/13 Number of coolers 1
Client RES Project 241-082.03.006

Date Opened 2/1/13 By (print) EL (sign) E. Long
Date Logged in [down arrow] By (print) [down arrow] (sign) [down arrow]

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
Shipping info _____

2A. Were custody seals present? ... [] YES (circle) on cooler on samples [X] NO
How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? YES NO (N/A)

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- [] Bubble Wrap [] Foam blocks [X] Bags [] None
[] Cloth material [] Cardboard [] Styrofoam [] Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: [X] Wet [] Blue/Gel [] None Temp(°C) _____

[] Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

[X] Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer? terracores 1915

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Blank lines for handwritten comments.

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	242843	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC675455	Batch#: 195225
Matrix:	Soil	Analyzed: 02/04/13
Units:	mg/Kg	

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.040	104	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	62-134

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	242843	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5030B
Project#:	241.082.03.006	Analysis: EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac: 1.000
MSS Lab ID:	242837-041	Batch#: 195225
Matrix:	Soil	Sampled: 02/01/13
Units:	mg/Kg	Received: 02/01/13
Basis:	as received	Analyzed: 02/04/13

Type: MS Lab ID: QC675457

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.07808	10.99	11.45	104	33-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	62-134

Type: MSD Lab ID: QC675458

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.091	9.327	102	33-120	2	53

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	62-134

RPD= Relative Percent Difference

Batch QC Report

Total Extractable Hydrocarbons		
Lab #:	242843	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC675497	Batch#: 195235
Matrix:	Soil	Prepared: 02/04/13
Units:	mg/Kg	Analyzed: 02/05/13

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.76	39.05	78	51-131

Surrogate	%REC	Limits
o-Terphenyl	119	54-129

Purgeable Organics by GC/MS

Lab #:	242843	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-3	Diln Fac:	0.9328
Lab ID:	242843-001	Batch#:	195211
Matrix:	Soil	Sampled:	02/01/13
Units:	ug/Kg	Received:	02/01/13
Basis:	as received	Analyzed:	02/04/13

Analyte	Result	RL
Freon 12	ND	9.3
Chloromethane	ND	9.3
Vinyl Chloride	ND	9.3
Bromomethane	ND	9.3
Chloroethane	ND	9.3
Trichlorofluoromethane	ND	4.7
Acetone	ND	19
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.7
MTBE	ND	4.7
trans-1,2-Dichloroethene	ND	4.7
Vinyl Acetate	ND	47
1,1-Dichloroethane	ND	4.7
2-Butanone	ND	9.3
cis-1,2-Dichloroethene	ND	4.7
2,2-Dichloropropane	ND	4.7
Chloroform	ND	4.7
Bromochloromethane	ND	4.7
1,1,1-Trichloroethane	ND	4.7
1,1-Dichloropropene	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
Dibromomethane	ND	4.7
4-Methyl-2-Pentanone	ND	9.3
cis-1,3-Dichloropropene	ND	4.7
Toluene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
2-Hexanone	ND	9.3
1,3-Dichloropropane	ND	4.7
Tetrachloroethene	ND	4.7

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242843	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-3	Diln Fac:	0.9328
Lab ID:	242843-001	Batch#:	195211
Matrix:	Soil	Sampled:	02/01/13
Units:	ug/Kg	Received:	02/01/13
Basis:	as received	Analyzed:	02/04/13

Analyte	Result	RL
Dibromochloromethane	ND	4.7
1,2-Dibromoethane	ND	4.7
Chlorobenzene	ND	4.7
1,1,1,2-Tetrachloroethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Styrene	ND	4.7
Bromoform	ND	4.7
Isopropylbenzene	ND	4.7
1,1,2,2-Tetrachloroethane	ND	4.7
1,2,3-Trichloropropane	ND	4.7
Propylbenzene	ND	4.7
Bromobenzene	ND	4.7
1,3,5-Trimethylbenzene	ND	4.7
2-Chlorotoluene	ND	4.7
4-Chlorotoluene	ND	4.7
tert-Butylbenzene	ND	4.7
1,2,4-Trimethylbenzene	ND	4.7
sec-Butylbenzene	ND	4.7
para-Isopropyl Toluene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
n-Butylbenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7
1,2-Dibromo-3-Chloropropane	ND	4.7
1,2,4-Trichlorobenzene	ND	4.7
Hexachlorobutadiene	ND	4.7
Naphthalene	ND	4.7
1,2,3-Trichlorobenzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	110	78-131
1,2-Dichloroethane-d4	93	75-141
Toluene-d8	102	80-120
Bromofluorobenzene	110	79-128

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242843	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-4	Diln Fac:	0.9191
Lab ID:	242843-002	Batch#:	195211
Matrix:	Soil	Sampled:	02/01/13
Units:	ug/Kg	Received:	02/01/13
Basis:	as received	Analyzed:	02/04/13

Analyte	Result	RL
Freon 12	ND	9.2
Chloromethane	ND	9.2
Vinyl Chloride	ND	9.2
Bromomethane	ND	9.2
Chloroethane	ND	9.2
Trichlorofluoromethane	ND	4.6
Acetone	ND	18
Freon 113	ND	4.6
1,1-Dichloroethene	ND	4.6
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.6
MTBE	ND	4.6
trans-1,2-Dichloroethene	ND	4.6
Vinyl Acetate	ND	46
1,1-Dichloroethane	ND	4.6
2-Butanone	ND	9.2
cis-1,2-Dichloroethene	ND	4.6
2,2-Dichloropropane	ND	4.6
Chloroform	ND	4.6
Bromochloromethane	ND	4.6
1,1,1-Trichloroethane	ND	4.6
1,1-Dichloropropene	ND	4.6
Carbon Tetrachloride	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Trichloroethene	ND	4.6
1,2-Dichloropropane	ND	4.6
Bromodichloromethane	ND	4.6
Dibromomethane	ND	4.6
4-Methyl-2-Pentanone	ND	9.2
cis-1,3-Dichloropropene	ND	4.6
Toluene	ND	4.6
trans-1,3-Dichloropropene	ND	4.6
1,1,2-Trichloroethane	ND	4.6
2-Hexanone	ND	9.2
1,3-Dichloropropane	ND	4.6
Tetrachloroethene	ND	4.6

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242843	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-4	Diln Fac:	0.9191
Lab ID:	242843-002	Batch#:	195211
Matrix:	Soil	Sampled:	02/01/13
Units:	ug/Kg	Received:	02/01/13
Basis:	as received	Analyzed:	02/04/13

Analyte	Result	RL
Dibromochloromethane	ND	4.6
1,2-Dibromoethane	ND	4.6
Chlorobenzene	ND	4.6
1,1,1,2-Tetrachloroethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6
Styrene	ND	4.6
Bromoform	ND	4.6
Isopropylbenzene	ND	4.6
1,1,2,2-Tetrachloroethane	ND	4.6
1,2,3-Trichloropropane	ND	4.6
Propylbenzene	ND	4.6
Bromobenzene	ND	4.6
1,3,5-Trimethylbenzene	ND	4.6
2-Chlorotoluene	ND	4.6
4-Chlorotoluene	ND	4.6
tert-Butylbenzene	ND	4.6
1,2,4-Trimethylbenzene	ND	4.6
sec-Butylbenzene	ND	4.6
para-Isopropyl Toluene	ND	4.6
1,3-Dichlorobenzene	ND	4.6
1,4-Dichlorobenzene	ND	4.6
n-Butylbenzene	ND	4.6
1,2-Dichlorobenzene	ND	4.6
1,2-Dibromo-3-Chloropropane	ND	4.6
1,2,4-Trichlorobenzene	ND	4.6
Hexachlorobutadiene	ND	4.6
Naphthalene	ND	4.6
1,2,3-Trichlorobenzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	107	78-131
1,2-Dichloroethane-d4	97	75-141
Toluene-d8	99	80-120
Bromofluorobenzene	108	79-128

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242843	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Matrix:	Soil	Batch#: 195211
Units:	ug/Kg	Analyzed: 02/04/13
Diln Fac:	1.000	

Type: BS Lab ID: QC675397

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	27.20	109	70-129
Benzene	25.00	25.27	101	77-125
Trichloroethene	25.00	25.38	102	77-122
Toluene	25.00	23.26	93	78-120
Chlorobenzene	25.00	22.88	92	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	78-131
1,2-Dichloroethane-d4	86	75-141
Toluene-d8	99	80-120
Bromofluorobenzene	108	79-128

Type: BSD Lab ID: QC675398

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	27.23	109	70-129	0	20
Benzene	25.00	24.34	97	77-125	4	20
Trichloroethene	25.00	23.73	95	77-122	7	20
Toluene	25.00	24.90	100	78-120	7	20
Chlorobenzene	25.00	23.43	94	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	78-131
1,2-Dichloroethane-d4	81	75-141
Toluene-d8	101	80-120
Bromofluorobenzene	103	79-128

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242843	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC675399	Batch#: 195211
Matrix:	Soil	Analyzed: 02/04/13
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242843	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC675399	Batch#: 195211
Matrix:	Soil	Analyzed: 02/04/13
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	105	78-131
1,2-Dichloroethane-d4	88	75-141
Toluene-d8	97	80-120
Bromofluorobenzene	103	79-128

ND= Not Detected

RL= Reporting Limit

California Title 22 Metals

Lab #:	242843	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-3	Diln Fac:	1.000
Lab ID:	242843-001	Sampled:	02/01/13
Matrix:	Soil	Received:	02/01/13
Units:	mg/Kg	Prepared:	02/05/13
Basis:	as received		

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	0.50	195287	02/08/13	EPA 3050B	EPA 6010B
Arsenic	5.4	0.25	195287	02/08/13	EPA 3050B	EPA 6010B
Barium	63	0.25	195287	02/08/13	EPA 3050B	EPA 6010B
Beryllium	0.37	0.10	195287	02/08/13	EPA 3050B	EPA 6010B
Cadmium	0.34	0.25	195287	02/08/13	EPA 3050B	EPA 6010B
Chromium	34	0.25	195287	02/08/13	EPA 3050B	EPA 6010B
Cobalt	9.6	0.25	195287	02/08/13	EPA 3050B	EPA 6010B
Copper	18	0.25	195287	02/08/13	EPA 3050B	EPA 6010B
Lead	4.6	0.25	195287	02/08/13	EPA 3050B	EPA 6010B
Mercury	0.022	0.018	195265	02/05/13	METHOD	EPA 7471A
Molybdenum	ND	0.25	195287	02/08/13	EPA 3050B	EPA 6010B
Nickel	42	0.25	195287	02/08/13	EPA 3050B	EPA 6010B
Selenium	ND	0.50	195287	02/08/13	EPA 3050B	EPA 6010B
Silver	ND	0.25	195287	02/08/13	EPA 3050B	EPA 6010B
Thallium	ND	0.50	195287	02/08/13	EPA 3050B	EPA 6010B
Vanadium	44	0.25	195287	02/08/13	EPA 3050B	EPA 6010B
Zinc	41	1.0	195287	02/08/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

California Title 22 Metals

Lab #:	242843	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-4	Diln Fac:	1.000
Lab ID:	242843-002	Sampled:	02/01/13
Matrix:	Soil	Received:	02/01/13
Units:	mg/Kg	Prepared:	02/05/13
Basis:	as received		

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	0.46	195287	02/08/13	EPA 3050B	EPA 6010B
Arsenic	4.6	0.23	195287	02/08/13	EPA 3050B	EPA 6010B
Barium	70	0.23	195287	02/08/13	EPA 3050B	EPA 6010B
Beryllium	0.25	0.092	195287	02/08/13	EPA 3050B	EPA 6010B
Cadmium	ND	0.23	195287	02/08/13	EPA 3050B	EPA 6010B
Chromium	59	0.23	195287	02/08/13	EPA 3050B	EPA 6010B
Cobalt	7.4	0.23	195287	02/08/13	EPA 3050B	EPA 6010B
Copper	11	0.23	195287	02/08/13	EPA 3050B	EPA 6010B
Lead	2.8	0.23	195287	02/08/13	EPA 3050B	EPA 6010B
Mercury	ND	0.018	195265	02/05/13	METHOD	EPA 7471A
Molybdenum	ND	0.23	195287	02/08/13	EPA 3050B	EPA 6010B
Nickel	34	0.23	195287	02/08/13	EPA 3050B	EPA 6010B
Selenium	ND	0.46	195287	02/08/13	EPA 3050B	EPA 6010B
Silver	ND	0.23	195287	02/08/13	EPA 3050B	EPA 6010B
Thallium	ND	0.46	195287	02/08/13	EPA 3050B	EPA 6010B
Vanadium	44	0.23	195287	02/08/13	EPA 3050B	EPA 6010B
Zinc	34	0.92	195287	02/08/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	242843	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	195265
Lab ID:	QC675587	Prepared:	02/05/13
Matrix:	Soil	Analyzed:	02/05/13
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	242843	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: METHOD
Project#:	241.082.03.006	Analysis: EPA 7471A
Analyte:	Mercury	Batch#: 195265
Matrix:	Soil	Prepared: 02/05/13
Units:	mg/Kg	Analyzed: 02/05/13
Diln Fac:	1.000	

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC675588	0.2083	0.2085	100	80-120		
BSD	QC675589	0.2083	0.2111	101	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	242843	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	195265
MSS Lab ID:	242874-001	Sampled:	02/04/13
Matrix:	Soil	Received:	02/04/13
Units:	mg/Kg	Prepared:	02/05/13
Basis:	as received	Analyzed:	02/05/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC675590	0.004925	0.2016	0.2178	106	76-138		
MSD	QC675591		0.2232	0.2363	104	76-138	2	42

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals		
Lab #:	242843	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC675697	Batch#: 195287
Matrix:	Soil	Prepared: 02/05/13
Units:	mg/Kg	Analyzed: 02/07/13

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.26
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	242843	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC675698	Batch#: 195287
Matrix:	Soil	Prepared: 02/05/13
Units:	mg/Kg	Analyzed: 02/07/13

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	103.5	104	80-120
Arsenic	50.00	52.61	105	80-121
Barium	100.0	103.2	103	80-120
Beryllium	2.500	2.641	106	80-120
Cadmium	10.00	10.59	106	80-120
Chromium	100.0	102.6	103	80-120
Cobalt	25.00	25.59	102	80-120
Copper	12.50	12.43	99	80-120
Lead	100.0	99.48	99	80-120
Molybdenum	20.00	20.92	105	80-120
Nickel	25.00	25.54	102	80-120
Selenium	50.00	51.36	103	80-120
Silver	10.00	9.855	99	80-120
Thallium	50.00	51.36	103	80-120
Vanadium	25.00	25.56	102	80-120
Zinc	25.00	25.92	104	80-120

Batch QC Report

California Title 22 Metals		
Lab #:	242843	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#: 195287
MSS Lab ID:	242805-001	Sampled: 01/31/13
Matrix:	Soil	Received: 01/31/13
Units:	mg/Kg	Prepared: 02/05/13
Basis:	as received	Analyzed: 02/07/13
Diln Fac:	1.000	

Type: MS Lab ID: QC675699

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1431	90.09	50.15	56	12-120
Arsenic	1.833	45.05	46.78	100	73-121
Barium	88.84	90.09	174.9	95	51-135
Beryllium	0.4089	2.252	2.593	97	79-120
Cadmium	<0.01440	9.009	8.282	92	74-120
Chromium	134.5	90.09	233.1	110	62-124
Cobalt	19.39	22.52	40.07	92	62-120
Copper	39.03	11.26	51.41	110	48-150
Lead	4.543	90.09	82.67	87	58-124
Molybdenum	<0.05058	18.02	15.59	87	69-120
Nickel	208.0	22.52	238.5	135 NM	49-135
Selenium	1.663	45.05	45.75	98	68-120
Silver	0.1090	9.009	8.973	98	76-120
Thallium	<0.1469	45.05	37.90	84	68-120
Vanadium	62.05	22.52	83.46	95	54-137
Zinc	57.64	22.52	78.21	91	43-147

Type: MSD Lab ID: QC675700

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	93.46	51.17	55	12-120	2	36
Arsenic	46.73	47.02	97	73-121	3	40
Barium	93.46	180.1	98	51-135	1	40
Beryllium	2.336	2.694	98	79-120	1	21
Cadmium	9.346	8.462	91	74-120	2	20
Chromium	93.46	241.2	114	62-124	2	34
Cobalt	23.36	39.90	88	62-120	2	35
Copper	11.68	51.32	105	48-150	1	39
Lead	93.46	84.55	86	58-124	1	44
Molybdenum	18.69	16.12	86	69-120	0	25
Nickel	23.36	232.0	103 NM	49-135	3	37
Selenium	46.73	46.47	96	68-120	2	29
Silver	9.346	9.335	99	76-120	0	29
Thallium	46.73	39.17	84	68-120	0	21
Vanadium	23.36	83.86	93	54-137	1	31
Zinc	23.36	78.53	89	43-147	1	41

NM= Not Meaningful: Sample concentration > 4X spike concentration
 RPD= Relative Percent Difference



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Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 242844
ANALYTICAL REPORT

PES Environmental, Inc. 1682 Novato Boulevard Novato, CA 94947	Project : 241.082.03.006 Location : 64th & Christie Emeryville, CA Level : II
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<u>Sample ID</u>	<u>Lab ID</u>
EB-1	242844-001
EB-2	242844-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: *Desiree N. Tetrault*
Desiree N. Tetrault
Project Manager
(510) 486-0900

Date: 02/05/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 242844
Client: PES Environmental, Inc.
Project: 241.082.03.006
Location: 64th & Christie Emeryville, CA
Request Date: 02/01/13
Samples Received: 02/01/13

This data package contains sample and QC results for two soil samples, requested for the above referenced project on 02/01/13. The samples were received on ice and intact, directly from the field.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

Matrix spikes QC675498, QC675499 (batch 195235) were not reported because the parent sample required a dilution that would have diluted out the spikes. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

No analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):

No analytical problems were encountered.



CHAIN OF CUSTODY RECORD

LABORATORY: C+T

SAMPLERS: JA

JOB NUMBER: 241.032.03.006

NAME / LOCATION: Gith + Christie Sunnyville CA

PROJECT MANAGER: Will Mast

RECORDER: JA

ANALYSIS REQUESTED	
EPA 5035/8010	
EPA 5035/8021	
EPA 5035/8260B	
TPHg by 5035/8015M	
TPHd by 8015M	
TPHmo by 8015M	
EPA 8270C	
MNA Parameters (see notes)	
<u>File 22 MNA's</u>	
<u>VOCS by 8260</u>	

DATE				SAMPLE NUMBER / DESIGNATION
YR	MO	DY	TIME	
13	02	01	1520	EB-1
13	02	01	1540	EB-2

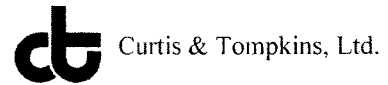
MATRIX	# of Containers & Preservatives							DEPTH IN FEET				
	Vapor	Water	Soil	Sediment	Unpres. 163Z	EnCore	H ₂ SO ₄		HNO ₃	HCl	M2OH	UPBW
			X		2					1	6	
			X		2					1	6	

NOTES
Turn Around Time: Standard TAT
results to: alexander@pes-env.com
Wmast

Page 1 of 1

CHAIN OF CUSTODY RECORD							
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)		DATE	TIME		
<u>[Signature]</u>		<u>[Signature]</u>		<u>2/1/13</u>	<u>1700</u>		
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)		DATE	TIME		
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)		DATE	TIME		
DISPATCHED BY: (Signature)		DATE	TIME	RECEIVED FOR LAB BY: (Signature)		DATE	TIME
METHOD OF SHIPMENT:							

COOLER RECEIPT CHECKLIST



Login # 242844 Date Received 2/1/13 Number of coolers 1
Client pes Project 241-082-03.006

Date Opened 2/1/13 By (print) EL (sign) E-L...
Date Logged in [down arrow] By (print) [down arrow] (sign) [down arrow]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C)

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer? terracores 1715

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Subject: RE: 241.082.03.006 - C&T Login Summary (242844)
From: "William W. Mast" <wmast@pesenv.com>
Date: 2/4/2013 9:20 AM
To: "Desiree N. Tetrault" <desiree.tetrault@ctberk.com>
CC: Ken Simmons <KSimmons@pesenv.com>, Chris Baldassari <cbaldassari@pesenv.com>, John Alexander <JAlexander@pesenv.com>

Desiree,

Because of a project issue, is it possible to step up the TAT for just these two samples? 24-hour would be preferable if possible, but let me know what your team can accomplish. Thanks and sorry for the short notice.

Will

From: Desiree N. Tetrault [mailto:desiree.tetrault@ctberk.com]
Sent: Friday, February 01, 2013 7:39 PM
To: Ken Simmons; Chris Baldassari; William W. Mast; John Alexander
Subject: 241.082.03.006 - C&T Login Summary (242844)

C&T Login Summary for 242844

Project: 241.082.03.006 Site: 64th & Christie Emeryville, CA Lab Login #: 242844 Report Level: II Report Due: 02/08/13 PO#: C&T Proj Mgr: Desiree N. Tetrault	Report To: PES Environmental, Inc. 1682 Novato Boulevard Suite 100 Novato, CA 94947 ATTN: Will Mast (415) 899-1600	Bill To: PES Environmental 1682 Novato Boulevard Suite 100 Novato, CA 94947 ATTN: Accounts Payable (415) 899-1600
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Client ID	Lab ID	Sampled	Received	Matrix	Analyses	COC #	Comments
EB-1	001	02/01	02/01	Soil	E8260		
				Soil	ETVH		
				Soil	SILICA GEL		
				Soil	T22 MET		
				Soil	TEHM		
							Silica Gel
EB-2	002	02/01	02/01	Soil	E8260		
				Soil	ETVH		
				Soil	SILICA GEL		
				Soil	T22 MET		
				Soil	TEHM		
							Silica Gel

Email compiled and sent 02/01/13 07:38 PM.

Gasoline by GC/FID (5035 Prep)

Lab #:	242844	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	195225
Units:	mg/Kg	Sampled:	02/01/13
Basis:	as received	Received:	02/01/13
Diln Fac:	1.000	Analyzed:	02/04/13

Field ID: EB-1 Lab ID: 242844-001
 Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	ND	0.19

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	84	62-134

Field ID: EB-2 Lab ID: 242844-002
 Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	ND	0.16

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	62-134

Type: BLANK Lab ID: QC675456

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	98	62-134

ND= Not Detected
 RL= Reporting Limit
 Page 1 of 1

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	242844	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC675455	Batch#: 195225
Matrix:	Soil	Analyzed: 02/04/13
Units:	mg/Kg	

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.040	104	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	62-134

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	242844	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5030B
Project#:	241.082.03.006	Analysis: EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac: 1.000
MSS Lab ID:	242837-041	Batch#: 195225
Matrix:	Soil	Sampled: 02/01/13
Units:	mg/Kg	Received: 02/01/13
Basis:	as received	Analyzed: 02/04/13

Type: MS Lab ID: QC675457

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.07808	10.99	11.45	104	33-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	62-134

Type: MSD Lab ID: QC675458

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.091	9.327	102	33-120	2	53

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	62-134

RPD= Relative Percent Difference

Total Extractable Hydrocarbons		
Lab #:	242844	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Matrix:	Soil	Sampled: 02/01/13
Units:	mg/Kg	Received: 02/01/13
Basis:	as received	Prepared: 02/04/13
Diln Fac:	1.000	Analyzed: 02/05/13
Batch#:	195235	

Field ID: EB-1 Lab ID: 242844-001
 Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	93	54-129

Field ID: EB-2 Lab ID: 242844-002
 Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	12 Y	1.0
Motor Oil C24-C36	95	5.0

Surrogate	%REC	Limits
o-Terphenyl	110	54-129

Type: BLANK Cleanup Method: EPA 3630C
 Lab ID: QC675496

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	94	54-129

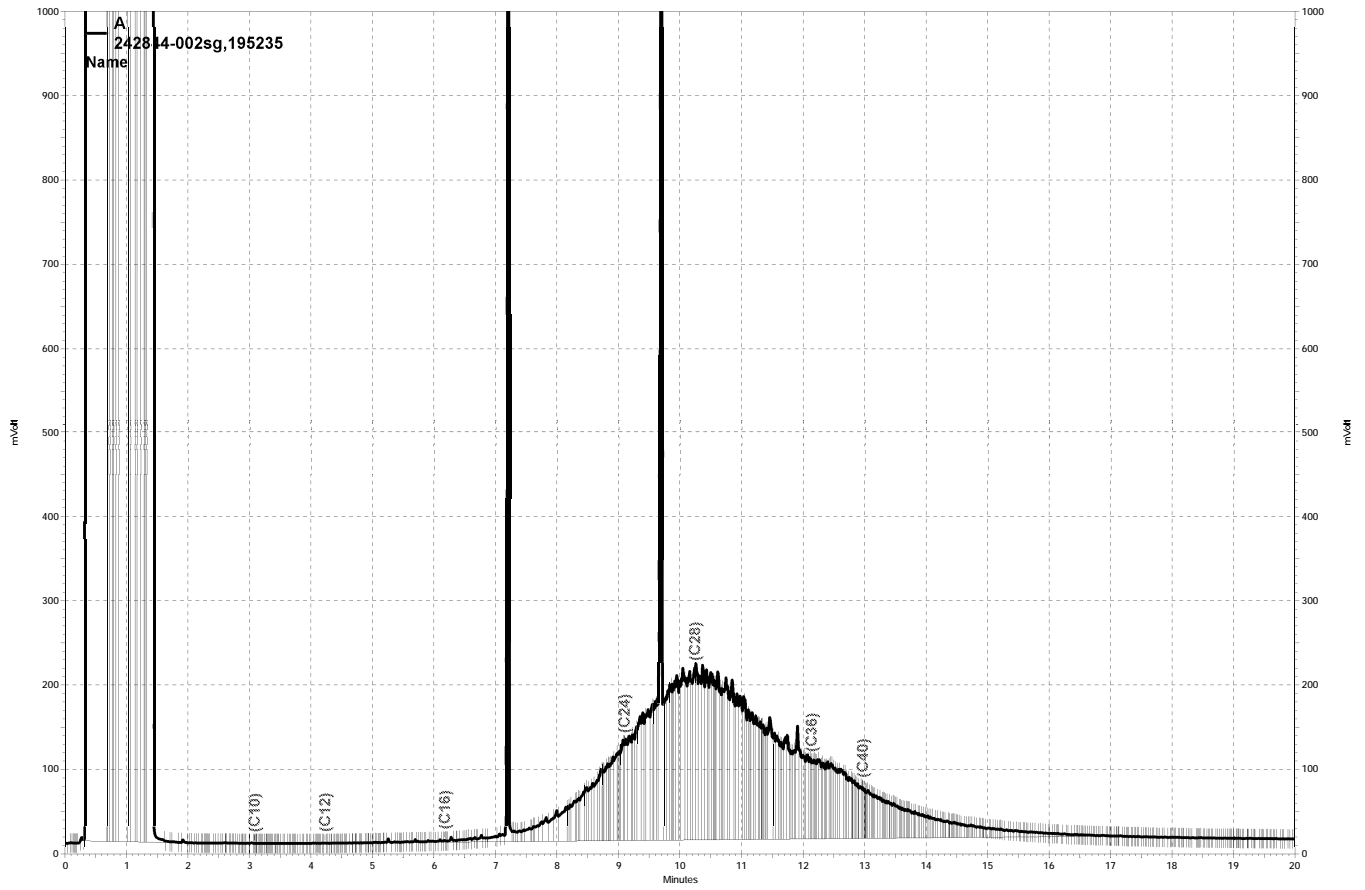
Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

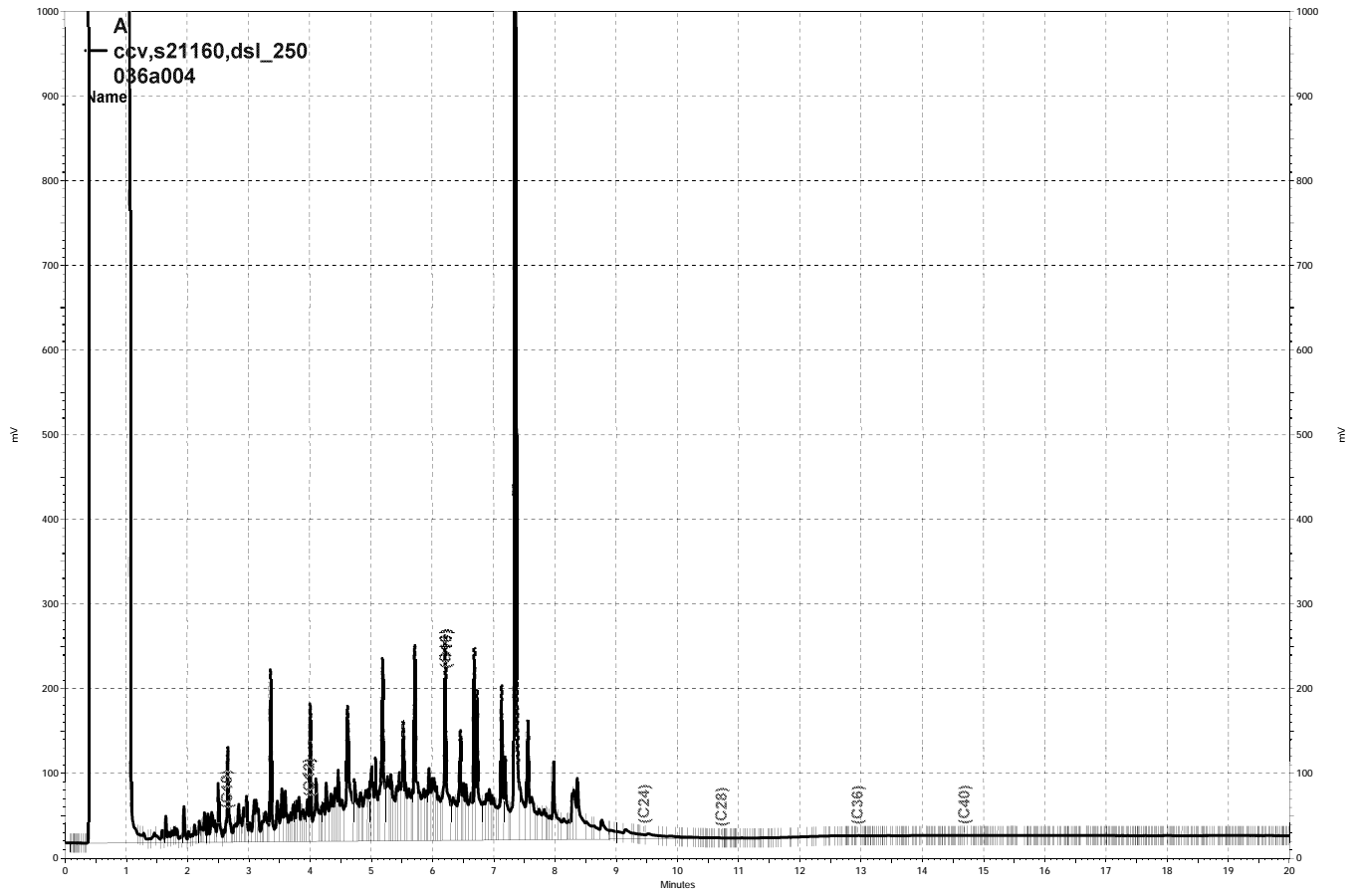
Total Extractable Hydrocarbons		
Lab #:	242844	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC675497	Batch#: 195235
Matrix:	Soil	Prepared: 02/04/13
Units:	mg/Kg	Analyzed: 02/05/13

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.76	39.64	80	51-131

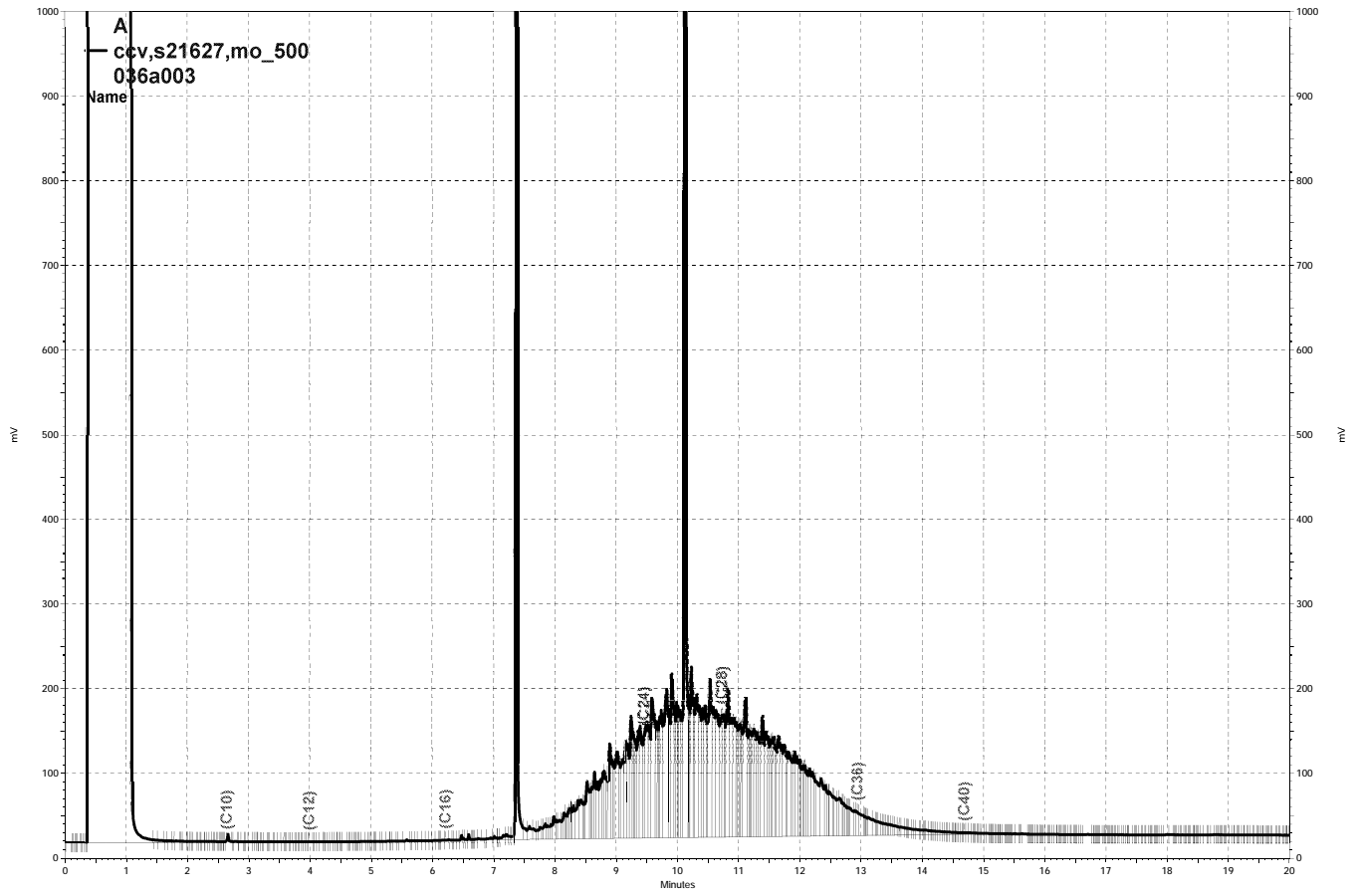
Surrogate	%REC	Limits
o-Terphenyl	108	54-129



— \\Lims\gdrive\ezchrom\Projects\GC26\Data\036a009, A



— \\Lims\gdrive\ezchrom\Projects\GC17A\Data\036a004, A



— \\Lims\gdrive\ezchrom\Projects\GC17A\Data\036a003, A

Purgeable Organics by GC/MS

Lab #:	242844	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-1	Diln Fac:	0.8929
Lab ID:	242844-001	Batch#:	195211
Matrix:	Soil	Sampled:	02/01/13
Units:	ug/Kg	Received:	02/01/13
Basis:	as received	Analyzed:	02/04/13

Analyte	Result	RL
Freon 12	ND	8.9
Chloromethane	ND	8.9
Vinyl Chloride	ND	8.9
Bromomethane	ND	8.9
Chloroethane	ND	8.9
Trichlorofluoromethane	ND	4.5
Acetone	ND	18
Freon 113	ND	4.5
1,1-Dichloroethene	ND	4.5
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.5
MTBE	ND	4.5
trans-1,2-Dichloroethene	ND	4.5
Vinyl Acetate	ND	45
1,1-Dichloroethane	ND	4.5
2-Butanone	ND	8.9
cis-1,2-Dichloroethene	ND	4.5
2,2-Dichloropropane	ND	4.5
Chloroform	ND	4.5
Bromochloromethane	ND	4.5
1,1,1-Trichloroethane	ND	4.5
1,1-Dichloropropene	ND	4.5
Carbon Tetrachloride	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Trichloroethene	ND	4.5
1,2-Dichloropropane	ND	4.5
Bromodichloromethane	ND	4.5
Dibromomethane	ND	4.5
4-Methyl-2-Pentanone	ND	8.9
cis-1,3-Dichloropropene	ND	4.5
Toluene	ND	4.5
trans-1,3-Dichloropropene	ND	4.5
1,1,2-Trichloroethane	ND	4.5
2-Hexanone	ND	8.9
1,3-Dichloropropane	ND	4.5
Tetrachloroethene	ND	4.5

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242844	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-1	Diln Fac:	0.8929
Lab ID:	242844-001	Batch#:	195211
Matrix:	Soil	Sampled:	02/01/13
Units:	ug/Kg	Received:	02/01/13
Basis:	as received	Analyzed:	02/04/13

Analyte	Result	RL
Dibromochloromethane	ND	4.5
1,2-Dibromoethane	ND	4.5
Chlorobenzene	ND	4.5
1,1,1,2-Tetrachloroethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5
Styrene	ND	4.5
Bromoform	ND	4.5
Isopropylbenzene	ND	4.5
1,1,2,2-Tetrachloroethane	ND	4.5
1,2,3-Trichloropropane	ND	4.5
Propylbenzene	ND	4.5
Bromobenzene	ND	4.5
1,3,5-Trimethylbenzene	ND	4.5
2-Chlorotoluene	ND	4.5
4-Chlorotoluene	ND	4.5
tert-Butylbenzene	ND	4.5
1,2,4-Trimethylbenzene	ND	4.5
sec-Butylbenzene	ND	4.5
para-Isopropyl Toluene	ND	4.5
1,3-Dichlorobenzene	ND	4.5
1,4-Dichlorobenzene	ND	4.5
n-Butylbenzene	ND	4.5
1,2-Dichlorobenzene	ND	4.5
1,2-Dibromo-3-Chloropropane	ND	4.5
1,2,4-Trichlorobenzene	ND	4.5
Hexachlorobutadiene	ND	4.5
Naphthalene	ND	4.5
1,2,3-Trichlorobenzene	ND	4.5

Surrogate	%REC	Limits
Dibromofluoromethane	104	78-131
1,2-Dichloroethane-d4	89	75-141
Toluene-d8	98	80-120
Bromofluorobenzene	105	79-128

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242844	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-2	Diln Fac:	0.8726
Lab ID:	242844-002	Batch#:	195211
Matrix:	Soil	Sampled:	02/01/13
Units:	ug/Kg	Received:	02/01/13
Basis:	as received	Analyzed:	02/04/13

Analyte	Result	RL
Freon 12	ND	8.7
Chloromethane	ND	8.7
Vinyl Chloride	ND	8.7
Bromomethane	ND	8.7
Chloroethane	ND	8.7
Trichlorofluoromethane	ND	4.4
Acetone	ND	17
Freon 113	ND	4.4
1,1-Dichloroethene	ND	4.4
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.4
MTBE	ND	4.4
trans-1,2-Dichloroethene	ND	4.4
Vinyl Acetate	ND	44
1,1-Dichloroethane	ND	4.4
2-Butanone	ND	8.7
cis-1,2-Dichloroethene	ND	4.4
2,2-Dichloropropane	ND	4.4
Chloroform	ND	4.4
Bromochloromethane	ND	4.4
1,1,1-Trichloroethane	ND	4.4
1,1-Dichloropropene	ND	4.4
Carbon Tetrachloride	ND	4.4
1,2-Dichloroethane	ND	4.4
Benzene	ND	4.4
Trichloroethene	ND	4.4
1,2-Dichloropropane	ND	4.4
Bromodichloromethane	ND	4.4
Dibromomethane	ND	4.4
4-Methyl-2-Pentanone	ND	8.7
cis-1,3-Dichloropropene	ND	4.4
Toluene	ND	4.4
trans-1,3-Dichloropropene	ND	4.4
1,1,2-Trichloroethane	ND	4.4
2-Hexanone	ND	8.7
1,3-Dichloropropane	ND	4.4
Tetrachloroethene	ND	4.4

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242844	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-2	Diln Fac:	0.8726
Lab ID:	242844-002	Batch#:	195211
Matrix:	Soil	Sampled:	02/01/13
Units:	ug/Kg	Received:	02/01/13
Basis:	as received	Analyzed:	02/04/13

Analyte	Result	RL
Dibromochloromethane	ND	4.4
1,2-Dibromoethane	ND	4.4
Chlorobenzene	ND	4.4
1,1,1,2-Tetrachloroethane	ND	4.4
Ethylbenzene	ND	4.4
m,p-Xylenes	ND	4.4
o-Xylene	ND	4.4
Styrene	ND	4.4
Bromoform	ND	4.4
Isopropylbenzene	ND	4.4
1,1,2,2-Tetrachloroethane	ND	4.4
1,2,3-Trichloropropane	ND	4.4
Propylbenzene	ND	4.4
Bromobenzene	ND	4.4
1,3,5-Trimethylbenzene	ND	4.4
2-Chlorotoluene	ND	4.4
4-Chlorotoluene	ND	4.4
tert-Butylbenzene	ND	4.4
1,2,4-Trimethylbenzene	ND	4.4
sec-Butylbenzene	ND	4.4
para-Isopropyl Toluene	ND	4.4
1,3-Dichlorobenzene	ND	4.4
1,4-Dichlorobenzene	ND	4.4
n-Butylbenzene	ND	4.4
1,2-Dichlorobenzene	ND	4.4
1,2-Dibromo-3-Chloropropane	ND	4.4
1,2,4-Trichlorobenzene	ND	4.4
Hexachlorobutadiene	ND	4.4
Naphthalene	ND	4.4
1,2,3-Trichlorobenzene	ND	4.4

Surrogate	%REC	Limits
Dibromofluoromethane	109	78-131
1,2-Dichloroethane-d4	94	75-141
Toluene-d8	97	80-120
Bromofluorobenzene	111	79-128

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242844	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Matrix:	Soil	Batch#: 195211
Units:	ug/Kg	Analyzed: 02/04/13
Diln Fac:	1.000	

Type: BS Lab ID: QC675397

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	27.20	109	70-129
Benzene	25.00	25.27	101	77-125
Trichloroethene	25.00	25.38	102	77-122
Toluene	25.00	23.26	93	78-120
Chlorobenzene	25.00	22.88	92	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	78-131
1,2-Dichloroethane-d4	86	75-141
Toluene-d8	99	80-120
Bromofluorobenzene	108	79-128

Type: BSD Lab ID: QC675398

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	27.23	109	70-129	0	20
Benzene	25.00	24.34	97	77-125	4	20
Trichloroethene	25.00	23.73	95	77-122	7	20
Toluene	25.00	24.90	100	78-120	7	20
Chlorobenzene	25.00	23.43	94	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	78-131
1,2-Dichloroethane-d4	81	75-141
Toluene-d8	101	80-120
Bromofluorobenzene	103	79-128

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242844	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC675399	Batch#: 195211
Matrix:	Soil	Analyzed: 02/04/13
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242844	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC675399	Batch#: 195211
Matrix:	Soil	Analyzed: 02/04/13
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	105	78-131
1,2-Dichloroethane-d4	88	75-141
Toluene-d8	97	80-120
Bromofluorobenzene	103	79-128

ND= Not Detected

RL= Reporting Limit

California Title 22 Metals

Lab #:	242844	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-1	Diln Fac:	1.000
Lab ID:	242844-001	Sampled:	02/01/13
Matrix:	Soil	Received:	02/01/13
Units:	mg/Kg	Prepared:	02/04/13
Basis:	as received		

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	0.49	195238	02/05/13	EPA 3050B	EPA 6010B
Arsenic	3.7	0.25	195238	02/05/13	EPA 3050B	EPA 6010B
Barium	79	0.25	195238	02/05/13	EPA 3050B	EPA 6010B
Beryllium	0.26	0.098	195238	02/05/13	EPA 3050B	EPA 6010B
Cadmium	ND	0.25	195238	02/05/13	EPA 3050B	EPA 6010B
Chromium	20	0.25	195238	02/05/13	EPA 3050B	EPA 6010B
Cobalt	5.6	0.25	195238	02/05/13	EPA 3050B	EPA 6010B
Copper	11	0.25	195238	02/05/13	EPA 3050B	EPA 6010B
Lead	3.8	0.25	195238	02/05/13	EPA 3050B	EPA 6010B
Mercury	0.021	0.016	195224	02/04/13	METHOD	EPA 7471A
Molybdenum	ND	0.25	195238	02/05/13	EPA 3050B	EPA 6010B
Nickel	22	0.25	195238	02/05/13	EPA 3050B	EPA 6010B
Selenium	ND	0.49	195238	02/05/13	EPA 3050B	EPA 6010B
Silver	ND	0.25	195238	02/05/13	EPA 3050B	EPA 6010B
Thallium	ND	0.49	195238	02/05/13	EPA 3050B	EPA 6010B
Vanadium	23	0.25	195238	02/05/13	EPA 3050B	EPA 6010B
Zinc	27	0.98	195238	02/05/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

California Title 22 Metals

Lab #:	242844	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-2	Diln Fac:	1.000
Lab ID:	242844-002	Sampled:	02/01/13
Matrix:	Soil	Received:	02/01/13
Units:	mg/Kg	Prepared:	02/04/13
Basis:	as received		

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	0.52	195238	02/05/13	EPA 3050B	EPA 6010B
Arsenic	2.5	0.26	195238	02/05/13	EPA 3050B	EPA 6010B
Barium	34	0.26	195238	02/05/13	EPA 3050B	EPA 6010B
Beryllium	0.42	0.10	195238	02/05/13	EPA 3050B	EPA 6010B
Cadmium	0.29	0.26	195238	02/05/13	EPA 3050B	EPA 6010B
Chromium	38	0.26	195238	02/05/13	EPA 3050B	EPA 6010B
Cobalt	9.6	0.26	195238	02/05/13	EPA 3050B	EPA 6010B
Copper	20	0.26	195238	02/05/13	EPA 3050B	EPA 6010B
Lead	4.7	0.26	195238	02/05/13	EPA 3050B	EPA 6010B
Mercury	0.028	0.016	195224	02/04/13	METHOD	EPA 7471A
Molybdenum	ND	0.26	195238	02/05/13	EPA 3050B	EPA 6010B
Nickel	47	0.26	195238	02/05/13	EPA 3050B	EPA 6010B
Selenium	ND	0.52	195238	02/05/13	EPA 3050B	EPA 6010B
Silver	ND	0.26	195238	02/05/13	EPA 3050B	EPA 6010B
Thallium	ND	0.52	195238	02/05/13	EPA 3050B	EPA 6010B
Vanadium	34	0.26	195238	02/05/13	EPA 3050B	EPA 6010B
Zinc	45	1.0	195238	02/05/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	242844	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	195224
Lab ID:	QC675450	Prepared:	02/04/13
Matrix:	Soil	Analyzed:	02/04/13
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	242844	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: METHOD
Project#:	241.082.03.006	Analysis: EPA 7471A
Analyte:	Mercury	Batch#: 195224
Matrix:	Soil	Prepared: 02/04/13
Units:	mg/Kg	Analyzed: 02/04/13
Diln Fac:	1.000	

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC675451	0.2083	0.2116	102	80-120		
BSD	QC675452	0.2083	0.2071	99	80-120	2	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	242844	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	195224
MSS Lab ID:	242818-001	Sampled:	01/31/13
Matrix:	Soil	Received:	01/31/13
Units:	mg/Kg	Prepared:	02/04/13
Basis:	as received	Analyzed:	02/04/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC675453	0.06201	0.2193	0.3252	120	76-138		
MSD	QC675454		0.1984	0.2909	115	76-138	3	42

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals		
Lab #:	242844	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC675507	Batch#: 195238
Matrix:	Soil	Prepared: 02/04/13
Units:	mg/Kg	Analyzed: 02/05/13

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.25
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	242844	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	241.082.03.006	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	195238
Units:	mg/Kg	Prepared:	02/04/13
Diln Fac:	1.000	Analyzed:	02/05/13

Type: BS Lab ID: QC675508

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	105.4	105	80-120
Arsenic	50.00	54.34	109	80-121
Barium	100.0	103.8	104	80-120
Beryllium	2.500	2.711	108	80-120
Cadmium	10.00	10.76	108	80-120
Chromium	100.0	102.9	103	80-120
Cobalt	25.00	25.95	104	80-120
Copper	12.50	12.81	102	80-120
Lead	100.0	102.9	103	80-120
Molybdenum	20.00	21.40	107	80-120
Nickel	25.00	25.76	103	80-120
Selenium	50.00	52.70	105	80-120
Silver	10.00	9.995	100	80-120
Thallium	50.00	52.84	106	80-120
Vanadium	25.00	25.57	102	80-120
Zinc	25.00	26.89	108	80-120

Type: BSD Lab ID: QC675509

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	102.1	102	80-120	3	20
Arsenic	50.00	52.35	105	80-121	4	20
Barium	100.0	101.9	102	80-120	2	20
Beryllium	2.500	2.653	106	80-120	2	20
Cadmium	10.00	10.33	103	80-120	4	20
Chromium	100.0	101.1	101	80-120	2	20
Cobalt	25.00	24.96	100	80-120	4	20
Copper	12.50	12.60	101	80-120	2	20
Lead	100.0	99.43	99	80-120	3	23
Molybdenum	20.00	20.65	103	80-120	4	20
Nickel	25.00	24.77	99	80-120	4	20
Selenium	50.00	50.15	100	80-120	5	20
Silver	10.00	9.847	98	80-120	1	20
Thallium	50.00	50.86	102	80-120	4	20
Vanadium	25.00	25.13	101	80-120	2	20
Zinc	25.00	24.76	99	80-120	8	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals		
Lab #:	242844	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#: 195238
MSS Lab ID:	242866-001	Sampled: 02/04/13
Matrix:	Soil	Received: 02/04/13
Units:	mg/Kg	Prepared: 02/04/13
Basis:	as received	Analyzed: 02/05/13
Diln Fac:	1.000	

Type: MS Lab ID: QC675510

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	0.3850	103.1	69.25	67	12-120
Arsenic	5.694	51.55	58.14	102	73-121
Barium	46.56	103.1	148.9	99	51-135
Beryllium	0.1696	2.577	2.896	106	79-120
Cadmium	0.05202	10.31	10.43	101	74-120
Chromium	33.82	103.1	134.4	98	62-124
Cobalt	3.399	25.77	28.16	96	62-120
Copper	6.201	12.89	19.38	102	48-150
Lead	17.74	103.1	117.4	97	58-124
Molybdenum	0.1510	20.62	20.28	98	69-120
Nickel	17.52	25.77	43.45	101	49-135
Selenium	<0.1613	51.55	49.70	96	68-120
Silver	<0.04027	10.31	10.10	98	76-120
Thallium	<0.1418	51.55	49.82	97	68-120
Vanadium	21.85	25.77	47.35	99	54-137
Zinc	20.04	25.77	46.45	102	43-147

Type: MSD Lab ID: QC675511

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	102.0	70.75	69	12-120	3	36
Arsenic	51.02	59.85	106	73-121	4	40
Barium	102.0	149.8	101	51-135	1	40
Beryllium	2.551	2.924	108	79-120	2	21
Cadmium	10.20	10.77	105	74-120	4	20
Chromium	102.0	137.5	102	62-124	3	34
Cobalt	25.51	29.09	101	62-120	4	35
Copper	12.76	19.63	105	48-150	2	39
Lead	102.0	115.2	95	58-124	1	44
Molybdenum	20.41	20.88	102	69-120	4	25
Nickel	25.51	44.14	104	49-135	2	37
Selenium	51.02	50.12	98	68-120	2	29
Silver	10.20	10.14	99	76-120	1	29
Thallium	51.02	51.09	100	68-120	4	21
Vanadium	25.51	48.29	104	54-137	3	31
Zinc	25.51	45.47	100	43-147	2	41

RPD= Relative Percent Difference



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Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 242879
ANALYTICAL REPORT

PES Environmental, Inc. 1682 Novato Boulevard Novato, CA 94947	Project : 241.082.03.006 Location : 64th & Christie Emeryville, CA Level : II
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Sample ID
EB-5

Lab ID
242879-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Desiree N. Tetrault

Signature: _____

Desiree N. Tetrault
Project Manager
(510) 486-0900

Date: 02/11/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 242879
Client: PES Environmental, Inc.
Project: 241.082.03.006
Location: 64th & Christie Emeryville, CA
Request Date: 02/04/13
Samples Received: 02/04/13

This data package contains sample and QC results for one soil sample, requested for the above referenced project on 02/04/13. The sample was received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

Matrix spikes QC675805, QC675806 (batch 195315) were not reported because the parent sample required a dilution that would have diluted out the spikes. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

EB-5 (lab # 242879-001) was not diluted; the low sample weight is due to 5035 packaging. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):

No analytical problems were encountered.



CHAIN OF CUSTODY RECORD

LABORATORY: C+T

SAMPLERS: JA

JOB NUMBER: 241.032.03.006

NAME / LOCATION: 64th + Grand, Emeryville CA

PROJECT MANAGER: Will Mast

RECORDER: JA

ANALYSIS REQUESTED										
EPA 5035/8010	EPA 5035/8021	EPA 5035/8260B	TPHg by 5035/8015M	TPHd by 8015M	TPHmo by 8015M	EPA 8270C	MNA Parameters (see notes)	T.H.C. 22 M.F.G.	VOCs by 8260	
			XXX	XX				XX		

DATE				SAMPLE NUMBER / DESIGNATION
YR	MO	DY	TIME	
11	30	2004	1510	EB-5

MATRIX				# of Containers & Preservatives						DEPTH IN FEET	
Vapor	Water	Soil	Sediment	Unpres.	EnCore	H ₂ SO ₄	HNO ₃	HCl	M.O.H		UPEW
		X		2					1	6	

NOTES

Turn Around Time: Standard TAT

results to: jakanda@pesenv.com
wmast " " "

Page 1 of 1

CHAIN OF CUSTODY RECORD				DATE	TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)			2/4/13	536
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)			DATE	TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)			DATE	TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)			DATE	TIME
DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:					

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 242879 Date Received 2/4/13 Number of coolers 1
Client PES Project 64th + Christie, Emerville
Date Opened 2/4/13 By (print) [Signature] (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C)

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer? 1610

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Gasoline by GC/FID (5035 Prep)		
Lab #:	242879	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8015B
Field ID:	EB-5	Batch#: 195275
Matrix:	Soil	Sampled: 02/04/13
Units:	mg/Kg	Received: 02/04/13
Basis:	as received	Analyzed: 02/05/13
Diln Fac:	1.000	

Type: SAMPLE Lab ID: 242879-001

Analyte	Result	RL
Gasoline C7-C12	ND	0.22

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	62-134

Type: BLANK Lab ID: QC675638

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	98	62-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	242879	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC675637	Batch#: 195275
Matrix:	Soil	Analyzed: 02/05/13
Units:	mg/Kg	

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.003	100	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	98	62-134

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	242879	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5030B
Project#:	241.082.03.006	Analysis: EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac: 1.000
MSS Lab ID:	242898-001	Batch#: 195275
Matrix:	Soil	Sampled: 02/05/13
Units:	mg/Kg	Received: 02/05/13
Basis:	as received	Analyzed: 02/05/13

Type: MS Lab ID: QC675639

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.1134	9.259	4.320	45	33-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	62-134

Type: MSD Lab ID: QC675640

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.53	4.538	42	33-120	8	53

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	62-134

RPD= Relative Percent Difference

Total Extractable Hydrocarbons

Lab #:	242879	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	241.082.03.006	Analysis:	EPA 8015B
Field ID:	EB-5	Batch#:	195315
Matrix:	Soil	Sampled:	02/04/13
Units:	mg/Kg	Received:	02/04/13
Basis:	as received	Prepared:	02/06/13
Diln Fac:	1.000	Analyzed:	02/07/13

Type: SAMPLE Cleanup Method: EPA 3630C
 Lab ID: 242879-001

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	58	54-129

Type: BLANK Cleanup Method: EPA 3630C
 Lab ID: QC675803

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	74	54-129

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons		
Lab #:	242879	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC675804	Batch#: 195315
Matrix:	Soil	Prepared: 02/06/13
Units:	mg/Kg	Analyzed: 02/07/13

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.14	36.18	72	51-131

Surrogate	%REC	Limits
o-Terphenyl	74	54-129

Purgeable Organics by GC/MS

Lab #:	242879	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-5	Diln Fac:	1.515
Lab ID:	242879-001	Batch#:	195245
Matrix:	Soil	Sampled:	02/04/13
Units:	ug/Kg	Received:	02/04/13
Basis:	as received	Analyzed:	02/05/13

Analyte	Result	RL
Freon 12	ND	15
Chloromethane	ND	15
Vinyl Chloride	ND	15
Bromomethane	ND	15
Chloroethane	ND	15
Trichlorofluoromethane	ND	7.6
Acetone	ND	30
Freon 113	ND	7.6
1,1-Dichloroethene	ND	7.6
Methylene Chloride	ND	30
Carbon Disulfide	ND	7.6
MTBE	ND	7.6
trans-1,2-Dichloroethene	ND	7.6
Vinyl Acetate	ND	76
1,1-Dichloroethane	ND	7.6
2-Butanone	ND	15
cis-1,2-Dichloroethene	ND	7.6
2,2-Dichloropropane	ND	7.6
Chloroform	ND	7.6
Bromochloromethane	ND	7.6
1,1,1-Trichloroethane	ND	7.6
1,1-Dichloropropene	ND	7.6
Carbon Tetrachloride	ND	7.6
1,2-Dichloroethane	ND	7.6
Benzene	ND	7.6
Trichloroethene	ND	7.6
1,2-Dichloropropane	ND	7.6
Bromodichloromethane	ND	7.6
Dibromomethane	ND	7.6
4-Methyl-2-Pentanone	ND	15
cis-1,3-Dichloropropene	ND	7.6
Toluene	ND	7.6
trans-1,3-Dichloropropene	ND	7.6
1,1,2-Trichloroethane	ND	7.6
2-Hexanone	ND	15
1,3-Dichloropropane	ND	7.6
Tetrachloroethene	ND	7.6

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242879	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-5	Diln Fac:	1.515
Lab ID:	242879-001	Batch#:	195245
Matrix:	Soil	Sampled:	02/04/13
Units:	ug/Kg	Received:	02/04/13
Basis:	as received	Analyzed:	02/05/13

Analyte	Result	RL
Dibromochloromethane	ND	7.6
1,2-Dibromoethane	ND	7.6
Chlorobenzene	ND	7.6
1,1,1,2-Tetrachloroethane	ND	7.6
Ethylbenzene	ND	7.6
m,p-Xylenes	ND	7.6
o-Xylene	ND	7.6
Styrene	ND	7.6
Bromoform	ND	7.6
Isopropylbenzene	ND	7.6
1,1,2,2-Tetrachloroethane	ND	7.6
1,2,3-Trichloropropane	ND	7.6
Propylbenzene	ND	7.6
Bromobenzene	ND	7.6
1,3,5-Trimethylbenzene	ND	7.6
2-Chlorotoluene	ND	7.6
4-Chlorotoluene	ND	7.6
tert-Butylbenzene	ND	7.6
1,2,4-Trimethylbenzene	ND	7.6
sec-Butylbenzene	ND	7.6
para-Isopropyl Toluene	ND	7.6
1,3-Dichlorobenzene	ND	7.6
1,4-Dichlorobenzene	ND	7.6
n-Butylbenzene	ND	7.6
1,2-Dichlorobenzene	ND	7.6
1,2-Dibromo-3-Chloropropane	ND	7.6
1,2,4-Trichlorobenzene	ND	7.6
Hexachlorobutadiene	ND	7.6
Naphthalene	ND	7.6
1,2,3-Trichlorobenzene	ND	7.6

Surrogate	%REC	Limits
Dibromofluoromethane	110	78-131
1,2-Dichloroethane-d4	92	75-141
Toluene-d8	100	80-120
Bromofluorobenzene	113	79-128

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242879	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Matrix:	Soil	Batch#: 195245
Units:	ug/Kg	Analyzed: 02/05/13
Diln Fac:	1.000	

Type: BS Lab ID: QC675528

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	31.32	125	70-129
Benzene	25.00	26.40	106	77-125
Trichloroethene	25.00	26.59	106	77-122
Toluene	25.00	24.44	98	78-120
Chlorobenzene	25.00	23.41	94	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	108	78-131
1,2-Dichloroethane-d4	87	75-141
Toluene-d8	96	80-120
Bromofluorobenzene	108	79-128

Type: BSD Lab ID: QC675529

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	29.25	117	70-129	7	20
Benzene	25.00	25.46	102	77-125	4	20
Trichloroethene	25.00	26.29	105	77-122	1	20
Toluene	25.00	25.06	100	78-120	3	20
Chlorobenzene	25.00	23.33	93	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	109	78-131
1,2-Dichloroethane-d4	86	75-141
Toluene-d8	99	80-120
Bromofluorobenzene	109	79-128

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242879	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC675530	Batch#: 195245
Matrix:	Soil	Analyzed: 02/05/13
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242879	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC675530	Batch#: 195245
Matrix:	Soil	Analyzed: 02/05/13
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	110	78-131
1,2-Dichloroethane-d4	94	75-141
Toluene-d8	100	80-120
Bromofluorobenzene	107	79-128

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	242879	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5030B
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	195245
MSS Lab ID:	242867-004	Sampled:	01/31/13
Matrix:	Soil	Received:	02/01/13
Units:	ug/Kg	Analyzed:	02/05/13
Basis:	as received		

Type: MS Diln Fac: 0.9901
 Lab ID: QC675621

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<1.260	49.50	53.83	109	55-126
Benzene	<0.6832	49.50	49.75	101	57-120
Trichloroethene	<0.7376	49.50	45.86	93	49-138
Toluene	<0.4598	49.50	46.16	93	53-120
Chlorobenzene	<0.3475	49.50	41.28	83	48-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	78-131
1,2-Dichloroethane-d4	86	75-141
Toluene-d8	100	80-120
Bromofluorobenzene	104	79-128

Type: MSD Diln Fac: 0.9634
 Lab ID: QC675622

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	48.17	52.52	109	55-126	0	40
Benzene	48.17	47.35	98	57-120	2	37
Trichloroethene	48.17	46.07	96	49-138	3	40
Toluene	48.17	45.14	94	53-120	0	38
Chlorobenzene	48.17	39.59	82	48-120	1	39

Surrogate	%REC	Limits
Dibromofluoromethane	105	78-131
1,2-Dichloroethane-d4	87	75-141
Toluene-d8	98	80-120
Bromofluorobenzene	107	79-128

RPD= Relative Percent Difference

California Title 22 Metals

Lab #:	242879	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-5	Diln Fac:	1.000
Lab ID:	242879-001	Sampled:	02/04/13
Matrix:	Soil	Received:	02/04/13
Units:	mg/Kg	Prepared:	02/05/13
Basis:	as received		

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	0.44	195287	02/08/13	EPA 3050B	EPA 6010B
Arsenic	8.2	0.22	195287	02/08/13	EPA 3050B	EPA 6010B
Barium	310	0.22	195287	02/08/13	EPA 3050B	EPA 6010B
Beryllium	0.49	0.088	195287	02/08/13	EPA 3050B	EPA 6010B
Cadmium	0.65	0.22	195287	02/08/13	EPA 3050B	EPA 6010B
Chromium	52	0.22	195287	02/08/13	EPA 3050B	EPA 6010B
Cobalt	9.7	0.22	195287	02/08/13	EPA 3050B	EPA 6010B
Copper	25	0.22	195287	02/08/13	EPA 3050B	EPA 6010B
Lead	5.2	0.22	195287	02/08/13	EPA 3050B	EPA 6010B
Mercury	0.040	0.017	195265	02/05/13	METHOD	EPA 7471A
Molybdenum	1.4	0.22	195287	02/08/13	EPA 3050B	EPA 6010B
Nickel	75	0.22	195287	02/08/13	EPA 3050B	EPA 6010B
Selenium	ND	0.44	195287	02/08/13	EPA 3050B	EPA 6010B
Silver	ND	0.22	195287	02/08/13	EPA 3050B	EPA 6010B
Thallium	ND	0.44	195287	02/08/13	EPA 3050B	EPA 6010B
Vanadium	54	0.22	195287	02/08/13	EPA 3050B	EPA 6010B
Zinc	53	0.88	195287	02/08/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	242879	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	195265
Lab ID:	QC675587	Prepared:	02/05/13
Matrix:	Soil	Analyzed:	02/05/13
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	242879	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: METHOD
Project#:	241.082.03.006	Analysis: EPA 7471A
Analyte:	Mercury	Batch#: 195265
Matrix:	Soil	Prepared: 02/05/13
Units:	mg/Kg	Analyzed: 02/05/13
Diln Fac:	1.000	

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC675588	0.2083	0.2085	100	80-120		
BSD	QC675589	0.2083	0.2111	101	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	242879	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	195265
MSS Lab ID:	242874-001	Sampled:	02/04/13
Matrix:	Soil	Received:	02/04/13
Units:	mg/Kg	Prepared:	02/05/13
Basis:	as received	Analyzed:	02/05/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC675590	0.004925	0.2016	0.2178	106	76-138		
MSD	QC675591		0.2232	0.2363	104	76-138	2	42

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals		
Lab #:	242879	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC675697	Batch#: 195287
Matrix:	Soil	Prepared: 02/05/13
Units:	mg/Kg	Analyzed: 02/07/13

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.26
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	242879	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC675698	Batch#: 195287
Matrix:	Soil	Prepared: 02/05/13
Units:	mg/Kg	Analyzed: 02/07/13

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	103.5	104	80-120
Arsenic	50.00	52.61	105	80-121
Barium	100.0	103.2	103	80-120
Beryllium	2.500	2.641	106	80-120
Cadmium	10.00	10.59	106	80-120
Chromium	100.0	102.6	103	80-120
Cobalt	25.00	25.59	102	80-120
Copper	12.50	12.43	99	80-120
Lead	100.0	99.48	99	80-120
Molybdenum	20.00	20.92	105	80-120
Nickel	25.00	25.54	102	80-120
Selenium	50.00	51.36	103	80-120
Silver	10.00	9.855	99	80-120
Thallium	50.00	51.36	103	80-120
Vanadium	25.00	25.56	102	80-120
Zinc	25.00	25.92	104	80-120

Batch QC Report

California Title 22 Metals		
Lab #:	242879	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#: 195287
MSS Lab ID:	242805-001	Sampled: 01/31/13
Matrix:	Soil	Received: 01/31/13
Units:	mg/Kg	Prepared: 02/05/13
Basis:	as received	Analyzed: 02/07/13
Diln Fac:	1.000	

Type: MS Lab ID: QC675699

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1431	90.09	50.15	56	12-120
Arsenic	1.833	45.05	46.78	100	73-121
Barium	88.84	90.09	174.9	95	51-135
Beryllium	0.4089	2.252	2.593	97	79-120
Cadmium	<0.01440	9.009	8.282	92	74-120
Chromium	134.5	90.09	233.1	110	62-124
Cobalt	19.39	22.52	40.07	92	62-120
Copper	39.03	11.26	51.41	110	48-150
Lead	4.543	90.09	82.67	87	58-124
Molybdenum	<0.05058	18.02	15.59	87	69-120
Nickel	208.0	22.52	238.5	135 NM	49-135
Selenium	1.663	45.05	45.75	98	68-120
Silver	0.1090	9.009	8.973	98	76-120
Thallium	<0.1469	45.05	37.90	84	68-120
Vanadium	62.05	22.52	83.46	95	54-137
Zinc	57.64	22.52	78.21	91	43-147

Type: MSD Lab ID: QC675700

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	93.46	51.17	55	12-120	2	36
Arsenic	46.73	47.02	97	73-121	3	40
Barium	93.46	180.1	98	51-135	1	40
Beryllium	2.336	2.694	98	79-120	1	21
Cadmium	9.346	8.462	91	74-120	2	20
Chromium	93.46	241.2	114	62-124	2	34
Cobalt	23.36	39.90	88	62-120	2	35
Copper	11.68	51.32	105	48-150	1	39
Lead	93.46	84.55	86	58-124	1	44
Molybdenum	18.69	16.12	86	69-120	0	25
Nickel	23.36	232.0	103 NM	49-135	3	37
Selenium	46.73	46.47	96	68-120	2	29
Silver	9.346	9.335	99	76-120	0	29
Thallium	46.73	39.17	84	68-120	0	21
Vanadium	23.36	83.86	93	54-137	1	31
Zinc	23.36	78.53	89	43-147	1	41

NM= Not Meaningful: Sample concentration > 4X spike concentration
 RPD= Relative Percent Difference



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Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 242980
ANALYTICAL REPORT

PES Environmental, Inc.
1682 Novato Boulevard
Novato, CA 94947

Project : 241.082.03.006
Location : 64th & Christie Emeryville, CA
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
EB-6	242980-001
EB-7	242980-002
EB-8	242980-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Desiree N. Tetrault
Project Manager
(510) 486-0900

Date: 02/13/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 242980
Client: PES Environmental, Inc.
Project: 241.082.03.006
Location: 64th & Christie Emeryville, CA
Request Date: 02/07/13
Samples Received: 02/07/13

This data package contains sample and QC results for three soil samples, requested for the above referenced project on 02/07/13. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

Matrix spikes were not performed for this analysis in batch 195375 due to insufficient sample amount. EB-8 (lab # 242980-003) was not diluted; the low sample weight is due to 5035 packaging. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):

High recovery was observed for arsenic in the MSD for batch 195448; the parent sample was not a project sample, the BS/BSD were within limits, and the associated RPD was within limits. Zinc was detected above the RL in the method blank for batch 195448; this analyte was detected in samples at a level at least 10 times that of the blank. No other analytical problems were encountered.

CHAIN OF CUSTODY RECORD

LABORATORY: CTT

JOB NUMBER: _____

NAME / LOCATION: GTH + Christie, Emeryville CA

PROJECT MANAGER: Will Mast

SAMPLERS: JA

RECORDER: JA

DATE				SAMPLE NUMBER / DESIGNATION
YR	MO	DY	TIME	
13	02	07	1440	EB-6
13	02	07	1500	EB-7
13	02	07	1515	EB-8

MATRIX					# of Containers & Preservatives	DEPTH IN FEET
Vapor	Water	Soil	Sedim't			
		X		Unpres. (6oz)		
		X		EnCore	2	
		X		H ₂ SO ₄	2	
		X		HNO ₃	2	
		X		HCl	2	
		X		MeOH	2	
		X		UPBW	2	

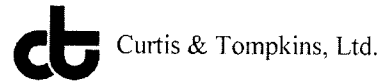
ANALYSIS REQUESTED							
EPA 5035/8010							
EPA 5035/8021							
EPA 5035/8260B							
TPHg by 5035/8015M		X	X	X			
TPHd by 8015M		X	X	X			
TPHmo by 8015M		X	X	X			
EPA 8270C							
MNA Parameters (see notes)							
T.Hk 22 Metals		X	X	X			
Vox's by 8260		X	X	X			

with silice get cleaned

NOTES		CHAIN OF CUSTODY RECORD				
Turn Around Time: <u>Standard TAT</u>		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
Send results to: <u>jaxankr@pe-eni.com</u> <u>wmast</u>		<i>J. Alexander</i>	<i>Pat Hanbury</i>	<u>2/13</u>	<u>1600</u>	
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
DISPATCHED BY: (Signature)		DATE	TIME	RECEIVED FOR LAB BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:						
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COOLER RECEIPT CHECKLIST



Login # 242980 Date Received 2/7/13 Number of coolers 1
 Client PES Project 64th + Chnshe

Date Opened 2/7/13 By (print) EL (sign) E. Long
 Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? _____ YES NO

4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) _____

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO EL

If YES, what time were they transferred to freezer? terracoins 1645

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? _____ YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracoins? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

5) NO Proj. # is specified on COC. Logged in under existing proj # 241.082.03.006

Gasoline by GC/FID (5035 Prep)

Lab #:	242980	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	195400
Units:	mg/Kg	Sampled:	02/07/13
Basis:	as received	Received:	02/07/13
Diln Fac:	1.000	Analyzed:	02/08/13

Field ID: EB-6 Lab ID: 242980-001
 Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	ND	0.21

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	62-134

Field ID: EB-7 Lab ID: 242980-002
 Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	62-134

Field ID: EB-8 Lab ID: 242980-003
 Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	ND	0.19

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	62-134

Type: BLANK Lab ID: QC676126

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	62-134

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	242980	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC676123	Batch#: 195400
Matrix:	Soil	Analyzed: 02/08/13
Units:	mg/Kg	

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.012	101	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	62-134

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	242980	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5030B
Project#:	241.082.03.006	Analysis: EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac: 1.000
MSS Lab ID:	242982-005	Batch#: 195400
Matrix:	Soil	Sampled: 02/06/13
Units:	mg/Kg	Received: 02/07/13
Basis:	as received	Analyzed: 02/08/13

Type: MS Lab ID: QC676124

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<0.05280	10.64	6.383	60	33-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	62-134

Type: MSD Lab ID: QC676125

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.31	6.753	66	33-120	9	53

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	62-134

RPD= Relative Percent Difference

Total Extractable Hydrocarbons		
Lab #:	242980	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Matrix:	Soil	Sampled: 02/07/13
Units:	mg/Kg	Received: 02/07/13
Basis:	as received	Prepared: 02/08/13
Diln Fac:	1.000	Analyzed: 02/11/13
Batch#:	195401	

Field ID: EB-6 Lab ID: 242980-001
 Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	85	54-129

Field ID: EB-7 Lab ID: 242980-002
 Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	93	54-129

Field ID: EB-8 Lab ID: 242980-003
 Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	101	54-129

Type: BLANK Cleanup Method: EPA 3630C
 Lab ID: QC676129

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	95	54-129

ND= Not Detected
 RL= Reporting Limit
 Page 1 of 1

Batch QC Report

Total Extractable Hydrocarbons		
Lab #:	242980	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC676130	Batch#: 195401
Matrix:	Soil	Prepared: 02/08/13
Units:	mg/Kg	Analyzed: 02/11/13

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.04	34.43	69	51-131

Surrogate	%REC	Limits
o-Terphenyl	96	54-129

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	242980	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	241.082.03.006	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	195401
MSS Lab ID:	242979-001	Sampled:	02/07/13
Matrix:	Soil	Received:	02/07/13
Units:	mg/Kg	Prepared:	02/08/13
Basis:	as received	Analyzed:	02/11/13
Diln Fac:	1.000		

Type: MS Lab ID: QC676131

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.2551	49.70	44.10	88	34-144

Surrogate	%REC	Limits
o-Terphenyl	108	54-129

Type: MSD Lab ID: QC676132

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.98	38.99	78	34-144	13	52

Surrogate	%REC	Limits
o-Terphenyl	105	54-129

RPD= Relative Percent Difference

Purgeable Organics by GC/MS

Lab #:	242980	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-6	Diln Fac:	0.8772
Lab ID:	242980-001	Batch#:	195375
Matrix:	Soil	Sampled:	02/07/13
Units:	ug/Kg	Received:	02/07/13
Basis:	as received	Analyzed:	02/08/13

Analyte	Result	RL
Freon 12	ND	8.8
Chloromethane	ND	8.8
Vinyl Chloride	ND	8.8
Bromomethane	ND	8.8
Chloroethane	ND	8.8
Trichlorofluoromethane	ND	4.4
Acetone	ND	18
Freon 113	ND	4.4
1,1-Dichloroethene	ND	4.4
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.4
MTBE	ND	4.4
trans-1,2-Dichloroethene	ND	4.4
Vinyl Acetate	ND	44
1,1-Dichloroethane	ND	4.4
2-Butanone	ND	8.8
cis-1,2-Dichloroethene	ND	4.4
2,2-Dichloropropane	ND	4.4
Chloroform	ND	4.4
Bromochloromethane	ND	4.4
1,1,1-Trichloroethane	ND	4.4
1,1-Dichloropropene	ND	4.4
Carbon Tetrachloride	ND	4.4
1,2-Dichloroethane	ND	4.4
Benzene	ND	4.4
Trichloroethene	ND	4.4
1,2-Dichloropropane	ND	4.4
Bromodichloromethane	ND	4.4
Dibromomethane	ND	4.4
4-Methyl-2-Pentanone	ND	8.8
cis-1,3-Dichloropropene	ND	4.4
Toluene	ND	4.4
trans-1,3-Dichloropropene	ND	4.4
1,1,2-Trichloroethane	ND	4.4
2-Hexanone	ND	8.8
1,3-Dichloropropane	ND	4.4
Tetrachloroethene	ND	4.4

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242980	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-6	Diln Fac:	0.8772
Lab ID:	242980-001	Batch#:	195375
Matrix:	Soil	Sampled:	02/07/13
Units:	ug/Kg	Received:	02/07/13
Basis:	as received	Analyzed:	02/08/13

Analyte	Result	RL
Dibromochloromethane	ND	4.4
1,2-Dibromoethane	ND	4.4
Chlorobenzene	ND	4.4
1,1,1,2-Tetrachloroethane	ND	4.4
Ethylbenzene	ND	4.4
m,p-Xylenes	ND	4.4
o-Xylene	ND	4.4
Styrene	ND	4.4
Bromoform	ND	4.4
Isopropylbenzene	ND	4.4
1,1,2,2-Tetrachloroethane	ND	4.4
1,2,3-Trichloropropane	ND	4.4
Propylbenzene	ND	4.4
Bromobenzene	ND	4.4
1,3,5-Trimethylbenzene	ND	4.4
2-Chlorotoluene	ND	4.4
4-Chlorotoluene	ND	4.4
tert-Butylbenzene	ND	4.4
1,2,4-Trimethylbenzene	ND	4.4
sec-Butylbenzene	ND	4.4
para-Isopropyl Toluene	ND	4.4
1,3-Dichlorobenzene	ND	4.4
1,4-Dichlorobenzene	ND	4.4
n-Butylbenzene	ND	4.4
1,2-Dichlorobenzene	ND	4.4
1,2-Dibromo-3-Chloropropane	ND	4.4
1,2,4-Trichlorobenzene	ND	4.4
Hexachlorobutadiene	ND	4.4
Naphthalene	ND	4.4
1,2,3-Trichlorobenzene	ND	4.4

Surrogate	%REC	Limits
Dibromofluoromethane	81	78-131
1,2-Dichloroethane-d4	76	75-141
Toluene-d8	108	80-120
Bromofluorobenzene	92	79-128

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242980	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-7	Diln Fac:	0.9766
Lab ID:	242980-002	Batch#:	195375
Matrix:	Soil	Sampled:	02/07/13
Units:	ug/Kg	Received:	02/07/13
Basis:	as received	Analyzed:	02/08/13

Analyte	Result	RL
Freon 12	ND	9.8
Chloromethane	ND	9.8
Vinyl Chloride	ND	9.8
Bromomethane	ND	9.8
Chloroethane	ND	9.8
Trichlorofluoromethane	ND	4.9
Acetone	ND	20
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	20
Carbon Disulfide	ND	4.9
MTBE	ND	4.9
trans-1,2-Dichloroethene	ND	4.9
Vinyl Acetate	ND	49
1,1-Dichloroethane	ND	4.9
2-Butanone	ND	9.8
cis-1,2-Dichloroethene	ND	4.9
2,2-Dichloropropane	ND	4.9
Chloroform	ND	4.9
Bromochloromethane	ND	4.9
1,1,1-Trichloroethane	ND	4.9
1,1-Dichloropropene	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Trichloroethene	ND	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
Dibromomethane	ND	4.9
4-Methyl-2-Pentanone	ND	9.8
cis-1,3-Dichloropropene	ND	4.9
Toluene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
2-Hexanone	ND	9.8
1,3-Dichloropropane	ND	4.9
Tetrachloroethene	ND	4.9

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242980	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-7	Diln Fac:	0.9766
Lab ID:	242980-002	Batch#:	195375
Matrix:	Soil	Sampled:	02/07/13
Units:	ug/Kg	Received:	02/07/13
Basis:	as received	Analyzed:	02/08/13

Analyte	Result	RL
Dibromochloromethane	ND	4.9
1,2-Dibromoethane	ND	4.9
Chlorobenzene	ND	4.9
1,1,1,2-Tetrachloroethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9
Styrene	ND	4.9
Bromoform	ND	4.9
Isopropylbenzene	ND	4.9
1,1,2,2-Tetrachloroethane	ND	4.9
1,2,3-Trichloropropane	ND	4.9
Propylbenzene	ND	4.9
Bromobenzene	ND	4.9
1,3,5-Trimethylbenzene	ND	4.9
2-Chlorotoluene	ND	4.9
4-Chlorotoluene	ND	4.9
tert-Butylbenzene	ND	4.9
1,2,4-Trimethylbenzene	ND	4.9
sec-Butylbenzene	ND	4.9
para-Isopropyl Toluene	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
n-Butylbenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9
1,2-Dibromo-3-Chloropropane	ND	4.9
1,2,4-Trichlorobenzene	ND	4.9
Hexachlorobutadiene	ND	4.9
Naphthalene	ND	4.9
1,2,3-Trichlorobenzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	95	78-131
1,2-Dichloroethane-d4	88	75-141
Toluene-d8	95	80-120
Bromofluorobenzene	90	79-128

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242980	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-8	Diln Fac:	1.381
Lab ID:	242980-003	Batch#:	195375
Matrix:	Soil	Sampled:	02/07/13
Units:	ug/Kg	Received:	02/07/13
Basis:	as received	Analyzed:	02/08/13

Analyte	Result	RL
Freon 12	ND	14
Chloromethane	ND	14
Vinyl Chloride	ND	14
Bromomethane	ND	14
Chloroethane	ND	14
Trichlorofluoromethane	ND	6.9
Acetone	ND	28
Freon 113	ND	6.9
1,1-Dichloroethene	ND	6.9
Methylene Chloride	ND	28
Carbon Disulfide	ND	6.9
MTBE	ND	6.9
trans-1,2-Dichloroethene	ND	6.9
Vinyl Acetate	ND	69
1,1-Dichloroethane	ND	6.9
2-Butanone	ND	14
cis-1,2-Dichloroethene	ND	6.9
2,2-Dichloropropane	ND	6.9
Chloroform	ND	6.9
Bromochloromethane	ND	6.9
1,1,1-Trichloroethane	ND	6.9
1,1-Dichloropropene	ND	6.9
Carbon Tetrachloride	ND	6.9
1,2-Dichloroethane	ND	6.9
Benzene	ND	6.9
Trichloroethene	ND	6.9
1,2-Dichloropropane	ND	6.9
Bromodichloromethane	ND	6.9
Dibromomethane	ND	6.9
4-Methyl-2-Pentanone	ND	14
cis-1,3-Dichloropropene	ND	6.9
Toluene	ND	6.9
trans-1,3-Dichloropropene	ND	6.9
1,1,2-Trichloroethane	ND	6.9
2-Hexanone	ND	14
1,3-Dichloropropane	ND	6.9
Tetrachloroethene	ND	6.9

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	242980	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-8	Diln Fac:	1.381
Lab ID:	242980-003	Batch#:	195375
Matrix:	Soil	Sampled:	02/07/13
Units:	ug/Kg	Received:	02/07/13
Basis:	as received	Analyzed:	02/08/13

Analyte	Result	RL
Dibromochloromethane	ND	6.9
1,2-Dibromoethane	ND	6.9
Chlorobenzene	ND	6.9
1,1,1,2-Tetrachloroethane	ND	6.9
Ethylbenzene	ND	6.9
m,p-Xylenes	ND	6.9
o-Xylene	ND	6.9
Styrene	ND	6.9
Bromoform	ND	6.9
Isopropylbenzene	ND	6.9
1,1,2,2-Tetrachloroethane	ND	6.9
1,2,3-Trichloropropane	ND	6.9
Propylbenzene	ND	6.9
Bromobenzene	ND	6.9
1,3,5-Trimethylbenzene	ND	6.9
2-Chlorotoluene	ND	6.9
4-Chlorotoluene	ND	6.9
tert-Butylbenzene	ND	6.9
1,2,4-Trimethylbenzene	ND	6.9
sec-Butylbenzene	ND	6.9
para-Isopropyl Toluene	ND	6.9
1,3-Dichlorobenzene	ND	6.9
1,4-Dichlorobenzene	ND	6.9
n-Butylbenzene	ND	6.9
1,2-Dichlorobenzene	ND	6.9
1,2-Dibromo-3-Chloropropane	ND	6.9
1,2,4-Trichlorobenzene	ND	6.9
Hexachlorobutadiene	ND	6.9
Naphthalene	ND	6.9
1,2,3-Trichlorobenzene	ND	6.9

Surrogate	%REC	Limits
Dibromofluoromethane	96	78-131
1,2-Dichloroethane-d4	83	75-141
Toluene-d8	96	80-120
Bromofluorobenzene	92	79-128

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242980	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Matrix:	Soil	Batch#: 195375
Units:	ug/Kg	Analyzed: 02/08/13
Diln Fac:	1.000	

Type: BS Lab ID: QC676030

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	28.05	112	70-129
Benzene	25.00	27.79	111	77-125
Trichloroethene	25.00	26.88	108	77-122
Toluene	25.00	27.90	112	78-120
Chlorobenzene	25.00	25.18	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	93	78-131
1,2-Dichloroethane-d4	78	75-141
Toluene-d8	97	80-120
Bromofluorobenzene	91	79-128

Type: BSD Lab ID: QC676031

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	26.14	105	70-129	7	20
Benzene	25.00	25.45	102	77-125	9	20
Trichloroethene	25.00	24.99	100	77-122	7	20
Toluene	25.00	26.55	106	78-120	5	20
Chlorobenzene	25.00	24.54	98	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	95	78-131
1,2-Dichloroethane-d4	77	75-141
Toluene-d8	96	80-120
Bromofluorobenzene	87	79-128

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242980	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC676032	Batch#: 195375
Matrix:	Soil	Analyzed: 02/08/13
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	242980	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC676032	Batch#: 195375
Matrix:	Soil	Analyzed: 02/08/13
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	96	78-131
1,2-Dichloroethane-d4	80	75-141
Toluene-d8	96	80-120
Bromofluorobenzene	90	79-128

ND= Not Detected

RL= Reporting Limit

California Title 22 Metals

Lab #:	242980	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-6	Basis:	as received
Lab ID:	242980-001	Diln Fac:	1.000
Matrix:	Soil	Sampled:	02/07/13
Units:	mg/Kg	Received:	02/07/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.48	195448	02/11/13	02/13/13	EPA 3050B	EPA 6010B
Arsenic	6.2	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Barium	58	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Beryllium	0.50	0.095	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Cadmium	ND	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Chromium	46	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Cobalt	8.8	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Copper	21	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Lead	4.7	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Mercury	0.031	0.016	195391	02/08/13	02/08/13	METHOD	EPA 7471A
Molybdenum	0.26	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Nickel	54	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Selenium	0.64	0.48	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Silver	ND	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Thallium	ND	0.48	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Vanadium	37	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Zinc	44	0.95	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

California Title 22 Metals

Lab #:	242980	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-7	Basis:	as received
Lab ID:	242980-002	Diln Fac:	1.000
Matrix:	Soil	Sampled:	02/07/13
Units:	mg/Kg	Received:	02/07/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.48	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Arsenic	5.5	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Barium	90	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Beryllium	0.26	0.096	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Cadmium	ND	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Chromium	48	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Cobalt	11	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Copper	13	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Lead	2.9	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Mercury	ND	0.017	195391	02/08/13	02/08/13	METHOD	EPA 7471A
Molybdenum	0.33	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Nickel	40	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Selenium	ND	0.48	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Silver	ND	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Thallium	ND	0.48	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Vanadium	44	0.24	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Zinc	33	0.96	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

California Title 22 Metals

Lab #:	242980	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-8	Basis:	as received
Lab ID:	242980-003	Diln Fac:	1.000
Matrix:	Soil	Sampled:	02/07/13
Units:	mg/Kg	Received:	02/07/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.47	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Arsenic	3.5	0.23	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Barium	72	0.23	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Beryllium	0.31	0.093	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Cadmium	ND	0.23	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Chromium	30	0.23	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Cobalt	6.0	0.23	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Copper	13	0.23	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Lead	4.8	0.23	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Mercury	ND	0.018	195391	02/08/13	02/08/13	METHOD	EPA 7471A
Molybdenum	ND	0.23	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Nickel	29	0.23	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Selenium	ND	0.47	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Silver	ND	0.23	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Thallium	ND	0.47	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Vanadium	31	0.23	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B
Zinc	26	0.93	195448	02/11/13	02/12/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	242980	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	195391
Lab ID:	QC676084	Prepared:	02/08/13
Matrix:	Soil	Analyzed:	02/08/13
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	242980	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: METHOD
Project#:	241.082.03.006	Analysis: EPA 7471A
Analyte:	Mercury	Batch#: 195391
Matrix:	Soil	Prepared: 02/08/13
Units:	mg/Kg	Analyzed: 02/08/13
Diln Fac:	1.000	

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC676085	0.2083	0.2202	106	80-120		
BSD	QC676086	0.2083	0.2128	102	80-120	3	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	242980	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	195391
MSS Lab ID:	242846-003	Sampled:	01/31/13
Matrix:	Soil	Received:	02/01/13
Units:	mg/Kg	Prepared:	02/08/13
Basis:	as received	Analyzed:	02/08/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC676087	0.007860	0.2232	0.2533	110	76-138		
MSD	QC676088		0.2155	0.2434	109	76-138	1	42

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals		
Lab #:	242980	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC676324	Batch#: 195448
Matrix:	Soil	Prepared: 02/11/13
Units:	mg/Kg	Analyzed: 02/12/13

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.25
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	1.3 b	1.0

b= See narrative

ND= Not Detected

RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	242980	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	241.082.03.006	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	195448
Units:	mg/Kg	Prepared:	02/11/13
Diln Fac:	1.000	Analyzed:	02/12/13

Type: BS Lab ID: QC676325

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	97.38	97	80-120
Arsenic	50.00	50.49	101	80-121
Barium	100.0	98.16	98	80-120
Beryllium	2.500	2.502	100	80-120
Cadmium	10.00	10.21	102	80-120
Chromium	100.0	97.54	98	80-120
Cobalt	25.00	23.96	96	80-120
Copper	12.50	12.02	96	80-120
Lead	100.0	97.09	97	80-120
Molybdenum	20.00	19.90	100	80-120
Nickel	25.00	23.97	96	80-120
Selenium	50.00	48.45	97	80-120
Silver	10.00	9.554	96	80-120
Thallium	50.00	49.33	99	80-120
Vanadium	25.00	24.38	98	80-120
Zinc	25.00	25.50	102	80-120

Type: BSD Lab ID: QC676326

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	96.84	97	80-120	1	20
Arsenic	50.00	49.69	99	80-121	2	20
Barium	100.0	97.19	97	80-120	1	20
Beryllium	2.500	2.480	99	80-120	1	20
Cadmium	10.00	10.13	101	80-120	1	20
Chromium	100.0	96.72	97	80-120	1	20
Cobalt	25.00	23.94	96	80-120	0	20
Copper	12.50	11.90	95	80-120	1	20
Lead	100.0	95.95	96	80-120	1	23
Molybdenum	20.00	19.95	100	80-120	0	20
Nickel	25.00	24.03	96	80-120	0	20
Selenium	50.00	48.81	98	80-120	1	20
Silver	10.00	9.441	94	80-120	1	20
Thallium	50.00	49.18	98	80-120	0	20
Vanadium	25.00	24.12	96	80-120	1	20
Zinc	25.00	25.15	101	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals		
Lab #:	242980	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#: 195448
MSS Lab ID:	242979-001	Sampled: 02/07/13
Matrix:	Soil	Received: 02/07/13
Units:	mg/Kg	Prepared: 02/11/13
Basis:	as received	Analyzed: 02/12/13
Diln Fac:	1.000	

Type: MS Lab ID: QC676327

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	0.7034	100.0	54.92	54	12-120
Arsenic	2.450	50.00	51.56	98	73-121
Barium	24.98	100.0	127.0	102	51-135
Beryllium	0.1417	2.500	2.581	98	79-120
Cadmium	0.04547	10.00	9.759	97	74-120
Chromium	36.96	100.0	130.8	94	62-124
Cobalt	5.617	25.00	28.78	93	62-120
Copper	5.124	12.50	17.99	103	48-150
Lead	1.511	100.0	94.28	93	58-124
Molybdenum	0.06820	20.00	18.82	94	69-120
Nickel	32.37	25.00	57.17	99	49-135
Selenium	<0.1581	50.00	47.12	94	68-120
Silver	<0.03947	10.00	9.398	94	76-120
Thallium	<0.1390	50.00	45.47	91	68-120
Vanadium	29.71	25.00	55.52	103	54-137
Zinc	22.24	25.00	46.93	99	43-147

Type: MSD Lab ID: QC676328

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	99.01	53.74	54	12-120	1	36
Arsenic	49.50	65.75	128 *	73-121	25	40
Barium	99.01	123.6	100	51-135	2	40
Beryllium	2.475	2.584	99	79-120	1	21
Cadmium	9.901	9.799	99	74-120	1	20
Chromium	99.01	131.8	96	62-124	1	34
Cobalt	24.75	29.00	94	62-120	2	35
Copper	12.38	19.38	115	48-150	8	39
Lead	99.01	94.70	94	58-124	1	44
Molybdenum	19.80	18.83	95	69-120	1	25
Nickel	24.75	58.43	105	49-135	3	37
Selenium	49.50	47.78	97	68-120	2	29
Silver	9.901	9.452	95	76-120	2	29
Thallium	49.50	46.05	93	68-120	2	21
Vanadium	24.75	54.29	99	54-137	2	31
Zinc	24.75	46.32	97	43-147	1	41

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 243126
ANALYTICAL REPORT

PES Environmental, Inc. 1682 Novato Boulevard Novato, CA 94947	Project : 241.082.03.006 Location : 64th & Christie Emeryville, CA Level : II
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<u>Sample ID</u>	<u>Lab ID</u>
EB-9	243126-001
EB-10	243126-002
EB-11	243126-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Desiree N. Tetrault

Desiree N. Tetrault
Project Manager
(510) 486-0900

Date: 02/22/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 243126
Client: PES Environmental, Inc.
Project: 241.082.03.006
Location: 64th & Christie Emeryville, CA
Request Date: 02/14/13
Samples Received: 02/14/13

This data package contains sample and QC results for three soil samples, requested for the above referenced project on 02/14/13. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

High recoveries were observed for benzene in the MS/MSD for batch 195617; the parent sample was not a project sample, the LCS was within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):

High recoveries were observed for beryllium, cobalt, and copper in the MS/MSD for batch 195688; the parent sample was not a project sample, and the BS/BSD were within limits. High RPD was observed for beryllium; the RPD was acceptable in the BS/BSD. No other analytical problems were encountered.



243126

CHAIN OF CUSTODY RECORD

LABORATORY: C+T

SAMPLERS: JA

JOB NUMBER: _____

NAME / LOCATION: 64th + Christie, Emeryville CA

PROJECT MANAGER: Will Mast

RECORDER: JA

ANALYSIS REQUESTED

YR	MO	DY	TIME	SAMPLE NUMBER / DESIGNATION	
1	13	02	14	1200	EB-9
2	13	02	14	1220	EB-10
3	13	02	14	1250	EB-11

MATRIX				# of Containers & Preservatives							DEPTH IN FEET
Vapor	Water	Soil	Sedim't	Unpres.	EnCore	H ₂ SO ₄	HNO ₃	HCl	MCH	MFW	
		X		2					1	6	
		X		2					1	6	
		X		2					1	6	

EPA 5035/8010	EPA 5035/8021	EPA 5035/8260B	TPHg by 5035/8015M	TPHd by 8015M	TPHmo by 8015M	EPA 8270C	MNA Parameters (see notes)
			X	X	X		T.H. 22 Mobile
			X	X	X		VOCs by 1255
			X	X	X		

NOTES

Turn Around Time: Standard TAT

send results to: jalexander@pesenv.com
W Mast " " "

Page 1 of 1

CHAIN OF CUSTODY RECORD			
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
<u>[Signature]</u>	<u>[Signature]</u>	<u>2/14/13</u>	<u>1535</u>
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)
METHOD OF SHIPMENT:			

3 of 29

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 243126 Date Received 2/14/13 Number of coolers 1
Client PES Project 64th & Christie, Emeryville
Date Opened 2/14/13 By (print) [Signature] (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
Shipping info

2A. Were custody seals present? ... [] YES (circle) on cooler on samples [X] NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- [] Bubble Wrap [] Foam blocks [] Bags [X] None
[] Cloth material [] Cardboard [] Styrofoam [] Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: [X] Wet [] Blue/Gel [] None Temp(°C)

[X] Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

[X] Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO N/A
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Gasoline by GC/FID (5035 Prep)

Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	195609
Units:	mg/Kg	Sampled:	02/14/13
Basis:	as received	Received:	02/14/13
Diln Fac:	1.000	Analyzed:	02/15/13

Field ID: EB-9 Lab ID: 243126-001
 Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	ND	0.17

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	86	64-139

Field ID: EB-10 Lab ID: 243126-002
 Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	80	64-139

Field ID: EB-11 Lab ID: 243126-003
 Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	ND	0.18

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	81	64-139

Type: BLANK Lab ID: QC677000

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	77	64-139

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	243126	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC676999	Batch#: 195609
Matrix:	Soil	Analyzed: 02/15/13
Units:	mg/Kg	

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.015	101	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	84	64-139

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	243126	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5030B
Project#:	241.082.03.006	Analysis: EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac: 1.000
MSS Lab ID:	243121-001	Batch#: 195609
Matrix:	Soil	Sampled: 02/14/13
Units:	mg/Kg	Received: 02/14/13
Basis:	as received	Analyzed: 02/15/13

Type: MS Lab ID: QC677001

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.1796	10.75	8.038	73	42-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	87	64-139

Type: MSD Lab ID: QC677002

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.42	7.976	75	42-120	2	42

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	86	64-139

RPD= Relative Percent Difference

Total Extractable Hydrocarbons		
Lab #:	243126	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Matrix:	Soil	Sampled: 02/14/13
Units:	mg/Kg	Received: 02/14/13
Basis:	as received	Prepared: 02/19/13
Diln Fac:	1.000	Analyzed: 02/20/13
Batch#:	195668	

Field ID: EB-9 Lab ID: 243126-001
 Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	78	62-136

Field ID: EB-10 Lab ID: 243126-002
 Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	80	62-136

Field ID: EB-11 Lab ID: 243126-003
 Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	82	62-136

Type: BLANK Cleanup Method: EPA 3630C
 Lab ID: QC677261

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	73	62-136

ND= Not Detected
 RL= Reporting Limit
 Page 1 of 1

Batch QC Report

Total Extractable Hydrocarbons		
Lab #:	243126	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC677263	Batch#: 195668
Matrix:	Soil	Prepared: 02/19/13
Units:	mg/Kg	Analyzed: 02/20/13

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	38.08	76	62-130

Surrogate	%REC	Limits
o-Terphenyl	74	62-136

Batch QC Report

Total Extractable Hydrocarbons					
Lab #:	243126	Location:	64th & Christie Emeryville, CA		
Client:	PES Environmental, Inc.	Prep:	EPA 3550B		
Project#:	241.082.03.006	Analysis:	EPA 8015B		
Field ID:	EB-9	Batch#:	195668		
MSS Lab ID:	243126-001	Sampled:	02/14/13		
Matrix:	Soil	Received:	02/14/13		
Units:	mg/Kg	Prepared:	02/19/13		
Basis:	as received	Analyzed:	02/20/13		
Diln Fac:	1.000				

Type: MS Cleanup Method: EPA 3630C
 Lab ID: QC677264

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	<0.2792	50.02	32.10	64	39-148

Surrogate	%REC	Limits
o-Terphenyl	68	62-136

Type: MSD Cleanup Method: EPA 3630C
 Lab ID: QC677265

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.68	35.68	72	39-148	11	45

Surrogate	%REC	Limits
o-Terphenyl	71	62-136

RPD= Relative Percent Difference

Purgeable Organics by GC/MS

Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-9	Diln Fac:	1.124
Lab ID:	243126-001	Batch#:	195617
Matrix:	Soil	Sampled:	02/14/13
Units:	ug/Kg	Received:	02/14/13
Basis:	as received	Analyzed:	02/16/13

Analyte	Result	RL
Freon 12	ND	11
Chloromethane	ND	11
Vinyl Chloride	ND	11
Bromomethane	ND	11
Chloroethane	ND	11
Trichlorofluoromethane	ND	5.6
Acetone	ND	22
Freon 113	ND	5.6
1,1-Dichloroethene	ND	5.6
Methylene Chloride	ND	22
Carbon Disulfide	ND	5.6
MTBE	ND	5.6
trans-1,2-Dichloroethene	ND	5.6
Vinyl Acetate	ND	56
1,1-Dichloroethane	ND	5.6
2-Butanone	ND	11
cis-1,2-Dichloroethene	ND	5.6
2,2-Dichloropropane	ND	5.6
Chloroform	ND	5.6
Bromochloromethane	ND	5.6
1,1,1-Trichloroethane	ND	5.6
1,1-Dichloropropene	ND	5.6
Carbon Tetrachloride	ND	5.6
1,2-Dichloroethane	ND	5.6
Benzene	ND	5.6
Trichloroethene	ND	5.6
1,2-Dichloropropane	ND	5.6
Bromodichloromethane	ND	5.6
Dibromomethane	ND	5.6
4-Methyl-2-Pentanone	ND	11
cis-1,3-Dichloropropene	ND	5.6
Toluene	ND	5.6
trans-1,3-Dichloropropene	ND	5.6
1,1,2-Trichloroethane	ND	5.6
2-Hexanone	ND	11
1,3-Dichloropropane	ND	5.6
Tetrachloroethene	ND	5.6

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-9	Diln Fac:	1.124
Lab ID:	243126-001	Batch#:	195617
Matrix:	Soil	Sampled:	02/14/13
Units:	ug/Kg	Received:	02/14/13
Basis:	as received	Analyzed:	02/16/13

Analyte	Result	RL
Dibromochloromethane	ND	5.6
1,2-Dibromoethane	ND	5.6
Chlorobenzene	ND	5.6
1,1,1,2-Tetrachloroethane	ND	5.6
Ethylbenzene	ND	5.6
m,p-Xylenes	ND	5.6
o-Xylene	ND	5.6
Styrene	ND	5.6
Bromoform	ND	5.6
Isopropylbenzene	ND	5.6
1,1,2,2-Tetrachloroethane	ND	5.6
1,2,3-Trichloropropane	ND	5.6
Propylbenzene	ND	5.6
Bromobenzene	ND	5.6
1,3,5-Trimethylbenzene	ND	5.6
2-Chlorotoluene	ND	5.6
4-Chlorotoluene	ND	5.6
tert-Butylbenzene	ND	5.6
1,2,4-Trimethylbenzene	ND	5.6
sec-Butylbenzene	ND	5.6
para-Isopropyl Toluene	ND	5.6
1,3-Dichlorobenzene	ND	5.6
1,4-Dichlorobenzene	ND	5.6
n-Butylbenzene	ND	5.6
1,2-Dichlorobenzene	ND	5.6
1,2-Dibromo-3-Chloropropane	ND	5.6
1,2,4-Trichlorobenzene	ND	5.6
Hexachlorobutadiene	ND	5.6
Naphthalene	ND	5.6
1,2,3-Trichlorobenzene	ND	5.6

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-124
1,2-Dichloroethane-d4	92	80-137
Toluene-d8	93	80-120
Bromofluorobenzene	88	79-127

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-10	Diln Fac:	0.9107
Lab ID:	243126-002	Batch#:	195617
Matrix:	Soil	Sampled:	02/14/13
Units:	ug/Kg	Received:	02/14/13
Basis:	as received	Analyzed:	02/16/13

Analyte	Result	RL
Freon 12	ND	9.1
Chloromethane	ND	9.1
Vinyl Chloride	ND	9.1
Bromomethane	ND	9.1
Chloroethane	ND	9.1
Trichlorofluoromethane	ND	4.6
Acetone	ND	18
Freon 113	ND	4.6
1,1-Dichloroethene	ND	4.6
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.6
MTBE	ND	4.6
trans-1,2-Dichloroethene	ND	4.6
Vinyl Acetate	ND	46
1,1-Dichloroethane	ND	4.6
2-Butanone	ND	9.1
cis-1,2-Dichloroethene	ND	4.6
2,2-Dichloropropane	ND	4.6
Chloroform	ND	4.6
Bromochloromethane	ND	4.6
1,1,1-Trichloroethane	ND	4.6
1,1-Dichloropropene	ND	4.6
Carbon Tetrachloride	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Trichloroethene	ND	4.6
1,2-Dichloropropane	ND	4.6
Bromodichloromethane	ND	4.6
Dibromomethane	ND	4.6
4-Methyl-2-Pentanone	ND	9.1
cis-1,3-Dichloropropene	ND	4.6
Toluene	ND	4.6
trans-1,3-Dichloropropene	ND	4.6
1,1,2-Trichloroethane	ND	4.6
2-Hexanone	ND	9.1
1,3-Dichloropropane	ND	4.6
Tetrachloroethene	ND	4.6

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-10	Diln Fac:	0.9107
Lab ID:	243126-002	Batch#:	195617
Matrix:	Soil	Sampled:	02/14/13
Units:	ug/Kg	Received:	02/14/13
Basis:	as received	Analyzed:	02/16/13

Analyte	Result	RL
Dibromochloromethane	ND	4.6
1,2-Dibromoethane	ND	4.6
Chlorobenzene	ND	4.6
1,1,1,2-Tetrachloroethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6
Styrene	ND	4.6
Bromoform	ND	4.6
Isopropylbenzene	ND	4.6
1,1,2,2-Tetrachloroethane	ND	4.6
1,2,3-Trichloropropane	ND	4.6
Propylbenzene	ND	4.6
Bromobenzene	ND	4.6
1,3,5-Trimethylbenzene	ND	4.6
2-Chlorotoluene	ND	4.6
4-Chlorotoluene	ND	4.6
tert-Butylbenzene	ND	4.6
1,2,4-Trimethylbenzene	ND	4.6
sec-Butylbenzene	ND	4.6
para-Isopropyl Toluene	ND	4.6
1,3-Dichlorobenzene	ND	4.6
1,4-Dichlorobenzene	ND	4.6
n-Butylbenzene	ND	4.6
1,2-Dichlorobenzene	ND	4.6
1,2-Dibromo-3-Chloropropane	ND	4.6
1,2,4-Trichlorobenzene	ND	4.6
Hexachlorobutadiene	ND	4.6
Naphthalene	ND	4.6
1,2,3-Trichlorobenzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-124
1,2-Dichloroethane-d4	88	80-137
Toluene-d8	95	80-120
Bromofluorobenzene	90	79-127

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-11	Diln Fac:	0.8741
Lab ID:	243126-003	Batch#:	195617
Matrix:	Soil	Sampled:	02/14/13
Units:	ug/Kg	Received:	02/14/13
Basis:	as received	Analyzed:	02/16/13

Analyte	Result	RL
Freon 12	ND	8.7
Chloromethane	ND	8.7
Vinyl Chloride	ND	8.7
Bromomethane	ND	8.7
Chloroethane	ND	8.7
Trichlorofluoromethane	ND	4.4
Acetone	ND	17
Freon 113	ND	4.4
1,1-Dichloroethene	ND	4.4
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.4
MTBE	ND	4.4
trans-1,2-Dichloroethene	ND	4.4
Vinyl Acetate	ND	44
1,1-Dichloroethane	ND	4.4
2-Butanone	ND	8.7
cis-1,2-Dichloroethene	ND	4.4
2,2-Dichloropropane	ND	4.4
Chloroform	ND	4.4
Bromochloromethane	ND	4.4
1,1,1-Trichloroethane	ND	4.4
1,1-Dichloropropene	ND	4.4
Carbon Tetrachloride	ND	4.4
1,2-Dichloroethane	ND	4.4
Benzene	ND	4.4
Trichloroethene	ND	4.4
1,2-Dichloropropane	ND	4.4
Bromodichloromethane	ND	4.4
Dibromomethane	ND	4.4
4-Methyl-2-Pentanone	ND	8.7
cis-1,3-Dichloropropene	ND	4.4
Toluene	ND	4.4
trans-1,3-Dichloropropene	ND	4.4
1,1,2-Trichloroethane	ND	4.4
2-Hexanone	ND	8.7
1,3-Dichloropropane	ND	4.4
Tetrachloroethene	ND	4.4

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-11	Diln Fac:	0.8741
Lab ID:	243126-003	Batch#:	195617
Matrix:	Soil	Sampled:	02/14/13
Units:	ug/Kg	Received:	02/14/13
Basis:	as received	Analyzed:	02/16/13

Analyte	Result	RL
Dibromochloromethane	ND	4.4
1,2-Dibromoethane	ND	4.4
Chlorobenzene	ND	4.4
1,1,1,2-Tetrachloroethane	ND	4.4
Ethylbenzene	ND	4.4
m,p-Xylenes	ND	4.4
o-Xylene	ND	4.4
Styrene	ND	4.4
Bromoform	ND	4.4
Isopropylbenzene	ND	4.4
1,1,2,2-Tetrachloroethane	ND	4.4
1,2,3-Trichloropropane	ND	4.4
Propylbenzene	ND	4.4
Bromobenzene	ND	4.4
1,3,5-Trimethylbenzene	ND	4.4
2-Chlorotoluene	ND	4.4
4-Chlorotoluene	ND	4.4
tert-Butylbenzene	ND	4.4
1,2,4-Trimethylbenzene	ND	4.4
sec-Butylbenzene	ND	4.4
para-Isopropyl Toluene	ND	4.4
1,3-Dichlorobenzene	ND	4.4
1,4-Dichlorobenzene	ND	4.4
n-Butylbenzene	ND	4.4
1,2-Dichlorobenzene	ND	4.4
1,2-Dibromo-3-Chloropropane	ND	4.4
1,2,4-Trichlorobenzene	ND	4.4
Hexachlorobutadiene	ND	4.4
Naphthalene	ND	4.4
1,2,3-Trichlorobenzene	ND	4.4

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-124
1,2-Dichloroethane-d4	86	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	89	79-127

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	243126	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC677042	Batch#: 195617
Matrix:	Soil	Analyzed: 02/15/13
Units:	ug/Kg	

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	26.25	105	67-132
Benzene	25.00	28.20	113	77-126
Trichloroethene	25.00	23.67	95	76-127
Toluene	25.00	25.78	103	76-124
Chlorobenzene	25.00	25.21	101	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-124
1,2-Dichloroethane-d4	113	80-137
Toluene-d8	94	80-120
Bromofluorobenzene	93	79-127

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	243126	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC677043	Batch#: 195617
Matrix:	Soil	Analyzed: 02/15/13
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	243126	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC677043	Batch#: 195617
Matrix:	Soil	Analyzed: 02/15/13
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-124
1,2-Dichloroethane-d4	92	80-137
Toluene-d8	94	80-120
Bromofluorobenzene	88	79-127

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5030B
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	195617
MSS Lab ID:	243123-002	Sampled:	02/13/13
Matrix:	Soil	Received:	02/14/13
Units:	ug/Kg	Analyzed:	02/16/13
Basis:	as received		

Type: MS Diln Fac: 0.9488
 Lab ID: QC677061

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.4120	47.44	56.86	120	52-132
Benzene	<0.4085	47.44	62.58	132 *	54-121
Trichloroethene	0.5734	47.44	52.83	110	46-138
Toluene	<0.2967	47.44	56.57	119	47-120
Chlorobenzene	<0.3701	47.44	51.03	108	41-120

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-124
1,2-Dichloroethane-d4	106	80-137
Toluene-d8	96	80-120
Bromofluorobenzene	87	79-127

Type: MSD Diln Fac: 0.8913
 Lab ID: QC677062

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	44.56	51.67	116	52-132	3	46
Benzene	44.56	57.34	129 *	54-121	2	43
Trichloroethene	44.56	48.73	108	46-138	2	50
Toluene	44.56	52.61	118	47-120	1	53
Chlorobenzene	44.56	48.16	108	41-120	0	50

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-124
1,2-Dichloroethane-d4	102	80-137
Toluene-d8	95	80-120
Bromofluorobenzene	88	79-127

*= Value outside of QC limits; see narrative
 RPD= Relative Percent Difference

California Title 22 Metals

Lab #:	243126	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-9	Diln Fac:	1.000
Lab ID:	243126-001	Sampled:	02/14/13
Matrix:	Soil	Received:	02/14/13
Units:	mg/Kg	Prepared:	02/19/13
Basis:	as received		

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	0.48	195688	02/20/13	EPA 3050B	EPA 6010B
Arsenic	3.2	0.24	195688	02/20/13	EPA 3050B	EPA 6010B
Barium	44	0.24	195688	02/20/13	EPA 3050B	EPA 6010B
Beryllium	0.17	0.095	195688	02/20/13	EPA 3050B	EPA 6010B
Cadmium	ND	0.24	195688	02/20/13	EPA 3050B	EPA 6010B
Chromium	56	0.24	195688	02/20/13	EPA 3050B	EPA 6010B
Cobalt	8.9	0.24	195688	02/20/13	EPA 3050B	EPA 6010B
Copper	9.4	0.25	195688	02/20/13	EPA 3050B	EPA 6010B
Lead	2.2	0.24	195688	02/20/13	EPA 3050B	EPA 6010B
Mercury	ND	0.018	195661	02/19/13	METHOD	EPA 7471A
Molybdenum	ND	0.24	195688	02/20/13	EPA 3050B	EPA 6010B
Nickel	34	0.24	195688	02/20/13	EPA 3050B	EPA 6010B
Selenium	ND	0.48	195688	02/21/13	EPA 3050B	EPA 6010B
Silver	ND	0.24	195688	02/20/13	EPA 3050B	EPA 6010B
Thallium	ND	0.48	195688	02/20/13	EPA 3050B	EPA 6010B
Vanadium	44	0.24	195688	02/20/13	EPA 3050B	EPA 6010B
Zinc	27	0.95	195688	02/20/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

California Title 22 Metals

Lab #:	243126	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-10	Diln Fac:	1.000
Lab ID:	243126-002	Sampled:	02/14/13
Matrix:	Soil	Received:	02/14/13
Units:	mg/Kg	Prepared:	02/19/13
Basis:	as received		

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	0.45	195688	02/20/13	EPA 3050B	EPA 6010B
Arsenic	4.7	0.23	195688	02/21/13	EPA 3050B	EPA 6010B
Barium	120	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Beryllium	0.47	0.090	195688	02/20/13	EPA 3050B	EPA 6010B
Cadmium	ND	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Chromium	41	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Cobalt	13	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Copper	19	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Lead	4.8	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Mercury	0.026	0.018	195661	02/19/13	METHOD	EPA 7471A
Molybdenum	ND	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Nickel	60	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Selenium	ND	0.45	195688	02/21/13	EPA 3050B	EPA 6010B
Silver	ND	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Thallium	ND	0.45	195688	02/20/13	EPA 3050B	EPA 6010B
Vanadium	30	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Zinc	40	0.90	195688	02/20/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

California Title 22 Metals

Lab #:	243126	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-11	Diln Fac:	1.000
Lab ID:	243126-003	Sampled:	02/14/13
Matrix:	Soil	Received:	02/14/13
Units:	mg/Kg	Prepared:	02/19/13
Basis:	as received		

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	0.45	195688	02/20/13	EPA 3050B	EPA 6010B
Arsenic	8.0	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Barium	81	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Beryllium	0.51	0.091	195688	02/20/13	EPA 3050B	EPA 6010B
Cadmium	0.31	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Chromium	36	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Cobalt	19	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Copper	24	0.24	195688	02/20/13	EPA 3050B	EPA 6010B
Lead	6.9	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Mercury	0.021	0.018	195661	02/19/13	METHOD	EPA 7471A
Molybdenum	0.57	0.23	195688	02/21/13	EPA 3050B	EPA 6010B
Nickel	63	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Selenium	ND	0.45	195688	02/21/13	EPA 3050B	EPA 6010B
Silver	ND	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Thallium	ND	0.45	195688	02/20/13	EPA 3050B	EPA 6010B
Vanadium	42	0.23	195688	02/20/13	EPA 3050B	EPA 6010B
Zinc	41	0.91	195688	02/20/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	195661
Lab ID:	QC677220	Prepared:	02/19/13
Matrix:	Soil	Analyzed:	02/19/13
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	243126	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: METHOD
Project#:	241.082.03.006	Analysis: EPA 7471A
Analyte:	Mercury	Batch#: 195661
Matrix:	Soil	Prepared: 02/19/13
Units:	mg/Kg	Analyzed: 02/19/13
Diln Fac:	1.000	

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC677221	0.2083	0.2283	110	80-120		
BSD	QC677222	0.2083	0.2233	107	80-120	2	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	195661
MSS Lab ID:	243105-007	Sampled:	02/14/13
Matrix:	Soil	Received:	02/14/13
Units:	mg/Kg	Prepared:	02/19/13
Basis:	as received	Analyzed:	02/19/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC677223	0.3092	0.2119	0.5059	93	72-135		
MSD	QC677224		0.2232	0.5527	109	72-135	7	42

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	241.082.03.006	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC677374	Batch#:	195688
Matrix:	Soil	Prepared:	02/19/13
Units:	mg/Kg		

Analyte	Result	RL	Analyzed
Antimony	ND	0.50	02/20/13
Arsenic	ND	0.25	02/20/13
Barium	ND	0.25	02/20/13
Beryllium	ND	0.10	02/20/13
Cadmium	ND	0.25	02/20/13
Chromium	ND	0.25	02/20/13
Cobalt	ND	0.25	02/20/13
Copper	ND	0.26	02/20/13
Lead	ND	0.25	02/20/13
Molybdenum	ND	0.25	02/20/13
Nickel	ND	0.25	02/20/13
Selenium	ND	0.50	02/21/13
Silver	ND	0.25	02/20/13
Thallium	ND	0.50	02/20/13
Vanadium	ND	0.25	02/20/13
Zinc	ND	1.0	02/20/13

ND= Not Detected

RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	243126	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Matrix:	Soil	Batch#: 195688
Units:	mg/Kg	Prepared: 02/19/13
Diln Fac:	1.000	

Type: BS Lab ID: QC677375

Analyte	Spiked	Result	%REC	Limits	Analyzed
Antimony	100.0	92.66	93	80-120	02/20/13
Arsenic	50.00	47.47	95	80-120	02/20/13
Barium	100.0	94.62	95	80-120	02/20/13
Beryllium	2.500	2.532	101	80-120	02/20/13
Cadmium	10.00	9.958	100	80-120	02/20/13
Chromium	100.0	94.66	95	80-120	02/20/13
Cobalt	25.00	23.60	94	80-120	02/20/13
Copper	12.50	12.21	98	80-120	02/20/13
Lead	100.0	92.91	93	80-120	02/20/13
Molybdenum	20.00	19.65	98	80-120	02/20/13
Nickel	25.00	23.68	95	80-120	02/20/13
Selenium	50.00	51.77	104	80-120	02/21/13
Silver	10.00	9.155	92	80-120	02/20/13
Thallium	50.00	45.51	91	80-120	02/20/13
Vanadium	25.00	23.94	96	80-120	02/20/13
Zinc	25.00	23.82	95	80-120	02/20/13

Type: BSD Lab ID: QC677376

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analyzed
Antimony	100.0	88.61	89	80-120	4	20	02/20/13
Arsenic	50.00	45.23	90	80-120	5	20	02/20/13
Barium	100.0	90.92	91	80-120	4	20	02/20/13
Beryllium	2.500	2.415	97	80-120	5	20	02/20/13
Cadmium	10.00	9.592	96	80-120	4	20	02/20/13
Chromium	100.0	90.87	91	80-120	4	20	02/20/13
Cobalt	25.00	22.64	91	80-120	4	20	02/20/13
Copper	12.50	11.69	94	80-120	4	20	02/20/13
Lead	100.0	88.59	89	80-120	5	22	02/20/13
Molybdenum	20.00	18.73	94	80-120	5	20	02/20/13
Nickel	25.00	22.83	91	80-120	4	20	02/20/13
Selenium	50.00	50.79	102	80-120	2	20	02/21/13
Silver	10.00	8.846	88	80-120	3	20	02/20/13
Thallium	50.00	43.08	86	80-120	5	20	02/20/13
Vanadium	25.00	22.98	92	80-120	4	20	02/20/13
Zinc	25.00	22.93	92	80-120	4	20	02/20/13

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	243126	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	241.082.03.006	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	243075-001	Batch#:	195688
Matrix:	Soil	Sampled:	02/13/13
Units:	mg/Kg	Received:	02/13/13
Basis:	as received	Prepared:	02/19/13

Type: MS Lab ID: QC677377

Analyte	MSS Result	Spiked	Result	%REC	Limits	Analyzed
Antimony	0.4613	94.34	41.84	44	8-120	02/20/13
Arsenic	19.83	47.17	64.25	94	71-121	02/20/13
Barium	173.7	94.34	246.5	77	48-133	02/20/13
Beryllium	0.4174	2.358	3.326	123 *	78-120	02/20/13
Cadmium	0.3923	9.434	8.902	90	69-120	02/20/13
Chromium	29.59	94.34	111.4	87	60-122	02/20/13
Cobalt	12.20	23.58	31.80	83	61-120	02/20/13
Copper	27.80	11.79	56.10	240 *	44-151	02/20/13
Lead	205.8	94.34	302.3	102	52-120	02/20/13
Molybdenum	0.6153	18.87	16.89	86	67-120	02/20/13
Nickel	20.72	23.58	41.34	87	45-134	02/20/13
Selenium	0.1938	47.17	43.73	92	67-120	02/21/13
Silver	0.1945	9.434	8.534	88	66-120	02/20/13
Thallium	<0.1568	47.17	37.20	79	62-120	02/20/13
Vanadium	37.83	23.58	57.25	82	55-137	02/20/13
Zinc	128.7	23.58	145.2	70 NM	38-146	02/20/13

Type: MSD Lab ID: QC677378

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analyzed
Antimony	92.59	41.21	44	8-120	0	29	02/20/13
Arsenic	46.30	58.67	84	71-121	8	34	02/20/13
Barium	92.59	287.8	123	48-133	16	45	02/20/13
Beryllium	2.315	2.607	95	78-120	23 *	20	02/20/13
Cadmium	9.259	8.712	90	69-120	0	23	02/20/13
Chromium	92.59	108.2	85	60-122	2	34	02/20/13
Cobalt	23.15	41.58	127 *	61-120	28	37	02/20/13
Copper	11.57	40.62	111	44-151	31	35	02/20/13
Lead	92.59	276.9	77	52-120	8	51	02/20/13
Molybdenum	18.52	16.72	87	67-120	1	20	02/20/13
Nickel	23.15	40.23	84	45-134	2	38	02/20/13
Selenium	46.30	44.33	95	67-120	3	27	02/21/13
Silver	9.259	8.374	88	66-120	0	30	02/20/13
Thallium	46.30	36.60	79	62-120	0	20	02/20/13
Vanadium	23.15	53.91	69	55-137	5	30	02/20/13
Zinc	23.15	140.4	50 NM	38-146	3	36	02/20/13

*= Value outside of QC limits; see narrative

NM= Not Meaningful: Sample concentration > 4X spike concentration

RPD= Relative Percent Difference



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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 243418
ANALYTICAL REPORT

PES Environmental, Inc. 1682 Novato Boulevard Novato, CA 94947	Project : 241.082.03.006 Location : 64th & Christie Emeryville, CA Level : II
--	---

Sample ID
EB-12

Lab ID
243418-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Desiree N. Tetrault

Signature: _____

Desiree N. Tetrault
Project Manager
(510) 486-0900

Date: 03/06/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 243418
Client: PES Environmental, Inc.
Project: 241.082.03.006
Location: 64th & Christie Emeryville, CA
Request Date: 02/27/13
Samples Received: 02/27/13

This data package contains sample and QC results for one soil sample, requested for the above referenced project on 02/27/13. The sample was received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

Matrix spikes were not performed for this analysis in batch 195996 due to insufficient sample amount. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

Matrix spikes were not performed for this analysis in batch 195918 due to insufficient sample amount. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):

No analytical problems were encountered.

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C&T LOGIN # 243418

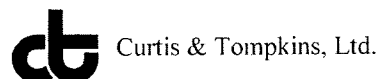
Project No: 241.082.03.006 Sampler: JA
 Project Name: 64th + Christie Report To: Will Mast / John Alexander
 Project P. O. No: _____ Company: PES
 EDD Format: Report Level II III IV Telephone: 415 250 2864
 Turnaround Time: RUSH Standard Email: jalexander@pesenv.com
Wmast

ANALYTICAL REQUEST

Lab No.	Sample ID.	SAMPLING		MATRIX		# of Containers	CHEMICAL PRESERVATIVE						TPH _g by 8015	TPH _g by 8015 - w/silica	TPH _{ms} by 8015 gel column	Title 22 Metals	VOC's by 8260	
		Date Collected	Time Collected	Water	Solid		HCl	H2SO4	HNO3	NaOH	None/602	MeOH 10A						MPBV 10A
1	EB-12	2/27/13	1320	X	X	9						X	X	X	X	X		

Notes: <u>Standard TAT</u>	SAMPLE RECEIPT <input type="checkbox"/> Intact <input type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient	RELINQUISHED BY:		RECEIVED BY:	
		<u>J. T. Alexander</u>		<u>Osine Thant</u>	
		DATE: <u>2/27</u> TIME: <u>1355</u>		DATE: <u>2/27/13</u> TIME: <u>1355</u>	
		DATE: _____ TIME: _____		DATE: _____ TIME: _____	

COOLER RECEIPT CHECKLIST



Login # 243418 Date Received 2/27/13 Number of coolers 1
Client PES Project 64th + Christie
Date Opened 2/27/13 By (print) [Signature] (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Cloth material, Foam blocks, Cardboard, Bags, Styrofoam, None, Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C)

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer? 1420

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Gasoline by GC/FID (5035 Prep)		
Lab #:	243418	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8015B
Field ID:	EB-12	Batch#: 195996
Matrix:	Soil	Sampled: 02/27/13
Units:	mg/Kg	Received: 02/27/13
Basis:	as received	Analyzed: 03/01/13
Diln Fac:	1.000	

Type: SAMPLE Lab ID: 243418-001

Analyte	Result	RL
Gasoline C7-C12	ND	0.18

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	88	64-139

Type: BLANK Lab ID: QC678557

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	84	64-139

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	243418	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8015B
Matrix:	Soil	Batch#: 195996
Units:	mg/Kg	Analyzed: 03/01/13
Diln Fac:	1.000	

Type: BS Lab ID: QC678555

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9705	97	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	87	64-139

Type: BSD Lab ID: QC678556

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1.000	0.9480	95	80-120	2	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	64-139

RPD= Relative Percent Difference



Total Extractable Hydrocarbons		
Lab #:	243418	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Field ID:	EB-12	Batch#: 195951
Matrix:	Soil	Sampled: 02/27/13
Units:	mg/Kg	Received: 02/27/13
Basis:	as received	Prepared: 02/28/13
Diln Fac:	1.000	Analyzed: 02/28/13

Type: SAMPLE Cleanup Method: EPA 3630C
 Lab ID: 243418-001

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	84	62-136

Type: BLANK Cleanup Method: EPA 3630C
 Lab ID: QC678363

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	127	62-136

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons		
Lab #:	243418	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC678364	Batch#: 195951
Matrix:	Soil	Prepared: 02/28/13
Units:	mg/Kg	Analyzed: 02/28/13

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.83	52.17	105	62-130

Surrogate	%REC	Limits
o-Terphenyl	123	62-136

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	243418	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	241.082.03.006	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	195951
MSS Lab ID:	243415-001	Sampled:	02/26/13
Matrix:	Soil	Received:	02/27/13
Units:	mg/Kg	Prepared:	02/28/13
Basis:	as received	Analyzed:	02/28/13
Diln Fac:	1.000		

Type: MS Lab ID: QC678365

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	2.540	49.64	47.47	90	39-148

Surrogate	%REC	Limits
o-Terphenyl	86	62-136

Type: MSD Lab ID: QC678366

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.96	47.07	89	39-148	1	45

Surrogate	%REC	Limits
o-Terphenyl	84	62-136

RPD= Relative Percent Difference

Purgeable Organics by GC/MS

Lab #:	243418	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-12	Diln Fac:	0.9452
Lab ID:	243418-001	Batch#:	195918
Matrix:	Soil	Sampled:	02/27/13
Units:	ug/Kg	Received:	02/27/13
Basis:	as received	Analyzed:	02/27/13

Analyte	Result	RL
Freon 12	ND	9.5
Chloromethane	ND	9.5
Vinyl Chloride	ND	9.5
Bromomethane	ND	9.5
Chloroethane	ND	9.5
Trichlorofluoromethane	ND	4.7
Acetone	ND	19
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.7
MTBE	ND	4.7
trans-1,2-Dichloroethene	ND	4.7
Vinyl Acetate	ND	47
1,1-Dichloroethane	ND	4.7
2-Butanone	ND	9.5
cis-1,2-Dichloroethene	ND	4.7
2,2-Dichloropropane	ND	4.7
Chloroform	ND	4.7
Bromochloromethane	ND	4.7
1,1,1-Trichloroethane	ND	4.7
1,1-Dichloropropene	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
Dibromomethane	ND	4.7
4-Methyl-2-Pentanone	ND	9.5
cis-1,3-Dichloropropene	ND	4.7
Toluene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
2-Hexanone	ND	9.5
1,3-Dichloropropane	ND	4.7
Tetrachloroethene	ND	4.7

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	243418	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-12	Diln Fac:	0.9452
Lab ID:	243418-001	Batch#:	195918
Matrix:	Soil	Sampled:	02/27/13
Units:	ug/Kg	Received:	02/27/13
Basis:	as received	Analyzed:	02/27/13

Analyte	Result	RL
Dibromochloromethane	ND	4.7
1,2-Dibromoethane	ND	4.7
Chlorobenzene	ND	4.7
1,1,1,2-Tetrachloroethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Styrene	ND	4.7
Bromoform	ND	4.7
Isopropylbenzene	ND	4.7
1,1,2,2-Tetrachloroethane	ND	4.7
1,2,3-Trichloropropane	ND	4.7
Propylbenzene	ND	4.7
Bromobenzene	ND	4.7
1,3,5-Trimethylbenzene	ND	4.7
2-Chlorotoluene	ND	4.7
4-Chlorotoluene	ND	4.7
tert-Butylbenzene	ND	4.7
1,2,4-Trimethylbenzene	ND	4.7
sec-Butylbenzene	ND	4.7
para-Isopropyl Toluene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
n-Butylbenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7
1,2-Dibromo-3-Chloropropane	ND	4.7
1,2,4-Trichlorobenzene	ND	4.7
Hexachlorobutadiene	ND	4.7
Naphthalene	ND	4.7
1,2,3-Trichlorobenzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-124
1,2-Dichloroethane-d4	127	80-137
Toluene-d8	108	80-120
Bromofluorobenzene	98	79-127

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	243418	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC678229	Batch#: 195918
Matrix:	Soil	Analyzed: 02/27/13
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	243418	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC678229	Batch#: 195918
Matrix:	Soil	Analyzed: 02/27/13
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-124
1,2-Dichloroethane-d4	124	80-137
Toluene-d8	104	80-120
Bromofluorobenzene	100	79-127

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	243418	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Matrix:	Soil	Batch#: 195918
Units:	ug/Kg	Analyzed: 02/27/13
Diln Fac:	1.000	

Type: BS Lab ID: QC678230

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	20.00	18.97	95	67-132
Benzene	20.00	20.23	101	77-126
Trichloroethene	20.00	19.72	99	76-127
Toluene	20.00	20.32	102	76-124
Chlorobenzene	20.00	17.46	87	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-124
1,2-Dichloroethane-d4	131	80-137
Toluene-d8	107	80-120
Bromofluorobenzene	100	79-127

Type: BSD Lab ID: QC678231

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	20.00	19.70	98	67-132	4	27
Benzene	20.00	21.27	106	77-126	5	20
Trichloroethene	20.00	20.89	104	76-127	6	22
Toluene	20.00	22.65	113	76-124	11	26
Chlorobenzene	20.00	18.93	95	76-120	8	21

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-124
1,2-Dichloroethane-d4	128	80-137
Toluene-d8	113	80-120
Bromofluorobenzene	99	79-127

RPD= Relative Percent Difference

California Title 22 Metals

Lab #:	243418	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-12	Diln Fac:	1.000
Lab ID:	243418-001	Sampled:	02/27/13
Matrix:	Soil	Received:	02/27/13
Units:	mg/Kg	Analyzed:	02/28/13
Basis:	as received		

Analyte	Result	RL	Batch#	Prepared	Prep	Analysis
Antimony	ND	0.48	195936	02/27/13	EPA 3050B	EPA 6010B
Arsenic	5.2	0.24	195936	02/27/13	EPA 3050B	EPA 6010B
Barium	110	0.24	195936	02/27/13	EPA 3050B	EPA 6010B
Beryllium	0.49	0.095	195936	02/27/13	EPA 3050B	EPA 6010B
Cadmium	ND	0.24	195936	02/27/13	EPA 3050B	EPA 6010B
Chromium	51	0.24	195936	02/27/13	EPA 3050B	EPA 6010B
Cobalt	19	0.24	195936	02/27/13	EPA 3050B	EPA 6010B
Copper	22	0.25	195936	02/27/13	EPA 3050B	EPA 6010B
Lead	6.4	0.24	195936	02/27/13	EPA 3050B	EPA 6010B
Mercury	ND	0.017	195953	02/28/13	METHOD	EPA 7471A
Molybdenum	ND	0.24	195936	02/27/13	EPA 3050B	EPA 6010B
Nickel	57	0.24	195936	02/27/13	EPA 3050B	EPA 6010B
Selenium	ND	0.48	195936	02/27/13	EPA 3050B	EPA 6010B
Silver	ND	0.24	195936	02/27/13	EPA 3050B	EPA 6010B
Thallium	ND	0.48	195936	02/27/13	EPA 3050B	EPA 6010B
Vanadium	47	0.24	195936	02/27/13	EPA 3050B	EPA 6010B
Zinc	48	0.95	195936	02/27/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	243418	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC678314	Batch#: 195936
Matrix:	Soil	Prepared: 02/27/13
Units:	mg/Kg	Analyzed: 02/28/13

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.26
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	243418	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	241.082.03.006	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	195936
Units:	mg/Kg	Prepared:	02/27/13
Diln Fac:	1.000	Analyzed:	02/28/13

Type: BS Lab ID: QC678315

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	103.9	104	80-120
Arsenic	50.00	53.01	106	80-120
Barium	100.0	106.3	106	80-120
Beryllium	2.500	2.765	111	80-120
Cadmium	10.00	10.84	108	80-120
Chromium	100.0	105.9	106	80-120
Cobalt	25.00	26.33	105	80-120
Copper	12.50	12.85	103	80-120
Lead	100.0	100.9	101	80-120
Molybdenum	20.00	21.32	107	80-120
Nickel	25.00	25.96	104	80-120
Selenium	50.00	51.85	104	80-120
Silver	10.00	10.25	102	80-120
Thallium	50.00	52.40	105	80-120
Vanadium	25.00	26.49	106	80-120
Zinc	25.00	26.61	106	80-120

Type: BSD Lab ID: QC678316

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	104.5	104	80-120	1	20
Arsenic	50.00	53.10	106	80-120	0	20
Barium	100.0	105.8	106	80-120	1	20
Beryllium	2.500	2.746	110	80-120	1	20
Cadmium	10.00	10.79	108	80-120	0	20
Chromium	100.0	105.3	105	80-120	1	20
Cobalt	25.00	26.22	105	80-120	0	20
Copper	12.50	12.81	103	80-120	0	20
Lead	100.0	100.9	101	80-120	0	22
Molybdenum	20.00	21.32	107	80-120	0	20
Nickel	25.00	25.90	104	80-120	0	20
Selenium	50.00	51.54	103	80-120	1	20
Silver	10.00	10.14	101	80-120	1	20
Thallium	50.00	52.24	104	80-120	0	20
Vanadium	25.00	26.21	105	80-120	1	20
Zinc	25.00	26.47	106	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals		
Lab #:	243418	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#: 195936
MSS Lab ID:	243347-003	Sampled: 02/22/13
Matrix:	Soil	Received: 02/22/13
Units:	mg/Kg	Prepared: 02/27/13
Basis:	as received	Analyzed: 02/28/13
Diln Fac:	1.000	

Type: MS Lab ID: QC678317

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1513	96.15	58.71	61	8-120
Arsenic	5.132	48.08	50.29	94	71-121
Barium	175.6	96.15	247.9	75	48-133
Beryllium	0.4312	2.404	2.789	98	78-120
Cadmium	0.08016	9.615	8.966	92	69-120
Chromium	28.17	96.15	118.4	94	60-122
Cobalt	11.01	24.04	31.79	86	61-120
Copper	19.06	12.02	30.20	93	44-151
Lead	7.727	96.15	88.32	84	52-120
Molybdenum	<0.05347	19.23	17.21	89	67-120
Nickel	37.01	24.04	59.77	95	45-134
Selenium	<0.1393	48.08	42.82	89	67-120
Silver	<0.07119	9.615	9.072	94	66-120
Thallium	<0.1553	48.08	41.97	87	62-120
Vanadium	48.71	24.04	72.35	98	55-137
Zinc	48.65	24.04	64.17	65	38-146

Type: MSD Lab ID: QC678318

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	99.01	61.69	62	8-120	2	29
Arsenic	49.50	51.97	95	71-121	1	34
Barium	99.01	256.0	81	48-133	2	45
Beryllium	2.475	2.953	102	78-120	3	20
Cadmium	9.901	9.496	95	69-120	3	23
Chromium	99.01	121.2	94	60-122	0	34
Cobalt	24.75	33.18	90	61-120	2	37
Copper	12.38	30.67	94	44-151	0	35
Lead	99.01	93.74	87	52-120	3	51
Molybdenum	19.80	18.25	92	67-120	3	20
Nickel	24.75	60.92	97	45-134	1	38
Selenium	49.50	45.78	92	67-120	4	27
Silver	9.901	9.653	97	66-120	3	30
Thallium	49.50	44.49	90	62-120	3	20
Vanadium	24.75	73.13	99	55-137	0	30
Zinc	24.75	66.95	74	38-146	3	36

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	243418	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	195953
Lab ID:	QC678371	Prepared:	02/28/13
Matrix:	Soil	Analyzed:	02/28/13
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	243418	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: METHOD
Project#:	241.082.03.006	Analysis: EPA 7471A
Analyte:	Mercury	Batch#: 195953
Matrix:	Soil	Prepared: 02/28/13
Units:	mg/Kg	Analyzed: 02/28/13
Diln Fac:	1.000	

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC678372	0.2083	0.2114	101	80-120		
BSD	QC678373	0.2083	0.2134	102	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	243418	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	195953
MSS Lab ID:	243440-002	Sampled:	02/28/13
Matrix:	Soil	Received:	02/28/13
Units:	mg/Kg	Prepared:	02/28/13
Basis:	as received	Analyzed:	02/28/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC678374	0.04179	0.2049	0.2617	107	72-135		
MSD	QC678375		0.2155	0.2770	109	72-135	1	42

RPD= Relative Percent Difference



Curtis & Tompkins, Ltd.

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Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 243525
ANALYTICAL REPORT

PES Environmental, Inc. 1682 Novato Boulevard Novato, CA 94947	Project : 241.082.03.006 Location : 64th & Christie Emeryville, CA Level : II
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Sample ID
EB-13

Lab ID
243525-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Desiree N. Tetrault
Project Manager
(510) 486-0900

Date: 03/11/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 243525
Client: PES Environmental, Inc.
Project: 241.082.03.006
Location: 64th & Christie Emeryville, CA
Request Date: 03/04/13
Samples Received: 03/04/13

This data package contains sample and QC results for one soil sample, requested for the above referenced project on 03/04/13. The sample was received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

No analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):

Low recoveries were observed for mercury in the MS/MSD for batch 196068; the parent sample was not a project sample, the BS/BSD were within limits, and the associated RPD was within limits. High recoveries were observed for barium and vanadium in the MSD for batch 196053; the parent sample was not a project sample, and the BS/BSD were within limits. High RPD was observed for vanadium in the MS/MSD for batch 196053; the RPD was acceptable in the BS/BSD. No other analytical problems were encountered.

CHAIN OF CUSTODY


Curtis & Tompkins Laboratories
ENVIRONMENTAL ANALYTICAL TESTING LABORATORY
In Business Since 1878

2323 Fifth Street
Berkeley, CA 94710

Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 243525

Project No: 241.082.03.006 Sampler: JA
 Project Name: 64th + Christie Report To: Will Mast / John Alexander
 Project P. O. No: _____ Company: PES
 EDD Format: Report Level II III IV Telephone: 415 250 2864
 Turnaround Time: RUSH Standard Email: jalexander@pes.uv.com
wmast

ANALYTICAL REQUEST										
								TPH's by 8015		
								TPH's by 8015 w/ Silica		
								TPH's by 8015 get clean		
								Title 22 Metals		
								VOX's by 8260		

Lab No.	Sample ID.	SAMPLING		MATRIX		# of Containers	CHEMICAL PRESERVATIVE								
		Date Collected	Time Collected	Water	Solid/Sol		HCl	H2SO4	HNO3	NaOH	None (KSPZ)	MeOH VOA	MPEW VOA		
	EB-13	3/4/13	1430	X		9					2	16			

Notes: <u>Standard TAT</u> SAMPLE RECEIPT <input type="checkbox"/> Intact <input type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient	RELINQUISHED BY: <u>John Alexander</u> DATE: <u>3/4</u> TIME: <u>1500</u> _____ DATE: _____ TIME: _____ _____ DATE: _____ TIME: _____	RECEIVED BY: <u>John Alexander</u> DATE: <u>3/4/13</u> TIME: <u>1500</u> _____ DATE: _____ TIME: _____ _____ DATE: _____ TIME: _____
--	---	--

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 243525 Date Received 3/4/13 Number of coolers 1
 Client RES Project 241-082.03.006

Date Opened 3/4/13 By (print) EL (sign) E. Long
 Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? _____ YES NO

4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) _____

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO

If YES, what time were they transferred to freezer? terraces 1710

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? _____ YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

* 1 of 6 UPBW vials rec'd w/ no soil inside.

Gasoline by GC/FID (5035 Prep)

Lab #:	243525	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8015B
Field ID:	EB-13	Diln Fac:	1.000
Matrix:	Soil	Batch#:	196083
Units:	mg/Kg	Sampled:	03/04/13
Basis:	as received	Received:	03/04/13

Type: SAMPLE Analyzed: 03/06/13
 Lab ID: 243525-001

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	88	64-139

Type: BLANK Analyzed: 03/05/13
 Lab ID: QC678904

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	82	64-139

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC678903	Batch#: 196083
Matrix:	Soil	Analyzed: 03/05/13
Units:	mg/Kg	

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.013	101	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	64-139

Batch QC Report

Gasoline by GC/FID (5035 Prep)		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5030B
Project#:	241.082.03.006	Analysis: EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac: 1.000
MSS Lab ID:	243420-001	Batch#: 196083
Matrix:	Soil	Sampled: 02/27/13
Units:	mg/Kg	Received: 02/27/13
Basis:	as received	Analyzed: 03/05/13

Type: MS Lab ID: QC678905

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.07687	10.64	9.242	86	42-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	64-139

Type: MSD Lab ID: QC678906

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.53	8.778	83	42-120	4	42

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	64-139

RPD= Relative Percent Difference

Total Extractable Hydrocarbons		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Field ID:	EB-13	Batch#: 196073
Matrix:	Soil	Sampled: 03/04/13
Units:	mg/Kg	Received: 03/04/13
Basis:	as received	Prepared: 03/05/13
Diln Fac:	1.000	Analyzed: 03/06/13

Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 243525-001

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	104	62-136

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC678869

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	127	62-136

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC678870	Batch#: 196073
Matrix:	Soil	Prepared: 03/05/13
Units:	mg/Kg	Analyzed: 03/06/13

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.58	50.82	102	62-130

Surrogate	%REC	Limits
o-Terphenyl	125	62-136

Batch QC Report

Total Extractable Hydrocarbons		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3550B
Project#:	241.082.03.006	Analysis: EPA 8015B
Field ID:	EB-13	Batch#: 196073
MSS Lab ID:	243525-001	Sampled: 03/04/13
Matrix:	Soil	Received: 03/04/13
Units:	mg/Kg	Prepared: 03/05/13
Basis:	as received	Analyzed: 03/06/13
Diln Fac:	1.000	

Type: MS Cleanup Method: EPA 3630C
 Lab ID: QC678871

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.4906	49.75	52.65	105	39-148

Surrogate	%REC	Limits
o-Terphenyl	127	62-136

Type: MSD Cleanup Method: EPA 3630C
 Lab ID: QC678872

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.61	50.40	101	39-148	4	45

Surrogate	%REC	Limits
o-Terphenyl	127	62-136

RPD= Relative Percent Difference

Purgeable Organics by GC/MS

Lab #:	243525	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-13	Diln Fac:	1.152
Lab ID:	243525-001	Batch#:	196054
Matrix:	Soil	Sampled:	03/04/13
Units:	ug/Kg	Received:	03/04/13
Basis:	as received	Analyzed:	03/05/13

Analyte	Result	RL
Freon 12	ND	12
Chloromethane	ND	12
Vinyl Chloride	ND	12
Bromomethane	ND	12
Chloroethane	ND	12
Trichlorofluoromethane	ND	5.8
Acetone	ND	23
Freon 113	ND	5.8
1,1-Dichloroethene	ND	5.8
Methylene Chloride	ND	23
Carbon Disulfide	ND	5.8
MTBE	ND	5.8
trans-1,2-Dichloroethene	ND	5.8
Vinyl Acetate	ND	58
1,1-Dichloroethane	ND	5.8
2-Butanone	ND	12
cis-1,2-Dichloroethene	ND	5.8
2,2-Dichloropropane	ND	5.8
Chloroform	ND	5.8
Bromochloromethane	ND	5.8
1,1,1-Trichloroethane	ND	5.8
1,1-Dichloropropene	ND	5.8
Carbon Tetrachloride	ND	5.8
1,2-Dichloroethane	ND	5.8
Benzene	ND	5.8
Trichloroethene	ND	5.8
1,2-Dichloropropane	ND	5.8
Bromodichloromethane	ND	5.8
Dibromomethane	ND	5.8
4-Methyl-2-Pentanone	ND	12
cis-1,3-Dichloropropene	ND	5.8
Toluene	ND	5.8
trans-1,3-Dichloropropene	ND	5.8
1,1,2-Trichloroethane	ND	5.8
2-Hexanone	ND	12
1,3-Dichloropropane	ND	5.8
Tetrachloroethene	ND	5.8

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	243525	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 5035
Project#:	241.082.03.006	Analysis:	EPA 8260B
Field ID:	EB-13	Diln Fac:	1.152
Lab ID:	243525-001	Batch#:	196054
Matrix:	Soil	Sampled:	03/04/13
Units:	ug/Kg	Received:	03/04/13
Basis:	as received	Analyzed:	03/05/13

Analyte	Result	RL
Dibromochloromethane	ND	5.8
1,2-Dibromoethane	ND	5.8
Chlorobenzene	ND	5.8
1,1,1,2-Tetrachloroethane	ND	5.8
Ethylbenzene	ND	5.8
m,p-Xylenes	ND	5.8
o-Xylene	ND	5.8
Styrene	ND	5.8
Bromoform	ND	5.8
Isopropylbenzene	ND	5.8
1,1,2,2-Tetrachloroethane	ND	5.8
1,2,3-Trichloropropane	ND	5.8
Propylbenzene	ND	5.8
Bromobenzene	ND	5.8
1,3,5-Trimethylbenzene	ND	5.8
2-Chlorotoluene	ND	5.8
4-Chlorotoluene	ND	5.8
tert-Butylbenzene	ND	5.8
1,2,4-Trimethylbenzene	ND	5.8
sec-Butylbenzene	ND	5.8
para-Isopropyl Toluene	ND	5.8
1,3-Dichlorobenzene	ND	5.8
1,4-Dichlorobenzene	ND	5.8
n-Butylbenzene	ND	5.8
1,2-Dichlorobenzene	ND	5.8
1,2-Dibromo-3-Chloropropane	ND	5.8
1,2,4-Trichlorobenzene	ND	5.8
Hexachlorobutadiene	ND	5.8
Naphthalene	ND	5.8
1,2,3-Trichlorobenzene	ND	5.8

Surrogate	%REC	Limits
Dibromofluoromethane	113	80-124
1,2-Dichloroethane-d4	100	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	100	79-127

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Matrix:	Soil	Batch#: 196054
Units:	ug/Kg	Analyzed: 03/05/13
Diln Fac:	1.000	

Type: BS Lab ID: QC678791

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	28.99	116	67-132
Benzene	25.00	27.99	112	77-126
Trichloroethene	25.00	28.20	113	76-127
Toluene	25.00	28.22	113	76-124
Chlorobenzene	25.00	25.65	103	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-124
1,2-Dichloroethane-d4	94	80-137
Toluene-d8	98	80-120
Bromofluorobenzene	95	79-127

Type: BSD Lab ID: QC678792

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	28.79	115	67-132	1	27
Benzene	25.00	27.39	110	77-126	2	20
Trichloroethene	25.00	28.02	112	76-127	1	22
Toluene	25.00	27.45	110	76-124	3	26
Chlorobenzene	25.00	25.01	100	76-120	3	21

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-124
1,2-Dichloroethane-d4	90	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	96	79-127

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC678795	Batch#: 196054
Matrix:	Soil	Analyzed: 03/05/13
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5035
Project#:	241.082.03.006	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC678795	Batch#: 196054
Matrix:	Soil	Analyzed: 03/05/13
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-124
1,2-Dichloroethane-d4	93	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	99	79-127

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 5030B
Project#:	241.082.03.006	Analysis: EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#: 196054
MSS Lab ID:	243420-001	Sampled: 02/27/13
Matrix:	Soil	Received: 02/27/13
Units:	ug/Kg	Analyzed: 03/06/13
Basis:	as received	

Type: MS Diln Fac: 0.9823
 Lab ID: QC678861

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.5846	49.12	61.27	125	52-132
Benzene	<0.6811	49.12	56.75	116	54-121
Trichloroethene	<0.7094	49.12	55.53	113	46-138
Toluene	<0.7461	49.12	53.01	108	47-120
Chlorobenzene	<0.6116	49.12	47.30	96	41-120

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-124
1,2-Dichloroethane-d4	103	80-137
Toluene-d8	94	80-120
Bromofluorobenzene	96	79-127

Type: MSD Diln Fac: 0.9597
 Lab ID: QC678862

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	47.98	54.60	114	52-132	9	46
Benzene	47.98	50.39	105	54-121	10	43
Trichloroethene	47.98	49.57	103	46-138	9	50
Toluene	47.98	47.00	98	47-120	10	53
Chlorobenzene	47.98	42.55	89	41-120	8	50

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-124
1,2-Dichloroethane-d4	102	80-137
Toluene-d8	94	80-120
Bromofluorobenzene	97	79-127

RPD= Relative Percent Difference

California Title 22 Metals

Lab #:	243525	Project#:	241.082.03.006
Client:	PES Environmental, Inc.	Location:	64th & Christie Emeryville, CA
Field ID:	EB-13	Diln Fac:	1.000
Lab ID:	243525-001	Sampled:	03/04/13
Matrix:	Soil	Received:	03/04/13
Units:	mg/Kg	Analyzed:	03/05/13
Basis:	as received		

Analyte	Result	RL	Batch#	Prepared	Prep	Analysis
Antimony	ND	0.48	196053	03/04/13	EPA 3050B	EPA 6010B
Arsenic	4.9	0.24	196053	03/04/13	EPA 3050B	EPA 6010B
Barium	51	0.24	196053	03/04/13	EPA 3050B	EPA 6010B
Beryllium	0.24	0.095	196053	03/04/13	EPA 3050B	EPA 6010B
Cadmium	ND	0.24	196053	03/04/13	EPA 3050B	EPA 6010B
Chromium	37	0.24	196053	03/04/13	EPA 3050B	EPA 6010B
Cobalt	7.0	0.24	196053	03/04/13	EPA 3050B	EPA 6010B
Copper	11	0.24	196053	03/04/13	EPA 3050B	EPA 6010B
Lead	2.6	0.24	196053	03/04/13	EPA 3050B	EPA 6010B
Mercury	ND	0.016	196068	03/05/13	METHOD	EPA 7471A
Molybdenum	ND	0.24	196053	03/04/13	EPA 3050B	EPA 6010B
Nickel	34	0.24	196053	03/04/13	EPA 3050B	EPA 6010B
Selenium	ND	0.48	196053	03/04/13	EPA 3050B	EPA 6010B
Silver	ND	0.24	196053	03/04/13	EPA 3050B	EPA 6010B
Thallium	ND	0.48	196053	03/04/13	EPA 3050B	EPA 6010B
Vanadium	34	0.24	196053	03/04/13	EPA 3050B	EPA 6010B
Zinc	34	0.95	196053	03/04/13	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC678784	Batch#: 196053
Matrix:	Soil	Prepared: 03/04/13
Units:	mg/Kg	Analyzed: 03/05/13

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.26
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	243525	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	241.082.03.006	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	196053
Units:	mg/Kg	Prepared:	03/04/13
Diln Fac:	1.000	Analyzed:	03/05/13

Type: BS Lab ID: QC678785

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	102.6	103	80-120
Arsenic	50.00	52.81	106	80-120
Barium	100.0	101.6	102	80-120
Beryllium	2.500	2.639	106	80-120
Cadmium	10.00	10.30	103	80-120
Chromium	100.0	98.56	99	80-120
Cobalt	25.00	24.64	99	80-120
Copper	12.50	12.62	101	80-120
Lead	100.0	96.69	97	80-120
Molybdenum	20.00	20.05	100	80-120
Nickel	25.00	24.61	98	80-120
Selenium	50.00	50.92	102	80-120
Silver	10.00	9.649	96	80-120
Thallium	50.00	50.87	102	80-120
Vanadium	25.00	24.66	99	80-120
Zinc	25.00	25.05	100	80-120

Type: BSD Lab ID: QC678786

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	101.9	102	80-120	1	20
Arsenic	50.00	52.32	105	80-120	1	20
Barium	100.0	101.8	102	80-120	0	20
Beryllium	2.500	2.641	106	80-120	0	20
Cadmium	10.00	10.31	103	80-120	0	20
Chromium	100.0	98.90	99	80-120	0	20
Cobalt	25.00	24.73	99	80-120	0	20
Copper	12.50	12.57	101	80-120	0	20
Lead	100.0	96.13	96	80-120	1	22
Molybdenum	20.00	19.87	99	80-120	1	20
Nickel	25.00	24.67	99	80-120	0	20
Selenium	50.00	50.47	101	80-120	1	20
Silver	10.00	9.673	97	80-120	0	20
Thallium	50.00	50.43	101	80-120	1	20
Vanadium	25.00	24.69	99	80-120	0	20
Zinc	25.00	25.09	100	80-120	0	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: EPA 3050B
Project#:	241.082.03.006	Analysis: EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#: 196053
MSS Lab ID:	243480-005	Sampled: 02/27/13
Matrix:	Soil	Received: 03/01/13
Units:	mg/Kg	Prepared: 03/04/13
Basis:	as received	Analyzed: 03/05/13
Diln Fac:	1.000	

Type: MS Lab ID: QC678787

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	0.5479	96.15	63.16	65	8-120
Arsenic	4.664	48.08	54.01	103	71-121
Barium	127.3	96.15	228.6	105	48-133
Beryllium	0.2946	2.404	2.849	106	78-120
Cadmium	0.4934	9.615	9.863	97	69-120
Chromium	27.15	96.15	123.0	100	60-122
Cobalt	7.856	24.04	30.99	96	61-120
Copper	5.385	12.02	17.97	105	44-151
Lead	45.28	96.15	120.6	78	52-120
Molybdenum	0.3401	19.23	18.67	95	67-120
Nickel	7.916	24.04	32.68	103	45-134
Selenium	0.2394	48.08	47.97	99	67-120
Silver	<0.06796	9.615	9.318	97	66-120
Thallium	<0.1482	48.08	47.20	98	62-120
Vanadium	27.84	24.04	50.12	93	55-137
Zinc	13.45	24.04	37.08	98	38-146

Type: MSD Lab ID: QC678788

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	97.09	63.20	65	8-120	1	29
Arsenic	48.54	57.90	110	71-121	6	34
Barium	97.09	274.4	151 *	48-133	18	45
Beryllium	2.427	3.038	113	78-120	6	20
Cadmium	9.709	9.714	95	69-120	2	23
Chromium	97.09	130.6	107	60-122	5	34
Cobalt	24.27	36.93	120	61-120	17	37
Copper	12.14	18.77	110	44-151	4	35
Lead	97.09	121.3	78	52-120	0	51
Molybdenum	19.42	18.59	94	67-120	1	20
Nickel	24.27	33.97	107	45-134	3	38
Selenium	48.54	47.83	98	67-120	1	27
Silver	9.709	9.301	96	66-120	1	30
Thallium	48.54	46.50	96	62-120	2	20
Vanadium	24.27	75.19	195 *	55-137	40 *	30
Zinc	24.27	39.76	108	38-146	6	36

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	243525	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	196068
Lab ID:	QC678843	Prepared:	03/05/13
Matrix:	Soil	Analyzed:	03/05/13
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	243525	Location: 64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep: METHOD
Project#:	241.082.03.006	Analysis: EPA 7471A
Analyte:	Mercury	Batch#: 196068
Matrix:	Soil	Prepared: 03/05/13
Units:	mg/Kg	Analyzed: 03/05/13
Diln Fac:	1.000	

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC678844	0.2083	0.2263	109	80-120		
BSD	QC678845	0.2083	0.2299	110	80-120	2	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	243525	Location:	64th & Christie Emeryville, CA
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.03.006	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	196068
MSS Lab ID:	243522-001	Sampled:	03/04/13
Matrix:	Soil	Received:	03/04/13
Units:	mg/Kg	Prepared:	03/05/13
Basis:	as received	Analyzed:	03/05/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC678846	0.1838	0.2049	0.2799	47 *	72-135		
MSD	QC678847		0.2049	0.2737	44 *	72-135	2	42

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

APPENDIX D

EBMUD CORRESPONDENCE



September 4, 2012

241.082.03.003

Rockwood Christie LLC
c/o: Essex Property Trust, Inc.
925 East Meadow Drive
Palo Alto, CA 94303

Attention: Mr. Josh Corzine

**Subject: Supplemental Groundwater Sampling & Results
64th and Christie Residential Building
64th Street & Christie Avenue
Emeryville, California**

Dear Mr. Corzine:

This letter has been prepared by PES Environmental, Inc. (PES) to document the collection and testing results of supplemental groundwater sampling at the proposed 64th and Christie Residential Building redevelopment project (6340 and 6390 Christie Avenue) in Emeryville, California (Plate 1). The groundwater sampling was conducted on August 24, 2012 to provide additional characterization data as required by East Bay Municipal Utility District (EBMUD) in association with a Special Discharge Permit being processed for construction dewatering discharge.

PRE-FIELD ACTIVITIES AND GENERAL PROCEDURES

Pre-field activities consisted of the following: (1) obtaining a drilling permit from Alameda County Public Works Agency (ACPWA), (2) contacting Underground Service Alert, (3) retaining C Cruz of Milpitas, California, a private utility locator, to perform utility clearance at all sampling locations, and (4) retaining and scheduling Cascade Drilling of Richmond, California, a licensed drilling contractor possessing a valid C-57 water well contractor's license, to perform the groundwater sampling. A copy of the ACPWA drilling permit is provided in Appendix A.

Mr. Josh Corzine
September 4, 2012
Page 2

Groundwater Sampling Methods

Borehole drilling and groundwater sampling services were conducted in accordance with California Department of Water Resource Water Well Standards (Bulletin 74-90). Grab groundwater sampling was conducted at one location (GW-14, as shown on Plate 1). Work was conducted in accordance with the existing site-specific Health and Safety Plan.

The boring for GW-14 was advanced via direct-push technology utilizing a truck-mounted drill rig. A pre-packed well screen was installed into the open borehole (from 7 to 17 feet below ground surface [bgs]). Utilizing low flow techniques groundwater sample GW-14 was obtained from the temporary well within first water-bearing zone. A peristaltic pump was used to obtain the sample. To reduce turbidity, prior to sampling approximately 3 gallons of water was purged from the temporary well.

The groundwater sample was analyzed by Vista Analytical Services, Inc. of El Dorado Hills, California for PCB congeners by EPA Method 1668C (reported as a sum of 209 congeners), and in accordance with San Francisco Bay Area Regional Water Quality Control Board (RWQCB)¹ protocols. The sample was also analyzed by Curtis and Tompkins of Berkeley, California for: (1) oil and grease by EPA Method 1664 HEM-SGT; and (2) pH by Standard Method 4500-H+ B. Both laboratories are certified by the State of California for the analyses performed.

After collection of the groundwater sample, the temporary well casing was removed and the boring was tremie-grouted in accordance with ACPWA permit requirements. ACPWA was notified of the work within the timeframe specified in the drilling permit, and a grout inspector performed an on-site inspection during grouting activities. No soil cuttings were generated. Decontamination fluid was collected in a 5-gallon bucket and clearly labeled and stored in a secure portion of the site pending disposal.

Results

The laboratory reports and chain-of-custody documentation for groundwater sample GW-14 are provided in Appendix B. Total PCBs were detected at a concentration of 0.0594 micrograms per liter ($\mu\text{g/L}$). Oil and Grease was not detected at or above the laboratory reporting limit of 4.8 milligrams per liter (mg/L), and pH was reported at 7.6 standard units.


¹ San Francisco Bay Regional Water Quality Control Board, 2011. *Sampling Analysis and Reporting Protocols Using EPA Method 1668C for Final Order No. R2-2011-0012, NPDES Permit No. CA0038849*. May 17.


Mr. Josh Corzine
September 4, 2012
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We trust that this is the information you require at this time. Please call either of the undersigned if you have any questions.

Yours very truly,

PES ENVIRONMENTAL, INC.

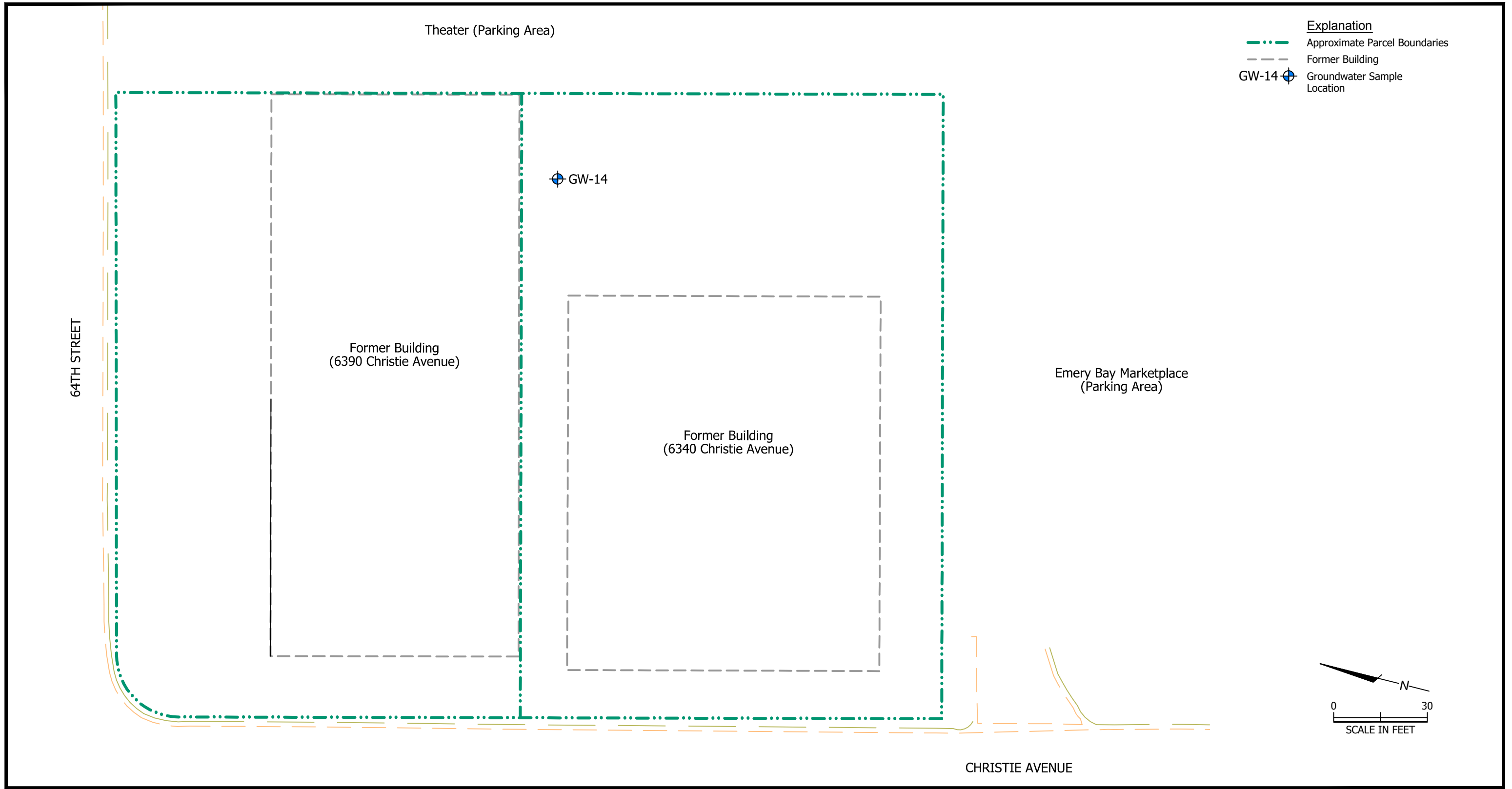

Christopher J. Baldassari, P.G.
Senior Geologist


William W. Mast, P.G.
Principal Engineer

cc: Allen Bates, SCM Construction Management Services

Attachments: Plate 1 – Groundwater Sampling Location
Appendix A – Alameda County Public Works Agency Permit
Appendix B – Laboratory Analytical Reports and Chain-of-Custody
Documentation

PLATE



APPENDIX A

**ALAMEDA COUNTY PUBLIC
WORKS AGENCY PERMIT**

Alameda County Public Works Agency - Water Resources Well Permit



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

Application Approved on: 08/16/2012 By vickyh1

Permit Numbers: W2012-0569
Permits Valid from 08/27/2012 to 08/27/2012

Application Id: 1344989171963
Site Location: 6340 (6390) Christie Avenue
Project Start Date: 08/27/2012
Assigned Inspector: Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

City of Project Site: Emeryville

Completion Date: 08/27/2012

Applicant: PES Environmental, Inc. - Chris Baldassari
1682 Novato Boulevard, Novato, CA 94947
Property Owner: Rockwood Christie LLC
925 East Meadow Drive, Palo Alto, CA 94303
Client: ** same as Property Owner **

Phone: 415-899-1600

Phone: --

Receipt Number: WR2012-0257 Total Due: \$265.00
Payer Name : Chris J Baldassari Total Amount Paid: \$265.00
Paid By: VISA PAID IN FULL

Works Requesting Permits:

Borehole(s) for Investigation-Environmental/Monitoring Study - 1 Boreholes
Driller: Gregg Drilling & Testing - Lic #: 485165 - Method: DP

Work Total: \$265.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2012-0569	08/16/2012	11/25/2012	1	2.00 in.	17.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
4. Applicant shall contact Steve Miller for an inspection time at (510) 670-5517 or email to stevem@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
6. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and

Alameda County Public Works Agency - Water Resources Well Permit

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

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

APPENDIX B

**LABORATORY ANALYTICAL REPORTS AND
CHAIN-OF-CUSTODY DOCUMENTATION**



August 30, 2012

Vista Project I.D.: 33954

Mr. Chris Baldassari
PES Environmental, Inc.
1682 Novato Boulevard
Suite 100
Novato, CA

Dear Mr. Baldassari,

Enclosed are the results for the one aqueous sample received at Vista Analytical Laboratory on August 25, 2012. This work was authorized under your Purchase Order No. 241.082.03.003. This sample was extracted and analyzed using EPA Method 1668C for 209 PCB Congeners and homologue totals. A rush turnaround time was provided for this work.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at calvin@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,

A handwritten signature in black ink that reads "Calvin Tanaka".

Calvin Tanaka
Senior Scientist



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.



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Section I: Sample Inventory Report

Date Received: 8/25/2012

Vista Lab. ID

Client Sample ID

33954-001

GW-14

ANALYTICAL RESULTS

Method Blank	EPA Method 1668C
---------------------	-------------------------

Matrix:	Aqueous	QC Batch No.:	4637	Lab Sample:	0-MB001
Sample Size:	1.00 L	Date Extracted:	28-Aug-12	Date Analyzed:	29-Aug-12
				TEQ(WHO-2005 Mammal) : 0.000466	

Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers	Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers
PCB-1	ND	25.0	4.11	3.61		PCB-41/64/71/72	ND	25.0	2.23	16.5	
PCB-2	ND	25.0	4.73	5.43		PCB-42/59	ND	25.0	2.39	11.1	
PCB-3	ND	25.0	4.72	3.39		PCB-43/49	ND	25.0	2.67	8.79	
PCB-4/10	ND	50.0	10.7	5.85		PCB-44	ND	25.0	3.37	6.08	
PCB-5/8	ND	50.0	9.38	5.96		PCB-45	ND	25.0	2.90	7.49	
PCB-6	ND	50.0	9.63	5.33		PCB-46	ND	25.0	3.18	6.39	
PCB-7/9	ND	50.0	9.30	7.69		PCB-47	ND	25.0	2.47	5.27	
PCB-11	10.4	50.0		14.6	J	PCB-48/75	ND	25.0	2.21	8.94	
PCB-12/13	ND	50.0	9.91	12.4		PCB-50	ND	25.0	3.28	7.74	
PCB-14	ND	50.0	9.03	9.40		PCB-51	ND	25.0	2.45	7.82	
PCB-15	ND	50.0	9.17	2.52		PCB-52/69	ND	25.0	2.30	14.8	
PCB-16/32	ND	25.0	2.12	8.55		PCB-53	ND	25.0	2.52	8.48	
PCB-17	ND	25.0	2.32	7.90		PCB-54	ND	25.0	2.44	5.54	
PCB-18	ND	25.0	2.50	5.50		PCB-55	ND	25.0	2.03	4.02	
PCB-19	ND	25.0	2.46	5.57		PCB-56/60	ND	25.0	2.14	13.9	
PCB-20/21/33	ND	25.0	1.85	54.5		PCB-57	ND	25.0	1.97	3.62	
PCB-22	ND	25.0	1.97	22.8		PCB-58	ND	25.0	1.91	5.22	
PCB-23	ND	25.0	1.83	16.7		PCB-61/70	ND	25.0	1.99	9.77	
PCB-24/27	ND	25.0	1.71	9.50		PCB-62	ND	25.0	2.28	5.06	
PCB-25	ND	25.0	1.95	9.43		PCB-63	ND	25.0	1.97	6.38	
PCB-26	ND	25.0	1.83	10.4		PCB-65	ND	25.0	2.32	6.51	
PCB-28	ND	25.0	1.81	7.63		PCB-67	ND	25.0	2.13	7.33	
PCB-29	ND	25.0	1.77	7.85		PCB-68	ND	25.0	2.05	7.41	
PCB-30	ND	25.0	1.56	6.55		PCB-73	ND	25.0	2.11	7.45	
PCB-31	ND	25.0	1.76	13.1		PCB-74	ND	25.0	1.92	8.44	
PCB-34	ND	25.0	1.79	9.29		PCB-76/66	ND	25.0	1.95	10.4	
PCB-35	ND	25.0	2.16	9.12		PCB-77	4.66	25.0		5.01	J
PCB-36	ND	25.0	2.00	12.9		PCB-78	ND	25.0	2.22	5.24	
PCB-37	ND	25.0	2.01	10.0		PCB-79	ND	25.0	2.04	4.51	
PCB-38	ND	25.0	2.10	17.8		PCB-80	ND	25.0	1.88	2.62	
PCB-39	ND	25.0	1.97	11.8		PCB-81	ND	25.0	2.02	5.64	
PCB-40	ND	25.0	3.75	9.27		PCB-82	ND	25.0	7.42	8.87	

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Method Blank	EPA Method 1668C
---------------------	-------------------------

Matrix:	Aqueous	QC Batch No.:	4637	Lab Sample:	0-MB001
Sample Size:	1.00 L	Date Extracted:	28-Aug-12	Date Analyzed:	29-Aug-12
				TEQ(WHO-2005 Mammal) : 0.000466	

Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers	Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers
PCB-83	ND	25.0	4.63	4.95		PCB-127	ND	25.0	3.32	3.32	
PCB-84/92	ND	25.0	6.29	6.38		PCB-128/162	ND	25.0	2.85	7.97	
PCB-85/116	ND	25.0	5.35	8.32		PCB-129	ND	25.0	3.44	6.66	
PCB-86	ND	25.0	7.17	8.03		PCB-130	ND	25.0	3.60	10.7	
PCB-87/117/125	ND	25.0	4.72	10.8		PCB-131	ND	25.0	3.92	5.74	
PCB-88/91	ND	25.0	6.52	15.8		PCB-132/161	ND	25.0	2.96	11.5	
PCB-89	ND	25.0	7.10	6.17		PCB-133/142	ND	25.0	3.68	10.4	
PCB-90/101	ND	25.0	5.81	8.81		PCB-134/143	ND	25.0	3.68	10.1	
PCB-93	ND	25.0	7.10	19.1		PCB-135	ND	25.0	6.54	8.55	
PCB-94	ND	25.0	6.63	4.94		PCB-136	ND	25.0	4.75	7.83	
PCB-95/98/102	ND	25.0	6.00	22.2		PCB-137	ND	25.0	3.22	6.47	
PCB-96	ND	25.0	5.87	7.30		PCB-138/163/164	ND	25.0	2.59	4.06	
PCB-97	ND	25.0	5.74	8.73		PCB-139/149	ND	25.0	5.94	7.55	
PCB-99	ND	25.0	5.67	10.9		PCB-140	ND	25.0	7.15	12.0	
PCB-100	ND	25.0	6.62	6.77		PCB-141	ND	25.0	3.18	6.38	
PCB-103	ND	25.0	6.54	7.69		PCB-144	ND	25.0	5.99	8.06	
PCB-104	ND	25.0	4.82	5.89		PCB-145	ND	25.0	4.84	9.72	
PCB-105	ND	25.0	2.65	4.59		PCB-146/165	ND	25.0	2.94	6.36	
PCB-106/118	ND	25.0	4.41	10.2		PCB-147	ND	25.0	6.84	7.85	
PCB-107/109	ND	25.0	4.40	10.4		PCB-148	ND	25.0	6.34	4.01	
PCB-108/112	ND	25.0	5.54	9.73		PCB-150	ND	25.0	4.94	9.67	
PCB-110	ND	25.0	4.70	4.52		PCB-151	ND	25.0	6.58	9.59	
PCB-111/115	ND	25.0	4.04	7.06		PCB-152	ND	25.0	4.68	6.32	
PCB-113	ND	25.0	5.13	8.37		PCB-153	ND	25.0	3.05	6.11	
PCB-114	ND	25.0	3.08	8.70		PCB-154	ND	25.0	6.37	5.65	
PCB-119	ND	25.0	4.08	7.04		PCB-155	ND	25.0	4.36	6.99	
PCB-120	ND	25.0	3.86	5.63		PCB-156	ND	25.0	2.60	3.64	
PCB-121	ND	25.0	4.86	10.8		PCB-157	ND	25.0	2.69	7.41	
PCB-122	ND	25.0	3.62	6.51		PCB-158/160	ND	25.0	2.52	10.9	
PCB-123	ND	25.0	4.55	3.95		PCB-159	ND	25.0	2.43	6.98	
PCB-124	ND	25.0	4.08	2.17		PCB-166	ND	25.0	2.61	4.99	
PCB-126	ND	25.0	3.80	8.80		PCB-167	ND	25.0	2.63	7.42	

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Method Blank						EPA Method 1668C					
Matrix:	Aqueous	QC Batch No.:	4637	Lab Sample:	0-MB001						
Sample Size:	1.00 L	Date Extracted:	28-Aug-12	Date Analyzed:	29-Aug-12	TEQ(WHO-2005 Mammal) : 0.000466					
Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers	Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers
PCB-168	ND	25.0	2.47	4.40		PCB-201	ND	25.0	4.38	5.54	
PCB-169	ND	25.0	3.60	5.54		PCB-202	ND	25.0	4.46	9.73	
PCB-170	ND	25.0	2.72	5.39		PCB-204	ND	25.0	4.38	6.10	
PCB-171	ND	25.0	2.42	6.69		PCB-205	ND	25.0	2.14	6.61	
PCB-172	ND	25.0	2.56	4.57		PCB-206	ND	25.0	6.01	3.69	
PCB-173	ND	25.0	3.28	5.13		PCB-207	ND	25.0	3.27	4.76	
PCB-174	ND	25.0	2.89	9.74		PCB-208	ND	25.0	3.23	3.48	
PCB-175	ND	25.0	3.19	8.82		PCB-209	ND	25.0	20.1	4.22	
PCB-176	ND	25.0	2.33	9.21		Total monoCB	ND	25.0	4.73		
PCB-177	ND	25.0	2.89	6.91		Total diCB	10.4	50.0			
PCB-178	ND	25.0	3.10	8.85		Total triCB	ND	25.0	2.50		
PCB-179	ND	25.0	2.52	8.93		Total tetraCB	4.66	25.0			
PCB-180	ND	25.0	2.66	8.17		Total pentaCB	ND	25.0	7.42		
PCB-181	ND	25.0	2.56	4.66		Total hexaCB	ND	25.0	7.15		
PCB-182/187	ND	25.0	2.94	8.74		Total heptaCB	ND	25.0	3.28		
PCB-183	ND	25.0	2.69	5.75		Total octaCB	ND	25.0	6.67		
PCB-184	ND	25.0	2.44	7.24		Total nonaCB	ND	25.0	6.01		
PCB-185	ND	25.0	2.54	3.52		Total decaCB	ND	25.0	20.1		
PCB-186	ND	25.0	2.32	7.99		Total PCB	15.0	50.0			
PCB-188	ND	25.0	2.10	2.04							
PCB-189	ND	25.0	1.96	5.01							
PCB-190	ND	25.0	2.03	4.58							
PCB-191	ND	25.0	1.99	4.53							
PCB-192	ND	25.0	2.14	7.35							
PCB-193	ND	25.0	2.04	8.46							
PCB-194	ND	25.0	2.83	4.52							
PCB-195	ND	25.0	3.00	7.97							
PCB-196/203	ND	25.0	5.53	7.15							
PCB-197	ND	25.0	4.14	4.76							
PCB-198	ND	25.0	6.43	11.3							
PCB-199	ND	25.0	6.67	8.05							
PCB-200	ND	25.0	4.58	7.57							

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Method Blank	EPA Method 1668C
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Matrix: Aqueous	QC Batch No.: 4637	Lab Sample: 0-MB001
Sample Size: 1.00 L	Date Extracted: 28-Aug-12	Date Analyzed: 29-Aug-12

	Internal Standard	% Recovery	LCL - UCL	Qualifier
IS	13C-PCB-1	84.8	5 145	
	13C-PCB-3	79.3	5 145	
	13C-PCB-4	91.4	5 145	
	13C-PCB-11	87.5	5 145	
	13C-PCB-9	84.9	5 145	
	13C-PCB-19	100	5 145	
	13C-PCB-28	94.0	5 145	
	13C-PCB-32	97.7	5 145	
	13C-PCB-37	102	5 145	
	13C-PCB-47	72.4	5 145	
	13C-PCB-52	70.1	5 145	
	13C-PCB-54	61.8	5 145	
	13C-PCB-70	84.4	5 145	
	13C-PCB-77	82.7	10 145	
	13C-PCB-80	81.9	10 145	
	13C-PCB-81	85.4	10 145	
	13C-PCB-95	84.8	10 145	
	13C-PCB-97	91.3	10 145	
	13C-PCB-101	89.5	10 145	
	13C-PCB-104	71.1	10 145	
	13C-PCB-105	77.1	10 145	
	13C-PCB-114	76.3	10 145	
	13C-PCB-118	88.0	10 145	
	13C-PCB-123	91.6	10 145	
	13C-PCB-126	72.0	10 145	
	13C-PCB-127	78.8	10 145	
	13C-PCB-138	86.0	10 145	
	13C-PCB-141	87.1	10 145	
	13C-PCB-153	85.6	10 145	
	13C-PCB-155	85.5	10 145	

Method Blank

EPA Method 1668C

Matrix: Aqueous	QC Batch No.: 4637	Lab Sample: 0-MB001
Sample Size: 1.00 L	Date Extracted: 28-Aug-12	Date Analyzed: 29-Aug-12

Internal Standard		% Recovery	LCL - UCL		Qualifier
IS	13C-PCB-156	80.5	10	145	
	13C-PCB-157	80.5	10	145	
	13C-PCB-159	84.1	10	145	
	13C-PCB-167	83.6	10	145	
	13C-PCB-169	77.9	10	145	
	13C-PCB-170	93.9	10	145	
	13C-PCB-180	92.0	10	145	
	13C-PCB-188	74.0	10	145	
	13C-PCB-189	86.9	10	145	
	13C-PCB-194	90.4	10	145	
	13C-PCB-202	83.3	10	145	
	13C-PCB-206	91.0	10	145	
	13C-PCB-208	88.3	10	145	
	13C-PCB-209	96.4	10	145	
CRS	13C-PCB-79	91.7	10	145	
	13C-PCB-178	100	10	145	

OPR Results				EPA Method 1668C			
Matrix:	Aqueous	QC Batch No.:	4637	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	28-Aug-12	Date Analyzed DB-1:	29-Aug-12		
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	Qualifier
PCB-1	50.0	51.6	30 - 67.5	IS 13C-PCB-1	80.2	15 - 145	
PCB-3	50.0	53.0	30 - 67.5	13C-PCB-3	76.1	15 - 145	
PCB-4/10	200	219	120 - 270	13C-PCB-4	87.1	15 - 145	
PCB-15	100	112	60 - 135	13C-PCB-11	84.7	15 - 145	
PCB-19	50.0	47.2	30 - 67.5	13C-PCB-19	95.3	15 - 145	
PCB-37	50.0	48.6	30 - 67.5	13C-PCB-37	109	15 - 145	
PCB-54	50.0	50.4	30 - 67.5	13C-PCB-54	64.0	15 - 145	
PCB-77	50.0	46.8	30 - 67.5	13C-PCB-77	92.2	40 - 145	
PCB-81	50.0	50.0	30 - 67.5	13C-PCB-81	94.2	40 - 145	
PCB-104	50.0	52.3	30 - 67.5	13C-PCB-104	69.9	40 - 145	
PCB-105	50.0	49.7	30 - 67.5	13C-PCB-105	80.8	40 - 145	
PCB-106/118	100	105	60 - 135	13C-PCB-114	80.3	40 - 145	
PCB-114	50.0	47.7	30 - 67.5	13C-PCB-118	92.4	40 - 145	
PCB-123	50.0	53.4	30 - 67.5	13C-PCB-123	94.6	40 - 145	
PCB-126	50.0	48.8	30 - 67.5	13C-PCB-126	77.1	40 - 145	
PCB-155	50.0	48.5	30 - 67.5	13C-PCB-155	89.3	40 - 145	
PCB-156	50.0	47.1	30 - 67.5	13C-PCB-156	87.5	40 - 145	
PCB-157	50.0	47.9	30 - 67.5	13C-PCB-157	87.8	40 - 145	
PCB-167	50.0	49.5	30 - 67.5	13C-PCB-167	90.8	40 - 145	
PCB-169	50.0	49.6	30 - 67.5	13C-PCB-169	84.3	40 - 145	
PCB-188	50.0	51.1	30 - 67.5	13C-PCB-188	81.1	40 - 145	
PCB-189	50.0	50.7	30 - 67.5	13C-PCB-189	98.3	40 - 145	
PCB-202	50.0	49.8	30 - 67.5	13C-PCB-194	95.2	40 - 145	
PCB-205	50.0	51.1	30 - 67.5	13C-PCB-202	93.0	40 - 145	
PCB-206	50.0	49.2	30 - 67.5	13C-PCB-206	102	40 - 145	
PCB-208	50.0	50.4	30 - 67.5	13C-PCB-208	92.7	40 - 145	
PCB-209	50.0	51.2	30 - 67.5	13C-PCB-209	102	40 - 145	
				CRS 13C-PCB-79	111	40 - 145	
				13C-PCB-178	107	40 - 145	

Sample ID: GW-14 **EPA Method 1668C**

<u>Client Data</u>	<u>Sample Data</u>	<u>Laboratory Data</u>	
Name: PES Environmental, Inc.	Matrix: Aqueous	Lab Sample: 33954-001	Date Received: 25-Aug-12
Project: NA	Sample Size: 1.03 L	QC Batch No.: 4637	Date Extracted: 28-Aug-12
Date Collected: 24-Aug-12		Date Analyzed: 30-Aug-12	TEQ(WHO-2005 Mammal) : 1.62
Time Collected: 1040			

Analyte	Conc. (pg/L)	a			Qualifiers	Analyte	Conc. (pg/L)	a			Qualifiers
		RL	DL	MDL				RL	DL	MDL	
PCB-1	27.1	24.2		3.61		PCB-41/64/71/72	367	24.2		16.5	
PCB-2	ND	24.2	4.79	5.43		PCB-42/59	74.1	24.2		11.1	
PCB-3	9.45	24.2		3.39	J	PCB-43/49	628	24.2		8.79	
PCB-4/10	15.6	48.4		5.85	J	PCB-44	1090	24.2		6.08	
PCB-5/8	27.5	48.4		5.96	J	PCB-45	13.7	24.2		7.49	J
PCB-6	6.71	48.4		5.33	J	PCB-46	ND	24.2	16.4	6.39	
PCB-7/9	ND	48.4	9.16	7.69		PCB-47	96.9	24.2		5.27	
PCB-11	32.2	48.4		14.6	J,B	PCB-48/75	41.5	24.2		8.94	
PCB-12/13	ND	48.4	9.84	12.4		PCB-50	ND	24.2	5.61	7.74	
PCB-14	ND	48.4	8.96	9.40		PCB-51	18.7	24.2		7.82	J
PCB-15	ND	48.4	9.10	2.52		PCB-52/69	2160	24.2		14.8	
PCB-16/32	16.6	24.2		8.55	J	PCB-53	49.6	24.2		8.48	
PCB-17	10.1	24.2		7.90	J	PCB-54	ND	24.2	4.18	5.54	
PCB-18	29.4	24.2		5.50		PCB-55	19.2	24.2		4.02	J
PCB-19	ND	24.2	3.38	5.57		PCB-56/60	234	24.2		13.9	
PCB-20/21/33	20.0	24.2		54.5	J	PCB-57	ND	24.2	3.06	3.62	
PCB-22	9.83	24.2		22.8	J	PCB-58	ND	24.2	2.96	5.22	
PCB-23	ND	24.2	3.06	16.7		PCB-61/70	1600	24.2		9.77	
PCB-24/27	ND	24.2	2.08	9.50		PCB-62	ND	24.2	4.09	5.06	
PCB-25	ND	24.2	3.26	9.43		PCB-63	20.5	24.2		6.38	J
PCB-26	7.97	24.2		10.4	J	PCB-65	ND	24.2	4.17	6.51	
PCB-28	32.9	24.2		7.63		PCB-67	ND	24.2	3.31	7.33	
PCB-29	ND	24.2	2.97	7.85		PCB-68	4.98	24.2		7.41	J
PCB-30	ND	24.2	2.14	6.55		PCB-73	ND	24.2	3.84	7.45	
PCB-31	55.9	24.2		13.1		PCB-74	373	24.2		8.44	
PCB-34	ND	24.2	3.00	9.29		PCB-76/66	483	24.2		10.4	
PCB-35	ND	24.2	4.21	9.12		PCB-77	22.9	24.2		5.01	J,B
PCB-36	ND	24.2	3.89	12.9		PCB-78	ND	24.2	3.65	5.24	
PCB-37	7.96	24.2		10.0	J	PCB-79	43.1	24.2		4.51	
PCB-38	ND	24.2	4.09	17.8		PCB-80	ND	24.2	2.84	2.62	
PCB-39	ND	24.2	3.83	11.8		PCB-81	8.58	24.2		5.64	J
PCB-40	32.7	24.2		9.27		PCB-82	480	24.2		8.87	

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Sample ID: GW-14 **EPA Method 1668C**

<u>Client Data</u>		<u>Sample Data</u>		<u>Laboratory Data</u>			
Name:	PES Environmental, Inc.	Matrix:	Aqueous	Lab Sample:	33954-001	Date Received:	25-Aug-12
Project:	NA	Sample Size:	1.03 L	QC Batch No.:	4637	Date Extracted:	28-Aug-12
Date Collected:	24-Aug-12			Date Analyzed:	30-Aug-12	TEQ(WHO-2005 Mammal) : 1.62	
Time Collected:	1040						

Analyte	Conc. (pg/L)	a		b		c		Analyte	Conc. (pg/L)	a		b		c	
		RL	DL	MDL	Qualifiers	RL	DL			MDL	Qualifiers				
PCB-83	ND	24.2	5.37	4.95		PCB-127	ND	24.2	4.72	3.32					
PCB-84/92	1790	24.2		6.38		PCB-128/162	664	24.2		7.97					
PCB-85/116	650	24.2		8.32		PCB-129	207	24.2		6.66					
PCB-86	14.9	24.2		8.03	J	PCB-130	247	24.2		10.7					
PCB-87/117/125	1660	24.2		10.8		PCB-131	ND	24.2	7.83	5.74					
PCB-88/91	580	24.2		15.8		PCB-132/161	992	24.2		11.5					
PCB-89	45.8	24.2		6.17		PCB-133/142	103	24.2		10.4					
PCB-90/101	4560	24.2		8.81		PCB-134/143	197	24.2		10.1					
PCB-93	ND	24.2	7.70	19.1		PCB-135	343	24.2		8.55					
PCB-94	19.4	24.2		4.94	J	PCB-136	394	24.2		7.83					
PCB-95/98/102	3180	24.2		22.2		PCB-137	248	24.2		6.47					
PCB-96	13.5	24.2		7.30	J	PCB-138/163/164	3480	24.2		4.06					
PCB-97	1290	24.2		8.73		PCB-139/149	2260	24.2		7.55					
PCB-99	1990	24.2		10.9		PCB-140	23.7	24.2		12.0	J				
PCB-100	11.2	24.2		6.77	J	PCB-141	605	24.2		6.38					
PCB-103	26.1	24.2		7.69		PCB-144	136	24.2		8.06					
PCB-104	ND	24.2	5.92	5.89		PCB-145	ND	24.2	4.95	9.72					
PCB-105	1400	24.2		4.59		PCB-146/165	392	24.2		6.36					
PCB-106/118	4030	24.2		10.2		PCB-147	83.7	24.2		7.85					
PCB-107/109	248	24.2		10.4		PCB-148	ND	24.2	6.48	4.01					
PCB-108/112	169	24.2		9.73		PCB-150	ND	24.2	5.05	9.67					
PCB-110	4920	24.2		4.52		PCB-151	541	24.2		9.59					
PCB-111/115	92.4	24.2		7.06		PCB-152	ND	24.2	4.78	6.32					
PCB-113	ND	24.2	5.85	8.37		PCB-153	2990	24.2		6.11					
PCB-114	85.1	24.2		8.70		PCB-154	43.1	24.2		5.65					
PCB-119	68.5	24.2		7.04		PCB-155	ND	24.2	4.46	6.99					
PCB-120	9.89	24.2		5.63	J	PCB-156	432	24.2		3.64					
PCB-121	ND	24.2	5.27	10.8		PCB-157	102	24.2		7.41					
PCB-122	40.4	24.2		6.51		PCB-158/160	450	24.2		10.9					
PCB-123	60.6	24.2		3.95		PCB-159	ND	24.2	4.97	6.98					
PCB-124	154	24.2		2.17		PCB-166	19.5	24.2		4.99	J				
PCB-126	14.3	24.2		8.80	J	PCB-167	170	24.2		7.42					

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Sample ID: GW-14 **EPA Method 1668C**

<u>Client Data</u>	<u>Sample Data</u>	<u>Laboratory Data</u>	
Name: PES Environmental, Inc.	Matrix: Aqueous	Lab Sample: 33954-001	Date Received: 25-Aug-12
Project: NA	Sample Size: 1.03 L	QC Batch No.: 4637	Date Extracted: 28-Aug-12
Date Collected: 24-Aug-12		Date Analyzed: 30-Aug-12	TEQ(WHO-2005 Mammal) : 1.62
Time Collected: 1040			

Analyte	Conc. (pg/L)	a			Qualifiers	Analyte	Conc. (pg/L)	a			Qualifiers
		RL	DL	MDL				RL	DL	MDL	
PCB-168	ND	24.2	4.93	4.40		PCB-201	88.2	24.2		5.54	
PCB-169	ND	24.2	6.05	5.54		PCB-202	148	24.2		9.73	
PCB-170	490	24.2		5.39		PCB-204	ND	24.2	4.93	6.10	
PCB-171	142	24.2		6.69		PCB-205	16.9	24.2		6.61	J
PCB-172	78.7	24.2		4.57		PCB-206	712	24.2		3.69	
PCB-173	13.6	24.2		5.13	J	PCB-207	67.7	24.2		4.76	
PCB-174	600	24.2		9.74		PCB-208	250	24.2		3.48	
PCB-175	ND	24.2	26.8	8.82	I	PCB-209	813	24.2		4.22	
PCB-176	88.8	24.2		9.21		Total monoCB	36.5	24.2			
PCB-177	299	24.2		6.91		Total diCB	82.0	48.4			B
PCB-178	119	24.2		8.85		Total triCB	191	24.2			
PCB-179	321	24.2		8.93		Total tetraCB	7380	24.2			B
PCB-180	1360	24.2		8.17		Total pentaCB	27600	24.2			
PCB-181	ND	24.2	3.57	4.66		Total hexaCB	15100	24.2			
PCB-182/187	905	24.2		8.74		Total heptaCB	5090	24.2			I
PCB-183	402	24.2		5.75		Total octaCB	2080	24.2			
PCB-184	ND	24.2	3.03	7.24		Total nonaCB	1030	24.2			
PCB-185	77.1	24.2		3.52		Total decaCB	813	24.2			
PCB-186	ND	24.2	2.89	7.99		Total PCB	59400	48.4			B
PCB-188	ND	24.2	2.61	2.04							
PCB-189	18.3	24.2		5.01	J						
PCB-190	101	24.2		4.58							
PCB-191	19.7	24.2		4.53	J						
PCB-192	ND	24.2	2.98	7.35							
PCB-193	55.7	24.2		8.46							
PCB-194	345	24.2		4.52							
PCB-195	135	24.2		7.97							
PCB-196/203	622	24.2		7.15							
PCB-197	25.8	24.2		4.76							
PCB-198	ND	24.2	21.0	11.3							
PCB-199	622	24.2		8.05							
PCB-200	72.6	24.2		7.57							

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Sample ID: GW-14	EPA Method 1668C
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<u>Client Data</u>	<u>Sample Data</u>	<u>Laboratory Data</u>
Name: PES Environmental, Inc.	Matrix: Aqueous	Lab Sample: 33954-001 Date Received: 25-Aug-12
Project:	Sample Size: 1.03 L	QC Batch No.: 4637 Date Extracted: 28-Aug-12
Date Collected: 24-Aug-12		Date Analyzed: 30-Aug-12
Time Collected: 1040		

Internal Standard	% Recovery	LCL - UCL	Qualifier
IS 13C-PCB-1	73.0	5 145	
13C-PCB-3	72.1	5 145	
13C-PCB-4	84.6	5 145	
13C-PCB-11	85.2	5 145	
13C-PCB-9	85.7	5 145	
13C-PCB-19	90.3	5 145	
13C-PCB-28	88.4	5 145	
13C-PCB-32	93.8	5 145	
13C-PCB-37	96.2	5 145	
13C-PCB-47	77.6	5 145	
13C-PCB-52	76.2	5 145	
13C-PCB-54	63.2	5 145	
13C-PCB-70	90.5	5 145	
13C-PCB-77	87.7	10 145	
13C-PCB-80	87.0	10 145	
13C-PCB-81	87.6	10 145	
13C-PCB-95	88.3	10 145	
13C-PCB-97	94.9	10 145	
13C-PCB-101	92.2	10 145	
13C-PCB-104	77.9	10 145	
13C-PCB-105	79.4	10 145	
13C-PCB-114	80.9	10 145	
13C-PCB-118	87.6	10 145	
13C-PCB-123	93.4	10 145	
13C-PCB-126	74.3	10 145	
13C-PCB-127	82.3	10 145	
13C-PCB-138	85.4	10 145	
13C-PCB-141	88.1	10 145	
13C-PCB-153	85.9	10 145	
13C-PCB-155	96.9	10 145	

Sample ID: **GW-14**

EPA Method 1668C

Client Data

Name: PES Environmental, Inc.
Project:
Date Collected: 24-Aug-12
Time Collected: 1040

Sample Data

Matrix: Aqueous
Sample Size: 1.03 L

Laboratory Data

Lab Sample: 33954-001
QC Batch No.: 4637
Date Analyzed: 30-Aug-12
Date Received: 25-Aug-12
Date Extracted: 28-Aug-12

Internal Standard		% Recovery	LCL - UCL		Qualifier
IS	13C-PCB-156	79.6	10	145	
	13C-PCB-157	81.1	10	145	
	13C-PCB-159	85.7	10	145	
	13C-PCB-167	84.5	10	145	
	13C-PCB-169	77.6	10	145	
	13C-PCB-170	89.9	10	145	
	13C-PCB-180	91.5	10	145	
	13C-PCB-188	77.3	10	145	
	13C-PCB-189	83.5	10	145	
	13C-PCB-194	86.6	10	145	
	13C-PCB-202	82.4	10	145	
	13C-PCB-206	95.4	10	145	
	13C-PCB-208	94.4	10	145	
13C-PCB-209	94.5	10	145		
CRS	13C-PCB-79	99.9	10	145	
	13C-PCB-178	99.3	10	145	

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
H	Recovery was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	CA00413
Alabama Dept of Environmental Management	41610
Arizona Department Of Health Services	AZ0639
Arkansas Dept of Environmental Quality	11-035-0
California Dept of Health – NELAP	02102CA
Colorado Dept of Public Health & Environment	N/A
Connecticut Dept of Public Health	PH-0182
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Dept of Health	E87777
Indiana Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Louisiana Department of Health and Hospitals	LA110017
Maine Department of Health	2010021
Michigan Department of Natural Resources	9932
Mississippi Department of Health	N/A
Nevada Division of Environmental Protection	CA004132011-1
New Jersey Dept of Environmental Protection	CA003
New York Department of Health	11411
North Carolina Dept of Health & Human Services	06700
North Dakota Dept of Health	R-078
Oklahoma Dept of Environmental Quality	2011-120
Oregon Laboratory Accreditation Program	CA200001
Pennsylvania Dept of Environmental Protection	68-00490
South Carolina Dept of Health	87002001
Tennessee Dept of Environment and Conservation	TN02996
Texas Commission on Environmental Quality	T104704189-11-2
Utah Dept of Health	CA16400
Virginia Dept of General Services	00013
Washington Department of Ecology	C584
Wisconsin Dept of Natural Resources	998036160

SAMPLE LOG-IN CHECKLIST



Vista Project #: 33954 TAT 5

Samples Arrival:	Date/Time <u>8/25/12 0831</u>	Initials: <u>UBB</u>	Location: <u>WR-2</u> Shelf/Rack: <u>4/A</u>
Logged In:	Date/Time <u>8/25/12 1005</u>	Initials: <u>UBB</u>	Location: <u>WR-2</u> Shelf/Rack: <u>B2</u>
Delivered By:	FedEx	<u>UPS</u>	On Trac
Preservation:	<u>Ice</u>	Blue Ice	Dry Ice
Temp °C	<u>6.1</u>	Time: <u>0845</u>	Thermometer ID: IR-2

	YES	NO	NA
Adequate Sample Volume Received? <u>A, B, C Containers</u>	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill	✓		
Trk #	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?	<u>COC</u>		<u>None</u>
Shipping Container	Vista	<u>Client</u>	<u>Dispose</u>

Comments:

Chain of Custody Anomaly/Sample Acceptance Form

Client: PES Environmental, Inc.
 Contact: Chris Baldassari
 Fax Number: 415-8991601

Project Number 33954
 Date Received: Aug 25 2012
 Documented by/date: CPB 8/25/12

Please review the following information and complete the Client Authorization section. To comply with NELAC regulations, we must receive authorization before proceeding with sample analysis.

Thank You. (Fax # 916-673-0106)

The following information or item is needed to proceed with analysis:

- | | | |
|--|--|---|
| <input type="checkbox"/> Complete Chain-of-Custody | <input type="checkbox"/> Preservative | <input type="checkbox"/> Collector's Name |
| <input type="checkbox"/> Test Method Requested | <input type="checkbox"/> Sample Identification | <input type="checkbox"/> Sample Type |
| <input type="checkbox"/> Analyte List Requested | <input type="checkbox"/> Sample Collection Date / Time | <input type="checkbox"/> Sample Location |

The following anomalies were noted. Authorization is needed to proceed with the analysis.

Temperature outside $\pm 2^{\circ}\text{C}$ range Samples Affected: All
 Temperature outside 6.1 $^{\circ}\text{C}$ Ice present? Yes No
 Sample ID Discrepancy Samples Affected _____
 Sample holding time missed Samples Affected _____
 Custody seals broken Samples Affected _____
 Insufficient Sample Size Samples Affected _____
 Sample Container(s) Broken Samples Affected _____
 Incorrect Container Type Samples Affected _____
 Other _____

Client Authorization

Proceed With Analysis: YES NO Signature and Date R. Jarama 8/27/2012

Client Comments/Instructions: _____

Vista Analytical Laboratory
 El Dorado Hills, CA 95762
 Phone: (916) 673-1520 Fax:(916) 673-0106



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 239134
ANALYTICAL REPORT**

PES Environmental, Inc.
1682 Novato Boulevard
Novato, CA 94947

Project : 241.082.02.003
Location : 64th & Christie
Level : II

Sample ID
GW-14

Lab ID
239134-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Isabelle Choy
Project Manager
(510)204-2223

Date: 08/31/2012

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 239134
Client: PES Environmental, Inc.
Project: 241.082.02.003
Location: 64th & Christie
Request Date: 08/24/12
Samples Received: 08/24/12

This data package contains sample and QC results for one soil sample, requested for the above referenced project on 08/24/12. The sample was received intact.

Hydrocarbon Oil & Grease (SGT-HEM) (EPA 1664A):

Matrix spikes were not performed for this analysis due to insufficient sample volume. No analytical problems were encountered.

pH (EPA 9040C):

No analytical problems were encountered.

CHAIN OF CUSTODY

dt Curtis & Tompkins Laboratories
ENVIRONMENTAL ANALYTICAL TESTING LABORATORY

2323 Fifth Street
 Berkeley, CA 94710

Phone (510) 486-0900
 Fax (510) 486-0532

In Business Since 1878

C&T LOGIN # 239134

Project No: 241.082.02.003

Sampler: Ken Simmons

Project Name: 64th + Christie

Report To: Will Mast

Project P. O. No: _____

Company: PES Environmental

EDD Format: Report Level II III IV

Telephone: _____

Turnaround Time: RUSH 5-day Standard

Email: _____

ANALYTICAL REQUEST									
X									
X									

X PH by 4500-HAB
 X Oil + Grease by 1604-HBA-SG

Lab No.	Sample ID.	SAMPLING		MATRIX		# of Containers	CHEMICAL PRESERVATIVE				
		Date Collected	Time Collected	Water	Solid		HCl	H2SO4	HNO3	NaOH	None
1	GW-14	8/24/12	1040	X						1	

Notes:

SAMPLE RECEIPT

Intact

Cold

On Ice

Ambient

RELINQUISHED BY: Ken Sim

DATE 8/24/12 TIME: 1202

DATE: TIME:

DATE: TIME:

RECEIVED BY: Pat Murphy

DATE: 8/24/12 TIME: 1202

DATE: TIME:

DATE: TIME:

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 239134 Date Received 8/24/12 Number of coolers 3
 Client PES Environmental Project 64th & Christie

Date Opened 8/24/12 By (print) MAI (sign) [Signature]
 Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? _____ YES NO

4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) _____

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
 If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? _____ YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO
 If YES, Who was called? _____ By _____ Date: _____

COMMENTS

14. Only 1 liter Amber received for both
pH & oil/grease analysis.

15. received unpreserved, added 5ml of HCL (#K29026)
on 8/24/12 @ 1230 to pH5.2 by MAI.

Curtis & Tompkins Sample Preservation for 239134

Sample pH: <2 / >9 >12 Other
-001a [/] [] [] _____

Analyst: _____

Date: _____

Page 1 of 1

AA1
8/29/12

Hydrocarbon Oil & Grease (SGT-HEM)

Lab #:	239134	Location:	64th & Christie
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.02.003	Analysis:	EPA 1664A
Analyte:	Hydrocarbon Oil & Grease	Batch#:	189949
Field ID:	GW-14	Sampled:	08/24/12
Matrix:	Water	Received:	08/24/12
Units:	mg/L	Analyzed:	08/29/12

Type	Lab ID	Result	RL	Diln Fac
SAMPLE	239134-001	ND	4.80	0.9600
BLANK	QC653849	ND	5.00	1.000

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Hydrocarbon Oil & Grease (SGT-HEM)			
Lab #:	239134	Location:	64th & Christie
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.02.003	Analysis:	EPA 1664A
Analyte:	Hydrocarbon Oil & Grease	Diln Fac:	1.000
Matrix:	Water	Batch#:	189949
Units:	mg/L	Analyzed:	08/29/12

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC653850	20.00	24.60	123	64-132		
BSD	QC653851	20.00	21.70	109	64-132	13	34

RPD= Relative Percent Difference

pH			
Lab #:	239134	Location:	64th & Christie
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.02.003	Analysis:	EPA 9040C
Analyte:	pH	Diln Fac:	1.000
Field ID:	GW-14	Batch#:	189833
Lab ID:	239134-001	Sampled:	08/24/12 10:40
Matrix:	Water	Received:	08/24/12
Units:	SU	Analyzed:	08/24/12 13:40

Result	RL
7.6	1.0

Batch QC Report

pH			
Lab #:	239134	Location:	64th & Christie
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	241.082.02.003	Analysis:	EPA 9040C
Analyte:	pH	Units:	SU
Field ID:	GW-14	Diln Fac:	1.000
Type:	SDUP	Batch#:	189833
MSS Lab ID:	239134-001	Sampled:	08/24/12 10:40
Lab ID:	QC653340	Received:	08/24/12
Matrix:	Water	Analyzed:	08/24/12 13:40

MSS Result	Result	RL	RPD	Lim
7.600	7.740	1.000	2	20

RL= Reporting Limit

RPD= Relative Percent Difference

September 18, 2012

CERTIFIED MAIL
(Return Receipt Requested)
Certified Mail No. 7005 2570 0000 6629 3516

Mr. Josh Corzine
Rockwood Christie LLC
925 East Meadow Drive
Palo Alto, CA 94303

Dear Mr. Corzine:

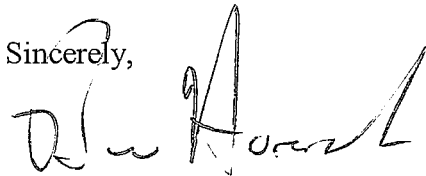
Re: Wastewater Discharge Permit No. 65767813

Enclosed is the Special Discharge Permit (Permit) for Rockwood Christie LLC for the facility located at 6340 Christie Avenue, Emeryville, California. Please read the Permit terms and conditions and the enclosed *EBMUD Special Discharge Permit Standard Terms and Conditions*, July 2010 Edition. A copy of *EBMUD Ordinance No. 311* is also enclosed. As a Permit Holder, you are legally responsible for complying with all Permit conditions and requirements.

Rockwood Christie LLC shall report to the Environmental Services Division any changes, permanent or temporary, to the premises or operations that significantly affect the quality or volume of permitted discharge or deviate from the terms and conditions under which the Permit was granted.

If you have any questions regarding this Permit, please contact Nadia Borisova of the Environmental Services Division at (510) 287-1065.

Sincerely,



BENNETT K. HORENSTEIN
Manager of Environmental Services

W:\NAB\IDS\Permits\Special Discharge\Permits\Rockwood Christie\Permit Cover Letter.doc

BKH:NVB:nvb

Enclosures



PERMIT NUMBER **65767813** Rockwood Christie LLC

SPECIAL DISCHARGE PERMIT
Terms and Conditions

GENERAL CONDITIONS

- I. Permit Holder shall comply with all items of the latest version of *Special Discharge Permit Standard Terms and Conditions*.
- II. Permit Holder shall discharge Special Discharge Wastewater only from the specific source described in the *Special Discharge Permit Terms & Conditions, Criteria and Fees* form. The discharge of all other wastewater must comply with EBMUD Ordinance.
- III. Permit Holder shall immediately cease discharge of treated or managed Special Discharge Wastewater if not in compliance with any of the terms and conditions of this Special Discharge Permit.
- IV. This Special Discharge Permit is considered a waiver of EBMUD Ordinance, prohibiting:
 - o Discharge of wastewater directly into a manhole or other opening into the community sewer system, contingent upon approval from the City of Oakland.
- V. Permit Holder shall not discharge Special Discharge Wastewater authorized by this Special Discharge Permit after the expiration date.

COMPLIANCE REQUIREMENTS

- I. Permit Holder shall pre-treat or manage all Special Discharge Wastewater prior to discharge to the side sewer. Pretreatment or management shall be sufficient to achieve compliance with the limits established in this Special Discharge Permit.
- II. Permit Holder shall post a sign in the work area stating "All Wastewater Discharge must comply with the Special Discharge Permit."
- III. Permit Holder shall not discharge to the sanitary sewer during a rain event or within 24 hours after a rain event, which is defined as any precipitation greater than a drizzle.
- IV. Permit Holder shall not discharge wastewater at a flow rate greater than 100 gallons per minute.
- V. All discharge volume shall be calculated by discharge flow meter located on the treatment system and certified to EBMUD by logging info: date, time, and volume. Log will be signed by Site Manager and submitted to EBMUD Representative quarterly, at a minimum.
- VI. Permit Holder shall obtain approval if required from the City of Emeryville for the side sewer discharge location through which the special discharge wastewater is to be discharged, and shall comply with the terms and conditions set by this public agency owning the sanitary sewer system at the subject location.

WASTEWATER DISCHARGE LIMITS

Permit Holder shall not discharge Special Discharge Wastewater into the community sewer if the strength of the wastewater exceeds EBMUD Ordinance Wastewater Discharge Limits.

MONITORING AND REPORTING REQUIREMENTS

- I. Permit Holder shall monitor wastewater discharge operations to ensure compliance with the terms and conditions of this Special Discharge Permit. Data submitted includes analyses for VOCs, Metals, Oil and Grease Hydrocarbon and pH and meets EBMUD's Ordinance limits. PCBs congeners data for a non-pretreated sample indicate PCBs at 0.0594 microgram per liter exceeding the PCB congeners limit of 0.017 microgram per liter in accordance with the California Regional Water Quality Control Board's Order R2-2011-012. A pretreatment system is required to ensure PCBs removal. EBMUD reserves the right to require additional testing if the site work warrants. The groundwater will be pumped through a 20,000-gallon sediment removal tank to a 3,500-gallon sand filter and 2,000 lb GAC treatment system prior to discharge to the sanitary sewer, as depicted in the attached to the application schematic flow diagram.
- II. Discharge logs and analytical data shall be submitted quarterly (calendar year) to EBMUD Environmental Services Division, Nadia Borisova, MS 702, PO Box 24055, Oakland, CA 94623, or via facsimile at 510 287-0621 or email to nborisov@ebmud.com



SPECIAL DISCHARGE PERMIT Terms and Conditions

PERMIT NUMBER **65767813** Rockwood Christie LLC

INSPECTIONS

The District may conduct random, unannounced inspections to verify compliance with the terms and conditions of this Special Discharge Permit. Permit Holder shall grant District personnel access to the facility and discharge logs to conduct inspections and collect Special Discharge Wastewater samples.

ENFORCEMENT AND PENALTIES

Failure to comply with the terms and conditions of this Special Discharge Permit and *Special Discharge Permit Standard Terms and Conditions* may result in enforcement actions, including violation follow-up fees, civil enforcement penalties, and administrative fines of up to \$5,000 per day.

RATES AND CHARGES

This Special Discharge Permit may be amended to include changes to rates and charges that may be established by the District during the term of this Special Discharge Permit. Billing is at \$0.02 per gallon and the Special Discharge permit fee is \$995.

AUTHORIZATION

Special Discharge Permit Holder is hereby authorized to discharge Special Discharge Wastewater to the community sewer, subject to compliance with EBMUD Ordinance, Special Discharge Permit Terms and Conditions, and billing conditions.

Effective: 9/21/2012

Expiration: October 31, 2013

[Signature]
for _____
Director, Wastewater Department

21 SEP 12
Date



October 16, 2012

241.082.03.003

Rockwood Christie LLC
c/o: Essex Property Trust, Inc.
925 East Meadow Drive
Palo Alto, CA 94303

Attention: Mr. Josh Corzine

**Subject: October 2012 Sampling Results
 Groundwater Dewatering System
 64th and Christie Residential Building
 64th Street & Christie Avenue
 Emeryville, California**

Dear Mr. Corzine:

This letter has been prepared by PES Environmental, Inc. (PES) to document the collection and testing results of a water sample obtained from the construction dewatering system operated at the proposed 64th and Christie Residential Building redevelopment project in Emeryville, California. The sampling was conducted to provide additional data for PCB concentrations as required by the Special Discharge Permit issued by East Bay Municipal Utility District (EBMUD) dated September 18, 2012¹. The pre-treatment system consists of a 20,000-gallon sediment removal tanks and a 3,500-gallon sand filter. In accordance with the conditions of the discharge permit, groundwater from the construction dewatering wells is pumped through the pre-treatment system prior to discharge to the EBMUD sanitary sewer.

Sampling Methods

A water sample was obtained from the pre-treatment system effluent on October 3, 2012 (i.e., after passing through the sediment removal tank and sand filter). The water sample was slowly decanted into 1-liter glass amber containers. Upon collection, the containers were labeled for identification and immediately placed in a chilled, thermally-insulated cooler containing bagged ice. The cooler containing the water sample was delivered under chain-of-custody protocol to Vista Analytical Services, Inc. of El Dorado Hills, a laboratory certified by the

¹ East Bay Municipal Utilities District, 2012. *Wastewater Discharge Permit No. 65767813*. September 18.

Mr. Josh Corzine
October 16, 2012
Page 2

State of California to perform the requested PCB congeners analysis by EPA Method 1668C (reported as a sum of 209 congeners), and in accordance with San Francisco Bay Area Regional Water Quality Control Board (RWQCB)² protocols.

Results

The laboratory reports and chain-of-custody documentation for water sample DW-Disch are provided in Appendix A. Total PCBs were detected at a concentration of 0.00499 micrograms per liter ($\mu\text{g/L}$), less than the EBMUD Ordinance limit for PCB congeners limit of 0.017 $\mu\text{g/L}$.

We trust that this is the information you require at this time. Please call either of the undersigned if you have any questions.

Yours very truly,

PES ENVIRONMENTAL, INC.



Christopher J. Baldassari, P.G.
Senior Geologist



William W. Mast, P.G.
Principal Engineer

cc: Allen Bates, SCM Construction Management Services

Attachment: Appendix A – Laboratory Analytical Report and Chain-of-Custody Documentation

² San Francisco Bay Regional Water Quality Control Board, 2011. *Sampling Analysis and Reporting Protocols Using EPA Method 1668C for Final Order No. R2-2011-0012, NPDES Permit No. CA0038849.* May 17.

APPENDIX A

**LABORATORY ANALYTICAL REPORT AND
CHAIN-OF-CUSTODY DOCUMENTATION**

October 15, 2012

Vista Project I.D.: 34043

Mr. Chris Baldassari
PES Environmental, Inc.
1682 Novato Boulevard
Suite 100
Novato, CA

Dear Mr. Baldassari,

Enclosed are the results for the one aqueous sample received at Vista Analytical Laboratory on October 04, 2012. This sample was extracted and analyzed using EPA Method 1668C for 209 PCB Congeners and homologue totals. A standard turnaround time was provided for this work.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at calvin@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,



Calvin Tanaka
Senior Scientist



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.



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Section I: Sample Inventory Report

Date Received: 10/4/2012

Vista Lab. ID

Client Sample ID

34043-001

DW-Disch.

ANALYTICAL RESULTS

Method Blank						EPA Method 1668C					
Matrix:	Aqueous	QC Batch No.:	4739	Lab Sample:	0-MB001						
Sample Size:	1.00 L	Date Extracted:	9-Oct-12	Date Analyzed:	10-Oct-12	TEQ(WHO-2005 Mammal) : 0					
Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers	Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers
PCB-1	ND	25.0	5.94	3.61		PCB-41/64/71/72	ND	25.0	2.30	16.5	
PCB-2	ND	25.0	6.28	5.43		PCB-42/59	ND	25.0	2.47	11.1	
PCB-3	ND	25.0	6.27	3.39		PCB-43/49	ND	25.0	2.61	8.79	
PCB-4/10	ND	50.0	25.6	5.85		PCB-44	ND	25.0	3.47	6.08	
PCB-5/8	ND	50.0	20.1	5.96		PCB-45	ND	25.0	2.82	7.49	
PCB-6	ND	50.0	20.7	5.33		PCB-46	ND	25.0	3.10	6.39	
PCB-7/9	ND	50.0	20.0	7.69		PCB-47	ND	25.0	2.55	5.27	
PCB-11	ND	50.0	20.6	14.6		PCB-48/75	ND	25.0	2.27	8.94	
PCB-12/13	ND	50.0	20.6	12.4		PCB-50	ND	25.0	3.10	7.74	
PCB-14	ND	50.0	18.8	9.40		PCB-51	ND	25.0	2.39	7.82	
PCB-15	ND	50.0	19.1	2.52		PCB-52/69	ND	25.0	2.24	14.8	
PCB-16/32	ND	25.0	2.41	8.55		PCB-53	ND	25.0	2.46	8.48	
PCB-17	ND	25.0	2.64	7.90		PCB-54	ND	25.0	2.31	5.54	
PCB-18	ND	25.0	2.85	5.50		PCB-55	ND	25.0	1.96	4.02	
PCB-19	ND	25.0	3.02	5.57		PCB-56/60	ND	25.0	2.07	13.9	
PCB-20/21/33	ND	25.0	2.12	54.5		PCB-57	ND	25.0	2.07	3.62	
PCB-22	ND	25.0	2.25	22.8		PCB-58	ND	25.0	2.00	5.22	
PCB-23	ND	25.0	2.09	16.7		PCB-61/70	ND	25.0	2.08	9.77	
PCB-24/27	ND	25.0	1.94	9.50		PCB-62	ND	25.0	2.35	5.06	
PCB-25	ND	25.0	2.23	9.43		PCB-63	ND	25.0	2.06	6.38	
PCB-26	ND	25.0	2.09	10.4		PCB-65	ND	25.0	2.39	6.51	
PCB-28	ND	25.0	2.06	7.63		PCB-67	ND	25.0	2.23	7.33	
PCB-29	ND	25.0	2.03	7.85		PCB-68	ND	25.0	2.12	7.41	
PCB-30	ND	25.0	1.91	6.55		PCB-73	ND	25.0	2.06	7.45	
PCB-31	ND	25.0	2.01	13.1		PCB-74	ND	25.0	2.01	8.44	
PCB-34	ND	25.0	2.05	9.29		PCB-76/66	ND	25.0	2.04	10.4	
PCB-35	ND	25.0	2.34	9.12		PCB-77	ND	25.0	4.69	5.01	
PCB-36	ND	25.0	2.17	12.9		PCB-78	ND	25.0	2.36	5.24	
PCB-37	ND	25.0	2.17	10.0		PCB-79	ND	25.0	1.97	4.51	
PCB-38	ND	25.0	2.28	17.8		PCB-80	ND	25.0	1.82	2.62	
PCB-39	ND	25.0	2.13	11.8		PCB-81	ND	25.0	2.15	5.64	
PCB-40	ND	25.0	3.86	9.27		PCB-82	ND	25.0	9.70	8.87	

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Method Blank	EPA Method 1668C
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Matrix:	Aqueous	QC Batch No.:	4739	Lab Sample:	0-MB001
Sample Size:	1.00 L	Date Extracted:	9-Oct-12	Date Analyzed:	10-Oct-12
				TEQ(WHO-2005 Mammal) : 0	

Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers	Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers
PCB-83	ND	25.0	5.53	4.95		PCB-127	ND	25.0	4.18	3.32	
PCB-84/92	ND	25.0	7.38	6.38		PCB-128/162	ND	25.0	3.16	7.97	
PCB-85/116	ND	25.0	6.38	8.32		PCB-129	ND	25.0	3.53	6.66	
PCB-86	ND	25.0	8.56	8.03		PCB-130	ND	25.0	3.49	10.7	
PCB-87/117/125	ND	25.0	5.64	10.8		PCB-131	ND	25.0	3.61	5.74	
PCB-88/91	ND	25.0	7.85	15.8		PCB-132/161	ND	25.0	2.72	11.5	
PCB-89	ND	25.0	8.34	6.17		PCB-133/142	ND	25.0	3.38	10.4	
PCB-90/101	ND	25.0	6.82	8.81		PCB-134/143	ND	25.0	3.38	10.1	
PCB-93	ND	25.0	8.53	19.1		PCB-135	ND	25.0	7.66	8.55	
PCB-94	ND	25.0	7.97	4.94		PCB-136	ND	25.0	5.56	7.83	
PCB-95/98/102	ND	25.0	7.21	22.2		PCB-137	ND	25.0	3.12	6.47	
PCB-96	ND	25.0	6.50	7.30		PCB-138/163/164	ND	25.0	2.66	4.06	
PCB-97	ND	25.0	6.86	8.73		PCB-139/149	ND	25.0	6.95	7.55	
PCB-99	ND	25.0	6.66	10.9		PCB-140	ND	25.0	8.38	12.0	
PCB-100	ND	25.0	7.33	6.77		PCB-141	ND	25.0	3.07	6.38	
PCB-103	ND	25.0	7.25	7.69		PCB-144	ND	25.0	7.01	8.06	
PCB-104	ND	25.0	5.34	5.89		PCB-145	ND	25.0	5.67	9.72	
PCB-105	ND	25.0	3.60	4.59		PCB-146/165	ND	25.0	2.70	6.36	
PCB-106/118	ND	25.0	5.94	10.2		PCB-147	ND	25.0	8.01	7.85	
PCB-107/109	ND	25.0	5.75	10.4		PCB-148	ND	25.0	7.43	4.01	
PCB-108/112	ND	25.0	6.61	9.73		PCB-150	ND	25.0	5.79	9.67	
PCB-110	ND	25.0	5.62	4.52		PCB-151	ND	25.0	7.70	9.59	
PCB-111/115	ND	25.0	4.82	7.06		PCB-152	ND	25.0	5.48	6.32	
PCB-113	ND	25.0	6.02	8.37		PCB-153	ND	25.0	2.80	6.11	
PCB-114	ND	25.0	3.62	8.70		PCB-154	ND	25.0	7.46	5.65	
PCB-119	ND	25.0	4.88	7.04		PCB-155	ND	25.0	5.11	6.99	
PCB-120	ND	25.0	4.61	5.63		PCB-156	ND	25.0	2.90	3.64	
PCB-121	ND	25.0	5.85	10.8		PCB-157	ND	25.0	3.10	7.41	
PCB-122	ND	25.0	4.25	6.51		PCB-158/160	ND	25.0	2.58	10.9	
PCB-123	ND	25.0	5.94	3.95		PCB-159	ND	25.0	2.70	6.98	
PCB-124	ND	25.0	5.34	2.17		PCB-166	ND	25.0	2.90	4.99	
PCB-126	ND	25.0	5.22	8.80		PCB-167	ND	25.0	2.80	7.42	

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Method Blank						EPA Method 1668C					
Matrix:	Aqueous	QC Batch No.:	4739	Lab Sample:	0-MB001						
Sample Size:	1.00 L	Date Extracted:	9-Oct-12	Date Analyzed:	10-Oct-12	TEQ(WHO-2005 Mammal) : 0					
Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers	Analyte	Conc. (pg/L)	RL ^a	DL ^b	MDL ^c	Qualifiers
PCB-168	ND	25.0	2.27	4.40		PCB-201	ND	25.0	5.28	5.54	
PCB-169	ND	25.0	5.80	5.54		PCB-202	ND	25.0	5.38	9.73	
PCB-170	ND	25.0	4.02	5.39		PCB-204	ND	25.0	5.28	6.10	
PCB-171	ND	25.0	3.12	6.69		PCB-205	ND	25.0	2.42	6.61	
PCB-172	ND	25.0	3.30	4.57		PCB-206	ND	25.0	3.74	3.69	
PCB-173	ND	25.0	4.23	5.13		PCB-207	ND	25.0	1.97	4.76	
PCB-174	ND	25.0	3.72	9.74		PCB-208	ND	25.0	1.95	3.48	
PCB-175	ND	25.0	2.80	8.82		PCB-209	ND	25.0	4.01	4.22	
PCB-176	ND	25.0	2.05	9.21		Total monoCB	ND	25.0	6.28		
PCB-177	ND	25.0	3.73	6.91		Total diCB	ND	50.0	25.6		
PCB-178	ND	25.0	2.72	8.85		Total triCB	ND	25.0	3.02		
PCB-179	ND	25.0	2.21	8.93		Total tetraCB	ND	25.0	4.69		
PCB-180	ND	25.0	3.43	8.17		Total pentaCB	ND	25.0	9.70		
PCB-181	ND	25.0	3.30	4.66		Total hexaCB	ND	25.0	8.38		
PCB-182/187	ND	25.0	2.58	8.74		Total heptaCB	ND	25.0	4.23		
PCB-183	ND	25.0	2.36	5.75		Total octaCB	ND	25.0	8.04		
PCB-184	ND	25.0	2.14	7.24		Total nonaCB	ND	25.0	3.74		
PCB-185	ND	25.0	3.27	3.52		Total decaCB	ND	25.0	4.01		
PCB-186	ND	25.0	2.04	7.99		Total PCB	ND	50.0	25.6		
PCB-188	ND	25.0	1.84	2.04							
PCB-189	ND	25.0	2.95	5.01							
PCB-190	ND	25.0	3.00	4.58							
PCB-191	ND	25.0	2.57	4.53							
PCB-192	ND	25.0	2.76	7.35							
PCB-193	ND	25.0	2.63	8.46							
PCB-194	ND	25.0	3.21	4.52							
PCB-195	ND	25.0	3.40	7.97							
PCB-196/203	ND	25.0	6.66	7.15							
PCB-197	ND	25.0	4.99	4.76							
PCB-198	ND	25.0	7.75	11.3							
PCB-199	ND	25.0	8.04	8.05							
PCB-200	ND	25.0	5.52	7.57							

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Method Blank	EPA Method 1668C
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Matrix: Aqueous	QC Batch No.: 4739	Lab Sample: 0-MB001
Sample Size: 1.00 L	Date Extracted: 9-Oct-12	Date Analyzed: 10-Oct-12

	Internal Standard	% Recovery	LCL - UCL	Qualifier
IS	13C-PCB-1	50.4	5 145	
	13C-PCB-3	50.6	5 145	
	13C-PCB-4	82.2	5 145	
	13C-PCB-11	85.4	5 145	
	13C-PCB-9	79.4	5 145	
	13C-PCB-19	69.8	5 145	
	13C-PCB-28	78.0	5 145	
	13C-PCB-32	72.0	5 145	
	13C-PCB-37	87.4	5 145	
	13C-PCB-47	79.6	5 145	
	13C-PCB-52	80.5	5 145	
	13C-PCB-54	69.2	5 145	
	13C-PCB-70	91.4	5 145	
	13C-PCB-77	90.1	10 145	
	13C-PCB-80	89.1	10 145	
	13C-PCB-81	90.6	10 145	
	13C-PCB-95	89.9	10 145	
	13C-PCB-97	98.3	10 145	
	13C-PCB-101	98.9	10 145	
	13C-PCB-104	81.4	10 145	
	13C-PCB-105	88.8	10 145	
	13C-PCB-114	96.2	10 145	
	13C-PCB-118	89.4	10 145	
	13C-PCB-123	95.7	10 145	
	13C-PCB-126	76.2	10 145	
	13C-PCB-127	92.5	10 145	
	13C-PCB-138	96.6	10 145	
	13C-PCB-141	102	10 145	
	13C-PCB-153	105	10 145	
	13C-PCB-155	83.8	10 145	

Method Blank

EPA Method 1668C

Matrix: Aqueous	QC Batch No.: 4739	Lab Sample: 0-MB001
Sample Size: 1.00 L	Date Extracted: 9-Oct-12	Date Analyzed: 10-Oct-12

Internal Standard	% Recovery	LCL - UCL	Qualifier
IS 13C-PCB-156	83.7	10 145	
13C-PCB-157	84.9	10 145	
13C-PCB-159	95.7	10 145	
13C-PCB-167	93.3	10 145	
13C-PCB-169	63.0	10 145	
13C-PCB-170	71.6	10 145	
13C-PCB-180	80.4	10 145	
13C-PCB-188	90.1	10 145	
13C-PCB-189	68.7	10 145	
13C-PCB-194	96.6	10 145	
13C-PCB-202	74.8	10 145	
13C-PCB-206	102	10 145	
13C-PCB-208	100	10 145	
13C-PCB-209	96.0	10 145	
CRS 13C-PCB-79	96.6	10 145	
13C-PCB-178	104	10 145	

OPR Results				EPA Method 1668C			
Matrix:	Aqueous	QC Batch No.:	4739	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	9-Oct-12	Date Analyzed DB-1:	10-Oct-12		
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	Qualifier
PCB-1	50.0	63.4	30 - 67.5	IS 13C-PCB-1	48.3	15 - 145	
PCB-3	50.0	62.4	30 - 67.5	13C-PCB-3	50.1	15 - 145	
PCB-4/10	200	223	120 - 270	13C-PCB-4	79.0	15 - 145	
PCB-15	100	109	60 - 135	13C-PCB-11	88.8	15 - 145	
PCB-19	50.0	52.4	30 - 67.5	13C-PCB-19	70.5	15 - 145	
PCB-37	50.0	45.4	30 - 67.5	13C-PCB-37	112	15 - 145	
PCB-54	50.0	51.6	30 - 67.5	13C-PCB-54	67.9	15 - 145	
PCB-77	50.0	49.2	30 - 67.5	13C-PCB-77	96.2	40 - 145	
PCB-81	50.0	51.3	30 - 67.5	13C-PCB-81	100	40 - 145	
PCB-104	50.0	50.8	30 - 67.5	13C-PCB-104	74.7	40 - 145	
PCB-105	50.0	51.2	30 - 67.5	13C-PCB-105	84.4	40 - 145	
PCB-106/118	100	107	60 - 135	13C-PCB-114	91.8	40 - 145	
PCB-114	50.0	49.1	30 - 67.5	13C-PCB-118	98.1	40 - 145	
PCB-123	50.0	53.2	30 - 67.5	13C-PCB-123	103	40 - 145	
PCB-126	50.0	51.2	30 - 67.5	13C-PCB-126	76.4	40 - 145	
PCB-155	50.0	52.6	30 - 67.5	13C-PCB-155	83.8	40 - 145	
PCB-156	50.0	52.0	30 - 67.5	13C-PCB-156	88.8	40 - 145	
PCB-157	50.0	51.6	30 - 67.5	13C-PCB-157	89.4	40 - 145	
PCB-167	50.0	53.0	30 - 67.5	13C-PCB-167	92.5	40 - 145	
PCB-169	50.0	52.8	30 - 67.5	13C-PCB-169	76.9	40 - 145	
PCB-188	50.0	51.6	30 - 67.5	13C-PCB-188	89.8	40 - 145	
PCB-189	50.0	53.0	30 - 67.5	13C-PCB-189	71.6	40 - 145	
PCB-202	50.0	51.8	30 - 67.5	13C-PCB-194	102	40 - 145	
PCB-205	50.0	47.7	30 - 67.5	13C-PCB-202	80.3	40 - 145	
PCB-206	50.0	48.2	30 - 67.5	13C-PCB-206	103	40 - 145	
PCB-208	50.0	50.0	30 - 67.5	13C-PCB-208	102	40 - 145	
PCB-209	50.0	51.7	30 - 67.5	13C-PCB-209	96.6	40 - 145	
				CRS 13C-PCB-79	105	40 - 145	
				13C-PCB-178	103	40 - 145	

Sample ID: DW-Disch.		EPA Method 1668C									
Client Data			Sample Data			Laboratory Data					
Name:	PES Environmental, Inc.		Matrix:	Aqueous		Lab Sample:	34043-001		Date Received: 4-Oct-12		
Project:	NA		Sample Size:	1.04 L		QC Batch No.:	4739		Date Extracted: 9-Oct-12		
Date Collected:	3-Oct-12					Date Analyzed:	11-Oct-12		TEQ(WHO-2005 Mammal) : 0.348		
Time Collected:	1030										
Analyte	Conc. (pg/L)	^a RL	^b DL	^c MDL	Qualifiers	Analyte	Conc. (pg/L)	^a RL	^b DL	^c MDL	Qualifiers
PCB-1	71.6	23.9		3.61		PCB-41/64/71/72	33.9	23.9		16.5	
PCB-2	ND	23.9	8.85	5.43		PCB-42/59	10.7	23.9		11.1	J
PCB-3	7.22	23.9		3.39	J	PCB-43/49	91.8	23.9		8.79	
PCB-4/10	156	47.8		5.85		PCB-44	42.1	23.9		6.08	
PCB-5/8	74.6	47.8		5.96		PCB-45	ND	23.9	2.78	7.49	
PCB-6	84.7	47.8		5.33		PCB-46	6.81	23.9		6.39	J
PCB-7/9	ND	47.8	60.4	7.69		PCB-47	21.5	23.9		5.27	J
PCB-11	34.3	47.8		14.6	J	PCB-48/75	3.88	23.9		8.94	J
PCB-12/13	ND	47.8	62.2	12.4		PCB-50	ND	23.9	2.92	7.74	
PCB-14	ND	47.8	56.7	9.40		PCB-51	32.9	23.9		7.82	
PCB-15	ND	47.8	57.6	2.52		PCB-52/69	124	23.9		14.8	
PCB-16/32	90.3	23.9		8.55		PCB-53	74.0	23.9		8.48	
PCB-17	41.2	23.9		7.90		PCB-54	34.6	23.9		5.54	
PCB-18	125	23.9		5.50		PCB-55	ND	23.9	1.71	4.02	
PCB-19	93.7	23.9		5.57		PCB-56/60	6.85	23.9		13.9	J
PCB-20/21/33	15.5	23.9		54.5	J	PCB-57	ND	23.9	1.78	3.62	
PCB-22	8.64	23.9		22.8	J	PCB-58	ND	23.9	1.72	5.22	
PCB-23	ND	23.9	2.31	16.7		PCB-61/70	25.6	23.9		9.77	
PCB-24/27	48.9	23.9		9.50		PCB-62	ND	23.9	2.12	5.06	
PCB-25	21.2	23.9		9.43	J	PCB-63	ND	23.9	1.77	6.38	
PCB-26	40.5	23.9		10.4		PCB-65	ND	23.9	2.16	6.51	
PCB-28	ND	23.9	22.3	7.63		PCB-67	ND	23.9	1.92	7.33	
PCB-29	ND	23.9	2.24	7.85		PCB-68	ND	23.9	1.91	7.41	
PCB-30	ND	23.9	1.83	6.55		PCB-73	2.48	23.9		7.45	J
PCB-31	30.6	23.9		13.1		PCB-74	5.78	23.9		8.44	J
PCB-34	ND	23.9	2.27	9.29		PCB-76/66	13.9	23.9		10.4	J
PCB-35	ND	23.9	2.03	9.12		PCB-77	5.19	23.9		5.01	J
PCB-36	ND	23.9	1.88	12.9		PCB-78	ND	23.9	2.19	5.24	
PCB-37	ND	23.9	1.88	10.0		PCB-79	3.29	23.9		4.51	J
PCB-38	ND	23.9	1.97	17.8		PCB-80	ND	23.9	1.59	2.62	
PCB-39	ND	23.9	1.85	11.8		PCB-81	ND	23.9	1.99	5.64	
PCB-40	ND	23.9	3.48	9.27		PCB-82	ND	23.9	5.71	8.87	

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Sample ID: DW-Disch. EPA Method 1668C

<u>Client Data</u>		<u>Sample Data</u>		<u>Laboratory Data</u>			
Name:	PES Environmental, Inc.	Matrix:	Aqueous	Lab Sample:	34043-001	Date Received:	4-Oct-12
Project:	NA	Sample Size:	1.04 L	QC Batch No.:	4739	Date Extracted:	9-Oct-12
Date Collected:	3-Oct-12			Date Analyzed:	11-Oct-12	TEQ(WHO-2005 Mammal) : 0.348	
Time Collected:	1030						

Analyte	Conc. (pg/L)	a		b		c		Analyte	Conc. (pg/L)	a		b		c	
		RL	DL	MDL	Qualifiers	RL	DL			MDL	Qualifiers				
PCB-83	ND	23.9	3.83	4.95		PCB-127	ND	23.9	3.32	3.32					
PCB-84/92	54.6	23.9		6.38		PCB-128/162	11.4	23.9		7.97	J				
PCB-85/116	9.14	23.9		8.32	J	PCB-129	4.12	23.9		6.66	J				
PCB-86	ND	23.9	5.94	8.03		PCB-130	7.87	23.9		10.7	J				
PCB-87/117/125	19.7	23.9		10.8	J	PCB-131	ND	23.9	3.77	5.74					
PCB-88/91	21.4	23.9		15.8	J	PCB-132/161	26.8	23.9		11.5					
PCB-89	ND	23.9	5.47	6.17		PCB-133/142	6.17	23.9		10.4	J				
PCB-90/101	90.0	23.9		8.81		PCB-134/143	7.27	23.9		10.1	J				
PCB-93	ND	23.9	5.86	19.1		PCB-135	23.4	23.9		8.55	J				
PCB-94	ND	23.9	5.48	4.94		PCB-136	21.0	23.9		7.83	J				
PCB-95/98/102	129	23.9		22.2		PCB-137	4.15	23.9		6.47	J				
PCB-96	ND	23.9	4.46	7.30		PCB-138/163/164	93.8	23.9		4.06					
PCB-97	20.4	23.9		8.73	J	PCB-139/149	124	23.9		7.55					
PCB-99	51.8	23.9		10.9		PCB-140	ND	23.9	6.81	12.0					
PCB-100	5.19	23.9		6.77	J	PCB-141	16.5	23.9		6.38	J				
PCB-103	9.71	23.9		7.69	J	PCB-144	ND	23.9	5.70	8.06					
PCB-104	ND	23.9	3.66	5.89		PCB-145	ND	23.9	4.61	9.72					
PCB-105	12.7	23.9		4.59	J	PCB-146/165	32.3	23.9		6.36					
PCB-106/118	39.6	23.9		10.2		PCB-147	ND	23.9	13.1	7.85					
PCB-107/109	6.54	23.9		10.4	J	PCB-148	ND	23.9	6.04	4.01					
PCB-108/112	5.57	23.9		9.73	J	PCB-150	ND	23.9	4.70	9.67					
PCB-110	103	23.9		4.52		PCB-151	48.2	23.9		9.59					
PCB-111/115	ND	23.9	3.34	7.06		PCB-152	ND	23.9	4.45	6.32					
PCB-113	1.76	23.9		8.37	J	PCB-153	122	23.9		6.11					
PCB-114	ND	23.9	2.96	8.70		PCB-154	16.8	23.9		5.65	J				
PCB-119	5.73	23.9		7.04	J	PCB-155	ND	23.9	4.15	6.99					
PCB-120	ND	23.9	3.19	5.63		PCB-156	6.65	23.9		3.64	J				
PCB-121	ND	23.9	4.02	10.8		PCB-157	3.10	23.9		7.41	J				
PCB-122	ND	23.9	3.48	6.51		PCB-158/160	ND	23.9	8.40	10.9					
PCB-123	ND	23.9	3.50	3.95		PCB-159	ND	23.9	2.30	6.98					
PCB-124	ND	23.9	3.14	2.17		PCB-166	ND	23.9	2.46	4.99					
PCB-126	3.46	23.9		8.80	J	PCB-167	ND	23.9	2.12	7.42					

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Sample ID: DW-Disch. EPA Method 1668C

<u>Client Data</u>		<u>Sample Data</u>		<u>Laboratory Data</u>			
Name:	PES Environmental, Inc.	Matrix:	Aqueous	Lab Sample:	34043-001	Date Received:	4-Oct-12
Project:	NA	Sample Size:	1.04 L	QC Batch No.:	4739	Date Extracted:	9-Oct-12
Date Collected:	3-Oct-12			Date Analyzed:	11-Oct-12	TEQ(WHO-2005 Mammal) : 0.348	
Time Collected:	1030						

Analyte	Conc. (pg/L)	a		b		c		Analyte	Conc. (pg/L)	a		b		c	
		RL	DL	MDL	Qualifiers	RL	DL			MDL	Qualifiers				
PCB-168	ND	23.9	2.37	4.40		PCB-201	13.2	23.9		5.54	J				
PCB-169	ND	23.9	3.36	5.54		PCB-202	33.7	23.9		9.73					
PCB-170	27.8	23.9		5.39		PCB-204	ND	23.9	5.01	6.10					
PCB-171	7.03	23.9		6.69	J	PCB-205	ND	23.9	1.90	6.61					
PCB-172	6.21	23.9		4.57	J	PCB-206	599	23.9		3.69					
PCB-173	ND	23.9	3.67	5.13		PCB-207	34.6	23.9		4.76					
PCB-174	42.7	23.9		9.74		PCB-208	232	23.9		3.48					
PCB-175	3.01	23.9		8.82	J	PCB-209	821	23.9		4.22					
PCB-176	7.02	23.9		9.21	J	Total monoCB	78.8	23.9							
PCB-177	22.7	23.9		6.91	J	Total diCB	349	47.8							
PCB-178	ND	23.9	9.63	8.85		Total triCB	515	23.9							
PCB-179	28.5	23.9		8.93		Total tetraCB	540	23.9							
PCB-180	96.6	23.9		8.17		Total pentaCB	589	23.9							
PCB-181	ND	23.9	2.87	4.66		Total hexaCB	575	23.9							
PCB-182/187	80.6	23.9		8.74		Total heptaCB	369	23.9							
PCB-183	26.4	23.9		5.75		Total octaCB	286	23.9							
PCB-184	ND	23.9	2.26	7.24		Total nonaCB	865	23.9							
PCB-185	4.55	23.9		3.52	J	Total decaCB	821	23.9							
PCB-186	ND	23.9	2.15	7.99		Total PCB	4990	47.8							
PCB-188	ND	23.9	1.95	2.04											
PCB-189	3.01	23.9		5.01	J										
PCB-190	7.42	23.9		4.58	J										
PCB-191	ND	23.9	2.23	4.53											
PCB-192	ND	23.9	2.39	7.35											
PCB-193	5.59	23.9		8.46	J										
PCB-194	28.7	23.9		4.52											
PCB-195	ND	23.9	9.03	7.97											
PCB-196/203	78.1	23.9		7.15											
PCB-197	ND	23.9	4.73	4.76											
PCB-198	ND	23.9	7.36	11.3											
PCB-199	133	23.9		8.05											
PCB-200	ND	23.9	5.25	7.57											

a. Reporting Limit. b. Sample specific Detection Limit. c. Laboratory Method Detection Limits (MDL) derived according to requirements outlined in 40 CFR Part 136, Appendix B, based on a one liter sample volume. MDLs are subject to update.

Sample ID: DW-Disch.	EPA Method 1668C
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<u>Client Data</u>	<u>Sample Data</u>	<u>Laboratory Data</u>
Name: PES Environmental, Inc.	Matrix: Aqueous	Lab Sample: 34043-001 Date Received: 4-Oct-12
Project:	Sample Size: 1.04 L	QC Batch No.: 4739 Date Extracted: 9-Oct-12
Date Collected: 3-Oct-12		Date Analyzed: 11-Oct-12
Time Collected: 1030		

Internal Standard	% Recovery	LCL - UCL	Qualifier
IS 13C-PCB-1	50.6	5 145	
13C-PCB-3	52.9	5 145	
13C-PCB-4	87.9	5 145	
13C-PCB-11	100	5 145	
13C-PCB-9	91.1	5 145	
13C-PCB-19	78.4	5 145	
13C-PCB-28	84.6	5 145	
13C-PCB-32	82.4	5 145	
13C-PCB-37	105	5 145	
13C-PCB-47	78.5	5 145	
13C-PCB-52	77.1	5 145	
13C-PCB-54	65.6	5 145	
13C-PCB-70	91.1	5 145	
13C-PCB-77	96.2	10 145	
13C-PCB-80	94.6	10 145	
13C-PCB-81	92.0	10 145	
13C-PCB-95	93.3	10 145	
13C-PCB-97	103	10 145	
13C-PCB-101	103	10 145	
13C-PCB-104	81.6	10 145	
13C-PCB-105	78.0	10 145	
13C-PCB-114	84.8	10 145	
13C-PCB-118	98.6	10 145	
13C-PCB-123	104	10 145	
13C-PCB-126	74.3	10 145	
13C-PCB-127	84.5	10 145	
13C-PCB-138	99.6	10 145	
13C-PCB-141	102	10 145	
13C-PCB-153	100	10 145	
13C-PCB-155	84.6	10 145	

Sample ID:	DW-Disch.	EPA Method 1668C
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<u>Client Data</u>	<u>Sample Data</u>	<u>Laboratory Data</u>
Name: PES Environmental, Inc.	Matrix: Aqueous	Lab Sample: 34043-001 Date Received: 4-Oct-12
Project:	Sample Size: 1.04 L	QC Batch No.: 4739 Date Extracted: 9-Oct-12
Date Collected: 3-Oct-12		Date Analyzed: 11-Oct-12
Time Collected: 1030		

	Internal Standard	% Recovery	LCL - UCL	Qualifier
IS	13C-PCB-156	94.6	10 145	
	13C-PCB-157	94.2	10 145	
	13C-PCB-159	103	10 145	
	13C-PCB-167	98.9	10 145	
	13C-PCB-169	89.5	10 145	
	13C-PCB-170	96.8	10 145	
	13C-PCB-180	97.4	10 145	
	13C-PCB-188	88.5	10 145	
	13C-PCB-189	91.2	10 145	
	13C-PCB-194	98.2	10 145	
	13C-PCB-202	83.4	10 145	
	13C-PCB-206	108	10 145	
	13C-PCB-208	111	10 145	
	13C-PCB-209	104	10 145	
CRS	13C-PCB-79	107	10 145	
	13C-PCB-178	106	10 145	

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
H	Recovery was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	CA00413
Alabama Dept of Environmental Management	41610
Arizona Department Of Health Services	AZ0639
Arkansas Dept of Environmental Quality	11-035-0
California Dept of Health – NELAP	02102CA
Colorado Dept of Public Health & Environment	N/A
Connecticut Dept of Public Health	PH-0182
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Dept of Health	E87777
Indiana Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Louisiana Department of Health and Hospitals	LA110017
Maine Department of Health	2010021
Michigan Department of Natural Resources	9932
Mississippi Department of Health	N/A
Nevada Division of Environmental Protection	CA004132011-1
New Jersey Dept of Environmental Protection	CA003
New York Department of Health	11411
North Carolina Dept of Health & Human Services	06700
North Dakota Dept of Health	R-078
Oklahoma Dept of Environmental Quality	2011-120
Oregon Laboratory Accreditation Program	CA200001
Pennsylvania Dept of Environmental Protection	68-00490
South Carolina Dept of Health	87002001
Tennessee Dept of Environment and Conservation	TN02996
Texas Commission on Environmental Quality	T104704189-11-2
Utah Dept of Health	CA16400
Virginia Dept of General Services	00013
Washington Department of Ecology	C584
Wisconsin Dept of Natural Resources	998036160



CHAIN OF CUSTODY RECORD

34043

4.2°C

LABORATORY: Vista
JOB NUMBER: 241-082,03-003
NAME / LOCATION: 64th + Christie, Emeryville
PROJECT MANAGER: W. Mast

SAMPLERS: M. Buttress
RECORDER: MB

ANALYSIS REQUESTED										
EPA 5035/8010	EPA 5035/8021	EPA 5035/8260B	TPHg by 5035/8015M	TPHd by 8015M	TPHmo by 8015M	EPA 8270C	MNA Parameters (see notes)			
							X PCBs (1668C)			

DATE				SAMPLE NUMBER / DESIGNATION
YR	MO	DY	TIME	
12	10	03	1030	DW-Disch.

MATRIX					# of Containers & Preservatives							DEPTH IN FEET	
Vapor	Water	Soil	Sedim't		Unpres.	EnCore	H ₂ SO ₄	HNO ₃	HCl				
	X				3								

NOTES
Turn Around Time: Standard (15-day)
Page 1 of 1

CHAIN OF CUSTODY RECORD					
RELINQUISHED BY: (Signature)	[Signature]		RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	[Signature]		RECEIVED BY: (Signature)	10/4/12	0753
RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)	DATE	TIME
DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:					

SAMPLE LOG-IN CHECKLIST



Vista Project #: 34043

TAT Std

Samples Arrival:	Date/Time 10/4/12 0731	Initials: EM	Location: WR-2
			Shelf/Rack: N/A
Logged In:	Date/Time 10/4/12 1308	Initials: BSB	Location: WR-2
			Shelf/Rack: B3
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
		<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
	<input type="checkbox"/> Other		
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
		<input type="checkbox"/> None	
Temp °C	4.2	Time:	0733
		Thermometer ID:	IR-1

	YES	NO	NA
Adequate Sample Volume Received? <i>A, B, C Containers</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holding Time Acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airbill	Trk # <i>7991 1533 6227</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample Container Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample Custody Seals Intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC Anomaly/Sample Acceptance Form completed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Na ₂ S ₂ O ₃ Preservation Documented?	<input checked="" type="checkbox"/> COC	<input type="checkbox"/> Sample Container	<input checked="" type="checkbox"/> None
Shipping Container	Vista	<input checked="" type="checkbox"/> Client	Retain
		<input checked="" type="checkbox"/> Return	Dispose

Comments: